



Forest Service

Region 9

Finger Lakes

[Land and Resource Management Plan for the Finger Lakes NF](#)

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Management Plan

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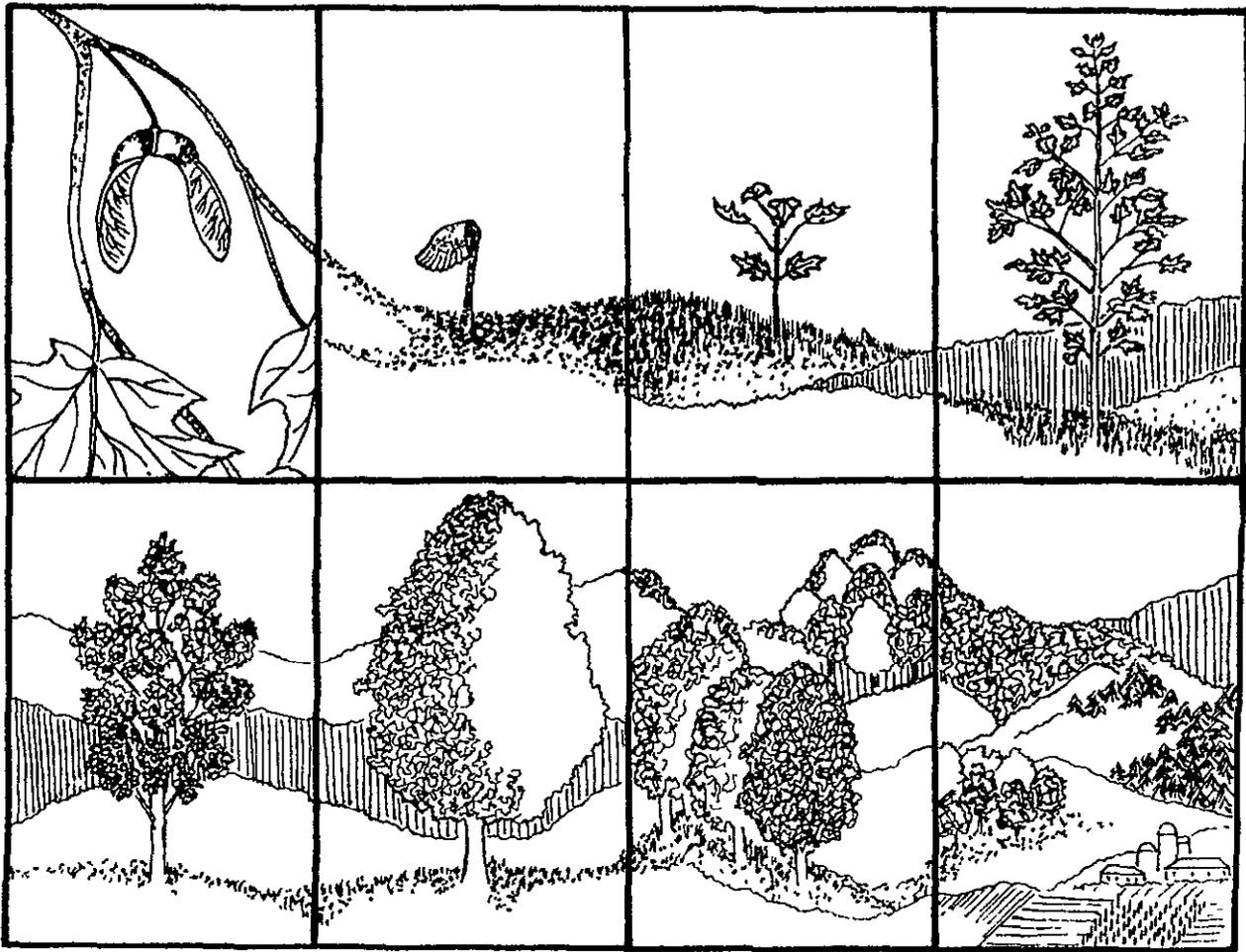
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Highlights of the Forest Plan

Finger Lakes National Forest

Highlights of the Forest Plan

Introduction

The Finger Lakes National Forest Land and Resource Management Plan was developed as part of a nationwide planning process to chart the management direction of the National Forests for the coming decade. The planning process was initiated by the Forest and Rangeland Renewable Resources Planning Act of 1974 (RPA) and the National Forest Management Act of 1976 (NFMA). RPA directed the Forest Service to assess the nation's forest and range resources, and the present and possible future demands on those resources. It also told us to determine what role the National Forests should play in meeting those demands.

The NFMA required us to prepare a management plan for each National Forest that spelled out the contribution each one would make toward RPA goals, while tailoring management to local resource capabilities and public preferences. The NFMA further stated that the planning process would be done in accordance with the National Environmental Policy Act of 1969 (NEPA). The general principles of NEPA are:

- 1) To consider all resources (including non-commodity resources) and how they interact when making management decisions.
- 2) To develop and evaluate alternatives for managing resources and meeting public demands.
- 3) To analyze the environmental effects of each alternative, including economic, social and physical effects.
- 4) To actively involve the public in the planning and decision-making process.

In response to this legislative direction, the Forest Service conducted resource assessments, estimated current and future demands, solicited public involvement to identify issues that should be considered, and developed alternatives for meeting the demands and addressing the issues. This process occurred on a national, regional and local level.

The tangible result on each Forest was a Draft Environmental Impact Statement (describing the alternatives and their environmental effects), and a Proposed Land and Resource Management Plan (describing the preferred alternative and guidelines for carrying it out). There were many unpublished papers documenting the assumptions, technical data and references used to develop the Draft Forest Plan and EIS. The documents for the Finger Lakes National Forest are available for review at the District Office in Odessa, N.Y.

Organization of the Forest Plan

The Forest Plan, highlighted in this document, represents our best efforts to meet the varying, sometimes conflicting, demands of interested citizens, while fulfilling our responsibilities as trustees of the Forest's diverse resources for future generations. The Plan contains detailed direction for management of the Finger Lakes National Forest, but there will always be decisions to be made. These could involve site specific applications of Plan direction, setting priorities among projects when budget limitations arise, or how to respond to some unforeseen change in the management environment. Because of this there will always be opportunities for public involvement. We encourage your continued participation in shaping the future of the Finger Lakes National Forest.

We intend that the Forest Plan be a working document, easily used by both Forest Service personnel and the public. The content of each chapter is summarized below, to help you understand what it contains.

Chapter I gives a general description of the location, character and history of the Finger Lakes National Forest.

Chapter II looks at some of the major goods and services associated with the Forest. Potential supplies are compared with anticipated demands. This chapter also outlines the management context, building on the general description and historical information found in Chapter I. This is an attempt to relate current Forest programs and resources to those found on State and private lands, and give a sense of the social and political climate that prevailed at the time the Plan was written.

Chapter III summarizes the major theses that emerged during involvement in the planning process. It explains how we attempted to resolve conflicting demands, and outlines needs for additional research.

Chapter IV contains the meat of the Plan. In it we describe the role of the Finger Lakes National Forest as we perceive it. We explain the goals and objectives we have set to help us work toward the desired future condition of the Forest. The allocation of land to different types of management is explained, and the standards and guidelines for applying specific management practices are described.

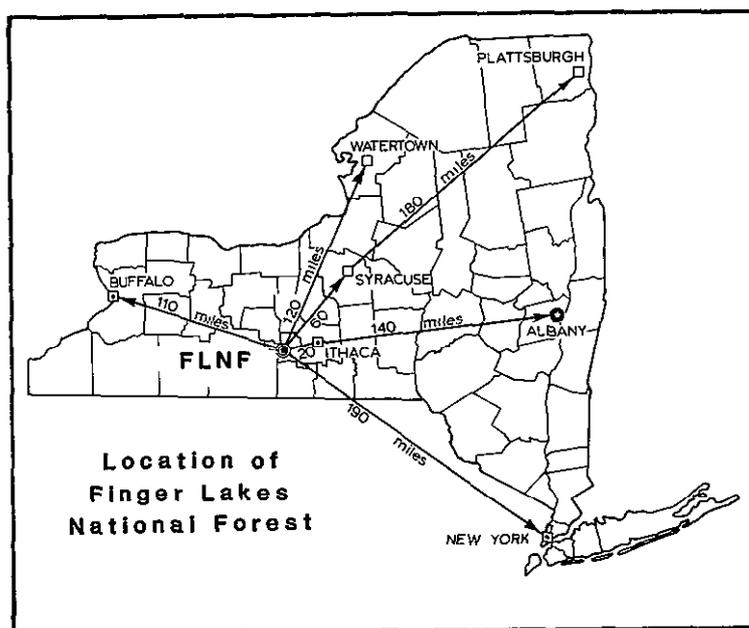
Chapter V describes how we will integrate our consideration of all resources and uses while implementing the Forest Plan. It also outlines the things we will monitor to see how well the results match our projections. The process for amending the Plan in the event of significant changes in the management environment is explained.

At the end of the Forest Plan are various technical appendices, a glossary and an index. There is also a map which shows where the different types of management will be applied.

Forest Location

The Finger Lakes National Forest consists of 13,232 acres of forest, pasture and shrubland in south central New York. The Forest lies between Seneca and Cayuga Lakes, which are just two of the many finger-shaped lakes formed by glaciers in this region.

The Forest is within a two hour drive of over one million people, with population concentrations in Ithaca, Elmira, Rochester and Binghamton. Major highways also bring frequent visitors from Buffalo, Albany, New York City and New Jersey. Principal travelways in the vicinity of the Forest include State Routes 79 and 227 to the south and east, State Route 96 to the north, and State Route 414 to the west. Many parts of the Forest are readily accessible by passenger car. The Finger Lakes National Forest is the only National Forest land in New York State, and has been distinguished from other public lands in the past by its explicit policy of multiple use management.



Forest History

The area around the Finger Lakes National Forest was originally inhabited by the Iroquois Indians. Information on their use of the area within the current Forest boundary is sketchy at best. It is thought that at least some hunting activity occurred.

In 1790 the area was divided into 600 acre military lots, and distributed among revolutionary war veterans as payment for their services. These early settlers cleared the land for production of hay and small grains such as buckwheat.

As New York City grew, a strong market for these products developed, encouraging more intensive agriculture. The farmers prospered until the mid-nineteenth century, when a series of unfortunate circumstances sent the region into a decline. Chief among these were the rising popularity of motorized transportation in urban centers (reducing the numbers of horses to be fed), gradual depletion of the soil resource, and competition from the midwest.

Between 1890 and the Great Depression over a million acres of farm land were abandoned in south central New York State. In the 1930s it was recognized that farmers in many parts of the country could no longer make a living from their exhausted land. Environmental damage was occurring as they cultivated the land more and more intensively to make end meet.

Several pieces of legislation were passed, including the Emergency Relief Act of 1933, and the Bankhead-Jones Farm Tenant Act of 1937, to address these problems. One result was the formation of a government agency, the Resettlement Administration, to carry out the new laws. This agency directed the relocation of farmers to better land or other jobs, and the purchase of marginal farm land by the Federal Government.

Between 1938 and 1941, over 100 farms were purchased in the area now in the National Forest. Because this was done on a willing seller-willing buyer basis, the resulting Federal ownership resembled a patchwork quilt. This is especially true in the Seneca County end of the National Forest, where soils were more productive, and some families elected to stay. This patchwork ownership pattern still exists today.

The newly acquired Federal land, named the Hector Land Use Area, was initially managed by the Soil Conservation Service. The emphasis was on stabilization of the soil by planting conifers, and development of a cooperative grazing program. Previously cultivated fields were converted to improved pastures to demonstrate how less intensive agriculture could still make productive use of the land.

In 1943 the Hector Cooperative Grazing Association was formed. This organization was issued a long term lease to manage grazing on the Land Use Area. They coordinated use of the pastures by as many as 120 individual livestock owners within a 100 mile radius of the Land Use Area.

By the 1950s, many of the original objectives of the Hector Land Use Area had been met. Farmers had been resettled, the eroding soil stabilized, and alternative agricultural uses demonstrated. At the same time, the public was becoming interested in the concept of multiple uses of public land. Management and appropriate ownership of the Hector LUA was reevaluated.

The decision was made in 1954 to transfer administration responsibilities to the U. S. Forest Service, which already had a fairly long history of multiple use management. Initially this was carried out by the Regional Office in Upper Darby, PA. When this region was later consolidated within the Forest Service's Northeast Region, Hector became an administrative unit of the Green Mountain National Forest in Vermont.

In 1982 the Federal land management agencies were directed to identify isolated parcels of Federal land that could be sold without significantly affecting the resource base or public service. The intent was to dispose of lands that were inefficient to manage, and to generate revenue. The Hector Land Use Area was one parcel studied for possible disposal under this "Assets Management" program.

When public meetings were held to evaluate this idea, there was strong local support for continued federal ownership. Local and regional citizens had come to depend on Hector for wood products, forage, recreation and other benefits. Because of this public support, Congress enacted legislation to make it a permanent part of the National Forest System. The Hector Ranger District, Green Mountain National Forest had been created.

Local citizens asked the Forest Service to change the name to Hector Ranger District, Finger Lakes National Forest, so it would be less confusing to visitors, and promote local pride about the area. This change was made in October of 1985.

Although the Finger Lakes National Forest is still an administrative unit of the Green Mountain National Forest, we strive to be sensitive to local concerns and resource capabilities. It is truly New York's National Forest.

Role of the Finger Lakes National Forest

Although about 3.2 million acres of New York State is in State Forest Preserves, Wildlife Management Areas and Forests, there are few large areas of public land in the Finger Lakes Region. The Finger Lakes National Forest is the only national forest in New York State, and the only public land that has had an explicit philosophy of multiple use.

When the Finger Lakes National Forest was evaluated for sale under the Assets Management Program, it became obvious that people considered the Forest a precious and indispensable asset to their region. This message was strongly reinforced during public involvement on the Draft Plan. People had come to rely on the Forest for opportunities to observe and enjoy nature, and to roam around in a large unrestricted land area. They valued the wood, forage and other products that came from the Forest. We were also praised for how we had demonstrated that multiple uses of the land were possible, without destroying its long term productivity.

For these reasons we feel strongly committed to the continuation of multiple use management, and the protection of life sustaining capabilities of the land. Although the resource management emphasis will vary from one part of the Forest to another, we will try to consider all resources in our management decisions. We will always be looking for creative ways to balance the production of commodities, such as timber and forage, with important non-economic benefits like high quality recreation, diverse wildlife habitat and rare plants. This will require close teamwork among resource specialists in the Forest Service, and with members of the public who share our commitment to wise management.

The Forest has had a long history of use for demonstration and education. As public land managers we feel it is part of our role to test new ideas that may be too economically risky for private land owners, and share the results. Because we are committed to careful stewardship of the land for present and future generations, we will promote an awareness of natural resource management and a strong conservation ethic.

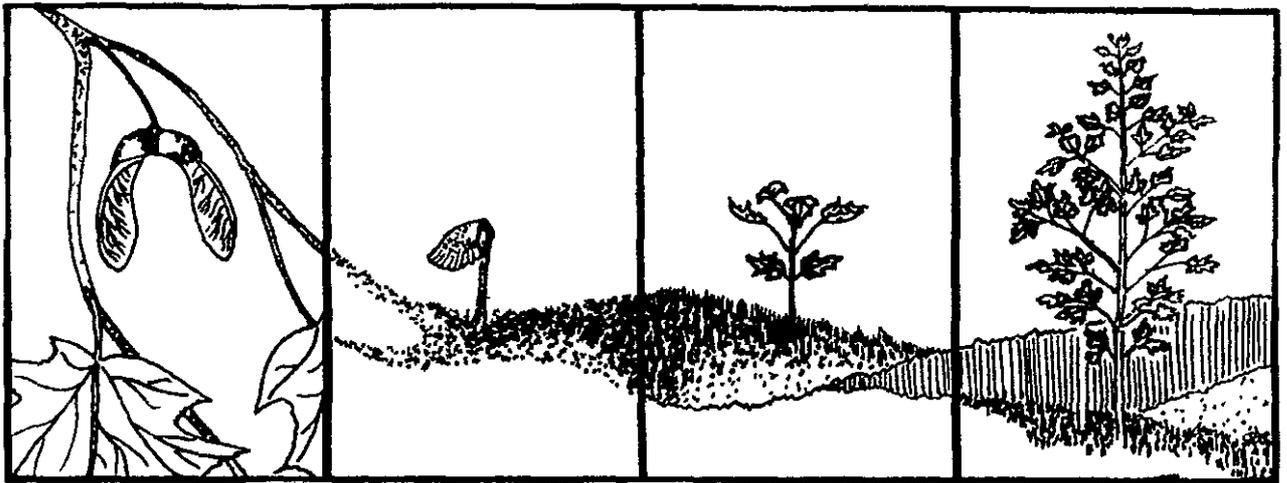
Finally, because large areas of public land are rare in the region, we will manage the Forest to provide goods and services that private land does not. These include benefits requiring a large, continuous land area; stable ownership; and those benefits for which economic or other incentives are lacking on private land.

Goals for the FLNF

The resources and uses of the Finger Lakes National Forest are all interconnected, so that the management or use of one affects the others. For example, harvesting a hardwood stand for sawtimber affects wildlife habitat and the recreation experience. Choosing to maintain an area as a shrub opening means that it cannot be used to produce timber or livestock forage. Computers can help us analyze the complex interactions that occur, and the effects of applying different combinations of management. But since the land base is finite, and some resource uses are incompatible, it is necessary to make some value judgments about which uses should receive priority.

Development of this Plan involved many such judgments. Future management of the complex resources of the Forest will require a continuous chain of decisions by many different people. To ensure that these decisions are consistent with the desired future condition we wish to create, we need a clear statement of our fundamental goals to guide us.

The goals stated on the following pages, along with the role statement, express our management philosophy for the Forest.



GOALS:

PROTECT THE ENVIRONMENT

1. Protect the basic integrity of soil, air and water resources so they can continue their life supporting functions in perpetuity, by such requirements as preventing erosion, meeting air quality standards, preventing contamination of surface and ground water.

2. Promote a diversity of life forms.

This goal recognizes the inherent rights of other species with which we share the earth; the importance of genetic diversity in maintaining resilience in the face of environmental disturbances, and the enrichment of human lives by variety. It includes the protection of unique habitats and species, and management to provide a diversity of habitat types.

3. Protect significant cultural and historic resources.

Cultural and historic resources are important to remind us of alternative ways of coping with and viewing the world, use of what worked and didn't work in the past, and of the forces that shaped current management.

4. Conserve resources and energy.

This involves not wasting non-renewable energy sources in the work we do; getting full utilization of resources we do remove; giving back to the land what is needed to sustain its long-term productivity, and making the most effective use of the taxpayers dollar.

GOALS: (Continued)

PROVIDE A VARIETY OF GOODS AND SERVICES; EMPHASIZING THOSE NOT AVAILABLE FROM OTHER LANDS

5. Provide types of recreation that require a large, relatively undeveloped land area. Includes providing "room to roam", opportunities for relative solitude, and freedom from restrictions.
6. Provide types of wildlife habitat not common on other lands (e.g. shrub openings).
7. Produce range forage commensurate with demand, and compatible with other uses of the Forest.
8. Manage timber to produce high quality sawtimber, since this requires long tenure of land ownership.

PROVIDE A REASONABLY SAFE, HOSPITABLE ENVIRONMENT FOR FOREST VISITORS

9. Conduct management of recreation facilities and other uses to provide a reasonable level of safety in keeping with a relatively undeveloped outdoor environment.
10. Provide sufficient public information for the Forest visitor to take full advantage of available goods, services and opportunities.
11. Promote equal opportunity for all citizens in Forest programs and uses, regardless of race, color, creed, disability, etc.

PROMOTE A CONSERVATION ETHIC AND KNOWLEDGE OF NATURAL RESOURCE MANAGEMENT

12. Promote use of the National Forest for environmental education and research.
13. Demonstrate innovative, ecologically sound management practices that can be applied to other lands.

GOALS: (Continued)

CONSOLIDATE NATIONAL FOREST LAND OWNERSHIP FOR MORE EFFECTIVE MANAGEMENT

14. This goal involves pursuing State enabling legislation, and carrying out land acquisitions and exchanges to improve Forest ownership patterns.

PROMOTING ECONOMIC STABILITY OF LOCAL COMMUNITIES

15. Provide a fairly consistent flow of goods and services on which local communities depend for their economic survival.
16. Minimize disruptions to local economics that might result from forest management decisions.

HELP MEET THE NATION'S ENERGY NEEDS

17. This goal involves leasing for gas exploration and development, in a way that is compatible with conserving surface resources and their uses.

RETAIN THE ABILITY TO RESPOND TO A CHANGING ENVIRONMENT

18. Keep abreast of economic, social, technological, and environmental trends that may affect the Forest.
19. Limit irreversible commitments of resources to keep options open for future generations.

Objectives for the FLNF

Objectives are the time specific and measurable results we expect to achieve once we begin to implement the Forest Plan. The table below shows the relationship between the goals and objectives, and the amount of each objective that we expect to achieve in the next ten years.

Some of the objectives, particularly for environmental protection goals, are difficult to quantify in a meaningful way. One reason is that the only result of accomplishment may be an absence of negative effects.

OBJECTIVES FOR 1987 - 1996

Goals	Desired Results	Amount
1. Protect integrity of soil, air, water	Clean water	No confirmed problems
	Clean air	No confirmed problems
	Follow Standards and Guidelines	No unapproved exceptions; unknown number of approved exceptions
	Prevent wildfires	No unplanned fires
	Extinguish wildfires	Unknown
2. Promote diversity of life forms	Natural succession to old growth forest	350 acres total
	Convert evenaged forest to unevenaged	15 acres selection cutting/year
	Shrub openings	1400 acres total; maintain 200 acres/year
	Forest age class diversity	See Goal #8
	Promote native softwoods	To be determined

OBJECTIVES FOR 1987 - 1996 (Continued)

Goals	Desired Results	Amount
2. Promote diversity of life forms (cont'd)	Maintain locust stands	3 acres/year clearcut
	Maintain aspen stands	2 acres/year clearcut
	Maintain pastures	900 acres/year mowing 530 acres/year liming
	Rare plant survey	One
	Rare plant protection	Unknown
3. Protect cultural resources	Inventory	430 acres/year related to forest treatments, shrub opening maintenance, and recreation projects
	Evaluate sites for significance	Unknown
	Protect sites	Unknown
4. Conserve resources and energy	Energy, dollars and resources saved; productivity	Unknown (evaluate all activities against this goal and objective)
5. Provide recreation requiring large land area	Campground maintenance	3 campgrounds
	Campground expansion	1 total; increase capacity by about 120 people at one time
	Maintain trails	35 miles per year
	Construct trails	10 miles total
	Parking area construction	3 total
	Recreation access to pastures	5 access structures per year

OBJECTIVES FOR 1987 - 1996 (Continued)

Goals	Desired Results	Amount
5. Provide recreation requiring large land area (cont'd)	Blueberry management	5 acres/year
	Fish stocking	3 ponds/year
	Fish survey	1 total
6. Wildlife habitat not on other lands	See Goal #2	
7. Range forage	See Goals #2 and 15	
8. Manage timber for quality sawlogs	Harvest mature trees	30 acres/year shelterwood 20 acres/year overwood removal
	Initiate new crop	40 acres/year burning in oak types 10 acres/year removal of undesirable stems
	Tending young stands	20 acres/year TSI 50 acres/year commercial thin
9. Public safety	Cooperative Law Enforcement Agreement	2 per year
10. Public Information	Revised interpretive brochure	1 total
	Guides for trails	2 total
	Sign National Forest land	Unknown
	Recreation opportunity guide	1 total
	Forest tabloid	1 per year
	Interpretive signing of projects	2 per year
	Field trips, talks	10 per year

OBJECTIVES FOR 1987 - 1996 (Continued)

Goals	Desired Results	Amount
11. Equal Opportunity	Employment	No discrimination complaints; recruit women and minority applicants for all paid and volunteer positions
	Goods and Services	No discrimination complaints; include women's and minority organizations in public information efforts
12. Education and research	Educational field trips	Participate in three; encourage additional use for this purpose
	University/College contracts	3 per year minimum
	Research projects	Unknown (promote research by students, university faculty, other organizations)
13. Demonstrate sound resource management	Acres of high quality, innovative management	13,232 acres/year
14. Consolidate land ownership pattern	Consolidated ownership pattern	Dependent on passage of enabling legislation, availability of land for acquisition or exchange, etc.
15. Consistent flow of goods and services	Forage production	10,800 AUMs
	Timber products	400 MBF/year
	Forest visitors (support tourist industry)	40,000 RVDs

OBJECTIVES FOR 1987 - 1996 (Continued)

Goals	Desired Results	Amount
16. Minimize disruption caused by management decisions	Economic dislocations prevented	None
17. Meet nation's energy needs	Lease for exploration (gas and oil)	13,232 acres
	Provide firewood for home heating	200 cords per year
18. Keep current with trends affecting management of the Forest	Changes anticipated, management innovations	Unknown
19. Limit irreversible commitments of resources	Irreversible commitments not made	None

Desired Future Condition

To achieve the desired future condition of the Forest, it will be necessary to emphasize different combinations of resource uses on different areas. We developed five different management prescriptions, each of which will help us accomplish a certain subset of the overall goals and objectives of the Plan.

Emphasis and Acreage of Management Prescriptions

Management Area Number	Emphasis	Acres	Per Cent
<u>1.2</u>	emphasizes management of <u>pastures</u> for livestock grazing	4500	34%
<u>1.3</u>	emphasizes maintenance of <u>shrub openings</u> for wildlife habitat	1400	11%
<u>2.1</u>	emphasizes <u>continuous forest cover</u> . This management prescription uses unevenaged timber management to provide areas having trees of many ages and sizes where no large clearings will be created. It can enhance recreation and visual quality.	400	3%
<u>3.1</u>	emphasizes a <u>mosaic of evenaged timber stands</u> , high quality sawtimber and other wood products. Roaded natural recreation and wildlife habitat for some species is provided.	6400	48%
<u>8.1</u>	protects <u>special areas</u> with uncommon or outstanding biological or recreational significance.	500	4%

Each management prescription involves a different set of management practices that will be applied to the ground. Standards and Guidelines are the rules which govern where and how the management practices will be applied. These rules are presented in two sections in the Plan. Section E of Chapter IV lists the general Standards and Guidelines that pertain to management practices called for in more than one of the prescriptions. Section F of the same chapter explains the specific Standards and Guidelines that direct implementation of each management prescription. It is important to refer to both the General Standards and Guidelines (Section E) and those which are specific to each management prescription (Section F) to determine whether an activity is permitted in a given area, and how it should be conducted.

Proposed Management Activities

We have estimated the amounts of different kinds of work, or "management activities" which will be needed to achieve the desired future condition of the Forest. The management activities expected in the first decade of Plan implementation are listed below.

Proposed (1987-1996) and Probable (1997-2006) Management Activities			
Management Activity	Unit of Measure	Management Area	Average ^{1/} Annual Amount
Protect the Environment	Acres	All	13,200
Protect Special Areas	Acres	8.1	500
Land Acquisition ^{2/}	Acres	All	Unknown
Trail Construction	Miles	*	1
Trail Rehabilitation	Miles	*	35
Parking Area Construction	Sites	*	3 total
Trail Gates on Pastures	Gates	1.2	5
Campground Expansion	PAOT ^{3/}	1.3	120
Blueberry Management	Acres	1.3	5
Shrub Opening Maintenance	Acres	1.3	200
Wildlife Pond Maintenance	Ponds	*	6
Selection Cuts	Acres	2.1	15
Shelterwood Cuts:			
^o Regeneration	Acres	3.1	30
^o Overwood Removal	Acres	3.1	20
Clearcuts	Acres	3.1	5
Thinning	Acres	3.1	50

* These activities will cross several Management Areas.

^{1/} Average annual amounts are displayed except for those where the total for the next ten years is shown. The probable annual amounts in the next decade (1997-2006) are the same.

^{2/} If enabling legislation is passed, lands may be acquired or exchanged to better achieve the objectives of all management areas on the Forest.

^{3/} People at one time.

Local Forest Service Officials

Questions or comments on the Finger Lakes National Forest Land and Resource Management Plan may be directed to:

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P.O. Box 519
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United States
Department of
Agriculture

Forest
Service

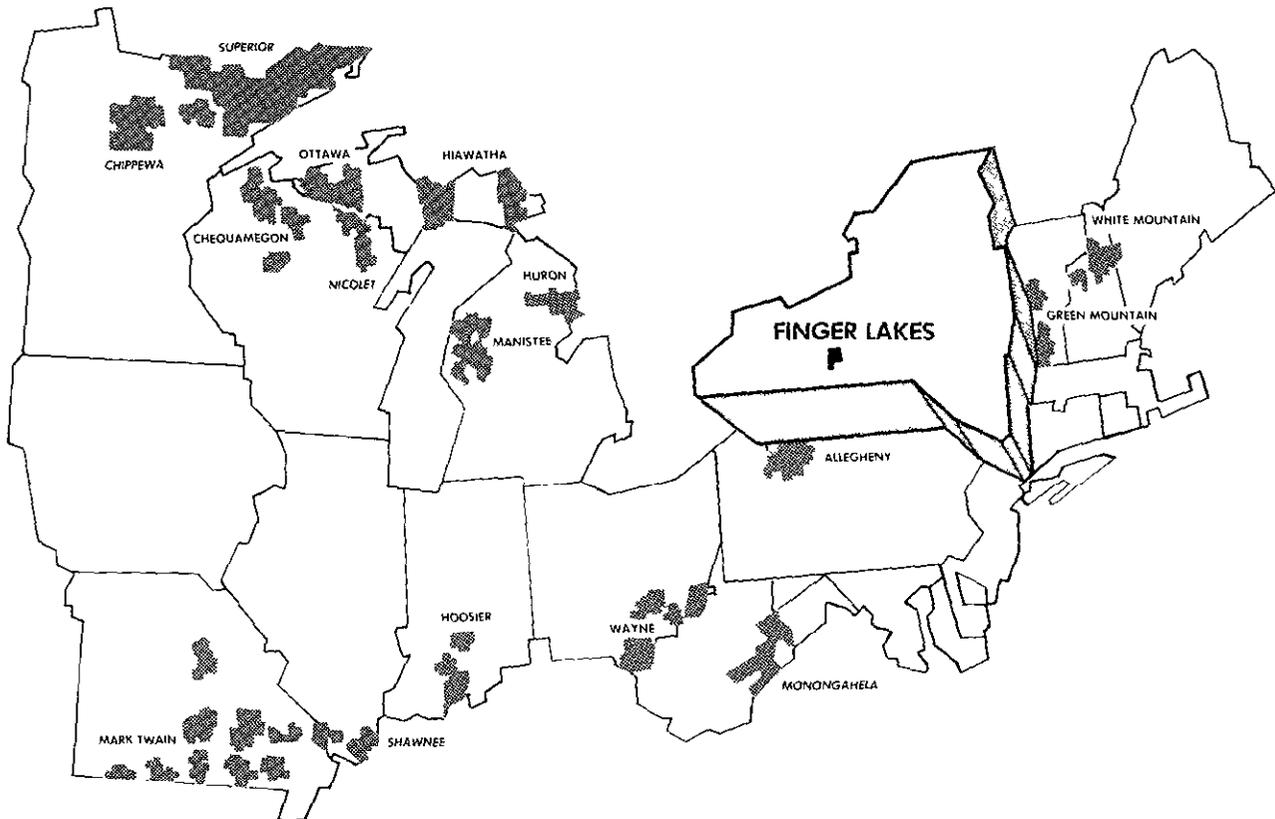
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1986

Land and Resource Management Plan

FINGER LAKES NATIONAL FOREST



Preface

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I. Introduction

A. Organization of the Forest Plan

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Chapter V tells how the Plan will be implemented with an Integrated Resource Management approach. It also outlines the things we will monitor to see how well the results match our projections. The process for amending the Plan in the event of significant changes in the management environment is explained.

At the end of the document are various technical appendices, a glossary, and an index. The maps which show where the different types of management will be applied are included in a separate folder.

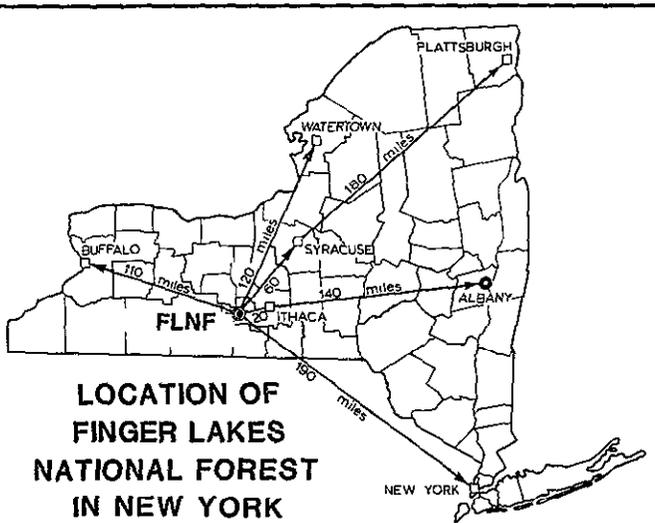
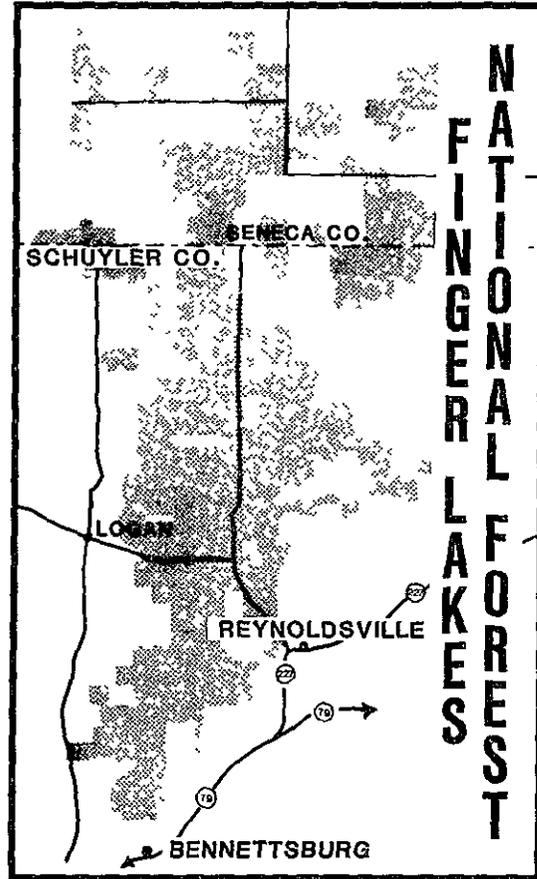
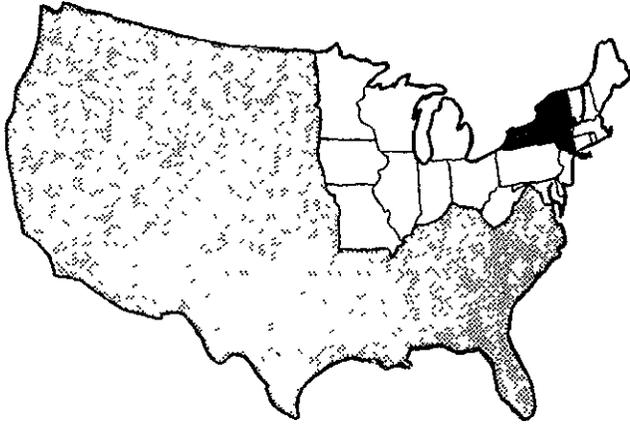
B. Forest Location

The Finger Lakes National Forest consists of 13,232 acres of forest, pasture and shrubland in south central New York. The Forest lies between Seneca and Cayuga Lakes, which are just two of the many finger-shaped lakes formed by glaciers in this region.

The Forest is within a two hour drive of over 1 million people, with population concentrations in Ithaca, Elmira and Binghamton. Major highways also bring frequent visitors from New Jersey, New York City, Albany and Buffalo. Principal travelways in the vicinity of the Forest include State Routes 79 and 227 to the south and east, State Route 96 to the north, and State Route 414 to the west. Many parts of the Forest are readily accessible by passenger car. The Finger Lakes National Forest is the only National Forest land in New York State and is different from the State Forests because of its explicit policy and practice of multiple use management.

EASTERN REGION

USDA Forest Service



LOCATION OF
FINGER LAKES
NATIONAL FOREST
IN NEW YORK

C. Origins of the Finger Lakes National Forest

The area around the Finger Lakes National Forest was originally inhabited by the Iroquois Indians. Information on their use of the area within the current Forest boundary is sketchy at best. It is thought that at least some hunting activity occurred.

In 1790 the area was divided into 600 acre military lots, and distributed among revolutionary war veterans as payment for their services. These early settlers cleared the land for production of hay and small grains such as buckwheat. As New York City grew, a strong market for these products developed, encouraging more intensive agriculture. The farmers prospered until the mid nineteenth century, when a series of unfortunate circumstances sent the region into a decline. Chief among these were the rising popularity of motorized transportation in urban centers (reducing the number of horses to be fed), gradual depletion of the soil resource, and competition from the midwest.

Between 1890 and the Great Depression, over a million acres of farm land were abandoned in south central New York State. In the 1930's it was recognized that farmers in many parts of the country could no longer make a living from their exhausted land. Environmental damage was occurring as they cultivated the land more and more intensively to make ends meet. Several pieces of legislation were passed, including the Emergency Relief Act of 1933, and the Bankhead-Jones Farm Tenant Act of 1937 to address these problems. One result was the formation of a government agency, the Resettlement Administration to carry out the new laws. This agency directed the relocation of farmers to better land or other jobs, and the purchase of marginal farmland by the Federal Government.

Between 1938 and 1941, over 100 farms were purchased in the area now in the National Forest. Because this was done on a willing seller-willing buyer basis, the resulting Federal ownership resembled a patchwork quilt. This was especially true in the Seneca County end of the Forest, where soils were more productive, and some families elected to stay. This ownership pattern still exists today.

The newly acquired Federal land, named the Hector Land Use Area, was initially managed by the Soil Conservation Service. The emphasis was on stabilization of the soil by planting conifers, and development of a cooperative grazing program. Previously cultivated fields were converted to improved pastures to demonstrate how less intensive agriculture could still make productive use of the land.

In 1943, the Hector Cooperative Grazing Association was formed. This organization was issued a long term lease to manage grazing on the Land Use Area. They coordinated use of the pastures by as many as 120 individual livestock owners within a 100 mile radius of the LUA.

By the 1950's, many of the original objectives of the Hector Land Use Area had been met. Farmers had been resettled, the eroding soil stabilized, and alternative agricultural uses demonstrated. At the same time, the public was becoming interested in the concept of multiple uses of public land. Management and appropriate ownership of the Hector LUA was reevaluated. The decision was made in 1954 to transfer administration responsibilities to the U.S. Forest Service, which already had a fairly long history of multiple use management. Initially this was carried out by the Regional Office in Upper Darby, PA. When this Region was later consolidated within the Forest Service's Northeast Region, Hector became an administrative unit of the Green Mountain National Forest in Vermont.

In 1982, the Federal land management agencies were directed to identify isolated parcels of federal land that could be sold without significantly affecting the resource base or public service. The intent was to dispose of lands that were inefficient to manage, and to generate revenue. The Hector Land Use Area was one parcel studied for possible disposal under this "Assets Management" program.

When public meetings were held to evaluate this idea, there was strong local support for continued federal ownership. Local and regional citizens had come to depend on Hector for wood products, forage, recreation and other benefits. Because of this public support, Congress enacted legislation to make it a permanent part of the National Forest System. The Hector Ranger District, Green Mountain National Forest had been created.

Local citizens asked the Forest Service to change the name to Hector Ranger District, Finger Lakes National Forest, so it would be less confusing to visitors, and promote local pride about the area. This change was made in October of 1985.

Although the Finger Lakes National Forest is still an administrative unit of the Green Mountain National Forest, we strive to be sensitive to local concerns and resource capabilities. It is truly New York's National Forest.

CHAPTER

II

MANAGEMENT SITUATION

II.	Management Situation	2.01
A.	Introduction	2.01
B.	Present Situation and Future Trends	2.02

II. Management Situation

A. Introduction

The purpose of this chapter is to provide a general context for planned management. We felt it was important to understand the major historical, physical, economic and social factors that have shaped Forest management to date. This helped us define what our role should be, and how management should change to provide "the greatest public good". It also reminded us of our responsibility to future generations to do a good job today.

Some geographical and historical information was provided in Chapter I. To give a further sense of how the Finger Lakes National Forest "fits", we will briefly describe the mix of products and services provided prior to Plan implementation, their relationship to regional resources and trends, and our best guess at the most likely future.

B. Present Situation and Future Trends

Management of the Finger Lakes National Forest involves five major program areas: recreation, visitor information and education, wildlife habitat improvement, pasture management for livestock grazing, and timber management. Administration of special use permits or leases for communication sites, power lines, oil and gas exploration and other uses, presently round out the Forest program.

1. Recreation

PRESENT SITUATION

Demand for forest recreation in the Finger Lakes Region is fairly high, due to limited public ownership, widespread posting of private land, and the desire of nearby urban residents to get away to a more natural setting. Visitors are attracted by the region's lakes, wineries, impressive gorges and pleasant rural scenery. Specific attractions near the Finger Lakes National Forest include the Watkins Glen International Race Track, Watkins Glen State Park, Seneca and Cayuga Lakes, and the many small wineries found on the adjacent slopes.

Some of the outdoor recreation enthusiasts can be accommodated by State and County parks and private campgrounds. However, these facilities tend to be developed for high intensity use on a limited acreage. The needs of people who are looking for a relatively undeveloped, large land area with few restrictions on use are best met by the Finger Lakes National Forest.

Recreational enjoyment of the Finger Lakes National Forest is very dependent on visual conditions, such as variety of vegetation types, color contrasts, scenic vistas, and the degree of modification caused by humans. Although the Forest lacks spectacular features like mountain peaks or whitewater rivers, visitors still describe it as "beautiful".

Visual assets on the Forest include long vistas of the surrounding hills and Seneca Lake; a variety of vegetation types (forest, pasture, shrub openings) and a diversity of plant species. As the visitor moves from one vegetative type to another, sensations vary from expansiveness (associated with vistas and pastures) to feeling sheltered and private (in forests and ravines).

Visitors tuned in to the variety of plant species enjoy the subtle variations in colors and textures as wildflowers come and go, and other plants go through their seasonal cycles. The most dramatic scenery occurs in the fall when shrubs and trees turn many shades of red, orange, gold and purple. Small ravines, creeks and wildlife ponds add another element to visual enjoyment of the Forest.

About 94% of the Forest land area is within one half mile of a town or county road, so visitors have little expectation of a true wilderness experience. The Forest is also surrounded by a rural farming environment, so people are accustomed to seeing managed vegetation. These factors contribute to some tolerance by visitors for visual modifications such as mowing, shelterwood cutting or commercial thinning of timber and construction of skid trails.

An attempt has been made in the past to minimize the degree of disturbance caused by timber harvest along trails and near developed recreation sites. Few complaints have been received about these activities. However, with the intensity of management and the number of visitors both increasing, visual quality considerations will become more important in project planning.

Recreation management on the Finger Lakes National Forest has emphasized fairly rustic campgrounds and dispersed uses. As of 1985, the prominent uses were hunting and fishing, horseback riding, camping, cross country skiing, hiking, fruit picking, sightseeing from a car or bicycle, and snowmobiling. Use by wheeled off-road vehicles was also significant, in spite of attempts to prohibit their use off of town roads. Some conflicts occurred between horseback riders and hikers in the summer, and between cross country skiers and snowmobilers in the winter. On most trails all uses except wheeled off-road vehicles were permitted. The high density of hunters during the three week deer season discouraged most other recreation use during this time. Fortunately, the season fell during a time of year (late fall) when other camping and hiking use was low, and the snowfall was generally not sufficient to attract skiers and snowmobilers.

Recreation capacity of the Forest under multiple use management was estimated at 45,000 Recreation Visitor Days (One Visitor Day = 12 hours of use by one Forest visitor). Use in 1985 was approximately 31,300 RVD's. Assuming the addition of 4 developed recreation sites and a 25% increase in trails, it was estimated that the future capacity could be raised to about 68,000 RVD's if demands increased.

As of the time this Plan was written, recreation use was not evenly distributed over the Forest or among uses. Demand for stocked fish and facilities related to horseback riding exceeded the supply. Blueberry Patch Campground was normally filled on holiday weekends, but was partly vacant at other times. The Potomac Group Campground was reserved on about 50% of the weekends during the open season. By contrast, the Backbone Trailhead used by campers with horses was frequently filled to overflowing, even on non-holiday weekends. Although demand for hunting opportunities was probably near capacity during deer season, more hunters could be safely accommodated at other times.

The supply of other recreation opportunities, such as cross country skiing, hiking and fruit picking, exceeded the demand. However, use tended to be concentrated in the central part of the District. Visitors tended to stay near familiar landmarks, such as the Blueberry Patch and Potomac Campgrounds and Foster Pond. Intermingled land ownership on the north end of the Forest, inadequate signing of National Forest land, and deteriorating trail signs aggravated this problem. Information on Forest attractions was mainly available at the Forest office, which was not on one of the main travel routes for visitors to the area. Nevertheless, Forest visitors who did become familiar with the Forest reported it as highly desirable for recreation.

Coordination of recreation with pasture management presented its own set of challenges. Barbed wire fencing with few gates discouraged access not only to pastures, but to adjacent areas that could be reached by crossing the pastures. Gates along the trails required frequent maintenance, and many had fallen into disrepair. Forest visitors sometimes left them open, allowing permitted livestock to escape. Once in the pasture, the trail user often had to search for the trail: fast growth of grasses and forbs obscured the tread, and cattle frequently knocked down guideposts. Mowing the trails helped.

Several events gave the Hector District a higher public profile in the early 1980's. These included: consideration of the Seneca Co. portion for inclusion in a settlement with the Seneca Indian Tribe; proposed sale of the entire District under the Assets Management Program; changing the name to Hector R.D., Finger Lakes National Forest; and public involvement for Forest planning. One article in a Rochester, N.Y. paper resulted in over 600 requests for the brochure and map in a two week period. As a result of this visibility, many New Yorkers discovered their National Forest and began to visit.

FUTURE TRENDS

Recreation use is expected to continue to increase gradually during the coming decade. The demand for more horseback riding facilities and an improved trail system (including provisions for separating conflicting uses) seems most urgent. Hunting opportunities are likely to be improved by planned management of shrub openings and timber stands. Demand for stocked trout will probably continue to exceed the supply: there are only a few ponds on the District that are suitable for trout stocking, and we are dependent on the State Department of Environmental Conservation for the fish. Opportunities to improve warm water fishing on the Forest will be investigated.

Blueberry production will be boosted by active management of the Blueberry Patch and prescribed burning of shrub openings containing blueberries. Availability of other fruits (e.g. raspberries, apples) will be ample for determined gatherers.

Due to the small size of the Forest, and vocal opposition from other user groups, wheeled-off-road vehicles will continue to be prohibited on the Forest except on town-maintained roads.

2. Visitor Information and Education

PRESENT SITUATION

Prior to 1980 the Finger Lakes National Forest (then called the Hector Land Use Area) was relatively unknown among N.Y. State residents. Events such as the proposed sale under Assets Management significantly raised people's awareness of the Forest and resulted in ever-increasing requests for information. As of 1985, this demand was being met mainly through a free brochure and map, occasional articles about the Forest in local newspapers, slide presentations to various organizations, and information dispersed by local businesses (especially the wineries and a bed-and-breakfast establishment located on a Forest inholding).

Some problems in providing adequate visitor information included:

- remoteness of the office from the Forest and main travel routes to it.
- inadequate signing to direct visitors to the National Forest from main travel routes, and to help them distinguish National Forest land from private land.
- an outdated brochure with a poor quality map.

As of 1986, there was moderate use of the Forest for education and research purposes. The main activities included Conservation Field Day (a day of outdoor education for Schuyler County sixth graders), field trips for university instructors and students, and occasional involvement of university faculty as consultants in project work. Excellent potential existed for research projects by students and faculty of Cornell University, the College of Environmental Science and Forestry at Syracuse, and Community College of the Finger Lakes. Use of the Forest for field trips and other outdoor education could be increased readily.

FUTURE TRENDS

A number of options for improving the situation were apparent. The Finger Lakes Association, an organization promoting tourism in the region, was taking an active interest in the Forest. Radio and public television stations seemed able to provide air time to educate potential visitors. Several local newspapers had done articles about the Forest, and appeared eager to cover future developments. Several "informal gatekeepers" of the Forest could also be identified. These consisted of businesses near the Finger Lakes National Forest that had frequent contact with tourists, and were already providing some information. Some had requested supplies of the brochure because they received routine inquiries about the Forest.

All of these information sources could be cultivated at little expense, and we intend to pursue them during Plan implementation. The emphasis will be on increasing the public's awareness and enjoyment of the Finger Lakes National Forest, while stressing their responsibility to protect its valuable natural resources.

Efforts to develop educational uses under this Plan will include initiating contacts with local schools and organizations, preparing preliminary research proposals and submitting them to university contacts, and leading some field trips on the Forest.

3. Wildlife Habitat Improvement

PRESENT SITUATION

Wildlife management on the National Forests is primarily concerned with providing adequate habitat to maintain diverse, self-sustaining populations of wildlife. The basic components of habitat are food, water and cover, which can all be manipulated to promote or discourage different species of wildlife. This manipulation may be directed specifically at wildlife habitat improvement (such as construction of a pond), or it may occur indirectly as a result of some other land use (e.g. a timber harvest).

As of 1985, a wide variety of wildlife species occurred on the Forest. Improved pasture, hardwood forest, conifer plantations and shrub openings were widely interspersed, providing a high degree of horizontal and structural diversity. Hemlock ravines, wildlife ponds and creeks were scattered among these types. Plant species diversity within each vegetation type allowed even greater subdivision of habitats.

Pastures were frequented by such species as hawks, owls, rodents, bluebirds, bobolinks and flycatchers. Shrub openings, maintained through a combination of mowing and prescribed fire, attracted deer, ruffed grouse, woodcock and a wide variety of non-game birds and mammals. Forest-dependent species included turkeys, pileated woodpeckers, great blue herons, gray squirrels, an occasional black bear, as well as many of the species mentioned above. Abundant mast-producing plant species such as oaks, hickory, black cherry, beech, red osier and thornapple added to habitat values in the shrub and forest types. Hemlock stands provided good winter cover for grouse and deer. Aspen inclusions within hardwood stands and shrub openings were important for grouse during several stages of their life cycle.

One habitat type that was missing was old growth forest. Virtually the entire District had been cutover to some degree prior to Federal acquisition, so the majority of stands were less than 60 years old.

Wildlife was an important aspect of recreation on the Forest. This was particularly striking during the first week of deer hunting season, when hunters' cars filled all of the parking lots, and lined portions of many roads. Widespread posting of private land against hunting concentrated this activity on State and National Forest lands. Hunting for small animals and game birds was also popular.

As of 1985, three of the 27 wildlife ponds were being stocked annually with trout. The demand exceeded the supply, as evidenced by the rapid "fishing out" of stocked fish. Warm water fish, such as bullheads and bass, were available in many ponds. Few streams on the Forest were large enough to support a permanent trout population. Requests for information about hunting and fishing were among the most frequent inquiries from the public.

Forest visitors seemed to get just as much enjoyment from observing wildlife. Seeing a flock of turkeys or a bluebird was often the highlight of a hike through the Forest. For this reason, as well as the intrinsic value of wildlife species, management activities were planned so as to maintain or enhance wildlife populations. This included maintaining hundreds of acres of shrub openings, pond construction, retention of snags and den trees in timber harvest units, providing nest boxes, and other measures.

Because management of the Finger Lakes National Forest is publicly funded, it is possible to carry out some wildlife habitat improvement projects that may not be practical on private lands. We feel it is important to emphasize these types of activities on the Forest, since less than 10% of the land in the three closest counties (Schuyler, Seneca, Tompkins) is in public ownership. Only part of this public land has wildlife habitat improvement as an important management objective.

FUTURE TRENDS

The demand for wildlife-oriented recreation is expected to increase in the coming decade. This expectation is based on observations of hunting activities, public comments on the Forest Plan, and the increase in Forest visitors resulting from an increasing awareness of the Finger Lakes National Forest. The demand for stocked fish will probably exceed the number that can be supplied by the NYS Department of Environmental Conservation. Other projected demands can be met by direct habitat improvements such as shrub opening maintenance and by other resource management activities such as aspen regeneration during commercial timber harvest.

Past wildlife habitat improvement efforts have emphasized construction of wildlife ponds and maintenance of shrub openings. No additional wildlife ponds are planned, but the existing ones will be maintained. Shrub openings are a relatively rare habitat type because private landowners have little incentive to invest in maintenance. They are more likely to have their land in crops or pasture, or to do no management at all. For this reason, we plan to continue shrub opening maintenance as a major habitat improvement activity on the Forest.

4. Pasture Management

PRESENT SITUATION

In 1985, 75 members of the Hector Grazing Association brought their cattle to the Finger Lakes National Forest for a 5 1/2 month grazing season. The average trucking distance was about 50 miles, with some owners coming from as far as 100 miles. The main incentive for this was the opportunity to put their own more productive land into crops. Herd size varied from one to 250 head, totaling about 1,725 head. Dairy heifers made up about 2/3 of the total, with the remainder consisting of various types of beef cattle.

Although 1,725 cattle proved to be an appropriate number for that drought-stricken year, it is far below the potential pasture capacity. This soft demand reflected the structural problems and economic challenges experienced by the State's livestock industry.

New York is the third largest milk producer in the U.S., behind Wisconsin and California. Dairying dominates agriculture within the state, accounting for 58% of all farm product cash receipts in 1982. Like other sectors in the agricultural economy, New York's milk industry was hard hit in the late 1970's and early 1980's by the combination of high interest rates and production costs, and depressed prices caused by over-production. Changes in consumer preferences toward foods lower in fat also occurred.

These factors intensified the trend toward fewer, large operations that had been encouraged by technological changes and tax structures. Larger operations were more able to take advantage of economies of scale, and had more resources to fall back on in lean times. As a result, between 1970 and 1983 the number of dairy farms in N.Y. declined by 34 percent.

Many of the same factors were discouraging beef production. Although N.Y. was a major beef producer before the Civil War, opening of the Erie Canal brought stiff competition from the midwest. As transportation improved, there was an increasing tendency to produce beef where the feed was grown.

Beef production became less profitable, and the last large urban packing plant in the northeast closed in the late 1970's. Today there are only five commercial scale feedlots in N.Y. state. Production is fragmented among small scattered operations, many of which are part time. It is difficult to assemble uniform lots of cattle for feeding, and much of the high quality feed in the state is used for dairy cattle. Most of the beef is sold directly to consumers, who are also choosing to eat less beef.

FUTURE TRENDS

The obvious consequence of these conditions for the Finger Lakes National Forest has been a decline in demand for forage. Some of the more important factors that could affect the future of New York's livestock industry are:

- ° Government price and marketing policies - the trend is toward reduced intervention.
- ° Changes in consumer preferences - lower fat, higher calcium, more convenience and specialty foods.
- ° Technological changes - e.g. bovine growth hormone could significantly boost per-cow milk production.
- ° Population trends - N.Y. is expected to have a stable population through the year 2000, and the average age of the consumer will increase.
- ° Export markets - expected to increase in importance.

For the coming decade, farm prices will probably continue to drop. The numbers of producers will go down, but the average farm will be larger. Efforts of state government will focus on improving domestic and foreign marketing, and creating a more favorable tax environment. We expect that demand for forage on the Finger Lakes National Forest will continue to be somewhat less than the existing supply, but that this situation could change in the long run as structural shifts occur in the livestock industry. We also recognize that pastures make an important contribution to visual quality, wildlife habitat and recreation on the Forest.

For this reason, pasture management in this decade will emphasize maintaining long term pasture productivity without attempting to increase total forage production on the Forest to its full potential. This will enable us to respond to future increases in demand without major investments in pasture reclamation. Maintenance costs may exceed livestock value produced in some years, but this is considered worthwhile to protect future opportunities, and to provide the non-commodity benefits associated with pastures.

5. Timber

PRESENT SITUATION

In the mid 1850's New York State was the leading timber producer in the U.S. Harvest was exploitative, removing the largest, best quality trees at a rate far exceeding regeneration. By 1880, timber harvest and agricultural clearing had left the once densely forested state with only 25% of its area in forest.

Early uses of the lands now in the Finger Lakes National Forest followed a very similar pattern. When the Federal Government acquired the land (1938-1941), perhaps 75% of it was in brushy abandoned fields or current cultivation. Much of the remaining forest land had been highgraded, or was on land too rugged for plowing or timber harvest. About 1300 acres of conifers were planted to help arrest erosion, especially on the southern end of the District.

Forest conditions as of 1985 reflected the historical uses. About two thirds of the hardwood stands fell into the young (10-59 year) age class, having grown up from the abandoned fields. Most of the remaining hardwoods were in the 60-99 year (mature) age class. Many of these stands were difficult to age, due to haphazard harvest practices in the past. In contrast, 90% of the softwood stands could be considered mature (40-99 years old). Growth of many of the shorter-lived conifers in the plantations had stagnated.

Forest treatments aimed at long term production of high quality sawtimber began in earnest in the mid 1970's. By 1985 about 260 acres of hardwoods had received an evenaged harvest, and about 450 acres had been commercially thinned. Hardwood harvest lagged behind that needed to manage on a 100 year rotation, but stand conditions were gradually improving. About half of the timber was sold as sawtimber to local mills producing pallets and veneer. The rest consisted of hardwood firewood, red pine poles and locust cut for fence posts. Although an abundance of low quality wood was available, no pulp market existed.

The conifer plantations had become a management dilemma: growth had stopped in most areas, but no market existed for many of the species. Although an erratic market existed for red pine, many of the trees had stopped growing before reaching a desirable diameter. Some stands were suffering significant blowdown.

Although the timber program on the Forest was small, there was significant potential for increasing productivity. This could be accomplished through such practices as commercial and precommercial thinning, evenaged regeneration, selection cuts, and prescribed burning to promote oak reproduction.

FUTURE TRENDS

As of 1985, local timber mills were purchasing national forest timber but were not dependent on it. Most of their cutting was done on nearby State Forests and private land. However, several factors could promote significant growth of the forest industry both locally and statewide.

° There is a large forest resource base:

Two thirds of N.Y. State is now forested, and 83% of this is commercial forest land. Between 1968 and 1980, forested land increased by 99,000 acres per year.

° Second and third growth forests are maturing:

Statewide there was a 53% increase in sawtimber volume between 1968 and 1980. Schuyler, Chemung and Steuben Counties had a 71% increase during that time.

° The forests are currently underutilized:

In 1980, only one cubic foot of wood was being harvested for every 2.8 cubic feet being grown. Some forestry experts think the productivity of N.Y. forest lands could be doubled with intensive management.

° A shift in national emphasis from use of western conifers to eastern hardwoods is expected:

A dip in western timber supplies will occur when the supplies of old growth conifers are liquidated, and second growth forests have not yet matured. High site prep and planting costs in the southeast have discouraged some producers there from regenerating pine stands. As a result, demand for timber products may shift to northeastern hardwoods.

° New York is close to major markets and shipping centers (Boston to Washington metropolis):

New York already has the largest share of the furniture and veneer grade hardwood market in the nation.

There are a number of barriers to expansion of the state and local forest industry. Ownership patterns are the most significant. About 90% of the commercial forest land is in privately owned nonindustrial forests, divided among over 500,000 landowners. Many of these landowners are unaware of forest management, or prefer to keep their land in its "natural" state. About 2.5 million acres of state-owned forest land are in the Adirondack and Catskill Forest Preserves. No timber harvest is allowed in these "forever wild" areas.

Another major disincentive for timber production is the ad valorem property tax. High taxes result from assessing land values based on their "highest and best use". This often leads to liquidation of a private forest to pay the taxes, rather than long term management for timber production. Rising land values and high taxes also encourage subdivision of forest parcels.

In spite of these challenges, New York's timber industries are likely to grow in the coming decade. The State government has recognized the potential of the forest resource, and targeted it for development. Revisions in tax policies are likely to be a major thrust.

All of this points to a continued interest in National Forest timber. Because production of high quality sawlogs requires a long tenure of ownership, and this is increasingly rare on private land, timber management on the FLNF will continue to emphasize this kind of product in the future. This will be accomplished primarily through evenaged harvest systems. Some lower quality wood will be cut as the stands are "groomed" for this role. Red Pine stands will be thinned or regenerated as the market permits. Other conifer plantations will be left largely unmanaged until market conditions justify treating them.

Firewood demand as of 1985 was moderate due to low fuel prices. Some increase in demand could be accommodated, especially for individuals with equipment to remove wood from remote locations.

Timber production will be less than the maximum possible in most areas, in order to achieve other important objectives on the National Forest. We will encourage and support forestry research and education in cooperation with the Department of Environmental Conservation, local universities, and the Cooperative Extension Service.

6. Special Uses

PRESENT SITUATION

As of 1985 there were 15 active special use permits on the Forest. Although most permits required annual renewal, many were for more or less permanent uses. These included powerlines, drainage ditches, and a large microwave tower. Special use permits were also occasionally issued for transient uses such as temporary hauling roads to remove timber from a private inholding.

FUTURE TRENDS

Continual requests for special use permits are expected in the future. Because of the limited size of the District and increasing use by the general public, applications will be reviewed critically. Permits conferring exclusive use to an individual or group will very rarely be granted.

7. Minerals

PRESENT SITUATION

Gravel deposits occur on the southern end of the Forest and one small pit was developed in 1984 for administrative use. About 3,000 cubic yards of material had been removed as of the summer of 1986. Most of this had been used by the Town of Hector to maintain roads on the Forest under an Administrative free use permit. Just south of the Forest boundary, DeWitt Corp. was actively mining a part of the same deposit. Some interest in continuing the development onto National Forest land had been shown by the company (July, 1986).

Leases were granted for oil and gas exploration from 1974 to 1984. Several dry holes were drilled on nearby private lands, but no surface disturbance occurred on the National Forest.

FUTURE TRENDS

Several producing natural gas wells had been developed in south Seneca County. Drilling was just beginning for a gas well within 1/4 mile of the northwest corner of the Forest. It appears highly likely that further leasing for exploration would eventually result in development for gas production.

We have decided to allow this leasing subject to strict stipulations governing surface disturbance. A site specific Environmental Assessment will be done for each development proposal, carefully considering effects on other forest resources and uses. Cumulative effects of separate proposals (such as the network of pipelines required to transport the gas to users) will also be considered.

An environmental assessment will also be prepared to evaluate proposed expansion of The DeWitt Corporation gravel operation.

8. Land Adjustments

PRESENT SITUATION

As of the time this Plan was written, there was no active enabling legislation in New York State to acquire additional National Forest land. The 1935 law authorizing purchases by the Resettlement Administration was still on the books, but its authority had expired in 1941.

Land ownership on the Finger Lakes National Forest was fairly well consolidated in the southern two thirds, but was fragmented in the northern (Seneca County) portion. This interfered with effective resource management, particularly for timber and recreation.

Public opinion about additional acquisition was quite divided. Some individuals supported attempts to consolidate the National Forest, while others were concerned about potential impacts on the local tax base.

FUTURE TRENDS

We have decided to pursue enabling legislation, taking care to involve town and county officials and the public. We will make it clear that, if enabling legislation is passed, we intend to acquire land on a willing seller basis only.

CHAPTER

III

RESPONSE TO PROBLEMS

III.	Response to Problems.	3.01
A.	Introduction.	3.01
B.	Problems.	3.02
C.	Research Needs.	3.11

III. Response to Problems

A. Introduction

Early in the planning process, citizens helped us identify important issues that they would like to see resolved by the Forest Plan. At the same time employees of the Forest Service described resource management concerns. These issues and concerns represent what people want and don't want the Forest to be.

However, the Forest cannot simultaneously provide all the benefits to the extent that all people desire. When management to produce benefits for some people would decrease the benefits enjoyed by others, we identified what we called a management problem. This chapter is an overview of the ways that the plan responds to these problems. More detailed information is included in Chapter IV and in the EIS.

B. Management Problems

Wildlife Habitats

This problem involves how to provide high quality habitat for a variety of wildlife species, while meeting other resource objectives.

Vegetative composition is a major factor determining which wildlife species will be present, and how abundant they will be. This includes the relative amounts and distribution of different vegetative types (e.g. pasture, forest), plant species composition, and the availability of features like snags or den trees. These elements also affect the balance of other products that can be provided, and the kind of recreation experience a visitor has.

Some wildlife species prefer mature, all-aged forests with plenty of snags or down logs. Others require grassy or brushy openings created by timber regeneration, mowing or burning. Certain species may be dependent on a particular plant species, or require several different vegetation types during different parts of their life cycle. As a result of these differing habitat needs, vegetative management that favors one group of wildlife species may be detrimental to another. It is a complex challenge to achieve the right balance of management activities to provide diverse, high quality wildlife habitat, while producing other desired goods and services such as wood, forage, and recreation.

Most of the public comments about wildlife habitat concerned how much land should be allocated for evenaged timber management (3.1) vs. management as shrub openings (1.3).

When the Draft Plan was developed, it was thought that the existing acres of shrub openings exceeded that necessary to sustain desirable populations of shrub dependent wildlife. This conclusion was mainly based on research about the optimum size of openings that wildlife could utilize effectively. The draft proposal was to allow portions of the larger openings, as well as some of the older, difficult to maintain areas to revert to hardwood forest. This hardwood forest would be managed under an evenaged silvicultural system.

Many individuals and groups objected to the reduction in maintained shrub opening acres. They were not convinced that the proposed 800 acres was enough to provide the levels of game and non-game wildlife they wanted to see.

RESOLUTION

Although habitat diversity is difficult to measure, we will attempt to meet the needs of wildlife by providing a wide variety of vegetative conditions on the Forest. This will include establishing some old growth forest, managing some stands in an unevenaged condition, maintaining or promoting uncommon vegetation types (e.g. aspen, hemlock), creating various age classes of timber through evenaged management, maintaining shrub openings and pastures, and protecting unique plant communities.

Although there was some evidence in support of the proposed reduction in shrub openings, it was outweighed by the strong public support for shrub opening maintenance. We decided to increase the acreage in this Management Prescription over that in the Draft Plan.

RESPONSES

- °Maintain 1400 acres of shrub openings located strategically in relation to other vegetation types.
- °Locate the shrub openings strategically over the forest, considering Ecological Land Type, location relative to other vegetation types, ability to maintain, and proximity to water.
- °Allow approximately 1000 acres of shrub openings that cannot be maintained without heavy equipment to continue succession to hardwood forest.
- °Provide a variety of shrub opening age classes to meet the needs of different wildlife species.
- °Monitor responses of wildlife populations to availability of shrub opening habitat, and management methods.
- °Manage pastures to retain present acreage.
- °Perpetuate existing stands of locust and aspen (total of 215 acres).
- °Encourage establishment and growth of native conifers in selected areas. Allow gradual replacement of conifer plantations by hardwoods more adapted to the site.
- °Promote mast-producing species such as oak, hickory, cherry, red osier and hawthorne in timber stands and shrub openings.
- °Designate reserve trees (snags, den trees, down logs) to be left for wildlife in managed timber stands.
- °Set aside 350 acres for natural succession to old growth forest.
- °Manage 400 acres of forest under an unevenaged silvicultural system.
- °Conduct rare plant survey to identify protection needs, if any.
- °Maintain existing wildlife ponds. Provide escape cover for wildlife around the ponds.
- °Investigate designation of FLNF as a separate Deer Management Unit by New York State Department of Environmental Conservation. Objectives would be to regulate density of hunters and facilitate monitoring of deer population responses to habitat management.

Conflicts over Trail Use

This problem involves resolution of conflicts between different groups of trail users, and the relative amount of emphasis placed on recreation compared to other Forest programs.

In the past, hiking, snowmobiling, horseback riding and cross-country skiing have all been permitted on most trails. During public involvement for the Plan it became apparent that horseback riding and hiking were not very compatible in the summer and snowmobiling conflicted with cross-country skiing in the winter. We also discovered a tremendous demand for horseback riding and camping, which the existing trails and facilities could not meet.

Many people mentioned the need for more loop trails. They also complained that the trails were not adequately marked, and it was often hard to distinguish National Forest land from private land. These problems were related to the rather linear shape of the National Forest, and disjointed land ownership patterns. As a result, trails in the central, more familiar part of the Forest were heavily used, while desirable trails at the north and south ends received little traffic.

Within the Forest Service there was concern about our ability to adequately maintain additional trails in the face of potential budget and personnel limitations. No favorable comments were received about the use of wheeled-off-road vehicles on trails, and there was widespread antagonism toward them.

RESOLUTION

The public gave us a clear message that we needed to improve our trail system to promote better distribution and separation of uses. They also let us know that recreation is a very important and growing use of the Forest. We plan to respond to this message by expanding the trail system suitable for horseback riding and snowmobiling, designating some trails for hiking/cross-country skiing use only, improving the existing horse camping facility, providing better signing of trails and National Forest land, and improving our trail brochures and maps. Cooperative relationships with trail user groups will be developed to assist in maintaining existing and new trails. We also plan to pursue enabling legislation for land acquisition, in the hopes of achieving a land ownership pattern more conducive to dispersed recreation.

RESPONSES

- °Expand the Backbone Trailhead horse camping facility to accommodate more campers. Provide water for stock and people.
- °Permit hiking and cross-country skiing only on the Interloken, Ravine, Finger Lakes, Gorge and Potomac Loop Trails.
- °Construct additional trails to create a horseback riding/snowmobiling trail system of comparable extent and quality to the hiking/skiing trail system. Create loop trails where possible.
- °Develop cooperative agreements with trail user groups for trail and facility maintenance.
- °Continue to provide use of wheeledoff-road vehicles, except as permitted by State law on county and town roads.
- °Put up signs on main travel routes near the Forest, directing visitors to National Forest land.
- °Post National Forest land in a welcoming fashion where it is intermingled with private land.
- °Improve trail signing and Forest brochure maps to provide clear directions for trail users.
- °Pursue State enabling legislation for land ownership adjustment (exchange, acquisition). Involve town and county governments that would be affected.

Special Areas

During Plan development we identified a number of areas of the Forest that could be designated as "Special Areas". However, management as special areas would exclude some kinds of resource uses. For example, a timber stand designated as an old growth area could not be managed to provide wood products. We had to decide which parts of the Forest to manage as Special Areas, and what kinds of management activities would be permitted in them.

RESOLUTION

We believe that protecting uncommon or outstanding areas is an important part of our role. On public land, no single individual has to absorb the economic tradeoffs that may be involved. Also, public lands can provide the long tenure of ownership that may be required. Designation and management of special areas fits with our goal of providing goods and services that private lands do not.

RESPONSES

°Designate the Interloken Trail as a Special Area, based on its National Recreation Trail status, and for the outstanding recreational and educational opportunities it can provide. Management will strive for a balance between demonstrating land management practices, and providing a recreation environment relatively free of human modification.

°Designate the Finger Lakes Trail as a Special Area because it is being considered for addition to the nationally significant North Country Trail, and because of its inclusion in the Finger Lakes Trail that spans southern New York State. Management will be aimed at providing an environment where human modifications are secondary to natural features.

°Designate the Ravine Trail as a Special Area because of its uncommon natural features, and the opportunity it provides for environmental education. Management will emphasize protection of natural features, and low impact recreation and education uses.

°Set aside about 350 acres for natural succession to old growth forest, because this is a very uncommon vegetation type in the region. Management will emphasize protection of natural features for low-impact research, education and recreation.

°In all Special Areas, limit resource management to activities that maintain the character and outstanding values of the area.

°Subject to passage of enabling legislation, give high priority to acquiring full or partial interest in lands which enhance the protection of each area's special values, and to other areas with uncommon or outstanding values within the authorized purchase boundary.

Pastures

Public comments on pasture management varied widely. Most people tied their comments to the cost effectiveness of the grazing program. They felt that if the benefit/cost ratio for grazing was negative, this use should be reduced or discontinued. Some recommended raising grazing fees to eliminate what they saw as a subsidy to private individuals. Grazing was sometimes seen as an exclusive use, "locking up" large parts of the Forest for the benefit of a few individuals.

On the other side were commenters who thought that fees should be kept "reasonable" and management intensity should not be reduced. Several people told us that the most productive pastures should receive the most intensive management, particularly if demand for forage increased. We also heard that pastures made a valuable contribution to recreation and wildlife values on the Forest.

RESOLUTION

Because of their scenic, recreational and wildlife values, we feel that it would be worth maintaining some pastures, even in the absence of an active grazing program. Leasing pastures for livestock grazing helps offset the direct costs of providing these values, while making a contribution to the local economy.

Grazing fees have been increasing by significant increments each year since 1983. They are projected to reach fair market value by 1989. Intensity of pasture management will also be geared to forage demand, keeping costs in line with livestock values produced.

RESPONSES

- °Increase availability of pastures for recreation by maintaining or adding gates, stiles, trail markers and National Forest signs. Coordinate recreation management with the Hector Grazing Association.
- °Retain present acreage of pastures.
- °Maintain pastures at the minimum level needed to maintain long term productivity, and meet existing demand for forage. The intent here is to prevent significant declines in the condition of pasture soils, vegetation and improvements so that predicted long term increases in demand can be met without a major investment in reclamation. We will not attempt to increase overall forage production on the Forest during this decade unless demand increases significantly.
- °If forage demand increases, manage the high productivity pastures most intensively. Emphasize improving pastures that are in poor condition.
- °If demand for forage continues to decline, let the least productive pastures become vacant first, subject to recreation and wildlife considerations. Pastures left vacant over a long period will be converted to shrub openings or timber stands.

Amount of Wood Cut

This problem involves determining the best amount of timber to harvest from the Finger Lakes National Forest. Aggressive management of timber stands to maximize the production of wood products could result in the loss of some recreation opportunities, a much less natural appearing landscape, and reduced habitat for some wildlife species.

The economies of local towns are much more dependent on tourism than the timber industry, but they do benefit from timber sale receipts. Intense timber production would increase the direct payments to the towns, but could reduce the appeal of the National Forest as a tourist attraction.

RESOLUTION

The plan does not call for any increase in the amount of timber offered for sale in the next 50 years. About 400 thousand board feet will continue to be cut each year over the next decade. This volume will come from about 50 percent of the National Forest acres because management on the remaining 50 percent will emphasize other goods and services.

Most of the people who expressed concern over timber harvest on the FLNF were more interested in the effects that timber harvesting would have on the recreation potential of the forest than they were about timber production itself.

We feel the FLNF has a more important role to play in providing recreation, wildlife and other benefits than it does in producing timber. In this light, the Plan directs the following responses which ensure high quality wildlife habitat and recreation experiences while slightly lowering the projected timber cut.

RESPONSES

°Continue to only cut 400 thousand board feet of timber each year, even though more timber could be cut on a sustained basis under very intensive management.

°Continue to thin or regenerate red pine stands as the market allows. Where trails cross red pine stands, do not harvest within 100 feet of either side of trail.

°Add about 150 acres of forested land to the 2.1 (unevenaged) Management Prescription, bringing the total to about 350 acres. Locate these areas along trails and in other scenic areas to provide a more natural appearing forest.

°Modify evenaged timber management within 100 feet of either side of all system trails to maintain continuous forest cover in that zone. This will reduce potential timber production on 500 - 600 acres.

°Set aside about 300 acres of the forest for natural succession to old growth. No timber will be harvested from these areas.

Type of Timber Management

This problem is determining the appropriate type of timber management on the FLNF. First, we had to decide whether evenaged or unevenaged management would be more suitable. When evenaged management was chosen, we had to decide on the frequency of cutting and whether to harvest by shelterwood cutting or by clearcutting.

This was a complex problem to resolve, because many Forest resources and uses can be dramatically affected by the choice of timber management methods. Concerns about the effects of different methods on visual quality and wildlife habitat had to be balanced with meeting the reproductive requirements of commercially valuable tree species, our ability to manage stands for improved vigor, and the effects of different timber management systems on wood volumes and economics.

RESPONSES

- °Add about 200 acres of forest to the 2.1 Management Prescription (unevenaged timber management for continuous forest cover), bringing the total to about 400 acres. Locate these areas along trails and in other scenic areas to provide a more natural appearing forest for recreationists.
- °Modify evenaged timber management within 100 feet on either side of all system trails to maintain continuous forest cover in that zone. Conduct logging so as to minimize visual disturbance near the trails.
- °Set aside about 350 acres of the forest for natural succession to old growth. No surface disturbing activities will be allowed in these areas. One shrub opening has been included to provide an outdoor laboratory for long term study of ecological succession.
- °Encourage establishment and growth of native conifers (white pine and hemlock) in selected areas, well distributed over the District.
- °Continue the practice of clearcutting up to 3 acres per year of locust to supply fence posts and firewood, and to maintain locust stands.
- °Regenerate aspen in conjunction with commercial timber sales to maintain a variety of aspen age classes on the Forest for grouse and other species.
- °Continue to thin or regenerate red pine stands as the market allows. However, where trails cross red pine stands, do not harvest within 100 feet of either side of trail.
- °In general, leave the other conifer plantations alone for this decade. A few acres per year may be thinned to promote development of the hardwood understory. No additional planting of conifers is planned.

Important Minerals

This problem involves tradeoffs between land disturbance for mineral exploration and extraction, and the other uses of surface resources. At the time this Plan was written, there was private sector interest in both the gravel and natural gas production potential on the Forest. Exploration for and extraction of both of these resources would involve some disturbance of the land surface. This could affect visual quality, soil stability, availability of land for recreation and wildlife habitat, and production of wood and forage. Surface changes could range from small test pits to fairly major, irreversible changes in land contours. The intermingled land ownership patterns could make it more challenging to develop mineral resources, or control its impacts.

Although information on the likelihood and potential of mineral development was sketchy as of Draft Plan release, we did solicit comments on the overall concept during public involvement. No outright opposition was voiced at that time. People stated in general terms that they wanted surface resources and uses to be protected. One conservation group said that gas wells should be drilled in pastures and shrub openings only.

RESOLUTION

National Forests throughout the United States are generally open to exploration and extraction, except for areas such as wilderness where this activity is specifically prohibited by public law. However, mineral activities must be compatible with the other purposes for which the land is being managed. Since the private sector would do the actual exploration, development and extraction of minerals under a lease from the federal government, this compatibility could be ensured through various types of lease stipulations.

RESPONSES

- °Give the Bureau of Land Management approval to issue leases for gas exploration, subject to strict stipulations governing surface disturbance (see Standards and Guidelines for Minerals).
- °Prepare an Environmental Assessment for each Application to Drill (for gas) and involve appropriate state agencies and the public in the decision. Consider cumulative impacts of separate drilling proposals.
- °Prepare an Environmental Assessment for any new proposal to extract gravel from the National Forest. Involve appropriate state agencies and the public in the decision.
- °Ensure an adequate supply of gravel for use by the towns in maintaining roads through the National Forest.

C. Research Needs

Sound resource management is complex, and must be responsive to changes in environmental, economic and social conditions. Because we don't have all the answers, and because the questions keep changing, we can only benefit from ongoing research. Some research topics that would help us improve our management are described below. We will pursue cooperative relationships with universities, and natural resource and recreation organizations to get started on this work. Some administrative studies will also be done. New questions will surely be generated as we implement the Plan.

Regenerating Oak Through Prescribed Fire

In most mature oak stands few oak seedlings are present in the understory due to shade intolerance. Oak seedlings that do become established (e.g. after a shelterwood cut) are often overgrown by the reproduction of other shrubs and trees. Results of prescribed fires on the FLNF, nearby State forests and on the Green Mountain National Forest suggest that burning can improve the competitive position of oak regeneration. Results are still inconclusive so further research is needed.

Shrub Opening Maintenance

In the past, mowing was the primary method of maintaining shrub openings on the Forest. However, prescribed fire could be used to set back vegetative succession at about half the cost of mowing. Although some casual observations had been made following burns in 1983 to 1986, little was known of the effects of fire compared to mowing. Of particular concern was the effect of fire on plant species composition, and how this affected shrub dependent wildlife.

Control of Goldenrod in Pastures

Goldenrod is considered a noxious weed in pastures. It aggressively displaces more desirable forage species. Pasture mowing is the main method used to control goldenrod, but we are not sure of its effectiveness. Goldenrod appears to thrive after fire, so other economical alternatives to control need to be pursued.

Pasture Management Practices

Local University and Soil Conservation Service researchers are experimenting with a variety of pasture improvement practices to help dairy and beef farmers lower feed costs. These include no till seeding and intensive rotational grazing. The applicability of their research to our grazing program should be investigated. We would also like to learn more about fine tuning the match between management intensity, site productivity, and range condition.

Measuring Pasture Capacity

The Grazing Association is skeptical of our methods of measuring pasture capacity. We have been using a clip-and-weigh method to measure pasture production and utilization. Pasture capacity has been based on these measurements and actual use information (how many cattle grazed for how long). The Grazing Association would like to test the idea of weighing a sample of cattle on the Forest periodically. Pasture capacity could theoretically be determined from the animals' weight gain.

Natural Succession to Old Growth

Although we are confident of the recreational and educational benefits of preserving some areas for old growth, we do not have a clear idea of the ecological benefits. We would like to track changes in plant species composition, and in the kinds of wildlife that use these areas. These changes will be especially notable in going from a shrub opening to an old growth forest, but they will obviously take a very long time. We are anxious to compare the changes in our relatively small old growth areas with those in the large areas being set aside in Vermont.

Rare Plants

We need to identify rare plant populations and habitats on the Forest so they can be properly managed or protected.

Relatively little is known about rare plants that may occur on the Forest. Based on preliminary research, rare plants seem most likely to occur in areas that would not be affected by management activities. For example, many rare plants occur in ravines or bogs, which would normally be excluded from a timber harvest, prescribed burn or pasture maintenance practice. However, the recorded appearance of such species as Pink Lady's Slipper in accessible timber stands warrants a field survey for rare plants prior to all surface disturbing management activities.

Blueberry Management

Prescribed fire is a well established management tool for blueberries on the Green Mountain National Forest. However, the well-known blueberry patch on the Finger Lakes National Forest has several varieties of both high and low bush species. Since these species have different responses to management, we need to determine how to keep a desirable mix. We would also like to survey the Forest for additional areas that could be managed for blueberry production.

POND MANAGEMENT

Fishing demand is heavy for both stocked trout and warm water fish. Some ponds have been stocked with bass, but it is not known if they became established as self-sustaining populations. To better meet the demand, it would be useful to know what fish occur in the different ponds, and how abundant they are.

Unevenaged Management

Much research and years of experience have made foresters confident in applying evenaged timber management. However, we know very little about unevenaged management. How much will it cost to convert existing stands to unevenaged management? What is the best cutting prescription to achieve the desired age class distribution in the residual stand? What quality and volume of timber can we expect to produce?

Recreation Use

Trends in recreation use described in this Plan are based on intermittent observations of Forest use, public comments on the Plan, law enforcement patrol logs and other non-systematic information. It would be useful to have more methodical data on recreation use patterns and trends so we could be more responsive to public preferences. This would also help us prioritize our maintenance work. This information could be gathered through mail surveys, visitor registers, traffic counters and other methods.

Stand Growth Models

The Plan calls for an annual timber harvest of 400 thousand board feet. This is calculated as the harvest volume which could be sustained in perpetuity on the acres of land designated for timber management. The calculations are based on the present stand age and condition, the productivity of the site, and the type of management prescribed in the Plan.

In order to be sure we can sustain this harvest, it is important to accurately predict how stands will grow, and how they will respond to thinning and harvest cuts. These models should be developed for both evenaged and unevenaged management.

Alternative Futures for the Region

All across the region, at both the state and federal levels, plans similar to this are being written and implemented. These include the New York State Agriculture 2000 Report, the New York State Department of Environmental Conservation's Forest Plans, and other National Forest plans.

Each plan responds to certain assumptions about the future, and each charts a course to create a desired future. Sometimes it seems that we are all planning for different futures, and we may block each others' courses.

It would be valuable to review these other plans, especially for New York State lands, and determine where our directions are compatible and where they conflict. This would help us consider resource supply and demand in a bio-regional context, and improve our future planning efforts.

CHAPTER IV

FOREST MANAGEMENT DIRECTION

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IV. Forest Management Direction

A. Introduction

Chapter IV contains the management direction for the Finger Lakes National Forest for the next 10 to 15 years. In it we state the role of the Forest as we perceive it, and the goals we have set to help us shape a desirable future. We also describe the time specific, measurable objectives against which we will measure our progress toward this desired future condition. The prescription of land to different types of management is explained, along with the standards and guidelines for applying specific management practices on the ground.

Early in the development of this Plan we assessed the resources of the Forest to see what goods and services it was physically capable of providing. We also asked the public and Forest Service personnel what they thought the Forest should provide, and how they wanted it to look in the future. From this information we developed a clearer picture of what role the FLNF should play in meeting public needs.



B. Role of the Finger Lakes National Forest

Although about 3.2 million acres of New York State is in State Forest Preserves, Wildlife Management Areas and Forests, there are few large areas of public land in the Finger Lakes Region. The FLNF is the only national forest in New York State, and the only public land that has had an explicit philosophy of multiple use.

When the FLNF was evaluated for sale under the Assets Management Program, it became obvious that people considered the Forest a precious and indispensable asset to their region. This message was strongly reinforced during public involvement on the Draft Plan. People had come to rely on the Forest for opportunities to observe and enjoy nature, and to roam around in a large unrestricted land area. They valued the wood, forage and other products that came from the Forest. We were also praised for how we had demonstrated that multiple uses of the land were possible, without destroying its long term productivity.

For these reasons we feel strongly committed to the continuation of multiple use management, and the protection of life sustaining capabilities of the land. Although the resource management emphasis will vary from one part of the Forest to another, we will try to consider all resources in our management decisions. We will always be looking for creative ways to balance the production of commodities, such as timber and forage, with important non-economic benefits like high quality recreation, diverse wildlife habitat and rare plants. This will require close teamwork among resource specialists in the Forest Service, and with members of the public who share our commitment to wise management.

The Forest has had a long history of use for demonstration and education. As public land managers we feel it is part of our role to test new ideas that may be too economically risky for private land owners, and share the results. Because we are committed to careful stewardship of the land for present and future generations, we will promote an awareness of natural resource management and a strong conservation ethic.

Finally, because large areas of public land are rare in the region, we will manage the Forest to provide benefits that private land does not. This includes benefits for which economic or other incentives are lacking on private land, those requiring a large, continuous land area, and benefits requiring a long, stable tenure of ownership.

C. Goals

The resources and uses of the Finger Lakes National Forest are all interconnected, so that the management or use of one affects the others. For example, harvesting a hardwood stand for sawtimber affects wildlife habitat and the recreation experience. Choosing to maintain an area as a shrub opening means that it cannot be used to produce timber or livestock forage. Computers can help us analyze the complex interactions that occur, and the effects of applying different combinations of management. But since the land base is finite, and some resource uses are incompatible, it is necessary to make some value judgments about which uses should receive priority.

Development of this Plan involved many such judgments. Future management of the complex resources of the Forest will require a continuous chain of decisions by many different people. To ensure that these decisions are consistent with the desired future condition we wish to create, we need a clear statement of our fundamental goals to guide us.

These goals along with the role statement, express our management philosophy for the Forest.

GOALS:

PROTECT THE ENVIRONMENT

1. Protect the basic integrity of soil, air and water resources so they can continue their life supporting functions in perpetuity, by such requirements as preventing erosion, meeting air quality standards, preventing contamination of surface and ground water.
2. Promote a diversity of life forms.

This goal recognizes the inherent rights of other species with which we share the earth; the importance of genetic diversity in maintaining resilience in the face of environmental disturbances, and the enrichment of human lives by variety. It includes the protection of unique habitats and species, and management to provide a diversity of habitat types.

3. Protect significant cultural and historic resources.

Cultural and historic resources are important to remind us of alternative ways of coping with and viewing the world, us of what worked and didn't work in the past, and of the forces that shaped current management.

GOALS: (Continued)

4. Conserve resources and energy.

This involves not wasting non-renewable energy sources in the work we do; getting full utilization of resources we do remove; giving back to the land what is needed to sustain its long-term productivity, and making the most effective use of the taxpayers dollar.

PROVIDE A VARIETY OF GOODS AND SERVICES; EMPHASIZING THOSE NOT AVAILABLE FROM OTHER LANDS

5. Provide types of recreation that require a large, relatively undeveloped land area. Includes providing "room to roam", opportunities for relative solitude, and freedom from restrictions.
6. Provide types of wildlife habitat not common on other lands (e.g. shrub openings).
7. Produce range forage commensurate with demand, and compatible with other uses of the Forest.
8. Manage timber to produce high quality sawtimber, since this requires long tenure of land ownership.

PROVIDE A REASONABLY SAFE, HOSPITABLE ENVIRONMENT FOR FOREST VISITORS

9. Conduct management of recreation facilities and other uses to provide a reasonable level of safety in keeping with a relatively undeveloped outdoor environment.
10. Provide sufficient public information for the Forest visitor to take full advantage of available goods, services and opportunities.
11. Promote equal opportunity for all citizens in Forest programs and uses, regardless of race, color, creed, disability, etc.

PROMOTE A CONSERVATION ETHIC AND KNOWLEDGE OF NATURAL RESOURCE MANAGEMENT

12. Promote use of the District for environmental education and research.
13. Demonstrate innovative, ecologically sound management practices that can be applied to other lands.

GOALS: (Continued)

CONSOLIDATE NATIONAL FOREST LAND OWNERSHIP FOR MORE EFFECTIVE MANAGEMENT

14. This goal involves pursuing State enabling legislation, and carrying out land acquisitions and exchanges to improve Forest ownership patterns.

PROMOTE ECONOMIC STABILITY OF LOCAL COMMUNITIES

15. Provide a fairly consistent flow of goods and services on which local communities depend for their economic survival.
16. Minimize disruptions to local economics that might result from forest management decisions.

HELP MEET THE NATION'S ENERGY NEEDS

17. This goal involves leasing for gas exploration and development, in a way that is compatible with conserving surface resources and their uses.

RETAIN THE ABILITY TO RESPOND TO A CHANGING ENVIRONMENT

18. Keep abreast of economic, social, technological, and environmental trends that may affect the Forest.
19. Limit irreversible commitments of resources to keep options open for future generations.

D. Objectives

Objectives are the time specific and measurable results we expect to achieve once we begin to implement the Forest Plan. The table below shows the relationship between the goals and objectives, and the amount of each objective that we expect to achieve in the first decade.

Some of the objectives, particularly for environmental protection goals, are difficult to quantify in a meaningful way. One reason is that the only result of accomplishment may be an absence of negative effects.

OBJECTIVES FOR THE FINGER LAKES NATIONAL FOREST (1987 - 1996)

Goals	Desired Result	Amount
1. Protect integrity of soil, air, water	Clean water	No confirmed problems
	Clean air	No confirmed problems
	Follow Standards and Guidelines	No unapproved exceptions; unknown number of approved exceptions
	Prevent wildfires	No unplanned fires
	Extinguish wildfires	Unknown
2. Promote diversity of life forms	Natural succession to old growth forest	350 acres total
	Convert evenaged forest to unevenaged	15 acres selection cutting/year
	Shrub openings	1400 acres total; maintain 200 acres/year
	Forest age class diversity	See Goal #8
	Promote native softwoods	To be determined

OBJECTIVES FOR THE FINGER LAKES NATIONAL FOREST (1987 - 1996)

Goals	Desired Result	Amount
2. Promote diversity of life forms (cont'd)	Maintain locust stands	3 acres/year clearcut
	Maintain aspen stands	2 acres/year clearcut
	Maintain pastures	900 acres/year mowing 530 acres/year liming
	Rare plant survey	One
	Rare plant protection	Unknown
3. Protect cultural resources	Inventory	430 acres/year related to forest treatments, shrub opening maintenance, and recreation projects.
	Evaluate sites for significance	Unknown
	Protect sites	Unknown
4. Conserve resources and energy	Energy, dollars and resources saved; productivity	Unknown (evaluate all activities against this goal and objective)
5. Provide recreation requiring large land area	Campground maintenance	3 campgrounds
	Campground expansion	1 total; increase capacity by about 120 people at one time
	Maintain trails	35 miles per year
	Construct trails	10 miles total
	Parking area construction	3 total
	Recreation access to pastures	5 access structures per year

OBJECTIVES FOR THE FINGER LAKES NATIONAL FOREST (1987 - 1996)

Goals	Desired Result	Amount
5. Provide recreation requiring large land area (cont'd)	Blueberry management	5 acres/year
	Fish stocking	3 ponds/year
	Fish survey	1 total
6. Wildlife habitat not common on other lands	See Goal #2	
7. Range forage	See Goals #2 and 15	
8. Manage timber for high quality sawlogs	Harvest mature trees	30 acres/year shelterwood 20 acres/year overwood removal
	Initiate new crop	40 acres/year burning in oak types 10 acres/year removal of undesirable stems
	Tending young stands	20 acres/year TSI 50 acres/year commercial thin
9. Public safety	Cooperative Law Enforcement Agreement	2 per year
10. Public Information	Revised brochure Interpretive	1 total
	Guides for trails	2 total
	Sign National Forest land	Unknown
	Recreation opportunity guide	1 total
	Forest tabloid	1 per year
	Interpretive signing of projects	2 per year
	Field trips, talks	10 per year

OBJECTIVES FOR THE FINGER LAKES NATIONAL FOREST (1987 - 1996)

<u>Goals</u>	<u>Desired Result</u>	<u>Amount</u>
11. Equal Opportunity	Employment	No discrimination complaints; recruit women and minority applicants for all paid and volunteer positions
	Goods and services	No discrimination complaints; include women's and minority organizations in public information efforts
12. Education and research	Educational field trips	Participate in three; encourage additional use for this purpose
	University/College contacts	3 per year minimum
	Research projects	Unknown (promote research by students, university faculty, other organizations)
13. Demonstrate sound resource management	Acres of high quality, innovative management	13,232 acres/year
14. Consolidate land ownership pattern	Consolidated ownership pattern	Dependent on passage of enabling legislation, availability of land for acquisition or exchange, etc.
15. Consistent flow of goods and services	Forage production	10,800 AUMs
	Timber products	400 MBF/year
	Forest visitors (support tourist industry)	40,000 RVDs

OBJECTIVES FOR THE FINGER LAKES NATIONAL FOREST (1987 - 1996)

<u>Goals</u>	<u>Desired Result</u>	<u>Amount</u>
16. Minimize disruption caused by management decisions	Economic dislocations prevented	None
17. Meet nation's energy needs	Lease for exploration (gas and oil)	13,232 acres
	Provide firewood for home heating	200 cords per year
18. Keep current with trends affecting management of the Forest	Changes anticipated, management innovations	Unknown
19. Limit irreversible commitments of resources	Irreversible commitments not made	None

More specific information and direction on attaining our stated goals and objectives is contained throughout this Plan. Section E of this chapter describes the standards and guidelines which should generally be followed when managing all of the resources on the Forest. Section F describes the more specific directions to be followed in locations which have particular goals and objectives. Following the directions in both sections will help us fulfill our role and achieve the overall goals and objectives we have set out.

Chapter V Describes the process we will follow when implementing, monitoring and amending the Plan in order to achieve our goals and objectives.

Chapter VI contains several appendices which provide detailed background information on several resources, as well as a schedule of planned management activities and a glossary of terms which were used.

E. General Standards and Guidelines

1. INTRODUCTION

To achieve the desired future condition of the forest, it will be necessary to emphasize different combinations of resource uses on different areas. We developed five management prescriptions which will each help us accomplish a certain subset of the overall goals and objectives of the Plan. These management prescriptions, and the allocation of acres to them, are described in Section F.

Each management prescription involves a different set of management practices that will be applied on the ground. Standards and Guidelines are the rules which govern where and how the management practices can be applied. These rules are presented here in two sections. Section E lists Standards and Guidelines that pertain to management practices called for in more than one of the prescriptions. Section F explains the management prescriptions and for each one lists the specific Standards and Guidelines that will direct its implementation. Note that Section F does not repeat the general standards and guidelines, but rather refines them for a specific management prescription. It is important to refer to both the General Standards and Guidelines (Section E), and those which are specific to a management prescription (Section F) to determine whether an activity is permitted in a certain area, and how it should be conducted.

2. INDEX TO GENERAL STANDARDS AND GUIDELINES

<u>Subject</u>	<u>Pages</u>
Standard and Guideline Index for Common Practices	4.14
Administration	4.15
Soil and Water	4.16
Air	4.24
Wildlife and Fish	4.25
Recreation/Visual	4.31
Timber	4.41
Roads	4.53
Corridors	4.55
Land Acquisition	4.56
Minerals	4.58
Cultural Resources	4.61
Public Health and Safety	4.63
Fire	4.64
Integrated Pest Management	4.66
Law Enforcement	4.68

3. STANDARDS AND GUIDELINES INDEX FOR SELECTED PRACTICES

MINERAL EXPLORATION DEVELOPMENT OR EXTRACTION

- Archaeology, 4.61
- Integrated Pest Management, 4.66
- Cut and Fill Slopes, 4.17
- Corridors, 4.55
- Ground Disturbing Activities, 4.19 - 4.21
- Leasable Minerals, 4.58
- Oil and Hazardous Substances, 4.63
- Recreation and Visual Quality, 4.31
- Riparian Areas, 4.16
- Roads, 4.53
- Waterbars, 4.19 - 4.21

TRAIL CONSTRUCTION

- Archaeology, 4.61
- Integrated Pest Management, 4.66
- Ground Disturbing Activities, 4.19 - 4.21
- Recreation and Visual Quality, 4.31
- Riparian Areas, 4.16
- Trails, 4.22, 4.38
- Waterbars, 4.19 - 4.21

TIMBER SALE PREPARATION

- Archaeology, 4.61
- Buffer Strips, Filter Strips, Riparian Areas, 4.16
- Composition Objectives, 4.25
- Den Trees, Reserve Trees, 4.26 - 4.28
- Ground Disturbing Activities, 4.19 - 4.21
- Reforestation, 4.50
- Rotation Ages, 4.44
- Scarification, 4.22
- Silviculture, 4.42
- Skid Trails, 4.19 - 4.21
- Slash and Stumps, 4.19 - 4.21, 4.37
- Snags, 4.27 - 4.28, 4.37
- Timber Stand Improvement, 4.47
- Visual Quality Objectives, 4.33
- Waterbars, 4.19 - 4.21

ADMINISTRATION

A. INFORMATION SERVICES

1. Work to achieve informed public consent during development of land and resource management plans and programs prior to their implementation.
2. Implement a public information and education program in coordination with other public and private organizations to reduce the number, intensity, and cost of conflict-producing and resource-damaging situations.
3. Promote use of the Forest for environmental education and research that supports Forest programs and goals.
4. Provide adequate public information for Forest users to take full advantage of available goods and services.

B. HUMAN AND COMMUNITY DEVELOPMENT

1. Identify forest related opportunities that will help individuals and local communities enhance their self-sufficiency and their feeling of social well-being. Consider effects of management decisions on economic stability of local communities.
2. Identify opportunities in which individuals and volunteer organizations can assist in management of the National Forest.
3. Manage the Forest in a way that complements or enhances local businesses or industries, rather than competing with them.
4. Promote equal opportunity in providing goods and services from the Forest.

SOIL AND WATER

A. RIPARIAN AREAS

1. A riparian area is the zone between seasonally dry land and perennial surface waters. The soils are wet and usually are saturated for a portion of the year. Vegetation is dominated by wet site species.
2. Resources that depend on a riparian area will be given preferential consideration over other resources when there are conflicts between them. (FSM 2526.03)
3. Special attention shall be given to land and vegetation for approximately 100 feet from the edges of all streams, lakes, and other bodies of water. This area shall correspond to at least the recognizable area dominated by the riparian vegetation. No management practices causing detrimental changes in water temperature or chemical composition, blockages of water courses, or deposits of sediment shall be permitted within these areas which seriously and adversely affect water conditions or fish habitat. (63 CFR 219.17e)
4. Filter-Buffer Strips
 - a. A strip of undisturbed soil, or filter strip, will separate roads, construction, and other earth disturbing activities from perennial streams, lakes, and other bodies of water. The filter strip will be designed and maintained to prevent siltation and to protect the soil's infiltration capacity. The root mat within this strip will be protected. The strip will be wide enough to filter out sediment, surfacing materials, oil, trace chemicals, and other potential pollutants generated on roads or other activity sites. Filter strip width will be based on slope and erodability of soil according to the following table.

Filter Strips							
Slope - %	1	10	20	30	40	50	60
Width - Feet*	50	65	95	125	155	185	215

* Add 20% to the width where soils are severely erosive (ELT's ending in a or c).

SOIL AND WATER

A. RIPARIAN AREAS (Cont'd)

- b. Wider filter strips will be designed during an environmental analysis for large earth disturbing activities (e.g. highway and parking lot construction, and mining activities).
 - c. Should there not be sufficient area to leave an adequate strip, other measures will be used such as sediment traps and settling basins. These other measures and their specifications, will be determined during an environmental analysis.
 - d. Vegetation within the strip that provides shade to the stream will be maintained (Buffer Strip). If vegetation outside the strip prescribed in 3b also is providing shade, the strip will be widened to include the shading vegetation.
5. Machinery will cross riparian areas at designated locations. Approved structures will be installed where machinery crosses stream courses including those of "intermittent" streams. The number of crossings will be kept to the minimum needed for access. Crossings should be perpendicular to the streamcourse and the approach grade should be gentle (less than 8%). Wet areas or seeps will be avoided or crossed at the narrowest points possible.
6. Remove slash, dislodged stumps and spoil generated on 25-year flood plains by road construction, timber activity, or other activities unless an alternative method such as burning or burying is approved in an environmental analysis. Construction material will not be stockpiled in the 25-year flood plains.
7. Sites for servicing and refueling equipment will be located away from riparian areas.
8. Skidders may only operate in riparian areas when soils are frozen.
9. The need for diverting flowing water around bridge construction sites will be identified in an environmental analysis. As soon as construction is finished, the natural streamcourse will be restored. Temporary detours around construction sites and other bypass roads will be properly located. They also will be obliterated and stabilized when they are no longer needed.
10. Temporary structures, fill, debris, and slash resulting from management activities will be removed from watercourses. Streambanks will be restored to their original elevations, and stabilized.

ECOLOGICAL LAND TYPES (ELT)—FINGER LAKES NATIONAL FOREST

ELT	Kinds of Soils	Position	Shape	Typical Slope Gradient (%)	Surface Seeps	Drainage State	Depth to Bedrock (Feet)
803a	Subglacial deposition—thick basal (lodgement) till hardpan Silty clay loam to heavy loam	Depressions, drainways, stream headwaters in uplands	Level to gently sloping	0-3	Dominant	Very poorly to somewhat poorly drained	4+
803b	Subglacial deposition over shallow bedrock—thin basal till hardpan Silty clay loam to silt loam	Bedrock controlled hilltops or upper side-slopes	Gently to moderately convex	6-12	Few, seasonal	Somewhat poorly drained	2-4
803c	Subglacial deposition—basal till hardpan Silty clay loam with some fine sandy loam	Long side-slopes and toeslopes on uplands, with some in lowlands along narrow drainage ways	Gently convex to gently concave, some with undulations	3-8	Few, seasonal	Somewhat poorly drained	5+
803d	Subglacial deposition—basal till hardpan Silty clay loam to coarse loam	Ridges, sideslopes on uplands	Gently to moderately convex	5-15	Few	Moderately to well drained	4-6+
805a	Deep unconsolidated soils sometimes overlain by more recent river or lake deposits Silty clay loam to coarse loam sometimes with mucky surfaces	Flood plains, slackwater areas, old streams channels	Level to slightly depressed	0-3	Dominant	Very poorly to poorly drained	4+
805b	Superglacial deposition—thin permeable soils over bedrock. Silty clay loam to silt loam	Bedrock-controlled upland ridges, sideslopes, toeslopes	Moderately convex	10-18	Few	Well drained with poorly drained depressions	1-3
805d	Superglacial deposition—deep permeable soils, deeply dissected along major streams resulting in steep gravelly sandy loam	Sideslopes or toeslopes along sides of major valleys	Gently to moderately convex	8-15	None	Well drained	10+
805e	Superglacial deposition—thin soil deposits over bedrock	Lower side-slopes on bedrock controlled landforms	Moderately sloping	13-24	Much surface runoff	Poorly to somewhat poorly drained	1-2
810d	Glacial outwash deposition—deep sand and gravels	Outwash areas, deltas, kames, eskers, kame terraces	Moderately sloping	13-23	None	Well to somewhat excessively drained.	15+
820d	Stream banks, accelerated natural geologic erosion in stream channels and adjacent sideslopes	Deep and steep stream-side valleys	Steep	60-70	None	Moderately well to well drained	—

SOIL AND WATER

B. INSTREAM FLOW

1. Water withdrawals may be permitted subject to the U. S. Fish and Wildlife Service lowflow policy. A minimum flow of 0.5 cubic feet per second per square mile of watershed will be maintained past a point of diversion.
2. No more than 20% of the basal area may be removed from any watershed larger than 1,000 acres in any 10 year period.

C. USING GROUND DISTURBING EQUIPMENT

1. Construction and logging equipment will not be operated when ground conditions are such that excessive damage to the soil and water resource will occur.
2.
 - a. Equipment operation on basal till hardpan soils (Ecological Land Types 803a, 803e, 805a, 805e) must be carefully monitored following summer and fall storms to prevent excessive erosion and stream siltation.
 - b. Timber stands on seepy, poorly drained soils will be logged on frozen ground only. These areas include Ecological Land Types (ELT's) 803a, 805a and 805e.
 - c. Timber stands that are accessible only across poorly drained soils or areas dominated by streams (ELT's 803a, 805a and 805e) will be logged when the ground is frozen.
 - d. Slopes 50% (ELT 820d) or greater will not be logged with wheel logging equipment. Trees will be cabled or winched off these areas.
3. Constraints on operating periods for logging activities in other areas will be identified by an interdisciplinary team.
4. Favor native species when restoring disturbed areas or providing vegetative screening.
5. Roads will not be built in ELT 820d.

SOIL AND WATER

C. USING GROUND DISTURBING EQUIPMENT (Cont'd)

6. Skid trail and temporary road systems and landings will be
 - a. laid out systematically to reduce the number and length of trails and roads needed and to improve the efficiency of the system;
 - b. designed and laid out to be suitable for future use;
 - c. mutually agreed to by the Forest Service and contractor in advance of timber cutting.
7. Before use begins; Forest Service approved structures (bridges or closed culverts) will be installed where temporary roads and skid trails cross stream courses.
 - a. Soil exposed because of bridge construction will be seeded with a fast germinating grass, such as rye grass and a soil conservation mix to stabilize the soil and prevent stream siltation.
 - b. Logs that are large enough to prevent mud from falling into a stream as equipment passes will be placed on each side of a bridge deck.
8. Temporary roads and skid trails will include revegetation as part of their design. Grass seed will be applied to stabilize the soil as soon as practical, but not to exceed one year, following the termination of the contract, lease, or permit allowing vehicular use of the road.
9. Landings will be located outside of riparian areas and designed so that sediment will settle out before runoff reaches watercourses. Landings on wet, seepy soils will be used only when the ground is frozen. (ELT's 803a, 803c, 805a, 805e.)
10. The cleared size of landings will not exceed that needed for safe and efficient skidding and loading operations except for those managed as permanent wildlife openings.
11. Landings will be seeded during the current seeding season and as soon as is practical after equipment use has ceased (May 15 - October 15). Landings should be seeded with grasses and legumes to benefit wildlife.

SOIL AND WATER

C. USING GROUND DISTURBING EQUIPMENT (Cont'd)

12. Nonstructural erosion control measures will be emphasized when laying out skid trails. Locate skid trails:
 - a. along or diagonally across the contours;
 - b. on side hills, knolls, ridges, or other convex shaped topography.
13. Waterbars and other erosion control structures will be located to dissipate runoff and to prevent sediment from being channeled into stream courses.
14. Waterbars and other erosion control structures will be kept in working order.
15. Skidding will not be allowed in water courses.
16. Downhill skidding will be favored over uphill skidding to reduce soil disturbance.

D. ROAD CONSTRUCTION

1. Place road cross drains to minimize runoff concentrations.
2. Road cutbanks, ditches, stump dumps, borrow areas, and utility corridors will be revegetated during the construction process. Seeding and fertilizing will be completed prior to October 15.

SOIL AND WATER

E. SOIL SCARIFICATION FOR PREPARING SEEDBED

1. To prevent erosion and loss of soil productivity, soil scarification for seed bed preparation
 - a. will not be done on poorly drained soils and riparian areas. Avoid Ecological Land Types ending with "a" or "c" or "e";
 - b. will mix but not remove surface litter and the upper mineral layers of the soil;
 - c. will be done on the contour, but not on slope gradients exceeding 20% when using tractor blades.

F. RECREATION TRAILS AND CAMPSITES

1. Construction standards for snowmobile and horse trails and maintenance standards for all trails will be developed during the project planning. Follow Guidelines in EM7720-102, Standard Specifications for Constructing Trails, Engineering field notes, Volume 17, Jan. - Feb., 1985, for cross-country trails. Also, Trail Design Construction and Maintenance, ATC Stewardship Series, 1981.
2. On new trails, avoid constructing steep (15%+) grades for more than 200 feet.
3. The tree canopy at camping and other recreation sites will be managed to allow sufficient light to reach the ground to establish and to maintain a cover of native grasses, forbs, and shrubs.
4. Pit toilets will be located:
 - a. where soils are well drained, more than four feet deep to bedrock, and on knolls, ridges, or other convex shaped land areas;
 - b. at least 100 feet away from surface waters.
5. Prohibit horseback riding on all trails during the spring thaw (March 15 to May 1).

SOIL AND WATER

G. RANGE MANAGEMENT

1. Tillage and seeding activities in pastures and other openings will be conducted along the contour. Practices that minimize tillage will be encouraged.
2. Widths of untreated strips needed to prevent fertilizers from being washed into streams will be determined through an environmental analysis.

H. PRESCRIBED FIRE

1. Firelines will be located and constructed to prevent concentration of runoff, or channeling of runoff into stream courses.
2. Prescribed fires will be conducted without control lines where fuel conditions permit this to be done safely.

I. MINERAL DEVELOPMENT

1. Natural gas exploration and development will be located and conducted to prevent contamination of surface and ground water by drilling wastes, brine or gas.

J. POND CONSTRUCTION AND MAINTENANCE

1. Provide adequate spillway in pond dikes to prevent breach of the dike in overflow conditions.
2. Fence existing and newly constructed livestock ponds to prevent trampling damage to the pond dike, and reduce pond siltation and eutrophication.
3. Remove woody vegetation from pond dikes every 3-5 years to prevent breach of the dike by roots.
4. Mowing, prescribed fire, and hand methods are all acceptable methods for controlling vegetation on pond dikes. Chemicals will be used only when other methods are ineffective or significantly more costly.
5. Properly registered chemicals may be used to control vegetation or undesirable fish in selected ponds. The least persistent, most selective chemical that is effective will be chosen.

AIR

- A. Identify present and potential impairment of National Forest resources attributable to air pollution. Forests shall coordinate with regulatory agencies and seek to have emissions reduced as needed to protect National Forest resources.
- B. Obtain required State permits for smoke emissions prior to all burning activities.
- C. Plan prescribed burns to minimize smoke dispersal over populated areas and residences.

WILDLIFE AND FISH

A. COMPOSITION OBJECTIVES

1. Provide structural diversity in wildlife habitat by creating the following mix of vegetation types on the Forest as a whole.

Type	Percent of Forest Area
Mixed Hardwoods	44-47%
Aspen	1-2
Locust	1
Softwoods	6-10
Shrub Openings	11
Pastures	34

It may take several decades to achieve the planned distribution.

2. Provide a mix of vegetation types in each compartment, recognizing limitations imposed by site characteristics and management.
3. Uncommon Vegetative Types
 - a. Uncommon vegetative types will be maintained or increased where practical. These include hemlock, white pine, aspen, black walnut, locust, black cherry, gray birch, orchards and hedgerows.
 - b. Manage mast species in shrub openings and timber stands to increase or expand most productivity where practical. Mast species are nut and fruit producers such as red osier, thorn apple, hop hornbean, cherry, apple, plum, oak, beech and hickory.
 - c. Identify opportunities to regenerate aspen stands as part of commercial timber sales. Distribute aspen age classes to meet habitat needs for grouse during all stages of their lifecycle.
 - d. Manage blueberries in vicinity of Blueberry Patch Campground to promote their spread and vigor. Identify other areas on the Forest where it would be practical to promote blueberry production.

WILDLIFE AND FISH

A. COMPOSITION OBJECTIVES (Cont'd)

4. Old Growth Stands

- a. Old growth communities will occur in self-perpetuating, biologically mature stands that have reached a dynamic steady state condition. They have been chosen to represent a variety of ecological land types on the Forest.
- b. Old growth stands will not be managed for resource production, and will be protected from such disturbances as fire, surface development for gas extraction, and firewood cutting. Low-impact trails for foot travel will be permitted.
- c. Promote low impact educational and research uses of old growth areas.

B. WILDLIFE RESERVE TREES

1. Snags, den trees, and mast trees will be retained during timber management activities in sufficient quality, quantity, and distribution to maintain well dispersed, self-sustaining populations of all snag, den, and mast dependent wildlife indigenous to the Finger Lakes National Forest.
 - a. See 10 for Snag Standards
 - b. See 11 for Den Tree Standards
 - c. See 12 for Mast Tree Standards
2. Definitions:
 - a. Snag - Includes standing dead or partially dead trees which are at least 6" in diameter at breast height (dbh) and 20 feet tall.
 - b. Hard Snag - Trees composed essentially of sound wood on the outside and usually marketable.
 - c. Soft Snag - Trees with wood, especially sapwood, in an advanced stage of decay and generally not merchantable.
 - d. Replacement Trees - A live or partially dead tree left to become a hard snag and eventually a soft snag replacement.
 - e. Den Tree - A live tree at least 15" dbh containing a natural cavity that may be used by wildlife for nesting, brood rearing, hibernating, daily or seasonal shelter and escape from predators.
 - f. Mast Trees - Species which provide nuts and fruits. These include the oak group, American beech, hop hornbeam, black cherry, locust, hickory and walnut.

WILDLIFE AND FISH

WILDLIFE RESERVE TREES (Continued)

3. General

- a. The number of wildlife reserve trees per acre is determined by hard snag and replacement tree requirements necessary to support cavity nesters. This goal may be accomplished by any combination of snag, den, and mast trees. All soft snags should be left.
 - b. When possible, mast trees will be selected since they may fill several functions, providing mast, den and snag habitats simultaneously.
 - c. Retain clumps of wildlife reserve trees when they are available in preference to scattered individual trees.
 - d. Timber sale contracts will provide for retention and protection of wildlife reserve trees.
 - e. Wildlife reserve trees except soft snags will be marked for retention prior to activities that could cause their removal. Standing dead trees will not be cut except where designated.
 - f. Within the foreground of moderate to highly sensitive recreation areas, wildlife trees will be reserved to the extent that visual quality objectives can still be met.
 - g. Trees per acre reserved for wildlife.
 - During all timber management activities all soft snags, 2 hard snags, 1 den tree, and 1 replacement tree will be retained per acre. Mast trees may be substituted for hard snags, den trees, or replacement trees
 - If no hard snags, den trees, or mast trees are available, leave 2 replacement trees.
 - Leave all soft and hard snags, den trees, and 2 mast trees:
 - Within 300 feet of ponds and wetlands greater than 5 acres.
 - Within riparian zones of all streams as shown on U. S. Forest Service 2"/mile topographic maps.
 - Within 100 feet of beaver ponds less than 5 acres.
- If hard snags, mast and den trees are not available in these areas, leave at least 6 replacement trees per acre.

WILDLIFE AND FISH

B. WILDLIFE RESERVE TREES (cont'd)

4. Snags

- a. Always select the largest diameter hard snags available in a stand since snags 20" dbh and larger will meet the habitat needs of all species. If hard snag requirements are met, their gradual deterioration will provide sufficient soft snags.
- b. All soft snags that do not pose a safety hazard will be retained.
- c. When selecting snags, priority may be established by evidence of wildlife use for feeding, roosting, or cavity nesting and denning.

5. Den Trees

- a. Den trees should be 15 or more inches in diameter at breast height with a cavity opening.
- b. Select trees with cavities or openings that are not prone to collecting water.

6. Mast Trees

- a. Leave large mast trees because they can provide mast, cavities, and dens at the same time. Species to be considered will be oaks, hickory, walnut, beech, hop hornbeam, and black cherry.
- b. Oaks will be promoted whenever practical, to increase their distribution on the National Forest.

White oaks will be retained in preference to all other reserve trees due to their potential for annual mast crops and preference by wildlife.

7. Dead and down material will be left following the timber harvest to provide habitat for small mammals, amphibians, and reptiles, and drumming logs for grouse.

C. WETLANDS/PONDS

1. Follow state laws for management and protection of designated wetlands.
2. Emphasize wildlife management for 200 feet around ponds constructed for wildlife, including any surrounding wetlands.

WILDLIFE AND FISH

D. ENDANGERED AND THREATENED SPECIES

Endangered and threatened species include only those listed under the authority of the Endangered Species Act. None are known to occur on the Finger Lakes National Forest.

E. SENSITIVE SPECIES

Sensitive Species which are known, reported or suspected to occur in the Eastern Region are designated by the Regional Forester and included on the Eastern Regions Sensitive Species List. The list will include species which require special management attention to maintain viable populations within the Eastern Region.

1. No species known to occur on the Finger Lakes National Forest were nominated for inclusion on the Eastern Regions Sensitive Species List. If species on the list are found to occur on the Finger Lakes National Forest in the future, they will be protected.

F. SPECIES OF CONCERN

Species included on State Threatened and Endangered Species Lists or species that are of particular interest to the public will receive special attention in management of the FLNF.

1. Heron Rookeries

a. 0-660 Foot Buffer Zone

- No recreation activities, including hiking, skiing, and snowshoeing, will be permitted in the buffer zone between March 15 and August 1 for active rookeries. Such activity may be allowed sooner if the birds have left their site.
- Prohibit activities which will significantly change or destroy potential heron rookeries.

b. 0-330 Foot Buffer Zone

- All disturbing land uses will be prohibited except as necessary to protect the site (FSM 2633.4-14).

c. 330-660 Foot Buffer Zone

- Permit only activities which would not make significant changes to the buffer zone.
- 330-660 feet may not be sufficient in some instances due to land form or vegetative condition. In these situations, the buffer zone distance may be extended on a case by case basis. Activities may be allowed within the zone during these periods if it has been determined on a site-by-site basis that they will not disturb the birds.

WILDLIFE AND FISH

F. SPECIES OF CONCERN (cont'd)

2. Rare plant communities

- a. Conduct rare plant survey to identify existing populations or habitat for rare plants.
- b. Develop individual site plans on a case-by-case basis to provide specific habitat needs for each rare plant community that is identified.
- b. Until specific site plans are developed, manage the area within 100' as follows:
 - Permit only land uses which will not significantly change the site.
 - Build no new roads or trails.
- c. Any potential site will be investigated before any other activity at the site is begun.

3. Bluebirds

- a. Maintain existing nest boxes and encourage volunteers to place and maintain additional nest boxes.

4. Other Species of Concern

Management guidelines for habitats and reproduction sites will be developed on a species by species basis if monitoring shows management activities are having a negative impact on a population.

G. FISHERIES

1. Fisheries management will be coordinated with the New York State Department of Environmental Conservation.
2. Fish management will emphasize warm water fish that can establish self-perpetuating populations, except where trout has been traditionally stocked.

RECREATION/VISION

A. ROADED NATURAL RECREATION (MA 1.2, 1.3, 2.1, 3.1, 8.1)

1. Travelways

- a. One or two lane roads surfaced with gravel or black top and having permanent drainage will be found.
- b. Density of all roads and trails will typically be less than eight miles per 1000 acres.
- c. Off-road motorized vehicle use will be restricted to use of snowmobiles when snow cover is adequate. Other motor vehicles may be used on roads, subject to state laws and licensing requirements.
- d. Generally, snowmobile use will be allowed only on specifically designated roads and trails. Off trail snowmobile use in pastures and other openings will be allowed when snow cover is adequate to prevent damage to soils and vegetation.

2. Use and Control

- a. The following measures of use will guide our programs:
 - °overall use may range from 100 to 500 people at one time per 1000 acres;
 - °on the average, there should not be more than 12 people at one time per mile on any travelway;
 - °most use will be concentrated along travelways and at developed sites where contact with other visitors will be frequent;
 - °away from travelways and developed sites, there should be less than 22 people at one time per 1000 acres.
- b. So that recreation use does not exceed these optimum amounts, we will attempt to design trails, access, and facilities as needed to avoid overuse of any one area. We will also provide maps and information that will encourage people to use a variety of trails and sites.
- c. Signs having reflective materials and high visibility colors or shapes may be used if necessary to direct use.
- d. Law enforcement will be conducted in a subtle manner becoming visible only when it is needed to correct problems or protect public health and safety.

RECREATION/VISUAL

A. ROADED NATURAL RECREATION OPPORTUNITY (cont'd)

3. Permitted Changes

- a. Use of wood and stone masonry for building materials will be preferred over concrete and asphalt.
 - Metal, glass, and plastic should not appear to be major parts of any structure.
 - Steel culverts, signs, guardrails, cables, etc. are acceptable along most roads.
 - Structures may be readily apparent and may range from scattered to small dominant clusters.
- b. Buildings shall generally occupy less than 1000 square feet.

B. VISUAL QUALITY OBJECTIVES for VIEWS from ON the SITE

1. Visual Quality Objectives will be mapped when implementing the Plan on specific areas.
2. Manage for visual quality on the site appropriate to the sensitivity of the location and the recreation opportunity being provided there.
3. Sensitivity depends primarily on the amount and expectation of viewers at a location and can be determined for all areas of National Forest using the guidelines described below.
4. The following locations may be highly sensitive:
 - a. U. S. or State highways;
 - b. roads averaging at least 150 vehicles per day;
 - c. roads primarily providing access to highly sensitive recreation sites;
 - d. designated recreation trails (especially National Scenic or Recreation Trails);
 - e. heavily used seasonal trails through areas with recognized scenic attractions;
 - f. waterbodies with heavy fishing, and other uses highly dependent on viewing scenery;

RECREATION/VISUAL

B. VISUAL QUALITY OBJECTIVES for VIEWS from ON the SITE (cont'd)

- g. town centers or concentrations of residences;
 - h. developed recreation sites, designed for use by many parties at one time;
 - i. single family dwellings along highly sensitive travelways;
 - j. observation sites along highly sensitive travelways.
5. Moderately sensitive locations do not qualify as highly sensitive but get more than twice as much use as general undeveloped areas that provide the same recreation opportunity. Moderately sensitive locations include the following areas:
- a. roads and trails shown on National Forest recreation maps except those described as least sensitive;
 - b. individual private residences, single party recreation sites, and observation sites along moderately sensitive travelways;
 - c. waterbodies receiving low to moderate use which is double that of adjacent undeveloped lands.
6. Least sensitive locations are all areas not qualifying as having high or moderate sensitivity. They include
- a. travelways constructed primarily for non-recreation purposes such as timber access roads and utility line clearings;
 - b. areas where primary use has little dependence on scenic viewing. Examples are hunting or gathering of fuelwood, and fruit.

RECREATION/VISUAL

C. DEFINITIONS OF VISUAL CONDITIONS

1. Preservation - Alterations are caused by ecological changes only.
2. Retention - Alterations made by people are not visually evident.
3. Partial Retention - Alterations made by people must appear subordinate within the surrounding natural appearing landscape.
4. Modification - Alterations may dominate the original surrounding landscape, but constructed facilities must be compatible with the landscape.
5. Maximum Modification - Alterations dominate the original surrounding landscape to a high degree, and do not relate completely to natural appearing form, line, color, or texture.
6. Permanent - A visual condition is being maintained over time.
7. Temporary - A visual condition is allowed to recover over time.
8. Enhancement - A visual condition is improved by increasing desirable variety in the landscape.
9. Rehabilitation - A visual condition is improved by removing existing visual impacts.

D. RELATIONSHIPS

The next two tables display the relationships between recreation opportunity and visual condition, and between timber management activities and visual quality.

RECREATION/VISUAL

VISUAL CONDITION STANDARDS^{1/}

<u>Viewer Sensitivity:</u> ^{2/}	<u>Visual Condition on Site (within 1/2 mile):</u> ^{3/}
High	Up to 10% of travel corridor may be PERMANENT MODIFICATION. At least 90% will be RETENTION ^{4/} .
Moderate	Up to 10% of travel corridor may be PERMANENT MODIFICATION. Up to 15% of the travel corridor may be TEMPORARY PARTIAL RETENTION. At least 85% ^{4/} of the travel corridor will be RETENTION.
Low	Up to 1% per 1000 acres may be PERMANENT MODIFICATION. Up to 10% per 1000 acres may be TEMPORARY MODIFICATION.

<u>Viewer Sensitivity:</u>	<u>Visual Condition Off Site (more than 1/2 mile):</u>
All	When viewing any National Forest lands from any distant location, some changes may be apparent. On the upper part of the more noticeable ridges, changes may be seen but are subdued and <u>subordinate to the surrounding natural appearing landscape</u> (PARTIAL RETENTION) On other locations, changes may be more noticeable and even <u>begin to dominate the view but must be in harmony with the characteristics of the surrounding landscape</u> (MODIFICATION).

1/ See page 4.34 for definitions of terms.

2/ See pages 4.32 to 4.33 for corresponding land and resource characteristics.

3/ Percentages refer to the amount of each visual condition which is appropriate along each mile of travel corridor (about 50 acres) or 1000 acres of lands outside those corridors.

4/ Temporary changes caused by vegetation management in pastures or shrub openings are compatible with a visual quality objective of Retention.

TIMBER HARVESTING AND VISUAL CONDITIONS

ACTIVITY	VISUAL SENSITIVITY (foreground)	VISUAL QUALITY AND TIME	PERCEIVED SIZE AND SHAPE	EDGES	**Additional Requirements Exceeding Standard Practice for SNACS, LEAVE TRIPS and OTHER CONTRASTING ELEMENTS
INDIVIDUAL TREE SELECTION OR THINNING	High	Retention upon completion of project	Not significant	Not significant	Stumps cut within six inches of ground. Any soil disturbance revegetated to a natural appearance
	Moderate or Low	Partial Retention within 1 year Retention within 3 years	Not significant	Not significant	None
GROUP SELECTION	High	Retention upon completion of project	Openings up to 1/10 acre Irregular shape	Feathered edges	Stumps cut within 6 inches of ground. Any soil disturbance revegetated to a natural appearance. Trees which do not appear typical of openings will not be left.
	Moderate	Partial Retention within 1 year Retention within 3 years	Openings up to 1/2 acre Irregular shape	Feathered edges	Snags which dominate the surroundings will be removed Any soil disturbance will be revegetated to a natural appearance
	Low	Modification within 1 year. Partial Retention in 3 years Retention in 5 years.	No geometric shapes	Not significant	Snags which dominate the surroundings will be removed.
THREE CUT SHELTERWOOD (final cut)	High	Retention upon completion of project	Up to 3 acre removal/cut. Roadside opening up to 200 feet. At least 1000 feet between openings. Irregular shape.	Feathered edges	Stumps cut within 6 inches of ground Any soil disturbance revegetated to a natural appearance. Trees which do not appear typical of openings will not be left.
TWO CUT SHELTERWOOD (final cut)	Moderate	Partial Retention 1 year. Retention in 15 years from regeneration cut.	Up to 10 acre removal cut. Roadside opening up to 400 feet, with at least 1000 feet between openings. Irregular shapes.	Feathered edges	Snags which dominate the surroundings will be removed. Any soil disturbance will be revegetated to a natural appearance.
	Low	Modification in 1 year Partial Retention in 3 years. Retention in 15 years from regeneration cut.	Up to 20 acre removal cut No geometric shapes	Not significant	Snags which dominate the surroundings will be removed.
CLEARCUT	High	Enhancement. Must be designed by landscape architect. Timber production is a secondary objective	Normally not more than 1 acre Must relate to the surrounding landscape character.	Special design w/Landscape Arch.	Special design w/Landscape Arch.
	Moderate	Partial Retention within 1 year. Retention within 15 years.	Up to 5 acres with islands and irregular shape. Roadside opening up to 200 feet with at least 1000 feet between openings	Feathered edges	Snags which dominate the opening will be removed. Any soil disturbance will be revegetated to a natural appearance.
	Low	Modification in 1 year. Partial Retention in 3 years. Retention in 15 years.	Up to 15 acres with and irregular shapes	Not significant	Snags which dominate the opening will be removed.
LANDINGS AND ACCESS ROADS	Will be considered openings as per the above standards.				

*Perceived size and shape as seen from the sensitive viewing locations. Actual size may be larger

**Also see next page Slash, Stumps, Rootwads and Other Construction Details TREATMENT and VISUAL GUIDELINES FOR SNACS.

RECREATION/VISUAL

E. TREATMENT OF SLASH, STUMPS, ROOT WADS AND OTHER DEBRIS

1. Highly Sensitive Viewing Areas:

Debris must appear consistent with amount found under natural conditions. If practical, landings should not be visible from roads of high sensitivity.

2. Moderately Sensitive Viewing Areas:

Must appear subordinate to the natural surroundings as soon as possible but at least within one year. For example, slash will be lopped and scattered to lie no higher than the average height of regeneration after one year. If regeneration is less than 3 feet in height, slash will be kept under 3 feet high.

3. Least Sensitive Viewing Areas

Must become subordinate to the natural surroundings within 3 years. Slash is dispersed throughout the site and may dominate the foreground view for the first few years.

4. All slash will be removed from streams, trails, and the cleared area of permanent roads.

F. VISUAL GUIDELINES FOR SNAGS WITHIN OPENINGS

<u>More Subordinate (looks better)</u>	<u>More Dominant (looks worse)</u>
Short broad snag	Tall skinny snag
Near edge of opening	Towards middle of opening
Blends in with others	Stands alone
Has vegetative background	Silhouetted against sky
Located in depression	Located on high point
Clustered throughout the opening	Evenly spaced or peppered
Has vegetation around to tie it to the ground visually	Vegetation left around it is very small or nonexistent

RECREATION/VISUAL

G. OFFSITE VIEWS

When a seed tree cut or a clearcut is applied and retention or partial retention is the objective for offsite viewers, emphasize the following guidelines:

1. carefully design narrow units running along the contours with the sequence of cutting the units progressing downslope;
2. newer units that abut units having small trees, such as 10 to 20 years old, look better;
3. site prep work, such as the removal of stems down to one inch, should be delayed for at least one growing season and done during leaf off;
4. do not remove small to medium size trees along the upper edge of a unit during site preparation.

H. TRAILS

1. General
 - a. Recreation opportunities provided will be consistent with the ROS level being managed (See Recreation/Visual, page 4.33).
 - b. Trails and roads should form an interconnected travelway network.
 - c. Loop systems will be encouraged over linear trail systems.
 - d. Limits of acceptable change will be established in order to monitor the physical and social resources and achieve the management objectives of the trail systems.
 - e. Users will be informed and educated on closures and guidelines for using trails through brochures, signing, and personal contacts.
 - f. User groups will be encouraged to participate in the maintenance of trail systems through cooperative agreements.
 - g. Trails will be inventoried.

RECREATION/VISUAL

H. TRAILS (cont'd)

2. Construction, Operation and Maintenance

- a. Document resource management objectives and rationale used to determine design standard for the types of trails described in FSM 2353.4 (FSM 7723).
- b. Trails will be constructed, reconstructed, and maintained according to established standards for the type of trail (See General Soil and Water standards and guidelines for references).
- c. User groups will be encouraged to participate in the maintenance of trail systems through cooperative agreements.
- d. User groups and Forest Service will meet annually prior to April 15 to update trail system maps and to prepare maintenance plans.

3. Structures

- a. No new structures will be constructed unless an environmental analysis has identified it as the best alternative and user group/Forest Service maintenance responsibilities have been agreed to.

4. Trailhead Parking

- a. Trailhead parking will be provided where feasible.
- b. The following factors will be considered in location and design:
 1. Dispersion of use
 2. Safety of user
 3. Reduce traffic problems
 4. Local maintenance jurisdiction
 5. Year-round use
 6. Vehicle parking needs

5. Vegetative Management Along Trails

- a. Vegetative management will be used to enhance visual and vegetative diversity along trail corridors.
- b. User groups will be kept informed of all vegetative management activities which will significantly affect the enjoyment of trails.

RECREATION/VISUAL

H. TRAILS (cont'd)

5. Vegetative Management Along Trails (cont'd)

- c. Seasonal restrictions on vegetative management activities will be used to minimize negative impacts.
- d. Alternate trail routes will be provided when management activities cause trails to be closed.
- e. All slash and other debris will be removed from trail corridors. Trailside slash will be treated in accord with Recreation/Visual standards and guidelines, Section E.

I. INTERPRETIVE SERVICES

Information and interpretive programs will explain the correlation of resource management direction and activities with public interests and concerns. Programs will be based on audience analysis, as well as on land managers' needs.

TIMBER

A. GENERAL

1. Timber will be managed to maintain and enhance vegetative diversity, wildlife habitats, and vistas; to improve the health and condition of the forest ecosystem, and to produce high quality sawtimber.
2. Timber cutting will be done if it helps to achieve the recreation, visual, wildlife, timber, and other objectives assigned to Management Areas and if the environment can be adequately protected.
3. Timber will be offered for commercial sale so that the revenues can be used to offset the financial costs of achieving the desired priced and nonpriced benefits. This will result in lower net financial costs to achieve desired non-priced benefits.
4. Water quality, recreation, aesthetic, wildlife and other non-priced values will not be sacrificed in order to maximize financial revenues from the sale of timber. Instead, timber sale activities will be modified to preserve or enhance those values.
5. Timber will be cut where financial revenues fall below financial costs when the public desires the resulting nonpriced benefits and the Forest Service decides they clearly justify cutting (Appendix A).

The costs of timber cutting presently appear to exceed financial revenues in areas with a Northern hardwood Site Index of 45 or below. Cutting will only be performed in these locations when justified by resulting nonpriced benefits.

TIMBER

B. SELECTION OF APPROPRIATE SILVICULTURE

1. Silviculture is the application of principles underlying the growth and development of single trees, and of the forest as a biological unit, to control forest establishment, composition, structure and growth. The selection of an appropriate silvicultural system for a management area depends on the stated resource objectives.
2. To select the most appropriate silviculture for an area first determine whether evenaged or unevenaged stands will best fulfill the objectives over time.
 - a. Evenaged stands are contiguous groups of trees which have nearly the same age. Evenaged stands result from natural disturbances or timber harvesting which removes all or nearly all of the trees from a site at one time.
 - b. Unevenaged stands contain three or more age classes of trees which are so intermingled that they cannot practically be divided into separate evenaged stands.

TIMBER

B. SELECTION OF APPROPRIATE SILVICULTURE (Cont'd)

3. Evenaged silviculture should be used to achieve the following objectives:
 - a. diversity of stand types and age classes (MA 3.1).
 - b. regeneration of species which are intolerant or intermediately intolerant of shade such as oak, aspen and locust.
 - c. regeneration of high risk and sparse stands.
 - d. prevention of the spread of insects and disease.
 - e. produce high quality sawtimber and other wood products.
4. Unevenaged silviculture should be used to achieve the following objectives:
 - a. diversity of species and age classes within a stand (primarily used in MA 2.1).
 - b. maintain continuous forest cover in areas with highly sensitive views (MA 2.1, along roadsides, trails and other locations listed in Section B of the Forestwide Recreation/Visual Standards and Guidelines);
 - c. maintain shade along streams;
 - d. meet resource objectives in environmentally sensitive locations, such as riparian areas;
 - e. regenerate tree species which are tolerant of shade;
 - f. produce high quality sawtimber and other wood products.

TIMBER

C. APPLICATION OF EVENAGED SILVICULTURE

1. When evenaged silviculture is to be applied to a stand then determine the size and age to which trees should be grown, the best method for regenerating a new stand and the type and frequency of intermediate cuts that will meet to resource objectives for each area.
2. On average, select the following rotation ages will be used on the FLNF:

AVERAGE ROTATION AGES

<u>Forest Type</u>	<u>Management Area</u>
Mixed Hardwoods and Oak	100
White Pine and Hemlock	100
Aspen	50
Locust	30

Site specific departures from these averages may be necessary to balance the forestwide age class distribution and maintain a non-declining yield of timber.

TIMBER

C. APPLICATION OF EVENAGED SILVICULTURE (Cont'd)

3. REGENERATION CUTS:

Select the method for regenerating an evenaged stand which best meets all the resource objectives for an area:

- a. Standard Shelterwoods will typically be applied in two, closely timed cuts to regenerate species which are somewhat tolerant of shade.
 1. The first, or preparatory, cut will be a commercial cut and will leave 30-50 percent crown cover depending on the shade tolerance of the desired species, the visual quality objectives if the site and the condition of the stand before cutting.
 2. Trees left, other than wildlife reserve trees, should be of good quality, wind firm and of sufficient size to permit a commercial second, or removal, cut within ten years.
 3. Post sale treatment to remove all other remaining ing stems over 1 inch in diameter which are not wildlife trees at breast height should be done within 1 year after the first cut where site preparation with prescribed fire will not be done.
 4. After 6 to 7 years, if reproduction has reached a height of 5-8 feet, the remaining overstory will be removed if compatible with visual objectives.
- b. Delayed Shelterwoods will be used to regenerate shade tolerant species in areas where the second cut of a standard shelterwood should be delayed for 40 to 60 years in order to:
 1. maintain the appearance of big trees in locations of high visual sensitivity or to eventually create unevenaged stands where evenaged stands with insufficient stocking to perform economical, selective cutting within the next 20 years occur (See Application of Unevenaged Silviculture.
 2. trees left should be of good quality, wind firm and of sufficient number, size and distribution to maintain a pleasing overstory of big trees.

TIMBER

C. APPLICATION OF EVENAGED SILVICULTURE (Cont'd)

3. REGENERATION CUTS (Cont'd)

b. Delayed Shelterwoods (Cont'd)

3. The overstory should be left at least until the regenerated stand is commercially thinned. The timing of overstory removal will depend on the health and vigor of the overstory, condition of the entire stand and other resource objectives for the area.

- c. Clearcutting will only be used when it is the optimum harvest method for achieving resource objectives. Clearcutting removes virtually all of the existing trees from a site in order to salvage trees or create an opening where shade intolerant trees can naturally regenerate, different types of trees can be planted or the open condition is maintained overtime.

Clearcutting is the optimum method and will be used for:

1. salvaging damaged stands to stop the spread of an insect or disease outbreak.
2. regenerating aspen and locust stands which are intolerant of shade and valuable for wildlife habitat and vegetative diversity.
3. removing mature planted softwoods from areas where hardwoods are better adapted to the site.
4. improving the condition of stands which have a high risk of dying within the next ten years or which are sparsely stocked and will be unable to fully utilize the site within ten years.
5. creating permanent upland openings for better vegetative diversity and improved wildlife habitat.
6. creating vistas and parking areas to enhance public use and enjoyment of the National Forest.

TIMBER

C. APPLICATION OF EVENAGED SILVICULTURE (cont'd)

4. INTERMEDIATE CUTS:

When compatible with site productivity and overall resource objectives, use intermediate cuts to improve the existing stand, regulate it's growth and provide for early financial returns.

- a. Release desirable species or individual trees in some very young stands to enhance the size, number and distribution of desirable stem species in stands with site index greater than 45 where more than 50 percent of the stocking is comprised of undesirable tree species. Release will only be done when the combination of priced and non-priced benefits exceeds costs.
- b. Thinnings may be prescribed to improve the growth and quality of desirable trees in overstocked stands as determined by silvicultural guides for each timber type. Thinnings will not be done until the financial revenues from the trees removed will exceed the financial costs, unless the public desires the resulting non-priced benefits and the Forest Service decides they clearly justify cutting.
- c. The frequency of thinnings selected for each stand will be based on over resource objectives, the type of trees being managed, the productivity of the site, and economic considerations.
 1. Mixed hardwoods in the Management Prescription 3.1 will be thinned every 20 years where site index is 45 or greater. The first commercial thin will normally be done when the stand is 40 years old.
 2. Most of the softwood plantations on the Forest have grown past the age where thinning will result in improved growth. Many of the planted species also have little or no commercial value. For these reasons, softwood plantations will not be thinned except to:
 - meet wildlife or visual objectives
 - release hardwood reproduction that has become established in the understory
 3. Native conifers will be thinned every 20 years where the site index is 35 or greater. No thinnings will be done at lower site indices.

TIMBER

D. APPLICATION OF UNEVENAGED SILVICULTURE

1. When unevenaged silviculture is to be applied, base the type of cutting on the conditions of the existing stand, the species desired and other resource objectives for the area.
2. Unevenaged silviculture will normally be applied by selecting and cutting individual trees, small groups of trees or a combination of individual trees and groups.
 - a. Individual tree selection will be used in:
 1. mixed hardwood stands where shade tolerant species are desired.
 2. hemlock stands.
 3. areas receiving high public use.
 - b. Group selection will generally result in cuts of less than 1 acre and will be used in:
 1. mixed hardwood stands where species which are intermediately tolerant to intolerant of shade are desired.
 2. white pine stands.
 3. stands where removal of high risk and low quality stems is needed.
 4. areas needing small temporary openings to meet wildlife or visual quality objectives.
 5. order to facilitate the conversion of some evenaged stands to unevenaged.
 - c. Both individual and group selection will be used when a combination of factors requiring both methods occur.

TIMBER

D. APPLICATION OF UNEVENAGED SILVICULTURE (Cont'd.)

3. Selection cutting will usually occur every 15 to 20 years and be designed to achieve the following distribution of size classes:

Diameter Class (DBH)	Hardwood		Softwood	
	Trees per Acre	Basal Area	Trees per Acre	Basal Area
6" - 10"	93	30	135	40
12" - 16"	28	28	35	35
18"+	8	17	7	15
Total	129	75	177	90

1/ Unevenaged Management of Northern Hardwoods in New England, NE 322, quotient between number of trees in successive 2-inch DBH classes = 1.5; maximum tree size 22" DBH.

2/ The Selection System of Silviculture in Spruce-fir Stands, NE-425; quotient between number of trees in successive 2-inch DBH classes = 1.6; maximum tree size = 20" DBH.

4. Timber stands will be improved by converting the existing evenaged structure to three or more ages.
5. Conversion of evenaged stands to unevenaged stands will often result in timber sales with financial costs exceeding revenues, but these conversions should be made where the public desires the resulting non-priced benefits.
6. Attempt to make cost effective conversions to unevenaged stands by considering these approaches:
 - a. do not cut sparse or low quality stands until a profitable selection cut can be applied.
 - b. when treatment of sparse or low quality stands should not be postponed then perform a delayed shelterwood cut, but manage the regenerated stand using selection cuts.

TIMBER

E. REFORESTATION

1. Reforestation of cut over areas will be accomplished within five years after the regeneration cut by either natural or artificial means.
2. Reforestation will primarily occur by natural regeneration, but planting may be beneficial at times. In most cases, the site will be prepared for reforestation following regeneration cuts.
3. Site preparation may be done by hand, mechanical means or by prescribed burning:
 - a. Conduct hand site preparation by eliminating unmerchantable vegetation where necessary to regenerate a timber stand.
 - b. Conduct mechanical site preparation where a mineral soil is required for seedbed and cannot be adequately achieved by summer logging.
 - c. Conduct prescribed burning for site preparation where needed to ensure oak regeneration. Consider using prescribed burning as site preparation for planting.
4. Survey all regenerated stands to ensure adequate stocking.
 - a. Stocking surveys will be conducted following the first and third growing seasons after even and unevenaged regeneration cuts. Sample stands using 1/700th acre plots (4.45 radius). A minimum of 10 plots will be taken in stands up to 20 acres, with an additional plot taken for every 2.5 acres over 20:
 - b. Minimum stocking levels will vary for even and unevenaged stands:
 1. Evenaged stands - At least 60% of the plots should be stocked with 1 or more acceptable seedlings of a tree species which contributes to the attainment of the desired cover type.
 2. Unevenaged stands - At least 35% of the plots should be stocked with attainment of the desired cover type.

TIMBER

E. REFORESTATION (Cont'd)

- c. Any stand not meeting minimum desired stocking levels after the third growing season will be scheduled for a survey following the 5th growing season. Any stand not meeting them after the fifth growing season will be inspected by a certified silviculturist and a detailed plan will be developed on how to achieve desired stocking levels.
 - d. Planted trees will be surveyed by checking 20 staked trees, established at the time of planting. This will be in addition to the above survey for total stocking.
5. Prescriptions for artificial regeneration will specify seedling spacing, acceptable stocking levels and, growing stock depending on objectives for the area to be planted or seeded and the environmental conditions.

TIMBER

F. SILVICULTURAL GUIDES

1. Following is a list of silvicultural guides to be used in implementing these management requirements:
 - a. Northern Hardwoods - A Silvicultural Guide for Northern Hardwoods in the Northeast. NE-143, with Green Mountain Supplemental Prescription Key, 2470.
 - b. Spruce-Fir - A Silvicultural Guide for Spruce-Fir in the Northeast. NE-6, with Green Mountain Supplemental Key, 2470.
 - c. White Pine - A Silvicultural Guide for White Pine in the Northeast. NE-41.
 - d. White Pine Management, A Quick Review. NA-FR-27.
 - e. Red Pine - Manager's Handbook for Red Pine in the North Central States. NC-33.
 - f. Oak - Evenaged Silviculture for Upland Central Hardwoods 1968. Agricultural Handbook 355. Manager's Handbook for Oaks in the North Central States. NC-37.
 - g. Northern Hardwoods - Establishing Evenaged Northern Hardwood Regeneration by the Shelterwood Method - A Preliminary Guide. NC-99, 1973.
 - h. Unevenaged Management of Northern Hardwoods in New England. NE-332.
 - i. Managing Eastern Hemlock, A Preliminary Guide. NA-FR-30.

ROADS

A. GENERAL

1. No new permanent roads will be constructed except:
 - a. to provide access to gas wells
 - b. in connection with parking lot construction needed to improve visitor access.
2. Analysis of permanent road construction proposals will include:
 - a. analysis of how to best support the short and long term objectives of the Management Prescription(s) the road is in.
 - b. identification of road management objectives and needs (FSM 7701 and National Forest Management Act)
 - c. specification of road design, operation and maintenance criteria (FSM 7720, 7730.3).
3. When temporary roads are built to access timber harvest areas, the economic and environmental effects of the total transportation network (permanent and temporary roads, skid trails and landings) will be considered.
4. Obliterate Forest Service roads not needed to meet management objectives of the Forest Plan.
5. Cooperate with town governments and highway departments in managing town maintained roads through the National Forest.

ROADS

B. ROAD DESIGN AND CONSTRUCTION

1. All new road construction will be limited to single lane local roads.
2. Preconstruction and construction activities will be conducted in accordance with FSM 7720.
3. Roads will be located, designed and constructed to provide stability and durability appropriate for their intended service life and uses.
4. Design elements and standards will permit maximum economy while meeting management direction for resource and environmental protection and user safety (FSM 7721.1).
5. Road designs will receive a technical review, including a plans-in-hand field review by the District Ranger and the appropriate interdisciplinary team.
6. Use the service-wide specifications, EM 7720-100R, EM 7720-100B, and EM 7720-100LL for Forest Service construction of roads and bridges.

Incorporate changes or additions that are necessary to identify the specific requirements of an individual project into contracts as special project specifications.
7. Develop and document cost estimates in accordance with FSH 7709.56.
8. New road alignment will follow the natural lay of the land. If this is not possible, then the road must be designed to minimize any negative effects the alignment could have on visual quality or other resources.
9. Road grades will generally be between 2 and 20 percent. Grades greater than 10 percent will be considered if other alternatives are too expensive and mitigating measures such as additional drainage control are possible.
10. Roads constructed or reconstructed for use by the general public will be designed in accord with the 1984 AASHTO Policy on Geometric Design of Highways and Streets section on rural roads and special purpose roads.

ROADS

C. ROAD OPERATION AND MAINTENANCE

1. Public access will be controlled to meet objectives of the applicable Management Prescription, protect roads from damage during critical times of the year, and prevent other resource damage.
2. Users will be informed of closures through signing and personal contact.
3. Forest roads will be maintained at the levels identified under each management prescription. The general relationship of maintenance levels to local road vehicular use is shown below:

Local Road Vehicular Use	Traffic Service Level	Maintenance Level
Infrequent	D or C	I or II
Seasonal	C or B	II or III
All Season	B	III or IV

CORRIDORS

- A. Use existing corridors for utility lines, pipelines, etc. unless the applicant can show that it is in the public interest to do otherwise.
- B. All proposals will follow the guidelines in U.S.D.A. Handbook 478, National Forest Landscape Management, Volume 2, Chapter 2, Utilities.
- C. All new utility lines and pipelines will be buried.

LAND ADJUSTMENTS

A. OBJECTIVES

1. These standards and guidelines will apply only if New York State enabling legislation for acquisition is obtained.
2. Land acquisition must satisfy one or more of the following purposes:
 - a. accomplish objectives of public law or regulation;
 - b. meet demand for National Forest System resources;
 - c. result in more efficient landownership patterns or;
 - d. result in lower resource management cost.
3. In addition, the Forest Land acquisition program will be directed towards:
 - a. protection of existing National Forest values and benefits;
 - b. full, free and unencumbered access for the public and National Forest permittees and users;
 - c. meeting identified management needs in soil and water protection, scenery preservation, wildlife habitat improvement, timber production, special areas and dispersed recreation;
 - d. resolving occupancy trespass and encroachment onto Federal land.
4. In addition to the above but of lower priority, consider purchasing land or gaining partial interest in land which would provide a buffer between existing National Forest land and privately owned residential or recreational developments if needed to:
 - a. achieve high priority resource needs such as threatened and endangered species habitats, uncommon or outstanding features, etc.;
 - b. protect important existing National Forest lands or uses.

LAND ADJUSTMENTS

B. TECHNIQUES

1. Land acquisition techniques include but may not be limited to:
 - a. acquisition by purchase, donation or exchange either in full fee or partial interest;
 - b. easement for scenic protection and access;
 - c. small tract sales or interchanges to resolve boundary concerns;
 - d. partial interest acquisition when land management objectives can be met and mutually agreeable terms can be reached with the proponent. Advantages to local towns in maintaining open land, preserving farm lands and protecting the local tax base will be important considerations.

C. BOUNDARIES

1. To avoid trespass and increase management efficiency, locate and mark National Forest boundary lines.

D. SURSURFACE OWNERSHIP

1. Subsurface ownership - Consider subordination or acquisition of subsurface rights where all of the following are met:
 - a. conflict between surface values and subsurface activities cannot be mutually resolved;
 - b. the public benefits from the surface values exceed the cost of acquiring subsurface rights;
 - c. the cost is consistent with budget priorities.

MINERALS

A. LEASABLE MINERALS - OIL, GAS, AND HARD ROCK DEPOSITS

1. All lands will be available for exploration that does not disturb the land surface.
2. The reasons for closing an area to surface disturbing mineral activities must be supportable and documented. Lands with sensitive environmental conditions will be closed to surface disturbing activities in order to protect those conditions from harm:
 - a. Open water; streams; riparian areas; wet, steep and shallow soils; municipal watersheds; administrative sites; range; Special Areas (MA 8.1); developed recreation areas; and Special Use areas.
 - b. Within 200 feet of all designated trails and permanent roads unless temporary occupancy is approved for a specific proposal.
3. No surface disturbing mineral activities will be allowed in areas which are tentatively open to them until the Forest Supervisor has approved a site specific environmental analysis of the proposed operations.
4. If limited surface disturbance is allowed the effects will be mitigated by requiring the operator to use the best available technology.
5. Forest Service and Bureau of Land Management will jointly review all hardrock prospecting permits and drilling applications.
6. Consenting to hardrock prospecting will not convey any preferential lease or development rights until an appropriate environmental analysis has been performed.
7. Management decisions must allow the owners of outstanding subsurface rights to make reasonable use of the surface in exercising their subsurface rights.

MINERALS

A. LEASABLE MINERALS - OIL, GAS, AND HARD ROCK DEPOSITS (Cont'd)

8. All mineral leases which are issued will include the following stipulations:
 - a. Standard Stipulations for Lands under the jurisdiction of the Department of Agriculture (FSM2822.42 and 2822.43). These stipulations provide for protection of timber resources, special uses, fire protection, existing facilities (including roads), watershed protection, range uses, and compliance with all agency rules and regulations (including Forest Plan).
 - b. Surface Disturbance Stipulations (USDI - BLM Form 3109-5). These stipulations require Bureau of Land Management and Forest Service approval prior to any surface disturbing activities. Approval will be based on an environmental analysis.
 - c. Forest Service Standard Stipulations (Form R9-2800-6) reiterate the necessity for NEPA review and Forest Service approval of any operating plans prior to any earth disturbing activities.
9. Operating plans are approved based on information about (1) public safety, (2) environmental damage, and (3) protection for surface resources. Operating plans will contain the following items:
 - a. steps taken to provide public safety;
 - b. location and extent of areas to be occupied during operations;
 - c. operating methods, including size and type of equipment;
 - d. capacity, character, standards of construction, and size of all structures and facilities to be built;
 - e. location and size of areas where vegetation will be removed and where soil will be disturbed;
 - f. steps to protect soil stability and water quality;

MINERALS

A. LEASABLE MINERALS - OIL, GAS, AND HARD ROCK DEPOSITS (Cont'd)

- g. a description of explosives to be used, including type, amount, time of use, and safety precautions;
 - h. requirements for rehabilitation and revegetation of disturbed land;
 - i. copies of all permits obtained from State or Federal agencies;
 - j. archeological studies, if required.
10. The Forest Supervisor may temporarily suspend or may modify operations due to emergency forest conditions such as high fire danger or other unsafe situations.
11. The lessee/permittee must keep the District Ranger informed about operations. This is especially important with geophysical inventory and testing activities because of their mobile nature. District Ranger will alert lessee/permittee to circumstances which may affect safe and efficient conduct of work activities.

B. COMMON VARIETY MINERALS (SAND AND GRAVEL)

- 1. All activities and resulting conditions must be compatible with the management prescription for the area.
- 2. An operating plan will be prepared before a site is developed. The plan will include at least the following items:
 - a. a schedule of activities;
 - b. an estimate of the amount of material to be removed;
 - c. rehabilitation measures for stabilizing soil, protecting water quality, restoring vegetation, and protecting visual quality.
- 3. The fair market value of all mineral materials will be determined before they are sold. A record will be maintained of the quantity and type of material used or sold.

CULTURAL RESOURCES

A. INVENTORY AND PROTECTION

1. The Finger Lakes National Forest will comply with the letter and spirit of all pertinent Federal Laws, Regulations and Presidential Executive Orders. The Forest will work closely with the New York Historic Preservation Office and comply with all of the items in the Memorandum of Agreements signed with this office.
2. Prior to planned land disturbing activities, a cultural resource survey will be conducted and all identified sites will be inventoried. Those that meet 36 CFR 60.6 criteria will be nominated for inclusion in the National Register of Historic Places.

All qualified and unevaluated sites will be protected and/or adverse effects will be mitigated in accordance with 36 CFR 800.

3. The Finger Lakes National Forest will make every effort to protect cultural resources not meeting the 36 CFR 60.6 criteria if it is determined they are locally significant, or have research or interpretive value. Site specific standards will be developed in such cases.
4. The nature and degree of damage to cultural resources caused by vandalism, visitor use, and natural deterioration will be assessed and protective measures will be implemented as necessary.

The FLNF will make every effort to consult with appropriate genetic and cultural Native American groups concerning the management of Native American sites and cultural resources. An ethnographic overview of the National Forest will be prepared before 1996.

5. Opportunities for both onsite and offsite interpretation of cultural resources, considering significance, accessibility, and protection needs, will be identified.
6. Available data and predictive models using Ecological Land Types, maps, overview and site files will be used to structure cultural resource surveying.
7. Research opportunities for professionals and for graduate students attending qualified colleges and universities will be identified.

CULTURAL RESOURCES

B. RECORDS

1. Historic and Cultural Resource data will be preserved.
 - a. Files will be maintained on all districts and a master file at the Supervisor's Office of all surveys, identified cultural resources and all available information relating to the history and archeology of the sites and region.
 - b. All artifacts will be cataloged, curated, and made available for research by qualified individuals and organizations.

PUBLIC HEALTH AND SAFETY

- A. Drinking water from developed sources must meet Federal and State regulations and will be protected to ensure continued quality. A source found not to meet these standards will be closed until the standards can be met.
 - 1. Sources of drinking water will be tested for total coliform bacteria at a State approved lab at least once per month during the use season.
 - 2. Each drinking water source will be tested for nitrates once every three years.
 - 3. Any new source of drinking water will be tested for all compounds required by State and Federal laws.
- B. Refuse generated or deposited on National Forest System lands will be disposed of through community or areawide systems that include facilities that meet Federal regulations.
- C. Special use permits will not be issued for spray application of effluent on National Forest land for projects that are substantially new development.
- D. Old wells that are a safety hazard, and are not determined to be significant historical resources, will be filled in.

FIRE

A. PRESCRIBED BURNS

1. Prescribed fire may be used to maintain shrub openings and vistas, promote oak reproduction, control pond dike vegetation, promote spread and vigor of blueberries and to accomplish other management objectives.
2. A prescribed burn and smoke management plan must be approved by the Forest Supervisor prior to ignition. Required State permits must be obtained.
3. Appropriate local and state officials will be notified in advance of planned burns. Residents in vicinity of the burn will also be notified when possible.
4. Post-burn evaluations will be conducted to evaluate:
 - fire behavior compared to that predicted
 - results of burn compared to those desired (coverage, size of vegetation killed, etc.)
 - effects of burn on soil, vegetation (structure and species composition).

B. PREVENTION

1. Specific direction is contained in the Green Mountain/Finger Lakes National Forest Fire Plan. This plan will be reviewed and updated annually.
2. Activity fuels will be managed at a level commensurate with the allowable fire intensity and rate of spread that is compatible with resource objectives of a given management prescription. Treatment along highways and adjacent properties will meet applicable State laws.

FIRE

C. DETECTION AND SUPPRESSION

1. Action will be taken to suppress wildfires on all National Forest land.
2. Wildfire detection and suppression will be commensurate with the resource values to be protected. Detection and suppression will be planned based on an analysis of probable fire locations, expected fire intensities, potential net resource value change, and potential threat to health, safety, and adjacent properties. Detection and suppression strategies are stated in the Forest Fire Management Action Plan.
3. Cooperative agreements will be maintained with local fire departments for fire detection and suppression.
4. Agreements for fire detection and suppression on National Forest System lands by cooperating firefighting agencies must define suppression action that will be commensurate with established resource management prescriptions and fire suppression action plans.
5. Detection will rely primarily upon reporting by the general public and upon state detection flights.
6. High hazard areas will be patrolled during periods of extreme fire danger.

INTEGRATED PEST MANAGEMENT

A. STRATEGY

1. The integrated pest management program will include a variety of forest management practices and activities to prevent, limit and suppress pest damage.
2. Pests include disease, damaging insects, and plant species which hinder regeneration or growth of desired species.
3. Techniques which prevent the occurrence of damaging pests will be incorporated into management as appropriate to the objectives of the Management Prescription.
4. The full range of nonchemical alternatives to control pests will be evaluated before considering chemicals. These pest management activities include:
 - a. maintaining healthy, vigorous stands
 - b. selecting superior seedlings or seed source
 - c. altering stand conditions (e.g. reducing density, removing older trees)
 - d. altering species composition
 - e. harvesting while trees are still vigorous
 - f. removing damaged, diseased or risk trees;
 - g. avoiding logging damage to residual trees
 - h. removing alternate hosts
 - i. insuring prompt revegetation with a good seed source
 - j. removing all infested material
 - k. prescribed burning
 - l. release of parasites or predators
 - m. biological pesticides
5. Pesticides and Herbicides will only be used when other methods are not effective.
 - a. Interested state and local agencies, private organizations and individuals will be contacted and involved in any decision to use pesticides or herbicides.
 - b. Herbicides will only be used for those sites and applications specified in the EPA Herbicide Label Guide. Additional information is available from the Pesticide Specialist at the following address:

USDA Forest Service, NE
State & Private Forestry
370 Reed Road
Broomall, PA 19008

INTEGRATED PEST MANAGEMENT

A. STRATEGY (continued)

- c. Only pesticides registered by the Environmental Protection Agency except as provided in regulations, orders, or permits issued by EPA will be used.
- d. The minimum pesticide dose rate and the least persistent chemical that will achieve objectives will be used.
- e. Pesticide formulations that minimize vapor loss and drift, and that have the lowest toxicity necessary to control a pest will be selected.
- f. Application equipment, operating conditions, solvents, carriers, and additives will maximize the amount of applied chemicals reaching the intended target.
- g. Pesticides will not be applied within 50 feet of open water during direct wick and brush applications or 100 feet for ground foliar applications; or 250 feet for aerial applications, unless the chemical is registered for water course, bank, or instream use.
- h. Pesticides will not be applied within 100 feet of other ownerships during ground foliar applications and 250 feet for aerial applications without written permission.
- i. Application operations will be stopped whenever weather or other conditions may cause applied pesticides to leave the target area.
- j. Those who use and apply pesticides will be trained.
- k. Restricted-use pesticides shall be used only by State Certified Applicators or those under their direct supervision.

B. TRANSPORTATION AND STORAGE

- a. Pesticides will be transported and stored in accordance with Federal, State and local laws and regulations.
- b. In the event of hazardous materials spills, including petrochemicals, actions will be taken in accordance with the Oil and Hazardous Substances Pollution Contingency Plan for the Green Mountain and Finger Lakes National Forests.

LAW ENFORCEMENT

- A. Cooperative Law Enforcement agreements will be made in accordance with tri-year evaluations of Forest law enforcement needs and quality of service available.
- B. Law enforcement will be commensurate with frequency, severity and types of violations committed. Law enforcement efforts will emphasize prevention of violations.
- C. Law enforcement actions will emphasize educating Forest visitors of the reasons for regulation and promoting future compliance.
- D. Forest employees will take only those law enforcement actions commensurate with their levels of training.
- E. At all facilities, security measures will be taken that are cost efficient in relation to risk and value of potential loss.

F. Management Prescriptions and Their Standards and Guidelines

Section E listed standards and guidelines which would apply to management practices called for in more than one management prescription. However, since each of the 5 management prescriptions has unique objectives and desired land conditions (Table 4.2), each also has some unique management practices, standards and guidelines to achieve its goals. This section is organized by management prescription, and outlines the standards and guidelines which are specific to each.

Because this section only refines, but does not repeat, the general standards and guidelines (Section E), it is important to refer to both sections before determining which activities may be undertaken in a certain area and which standards and guidelines will apply.

Table 4.2 Emphasis and Acreage of Management Prescriptions

Management Area Number	Emphasis	Acres	Per Cent
<u>1.2</u>	emphasizes management of pastures for <u>livestock grazing</u> .	4500	34%
<u>1.3</u>	emphasizes maintenance of <u>shrub openings</u> for wildlife habitat.	1400	11%
<u>2.1</u>	emphasizes <u>continuous forest cover</u> . This management prescription uses unevenaged timber management to provide areas having trees of many ages and sizes where no large clearings will be created. It can enhance recreation and visual quality.	400	3%
<u>3.1</u>	emphasizes a <u>mosaic of evenaged timber stands</u> , high quality sawtimber and other wood products. Roaded natural recreation and wildlife habitat for some species is provided.	6400	48%
<u>8.1</u>	protects <u>special areas</u> with uncommon or outstanding biological or recreational significance.	500	4%

Management Prescription 1.2

PURPOSE

MANAGEMENT PRESCRIPTION 1.2 emphasizes management of pastures to provide opportunities for domestic livestock grazing. Wildlife habitat, recreation and visual condition objectives are also met by this prescription.

Grazing opportunities on the National Forest enable livestock owners to devote more productive private lands to more intensive agricultural uses. The Forest range program also provides opportunities for research and demonstration in low energy, ecologically sound pasture management practices that could be applied on private land.

Revenues from grazing help offset the costs of maintaining these grass-forb openings for their values to certain wildlife species (notably hawks and bluebirds), their scenic desirability, and opportunities they provide for recreation (especially snowmobiling and horseback riding).

PHYSICAL DESCRIPTION

The vegetation in this prescription will be dominated by grasses and forbs, with some shrub and forest areas interspersed. Pastures will be variable in shape, ranging in size from about 25 to 250 acres.

Human modifications will be evident in the form of barbed wire fences, corrals, stock ponds and other water developments, and in maintenance practices such as mowing and liming. Beef and dairy cattle will be present on the pastures from about May 15 through October 15.

Most of the pasture area will be within one half mile of a gravel road. Lightly used grass or soil roads will connect some areas to the gravel roads. There will be about 2-4 mile of road per square mile of land area.

LOCATION

Pastures will be scattered over the Forest, dominating the landscape in the northern third of the Forest. Few pastures will be found at the more rugged southern end of the Forest.

GOODS AND SERVICES

This management prescription will provide grass and forb vegetation suitable for domestic livestock forage. Incidental amounts of sawtimber and other wood products will be available from intermingled timber stands.

The open, grassy habitat will be especially suitable for such wildlife as raptors, rodents, red foxes, rabbits, bluebirds, bobolinks and flycatchers.

Recreation opportunities will include hiking, horseback riding, hunting, fishing, birdwatching, snowmobiling and gathering of fruit. Some restrictions on recreation will be imposed by the barbed wire fencing which limits access, and by curious cattle which can be intimidating to some people. Bulls can occasionally be aggressive, especially if cornered or chased.

1.2 Standards and Guidelines

A. RANGE

1. Forage Production and Utilization

- a. Overall forage production on the Forest will be maintained at approximately 10,000 AUM's, unless there is a significant long term change in demand.
- b. Management of individual pastures will be aimed at maintaining forage production equal to the five year average production for the years 1981 through 1985.
- c. Pastures will be managed to achieve at least 60% of the forage in desirable species, and at least 5% of the total forage in legumes.
- d. Low energy management systems such as rotational grazing will be emphasized.
- e. Sustained utilization of forage should not exceed 60% of average annual production, as determined by clipping and weighing vegetation from grazed and ungrazed plots.
- f. Hay may be cut and sold from vacant pastures as market conditions permit.

2. Forage Improvement

- a. Maintain soil pH at a minimum of 6.0 through periodic applications of lime. Past experience suggests that an application of 2 tons/acre every 7-10 years will be required.
- b. Brush will be controlled where invasion is reducing forage production. Clumps of shrubs and trees may be left to provide wildlife habitat diversity, visual variety or shade for livestock.
- c. Noxious weeds will be controlled when they pose a significant threat to forage production or livestock health.
- d. Undesirable vegetation will be controlled primarily through mowing. Past experience suggests that mowing every 3-7 years is sufficient to maintain forage condition, depending on the site.
- e. Pastures in very poor condition may be restored by cultivating for short term crop production, and then seeding to high quality forage species.

A. RANGE (cont'd)

3. Fence Construction and Maintenance

- a. Fences will generally be constructed and maintained to standards contained in Region 9 Handbook on Structural Range Improvements. Standards may be modified to meet site specific needs.
- b. Old fencing will be removed when replacement fencing is constructed.
- c. Annual fence reconstruction proposals will be based on the assumption that the average fence will require reconstruction every 20 years.
- d. Allow 20 feet between pasture fences and adjacent shrub openings and timber stands, to facilitate fence maintenance.

B. TIMBER

1. Timber may be managed by either even or unevenaged silviculture.
2. When a timber stand must be accessed through a pasture fence, and repeated entries are expected (e.g. for additional harvest, firewood removal or TSI), a gate will be installed.
3. Timber sale contracts will include provisions for protection of range improvements.
4. Landings, skid trails or temporary roads in pastures will be bladed, limed, fertilized and seeded as necessary to restore forage productivity and provide a smooth enough surface for future mowing. Desirable forage species adapted to the site will be used for seeding.
5. Coordinate timing of logging with grazing and pasture maintenance activities.
6. Consider fencing timber stands within pastures if regeneration cannot become established due to grazing. Evaluate potential economic tradeoffs, as well as effects on recreation access and other resources.
7. Manage small timber stands within pastures under an unevenaged silvicultural system where necessary to meet visual quality or wildlife habitat diversity objectives.
8. Ensure an adequate supply of fence posts from locust stands to meet construction and maintenance needs on the Finger Lakes National Forest before selling locust wood products for other purposes.

1.2

C. VEGETATIVE COMPOSITION

1. Maintain at least 80% of the area in Management Prescription 1.2 in grass/forb vegetation.

D. FISH AND WILDLIFE

1. Provide habitat for raptors, bluebirds, pheasants and other pasture dependent species by:
 - a. Leaving snags and large diameter trees in allotments to serve as raptor perches.
 - b. Leaving small areas of trees and shrubs (including hedgerows) within and along some edges of pastures to provide escape cover. Promote mast producing species and aspen in these areas.
 - c. Encouraging volunteers to put up and maintain bluebird nest boxes near pastures.
2. Water may be piped from wildlife ponds to stock troughs in nearby pastures if an adequate supply of water can be maintained for wildlife.

E. RECREATIONAL/VISUAL CONDITION

1. Provide safe, well marked access through pastures for recreation use. Design recreation access and uses to minimize conflicts with grazing. Employ self-closing gates where appropriate.
2. Gates must be kept closed when livestock are in a pasture. Signing will be the principle means.
3. Gates will be kept open when cattle are not present on the pasture.
4. Mow or otherwise clearly mark trails where they cross pastures.
5. Educate Forest visitors about grazing activities and pasture-related recreation through brochures, signing and personal contacts to reduce conflicts.
6. Snowmobile trails will be constructed and signed to encourage use of some pastures.

F. SOIL AND WATER

1. Riparian areas within the Management Prescription will be evaluated for their sensitivity to damage by livestock grazing, trampling or wastes. The following criteria will be used for this evaluation:
 - a. Current condition of stream banks and susceptibility to trampling damage
 - b. Slope of riparian area, as it affects susceptibility to erosion.
 - c. Vegetation type (e.g. uncommon species).
2. Livestock will be excluded from areas that show significant existing or potential damage by livestock.
3. Newly constructed pond dikes will be seeded with rapidly germinating grasses.
4. Soil samples will be taken periodically to determine if soil productivity is within acceptable limits.
5. Water Developments
 - a. Water development, maintenance and reconstruction will be done as needed to ensure an adequate water supply throughout the grazing season. A reconstruction frequency of every 10 years for unfenced ponds, and every 30 years for fenced ponds will be assumed for long range planning. A reconstruction frequency of 10 years will be assumed for other water developments.
 - b. Ponds used primarily for stock watering will be fenced to prevent trampling of the dike and siltation of the pond. Cattle will have access to the water at hardened areas, or at a trough to which pond water is piped. All existing ponds used primarily for watering stock will be fenced by 1995.
6. Fertilizers and herbicides used in pastures will be applied in a way that prevents contamination of surface waters.

G. FIRE

1. Prescribed fire will be an acceptable management tool.

H. INTEGRATED PEST MANAGEMENT

1. Chemicals may be used to control noxious weeds or other pests, if other alternatives would be ineffective or too costly.

I. ROADS

1. Wheeled vehicle access through pastures will be allowed for management purposes.
2. Permanent roads through pastures will be kept to a minimum. Road drainage structures will be designed and constructed to prevent pasture soil erosion and deposition of material onto pastures from roads.

J. CORRIDORS

1. Utility lines and pipelines will be buried.

K. FACILITIES

1. Range facilities such as fences, corrals and water developments will be designed at a level appropriate to their use. Long term relationships between construction costs and maintenance costs will be considered.
2. Facilities will be designed to accommodate recreation use, visual quality and wildlife whenever practical.
3. Old unused structures that do not have significant historical value will be removed, as funds permit.

L. MINERALS

1. Surface disturbing mineral activities appear to be acceptable on all areas under this Management Prescription except:
 - a. the sensitive land categories listed in Chapter IV, Section E, General Standards and Guidelines for Minerals.
 - b. other site specific locations where detailed review of project proposals indicate that surface disturbance is likely to unacceptably compromise the management objectives of the area.
2. Consent on oil and gas leasing and mineral exploration in this Management Area if the restrictions on surface disturbance stated above (L.1) are followed and standard environmental restrictions can be met.
3. USDA consent on mineral development and extraction will be reserved until site specific proposals are received. If consent is given, mineral development and extraction activities will follow the restrictions on surface disturbances described above (L.1) unless the findings from exploration and further environmental analysis clearly show that changes in those restrictions are in the public interest.

When reviewing development and extraction proposals, consider the relative value of surface and subsurface resources to society and the consistency of the proposed actions with the management objectives, standards and guidelines of this prescription.

M. LANDS

1. If demand for forage can be met on existing pastures then no additional lands should be acquired for the purpose of increasing forage production.

N. PUBLIC HEALTH AND SAFETY

1. Signs will be posted at pasture access points warning visitors to stay clear of livestock.
2. Safe access points will be provided in barbed wire pasture fences.

O. EDUCATION AND RESEARCH

1. Promote research on the Forest by local colleges, universities and agriculture organizations on pasture management, noxious weed control, grazing systems, etc.

Management Prescription 1.3

PURPOSE

MANAGEMENT PRESCRIPTION 1.3 emphasizes the maintenance of brushy openings for wildlife habitat and fruit production. This habitat type is relatively uncommon in the region, due to extensive agricultural use, and lack of economic incentives for non-farmers to do the required vegetation maintenance. A large variety of game and non-game wildlife species are dependent on shrub openings during all or part of their life cycle. These species include pheasants, ruffed grouse, turkeys, white tailed deer and many small mammals and songbirds.

Many varieties of edible berries and tree fruits are also found in this vegetation type. Management will be planned to maintain or promote fruit production in areas accessible to Forest visitors, with special emphasis on blueberry production.

PHYSICAL DESCRIPTION

Vegetation in Management Prescription 1.3 consists of a variety of grasses, forbs, shrub species and small patches of trees. Age and structure of vegetation varies from one shrub opening to another, depending on site characteristics, neighboring vegetation types, and objectives for management. The overall character of 1.3 lands is one of brushy openings.

Shrub openings will range in size from 1 to 200 acres. The larger openings will be subdivided by hedgerows into units less than 30 acres in size. Many of the wildlife ponds on the Forest are located in this Management Prescription.

LOCATION

Management Prescription 1.3 lands will consist of roughly 1400 acres scattered over the Forest in 40-50 different openings. Criteria for selecting locations include ecological land type, neighboring vegetation types (to enhance vegetative diversity), plant species composition and feasibility of maintenance.

GOODS AND SERVICES

This management prescription will provide vegetation in an intermediate successional stage for game and non-game wildlife habitat. Recreation will be primarily wildlife-oriented, consisting of hunting, fishing, and wildlife observation. A number of the openings will be crossed by recreation trails. Fruit gatherers will find the shrub openings to be productive areas for berries, apples and other fruit. Small amounts of wood products will be available.

Shrub openings will add visual variety to the landscape, including vista opportunities in forested areas.

1.3 Standards and Guidelines

A. DESIGN AND LOCATION

1. Many of the locations for shrub openings have already been designated in the Plan. These Standards and Guidelines recognize the possibility that more desirable locations will be discovered as Plan implementation proceeds.
 - a. Maintain crown closure of vegetation at less than 50 percent; maintain height of vegetation at less than 35 percent of that in adjacent forested areas.
 - b. Design openings to have irregular shapes, to improve interspersions with other vegetation types, and visual quality.
 - c. Encourage growth of hedgerows and small clumps of trees to subdivide larger openings into units ranging from 5-30 acres in size.
 - d. Locate openings near streams, ponds or wetlands where possible.
 - e. Locate some openings on ecological land types where tree reproduction is slow due to soil type and drainage.
 - f. Openings will be located to meet other management objectives (e.g. vistas) where possible.

B. MAINTENANCE

1. Prescribed fire and mowing will be the primary management tools for maintaining shrub openings. Mowing will be favored where fire poses a significant threat to private property or structures.
2. Shrub openings will be maintained every 3 to 20 years. Decisions on maintenance frequency will consider rate of succession, adjacent vegetation types, and desired wildlife species.
3. Accomplish maintenance in conjunction with other management activities where possible (e.g. trail mowing, log landing construction).

C. VEGETATIVE COMPOSITION

1. Maintain at least 80% of each shrub opening in an open, bushy condition.
2. Individual openings should have a mixture of vegetative types, including grasses, forbs, shrubs and clumps of trees.
3. Favor mast-producing shrubs and trees in vegetation management.

D. BLUEBERRY MANAGEMENT

1. Promote blueberry production in shrub openings with existing blueberry populations which are readily accessible to the public.
2. In areas where high and low bush varieties are both present, design management to favor the high bush varieties.
3. Maintain as much diversity in blueberry varieties as is practical.
4. In areas managed for low bush blueberries, burn according to prescription on a 3 year rotation.
5. To avoid damaging high bush varieties, exclude fire from high bush blueberry areas. Maintain high bush plants by hand, mechanical or other means determined to be effective.
6. Promote public awareness of blueberry picking areas, emphasizing lesser-used areas.

E. FISH AND WILDLIFE

1. Maintain cover vegetation around pond perimeters. Vegetation on pond dikes may be controlled by mowing, burning or other methods.

F. TIMBER

1. Timber inclusions may be managed by evenaged or unevenaged silviculture. Decisions will consider tree species, visual quality, and wildlife habitat diversity.
2. Retain snags and large diameter trees to serve as raptor perches.
3. No timber will be removed from hedgerows.

G. RANGE

1. No grazing by domestic livestock will be allowed, except for incidental use by recreation stock.

H. FIRE

1. Prescribed fire will be the preferred management tool for maintaining shrub openings, unless effects on vegetative species composition are found to be undesirable.
2. Fruit trees, hedgerows, snags and stump fences will be protected from fire where possible.
3. Post-burn evaluations will be done to evaluate effects on vegetative species composition and wildlife use of shrub openings.

I. RECREATION/VISUAL

1. Fire line construction associated with prescribed burning will meet site specific visual quality objectives.
2. Maintenance activities will be designed to protect or promote fruit trees and bushes. Information on fruit picking areas will be made available to the public.
3. Mow trails through shrub openings frequently enough to maintain an obvious trail tread and comfortable clearance.
4. In general, short term visual modifications caused by mowing and burning will be considered acceptable along roads and trails. Vegetative screening of these activities may be required where visual sensitivity is especially high.
5. Opening maintenance will enhance scenic vistas where possible.

J. SOIL AND WATER

1. Firelines will be located and constructed and restored as necessary to prevent erosion.
2. Riparian areas will be protected during maintenance activities.

K. INTEGRATED PEST MANAGEMENT

1. Little need for pest management in shrub openings is anticipated. Chemicals may be used when other methods are ineffective.

L. ROADS

1. Wheeled vehicle access will occasionally be permitted for management purposes.
2. Road construction will be kept to a minimum. Appropriate drainage structures will be installed.

M. CORRIDORS

1. Utility lines and pipelines will be buried.

N. LANDS

1. Acquire interests in land to protect the resources and management objectives for this area.

O. MINERALS

1. Surface disturbing mineral activities appear to be acceptable on all areas under this Management Prescription except:
 - a. the sensitive land categories listed in Chapter IV, Section E, General Standards and Guidelines for Minerals.
 - b. other site specific locations where detailed review of project proposals indicate that surface disturbance is likely to unacceptably compromise the management objectives of the area.
2. Consent on oil and gas leasing and mineral exploration in this Management Area if the restrictions on surface disturbance stated above (0.1) are followed and standard environmental restrictions can be met.
3. USDA consent on mineral development and extrantion will be reserved until site specific proposals are received. If consent is given, mineral development and extraction activities will follow the restrictions on surface disturbances described above (0.1) unless the findings from exploration and further environmental analysis clearly show that changes in those restrictions are in the public interest.

When reviewing development and extraction proposals, consider the relative value of surface and subsurface resources to society and the consistency of the proposed actions with the management objectives, standards and guidelines of this prescription.

P. PUBLIC HEALTH AND SAFETY

1. Provide for public safety during prescribed burning (e.g. traffic control on smoky roads).
2. Fill old wells found in shrub openings (see Cultural Resources Standards and Guidelines).

Q. CULTURAL RESOURCES

1. Locate wells and building foundations prior to mowing and avoid.
2. Protect stump fences that are determined to be significant historical resources from prescribed fire.

R. EDUCATION AND RESEARCH

1. Inform public about shrub opening maintenance activities and objectives through brochures, signing and personal contacts.
2. Encourage local colleges and universities to conduct research on vegetation and wildlife responses to maintenance practices.

Management Prescription 2.1

PURPOSE

MANAGEMENT PRESCRIPTION 2.1 emphasizes unevenaged timber management that maintains continuous forest cover. The main intent of this Management Prescription is to provide natural appearing, vigorous stands of trees in areas that are visually sensitive. Other objectives include protection of sensitive riparian areas, increased vertical diversity in wildlife habitat, and testing of unevenaged silviculture as a forest management tool.

PHYSICAL DESCRIPTION

The forest in Management Prescription 2.1 will consist of many ages and sizes, with more or less continuous crown cover. Trees species which can reproduce in shady conditions will dominate, since no large sunny openings will be created. These include beech, red maple, sugar maple and hemlock.

From a distance, timber management activities will not be evident, since harvest will selectively remove trees of various sizes. Evidence of management on site will include cut stumps, slash, skid trails and landings. Small, temporary openings may be created when necessary to remove diseased or damaged trees or meet other objectives.

Dirt roads and trails will provide access to most areas in the 2.1 Management Prescription.

2.1

LOCATION

Most of the 2.1 lands will be in the vicinity of developed recreation sites - or along trails. The 2.1 prescription will also be applied in some sensitive locations along creeks to protect the scenic character and watershed values of these locations.

GOODS AND SERVICES

The 2.1 prescription will enable us to maintain vigorous stands of trees around developed recreation sites, without significantly altering their appearance. It will also help us retain some relatively natural-appearing stands of trees along trails, while providing sawtimber and firewood.

The varied height and age of vegetation will provide a lot of structural diversity of wildlife habitat in a small area. These habitats will be quite stable, since timber harvest will not change the basic structure of the stand like an evenaged harvest would. Wildlife that prefer a vertically diverse forested environment will benefit the most.

Recreation opportunities typical of a roaded natural environment will be available. These include camping, hiking, cross-country skiing, horseback riding, hunting and wildlife observation.

2.1 Standards and Guidelines

A. TIMBER

1. The primary silvicultural system will be unevenaged management.
2. Small openings may be created to remove diseased or damaged clumps of trees, improve a vista, or regenerate an aspen inclusion. In general, openings will be rare and kept as small as possible.

B. RECREATION/VISUAL

1. Timber management in the vicinity of developed recreation sites will be directed toward maintaining vigorous, natural appearing stands of trees. Production of wood products will be a secondary objective.
2. Timber harvest activities near developed recreation sites and along trails will meet visual quality standards for highly sensitive viewing areas.
3. Hazard tree removal will be accomplished as part of a commercial timber sale when practical.

C. FISH AND WILDLIFE

1. See General Standards and Guidelines for Wildlife and Fish regarding reserve trees, special habitats.
2. Modify timber management within 50 feet of wildlife ponds to maintain brush and tree cover for wildlife.

D. RANGE

1. No grazing will be permitted, except incidental use by recreation stock.

E. SOIL AND WATER

1. See General Standards and Guidelines for Soil and Water pertaining to soil limitations, skid roads and landings, road construction, riparian areas.

F. FIRE

1. Fire is an acceptable management tool.

G. INTEGRATED PEST MANAGEMENT

1. Chemicals may be used to control pests when other alternatives would be ineffective or prohibitively expensive.

H. ROADS

1. Drainage structures will be used at all live streams. These structures could include bridges, culverts or waterbars. They may be permanent or temporary, depending on anticipated future uses of the road and resource protection needs.
2. Coordinate with Town Highway Departments on timing of log hauling to protect town roads in wet conditions.
3. Roads may be closed to public use, or the types of vehicles and season of use may be restricted.

I. CORRIDORS

1. Utility lines and pipelines will be buried.

J. FACILITIES

1. Structures necessary for management, such as gates and signs, should be designed according to current Forest Service Standards. Modifications may be necessary to accommodate recreational use, visual quality objectives, or to reflect new technology.

K. LANDS

1. Consolidate land ownership to improve public access and efficiency of management.

L. MINERALS

1. Surface disturbing mineral activities appear to be acceptable on all areas under this Management Prescription except:
 - a. the sensitive land categories listed in Chapter IV, Section E, General Standards and Guidelines for Minerals.
 - b. other site specific locations where detailed review of project proposals indicate that surface disturbance is likely to unacceptably compromise the management objectives of the area.
2. Consent on oil and gas leasing and mineral exploration in this Management Area if the restrictions on surface disturbance stated above (L.1) are followed and standard environmental restrictions can be met.
3. USDA consent on mineral development and extraction will be reserved until site specific proposals are received. If consent is given, mineral development and extraction activities will follow the restrictions on surface disturbances described above (L.1) unless the findings from exploration and further environmental analysis clearly show that changes in those restrictions are in the public interest.

When reviewing development and extraction proposals, consider the relative value of surface and subsurface resources to society and the consistency of the proposed actions with the management objectives, standards and guidelines of this prescription.

M. PUBLIC HEALTH AND SAFETY

1. Provide for public safety during timber management activities by conducting logging during periods of light recreation use, rerouting recreation trails, signing and other means.

N. CULTURAL RESOURCES

1. Protect historically significant stump fences and rows of trees planted by early settlers during timber management activities.

O. PUBLIC INFORMATION

1. Educate the public about unevenaged timber management through brochures, signing, personal contacts and other methods.

Management Prescription 3.1

PURPOSE

MANAGEMENT PRESCRIPTION 3.1 emphasizes recreation in a roaded, natural appearing environment, a diversity of wildlife habitats, and production of high quality sawtimber by applying evenaged timber management. Timber harvest and stand improvement practices will be responsive to recreation, visual quality and wildlife considerations and will be aimed at promoting well formed trees of commercially valuable species such as oak and ash. These species do not reproduce well in their own shade, so evenaged silviculture that provides plenty of sun to the reproduction is necessary.

Evenaged systems will also be used to manage conifer and locust plantations, and enhance wildlife habitat for certain species. A variety of recreation uses will be possible in the 3.1 Management Prescription.

PHYSICAL DESCRIPTION

Management Prescription 3.1 will be applied to productive forest areas that can be intensively managed for sawtimber production without causing significant resource conflicts. Lands in 3.1 include:

- a. Oak and mixed hardwood stands that contain some mature sawtimber, but are in various conditions of stocking and age class distribution. Timber harvest and stand improvement practices will include commercial thinning, shelterwood cuts, and overstory removal. The desired result of these practices will be to move the the stand toward an evenaged condition and improve the quality of the growing stock.
- b. Young stands of oak and mixed hardwood saplings and poles. These stands have the potential to become high quality sawtimber. Stand improvement practices may include cleaning and weeding or precommercial thinning to improve the quality of the growing stock.

PHYSICAL DESCRIPTION (Cont'd)

- c. Areas that are in an intermediate successional stage between a shrub opening and a timber stand. Precommercial thinning and other stand improvement practices will probably not be applied, except through firewood sales. When they become old enough to contain some sawtimber, they will be treated like the stands in item "a." above.
- d. Conifer plantations that were originally planted to arrest soil erosion on cultivated land. They have done their job of soil stabilization, but are now relatively unproductive for either wildlife habitat or wood products. Recreation is inhibited in most stands by the close spacing of the trees. Because of these drawbacks, we do not intend to perpetuate these stands by replanting. Most of them will be left alone, since no market exists for the wood from many species. Red pine stands are an exception: they have both commercial and aesthetic value, so there is an incentive for management. Accessible red pine stands may receive a thinning, shelterwood cut or clearcut, depending on the initial condition of the stand. Plantations of other conifer species may receive similar treatments when economic conditions permit (especially where advanced hardwood regeneration is present).

In general, the objectives of evenaged management in the conifer plantations will be to utilize existing wood values, and facilitate the plantations' gradual conversion to better-adapted, more productive hardwoods.

- e. Evenaged locust plantations. These stands are productive for fence posts, firewood and wildlife habitat. Regeneration by clear-cutting will be the main management activity.
- f. Aspen stands and inclusions. Aspen reproduce primarily by cloning and resprouting after disturbance. A variety of age classes will be provided for wildlife (especially grouse) by clear-cutting clones periodically.

The overall result of applying Management Prescription 3.1 will be a mosaic of evenaged timber stands which collectively represent many different age classes.

Although a single stand will have limited structural diversity, variety in structure will be provided by having a mixture of stands in a given area of the forest. Species composition will vary both within a stand and across the forest. This diversity will be further enhanced by intermingled lands in other Management Prescriptions.

PHYSICAL DESCRIPTION (Cont'd)

From a distance, timber management activities may or may not be evident depending on topography, vegetative screening, size of cutting unit, type of cut, or age of the trees in the cutting unit. On-site evidence of management will be least apparent for thinning treatments and most apparent for clearcuts. Signs of treatment may include cut stumps, slash, skid trails and obvious differences in height, age or density of trees compared to adjacent timber stands.

Regeneration of trees will be rapid, and cutover areas will quickly become less noticeable. The dense undergrowth will inhibit travel through the stand for several years. However, as tree crowns become larger and shade the ground, the understory will become more open. Management practices will be modified to protect aesthetic values in visually sensitive areas.

LOCATION

Management Prescription 3.1 will be applied to forested areas capable of producing sawtimber-size trees on a 100 year rotation. Generally, these areas will have a hardwood site index of 45 and above. Sites having a hardwood site index of 60 or above will be preferred for the most intensive management. The majority of existing or planned forested area on the Finger Lakes National Forest will be managed under this prescription.

GOODS AND SERVICES

Most of the sawtimber and other wood products sold from the Finger Lakes National Forest will be produced under this Management Prescription. Quality will be quite variable until most of the stands have been put under intensive management. Because of the variable condition of the forest, it could take several decades to produce a consistent flow of high quality sawtimber.

Timber management will be coordinated with other uses, so that high quality dispersed recreation and wildlife habitat can be provided. Management will favor wildlife species that are adapted to temporary brushy openings, sapling thickets, older evenaged timber stands, or some combination of these.

3.1 Standards and Guidelines

A. TIMBER

1. The primary silvicultural method will be evenaged.
2. Feature oak and other commercially valuable species on suitable sites.
3. Manage stands to create the following age class distributions and rotation ages:

Forest Type	Age Class	Rotation Age				UE
		40	60	80	100	
Mixed Hardwood	B ^{1/} 0-9				10	
	Y ^{2/} 10-59				50	
	M ^{3/} 60-119				40	5/
	O ^{4/} 120+				--	
Native Softwoods	R 0-9			12	10	
	Y 10-39			36	30	
	M 40-99			52	55	5/
	O 100+			--	5	
Aspen	R 0-9		16			
	Y 10-39		48			
	M 40-59		31			
	O 60+		5			
Locust	R 0-9	25				
	Y 10-39	75				
Oaks	R 0-9				10	
	Y 10-59				50	
	M 60-99				35	
	O 100+				5	

1/ R = Regenerating

2/ Y = Young

3/ M = Mature

4/ O = Overmature

5/ UE = Unevenaged stands will have a mixture of three or more age classes occurring on each acre. The distribution of unevenaged stands across the Forest will mostly be influenced by recreational and visual concerns. Unevenaged and mature stands will provide similar benefits to wildlife.

A. TIMBER (Cont'd)

4. Thin or regenerate conifer plantations as economic conditions permit. Plantations on areas with hardwood Site Index of 45 or above, or with advanced hardwood regeneration will receive priority for treatment. The objective of treatment will generally be to facilitate gradual conversion of planted softwoods to native hardwoods.
5. Firewood sales will be used to accomplish "precommercial" thinning whenever possible.

B. VEGETATIVE COMPOSITION

1. Retain some native conifers in timber stands where they are intermingled with hardwoods.
2. Feature hemlock where it is a significant component of the stand.
3. Manage locust and aspen to perpetuate existing stands.

C. FISH AND WILDLIFE

1. Regenerate aspen stands in conjunction with commercial timber sales, or as opportunity arises. Maintain some aspen stands in mature trees to provide buds for grouse.
2. Modify timber management within 100 feet of wildlife ponds to maintain brush and tree cover for wildlife.
3. Feature mast species such as oak, hickory, cherry, walnut and beech, and manage to increase mast production where practical.
4. Remove fuel concentration from around reserve trees prior to prescribed burning as needed to protect adequate numbers for wildlife.
5. See General Standards and Guidelines for retention of wildlife trees.

D. RANGE

1. Highly productive timber stands within or adjacent to grazing areas will be fenced to exclude livestock.

3.1

E. RECREATION/VISUAL

1. Manage timber along trails to provide continuous forest cover within 100 feet of trail edge.
2. Overstory removal may be delayed after a shelterwood harvest to reduce visual impacts in sensitive areas.
3. Require purchaser to protect recreation improvements during timber harvest.
4. Use timber sales to accomplish recreation objectives such as hazard tree removal, trail relocation and creation of vistas.
5. Where practical, provide alternate trail routes for use when trails are blocked by timber harvest activities.

F. SOIL AND WATER

1. See General Standards and Guidelines for Soil and Water pertaining to soil limitations, skid roads, landings, road construction, and riparian areas.

G. FIRE

1. Prescribed fire may be used to promote oak regeneration.
2. Protect residual trees in shelterwood cut by removing concentrations of fuels from around their bases prior to burning.
3. Establish control plots prior to burning to enable comparisons between burned and unburned areas.
4. Conduct short and long term evaluations of burn results and use information to plan future burns.
5. Lay out skid trails so that they can later be used as fire lines, wherever practical.
6. Require purchaser to leave slash free zone around units that will be burned, to facilitate control of prescribed burns.

H. INTEGRATED PEST MANAGEMENT

1. Chemicals may be used to control pests when other alternatives would be ineffective or prohibitively expensive.

I. ROADS

1. Use drainage structures at all live streams. These may include bridges, culverts or waterbars. They may be permanent or temporary, depending on anticipated future use and resource protection needs.
2. Coordinate with Town Highway Departments on timing of log hauling to protect town roads in wet condition.
3. Close temporary roads to public use as needed for resource protection.

J. CORRIDORS

1. Utility lines and pipelines will be buried.

K. MINERALS

1. Surface disturbing mineral activities appear to be acceptable on all areas under this Management Prescription except:
 - a. the sensitive land categories listed in Chapter IV, Section E, General Standards and Guidelines for Minerals.
 - b. other site specific locations where detailed review of project proposals indicate that surface disturbance is likely to unacceptably compromise the management objectives of the area.
2. Consent on oil and gas leasing and mineral exploration in this Management Area if the restrictions on surface disturbance stated above (K.1) are followed and standard environmental restrictions can be met.
3. USDA consent on mineral development and extraction will be reserved until site specific proposals are received. If consent is given, mineral development and extraction activities will follow the restrictions on surface disturbances described above (K.1) unless the findings from exploration and further environmental analysis clearly shows that changes in those restrictions are in the public interest.

When reviewing development and extraction proposals, consider the relative value of surface and subsurface resources to society and the consistency of the proposed actions with the management objectives, standards and guidelines of this prescription.

M. FACILITIES

1. Structures necessary for management, such as gates and signs, should be designed according to current Forest Service standards. Modification may be necessary to meet recreational needs, visual quality objectives, or to reflect new technology.

N. LANDS

1. Consolidate ownership to facilitate cost effective management of the timber resource.

O. PUBLIC HEALTH AND SAFETY

1. Provide for public safety during prescribed burning and timber harvest activities by timing them for periods of light recreation use, rerouting recreation trails, signing, traffic control on smoky roads, or other methods.

P. CULTURAL RESOURCES

1. Protect historically significant rows of trees planted by early settlers as indicators of past land management patterns.
2. Protect historically significant stump fences during timber harvest and prescribed burning.

P. PUBLIC INFORMATION

1. Educate the public about evenaged timber management through brochures, signing, personal contacts and other methods.

Management Prescription 8.1

PURPOSE

MANAGEMENT PRESCRIPTION 8.1 emphasizes SPECIAL AREAS having uncommon or outstanding biological, geological, recreational, cultural, or historical significance on the Finger Lakes National Forest. The intent of this prescription is to preserve these values for the education and enjoyment of present and future generations. Public lands are well suited to this since long-term management and protection can be assured.

PHYSICAL DESCRIPTION

Special areas can have one or more of the following features:

- °plant communities with unique qualities, such as old growth or wetlands
- °trails that have received special recognition, such as National Recreation or Scenic Trails
- °habitats or populations of threatened or endangered plant and animal species
- °sites with significant historic or prehistoric cultural resources
- °scenic ravines, waterfalls and other uncommon geologic attractions

The areas on the Finger Lakes National Forest that have been identified for the 8.1 Management Prescription are the Interloken, Ravine and Finger Lakes Trails, and areas we will allow to become old growth. Other areas may be added as implementation of the Plan proceeds.

8.1

LOCATION

The Forest Plan map shows where each Special Area is:

- 8.1A Interloken Trail - divides the Forest from north to south.
- 8.1B Finger Lakes Trail - crosses the southern tip of the Forest.
- 8.1C Ravine Trail - a short loop trail that begins on Picnic Area Road about 0.6 miles west of Blueberry Patch Campground.
- 8.1D Old Growth - scattered areas over the Forest where natural succession of vegetation to old growth will be allowed.

GOODS AND SERVICES

The uncommon or outstanding values are the primary outputs from areas under this management prescription. Other resource values and uses are secondary to the protection of the area's special values for public education and enjoyment.

Standards and Guidelines for All Special Areas

1. Specific descriptions and management requirements are outlined for each Special Area on the following pages. General Standards and Guidelines in Chapter IV, Section E of the Plan will apply to each Special Area unless exceptions or additions are stated.
2. All resource management will be limited to activities which maintain the character and outstanding values of the area.
3. Surface disturbing mineral activities appear to be unacceptable.
4. Consent to oil and gas leasing and mineral exploration in this Management Area if no surface disturbance occurs and standard environmental restrictions can be met.
5. USDA consent on mineral development and extraction will be reserved until site specific proposals are received. If consent is given, mineral development and extraction activities will not disturb the surface unless the findings from exploration and further environmental analysis clearly show that limited surface disturbance is in the public interest.

When reviewing development and extraction proposals, consider the relative value of surface and subsurface resources to society and the consistency of the proposed actions with the management objectives, standards and guidelines of this prescription.

6. Subject to passage of enabling legislation, give high priority to acquiring full or partial interest in lands which enhance the protection of each area's special values and to other areas with uncommon or outstanding values which exist within the authorized purchase boundary.

8.1A Interloken Trail

PURPOSE

The Interloken Trail was selected as a "Special Area" because of its National Recreation Trail status, and for the outstanding recreational and educational opportunities it can provide. Management will strive for a balance between demonstrating land management practices, and providing a recreation environment relatively free of human modification.

PHYSICAL DESCRIPTION

The 12 mile long Interloken Trail runs the length of the Forest in a north-south direction. It is considered to be a side trail of the Finger Lakes Trail, which crosses the southern end of the Forest. The trail stays mostly on the plateau known as the Hector Backbone, so the terrain is gently rolling. Trail users will encounter a mix of pastures, shrub openings, managed hardwood forest, old growth, and conifer plantations. A variety of management practices will be used to maintain these vegetation types, including unevenaged and evenaged timber harvest, prescribed burning and mowing. These practices will be modified or screened as necessary to ensure a high quality recreation experience.

The Interloken Trail or short side trails access all of the developed recreation sites on the Forest. The trail also passes close to several wildlife ponds, the most familiar being Foster Pond and Teeter Pond. Six parking areas are available along its length.

Most soils in the area of the trail route are poorly drained, so parts of the trail are often muddy or swampy. The gentle terrain reduces the erosion potential somewhat.

GOODS AND SERVICES

Because of sensitive soils and past conflicts between trail uses, the Interloken Trail will be managed as a hiking and skiing trail only. Alternate trails of comparable extent and quality will be provided for horseback riding and snowmobiling.

Because the Interloken Trail traverses a variety of vegetation types, topography and types of land management, there are excellent opportunities for interpretation. Resource management along the trail will not be completely hidden from the trail user, but will be done in a way that maintains the overall feeling of traveling through a natural area.

8.1A Interloken Trail Standards and Guidelines

A. RECREATION/VISUAL

1. Manage the trail for hiking and skiing only when an alternative trail system for horseback riding and snowmobiling has been established. Inform visitors of restrictions on types of use through signing, brochures and personal contacts.
2. Overnight camping at undeveloped sites will be allowed in suitable areas at least 50 feet from surface waters.
 - a. Warming and cooking fires will be permitted with verbal approval from a Forest Officer.
 - b. Campers will be encouraged to use gas camp stoves or one central fire ring at the more intensively used dispersed camp sites.
 - c. Camping in fenced pastures will be discouraged when livestock are present.
3. Undesignated trails that have become established in connection with the Interloken Trail will be evaluated for addition to the maintenance program. Signing and blazing will be improved at these intersections to prevent confusion.
4. Trails will be constructed and maintained for foot and cross-country ski travel according to standards in EM7720-102, Standard Specifications for Constructing Trails. Engineering Field Notes, Vol. 17, Jan.-Feb. 1985, and Trail Design, Construction and Maintenance, ATC Stewardship Series, 1981.

B. TIMBER

1. Manage timber to provide continuous forest cover within 100 feet of either side of trail.
2. Include provisions in timber sale contract for slash removal, low stump heights, blading of skid trails and other measures as needed to meet visual quality standards for highly sensitive viewing areas.
3. Avoid crossing the Interloken Trail with skid roads and trails wherever possible.
4. Manage selected areas along the trail as unevenaged forest.
5. Remove blowdowns but do not harvest red pine plantations within 100 feet of trail's edge.
6. Small clearcuts may be used to create or enhance vistas.

C. VEGETATIVE COMPOSITION

1. Vegetation along the trail route will be managed to provide both species diversity and a variety of major vegetation types, such as pasture, shrub openings and forest.
2. Manage selected forest areas along the trail for natural succession to old growth.
3. Allow softwood plantations along trails to gradually revert to hardwoods.

D. FISH AND WILDLIFE

1. Shrub openings that presently exist along the trail will be maintained to provide wildlife habitat. This may be done through mowing, prescribed fire or other methods compatible with recreation use of the trail.
2. Ponds will be maintained for wildlife use, including necessary vegetation control on pond dikes.
3. Some ponds accessible from the trail will be stocked with fish to enhance fishing opportunities.
4. Aspen stands within view of the trail may be regenerated to enhance wildlife habitat.

E. RANGE

1. Pasture maintenance activities will be permitted along the trail. These may include mowing, liming, fertilizing, seeding, and construction and maintenance of fencing, corrals and water developments.
2. Gates or stiles will be provided and maintained in pasture fences to provide recreation access.
3. The trail tread will be mowed or posted where it crosses pastures and shrub openings to prevent confusion.
4. No salting for livestock will be allowed within 200 feet of the trail.
5. See also the Standards and Guidelines for Management Prescription 1.2 as they pertain to Recreation.

F. SOIL AND WATER

1. Portions of the trail may be relocated to reduce erosion.
2. Camping restrictions may be applied in areas where soil damage is occurring. The damaged area will be rehabilitated.
3. Camping will not be permitted within 50 feet of surface waters.

G. FIRE

1. Prescribed fire will be an acceptable management tool along the trail.
2. Firelines will be constructed to meet visual quality standards for a highly sensitive viewing area.

H. CORRIDORS

1. Pipelines and utility lines will be buried.

I. FACILITIES

1. New trail shelters or other facilities will be provided only where there is a demonstrated need. These facilities will be located away from the main trail.
2. Additional parking may be developed where needed to facilitate resource protection.

J. MINERALS

1. Surface disturbing mineral exploration is unacceptable within 200 feet of the trail.

K. TRAIL RELOCATION

1. Reasons for moving trails include the following:
 - a. to avoid human activity, existing roads, driveways, and powerlines;
 - b. to avoid unacceptable damage to soil or water resources;
 - c. to protect threatened special or unique plant or wildlife species;
 - d. to protect important cultural resources;

K. TRAIL RELOCATION (cont'd)

- e. to reduce conflict with other recreational experiences such as snowmobiling and horseback riding;
 - f. to reduce cost of maintenance;
 - g. to improve safety for users.
2. Any proposed change in the trail will be coordinated with the local trail user groups.
 3. Make relocation decisions from Optimal Trail Location Review and follow procedures described in FSM 2353, R-9 Supplements 59 and 62.

L. ROADS

1. Exclude roads and skid trails from the management area except where no reasonable alternative exists.
2. Analyze all proposed roads and skid trails crossing or paralleling the Trail within 200 feet, for their potential undesirable impacts on the trail user and document as appropriate. Only allow road locations that are the sole feasible and prudent alternative and after all impacts have been minimized (See FSM 2343.4--3e, R-9 Supplement No. 62, 8/84).
3. Roads crossing the Interloken Trail will be at right angles to the trails wherever possible and will be designed to keep sight distance along the road to a minimum.
4. The length of road within the zone will be kept to a minimum subject to sight distance requirements and terrain limitations.
5. Road construction permits or contracts will require the following items:
 - a. seeding of temporary roads within the area;
 - b. restoration of the Interloken trail tread;
 - c. removal of all slash within the area.

M. INTEGRATED PEST MANAGEMENT

1. Use only those methods of Integrated Pest Management which have the least adverse impact on trail values and are most compatible with trail management objectives. Chemicals will be used only as a last resort.

N. PUBLIC HEALTH AND SAFETY

1. Protect user from timber harvest activities by providing temporary alternate routes, timing logging for low use periods, signing or other methods.
2. Post pasture trail crossings to warn of grazing livestock (especially bulls).

O. PUBLIC INFORMATION

1. Signs will be installed in selected areas to explain natural features, management practices, and Integrated Resource Management Philosophy.
2. A brochure for self-guided interpretive walks will be developed.

P. CULTURAL RESOURCES

1. Cultural resource sites near the trail may be interpreted through brochures and signs, where this can be done without resulting in damage to the sites.

8.1B Finger Lakes Trail

PURPOSE

The Finger Lakes Trail was selected as a "Special Area" because it was being considered for addition to the nationally significant North Country Trail. This short trail segment is also part of the larger Finger Lakes Trail that spans most of southern New York State. Management will be aimed toward providing a hiking and cross country skiing environment where human modifications appear secondary to natural features.

PHYSICAL DESCRIPTION

The Finger Lakes Trail segment that crosses the Forest is part of 700 mile trail system which, when completed, will connect the Allegheny Mountains with the Catskills. This system is located on a combination of private, state and federal land, and is maintained by the Finger Lakes Trail Conference. Approximately 2.5 miles of the trail are found on the FLNF, located on the more rugged southern tip of the Forest. The Finger Lakes Trail enters the Forest from County Route 4 (Logan Rd.) climbs to the east where it crosses Burnt Hill Rd. and intersects with the Interloken Trail; then descends fairly steeply back to the south, reconnecting with Burnt Hill Road.

Trail users will encounter conifer and locust plantations, managed hardwood forest, old growth forest and shrub openings. Remains of past farming activities such as stone foundations and stone walls will also be found. Some fine views of the Hector Bluffs and surrounding countryside are seen from one of the shrub openings, and from the Finger Lakes Trail Shelter. One wildhfe pond is located along the trail.

Management practices applied to vegetation near the trail will include evenaged and unevenaged silviculture, mowing, prescribed burning and trail clearing. These practices will be modified or screened as necessary to provide a high quality recreation experience on the trail.

GOODS AND SERVICES

Because of the steep terrain, sensitive soils and past conflicts between resource uses, the Finger Lakes Trail will be managed as a hiking/cross-country skiing trail only. Alternate trails will be provided for horseback riding and snowmobiling in more suitable areas. Wheeled motorized vehicles will continue to be excluded from the trail.

Resource management will provide a variety of vegetation types, but the emphasis will be on providing an environment where human modifications do not dominate.

8.1B Finger Lakes Trail Standards and Guidelines

A. RECREATION/VISUAL

1. Manage the trail for hiking and skiing only. Inform users of restrictions on types of use through signing, brochures and personal contacts.
2. Overnight camping will be allowed at trail shelters and in other suitable areas at least 50 feet from surface waters.
 - a. Warming and cooking fires in undeveloped camping areas will be permitted with verbal approval from a Forest Officer.
 - b. Campfires will be confined to the central fire ring at the trail shelter.
3. The trail will be maintained for foot and cross country ski travel according to Finger Lakes Trail Conference standards.
4. Allow people to stay at the trail shelter for up to two nights.

B. TIMBER

1. Manage timber to provide continuous forest cover within 100 feet of either side of trail.
2. Include provisions in timber sale contract for slash removal, low stump heights, blading of skid trails and other measures as needed to meet visual quality standards for highly sensitive viewing areas.
3. Avoid crossing the Finger Lakes Trail with skid roads and trails wherever possible.
4. Manage selected forest areas along the trail as unevenaged forest.
5. Small clearcuts may be used to create or enhance vistas.
6. Where trail goes through red pine plantations, do not harvest trees within 100 feet of trail edge. Blowdown may be removed.

C. VEGETATIVE COMPOSITION

1. Manage vegetation along trail to provide a combination of hardwood forest, softwood forest and shrub openings. Softwood plantations will be allowed to gradually revert to hardwoods.

D. FISH AND WILDLIFE

1. Shrub openings that presently exist along the trail will be maintained to provide wildlife habitat. This may be done through mowing, prescribed fire or other methods compatible with recreation use of the trail.
2. Ponds will be maintained for wildlife use (including necessary vegetation control on pond dikes).
3. Aspen stands within view of the trail may be regenerated to enhance wildlife habitat. Resulting slash will be disposed of to meet visual quality standards for highly sensitive viewing areas.

E. RANGE

1. No grazing or stock use will be permitted in this management prescription.

F. SOIL AND WATER

1. Portions of the trail may be relocated to reduce erosion.
2. Camping restrictions may be applied to areas where soil damage is occurring. The damaged area will be rehabilitated.
3. Camping will not be permitted within 50 feet of surface waters.

G. FIRE

1. Prescribed fire will be an acceptable management tool along the trail.
2. Firelines will be constructed to meet visual quality standards for a highly sensitive viewing area.

8.1B

H. CORRIDORS

1. Pipelines and utility lines will be buried.

I. FACILITIES

1. No new facilities will be constructed along the trail, except for trail signs and structures.

J. MINERALS

1. Surface disturbing mineral exploration is unacceptable within 200 feet of the trail.

K. TRAIL RELOCATION

1. Reasons for moving trails may include the following:
 - a. to avoid unacceptable damage to soil or water resources;
 - b. to protect threatened special or unique plant or wildlife species;
 - c. to protect important cultural resources;
 - d. to reduce cost of maintenance;
 - e. to improve the safety of users.
2. Any proposed changes in the trail will be coordinated with the Finger Lakes Trail Conference.
3. Make relocation decisions from Optimal Trail Location Review and follow procedures described in FSM 2353, R-9 Supplements 59 and 62.

L. ROADS

1. Exclude roads and skid trails from the management area except where no reasonable alternative exists.
2. Analyze all proposed roads and skid trails crossing or paralleling the Trail within 200 feet, for their potential undesirable impacts on the trail user and document as appropriate. Only allow road and skid trail locations that are the sole feasible and prudent alternative and after all impacts have been minimized (See FSM 2343.4--3e, R-9 Supplement No. 62, 8/84).
3. Roads and skid trails crossing the Finger Lakes Trail will be at right angles to the trail wherever possible and will be designed to keep sight distance along the road to a minimum.
4. The length of road within the zone will be kept to a minimum subject to sight distance requirements and terrain limitations.
5. Road construction permits or contracts will require the following items:
 - a. seeding of temporary roads within the area;
 - b. restoration of the Finger Lakes Trail
 - c. removal of all slash within the area.

M. INTEGRATED PEST MANAGEMENT

1. Use only those methods of Integrated Pest Management which have the least adverse impact on trail values and are most compatible with trail management objectives. Chemicals will be used only as a last resort.

N. PUBLIC HEALTH AND SAFETY

1. Protect users from timber harvest activities by providing temporary alternate routes, timing logging for low use periods, signing or other methods.

O. CULTURAL RESOURCES

1. Signs may be installed in selected areas to explain natural features, management practices, and Integrated Resource Management Philosophy.

8.1C. Ravine Trail

PURPOSE

The Ravine Trail was selected as a "Special Area" because of its uncommon natural features and the opportunity it provides for environmental education. Management will emphasize protection of the natural features and low-impact education uses.

PHYSICAL DESCRIPTION

The Ravine Trail is about 1.0 mile long, including an 0.6 mile loop. It was originally designed to demonstrate in a short distance various types of management that have occurred at Hector and also provide a pleasant hike through the scenic ravine area. The trail goes through shrub openings maintained for wildlife, fir plantations that were planted for Christmas trees but grew beyond useable size, native white pine stands, and a steep ravine with hemlock-covered slopes.

LOCATION

The trail loop is located along one of the main branches of Tug Hollow Creek. It originates from Picnic Area Road about 3/4 of a mile east of County Route 4 (Logan Rd.). A side trail intersects Burnt Hill Rd. and the Interloken Trail to the east.

GOODS AND SERVICES

Because of the steep terrain and sensitive soils, the Ravine Trail will be managed as a hiking/cross-country skiing trail only. The trail will provide a short scenic hike with opportunities to learn about natural features, and past and present management practices. Cross country skiing on the loop portion will be challenging due to the steep terrain. Management will emphasize protection of natural features in the loop trail area, and providing an environment where human modifications do not dominate on the side trail.

8.1C Ravine Trail Standards and Guidelines

A. RECREATION/VISUAL

1. Manage the trail for hiking and skiing only. Inform visitors of restrictions on types of use through signing, brochures and personal contacts.
2. Overnight camping along the Ravine Trail will be discouraged.
3. See Interloken Trail, Recreation/Visual Standards and Guidelines (page 4.106) for construction and maintenance standards to be followed.

B. TIMBER

1. In forested areas in the loop trail vicinity, allow natural succession to old growth to occur. No timber harvest will be allowed in this area. Vegetation will be managed as outlined for old growth stands in Management Prescription 8.1D.
2. In forested areas along the side trail, manage timber to provide continuous forest cover within 100 feet of either side of trail.
3. Include provisions in timber sale contract for slash removal, low stump heights, blading of skid trails and other measures as needed to meet visual quality standards for highly sensitive viewing area.

C. VEGETATION COMPOSITION

1. Vegetation along the trail will be primarily hardwood and softwood forest.
2. Allow softwood plantations to gradually revert to hardwoods.
3. Shrub openings that presently exist along the trail will be allowed to grow to hardwood or native softwood forest.

8.1C

D. FISH AND WILDLIFE

1. Follow Fish and Wildlife Standards and Guidelines for Management Prescriptions 3.1 (along side trail) and 8.1D (along loop trail).

E. RANGE

1. No grazing or livestock use will be permitted in this Management Prescription.

F. SOIL AND WATER

1. Portions of the trail may be relocated to reduce erosion.

G. FIRE

1. Prescribed fire will be an acceptable management tool, except in old growth areas.

H. CORRIDORS

1. No utility corridors will be allowed in the loop trail area.
2. Utility lines and pipelines in the vicinity of the side trail will be buried.

I. FACILITIES

1. No new facilities will be constructed except for trail signs and trail structures (e.g. steps).

J. MINERALS

1. Surface disturbing mineral exploration is unacceptable within 200 feet of the side trail, or within the old growth area surrounding the loop trail.

K. TRAIL RELOCATION

1. Reasons for moving the trail may include:
 - a. to avoid unacceptable damage to soil or water resources;
 - b. to protect threatened special or unique plant or wildlife species;
 - c. to protect important cultural resources;
 - d. to reduce cost of maintenance;
 - e. to improve safety for users.
2. Make relocation decisions from Optimal Trail Location Review and follow procedures described in FSM 2353, R-9 Supplements 59 and 62.

L. ROADS

1. No roads will be allowed in the old growth area around the loop trail.
2. Avoid roads and skid trails in the vicinity of the side trail, except when no reasonable alternative exists.
3. Analyze all proposed roads crossing or paralleling the trail within 500 feet, for their potential undesirable impacts on the trail user and document as appropriate. Only allow road locations that are the sole feasible and prudent alternative and after all impacts have been minimized (See FSM 2343.4--3e, R-9 Supplement No. 62, 8/84).
4. Roads crossing the Ravine side trail will be at right angles to the trail wherever possible and will be designed to keep sight distance along the road to a minimum.
5. The length of road within the zone will be kept to a minimum subject to sight distance requirements and terrain limitations.
6. Road construction permits or contracts will require the following items:
 - a. seeding of temporary roads within the area;
 - b. restoration of the Ravine Trail tread;
 - c. removal of all slash within the area.

8.1C

M. INTEGRATED RESOURCE MANAGEMENT

1. Use only those methods of Integrated Pest Management which have the least adverse impact on trail values and are most compatible with trail management objectives. Chemicals will be used only as a last resort.

N. PUBLIC HEALTH AND SAFETY

1. Protect users from timber harvest activities by providing temporary alternate routes, timing logging for low use periods, signing or other methods.
2. Relocate excessively steep portions of trail.
3. Construct and maintain trail structures (e.g. steps, bridges) to provide adequate public safety.
4. Hazard trees may be removed from old growth areas, where they present an imminent threat to the trail user.

O. PUBLIC INFORMATION

1. Update existing brochure for self-guided interpretive walk to incorporate management under this Plan.
2. Signs may be installed to explain natural features and past and present management practices.
3. Promote use of the trail for environmental education.

P. CULTURAL RESOURCES

1. Cultural resource sites near the trail may be interpreted through brochures and signs, where this can be done without resulting in damage to the sites.

8.1D Old Growth Stands

PURPOSE

MANAGEMENT PRESCRIPTION 8.1D emphasizes succession to OLD GROWTH in the absence of human-caused disturbances. Old growth forest is rare in the region due to extensive clearing for agriculture, and utilization of forests for wood products in the past. Establishment of old growth areas on the Forest will serve several purposes, including:

- Promoting vegetative and wildlife habitat diversity by increasing the acres in this uncommon vegetative type;
- Providing areas to study natural successional processes, and the ecology of small old growth areas;
- Adding to visual diversity and quality along roads and trails;
- Providing small areas for recreation in a forested environment relatively free of human disturbance;

PHYSICAL DESCRIPTION

As of 1985, old growth forest on the Finger Lakes National Forest was confined to very small areas that were too rugged to be farmed or logged in the past. Additional areas were selected to be set aside for old growth, based on several criteria:

- Represent a variety of ecological land types;
- Select areas that already have some large, old trees, so that succession to old growth will be hastened;
- Select some areas that are readily accessible and visible to the public.
- Select areas not likely to be accessed for timber management due to topography, site productivity or other reasons;
- Select at least one shrub opening so that long term successional processes can be studied.

The physical descriptions of the selected "old growth" areas vary according to these criteria. Some are found on steep, rocky slopes or in ravines that would be difficult to access for timber production. Others are on productive, accessible timber sites where they can be easily viewed by Forest visitors. Existing vegetation varies from a shrub/forb/grass opening, to a mixed-age oak stand, to a ravine densely forested with old growth hemlock.

8.1D

LOCATION

Lands in Management Prescription 8.1D are widely scattered over the Forest. Refer to the Forest Plan map for specific locations.

GOODS AND SERVICES

Management Prescription 8.1D provides an environment free of recent human disturbances for study of natural ecological processes, and low-impact recreation use. No wood products will be produced from these lands. Wildlife species which are dependent on features associated with old growth conditions, such as snags, den trees, down logs, complex vertical structure in the vegetation and large trees will be favored. These could include such species as pileated woodpeckers, turkey, and great blue herons.

Old growth areas will also provide excellent educational opportunities, especially where they can be contrasted with intensively managed timber stands.

8.1D Old Growth Standards and Guidelines

A. TIMBER

1. No timber harvest, including salvage and firewood cutting, will be done in this management prescription.
2. Hazard trees along recreation trails may be removed if they pose a significant threat to the Forest visitor.

B. VEGETATIVE COMPOSITION

1. Vegetative changes will be left to the forces of nature except to build and maintain trails.

C. RECREATION/VISUAL

1. Trails may be constructed and maintained.
2. Trails will be managed for non-motorized uses only.
3. Camping will be discouraged in old growth areas.

D. WILDLIFE AND FISH

1. Habitat changes will be the result of natural forces only.

E. RANGE

1. No grazing by domestic livestock will be permitted.

F. FIRE

1. Wildfires will be suppressed. Preference will be given to methods which result in the least disturbance of the land surface and vegetation.
2. Evidence of human intervention will be obliterated or repaired as a cost of the fire.
3. No prescribed burning will be done.

G. SOIL AND WATER

1. Erosion resulting from recreation use or other human action will be corrected.

8.1D

H. INTEGRATED PEST MANAGEMENT

1. Pests and diseases will not be controlled unless they pose a significant threat to adjacent areas not in Management Prescription 8.1D.
2. Use the methods of Integrated Pest Management which will have the least short and long term impact on old growth values and objectives.
3. Chemicals will only be used as a last resort.

I. MINERALS

1. Surface disturbing mineral exploration is unacceptable.

J. CORRIDORS

1. No utility lines or pipelines will be allowed.

K. FACILITIES

1. No new facilities will be constructed.
2. Existing structures that are no longer needed will be removed.

L. ROADS

1. No new temporary or permanent roads will be built.

M. LANDS

1. High priority will be given to acquiring full or partial interest in lands adjacent to old growth areas which would protect or enhance their values.

N. EDUCATION/RESEARCH

1. Encourage research on ecology of natural successional process and small old growth communities.
2. Promote low-impact educational uses.

O. PUBLIC INFORMATION

1. Provide public information on locations and ecology of old growth areas through brochures, maps and interpretive signing.

G. Proposed Management Activities

In this section we have estimated the amounts of different kinds of work, or "management activities", which will be needed to achieve the desired future condition of the Forest. The management activities expected in the first decade of Plan implementation are listed in Table 4.3.

To determine exactly where this work should be done to be most effective, we have divided the Forest into smaller subunits for indepth analysis. We call these subunits Opportunity Areas because each one provides a different set of opportunities for achieving Plan objectives. Opportunity areas were delineated into logical management units based on physical features (e.g. topography), existing use patterns, road locations, vegetation and other factors.

Within two years we will complete a ten year action plan for each opportunity area, consisting of a detailed schedule of proposed projects. The list of proposed management activities (Table 4.3) may be modified to reflect these schedules. Our best guess for the probable amounts to occur in the following decade are the same as what we propose for the coming ten years.

Table 4.3 Proposed (1987-1996) and Probable (1997-2006) Management Activities^{1/}

Management Activity	Unit of Measure	Management Area	Average Annual Amount
Protect the Environment	Acres	All	13,200
Protect Special Areas	Acres	8.1	500
Land Acquisition ^{2/}	Acres	All	Unknown
Trail Construction	Miles	*	1
Trail Rehabilitation	Miles	*	35
Parking Area Construction	Sites	*	3 total
Trail Gates on Pastures	Gates	1.2	5
Campground Expansion	PAOT ^{3/}	1.3	120
Blueberry Management	Acres	1.3	5
Shrub Opening Maintenance	Acres	1.3	200
Wildlife Pond Maintenance	Ponds	*	6
Pasture Maintenance:			
°Mowing	Acres	1.2	900
°Liming	Acres	1.2	530
°New Fencing	Miles	1.2	0.6
°Reconstruct Fencing	Miles	1.2	4.3
°Stock Pond Reconst.	Ponds	1.2	3.0
°New Stock Pond Facilities	Facility	1.2	5 Total
Selection Cuts	Acres	2.1	15
Shelterwood Cuts:			
°Regeneration	Acres	3.1	30
°Overwood Removal	Acres	3.1	20
Clearcuts	Acres	3.1	5
Thinning	Acres	3.1	50
Stand Improvement	Acres	3.1	20
Site Preparation/ Reforestation	Acres	3.1	60
Release	Acres	3.1	10

* These activities will cross several Management Areas.

^{1/} Average annual amounts are displayed except for those where the total for the next 10 years is shown. The probable annual amounts in the next decade (1997-2006) are the same.

^{2/} If enabling legislation is passed, lands may be acquired or exchanged to better achieve the objectives of all management areas on the National Forest.

^{3/} People at one time.

CHAPTER V

IMPLEMENTATION, MONITORING AND EVALUATION

V.	Implementation, Monitoring and Evaluation	5.01
A.	Implementation.	5.01
B.	Monitoring and Evaluation .	5.03
C.	Amendments and Revisions. .	5.04

V. Implementation, Monitoring and Evaluation

Approval of this plan changes the way we do business. We must now be sure that, subject to valid existing rights, all permits, contracts, and agreements are consistent with the goals, objectives, standards and guidelines of the plan. We must also design, schedule, and propose budgets for the projects identified in the plan.

In addition, we will begin monitoring how closely our results match those projected in the plan. We can then make recommendations on improving the plan to reflect changed conditions or unanticipated results.

This chapter explains the process for implementing the plan, for monitoring the results, and for improving the plan by amending or revising it.

A. Implementation

The next step in implementing the Forest Plan will be to complete an action program for the first ten years for each of the opportunity areas on the Forest. The plan gives us a great deal of direction for each area. It shows us where the various management prescriptions will be applied. Inherent in each management prescription is the desired future condition of the land, and the management practices, standards and guidelines which are appropriate. The plan establishes the desired proportions of various types of vegetation. It determines the types of recreation opportunities (ROS class) to be provided. It also classifies the land according to visual quality objectives and assigns appropriate standards to be applied to achieve those objectives. Finally, it describes the desired road system for each area, and determines whether or not any new road construction would be necessary.

The action program for each opportunity area is, essentially, a formulation of site specific projects and activities which will carry out the plan's directions. The projects will be interdisciplinary, coordinating management practices affecting many resources, and achieving integrated resource management for the opportunity areas objectives.

Implementation through Integrated Resource Management (IRM) is the step in the planning process which brings the plan to the ground. The individual programs for the opportunity areas will infuse the plan's many promises and objectives with real-life viability. The site specific projects will be conceived to take advantage of unique opportunities and to consider local issues and concerns. They will be developed to recognize the complexities and interrelationships of all the resources.

Integrated Resource Management is the stage in the planning process that will be the most challenging. It is also where the significant changes in policy which have been stated in this plan will begin to become obvious. Designing on the ground projects which will meet the multiple objectives and follow all the standards and guidelines assigned to the area by the plan will require more interdisciplinary thinking and teamwork than we have ever benefited from before.

To give an example of how we might incorporate vegetative composition objectives into three projects which were proposed to also create wildlife openings, to create vistas for recreation, and to harvest timber, the following chart was made for an actual 2300 acre area of the forest.

- SAMPLE -

VEGETATIVE COMPOSITION OBJECTIVES FOR AREA X -- 2300 ACRES

Type	Existing		Objective		Desired Change			Project
	%	Acres	%	Acres	Total Acres	Decades To Reach	First Decade Acres	
Aspen	1.2	28	5	114	+86	2	+43	A, B, C
No. Hdwds	92.1	2158	70	1604	-554	6	-110	A, B
Hemlock								
Spr/Fir	3.5	89	20	456	+376	6	+38	A, B
Upland								
Openings	1.2	28	5	114	+86	3	+29	B, C

The above composition objectives are within ranges established in the Forest Plan. They are specifically tailored to a sub-unit (opportunity area) of the Forest based on local wildlife habitat needs and opportunities. The primary means of accomplishing these vegetative composition objectives will be through commercial timber sales.

Wildlife openings, vistas, recreation trails, and habitat improvements are examples of resource improvements that can be accomplished as part of carefully planned timber sales in addition to improved silvicultural conditions. Accomplishment of these vegetative composition goals will be done in harmony with other major objectives, such as visual quality objectives, recreation objectives and fully considering local public issues and concerns. The projects incorporate the standards and guidelines assigned by the Plan.

Multi-year budget proposals will be worked up to identify and plan needed expenditures. The Forest's annual proposed budget will be the official request for funding necessary to implement the plan each year. The final budget which is approved will determine the annual program of work which we will be able to carry out. As each project is designed, we will conduct an environmental analysis. The analysis will begin with this Plan and with its EIS. These documents will help us determine the appropriateness of the project and the extent of environmental analysis which may be required.

A project which is compatible with the plan will require environmental analysis, and documentation if the proposed action will significantly affect the human environment. This documentation will reference, rather than repeat, information included in the Plan and the EIS. It will focus on issues, alternatives and environmental consequences unique to the project. NEPA requirements for documentation and public review will be met.

A project which is compatible with the plan, and which both prior experience and environmental analysis indicate will have no significant effect on the human environment, will not require an environmental assessment.

However, those people who have indicated interest in this type of activity will be notified of the decision. A record of the analysis will be available for public review. A project which is not compatible with the Plan may not be approved without an amendment to the plan. The process required to amend the plan is outlined on page 5.04.

B. Monitoring and Evaluation

Monitoring and Evaluation are conducted to determine how well our performance and the forest conditions match those expected, and to recommend changes which may be needed in the plan.

The National Forest Management Act specifically requires monitoring for the following:

- a) to compare actual and planned outputs (219.12k(1))
- b) to compare actual and planned costs (219.12k(3))
- c) to compare actual practices and effects with planned practices and effects (219.12k(2))
- d) to determine significant changes in productivity (219.12k(2))
- e) to reevaluate the suitability of land for timber production (219.12k(4))
- f) to determine if land is adequately restored following harvest (219.12k(4))
- g) to determine if harvest area size limits should be continued (219.12k(4))
- h) to assure that insect and disease problems do not increase to a damaging level (219.12k(4))
- i) to determine population trends of indicator species (219.19)
- j) to evaluate relationships between GMNF and adjacent land (219.7(f))
- k) to identify research needs (219.18)
- l) to determine whether land conditions or demands of the public have changed significantly (219.10(g))

In addition, the GMNF has included other monitoring to see if the anticipated future conditions actually occur, and to see how well our actions actually resolve the management problems outlined in Chapter III. We have listed the monitoring which we would like to accomplish, as well as the monitoring frequency and expected reliability (Appendix C). We also recognize that many groups are interested in specific characteristics, outputs, or conditions and we would encourage cooperative monitoring projects to help us evaluate our progress.

Monitoring will be done routinely, some on a sample basis and some based on record keeping and reporting as activities are completed. The specific monitoring action program will be included in the multi-year budget proposals.

If an evaluation of the monitoring results indicates there is a significant difference between the conditions expected by the plan and the actual conditions, we may recommend changes in our performance to meet the plan requirements, changes in our funding program, or changes in the Forest Plan.

C. Amendments and Revisions

Amendments to the Forest Plan may be recommended if we find that the prescribed activities are not resolving the problems, that new and more important problems have been identified that should be addressed, that there are significant changes in demands, that some basic assumptions of the Plan are not valid, or that activities prescribed by the plan seriously affect other resources or uses.

The Forest Supervisor would determine whether an amendment to the plan would be significant. Amendments would not be considered significant if they only adjust the implementation schedule to reflect differences between proposed and appropriated funding, or if they modify an allocation, a prescription, or a standard which is found to be unproductive, inefficient, unnecessary, or damaging, if this change does not affect the intent of the Plan. In this case the Forest Supervisor may implement the amendment following public notification and completion of the NEPA procedures.

If the proposed amendment is found to be significant, or if a complete revision of the plan is recommended, the new plan could only be implemented by following the same procedure required for development and approval of this Forest Plan.

Annually, by 30 September, a summary of Forest Plan amendments will be prepared, incorporated into this Plan as an addition, and made available to the public. This is to insure that the plan is kept current.

The Forest Plan will be revised no later than 15 years from the date it is approved. It also may be revised when the Forest Supervisor determines that changes in conditions of the land, in public demands, or in RPA policies, goals or objectives would have a significant effect on the forest program. This revision would go through the same process required for development and approval of this Forest Plan.

CHAPTER

VI

APPENDICES

VI.	Appendices	
A.	Additional Information on Vegetation Management. . . .	A.01
B.	Planned Projects for the First Decade	B.01
C.	Activities and Outputs to be Monitored	C.01
D.	Existing Plans that will be Superseded or Brought Into Compliance.	D.01
E.	Water Supplies on the Finger Lakes National Forest. . . .	E.01
F.	Glossary.	G.01

APPENDIX A. ADDITIONAL INFORMATION ON VEGETATION MANAGEMENT

*A-1 SUMMARY

There are very specific directions in the regulations concerning additional information which must be displayed for the timber outputs:

° Only 46% of the FLNF land is suitable to be managed for timber production. We have explained why the other 54% will not be managed for timber production based on its legal, physical, biological, economic, and management constraints (Tables A.01 and A.02). We have also listed the situations in which harvesting might take place on some of this land (Table A.03).

° Allowable sale quantity and long term sustained yield capacity.

The timber volume which is sold each year cannot exceed the volume which could be sold annually in perpetuity. The annual allowable sale quantity is 66.8 thousand cubic feet (MCF) or 400 thousand board feet (MBF). The annual harvest that could be sustained in perpetuity given the land and management methods we have prescribed is the same (Table A.07 and A.08).

° Timber Management Practices and Timber Volume.

Because of the concern with types of timber cutting, we have included explanations of the reasons for selecting various silvicultural methods (Appendix A, Section A-2). It should also be noted that, of the timber that will be regenerated annually using evenaged silviculture in the first decade, 86% will be harvested with a shelterwood cut, 14% will be harvested through clearcutting. We expect to remove 52% of our total timber volume (34.8 MCF/Year) in shelterwood regeneration cuts, 6% (4 MCF/Year) in clearcuts, and 37% (24.4 MCF/Year) in thinning cut (Table A.07).

Because all of the 400 acres which we plan to manage as unevenaged are presently evenaged and need conversion, we only expect to harvest 3.6 MCF from the 15 acres cut annually in the first decade. (Figure A-1 and Table A.07).

° Planned Timber Sales

We have listed the tentatively planned timber sales for the next few years, with estimates of the harvest volume (Appendix B). Within two years from the date the plan is approved, we will develop a specific schedule for future timber sales and other projects needed to meet the Plan's goals and objectives in a well integrated fashion.

° Timber Productivity Classification

FLNF land was classified according to its ability to grow timber (Table A.04).

° Present and Future Condition

We have compared the present acreage in each category of vegetative type and in each age class with that which we expect to achieve in the future as a result of this plan (Figures A-2 and A-3 and Table A.05).

INTRODUCTION

The National Forest Management Act and common sense direct us to choose vegetation management practices appropriate to the goals, objectives and requirements of the Forest Plan. Since the appropriateness varies according to the existing and desired conditions of different areas on the Forest, we have prescribed what vegetative, wildlife and recreation, management should be done in each Management Area (PLAN, Chapter IV, Section F).

The National Forest Management Act also states that clearcutting must only be used if it is the optimum harvest method. This appendix explains when clearcutting has been determined to be the optimum harvest method. It also explains the other vegetative management practices, and the species and conditions for which each practice would be appropriate.

Additional information can be found in the following references

- Silvicultural Systems for Major Forest Types in the U.S. Agriculture Handbook 445
- Silvics of Forest Trees of the U.S. Agriculture Handbook 271
- Final Environmental Impact Statement for the Regional Guide - Eastern Region, Appendix D.

Silvicultural guides for the various forest types describe silvicultural characteristics and management practices appropriate for various management objectives and site conditions including those relating to soils, water, recreation, timber, wildlife and insect and disease management.

SILVICULTURAL SYSTEMS AND HARVEST METHODS

The principal reason for harvesting timber is to meet resource management objectives. These include desired conditions for scenery, vegetative composition, wildlife habitat, timber product mix and integrated pest management. Achieving the management objective is foremost in selecting the harvest method. Although there are many harvest methods used in managing forest lands, there are only two silvicultural systems, evenaged and unevenaged management.

Within the evenaged silvicultural system, there are three basic harvest methods recognized by the Society of American Foresters: clearcutting, shelterwood, and seed tree. For purposes of this plan, clearcut and seed tree will be considered the same because of the similarity of their effects on scenery, recreation experiences and wildlife habitats. Shelterwood, however, has been split into two categories - the standard two out shelterwood and a delayed shelterwood - because of their different effects on scenery and recreation.

The unevenaged silvicultural system only employs the selection method of harvest. Principal variations are individual tree and group selection.

EVENAGED MANAGEMENT SYSTEM

The application of a combination of actions that result in the creation of stands in which trees of essentially the same age grow together. The difference in age between trees forming the main canopy level of a stand usually does not exceed 20 percent of the age of the stand at maturity. Regeneration in a particular stand is obtained during a short period at or near the time that a stand has reached the desired age or size for regeneration, and is harvested.

The rotation age under an evenaged management system is the number of years between establishment of a stand of timber and when it is considered ready for harvesting and regeneration. If a forested area is being managed on 100-year average rotation, about 10 percent of the area would be regenerated each decade, or 1 percent per year. During a rotation, there may be one or more periodic thinnings prior to the next regeneration harvest. Evenaged management offers many opportunities for a wide range of vegetative diversity and vegetative cover type composition in terms of species mixtures and also in terms of age classes, ranging from old mature forest to open conditions.

Three harvest methods may be used in an evenaged silvicultural system; clear-cutting, shelterwood, and seed tree. Shelterwood cutting will be the primary evenaged harvest method used on the FLNF. Clearcutting will continue to receive very limited use. Seed tree cutting will have limited application and be considered the same as clearcut.

Shelterwood Method

In the shelterwood method, the stand is harvested in a series of two, three or more cuts. The early cuts are designed to improve vigor and seed production of the remaining trees while preparing the site for new seedlings. When a sufficient amount of desirable reproduction has become established and before the regeneration has reached 20 percent of its rotation age the remaining trees are harvested with the exception of trees left for wildlife or visual purposes. This is called the removal cut. By regulating the density of trees held between the early cuts and the removal cut the species composition of the new stand can be regulated. Leaving a denser stocking after the early cuts will tend toward more shade tolerant species a lighter stocking more shade intolerant species.

The shelterwood method provides conditions favorable to regeneration of a wide variety of hardwood and conifer tree species, such as yellow birch, eastern hemlock, paper birch, white pine, red oak, and white ash to name only a few. The individual species favored depends on several physical and biological factors, such as seed source, soil conditions, seedbed conditions, amount of shade, and microclimatic conditions at the forest floor.

Delayed Shelterwood

In the delayed shelterwood method no removal cut is planned. The shelterwood trees are held well into the rotation of the new stand. The new stand will grow up around the shelter wood trees, the shelterwood trees will be harvested as a thinning of the new stand. The delayed shelterwood must be applied starting with the initial cut, it is not simply the application of a standard shelterwood without a removal cut. Shelterwood trees of adequate health and vigor to live for at least another 40 years must be left. These trees should have sufficiently small crowns to allow the new regeneration to grow up around them.

Clearcut Method

With the exception of trees left for wildlife, visual purposes, or as seed trees, all merchantable trees on an area are harvested at one time in clearcutting. Unmerchantable trees are often also felled to eliminate competition with the regeneration. Regeneration of tree species develops from natural seeding and/or sprouting or artificial seeding or planting, but is often in place prior to the application of the clearcut method. This regeneration method favors the establishment and development of shade-intolerant species, such as yellow birch, aspen, and paper birch.

Clearcutting provides vegetation in an early successional stage. In an unmanaged situation this successional stage could be caused by wildfire, insects, diseases, or windthrow. Without manmade or natural disturbances, the forest tends to move toward a condition dominated by shade tolerant, late successional vegetation such as sugar maple, beech or striped maple.

UNEVENAGED MANAGEMENT SYSTEM

The application of a combination of actions needed to simultaneously maintain continuous forest cover (canopy), recurring regeneration of desirable species, and the orderly growth and development of trees through a range of diameter or age classes.

Two harvest methods may be used in an unevenaged silvicultural system, individual tree selection and group selection. Under this plan, the individual tree selection method will be the predominant unevenaged harvest method. However, in some cases, the group selection may be used to more effectively meet the management objective on a particular site.

Individual Tree Selection Method

Individual tree selection involves the periodic removal of individual trees. The goal is to maintain a given number of trees per acre in several diameter classes. This practice should not be confused with "high grading" where only large trees are cut. In order for the practice to work, some trees must be cut or killed within most, or all, diameter classes to maintain the desired distribution of diameter classes in the residual stand. This method favors shade tolerant tree species.

Shade tolerance is a term that refers to the ability of a tree to survive and grow in shaded conditions. The primary species in this area that are shade tolerant are sugar maple, and american beech.

The visual resource is minimally affected by harvesting with the individual tree selection method. This method provides for retaining a large-tree character in the landscape. Repeated harvest operations, on a 15 to 20 year cycle, are necessary to use this method.

Group Selection Method

This cutting method removes trees periodically in small groups resulting in openings that do not exceed an acre or two in size. This leads to the formation of an unevenaged stand in the form of a mosaic of age class groups in the same stand.

In the group selection method, the management area is treated as a single stand and the portion of the stand to be harvested each cutting cycle determines the number of openings to establish. For example, a forty acre stand on a twenty year cutting cycle and a 100 year rotation would have 8 acres cut each entry ($100/20=5$; $40/5=8$). This could be in the form of four 2 acre openings, eight 1 acre openings or some combination in between.

The objective of this method is to establish desirable regeneration at each harvest cycle, thereby producing an unevenaged stand. Because the removal of groups will permit more light to reach the forest floor than with individual tree selection, group selection can be used to encourage a higher proportion of species which are intolerant of shade.

When group cuts are made of a maximum size, often considered to be 2 acres, they resemble small clearcuts. The aesthetic and wildlife benefits of using group selection depend largely upon group size and spacing.

SELECTION OF SILVICULTURAL SYSTEM

Evenaged Management May Be Selected And Applied To Accomplish One Or More Of The Following:

- manage aspen for wildlife;
- manage paper birch for recreation and visual enjoyment;
- accomplish conversions to softwood for winter deer cover or habitat diversity;
- meet wildlife habitat composition objectives;
- provide a variety of age and type classes among stands;
- regenerate shade intolerant species such as yellow birch and oak;
- meet visual quality objectives;
- regenerate high-risk and sparse stands;
- prevent the spread of insect and disease damage or salvage losses from it.

Unevenaged Management May Be Selected and Applied To Accomplish One or More of The Following:

- to provide continuous forest cover;
- meet wildlife habitat composition objectives;
- to provide vertical diversity within the stand;
- provide a variety of age and type classes among stands;
- to manage certain stands that are visually sensitive.
- meet visual quality objectives;
- regenerate shade intolerant species, such as sugar maple and hemlock.

SELECTION OF HARVEST METHOD

Shelterwood will be the primary evenaged harvest method used. Shelterwoods will be used to regenerate mixed hardwoods, softwoods, and oak. The density of residual stocking will be determined by: species composition objectives (tolerant vs. intolerant), visual quality objectives and condition of the stand before cutting.

Delayed shelterwood may be employed to regenerate stands that are in visually sensitive areas where evenaged management is the preferred silvicultural system. Delayed shelterwoods may also be used to regenerate high-risk, sparse, and low-quality stands in Management Prescription 2.1, where none of the selection cuts are feasible within 20 years. Following the delayed shelterwood regeneration cut, the stand will be placed under unevenaged management.

Clearcuts will only be used when they are the optimum harvest method to achieve our stated management objectives.

Clearcuts will be used to perpetuate aspen stands. Aspen, which is important to many forms of wildlife, is a shade intolerant species and require full sunlight to regenerate.

Clearcuts will be used to perpetuate locust stands for wildlife habitat, fence posts and firewood. Locust requires the full sunlight from clearcutting to regenerate.

Clearcuts will be used when softwood to hardwood conversions are desired and this conversion cannot be accomplished by the shelterwood method. This will occur on a limited basis on areas that display a successional tendency toward hardwoods, yet are currently dominated by softwoods plantations. Clearcutting, accompanied by site preparation, will provide the fastest, most efficient means of achieving the desired future condition in some of these stands.

Clearcuts will be used to create openings and vistas, where potential for such areas exists and the vegetative composition and visual quality objectives can be met by such management.

Clearcuts will be used to remove high risk and sparse stands and create vigorous, healthy young stands which will enhance overall age-class diversity. These stands can usually not be regenerated by any other means because they lack sufficient numbers of acceptable trees. Many of these stands are on good sites (site index 55 or higher) and are in their current condition due to past cutting practices. Once regenerated, they will provide improved wildlife habitat, scenic beauty and high quality timber.

Clearcutting will also be used in areas so degraded by insects, disease or weather related damage that retaining any residual portion of the stand would be futile. Clearcutting will be used to reduce the spread of insect or disease outbreaks.

Individual tree selection will be used in Northern hardwood and hemlock stands where shade tolerant species and continuous forest cover are desired.

Group selection will be used when continuous forest cover is desired in stands that have a vigorous understory of at least sapling sized stems of acceptable species and quality, in Northern hardwood stands where shade intolerant species are desired and in white pine and spruce stands.

*A-3 OTHER INFORMATION ON VEGETATION MANAGEMENT

Table A.01 Land Suitability For Timber Production

Classification	Acres
1. Water	70
2. Non-forest	4,500 ^{1/}
3. Forest land	8,662
4. Forest land withdrawn from timber production.	0
5. Forest land not capable of crops of industrial wood	0
6. Forest land not appropriate for timber management because:	
a) irreversible damage likely	20 ^{2/}
b) not restockable within 5 years	0
7. Forest land for which current information is inadequate to project responses to timber management	0
8. Tentatively suitable forest land	8,642
9. Forest land not appropriate for timber production because it is:	
a) Assigned to meet other resource	1,880 ^{3/}
b) Needed to meet management requirements for protecting resources. Includes wet areas, stream banks, steep slopes, etc.	676 ^{4/}
c) Not cost efficient in meeting Forest Plan objectives for timber	0
10. Total forest land not suited for timber management (Items 4,5,6,7,9)	2,576
11. Total FLNF land suitable for timber management (Item 3 minus Item 10)	6,086
12. Total National Forest Land (Items 1,2,3)	13,232

^{1/} Pasture acres.

^{2/} All in 8.1.

^{3/} 500 acres in 8.1, 1400 acres in 1.3 (shrub openings), minus 20 acres of 8.1 already accounted for on line 6a.

^{4/} Areas in 3.1 where intensive timber management will not be practiced (e.g. wet areas, along trails, steep drainage).

Table A.02 Management Area Suitability for Timber Production^{1/}

Management Area	Total (Acres)	Suitable (Acres)	Unsuitable (Acres)
1.2	4,500	0	4,500
1.3	1,400	0	1,400
2.1	400	400	0
3.1	6,432	5,686	746 ^{2/}
8.1	500	0	500
TOTAL	13,232	6,086	7,146

^{1/} See Table A.01 for explanation of suitability.

^{2/} 676 from line 95 in Table A.01 plus 70 acres of water.

Table A.03 Vegetation Management Activities on Lands Determined to be Unsuitable for Timber Production

Category of Unsuitable Land	Situations in Which Removal of Trees Might Occur
Shrub Openings, (MA 1.3 (1400 acres)	<ul style="list-style-type: none"> - to protect safety of users - to regenerate small clumps of aspen - to provide small amounts of firewood
Developed recreation sites, special areas (350 acres), or landunsuitable because irreversible damage is likely to occur (20 acres)	<ul style="list-style-type: none"> - to protect safety of users - to remove damaged timber in order to slow spread of disease or insect infestation - to open scenic vistas (developed recreation sites only)

Table A.04 Timber Productivity Classification

Productivity	Growth Capability		Percent
	Sugar Maple Site Index	Cubic Feet/Acre/Year	
High	60 and above	45 or more	39%
Medium	45 - 59	39 - 44	46%
Medium-low	35 - 44	20 - 29	15%
Low	less than 34	less than 20	0%

Table A.05 Present and Future Forest Conditions

	Unit of Measure	Suitable Land	Unsuitable Land
PRESENT FOREST			
growing stock	MCF	7,790	2,326
annual net growth	MCF	225	80
annual mortality	MCF	73	31
FUTURE FOREST			
growing stock	MCF	9,738	2,586
annual net growth	MCF	280	59
AVERAGE ROTATION AGES			
mixed hardwoods	YEARS	100 to 150	N/A
softwoods	YEARS	60 to 80	N/A
aspen	YEARS	50	N/A
locust	YEARS	40	N/A

Figure A-1
AVERAGE ANNUAL ACRES CUT
(1987-1996)

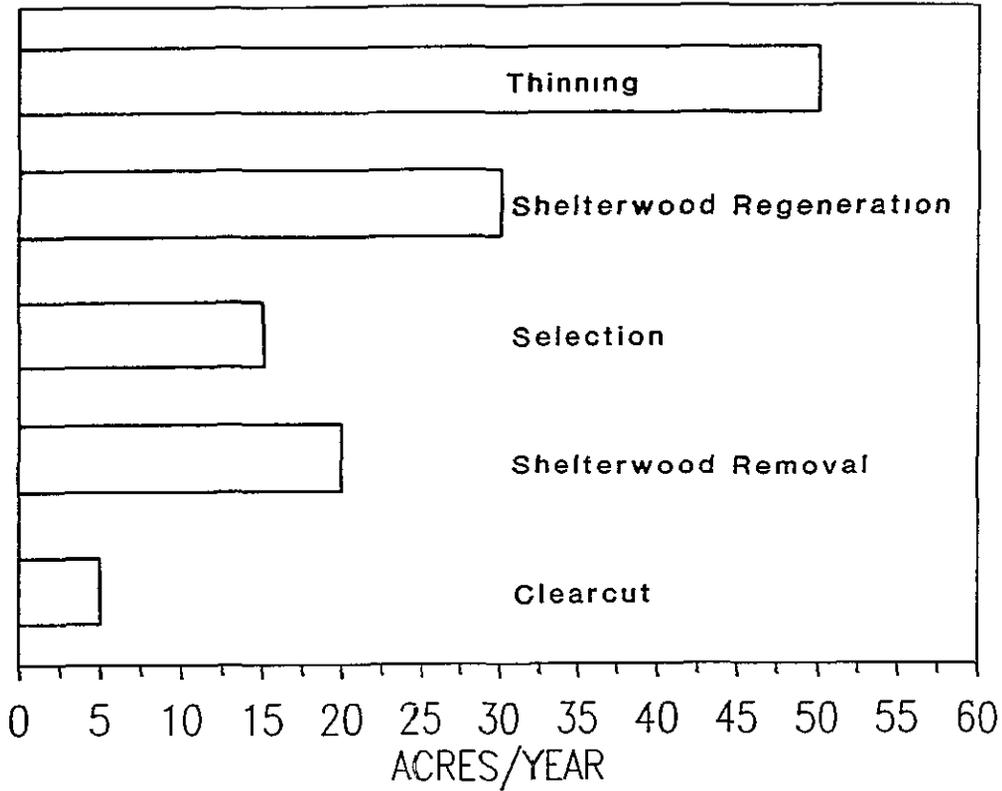


Figure A-2
ACRES OF VEGETATIVE TYPES

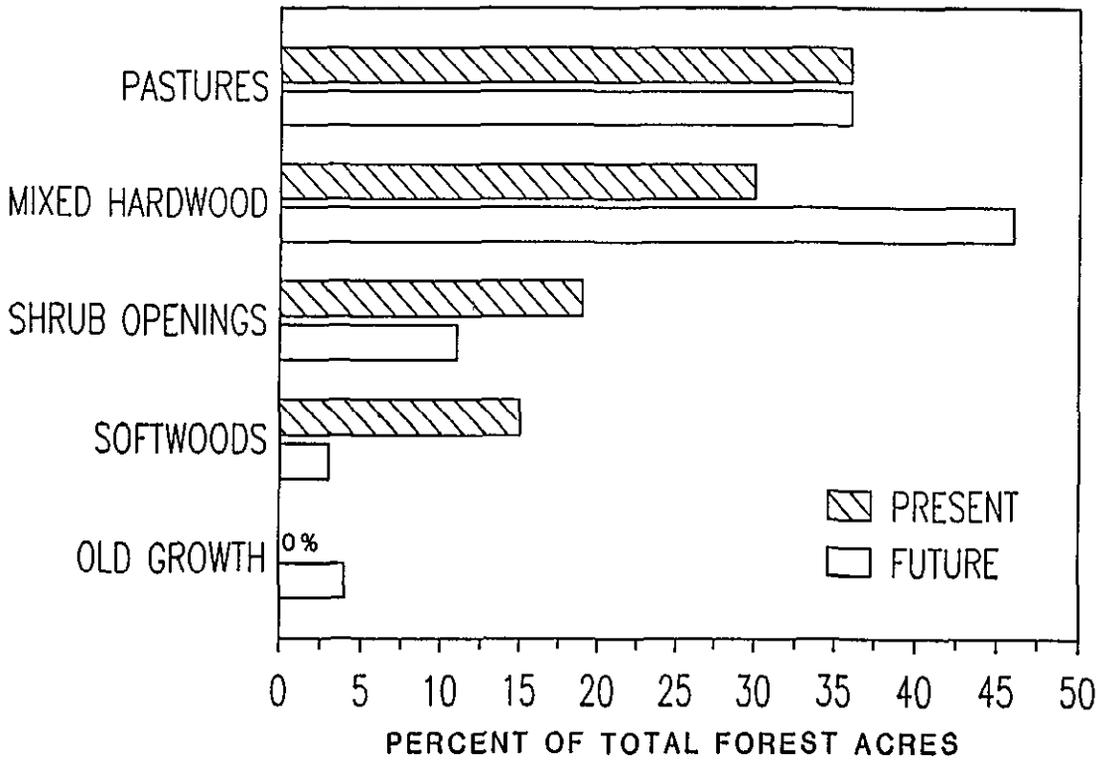


Table A.06 ALLOWABLE SALE QUANTITY AND TIMBER SALE PROGRAM (ANNUAL AVERAGE)

Harvest Method	Sawtimber (MCF)	Other Products (MCF)	Total (MCF)
Regeneration harvest:			
Clearcut	1.7	2.3	4.0
Shelterwood	17.0	17.8	34.8
Selection	2.0	1.6	3.6
Thinning	10.0	14.4	24.4
Totals	30.7	36.1	66.8

Figure A-3
AGE CLASSES OF MANAGED FOREST STANDS

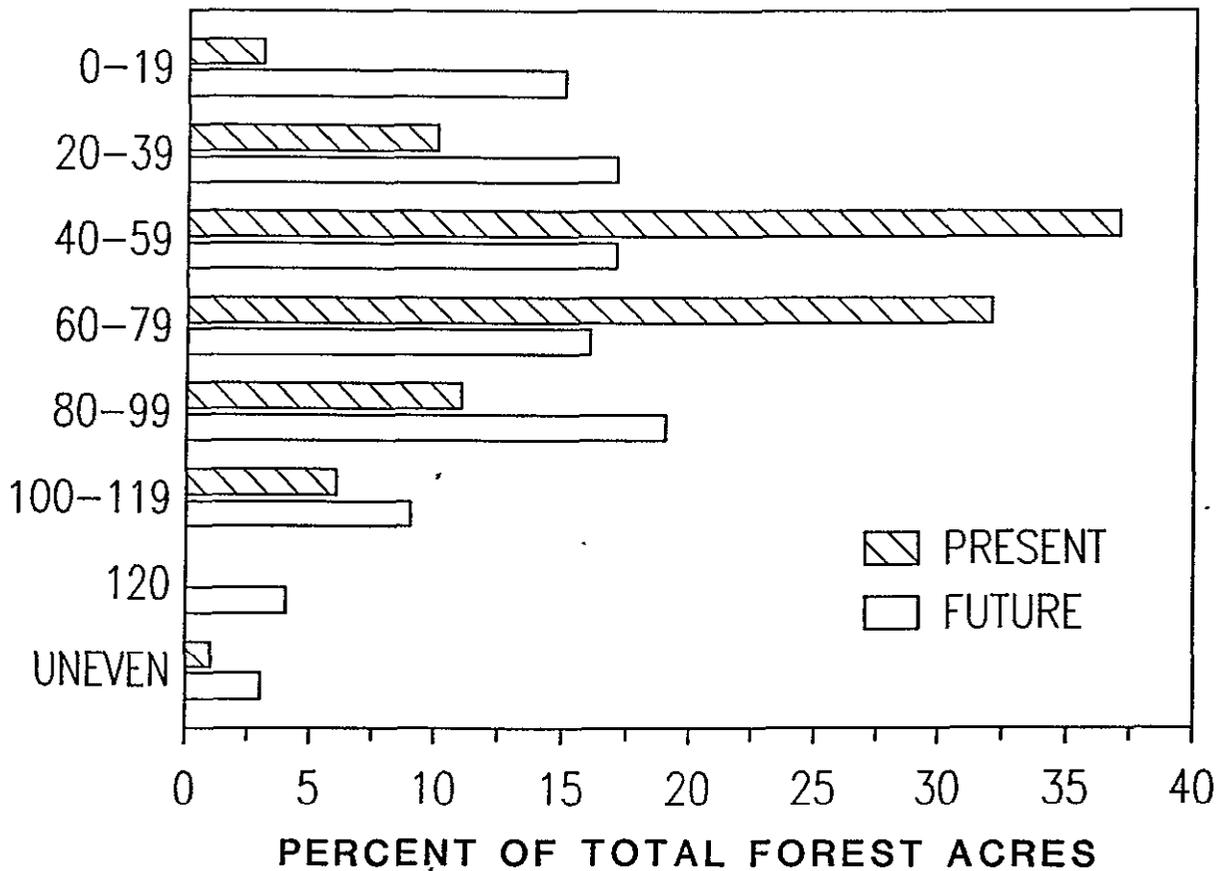


Table A.07 ALLOWABLE SALE QUANTITY AND LONG TERM SUSTAINED YIELD

Year	Allowable Sale Quantity (MCF/YR)	Long Term Sustained Yield Capacity (MCF/YR)
1986 - 2075	66.8	66.8
2076 - 3050	66.8	66.8

APPENDIX B: TENTATIVELY SCHEDULED PROJECTS

The following schedule of capital improvement projects and timber sales is our best list at this time. The list is based on our judgements of how the new land and resource management plan will be implemented. These schedules are likely to be modified after we take a closer look at the needs of specific areas on the Forest when actually implementing the Forest plan. The early years in the schedules, especially FY 1987 and 1988, are largely based on prior project planning which has been ongoing.

Within two years of issuing the Final EIS and Plan we will develop a more detailed and accurate project list which reflects integrated consideration of local issues and resources. In the implementation section of Chapter V we described our process of developing an integrated resource management program for the opportunity areas which comprise the FLNF. Following this process will undoubtedly cause alterations to specific items in this tentative project list, but the overall thrust of the Plan or schedules will not change.

Please note that individual projects are not listed for wildlife, watershed, or range, however these and other resources will be important parts of the integrated program that we implement.

Maps showing the locations of planned activities are available for review at the Finger Lakes Forest office.

Table 6.9 PLANNED RECREATION ACTIVITIES FINGER LAKES NATIONAL FOREST

Proposed Program	Type of Activity	Project Name/Town	Management Area	Units	Uses
FY87	Camping Area Expansion	Backbone Trailhead/Hector	1.3	8 Sites	Camping for horseback riders
FY87	Parking Area Construction	Teeter Pond/Hector	1.3	1 Parking Area	Parking for trail users
FY88	Trail Rehabilitation	Ravine Loop/Hector Trail	8.1D	0.6	Hiking, nature study
FY89	Trail Construction	Horse Trail/Hector, Lodi, Covert	various 8.1D	10 Miles	Horseback riding and snowmobile trail

1/ Definitions of activities in Glossary.

2/ Multiple uses of trail include hiking, crosscountry skiing, and snowmobiling.

Maps showing the approximate locations of these planned commercial timber sales are available for review at the Finger Lakes National Forest office.

TABLE 6.10 PLANNED VEGETATION MANAGEMENT VIA COMMERCIAL TIMBER SALES
- HECTOR DISTRICT -

Proposed Program Year	Sale Name/Town Hector	Management Area	Harvest Method	Acres	Volume (MBF)	SELECTED BENEFITS ^{1/}		
						Wildlife	Recreation	Timber
FY87	McPherson/Lodi/ Hector	3.1	Shelterwood Thinning	30 50	200	2,3,4,8	3	1,2,5,6
	Small Sales/Lodi/ Hector	2.1,3.1	Clearcut Selection	5 15	200	1,3	8	1,2,4
FY88	Woodard/Lodi/ Hector	3.1	Shelterwood Thinning	30 50	250	7,11 1,3,5,8	3	1,5,6
	Small Sales/Lodi/ Hector	2.1,3.1	Clearcut Selection	5 15	150	1,3,5	3	1,2,4,5
FY89	Horton/Lodi	3.1	Shelterwood Thinning	30 50	200	1,3,4,8,11	3	1,2,5,6
	Small Sales/Lodi/ Hector	2.1,3.1	Clearcut Selection	5 15	200	2,4,8,11	3	1,2,4,5

^{1/} See next page for explanation of selected benefits.

B.03

1/ Selected Benefits of Vegetative Treatments

WILDLIFE

1. Regenerate aspen
2. Establish permanent wildlife openings
3. Create temporary openings
4. Improve regeneration of mast producing species
5. Perpetuate hemlock cover
6. Preserve or regenerate uncommon vegetative types
7. Preserve or establish old growth areas
8. Reserve snags, den trees and mast trees

RECREATION

1. Enhance snowmobiling opportunities
2. Improve opportunities for dispersed camping, hiking and cross-country skiing
3. Improve visual quality along road
4. Promote edible berry production and picking
5. Provide walking access for hunting and fishing
6. Create vista(s)
7. Provide parking opportunities
8. Remove hazard trees from developed recreation sites or trails

TIMBER

1. Replace mature, high risk, low quality, sparse stands with vigorous young growth
2. Provide fuel wood, fence posts, or cabin poles
3. Salvage dead or dying material
4. Begin conversion from evenaged to unevenaged condition
5. Improve growth rate on highly productive sites
6. Promote oak reproduction

APPENDIX C: ACTIVITIES AND OUTPUTS TO BE MONITORED

Management practices will be observed and their effects recorded in order to ensure that the goals and objectives of the Forest Plan are being met and that the anticipated results are the actual results. Other natural conditions will also be monitored to help us recognize and track environmental changes.

The monitoring results will be evaluated at intervals established in the Forest Plan in order to determine whether changes are needed to make it more effective or to respond to changed or unexpected conditions. Data gathered during monitoring will be used to modify implementation schedules, improve mitigation measures and assess the need for amending or revising the Plan.

The Plan recognizes that many people are interested in specific characteristics, outputs, or conditions and encourages cooperative monitoring projects to help evaluate progress. If an evaluation of the monitoring results indicates there is a significant difference between the conditions expected by the Plan and the actual conditions, the Forest Service may recommend changes in performance to meet the Plan requirements, changes in funding, or changes in the Forest Plan.

We recognize that the practical aspects of much of the monitoring outlined in the Plan remain to be worked out. Many of the precise monitoring actions to be taken and timing of them will be determined as the plan is being implemented. These determinations will be based on the information learned during Plan implementation and the continuing dialogue we will have with our interested publics.

A major part of our continued dialogue will be an annual report to the public of the accomplishments we made during the previous year and how those accomplishments compare with the goals and objectives we set out in the Plan (Chapter IV, Sections C and D). The many items learned from our monitoring will be included in this report. This same report to the public will contain information on our program of work scheduled for the upcoming years and the relationship of those projects with the Plan's direction.

This report will provide an important means of monitoring the public's reaction to the work we accomplish under the Forest Plan and a mechanism for holding us accountable to the Plan and the public we serve. Public reactions to our annual reports may point out needs to further adjust our policies and actions by amending or revising the Forest Plan.

*APPENDIX C ACTIVITIES AND OUTPUTS TO BE MONITORED

Part 1. Monitoring Required by NFMA

NFMA Requirement	Purpose of Monitoring	Item Monitored	Unit of Measure	Frequency of Measure	Expected Precision	Expected Reliability
219.12(k)(1)	Compared planned and actual outputs and services	General recreation visitor days	MRVD	Annual	Moderate	Moderate
		Wildlife recreation visitor days	MRVD	Annual	Moderate	Moderate
		Acres various habitat	M Acres	Annual	Moderate	Moderate
		Miles of road	Miles	Annual	High	High
		Timber harvested	MMCF	Annual	High	High
	Determine how closely management standards and guidelines have been applied	All practices	Varies	Annual	Moderate	Moderate
219.12(k)(2)	Document prescriptions and effects	All practices	Varies	Annual report- ing of pres- criptions 5 year sample for effects	Moderate	Moderate
219.12(k)(3)	Compare costs estimated in plan with actual costs	Costs of all activities	\$	Annual	High	High

C.02

*APPENDIX C. ACTIVITIES AND OUTPUTS TO BE MONITORED

Part 1. Monitoring Required by NFMA

NFMA Requirement	Purpose of Monitoring	Item Monitored	Unit of Measure	Frequency of Measure	Expected Precision	Expected Reliability
219.12(k)(5)	Determine if lands are adequately restocked	Regeneration following harvest	Acres	3 years after	Very high	Very high
	Be sure harvest areas don't exceed maximum in each prescription	Size of Area Harvested	Acres	Annual	Very High	Very High
	Reevaluate the suitability of lands identified as unsuitable for timber production	Land unsuitable for timber production	Acres	Every 10 years	High	High
	Determine the extent and severity of insect and disease occurrence	Insect and disease	Varies	Varies	Moderate	Moderate
219.19	Determine population trends of indicator species to estimate viability	Chestnut-sided warbler	Habitat Population	5 3	Low	Low
		Barred owl	Habitat Population	5 1	Moderate	Moderate
		Black pole warbler	Habitat Population	5 1	Moderate	Moderate

C.03

Part 1. Monitoring Required by NFMA

NFMA Requirement	Purpose of Monitoring	Item Monitored	Unit of Measure	Frequency of Measure	Expected Precision	Expected Reliability
219.19	Determine population trends of indicator species to estimate viability	White-tailed deer	Habitat Population	5 1	Moderate	Moderate
		Ruffed grouse	Habitat Population	5 1	Low	Low
		Yellow-bellied sapsucker	Habitat Population	5 1	Moderate	Moderate
		Gray Squirrel	Habitat Population	5 1	Low	Low
		American woodcock	Habitat Population	5 1	Low	Low
		Tree swallow	Habitat Population	5 2	Low	Low
		Eastern bluebird	Habitat Population	5 1	Moderate	Moderate
		Goshawk	Habitat Population	5 1	Moderate	Moderate
219.7(f)	Determine effects of adjacent public land management on the FLNF, and of FLNF management on adjacent land	Letters Editorials and similar public comment	Varies	Every 5 years	Moderate	Moderate

C.04

Part 2. ADDITIONAL MONITORING TO DETERMINE OUR RESPONSE TO THE PROBLEMS

Management Problem	Purpose of Monitoring	Item Monitored	Unit of Measure	Frequency of Measure	Expected Precision	Expected Reliability
Amount of Wood Cut	Determine whether actual harvest per acre matched projections in plan	Timber cuts	CF/Acre	Annual	High	High
	Determine whether actual value of timber matches projections in plan	Timber cuts	\$/CF \$/MBF	Annual	High	High
	Determine if fuelwood cutting becomes an issue again	Fuelwood permit requests	Acres and cords	Annual	High	High
C.06 Type of Timber Management	Assess visual condition of harvested acres	Harvested acres	Acres and condition	Annual sample	Moderate	Moderate
	Determine whether costs and values for unevenaged management match those projected	Acres of unevenaged management	\$	Annual	High	High
	Gauge public reaction to evenaged	Acres of unevenage management	Comments	Every 5 years	Moderate	Moderate
Wildlife Habitats	Determine acres by vegetative type and age class	Acres by type and age	Acres	Every 10 years	High	High

Part 2. ADDITIONAL MONITORING TO DETERMINE OUR RESPONSE TO THE PROBLEMS

Management Problem	Purpose of Monitoring	Item Monitored	Unit of Measure	Frequency of Measure	Expected Precision	Expected Reliability
Special Areas	Determine if uncommon and outstanding values are protected	Variable by Area	Varies	Variable	High	High
Minerals	Determine how well mineral activities comply with stipulations;	Sites of surface disturbance	Varies	As projects are active	Moderate	Moderate
	Determine if adequate exploration base is maintained to assure most major mineral deposits can be discovered; assess effects	Unturned stones	Varies	Varies	Varies	Moderate
Pastures	Determine if pasture management intensity is commensurate with demand for forage	Management costs Actual stocking vs. grazing capacity	\$ AUM	Every 10 years Every 5 years	Moderate Moderate	Moderate Moderate
Recreation/Trails	Determine if conflicts between trail uses have been reduced	Public comments Field observations of use patterns	Varies Evidence of unauthorized use or poorly distributed use	Every 5 years Every 5 years	Moderate Moderate	Moderate Moderate

C.07

* APPENDIX D

Existing Plans That Will Be Superseded By The Approved Forest Plan:

Wildlife Habitat Management Plan, 1978
Forest Plan, 1974
Recreation Management Plan, 1978
Timber Management Plan, 1973

Existing Plans That Will Be Brought Into Compliance With The Approved Forest Plan:

Water Quality Monitoring Plan
Range Allotment Plans

APPENDIX E: WATER SUPPLIES ON THE FINGER LAKES NATIONAL FOREST

The Finger Lakes National Forest lies astride a plateau as the "Hector Backbone". About half of the land drains to the east toward Cayuga Lakes and half to the west toward Seneca Lake. These are the two largest Finger Lakes, each being about 40 miles long and two to three miles wide. Average annual precipitation is 34 inches. Estimated water yield for the Finger Lakes National Forest is 26,000 acre feet.

Most streams are intermittent since the Forest is at the top of the watershed and only extends an average of four miles from east to west.

There are no natural bodies of water, but 46 livestock ponds have been constructed on the pastures and 27 wildlife ponds have been built throughout the remainder of the District. These ponds average one-half acre in size. Twelve ponds have small dams with an average depth of 3 feet at the spillway. The rest of the ponds are dugouts.

The only public water supplies are drilled wells with hand pumps at Blueberry Patch Campground and Potomac Group Campground. Each well is about 100 feet deep. One spring located off Picnic Area Road is under special use permit to supply a residence.

Table E.01 DAMS WITH CONTROL STRUCTURES

Map ^{1/} Reference Number	Compartment Number	Name	Control Structure
1	6	Unnamed	Sluice box
2	15	Ballard	Rip rap spillway w/ concrete weid
3	15	Auble	Pipe spillway
4	15	Cement	Concrete dam w/ spillway
5	33	Sassafras	Pipe spillway
6	34	Foster	Sluice box
7	35	Potomac	Sluice box
8	53	N. Burnt Hill	Sluice box
9	61	S. Burnt Hill	Sluice box
10	82	Predmore	Sluice box
11	94	Burdick	Sluice box
12	5	Teeter	Sluice box

^{1/} Map of these ponds with dams is maintained at the Finger Lakes National Forest office.

APPENDIX F: GLOSSARY

ACID PRECIPITATION - Rain, snow or fog with an unnaturally high level of acidity.

ACID SOIL - (See also pH) A soil with a preponderance of hydrogen and aluminum ions in proportion to hydroxyl ions. Soil with a pH value less than 6.6.

ACQUISITION - Obtaining land through purchase, exchange, and donation.

ACRE-FOOT - (See also Water Measurement) The volume of water that will cover one acre to a depth of one foot.

ACTIVITY FUEL (Slash) - Fuels which have been directly generated or altered by management action.

ADT - Average daily traffic.

ADVISORY COUNCIL ON HISTORIC PRESERVATION - The Advisory Council on Historic Preservation was created under the authority of the National Historic Preservation Act of 1966. The mission of the Council is to advise the President and Congress on national historic preservation policies and programs and to administer the provisions of law relating to the protection of cultural property.

AESTHETIC(S) - Generally, the study, science or philosophy dealing with beauty and with judgments concerning beauty.

AGE CLASS - An interval, commonly 10 years, into which the age range of trees is divided for classification purposes.

AGGREGATE - All of the coarse materials, such as sand, gravel, and crushed stone, that are used in base courses on roads.

AIR QUALITY RELATED VALUES - A feature or property of an area that is affected in some way by air pollution. Possible air quality values include visibility, odor, flora, fauna, soil, water, climate, geologic features and cultural resources.

ALL SEASON ROADS - (See Roads).

ALL-AGED MANAGEMENT - (See Uneven-aged)

ALLOWABLE SALE QUANTITY - The quantity of timber that may be sold from the area of suitable land covered by the forest plan for a time period specified by the plan. This quantity is usually expressed on an annual basis as the "average annual allowable sale quantity". (36 CFR 219.3).

ALLUVIAL - Pertaining to the material that is transported and deposited by running water.

ALLUVIAL LAND - Areas of unconsolidated material that was transported and deposited by running water. It is generally stratified and varied in texture.

ALTERNATIVE - One of several policies, plans, or projects proposed for decision making.

ANALYSIS OF THE MANAGEMENT SITUATION - A determination of the ability of the area covered by the Forest Plan to supply goods and services in response to society's demand.

ANIMAL-UNIT (AU) - A production measurement based on one mature (1,000 lb.) cow or the equivalent, i.e., 5 sheep or 6 goats, having an average daily forage consumption of 26 pounds of dry matter.

ANIMAL-UNIT MONTH (AUM) - The amount of feed required by an animal-unit for one month.

AQUATIC ECOSYSTEMS - The stream channel, lake bed, water itself, and biotic communities that occur therein.

AQUIFER - Any permeable underground formation of rock, sand or gravel which stores and transmits substantially or economically usable quantities of water, as to wells or springs.

ARTERIAL ROADS - Roads which serve large land areas, usually connecting public highways or other Forest arterial roads - forming a network of primary travel routes. Locations and standards are often determined by demands for travel efficiency rather than specific resource management access needs.

ASPECT (Slope Orientation) - The direction toward which a slope faces; exposure.

AVAILABLE FUEL - The portion of the total fuel that actually burns.

AVAILABLE LANDS - Those portions of the Forest land not administratively or legislatively excluded from use for timber harvest or livestock grazing.

AVAILABLE WATER - The portion of water in a soil that can be absorbed by plant roots; usually that water held in the soil against a soil water pressure of up to approximately 15 bars. (See also field capacity).

AVAILABLE WATER CAPACITY - The capacity to store water available for use by plants, usually expressed in linear depths of water per unit depth of soil; the difference between the percentage of soil water at field capacity and the percentage at wilting point. This difference multiplied by the bulk density and divided by 100 gives a value in surface inches of water per inch depth of soil. (See also field capacity, wilting point).

BASAL AREA - A measure of the density of trees on an area. It is determined by estimating the total cross-sectional area of all trees measured at breast height (4.5 feet) expressed in square feet per acre.

BASE SALE SCHEDULE - A timber sale schedule formulated on the basis that the quantity of timber planned for sale and harvest for any future decade is equal to or greater than the planned sale and harvest for the preceding decade, and this planned sale and harvest for any decade is not greater than the long-term sustained yield capacity. (36 CFR 219.3).

BEDROCK - The solid rock underlying soils and the regolith in depths ranging from zero (where exposed by erosion) to several hundred feet.

BENCHMARK - A set of estimates used to establish standards by which to compare alternatives considered in detail. Benchmark alternatives include minimum levels, maximum resource levels, and maximum net value lands.

BENEFIT (VALUE) - Inclusive terms used to quantify the results of a proposed activity, project or program expressed in monetary or nonmonetary terms.

BENEFIT/COST RATIO (B/C) - The total discounted benefits of an activity divided by the total discounted costs. (See also Cost Efficiency)

BEST MANAGEMENT PRACTICES - A practice or combination of practices that are determined to be the most effective, practicable means of preventing or reducing pollution generated by non-point sources to a level compatible with water quality goals.

BIPARTITE LAND EXCHANGE - Either a direct land exchange between the Government and landowner, or an exchange of timber to the landowner in exchange for land.

BOARD FOOT - A volume of solid wood, equivalent to a piece one foot square and one inch thick.

MBF - One thousand board feet.

MMBF - One million board feet.

BROOD RANGE (Cover) - Low lying vegetation such as herbs and forbs which afford food (insects) and cover for young game birds, usually quail, turkeys, and grouse.

BROWSE - The part of leaf and twig growth of shrubs, vines, and trees available for animal consumption.

BUREAU OF LAND MANAGEMENT (BLM) LEASES - Leases of federally-owned minerals, such as gas and oil, on all Federal lands.

CANOPY - The more or less continuous cover of branches and foliage formed collectively by the crowns of adjacent trees and other woody growth.

CAPABILITY - The potential of an area to produce resources, supply goods and services, and allow resource uses under an assumed set of management practices and at a given level of management intensity. Capability depends on current conditions and site conditions such as climate, slope, landform, soils, and geology as well as the application of management practices such as silvicultural protection from fire, insects, and disease.

CAPITAL INVESTMENT - An input that increases the stock of natural or manmade resources (assets) needed to maintain or increase the flow of outputs in the future. Benefits resulting from capital investments are normally recouped in excess of one year.

CARRYING CAPACITY

ECOLOGICAL - The number or weight of organisms that can survive without causing deterioration of the ecosystem.

RECREATIONAL - The number of people seeking a specific recreation use that an area can support without significant deterioration to the quality of the recreation experience or the resource.

CCF - Hundred cubic feet.

CHARACTER TYPE - Large physiographic area of land which has common characteristics of landforms, rock formations, water forms, and vegetative patterns.

CLAY - Soils Application: 1) A mineral soil separate consisting of particles less than 0.002 millimeter in equivalent diameter. 2) A soil textural class. Engineering Application: A fine-grained soil that has a high plasticity index in relation to the liquid limits.

CLEARCUTTING - (See Cutting Methods)

CLIMAX FOREST - A stable, plant community representing the culminating stage of natural succession for a given locality and environment.

CMAI - See culmination mean annual increment.

COARSE FRAGMENTS - Rock or mineral particles greater than 2.0 millimeters in diameter.

COLLECTOR ROAD - Roads which serve a smaller land area than Forest arterial roads. Usually connects to a Forest arterial road or public highway and collects traffic from Forest local roads.

COLLUVIUM - Poorly sorted soil material that accumulates through gravity, soil creep, and local wash on the lower slopes and in depressions.

COMMERCIAL FOREST LAND - Forest land that is producing or is capable of producing crops of industrial wood and (a) has not been withdrawn by Congress, the Secretary, or the Chief; (b) existing technology and knowledge is available to ensure timber production without irreversible damage to soils, productivity, or watershed conditions; and (c) existing technology and knowledge, as reflected in current research and experience, provides reasonable assurance that adequate restocking can be attained within five years after final harvesting.

COMPARTMENT EXAMINATION - The process of gathering in-place field data for a forest stand or area to determine its current condition and management opportunities for the various resources.

CONDEMNATION - In real property law, the process by which property of a private owner is taken for public use without his consent, but payment of just compensation is required.

CONIFER - Any of a wide range of predominantly evergreen, cone bearing trees with needle-shaped or scale-like leaves, such as pine, spruce, or hemlock.

CONSTANT SERVICE - Facilities which are open and available for use on a continuous or recurrent basis each year during the life of the facility.

CONSTRAINT - A qualification of the minimum or maximum amount of an output or cost that could be produced or incurred in a given time period.

CORD - A unit of gross volume measurement for stacked round wood; a STANDARD CORD contains 128 stacked cubic feet and generally implies a stack of 4-foot long sticks of wood, 4 feet high and 8 feet wide.

CORRIDOR - A linear strip of land identified for the present or future location of transportation or utility rights-of-way within its boundaries. (36 CFR 219.3).

COST EFFECTIVE - Achieving specified outputs or objectives under given conditions for the least cost.

COST EFFICIENCY - The usefulness of specified inputs (costs) to produce specified outputs (benefits). In measuring cost efficiency, some outputs including environmental, economic, or social impacts, are not assigned monetary values but are achieved at specified levels in the least cost manner. Cost efficiency is usually measured using present net value, although use of benefit-costs ratios and rates of internal return are sometimes used.

COVER - Vegetation which provides concealment and protection to wild animals.

CREEP (Soil) - Slow mass movement of soil and soil material down relatively steep slopes, primarily under the influence of gravity but facilitated by saturation with water and by alternate freezing and thawing.

CRITICAL AREA - A severely eroded sediment producing area that requires special management to establish and maintain vegetation in order to stabilize soil conditions.

CUBIC FEET (CF) - Cubic Foot - Common unit of measure for wood volume equivalent to a cube 12" on all sides.

CCF - One hundred cubic feet. Also referred to as a "Cunit".

MCF - One thousand cubic feet.

MCCF - One thousand "Cunits" or 100,000 cubic feet.

MMCF - One million cubic feet.

CULTURAL RESOURCE - The physical remains of past ways of life. They include historic and prehistoric sites; and the artifacts and features associated with these sites.

CULMINATION MEAN ANNUAL INCREMENT (CMAI) - That point in growth of a tree where mean annual increment (total tree volume at any point in time divided by total age) is at a maximum. This "culmination point" for mean annual growth is regarded as the ideal harvesting or rotation age in terms of most efficient volume production.

CUTTING METHODS - Timber management practices employed to either regenerate a new stand (regeneration cutting) or to improve the composition and increase the growth of the existing forest (intermediate cutting).

- I. REGENERATION CUTTING (Harvest Cut) - Includes four basic cutting methods used to regenerate a forest: clearcutting, seed-tree, shelterwood, selection. Trees are removed from the stand to create conditions that will allow the forest to renew or reproduce itself. This is accomplished under either an even-aged management system or an uneven-aged management system.
 - A. EVENAGED MANAGEMENT - Timber management which produces a forest or stand composed of trees having relatively small differences in age. Regeneration cutting methods in this system include those below.
 - (1) CLEARCUTTING - A cut which removes all trees from a designated area at one time, for the purpose of creating a new, evenaged stand.
 - (2) SEED-TREE - (Seed Cut) - The removal of most of the trees in one cut, leaving a few scattered trees of desired species to serve as a seed source to reforest the area.
 - (3) SHELTERWOOD - A series of two or three cuttings which open the stand and stimulate natural reproduction. A two cutting series has a seed cut and a removal cut, while a three cutting series has a preparatory cut, a seed cut and a removal cut.
 - B. ALL-AGED OR UNEVEN-AGED MANAGEMENT - Timber management which produces a stand or forest composed of a variety of ages and sizes. Regeneration cutting methods in this system include the following:

- (1) GROUP SELECTION - The removal of small groups of trees to meet a predetermined goal of size, distribution, and species.
 - (2) SINGLE TREE SELECTION - The removal of trees individually in a scattered pattern, from an area. Trees are chosen to meet a predetermined goal of size distribution, and species.
- II. INTERMEDIATE CUTTING - Any removal of trees from a stand between the time of formation and the harvest cutting undertaken to improve the growth and/or species composition. (Normally done as a commercial venture).
- A. SALVAGE CUTTING - The removal of dead, dying and damaged trees after a natural disaster such as fire, insect or disease attack, wind or ice storm to utilize the wood before it rots.
 - B. SANITATION CUTTING - The removal of dead, dying and damaged trees after a natural disaster to prevent the spread of insects or disease.
 - C. THINNING - Removing some of the trees in a dense immature stand primarily to improve the growth rate and form of the remaining trees.
- III. CULTURAL OPERATIONS - Treatments (usually non-commercial) made to assist or complete the establishment of regeneration or promote the development of existing stands.
- A. TIMBER STAND IMPROVEMENT - Activities conducted in young stands of timber to improve growth rate and form of the remaining trees.
 - B. CLEANING OR WEEDING - Regulating the composition of a young stand by eliminating some trees and encouraging others, and also freeing seedlings or saplings from competition with ground vegetation, vines and shrubs.
 - C. RELEASE - The freeing of well established cover trees, usually large seedlings or saplings, from closely surrounding growth.
 - D. SITE PREPARATION - Activity intended to make conditions favorable for planting or the establishment of natural regeneration.

DBH - Diameter at breast (4.5 feet) height.

DELPHI - A technique for predicting future trends or events by seeking consensus from a group of knowledgeable individuals.

DEMAND - The amount of an output that users are willing to take at a specified price, time period, and condition of sale.

DEMAND ANALYSIS - A study of the factors affecting the schedule of demand for an output, including the price - quantity relationship if applicable.

DEMAND SCHEDULE (Curve) - A schedule of quantities of an output that users are willing to take at a range of prices, at a given point in time, and conditions of sale.

DEN TREE - A live tree at least 15" dbh containing a natural cavity used by wildlife for nesting, brook rearing, hibernating, daily or seasonal shelter and escape from predators.

DEPARTURE - A schedule which deviates from the principle of nondeclining flow by exhibiting a planned decrease in the timber sale and harvest schedule at any time in the future. A departure can be characterized as a temporary increase, usually in the beginning decade(s) of the planning period, over the base sale schedule that would otherwise be established, without impairing the future attainment of Forest's long-term sustained yield capacity.

DEPTH, EFFECTIVE SOIL - The depth of soil material that plant roots can penetrate readily to obtain water and plant nutrients; the depth to a layer that differs sufficiently from the overlying material in physical or chemical properties to prevent or seriously retard the growth of roots.

DESIGN CRITERIA, ROAD - The requirements derived from management area direction such as safety requirements and traffic characteristics that govern the selection of elements and standards for a road or section of a road.

DESIGN ELEMENTS, ROAD - (FSH 7709.56) - The physical characteristics of a road, such as traveled-way width, shoulders, slopes, curve widening, and pavement structures, that, when combined, comprise the planned facility.

DEVELOPED RECREATION - Activities associated with man-made structures and facilities that result in concentrated use of an area. Examples are campgrounds and ski areas.

DEVELOPMENT (MINERAL) - Determination of the location, extent and quality of a mineral deposit by sinking shafts or holes and installing the required equipment.

DEVELOPMENT SCALE - Refers to the degree of site modification associated with developed facilities. It ranges from 1 - Primitive where improvements are minimal, designed for the protection of the site rather than the convenience of users, to 5 - Modern where facilities are mostly designed for the comfort and convenience of users. The development scale is related to the recreation experience level.

DISCOUNT RATE - An interest rate that represents the cost or time value of money in determining present value of future costs and benefits. A discount rate of 4 per cent is commonly displayed in this EIS and Plan.

DISPERSED RECREATION - In contrast to developed recreation, these activities are associated with low-density use distributed over large expanses of land or water. When provided, facilities are more for protection of the environment than for comfort or convenience of the visitor.

DISTANCE ZONE - (See Visual Management)

DIVERSITY - The distribution and abundance of different plant and animal communities and species within the area covered by a land and resource management plan. (36 CFR 219.3).

ECOLOGICAL LANDTYPE (ELT) - An area of land with a distinct combination of natural, physical, chemical, and biological properties that cause it to respond in a predictable and relatively uniform manner to the application of given management practices. In a relatively undisturbed state and/or at a given stage of plant succession, an ELT is usually occupied by a predictable and relatively uniform plant community. Typical size usually is tens to hundreds of acres.

ECOSYSTEM - An association of interactive organisms and their environment, perceived as a single entity.

EDGE - The place where plant communities meet or where successional stages or vegetative conditions within plant communities come together.

EDGE EFFECT - Wildlife habitat where two or more vegetative types come together.

EDGE SPECIES - Examples occurring on the FLNF include shrub openings adjacent to timber stands, conifer stands adjacent to mixed hardwood stands and regenerating timber stands adjacent to mature timber stands.

EFFECT, (ENVIRONMENTAL) - Net change (good or bad) in the physical, biological, social or economic components of the environment resulting from human actions. Effects and impacts as used in this EIS are synonymous.

EFFECT (Impact), ECONOMIC - The change, positive or negative, in economic conditions, including the distribution and stability of employment and income in affected local, regional, and national economies, which directly or indirectly result from an activity, project, or program.

EFFECT (Impact), PHYSICAL, BIOLOGICAL - The change, positive, or negative, in the physical or biological conditions which directly or indirectly results from an activity, project, or program.

EFFECT (Impact), SOCIAL - The change, positive or negative, in social and cultural conditions which directly or indirectly result from an activity, project, or program.

EMPLOYEE COMPENSATION - Wages and salaries paid to employees of firms in all industrial sectors of the GMNF input/output model.

ENDANGERED SPECIES (E) - Species listed in the current Federal Register as being in danger of extinction nationally throughout all or a significant portion of their ranges.

ENHANCEMENT - Improved visual condition achieved by increasing desirable variety in the landscape.

ENVIRONMENTAL ANALYSIS - The process associated with the preparation of an environmental assessment or environmental impact statement and the decision whether to prepare an environmental impact statement. It is an analysis of alternative actions and their predictable short-term and long-term environmental effects which include physical, biological, economic, and social factors and their interactions.

ENVIRONMENTAL ASSESSMENT - A concise public document that serves to (1) briefly provide sufficient evidence and analysis for determining whether to prepare an environmental impact statement or finding of no significant impact, and (2) aid in agency's compliance with NEPA when no environmental impact statement is necessary (40 CFR 1508.9a).

ENVIRONMENTAL IMPACT STATEMENT (EIS) - A statement of environmental effects required for major Federal actions under Section 102 of the National Environmental Policy Act (NEPA), and released to the public and other agencies for comment and review. It is a formal document which must follow the requirements of NEPA, the Council on Environmental Quality (CEQ) guidelines, and directives of the agency responsible for the project proposal.

EPHEMERAL STREAM - A stream which flows only in direct response to precipitation, receives no water from springs and no long-continued supply from melting snow or other surface source. The channel may or may not be well-defined, but at all times is above the water table. (See Stream Flow Duration).

EROSION - Wearing away of the land's surface by water, wind, ice, and other geological agents.

- A. ACCELERATED EROSION - Erosion much more rapid than normal, natural, or geologic erosion, primarily as a result of the influence of the activities of man or, in some cases, of other animals or natural catastrophies that expose base surfaces, for example, fires.
- B. GEOLOGICAL EROSION - The normal or natural erosion caused by geological processes acting over long geologic periods and resulting in the wearing away of mountains, the building up of floodplains, coastal plains, etc. Also called natural erosion.
- C. GULLY EROSION - The erosion process whereby water accumulates in narrow channels and, over short periods, removes the soil from this narrow area to considerable depths, ranging from 1 to 2 feet to as much as 75 to 100 feet.

- D. NATURAL EROSION - Wearing away of the earth's surface by water, ice, or other natural agents under natural environmental conditions of climate, vegetation, etc., undisturbed by man. Also called geological erosion.
- E. RILL EROSION - An erosion process in which numerous small channels only several inches deep are formed; occurs mainly on recently cultivated soils. (See also Rill).
- F. SHEET EROSION - The removal of a fairly uniform layer of soil from the land surface by runoff water.

EVENAGED MANAGEMENT - The application of a combination of actions that results in the creation of stands in which trees of essentially the same age grow together. Managed even-aged forests are characterized by a distribution of stands of varying ages (and, therefore, tree sizes throughout the forest area). The difference in age between trees forming the main canopy level of a stand usually does not exceed 20 percent of the age of the stand at harvest rotation

age. Regeneration in a particular stand is obtained during a short period at or near the time that a stand has reached the desired age or size for regeneration and is harvested. Clearcut, shelterwood, or seed tree cutting methods produce even-aged stands. (36 CFR 219.3).

EVEN-FLOW - A continuous supply of products over a given time. Congressionally determined policy of a non-declining even-flow of timber.

EXPLORATION - The search for economic deposits of oil, gas or minerals in order to establish their nature, shape and quality.

EXTRACTION - The process of mining and removing mineral deposits or oil and gas from the earth.

FEE OWNERSHIP - To have full and absolute possession, which includes all minerals and rights as well as the surface of the land.

FERTILITY (Soil) - The quality of a soil that enables it to provide nutrients in adequate amounts and in proper balance for the growth of specified plants when other growth factors, such as light, moisture, temperature, and the physical condition of the soil, are favorable.

FERTILIZER - Any organic or inorganic material of natural or synthetic origin that is added to a soil to supply elements essential to plant growth.

FILTERSTRIP - A special management zone of largely undisturbed forest floor, maintained between a water body and any activity that disturbs the vegetative cover and exposes mineral soil. The main design function of a filterstrip is to absorb overland flow and trap sediment before it enters the water body.

FIRE MANAGEMENT - All activities required for the protection of resources and values from fire, and the use of fire to meet land management goals and objectives.

FLNF - Finger Lakes National Forest

FLOOD - Any level of a natural body of water that exceeds its normal banks.

FLOODPLAIN - The lowland and relatively flat areas joining streams and rivers, including at a minimum that area subject to one percent (100 year recurrence) or greater chance of flooding in any given year.

FORAGE - Portions of woody and herbaceous plants available to animals for food.

FOREST - When used with a capital F this term refers to the Green Mountain National Forest.

FOREST DEVELOPMENT ROAD - A Forest road under the jurisdiction of the Forest Service.

FOREST HIGHWAY - A Forest road under the jurisdiction of and maintained by a public authority and open to public travel. (Title 23 USC 101 as amended by the Surface Transportation Act of 1978). Generally, arterial and collector roads under town or state ownership that are also vital for National Forest use and administration carrying substantial amounts of Forest Service traffic.

Programming for Forest Highway projects is done by the state in consultation with the Forest Service. Funding is from the Federal Highway Administration.

FOREST LAND - Land at least 10% occupied by Forest trees of average size, or formerly having had such tree cover, and not currently developed for non-Forest use.

FOREST PLAN - A long-range plan for management of a designated area of National Forest System lands. This plan will provide management direction for all management programs and practices, resource uses, and resource protection measures on these lands.

FOREST PROGRAM - A forest program is the integrated (multifunctional) course of action for a given level of funding on a National Forest that is consistent with the Forest Plan.

FOREST TYPE - A natural group or association of different species of trees which commonly occur together over a large area. Forest types are defined and named after the one or more dominant species of trees, such as the spruce-fir and the birch-beech-maple types.

FORESTRY - The art and science of growing and managing forests and forest lands for the continuing use of their resources.

FOREST-WIDE MANAGEMENT REQUIREMENTS - A set of statements which define or indicate acceptable norms, specifications, or quality that must be met when accomplishing an activity or practice under a given set of conditions on the Forest.

FORMATION - Any assembly of rocks that have some characteristic in common, whether of origin, age, or composition.

FORPLAN - A specific linear program model designed for use in Forest Service planning.

FRAGIPAN - A natural subsurface horizon with high bulk density relative to the solum above, seemingly cemented when dry but showing a moderate to weak brittleness when moist. The layer is low in organic matter, mottled, slowly or very slowly permeable to water, and usually shows occasional or frequent bleached cracks forming polygons. It may be found in profiles or either cultivated or virgin soils but not in calcareous material.

FROST HEAVE - A phenomenon caused by the expansion of water as it freezes. Such expansion may lift field stones, surveyor's stakes, or roadway pavement.

FSH - Forest Service Handbook.

FSM - Forest Service Manual.

FUNCTIONING CHANNEL - A well defined channel that clears itself at least one a year of small debris and litter, exhibits channel bank formation, and may often contain alluvial deposits of sand, gravel and/or rubble in the channel bed.

GAME SPECIES - Wild animals hunted for sport or food.

GMNF - Green Mountain National Forest. The Hector Ranger District, Finger Lakes National Forest is an administrative unit of the GMNF.

GOAL - A concise statement that describes a desired condition to be achieved sometime in the future. It is normally expressed in broad, general terms, and is timeless in that it has no specific date by which it is to be completed. Goal statements form the principal basis from which objectives are developed. (36 CFR 219.3).

GOODS AND SERVICES - The various outputs including on-site uses produced by forest and rangeland resources. (36 CFR 219.3).

GRADE - The rise or fall of a ground surface or of a roadway surface, expressed as a percentage. Thus, a rising one percent road grade rises one foot in 100 feet of distance along the road.

GROUND WATER

AQUIFER - Any permeable underground formation which yields ground water.

GROUND WATER - Water underneath the water table, in the zone of saturation, from which wells, springs, and baseflow are supplied.

WATER TABLE - The upper surface of the ground water, below which saturated conditions exist. A perched water table is formed by impermeable layers lying above the surface of the main water table and tends to fluctuate considerably.

GROUP SELECTION - (See Cutting Methods)

GROWING STOCK - All the trees growing in a forest or in a specified part of it, generally expressed in terms of number or volume.

GUIDELINE - An indication or outline of policy or conduct.

HABITAT - The place where a plant or animal can live and maintain itself.

HABITAT CAPABILITY - The estimated ability of an area, given existing or predicted habitat conditions, to support a wildlife, fish or plant population. It is measured in terms of potential population numbers.

HARD SNAGS - Trees composed essentially of sound wood on the outside and usually marketable.

HARDWOOD - A broad leaved, flowering tree, as distinguished from a conifer or softwood. Trees belonging to the botanical group of angiospermae.

HARVEST CUT - (See Cutting Methods)

HEADWATER - The small rivulets forming the source of a stream or river.

HECTOR DISTRICT - Synonymous with Finger Lakes National Forest.

HERBICIDE - A chemical compound used to kill or control growth of undesirable plant species.

HIGH RISK STAND - Will not survive another ten years, or will have a net loss of timber volume in the next ten years.

HIGH SITE - (See Site Index)

HUMMUS - Garbanzos, Tahini, et.al..

HUMUS - The plant and animal residues of the soil, litter excluded, which are undergoing decomposition.

IMPLEMENTING REGULATIONS - Regulations generated by an agency to implement Act of Congress, i.e., 36 CFR 219 contains implementing regulations for RPA and NFMA.

IMPROVEMENT CUTTING - (See Cutting Methods)

INDICATOR SPECIES - A species whose presence in a certain location or situation at a given population indicates a particular environmental condition. Their population changes are believed to indicate effects of management activities on a number of other species or water quality.

INDIGENOUS SPECIES - Species historically native to an area.

INFILTRATION - The gradual downward flow of water from the surface through soil to ground water and water table reservoirs.

INFORMED PUBLIC CONSENT - Attaining substantial effective agreement on a course of action through various public information and involvement projects.

INGRESS AND EGRESS - The right to enter and exit across property of others.

INPUT/OUTPUT ANALYSIS - A technique for analyzing the interdependence of producing and consuming sectors in an economy.

INTANGIBLE VALUES (Intangible Outputs) - Goods, services, uses and conditions which are believed to have values to the society but which have neither market values nor assigned values.

INTEGRATED PEST MANAGEMENT - A process for selecting strategies to regulate forest pests in which all aspects of a pest-host system are studied and weighed. The information considered in selecting appropriate strategies includes the impact of the unregulated pest population on various resources values, alternative regulatory tactics and strategies, and benefit/cost estimates for these alternative strategies. Regulatory strategies are based on sound silvicultural practices and ecology of the pest-host system and consist of a combination of tactics such as timber stand improvement plus selective use of pesticides. A basic principle in the choice of strategy is that it be ecologically compatible or acceptable. (36 CFR 219.3).

INTERDISCIPLINARY TEAM (IDT) - A group of individuals with skills from different resources. An interdisciplinary team is assembled because no single scientific discipline is sufficient to adequately identify and resolve issues and problems. Team member interaction provides necessary insight to all stages of the process.

INTERMITTENT SERVICE - Facilities which are for more than one year between periods of use.

INTERMITTENT STREAM - A stream or reach of a stream that does not flow continuously, as when water losses from evaporation or seepage exceed the available stream flow. Flow occurs only at certain wet times of the year, as when the channel receives water from springs or from some surface source. The channel is well-defined. (See also Stream Flow Duration).

INTERPRETIVE SERVICES - A service provided to the public by National Forests in which the public is supplied with information regarding opportunities or activities on National Forest land; usually but not restricted to recreational opportunities.

INTERPRETIVE SITES - A developed site at which a broad range of natural or cultural history is interpreted or described for the enjoyment of the public.

INTERSPERSION - The degree to which plant communities, or successional stages, or both are mixed within an area.

INTOLERANT SPECIES - Those plant species that do not grow well in shade.

ISOLATED FINDS - An archaeological object or objects found in solitary circumstances.

ISSUE - A subject or question of wide spread public discussion or interest regarding management of National Forest System lands.

K-V FUNDS - In 1930, Congress passed the Knutson-Vandenberg Act (K-V Act) to authorize collection of funds (K-V Funds) for reforestation and timber stand improvement work, wildlife habitat work and other resource improvements on areas cut over by timber sales.

LAND ADJUSTMENT - Changing National Forest System land ownership through acquisition, exchange or disposal of land or interests in land.

LAND ALLOCATION - The commitment of a given area and its resources to the compatible combination of goods, services and uses specified by a regional management goal or by a past management prescription.

LAND AND WATER CONSERVATION FUND ACT (Public Law 78-897) - Authorizes Federal purchase of lands for outdoor recreation uses from monies received from taxes on outboard motor fuels, recreation user fees, surplus property sales, and other appropriations.

LANDBASE - A specific area of the earth's surface and all its attributes including water bodies, from which goods, services and uses can be supplied.

LAND CONDITION - The state of a given area in terms of the quality of its physical and biological character and use, conditions can be existing, future or desired.

LAND EASEMENT - An interest in land restricting the manner in which an owner may develop or use his property, or allowing the holder of the easement to use the property in some specified way.

LANDING, LOG - A site where logs are transferred or stockpiled. Generally the ending of skid trails, and the beginning of temporary or permanent local roads.

LAND FORM - A discernible natural landscape, such as a floodplain, stream terrace, plateau, or valley.

LANDLINE - Property boundaries located between the National Forest and other lands.

LAND MANAGEMENT - The intentional process of planning, organizing, programming, coordinating, directing and controlling land use actions.

LANDSLIDE - 1) A mass of material that has slipped downhill under the influence of gravity, frequently occurring when the material is saturated with water. 2) Rapid movement down slope of a mass of soil, rock, or debris.

LAND TYPE ASSOCIATION - Ecological classification of land considering primarily geology, landform and climate. This level of the Ecological Classification System is smaller than physiographic provinces and larger than ecological land types with typical size in the tens of square miles.

LAND USE - The occupation or reservation of land or water areas for any human activity or any defined purposes; in this EIS, the terms "use" and "land use" are interchangeable.

LEASABLE MINERALS - Coal, oil, gas, phosphate, sodium, potassium, oil shale, and geothermal steam. To be leasable on National Forest lands, the government must have complete mineral rights as well as surface rights.

LEGUME - A member of the pulse family, one of the most important and widely distributed plant families. The fruit is a pod that opens along two sutures when ripe. Leaves are alternate, have stipules, and are usually compound. Includes many valuable food and forage species, such as peas, beans, peanuts, clovers, alfalfas, sweet clovers, lespedezas, vetches, and kudzu. Practically all legumes are nitrogen-fixing plants.

LEGUME INOCULATION - The addition of nitrogen-fixing bacteria to legume seed or to the soil in which the seed is to be planted.

LIMING - Application of crushed limestone to soils to raise the pH (make the soil less acid).

LINEAR PROGRAM MODEL - A mathematical method used to determine the best use of resources to achieve a desired result with limitations on available resources, expressed in the form of equations.

LITTER - 1) The uppermost layer of organic debris on the ground under a vegetation cover, i.e., essentially the freshly fallen or only slightly decomposed vegetable material, mainly from foliage but also bark fragments, twigs, flowers, fruits, etc. 2) Refuse left by Forest visitors.

LOAMY - Intermediate in texture and properties between fine-textured and coarse-textured soils; includes all textural classes with the words "loamy" or "loam" as a part of the class name, such as clay loam or loamy sand. See soil texture; or particle size classes for family groupings for its use in the Soil Classification System of the National Cooperative Soil Survey in the United States.

LOCAL ROAD - (See also Traffic Service Level and Temporary Roads) Connects terminal facilities with Forest collector or Forest arterial roads, or public highways. The location and standard are usually controlled by a specific resource activity rather than travel efficiency. Forest local roads may be developed and operated for either long-term or short-term service.

All permanent local roads on the GMNF are of one of these three types:

Seasonal, infrequently used roads 8-13 feet wide, permanent drainage structures at live streams, and native surfacing. Usually available for use 6 months out of a year, 2 or 3 years per decade and sometimes closed to prevent resource damage and for public safety. Mainly used for administrative and timber sale access (Traffic Service Level D).

Seasonal, frequently used roads 8-13 feet wide, have permanent drainage structures at live and intermittent streams, and gravel surfacing in wet areas. Usually available for use 6 months out of a year, 5-8 years per decade and are sometimes closed to prevent resource damage and for public safety (Traffic Service Level C).

All Season, continuously used roads 8-13 feet wide, generally have permanent drainage structures, and gravel surfacing throughout. Used 11 out of 12 months annually. Road may need roadbed protection during extended wet periods and at other times as needed to protect users. (Traffic Service Level B)

LOCATABLE MINERALS - The hard rock minerals which are mined and processed for the recovery of metals. May include certain non-metallic minerals and uncommon varieties of mineral materials such as valuable and distinctive deposits of limestone or silica. May include any solid natural inorganic substance occurring in the crust of the earth, except for the common varieties of mineral materials and leasable minerals.

LOGGING ROAD - (See Local Road, Temporary Roads, Skid Trails, and Roads).

LOG TRANSFER SITE (See Landing, Log).

LONG-TERM - Action governed by the Forest Plan generally taking place over a period longer than ten years from the present.

LONG-TERM FACILITIES - Facilities which are developed and operated for long-term land and resource management purposes. Roads of this nature are permanent roads (FSM 7703).

LONG-TERM SUSTAINED YIELD (LTSY) - The highest uniform wood yield from lands being managed for timber production that may be sustained under a specified management intensity consistent with multiple-use objectives.

LOW SITE - (See Site Index)

LOW QUALITY STAND - is made up of trees whose potential to produce timber products is poor.

LTSY - See long term sustained yield.

M - One thousand (1,000) units.

MAINTENANCE LEVEL ROADS - A formally established criterion which prescribes the intensity of maintenance necessary to retain a road's approved management objectives (FSM 7705).

Maintenance Level I - Generally used on roads not open to traffic. Drainage facilities are kept functional and roadbed stable. Custodial care to protect road investments and to minimize resource damage. Closure devices and signing are kept in place and functional.

Maintenance Level II - Used on roads where management requires that the road be open for limited traffic--usually administrative use, permitted use, or specialized traffic. All activities same as Level I and brush and slides removed from traveled ways and roadway shape and surface restored as needed to keep road passable.

Maintenance Level III - Used on roads which are generally open to public traffic. Maintained to provide safe and moderately convenient travel suitable for passenger cars. All activities same as Level II and travelway, shoulder, roadside and drainage structures maintained to keep roads in as-constructed condition.

Maintenance Level IV - Used on roads with higher average daily traffic than Level III. Generally activities same as Level III, but with more attention to user comfort and aesthetic appearance.

Maintenance Level V - Not used on GMNF because traffic levels are all too low to warrant this level of maintenance.

MANAGEMENT AREA - An area with similar management objectives and a common management prescription.

MANAGEMENT CONCERN - An issue or problem requiring resolution, or a condition which constrains the management practices identified by the Forest Service in the planning process.

MANAGEMENT DIRECTION - A statement of multiple-use and other goals and objectives, the management prescriptions, and standards and guidelines for attaining them.

MANAGEMENT GOAL - A statement that describes a desired condition of the land to be achieved sometime in the future.

MANAGEMENT INTENSITY - The management practice or combination of management practices and associated costs designed to obtain different levels of goods and services. (36 CFR 219.3).

MANAGEMENT OPPORTUNITY - A statement of general actions, measures or treatments that address the public issue or management concern in a favorable way.

MANAGEMENT PRACTICE - A specific activity, measure, course of action, or treatment. (36 CFR 219.3).

MANAGEMENT PRESCRIPTION - Management practices and intensity selected and scheduled for application on a specific area to attain multiple use and other goals and objectives. (36 CFR 219.3).

MANAGEMENT TEAM - Decision-making group consisting of the Forest Supervisor, Staff Officers, and District Rangers.

MARGINAL ANALYSIS - A type of analysis in which the only costs and benefits considered are those about which decisions can be made. Fixed benefits and costs are not considered.

MARKET VALUE (Market Output) - Goods, services and uses which are commonly bought and sold and which are priced or valued directly from existing markets.

MAST - The fruit and nuts of such plants as oaks, beech, hickories, dogwood, blueberry, and grape.

MAXIMUM MODIFICATION (MM) - (See Visual Management)

MBF - One thousand board feet. Equals 0.167 MCF.

MCF - One thousand cubic feet. Equals 5.988 MBF.

MEAN ANNUAL INCREMENT - The total growth increment up to a given age divided by that age.

MIDDLE GROUND - (See Visual Management)

MINERAL - Any inorganic material. The term is used to designate broadly all material that is not animal or vegetable. It includes sand, gravel, and stone.

MINERAL RIGHTS - Owning minerals beneath the surface of the ground; often it is someone other than the owner of the surface.

MINIMAL (Variety Class C) - (See Visual Management)

MINIMUM LEVEL MANAGEMENT - The management strategy that would meet only the basic statutory requirements of administering unavoidable nondiscretionary land uses, preventing damage to adjoining lands of other ownerships, and protecting the life, health, and safety of incidental users.

MIXED HARDWOODS - Timber stands characterized by a mixture of hardwood tree species, including oaks, basswood, white ash, hickories, soft maple and others.

MM - One million (1,000,000) units.

MODIFICATION (M) - (See Visual Management)

MOTORIZED USE - Land uses requiring or largely dependent on motor vehicles and roads.

MULCH - A natural or artificial layer of plant residue or other materials, such as sand or paper, on the soil surface.

MULTIPLE USE - The management of all the various renewable surface resources of the National Forest System so that they are utilized in the combination that will best meet the needs of the American people: making the most judicious use of the land for some or all of these resources or related services over areas large enough to provide sufficient latitude for periodic adjustments in the use to conform to changing needs and conditions: that some lands will be used for less than all of the resources; and harmonious and coordinated management of the various resources, each with the other, without impairment of the productivity of the land, various resources, and not necessarily the combination of uses that will give the greatest dollar return or the greatest unit output. (36 CFR 219.3).

MUNICIPAL WATERSHED - A watershed from which municipal water supplies are derived.

NATIONAL RECREATION TRAIL Trails designated as National Recreation Trails under the National Trails System Act of 1968. These trails must provide a variety of trail-related recreation opportunities within about 2 hours travel from the population centers of the region, and incorporate the significant natural and cultural features of the area through which it passes (FSM 2353.33b).

NATIONAL REGISTER OF HISTORIC PLACES - A listing maintained by the National Park Service of areas which have been designated as being of local, regional or national historical significance.

NDY - See non-declining yield.

NEPA - National Environmental Policy Act.

NET PUBLIC BENEFITS - An expression used to signify the overall long-term value to the nation of all outputs and positive effects (benefits) less all associated inputs and negative effects (costs) whether they can be quantitatively valued or not. Net public benefits are measured by both quantitative and qualitative criteria rather than a single measure or index. The maximization of net public benefits to be derived from management of units of the National Forest System is consistent with the principles of multiple-use and sustained yield. (36 CFR 219.3).

NFMA - National Forest Management Act.

NO ACTION ALTERNATIVE - An alternative identified in an Environmental Analysis in which either (1) current management is continued or (2) a project does not occur.

NON-DECLINING YIELD (NDY) - A level of timber production planned so that the planned sale and harvest for any future decade is equal to or greater than the planned sale and harvest for the preceding decade.

NON-FOREST LAND - Lands never having or incapable of having ten percent or more of the area occupied by forest trees, or lands previously having such cover and currently developed for non-forest use.

NON-GAME SPECIES - Animal species that are not usually hunted in this state. This classification is determined by the State Legislature.

NON-MOTORIZED USE - Land uses not requiring roads or motor vehicles.

NON-POINT SOURCE POLLUTION - Is a pollutant that is not traceable to a discrete or confined facility. The principal non-point pollutant associated with silviculture is sediment washed from bare, disturbed soil.

NON-STRUCTURAL RANGE IMPROVEMENT - A modification of existing vegetation to improve forage. Examples are lime and fertilizer application, noxious weed control, seeding to grass or legumes, etc.

NORTHERN HARDWOODS - Primarily sugar maple, yellow birch and beech. May include red maple, white ash, black cherry, red spruce and hemlock.

OBJECTIVE - A concise, time-specific statement of measurable planned results that respond to preestablished goals. An objective forms the basis for further planning to define the precise steps to be taken and the resources to be used in achieving identified goals. (36 CFR 219.3).

OBLITERATION - Returning land occupied by a road or trail to its original condition prior to construction of road or trail.

OCCUPANCY TRESPASS - The illegal occupancy or possession of National Forest land.

OFF-ROAD VEHICLE - Any motorized vehicle designed for or capable of cross-country travel on or immediately over land, water, sand, snow, ice, marsh, swampland, or other natural terrain. ORV's include vehicles such as 4-wheel drive units, motorcycles, snowmobiles, amphibious vehicles, and aircushion vehicles.

OLD GROWTH - Old growth is a self perpetuating vegetative community that has reached a dynamic steady state (i.e. changes occur in the community as when a group of trees blows down, but the changes are within narrow limits, and do not affect the overall character of the community. The dominant vegetation is considered to be climax with all age classes present. Old growth will not be silviculturally treated.

ONE-HUNDRED YEAR FLOODPLAIN - An area inundated by a flood which has a one (1.0) percent chance of occurring in any given year.

OPENING - A cutover area in which the vegetation is less than twenty percent of the height of the surrounding vegetation in surrounding areas.

OPEN TO PUBLIC TRAVEL - Except during scheduled periods, extreme weather conditions, or emergencies, open to the general public for use with a standard passenger automobile, without restrictive gates or prohibitive signs or regulations, other than for general traffic control or restrictions based on size, weights, or class of registration (See also Traffic Management).

OPERATION, ROAD - The control and coordination of the use of the forest development transportation system.

OPPORTUNITY AREA - Land areas that provide the best opportunities to work toward Forest Plan goals and objectives. They are used to further refine the desired future condition and decide upon the best location of management practices.

OPPORTUNITY COSTS - The value of benefits foregone or given up due to the effect of choosing another management alternative that either restricts existing outputs or shifts resources away from other activities so that they are no longer produced and their benefits are lost.

OUTPUT COEFFICIENT - Values which relate a unit of land to a particular quantity of output in a specific period of time.

OUTSTANDING MINERALS - Those minerals which through previous conveyances are owned by persons other than the vendor.

OVERALL BEST - The management strategy which maximized net public benefits (See Net Public Benefits).

OVERMATURE - A stand of trees that is older than normal rotation age for the type and provides important habitat conditions not found in younger stands. Northern hardwood and oak stands are overmature if between 120 and 170 years old while the minimum age for other types of trees will vary.

OVERSTORY - Upper crown canopy of a forest.

OVERWOOD REMOVAL - See Removal Cut.

PAOT - (See People At One Time)

PARENT MATERIAL (Soils) - The unconsolidated, more or less chemically weathered mineral or organic matter from which the solum of soils has developed by pedogenic processes. The C horizon may or may not consist of materials similar to those from which A and B horizons developed.

PARKING SPACE - Parking space for a passenger vehicle. Typically a space measures 10 feet deep and 8 feet wide. Additional depth may be added to accommodate recreational vehicles and trailers. Surfacing varies, by season and frequency of use, from native material to imported gravel or blacktop.

PARTIAL RETENTION (PR) - (See Visual Management)

PARTICLE SIZE ANALYSIS - Determination of the amounts of different particle sizes in a soil sample, usually by sedimentation, sieving, micrometry, or combinations of these methods.

PEAT - Unconsolidated soil material consisting largely of undecomposed or only slightly decomposed organic matter accumulated under conditions of excessive moisture.

PEOPLE AT ONE TIME (PAOT) - A recreation-capacity measurement term indicating the number of people that can comfortably occupy or use a facility or area at one time.

PERMANENT UPLAND OPENING - Supports perennial grasses, forbs, sedges and shrubs and has less than 16% stocking of trees and less than 10% tree crown cover.

PERENNIAL STREAM - A stream which flows continuously throughout the year during most years. It receives water not only from precipitation, but also from underground sources such as springs and seeps, and its upper surfaces generally stand lower than the water table in the locality through which it flows. The channel is well-defined. (See also Stream Flow Duration).

PERMANENT U.S. ACQUIRED RIGHT-OF-WAY - Easements unlimited as to time and purposes for which the road or trail may be used.

PEST - A plant, animal or environmental stress which the land manager determines to be detrimental to achieving resource management objectives.

PESTICIDE - Any substance or mixture of substances used to control populations of injurious pests.

pH - A quantitative measure of hydrogen-ion concentration. A pH of 7 corresponds to exact neutrality; a pH less than 7 indicates acidity; and a pH greater than 7 indicates alkalinity.

PIONEERS - Tree species which aggressively invade freshly disturbed sites and abandoned fields. Aspen and paper birch are principally referred to when the term "pioneers" is used in this EIS.

PLANNING AREA - The area of the National Forest System covered by a Forest Plan. (36 CFR 219.3).

PLANNING CRITERIA - Criteria prepared to guide the planning process and management direction.

PLANNING HORIZON - The overall time period considered in the planning process that spans all activities covered in the analysis or plan and all future conditions and effects of proposed actions which would influence the planning decisions. 150 years used for this plan. (36 CFR 219.3).

PLANNING PERIOD - One decade. The time interval within the planning horizon that is used to show incremental changes in yields, costs, effects, and benefits. (36 CFR 219.3).

PLANNING PROBLEM - A major problem of long-range significance, derived from public issues and management concerns, to be addressed when formulating Forest Plan Alternatives.

PLANTATION - A Forest crop or stand raised artificially, either by seeding or planting of young trees.

PNV - See present net value.

POINT SOURCE POLLUTION - Pollution traceable to a discharge of pollutants from a discernible, confined and discrete conveyance, such as an effluent discharge from a sewage treatment plant.

POLE TIMBER - As used in timber survey, a size class definition, tree 5.0 to 8.9 inches at DBH. As used in logging operations, trees from which pole products are produced, such as telephone poles, pilings, etc.

POTHUNTING - Slang term used by professional archaeologists to describe illegal or non-professional collecting of artifacts.

PRECOMMERCIAL THINNING -

PREDATOR - An animal species that obtains its food by hunting other animal species.

PREFERRED ALTERNATIVE - The alternative favored for implementation by the Forest Service based on relative merits including physical, biological, social and economic considerations and the agency statutory missions.

PREPARATORY CUT - The first phase of the shelterwood system which removes mature and defective trees to create openings to stimulate seedling growth. (See also Cutting Methods).

PRESCRIBED FIRE - Prescribed fire is the application of fire under specified conditions to achieve specific land management objectives.

PRESCRIPTION - (See Management Prescription)

PRESCRIPTIVE RIGHT-OF-WAY - A right-of-way relating to an existing road established by virtue of use and possession usually over long periods under provision of State law. It cannot be vested in the United States unless a public road agency appropriates the road or right-of-way to Government use.

PRESENT NET VALUE (PNV) - The difference between the discounted value (benefits) of all outputs to which monetary values or established market prices are assigned and the total discounted costs of managing the planning area. (36 CFR 219.3).

PRIME AGRICULTURAL LAND - Land that is best suited for producing food, feed, forage, fiber, and oilseed crops, and also available for those uses; includes cropland, pastureland, rangeland, forest lands, but not urbanized land or water. It has the soil quality, growing season, and moisture supply needed to produce sustained high yields of crops economically when treated and managed, including water management, according to modern agricultural methods.

PRIME TIMBERLAND - Prime timberland is land that has soil capable of growing wood at the rate of 85 cubic feet or more per acre per year (at culmination of mean annual increment) in natural stands and is not in urban or built-up land uses or water.

PROCLAMATION BOUNDARY - National Forest Boundary as proclaimed by the President of the United States.

PROGRAM BUDGET - A plan that allocates annual funds, work force ceilings and targets among agency management units.

PROJECT - An organized effort to achieve an objective identified by location, activities, outputs, effects, and time period and responsibilities for execution.

PROPERTY CORNER - Land survey turning point pertaining to Forest Service ownership lines.

PROPERTY LINE - Accurately located ownership line between the National Forest land and adjoining land owned or administered by others.

PUBLIC EDUCATION - Direct education on Forest Service activities or programs. Consists in part of exhibits, letters, descriptive publications, press publicity, and show-me trips.

PUBLIC INVOLVEMENT - A Forest Service process designed to broaden the information base upon which agency decisions are made by (1) informing the public about Forest Service activities, plans, and decisions, and (2) encouraging public understanding about and participation in the planning processes which lead to final decision-making.

PUBLIC ISSUE - A subject or question of widespread public interest relating to management of the National Forest System. (36 CFR 219.3).

PUBLIC PARTICIPATION - Meetings, conferences, seminars, workshops, tours, written comments, survey questionnaires, and similar activities designed or held to obtain comments from the general public and specific groups about National Forest System land management planning.

PULPWOOD - Wood suitable for manufacturing into wood pulp for paper products.

PURCHASE UNIT - An area established outside of the Forest Proclamation Boundary by the National Forest Reservation Commission within which the Government may acquire land.

REACTION SOIL - The degree of acidity or alkalinity of a soil, usually expressed as a pH value. Descriptive terms commonly associated with certain ranges in pH are extremely acid, less than 4.5; very strongly acid, 4.5-5.0; strongly acid, 5.1-5.5; medium acid, 5.6-6.0; slightly acid, 6.1-6.5; neutral, 6.6-7.3; mildly alkaline, 7.4-7.8; moderately alkaline, 7.9-8.4; strongly alkaline, 8.5-9.0; and very strongly alkaline, more than 9.0.

REAL DOLLAR VALUE - A monetary value which compensates for inflation. (36 CFR 219.3).

RECEIPT SHARES - The portion of receipts derived from Forest Service resource management that is distributed to State and county governments such as the Forest Service 25 percent fund payments. (36 CFR 219.3).

RECLAMATION - Returning disturbed lands to a form and productivity that will be ecologically balanced and in conformity with the predetermined land management plan.

RECONSTRUCTION, ROADS: - (See also Restoration) Upgrading or improving drainage structures, surfacing, or horizontal and vertical alignment of existing roads. Reconstruction is done to allow more frequent access by a wider range of vehicles or to prevent resource damage.

RECORD OF DECISION - The documentation of what the decision was, the date, and a statement of reasons for the decision.

RECREATION AREA - A relatively small, distinctly defined portion of the National Forest where concentrated public use for the more traditional recreation purposes predominates, e.g., campgrounds, picnic areas, swimming areas, etc.

RECREATION COMPOSITE - An area which identifies key recreation lands within National Forests which are needed to meet existing or projected recreation demands. Approved composites justify investment of Land and Water Conservation funds for land acquisition and document Forest Service intent to emphasize recreation in the management of these lands once acquired.

RECREATION OPPORTUNITY SPECTRUM (ROS) - A system of classifying the range of recreational experiences, opportunities and settings available on a given area of land. Classifications include:

PRIMITIVE (P) - Essentially unmodified environment, where trails may be present but structures are rare, and where probability of isolation from the sights and sounds of man is extremely high.

SEMI-PRIMITIVE MOTORIZED (SPM) - Moderately dominant alterations by man, with strong evidence of permanent roads and/or trails.

SEMI-PRIMITIVE NON-MOTORIZED (SPNM) - Few and/or subtle modifications by man, and with a large probability of isolation from the sights and sounds of man.

RECREATION VISITOR DAYS (RVD) - Recreational use of National Forest System land which aggregates twelve hours. It may consist of one person for twelve hours, two people for six hours, or any combination that totals twelve hours.

REFORESTATION - The natural or artificial restocking of an area with Forest trees.

REGENERATION - The natural or artificial renewal of a tree crop. (See also Cutting Methods)

REGULATED FOREST LAND - Forest land managed for timber production under sustained yield principles.

REHABILITATION - An improved condition achieved by removing existing visual impacts.

REMOVAL CUT - The final cut of the Shelterwood System which removes the remaining mature trees, completely releasing the young stand. An even-aged stand results. (See also Cutting Methods).

REPLACEMENT TREES - Live or partially dead trees left to become hard snags and eventually soft snag replacements.

RESEARCH NATURAL AREAS - Land areas classified by order of the Chief of the U.S. Forest Service containing natural plant communities that have not been modified by man, and are protected and studied to obtain more information about the ecosystem.

RESERVE TREES - Trees left for wildlife in areas where timber is being cut. See Snag, Den and Mast.

RESERVED MINERALS - Vendor reserves mineral rights subject to rules and regulations of the Secretary of Agriculture.

RESIDUAL SOIL - A soil formed in material weathered from bedrock without transportation from the original location.

RESTORATION, ROADS - Surface replacement or drainage structure improvement needed to retain a road to original management objective. Little earthwork is necessary.

RETENTION (R) - (See Visual Management)

REVEGETATION - The reestablishment of a plant cover occurring either naturally or artificially.

RIGHT OF EMINENT DOMAIN - The taking of property for a necessary public use, with reasonable compensation being made to the property owner. The legal procedure for doing this is called condemnation.

RIGHT-OF-WAY EASEMENT - A right to construct a road, trail or other improvements over the land of others.

RIM - Refers to Recreation Information Management which is an electronic system storing recreation information. It furnishes current and meaningful data on the identification, location, dimensions, condition, and use of each recreation site and area on National Forest lands.

RIPARIAN AREA - Geographically delineated area with distinctive resource values and characteristics, that are comprised of the aquatic and riparian ecosystems, floodplains and wetlands.

RIPARIAN ECOSYSTEM - A transition between the aquatic ecosystem and the adjacent terrestrial ecosystem; identified by soil characteristics and distinctive vegetation communities that require free or unbound water.

ROADS, MAINTENANCE - (See Maintenance Level, Roads) -

ROAD MANAGEMENT OBJECTIVE - The specific intended purpose of a road. Documented by design criteria and operation and maintenance criteria. (FSM 7712)

ROADS - (See Local Roads, Traffic Service Level, Arterial Roads, Collector Roads and Temporary Roads).

ROS CLASS - (See Recreation Opportunity Spectrum)

ROTATION - The planned number of years between formation or regeneration of a stand and its final cutting.

RPA - Forest and Rangelands Renewable Resource Planning Act of 1974.

RVD - Recreation Visitor Days

SALE SCHEDULE - The quantity of timber planned for sale by time periods, from the area of land covered by a Forest plan. The first period, usually a decade, of the selected sale schedule provides the allowable sale quantity. Future periods are shown to establish that long-term sustained yield will eventually be achieved and maintained. (36 CFR 219.3).

SALVAGE - Dead, dying or deteriorating trees due to old age or damage by fire, wind, insects or disease. Those trees not reserved for wildlife are harvested while still merchantable.

SANITATION - The removal of dead, damaged, or susceptible trees to prevent the spread of insects or disease.

SAPLING - As used in timber survey, a size class definition; trees 1.0 to 4.9 inches at DBH.

SAWLOG - A log considered suitable in size and quality for producing lumber; trees, larger than 9 inches at DBH.

SCARIFICATION - Loosening the top soil in open areas to prepare for regeneration by direct seeding or natural seed fall.

SCENIC EASEMENT - An acquired partial interest in non-National Forest land obtained to maintain the area's natural beauty and prevent development of changes that would mar or detract from such natural beauty.

SCENIC VISTA - A point along a travel route which affords a panoramic, unusual or highly pleasant view.

SEASONAL, FREQUENTLY USED ROADS - (See Roads, Type C.)

SEASONAL, INFREQUENTLY USED ROADS - (See Roads, Type B.)

SECONDARY SOFTWOOD SITES - Moderate to well drained areas at lower elevations and medium elevation ridge lands.

SEDIMENT - Solid material, both mineral and organic, that is in suspension, is being transported, or has been moved from its site of origin by air, water, gravity, or ice.

SEEDBED - The soil prepared by natural or artificial means to promote the germination of seed and the growth of seedlings.

SEED TREE - (See Cutting Methods)

SEEDLING - As used in timber survey, a size class definition, trees less than 1.0/inch at DBH.

SELECTION HARVEST CUT - (See Cutting Methods)

SENSITIVE AREAS - Areas of high erosion hazard, areas that may be susceptible to compaction, or areas of nonstable slopes.

SENSITIVE SPECIES (S) - Species designated by the Regional Forester and included on the Eastern Region Sensitive Species List. The list will include those species that are known, reported or suspected to occur on or in the immediate vicinity of the Eastern Region and require special management attention.

SENSITIVITY LEVEL - As used in Cultural Resource Management, the degree of cultural resource potential and/or the possible degree of conflict with other uses for a given area.

SENSITIVITY LEVEL - As used in Visual Quality Management; a particular degree or measure of viewer interest in the scenic qualities of the landscape. (1) most sensitive, (2) sensitive, and (3) less sensitive.

SHADE STRIP - A strip of standing trees, shrubs and other vegetation maintained along perennial streams to provide shade to the aquatic ecosystem and protect the fishery resource from adverse water temperature increases.

SHADE TOLERANT - A tree or other plant species having the capacity to grow without receiving direct sunlight.

SHELTERWOOD CUTTING - (See Cutting Methods)

SHORT-TERM FACILITIES - Facilities such as temporary roads on the Forest development transportation system which have a planned, limited life. When the facility has served its intended purpose, the occupied land is revegetated and returned to resource production (FSM 7703).

SHRUB OPENING - An area managed for wildlife that is dominated by short, woody vegetation that may include small patches of grassy openings and clumps of trees.

SILT - 1) A soil separate consisting of particles between 0.05 and 0.002 millimeter in equivalent diameter. 2) A soil textural class.

SILVICULTURAL SYSTEMS - A management process whereby forests are tended, harvested, and replaced, resulting in a forest of distinctive form. Systems are classified according to the method of carrying out the fellings that remove the mature crop and provide for regeneration and according to the type of forest thereby produced. (36 CFR 219.3).

SILVICULTURE - A combination of actions whereby forests are tended, harvested, and replaced. The art and science of growing forests.

SITE INDEX - A measure of the relative productive capacity of an area based on the height, in feet, of the dominant trees at 50 years of age.

SITE PREPARATION - Preparation of the ground surface before planting or preparing a seedbed for natural regeneration; includes removal of unwanted vegetation, slash, stumps, and roots from a site.

SKIDDER - A vehicle used to move logs from the stump to a landing. Most skidders operating on the GMNF have rubber tires and pull logs by the butt end (elevated), dragging the top.

SKID TRAIL - A temporary travel route used to move logs from the stump to a landing site where the logs are loaded on a hauling vehicle. Old skid trails located on the GMNF are also used by recreationists for hiking, snowmobiling, ski touring, etc.

SLASH - Branches, bark, tops, uprooted stumps, and broken or uprooted trees left on the ground after logging; also debris resulting from thinnings, wind, or fire.

SNAG - Includes standing dead or partially dead trees which are at least 6" in diameter at breast height (DBH) and 20 feet tall. See hard snag and soft snag.

SOFT SNAG - Trees with wood, especially sapwood, in an advanced stage of decay and generally not merchantable.

SOFTWOODS - A coniferous tree. Trees belonging to the botanical group gymnospermae. Softwoods on the GMNF principally include red spruce and balsam fir along with minor amounts of white pine, red pine and hemlock.

SOIL ASSOCIATION - A group of defined and named taxonomic soil units occurring together in an individual and characteristic pattern over a geographic region, comparable to plant associations in many ways.

SOIL FERTILITY - The quality of a soil that enables it to provide nutrients in adequate amounts and in proper balance for the growth of specified plants, when other growth factors, such as light, moisture, temperature, and physical condition of soil, are favorable.

SOIL HORIZON - A layer of soil, approximately parallel to the soil surface, with distinct characteristics produced by the soil forming processes.

SOIL IMPROVEMENT - The processes for, or the results of, making the soil more productive for growing plants by drainage, irrigation, addition to fertilizers and soil amendments, and other methods.

SOIL PROFILE - A progression of distinct layers of soil, beginning at the surface that has been altered by normal soil-forming processes.

SOIL SURVEY - A general term for the systematic examination of soils in the field and in laboratories; their description and classification; the mapping of kinds of soil; the interpretation of soils according to their adaptability for various crops, grasses, and trees; their behavior under use or treatment for plant production or for other purposes; and their productivity under different management systems.

SPARSE - See Stand Condition.

SPECIAL AREA - Areas having uncommon or outstanding biological, geological, recreational, cultural, or historical significance.

SPECIAL RESTRICTIONS - Restrictions on mineral exploration development and extraction activities which require applicants not to disturb the surface resources.

SPECIAL USE PERMITS - Permits issued by the Forest Service which authorize use of National Forest lands, improvements, and resources.

SPECIES OF CONCERN - Species with declining populations included on State lists, but not on the Federal Threatened and Endangered list or Eastern Region's Sensitive Species list.

STAND (TREE STAND) - A community of trees occupying a specific area and sufficiently uniform in composition, age, arrangement, and condition as to be distinguishable from the forest on adjacent areas.

STAND CONDITION - A silvicultural classification used to describe the present condition of a stand, particularly in relation to its need for treatment. The stand conditions used are as follows:

NON-STOCKED - Totally lacking forest growth.

POORLY STOCKED - Stands having insufficient growing stock for normal management.

SPARSE - Poorly stocked stands with inadequate total basal area.

LOW QUALITY - Poorly stocked stands with inadequate basal area in crop trees or potential crop trees.

WELL STOCKED - Stands having sufficient growing stock for normal management.

ALL-AGED - A stand composed of trees of all or almost all age classes.

EVEN-AGED - A stand composed of trees having no, or relatively small differences in age.

IMMATURE - Even-aged stands at least five years younger than silvicultural rotation age.

MATURE - Even-aged stands within five years of or beyond silvicultural rotation age.

MULTI-AGED - A stand having two or more age classes but not all-aged.

HIGH RISK - Stands which will not survive for 10 years without significant volume loss due to mortality.

STANDARD - A principle requiring a specific level of attainment, a rule to measure against.

STANDARD RESTRICTIONS - The limitations on mineral exploration development and extraction which are included as part of every government lease to ensure protection of surface resources and uses.

STATE HISTORIC PRESERVATION OFFICER - The State Historic Preservation Officer (SHPO) is the official within each State who has been designated by the Governor or Chief Executive of the State to administer the National Register and grants programs within the State.

STATE ROAD - Road under jurisdiction of State Department of Highways.

STOCKING - (See Stand Condition)

STONY - Containing sufficient stones to interfere with tillage but not to make intertilled crops impracticable. Stones may occupy 0.01 to 0.1 percent of the surface. Stoniness is not a part of the soil textural class. The terms "stony" and "very stony" may modify the soil textural class name in the soil type, but this is simply a brief way of designating stony phases.

STREAM CHARACTERISTICS

BRAIDED STREAM - One whose flow successively divides and rejoins, forming islands.

DRAINAGE DENSITY - Measure of how well drained a watershed is by surface streams. It is the miles of perennial and intermittent streams divided by the square miles of watershed area.

EFFLUENT STREAM - A stream losing water to the ground water.

RIPARIAN VEGETATION - Vegetation growing along the banks of a stream.

STREAM FLOW DURATION

PERENNIAL STREAMS - Streams whose flow persists almost throughout the year, during most years, in a well-defined channel.

INTERMITTENT STREAMS - Streams whose flow generally occurs only during wetter seasons, in a well-defined channel.

EPHEMERAL STREAMS - Streams which flow only in response to storms; channels are not well-defined.

STREAM ORDERS

FIRST ORDER STREAM - Streams with an unbranched main stem. These streams are normally found in the headwaters portion of a watershed.

SECOND ORDER STREAM - A second order stream is that portion of the main stem of a stream below the confluence of two first order streams.

THIRD ORDER STREAM - A third order stream is that portion of the main stem of a stream below the confluence of two second order streams.

SUBORDINATION OF MINERAL INTERESTS - The owner continues to reserve the mineral rights and retains the full right to explore for and produce minerals by methods which would not involve the use of the surface in any manner whatsoever, or result in a loss of support of the surface.

SUBSOIL - The layer below the soil surface in which roots normally grow.

SUBSURFACE RIGHTS (MINERAL RIGHTS) - Ownership of, or right to use the resources and improvements under the surface of the land.

SUCCESSION - The gradual development of a plant community. This involves changes in species, structure, and community processes with time.

SUITABILITY - The appropriateness of applying certain resource management practices to a particular area of land, as determined by an analysis of the economic and environmental consequences and the alternative uses foregone. A unit of land may be suitable for a variety of individual or combined management practices.

SURFACE SOIL - The uppermost part of the soil ordinarily moved in tillage or its equivalent in uncultivated soils, ranging in depth from about 5 to 8 inches. Frequently designated as the plow layer, the Ap layer or the Ap horizon.

SURFACE RIGHTS - Ownership of the surface of the land only; right to use the surface of the land.

SUSTAINED YIELD - The achievement and maintenance in perpetuity of a high-level annual or regular periodic output of the various renewable resources of the National Forest without impairment of the productivity of the land.

TEMPORARY ROAD - Road needed only for short-term use, such as by timber purchasers for access to a single timber sale. Usually short spur roads connecting log landings to Forest Development (permanent) Roads.

TERMINAL FACILITY - A transfer point between the transportation network and resources served such as a vehicle parking area, boat ramp and dock, trailhead or landing.

THINNING - (See Cutting Methods)

THREATENED SPECIES (T) - Species listed in the current Federal Register as being nationally threatened.

TIERED APPROACH - A procedure which allows an agency to avoid duplication of paperwork through the incorporation by reference of the general discussions and relevant specific discussions from an environmental impact statement of broader scope into one of lesser scope or vice versa.

TIMBER SALE - The cutting and removal of designated trees under the authority of a contract.

TIMBER STAND IMPROVEMENT (TSI) - Usually related to activities conducted in young stands of timber to improve growth rate and form of the remaining trees. Examples are: thinning, pruning, fertilization, and control of undesirable vegetation.

TOLERANCE - The ability of a tree to grow satisfactorily in the shade of or in competition with other trees. Trees which are classified as tolerant can survive and grow under continuous shade.

TOPSOIL - The dark-colored surface layer of soil that ranges from a fraction of an inch to several feet deep.

TRACE ELEMENT - Elements naturally occurring in soil or vegetation not considered to be of major nutritional importance. Often referred to as micronutrients.

TRAFFIC MANAGEMENT - The management and controlled use of forest development roads to prevent damage to the roadway, to abate unsafe traffic conditions, to limit the use of vehicles that exceed design capacity (such as width, weight, or length of loads), to require appropriate investment sharing from commercial users, and to reduce maintenance costs. Also the management and controlled use

to meet other specific management direction such as protecting wildlife habitat or achieving semiprimitive recreation objectives. (See also Open to Public Travel).

TRAFFIC SERVICE LEVEL - A formally established classification system which describes Forest roads with respect to traffic volumes and flow, vehicle types, traffic management, user costs, alignment and surfacing. Refer to FSH 7724.

Traffic Service Level	Traffic Volume	Traffic Management	Alignment	Road Surface
A		Not found on the GMNF		
B	Moderate-heavy, mixed	Controls to reduce volume and conflict	Influenced by topography and speed	Stable for normal use season
C	Moderate-intermittent, mixed	Frequent controls at high use periods	Influenced by topography and environmental factors	Surface rutting or roughness may be present, not stable, all traffic or weather conditions
D	Intermittent-single use	Use other than single purpose (discouraged or prohibited)	Influenced by topography and environmental factors	Rough and irregular, stable during dry conditions

TRAIL - A designated path or travelway of varying width which is maintained for hikers, horsemen, snow travelers, bicyclists, or motorized vehicles. (See also skid trail).

TRANSMISSION PIPELINE - A pipeline which carries gas or liquid from a producing field or central collection facility to a storage or consumption facility, usually over long distances.

TRANSPORTATION ANALYSIS - An analysis of alternative road locations and standards to meet special resource management objectives access needs. Alternatives are compared with respect to short and long-term environmental effects and economic and social factors.

TRAVEL CORRIDOR - An area adjacent to a road or trail which includes all the land normally visible from the road or trail.

TREATMENT PRIORITY - A general guide used to establish the order in which stands should be treated. In general, the lower in magnitude the number, the higher the priority for treatment.

TREE IMPROVEMENT - The science of dealing with the causes of resemblances and differences among trees related by descent. It considers the effects of genes and the response to environmental factors.

TRIPARTITE LAND EXCHANGE - A land acquisition process in which revenues from certain timber sales are deposited in a special fund to pay for the purchase of private land.

TSI - Timber Stand Improvement

TYPE - (See Forest Type)

UNEVENAGED MANAGEMENT - The application of a combination of actions needed to simultaneously maintain continuous high-forest cover, recurring regeneration of desirable species, and the orderly growth and development of trees through a range of diameter or age classes to provide a sustained yield of forest products. Cutting is usually regulated by specifying the number or proportion of trees of particular sizes to retain within each area, thereby maintaining a planned distribution to size classes. Cutting methods that develop and maintain uneven-aged stands are single-tree selection and group selection. (36 CFR 219.3).

UTILITY CORRIDOR - A linear tract of land of varying width forming a passageway through which various commodities such as oil, gas, and electricity are transported.

VEGETATIVE MANIPULATION - The forced change of one vegetation type to another. It can be done with mechanical equipment, chemicals, or fire. Usually, this is done to provide timber products, increase forage for livestock, improve scenic views, and to improve habitat for wildlife.

VERTICAL DIVERSITY - The diversity in an area that results from the complexity of the above ground structure of the vegetation; the more tiers of vegetation, the more diverse the species make-up, or both, the higher the degree of vertical diversity.

VIABLE POPULATION - A population which has adequate numbers and dispersion of reproductive individuals to ensure the continued existence of the species population on the planning area.

VISITOR DAY - The presence of one or more persons engaged in recreational activity(ies) for continuous, intermittent, or simultaneous periods aggregating 12 hours.

VISUAL MANAGEMENT (Terms frequently used)

(1) Characteristic Landscape/Character Type - A large area of land which has common characteristics of landforms, rock formations, water forms, and vegetative patterns. (2) Edge - The line where an object or area begins or ends; serve as boundaries. (3) Enhancement - A short-term management alternative which is done with the express purpose of increasing positive visual variety where little variety now exists. (4) Rehabilitation - A short-term management alternative used to return existing visual impacts in the natural landscape to a desired visual quality. (5) Sensitivity Level - A degree or measure of viewer interest in the scenic qualities of the landscape: (a) Most sensitive, (b) sensitive, and (c) less sensitive.

VARIETY CLASS - A level of visual variety or diversity of landscape character, described as: (1) Distinctive (Class A) - Refers to unusual and/or outstanding landscape. Variety that stands out from the common features in the characteristic landscape. (2) Common (Class B) - Prevalent, usual, or widespread landscape variety within a characteristic landscape. It also refers to ordinary or undistinguished visual variety. (3) Minimal (Class C) - Little or no visual variety in landscape. Monotonous or below average as compared to the common features in the characteristic landscape.

VISTA - See Scenic Vista.

VISUAL ABSORPTION CAPACITY (VAC) - Indicates the relative difficulty or cost of achieving Visual Quality Objectives (VQO's). It measures the land's capacity to visually absorb the impact of management activities.

VISUAL DISTANCE ZONES - Areas of landscapes denoted by specified distances from the observer. Used as a frame of reference, in which to discuss landscape characteristics or activities of man. The three zones are: (1) Foreground (fg) - That part of a landscape which is nearest to the viewer, and in which detail is evident, usually from observer position to one-fourth mile. (2) Middleground (mg) - The space between the foreground and the background in the landscape. It is located between one-fourth mile and four miles from the observer. (3) Background (bg) - The distant part of a landscape; especially behind something, and providing harmony and contrast. The area located from 4 miles to infinity from the viewer.

VISUAL QUALITY OBJECTIVE (VQO) - A desired level of excellence based on physical and sociological characteristics of an area. Refers to degree of acceptable alteration of the characteristic landscape. The five levels of VQO are: (1) Preservation - provides for ecological changes only. (2) Retention - human activities are not evident to the casual forest visitor. (3) Partial Retention - human activities may be evident but must remain subordinate to the characteristic landscape. (4) Modification (m) - human activity may dominate the characteristic landscape but must, at the same time, appear as a natural occurrence when viewed as fg or mg. (5) Maximum Modification (mm) - human activity may dominate the characteristic landscape but should appear as a natural occurrence when viewed as background.

VISUAL RESOURCE MANAGEMENT - The art and science of planning and administering the use of forest lands in such ways that the visual effects maintain or upgrade man's psychological welfare. It is the planning and design of the visual aspects of multiple-use land management.

WATER MEASUREMENT

ACRE FOOT - A measure of water volume commonly used in describing lakes, or water yield equivalent to one level acre of water, one foot deep, or 43,560 cubic feet.

CUBIC FEET PER SECOND (cfs) - A rate of water flow delivering one cubic foot of water each second, commonly used as a measure of stream discharge.

WATERSHED - The entire area that contributes water to a drainage or stream.

WATER TABLE - The upper surface of the ground water.

WATER TABLE, PERCHED - The surface of a local zone of saturation held above the main body of ground water by an impermeable layer or stratum, usually clay, and separated from the main body of ground water by an unsaturated zone.

WATER YIELD - The total net amount of water produced on the Forest including stream flow and ground water recharge.

WETLANDS - Those areas that are inundated by surface or ground water with a frequency sufficient to support a prevalence of vegetation or aquatic life that requires saturated or seasonally saturated soil conditions for growth and reproduction. Includes swamps, marshes, bogs, sloughs, potholes, wet meadows, river overflows, mudflats and natural ponds.

WILDFIRE - Any fire other than a controlled or prescribed burn.

WILDLIFE HABITAT - The sum total of environmental conditions of a specific place occupied by a wildlife species or a combination of such species.

WILDLIFE STAND IMPROVEMENT (WSI) - An improvement made in a stand to increase its value for wildlife. An example is the planting of suitable tree and shrub species for food and cover.

WILDLIFE OPENINGS - Openings maintained to meet various food or cover needs for wildlife. They may contain native vegetation or planted crops and can be maintained by burning, mowing, planting, fertilizing, grazing, or applying herbicides.

ZONES - Portions of the GMNF that make logical local planning areas. Zones usually comprise several timber compartments, are bounded by ridges, streams and roads and have a relatively discrete transportation network.

FINGER LAKES

National Forest

NEW YORK

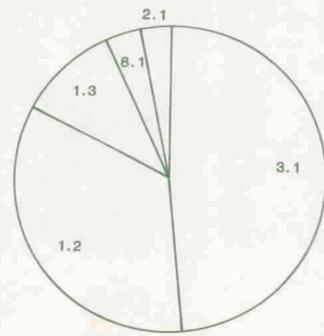
ALTERNATIVE D2

FINAL ENVIRONMENTAL IMPACT STATEMENT

LAND and RESOURCE MANAGEMENT PLAN MANAGEMENT AREA MAP

APPROVED PLAN

FORESTWIDE MIX OF MANAGEMENT AREAS

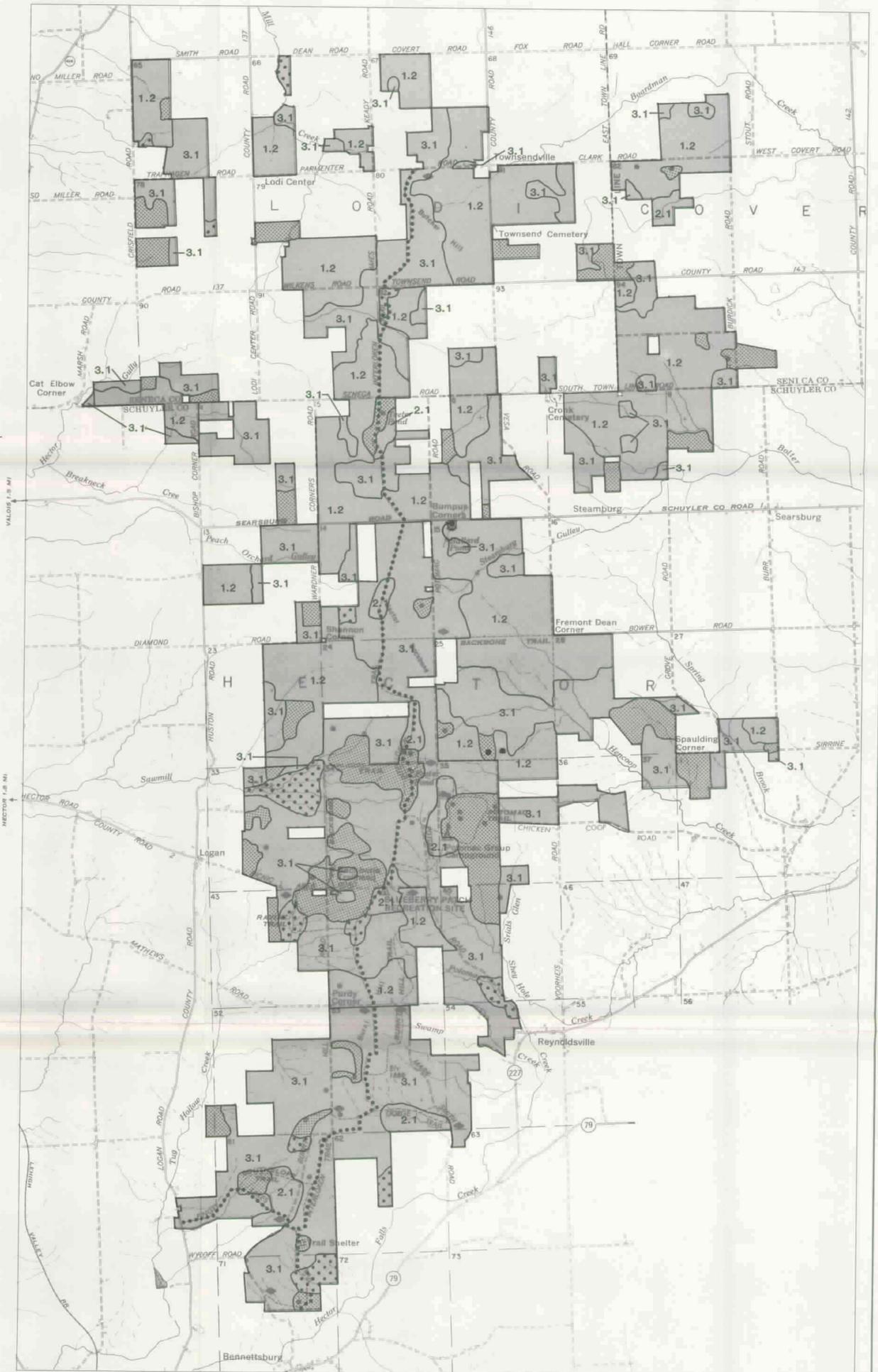


SHADED MANAGEMENT AREAS (52%) WILL RECEIVE LITTLE OR NO VEGETATIVE MANIPULATION AND VERY LIGHT RECREATION DEVELOPMENT

1986

Management Area	Management Emphasis	Acres
1.2	Emphasizes management of pastures for grazing of domestic livestock, as well as hiking, skiing, horseback riding and other activities.	4,500 (34%)
1.3	Emphasizes management of shrub openings for game and non-game wildlife habitat, recreation and fuelwood cutting.	1,400 (11%)
2.1	Trees of many ages and sizes occur and Roaded Natural recreation opportunities exist. Public enjoyment, aesthetic and wildlife benefits are emphasized and unevenaged silviculture is practiced.	400 (3%)
3.1	A mosaic of vegetative conditions occur along with opportunities for Roaded Natural recreation. Evenaged silviculture will be used to produce high quality sawtimber.	6,400 (50%)
8.1	Emphasizes protection of special areas.	500 (4%)
Total		13,200 (100%)

The Management Areas identified on this map and the management directions defined in the EIS and Forest Plan apply to National Forest system lands only. They do not apply to any lands in state, private or other ownerships.



LEGEND

- National Forest Land
- Main Highway
- Secondary Highway
- State Highway
- Wildlife Pond
- Parking Area



WATKINS GLEN 4.0 MI
MONTAIGNE FALLS 7 MI

United States
Department of
Agriculture

Forest
Service

Eastern
Region

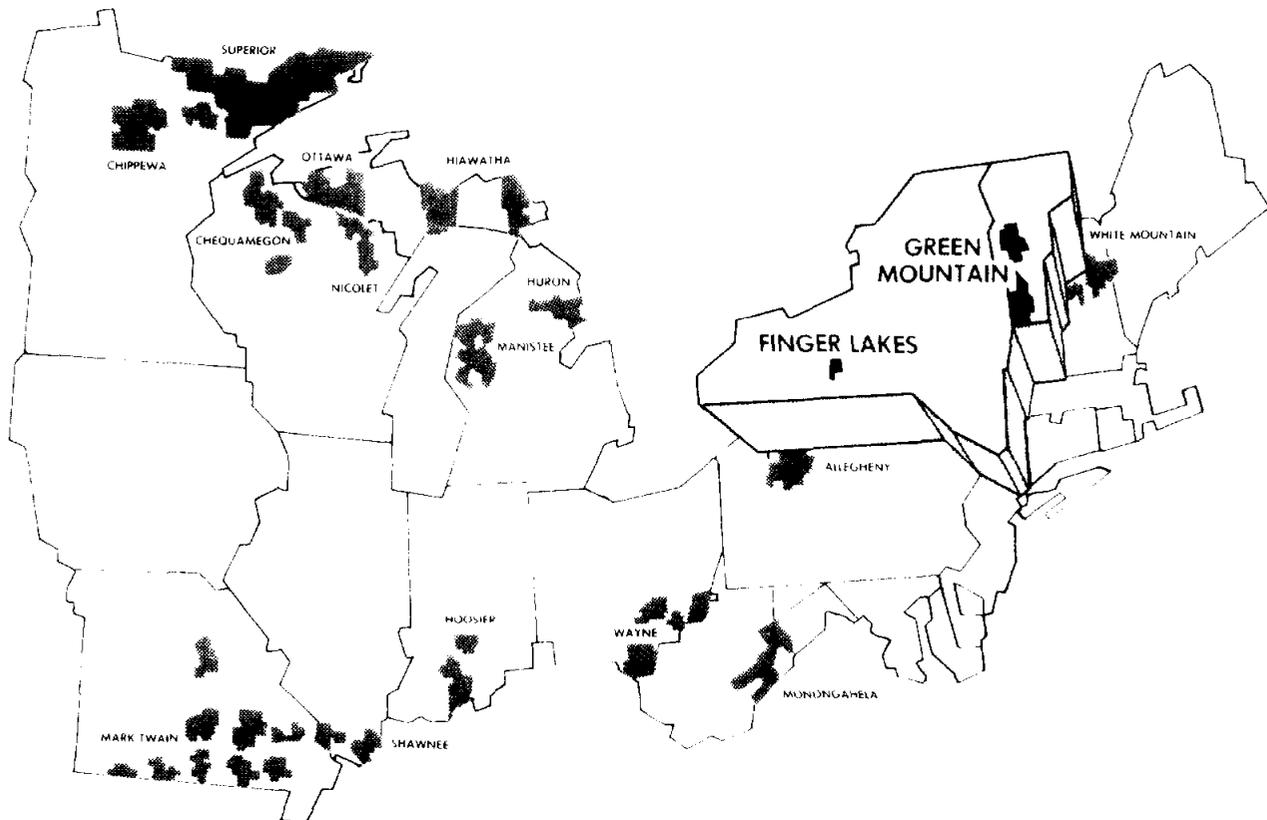


1986

Record of Decision

Final Environmental Impact Statement Land and Resource Management Plan

GREEN MOUNTAIN NATIONAL FOREST FINGER LAKES NATIONAL FOREST



RECORD OF DECISION
FOR
USDA, FOREST SERVICE

Final Environmental Impact Statement
on the
Green Mountain and Finger Lakes National Forests
Land and Resource Management Plans

Addison, Bennington, Rutland, Washington, Windham, Windsor Counties in Vermont
Schuyler and Seneca Counties in New York

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Record of Decision

Introduction

This document provides a record of the decisions which have been made in developing and approving the Land and Resource Management Plan (Forest Plan) for the Green Mountain and Finger Lakes National Forests.

A Forest Plan for each National Forest is required by the rules implementing the Forest and Rangeland Renewable Resources Planning Act of 1974 (RPA), as amended by the National Forest Management Act of 1976 (NFMA). The purpose of the Forest Plan is to provide for multiple use and sustained yield of goods and services from National Forest System lands in an environmentally sound manner.

The Forest Plan covers management actions for 10 years and a revision of the Plan is scheduled at the end of these ten years. It may be revised sooner if conditions or demands change significantly. The Forest Plan has been prepared following rules established for National Forest System Land and Resource Management Planning. These rules were published in the Federal Register, Volume 47, page 43026 on September 30, 1982 and amended in Volume 48, page 40383, September 7, 1983.

The Final Environmental Impact Statement (Final EIS) is a companion document to the Forest Plan. The Final EIS has been prepared following Forest Service and Council on Environmental Quality rules implementing the National Environmental Policy Act (NEPA).

The Final EIS describes a range of alternatives that were considered and discloses their significant environmental effects. Each alternative could have provided the basis for a separate Forest Plan. Only one alternative was fully developed into the "Green Mountain and Finger Lakes National Forests Land and Resource Management Plan". The reasons for selecting Alternative D2 from among the others are described in this document.

Planning records contain the detailed information and assumptions used in developing the Forest Plan and Final EIS. These records are available for review at the Forest Supervisor's Office:

Green Mountain National Forest
151 West Street
P. O. Box 519
Rutland, Vermont 05701
(802) 773-0300

Present Conditions

Green Mountain National Forest

The Green Mountain National Forest (GMNF) is only 5% of the land in Vermont. In contrast to some of the regions in the western U. S. where a large portion of the land is in public ownership, public land makes up only 4% of the land base in New England. While this area of public land is extremely small, it must serve all the people in a region where the population density is more than twice the national average.

On April 25, 1932, the President established a "Proclamation Boundary", within which parcels of land could be purchased to increase the size and benefits of the GMNF. The Federal Government has acquired many parcels since that time and now approximately 325,400 acres (50 per cent) of the land within the boundary is National Forest.

Because the National Forest parcels, privately owned parcels, and parcels owned by other public agencies are intermingled, close coordination among all landowners is vital to ensure harmonious land uses. Exchange and purchase of land continues to be important in order to consolidate the ownership patterns, to provide better management opportunities and to increase the quantity and quality of public benefits.

The Lake Champlain, Connecticut River and Hudson River are the three major watersheds on the Forest. Many small streams, which are generally very clean, flow through the National Forest and into these larger bodies of water.

The Green Mountain National Forest plays an important role in the lives of the 500,000 Vermonters and the additional 70 million people who are within an eight hour drive. The Forest provides many outstanding Primitive and Semi-primitive recreation opportunities and wildlife habitats that are uncommon on private lands in the Northeast. The Forest also provides high quality sawtimber, fuelwood and other wood products which are valuable to the local economy and lifestyle.

The Forest offers outstanding opportunities for backcountry recreation with six Wildernesses and the White Rocks National Recreation Area. The Forest Service manages 77 miles of the Appalachian National Scenic Trail in Vermont as well as portions of the Long Trail. There are approximately 512 miles of hiking trails on the Green Mountain National Forest. There are 9 roadside campgrounds on the Forest. Five downhill ski areas, 10 crosscountry ski areas and several other commercial interests rely on National Forest lands under special use permits. At present, the capacity of the Forest to provide all types of recreational opportunities exceeds the demand for them.

Enjoyment of the Forest for big game and small game hunting, non-game recreation and fishing is limited by the diversity of wildlife species, the populations of those species and the accessibility of those species to people. Diversity of wildlife species and their population levels are primarily determined by the quantity and quality of habitats and overall vegetative diversity. Viewing wildlife is an important feature to visitors.

Big game species include white-tailed deer, black bear, and moose. Small game species are ruffed grouse, woodcock, wild turkey, snowshoe hare, cottontail rabbit, and gray squirrel. The most common fish on the Forest is brook trout. The Peregrine falcon, which is being reintroduced, is the only endangered species presently found on the Forest.

The vegetation of the Forest can be grouped into five major types; hardwood, softwoods, aspen/paper birch, oaks and permanent openings. Thirty-two percent of the timber stands presently have little timber value because the trees are widely scattered, poorly formed, species for which there is no market or infested with disease and insects. The age classes of these trees are not evenly distributed over the Forest. Greater diversity of vegetative types and ages will enhance wildlife habitat for a number of species.

There are 145 miles of existing roads, regulated by the Forest Service, within the proclamation boundary of the National Forest. Another 122 miles are necessary for National Forest access, but traffic is regulated by the state, towns, or private landowners. Public access to the National Forest is presently insufficient, so rights-of-way acquisitions will continue.

Finger Lakes National Forest

The Finger Lakes National Forest (FLNF) is located on 13,232 acres in the Finger Lakes Region of New York. The Finger Lakes National Forest is one of the smallest National Forests in the United States. However, it is the only National Forest land in New York State and the only federal land managed for multiple use in the State.

The FLNF was created in the late 1930's when the Federal Resettlement Administration purchased about 100 impoverished farms. The intent was to move the farmers to more productive land, convert the farms to uses more suited to the land type, and demonstrate sound land management practices. The area was initially managed by the Soil Conservation Service as a cooperative grazing area, but was turned over to the Forest Service in 1954.

Although the name and administrative status has changed over the years (from Hector Land Use Area, to Hector District of the Green Mountain National Forest, to Hector District of the Finger Lakes National Forest), the philosophies of good land stewardship, education and demonstration have persisted.

Visitors appreciate the Finger Lakes National Forest for its panoramic views, varied activities provided by diverse vegetation and wildlife, and the relative lack of restrictions on recreation use. Nearby residents have also come to rely on the Forest for its products and the receipts returned to the counties from commercial uses. The value that local communities place on this National Forest was demonstrated in 1983, when strong public support averted possible sale of the public land to the private sector.

The National Forest lands are intermingled with private lands and provide a mixture of resource conditions and opportunities for people. Most of the lands are timber stands or livestock pastures, but nearly 20 per cent is covered by shrubs and clumps of young trees. These shrubby openings are the remnants of abandoned farm fields and pastures. No natural bodies of water occur, but 46 livestock ponds have been constructed in the pastures and 27 wildlife ponds have been built elsewhere.

Visions of the Future

The National Forest System covers a wide spectrum of physical and social conditions across the United States. Each National Forest is unique and has its own special role. We believe the management philosophy chosen and decisions made about each National Forest should reflect those special roles. Our management philosophy reflects the belief that public lands in New England are scarce and precious. We feel the Green Mountain and Finger Lakes National Forests should be managed to provide benefits that private land does not, and to maintain options and opportunities for future, as well as present, generations.

With its large blocks of land in remote areas, the GMNF is particularly well suited to provide opportunities for backcountry recreation and Wilderness. This will become even more important as the population increases and land in New England becomes further subdivided and developed. Along with our role in outdoor recreation, we must protect and manage the scenery in areas which are visible to people, and seek to provide a wide variety of wildlife and fish. A balanced program of vegetation management is essential to achieving this vision.

The small, diverse, frequently visited FLNF is well suited to continue its tradition of practicing and demonstrating a balanced variety of management. Demonstrating how to efficiently manage a small land area to best satisfy public needs and wants will serve as a model to other land managers. Among the needs to be served are protection of special areas; management of old growth and unevenaged stands; maintenance of safe and pleasant trails; maintenance of wildlife ponds, shrub openings, and other habitats, and production of high quality sawlogs and livestock forage. In addition, the rustic campground and picnic areas will be continued for people who desire simple, quiet settings not often found in private campgrounds.

As stewards of public land for present and future generations, we must be particularly careful to maintain the productivity of the soil, to keep streams free of sediments and pollutants, and to maintain vegetative diversity and viable populations of wildlife species.

The Green Mountain and Finger Lakes National Forests should be used for research, education, and for demonstration of various types and techniques of management. We feel timber management should be centered on producing high quality sawtimber on lands with more productive soils and suitable access. Well managed older trees have a high proportion of quality sawtimber and because of our guaranteed long tenure of ownership, public lands are better suited than private lands to let trees grow longer.

Fulfilling the perceived roles of these Forests and meeting the varied demands of the public requires a variety of different land and vegetative conditions and a variety of different management techniques. Areas of different physical characteristics and capabilities cannot sustain the same uses or provide the same benefits. For the Forest plan to be successful, the management and public use of the land must be carefully matched with the natural characteristics and suitability of the land.

The future Forests we envision will actually be a mosaic of areas, each individually achieving different combinations of objectives and contributing to fulfill the Forests roles. The Plan identifies 17 basic categories of future land conditions we would ultimately like to see on the Forests. The Plan also specifies the management "prescriptions" necessary to change the land from its present conditions to the desired future conditions (Table 1).

Table 1 Management Prescriptions

Management Area Number	Description of Desired Future Condition and Appropriate Management	Acreage	Per cent of GMNF/FLNF
1.2	Pastures where livestock are grazed , but trails sometimes cross and provide opportunities for picknicking, hiking, skiing, snowmobiling and horseback riding.	4,500	1.3
1.3	Shrub openings which provide vegetative diversity and habitat for many nongame and some game species	1,400	0.4
2.1A	Trees of many ages and sizes where Roaded recreation is offered. Recreation, aesthetic and wildlife benefits will be emphasized. Unevenaged management of timber will be used.	19,650	5.8
2.1B	Similar to 2.1A except no commercial timber management will occur	3,400	1.0
2.2A	Similar to 2.1A except Semi-primitive recreation will be offered	5,100	1.5
2.2B	Similar to 2.2A except no commercial timber management will occur.	17,800	5.3
3.1	Mosaic of vegetative conditions , wildlife, high quality sawtimber and roaded natural recreation.	55,500	16.4
4.1	Deer winter areas where roaded recreation opportunities exist. Predominantly softwoods. Managed to provide suitable, stable habitat for deer.	14,500	4.3
4.2	Similar to 4.1 except Semi-primitive recreation opportunities will exist.	5,800	1.7
5.1	Wilderness is managed according to the provisions of the Wilderness Act of 1964	58,400	17.2
6.1	Primitive areas provide opportunities to experience solitude and remoteness . The areas will appear entirely natural . They will have no roads and no timber harvesting .	12,100	3.6
6.2A	Semi-Primitive areas have few open roads , and appear almost entirely natural . Wildlife and timber management activities are selected, scheduled and located to ensure that the setting is maintained for backcountry recreation.	60,100	17.7
6.2B	Similar to 6.2A except no commercial timber management will be performed	17,500	5.2
7.1	Highly developed recreation areas , include downhill ski areas and high density campgrounds.	3,200	1.0
8.1	Special areas have uncommon or outstanding biological, geological, recreational, cultural, or historical significance. Acreage does not include special trail corridors	31,500	9.3
9.2	Newly acquired lands where future management options will be kept open until studied	27,300	8.1
9.3	Potential ski area expansion will be kept open on the lands until specific proposals are received and studied	600	0.2
Total		338,600	100.0

The Decision

The decision is to select Management Alternative D2, which is described in the Final EIS, and to approve the Green Mountain and Finger Lakes National Forest Land and Resource Management Plan as the best means to implement that alternative over the next 10 years. The Forest Plan outlines the overall best way to manage these National Forests and will help the Forest Service to maximize net public benefits for present and future generations.

The Forest plan map identifies the locations of each of the 17 desired future land conditions, called Management Areas (Table 1). The Forest Service believes that the locations and the acreage assigned to each Management Area, and the Management Prescriptions which will be applied to achieve those future conditions, will result in the overall best management of these National Forests.

While the objective of maximizing net public benefits seems to be clear and direct, there was no index which enabled us to objectively value and compare public benefits and to calculate the net result. By definition, net public benefits is an expression of "all outputs and positive effects (benefits) less all associated inputs and negative effects (costs) whether they can be quantitatively valued or not. Net public benefits are measured by both quantitative and qualitative criteria rather than a single measure or index" (36 CFR 219.3).

Because of the stated need to also assess qualitative values, maximizing net public benefits is far different from achieving the highest monetary benefits for the least monetary cost. The Forest Service could not ignore the benefits which have no market value, nor could we assign them monetary values in order to include them in a benefit/cost equation.

This presented the Forest Service with a very interesting and challenging problem. Since there is no valid common denominator, the various benefits had to be put together for comparison. The Forest Service then had to fairly consider important quantitative and qualitative values when picking management alternative D2 as the one which is "overall best".

In determining which management alternative maximized net public benefits the Forest Service had to consider all "present and future generations of Americans" irrespective of any artificial classifications such as color, religion, sex, personal wealth, area of residence, or age. The long range strategic plan selected for the National Forest recognizes that the public includes those not yet born.

Each segment of the public, indeed, each individual, has a unique relationship with these National Forests. The needs and wants of these groups often differ - sometimes dramatically. Because of these differences, the decision to approve and implement this Forest Plan recognizes that some segments of the public will gain while others will lose due to certain management actions, but the net result is that everyone benefits in some way.

When making this decision the diversity of public was kept in mind so as not to confuse "public" with "majority". The interests and relationships of all people and all uses of the National Forests were considered and since the Forest Plan will affect management options for many years, it reflects a concern with future as well as present generations. The Forest Plan was selected to help the Forest Service fulfill its responsibilities as trustees of the environment and to provide a multiple of balanced uses of that environment for succeeding generations.

This decision recognizes benefits to be effects that are "advantageous or for the good of a person or thing", but because of the differences within the public, advantages to some may be disadvantages to others. Benefits are tangible and intangible, as well as direct and indirect. For these reasons, present day benefits were difficult to measure and benefits to future generations were even more difficult to estimate.

In reaching this decision, the Forest Service was not able to precisely calculate the net benefits to all publics since all distinct segments of the public and all the various effects upon them could not be described or reduced to a single measure. Furthermore, the Forest Service lacked a clear set of societal values to impose on the decision to tradeoff gains to some publics and losses to others. The comments about the Proposed Plan helped to identify ways to improve and enhance benefits for everyone, however, and were heavily relied on in reaching this decision.

In the absence of either a single measure of benefits or an accepted set of values, this decision is based on both facts and values. The Environmental Impact Statement, upon which this decision is based, outlined the amounts of several quantifiable benefits and costs as well as several important qualitative considerations.

The decision boils down to exercising well founded judgments based on knowledge, values and intuition - the essence of human choice when solving complex problems.

The major qualitative and quantitative elements of the decision to approve the Forest Plan as the overall best path to take in moving from the present conditions of the land and resources to the desired future conditions described in Alternative D2 are listed on the next page (Table 2). The knowledge, values and intuition used in selecting Alternative D2 with regard to each of these elements are described, as best as possible, in the next section of this document.

The major elements of this decision are dealt with separately to highlight those subjects of particular interest to the public or critical to the decision. As with most complex decisions, these elements are interrelated and the final decision had to be made by considering them as an interrelated whole. These cumulative effects of the decision are outlined in a later section of this document.

Table 2 Major Elements of the Decision

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Resource Protection	9
Future Land Adjustments and Newly Acquired Lands	10
Protect Significant Streams	11
Protect Special Areas	12
Protect the Long Trail/Appalachian Trail	14
Protect the Interloken and other Finger Lakes Trails	16
Increase Primitive Conditions	18
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Reasons for the Decision

Selection of Alternative D2 and approval of the Forest Plan are based on many, interrelated reasons. This section outlines those reasons as they pertain to the major elements of the decision to approve the Plan (Table 2). The interrelatedness of the major elements of the decision and the reasons behind them will become apparent as you read this section.

Our decision and reasons reflect the Forest Service's wish to resolve public issues and management concerns, be acceptable to the public, be compatible with the goals and objectives of other landowners, manage in an economically and environmentally sound fashion, provide what private lands do not, meet demands, and be flexible to change in the future.

Resource Protection

Decision:

Soil, water, air, wildlife and other resources must be protected no matter what decisions are made about the National Forest. Approval of the goals, management direction and scheduled activities in the Forest Plan is based on the belief that they will guide the Forest Service to protect these basic resources.

Final approval of the Forest Plan brings clearer and more stringent environmental protection standards and guidelines than were in the Proposed Plan. Standards on buffer and filter strip widths, chemical applications, timber harvesting, road building and habitat protection are a few of the categories which are now more stringent. Following all Forest Plan standards and guidelines will ensure that the public benefits of management actions will outweigh the potential environmental risks.

Reasons:

Resource protection goals, objectives, standards and guidelines are based on Federal and State laws, regulations, executive orders, Forest Service manuals and public opinion. They are included in the Forest Plan to ensure that the environment is always protected and legal requirements are met. Each alternative considered complied with these basic standards.

Alternative D2 and the approved Plan include the clearest, most stringent measures to protect the environment, however. The changes were made in response to public comments on the Proposed Plan. Although the Forest Service believed standards in the Proposed Plan were sufficient, the new standards will reduce environmental risks even further.

The Forest Service agrees with the public that the slight reductions in potentials for timber harvest and mineral exploitation, as well as the increases in management costs which result, are worth the additional assurance that the environment will not be harmed. If following the Forest Plan proves to inadequately protect the environment then it will be changed. If needed, opportunity exists to quickly amend the Forest Plan to properly protect natural resources.

Future Land Adjustments and Newly Acquired Lands

Decision:

We will continue to improve the landownership pattern of this National Forest to better meet the goals and objectives of the Forest Plan. Adjustments in the National Forest landownership pattern will be made by using the best available techniques which satisfy our goals and objectives in each particular situation. Our techniques include exchanging, purchasing or accepting donations of land or partial interest in land.

The highest priorities will be given to making adjustments in land ownership which will help to protect the Long and Appalachian Trails, protect the White River tributaries, protect important habitats and special areas, increase opportunities for backcountry recreation, improve public access and better consolidate public lands.

The decision is to manage large tracts of newly acquired lands so that future options will remain open until further inventory and analysis can be done. No timber harvesting, road building, mineral activities or other commitments will be made until the analyses are complete. The approved Forest Plan applies Management Prescription 9.2 to these lands.

The decision is to encourage the passage of legislation in New York State which will enable the Forest Service to improve the effectiveness and efficiency of the Finger Lakes National Forest.

Reasons:

Many people said that land acquisition should remain one of the most important missions of the Green Mountain National Forest. They felt more public land is vital to providing more and better backcountry recreation, wildlife habitats, beautiful scenery, high quality sawtimber and other benefits that private lands cannot be relied on to provide. The Forest Service recognizes that public land in New England is precious and that the pattern of public land ownership should be improved to meet the needs of a growing population and help satisfy the goals of the Forest Plan.

Large tracts of newly acquired lands have been assigned Management Prescription 9.2 for an interim period. Additional information is needed before we can determine the most appropriate long-term management prescriptions for these tracts. Prescription 9.2 will keep all possible long-term management options for these tracts open until an informed decision can be made. The public will be involved in the analysis and decisionmaking about these tracts at the appropriate time (Plan, IV-F).

Newly acquired tracts which are relatively small and logically fit into Management Areas which were fully studied have been assigned the same prescriptions as the surrounding areas (Plan, Appendix M). These newly acquired areas were too small to change our decision about how best to manage the surrounding National Forest lands and should be made a part of them.

Several people commented that land ownership adjustments on the Finger Lakes National Forest would greatly improve management efficiency and provide more and better public benefits. Legislation must be passed by the State of New York to enable the Forest Service to acquire more land.

Protect Significant Streams

Decision:

The decision to approve the Forest Plan brings additional recognition and protection of significant streams within the boundaries of the National Forest (Plan, VI-J). These streams are considered to be significant because of the outstanding opportunities they provide for recreation.

During the next ten years we will inventory and fully describe each stream so that the characteristics which make them significant can be enhanced, but not lost. After the inventory is complete, specific management guidelines will be written and a strategy for providing public access will be described. This is likely to occur as part of an integrated approach to implementing the Forest Plan while considering all resources and uses over relatively large, logically defined land areas (page 48).

The Proposed Plan recognized 11 streams, flowing through or adjacent to National Forest lands for 27 miles, which were inventoried by the Department of Interior for their potential Wild, Scenic or Recreational characteristics. The final Plan adds another 38 streams and 65 miles to the earlier list and outlines a strategy for protecting them all.

Reasons:

Recognition of additional streams having significant values to recreationists comes as a result of public comments on the Proposed Plan. Several people felt that protection should not be limited to those streams which had been inventoried for possible inclusion in a national rivers system. We agree that the recreation values of certain streams must be protected regardless of that inventory and the results of future study.

Although the Proposed Forest Plan guided management to protect water quality in all streams, many streams which were important to fishermen, boaters, hikers and other recreationists were not recognized. Without specific recognition and management guidelines their special values could be compromised in the future, even while protecting water quality. Moreover, no specific strategies were outlined for acquiring lands along these streams or providing public access to them.

The final Plan identifies the significant streams and outlines protection of them in general terms (PLAN, IV-E). This will suffice until detailed inventories and management direction can be prepared over the next ten years.

Protection of significant recreational streams slightly reduces the acreage of land suitable for timber management and the volume of timber which could be cut each year. This loss is minor relative to the unpriced benefits to people and wildlife which result. The decision also results in less risk of environmental harm since timber cutting and other surface disturbing activities will be further limited along these environmentally sensitive corridors.

The protection outlined in the Plan is consistent with the goals of the National System of Wild, Scenic and Recreational Rivers (Plan, VI-J). The decision is also compatible with the State Comprehensive Outdoor Recreation Plan and recommendations of the Vermont Whitewater Rivers Study.

Further study in the coming years will help the Forest Service determine how to appropriately manage and protect these streams over the long-term. The followup actions we take should help the public get to and enjoy these beautiful streams. Flexibility exists to add or delete streams from the list if the study or future monitoring indicates that is appropriate. If these streams were not recognized in the Plan, however, then some of their values could be lost for a long time, if not forever.

Protect Special Areas

Decision:

The decision is to protect all known special areas having uncommon or outstanding characteristics (Table 3).

Alternative D2 adds 3 special areas to the 14 which were protected in all the earlier alternatives we considered. As a result, 13 special areas cover 31,500 acres (10%) of the Green Mountain National Forest and 4 areas cover 500 acres (4%) of the Finger Lakes National Forest. When new special areas are "discovered" or acquired in the future, they will also be given extra protection.

Reasons:

This decision was made to address the public's identification of areas which needed special protection. The 3 new areas were added to the earlier list as a result of an analysis of public comments on the Draft EIS/Plan. Beaver Meadows/ Abbey Pond and other remote, high elevation ponds have been added to the group of special areas which will be studied to determine if they should become Research Natural Areas (Table 3).

Protection of special areas is compatible with the State of Vermont's goal to protect fragile areas and the goals of the Nature Conservancy and other organizations to protect and enhance natural diversity through the preservation of uncommon sites and species.

Protection of special areas will provide immeasurable benefits to the public at very little cost and will enhance the stability and health of the entire forest ecosystem. Long term protection of special areas is important to do on public lands since it cannot be assured on private lands.

This decision does not foreclose the option of placing additional measures of protection on these special areas in the future, nor does it preclude protecting new areas should they be "discovered" or acquired.

Table 3 Special Areas Protected

Name	Special Features
LONG TRAIL/ APPALACHIAN TRAIL (LT/AT)	This unique trail corridor the backbone of the mountains through the National Forest. The LT extends from Massachusetts to Canada. The AT coincides with the southern 97 miles of the LT.
WHITE ROCKS NRA	This area was established by Congress for the purpose of preserving and protecting "existing wild values and to promote wild forest and aquatic habitats..." (PL 98-322, Sec. 201(b)).
GROUT POND	The pond and shoreline will remain remote and undeveloped even though there is good road access and many people living nearby.
THE CAPE*	A large, mature hardwood stand, where little human activity appears to have occurred, will be preserved in its natural condition.
MOUNT HORRID*	Spectacular cliffs created by glaciers which provide habitats for peregrine falcons and many rare plants.
TEXAS FALLS	A short series of low falls, cascades and potholes in a small gorge scoured by glacial meltwater.
CRYSTAL BROOK GLACIAL KETTLE	A large natural hole on otherwise flat terrain caused by the settling of glacial sand and gravel after a large block of ice melted beneath.
ROBERT FROST TRAIL	A National Recreation Trail in a serene wooded environment that evokes the poems of Vermont's poet laureate Robert Frost.
BEAVER MEADOWS/ ABBEEY POND*	Isolated beaver meadows and pond which support heron rookeries and provide solitude and remoteness to recreationists.
MOUNT ABRAHAM	One of the highest, most popular peaks in Vermont which supports fragile, sub-alpine vegetation and spectacular views. The area will be studied as a potential Research Natural Area.
REMOTE* PONDS	These sensitive, undeveloped ponds possess uncommon recreational, scenic and biological values. The ponds will be studied for their Research Natural Area potential.
RATTLESNAKE POINT/FALLS OF LANA	The cliffs, waterfalls and gorge provide spectacular views, excellent picnicking and day hiking opportunities and habitats for several uncommon plants and animals.
CRANBERRY* BOG	A small, high elevation bog with native cranberries and other uncommon vegetation. This ecological community will be studied as a possible Research Natural Area.
INTERLOKEN TRAIL	A National Recreation Trail on the FLNF which follows along a plateau between Seneca and Cayuga Lakes with diverse terrain, long views and a wide variety of habitats.
FINGER LAKES TRAIL	A short segment of a heavily used 700 mile trail across southern New York.
OLD GROWTH*	Small areas on the FLNF left to the forces of nature.

* Potential Research Natural Areas

Protect the Long Trail/Appalachian Trail (LT/AT)

The LT/AT is the most heavily used trail on the Green Mountain National Forest. The LT/AT follows the spine of the Green Mountains and most other hiking trails feed into it. Many people traverse from one end of Vermont to the other on the LT or hike "through" from Maine to Georgia on the AT. Both types of "through" hikers travel lightly and equip themselves to stay in trail shelters and huts overnight. People are drawn to the LT/AT from around the world because of the unique opportunities it offers to hike "through" Vermont and America's backcountry.

Decision:

The decision is to protect the outstanding qualities of the LT/AT by managing the trail corridor as a special area. The approved Plan increases the width of the corridor receiving special management protection from 400 feet, to 1000 feet. In addition, the approved Plan imposes more restrictions than the Proposed Plan did on the management activities that can occur within the trail corridor.

No surface disturbing mineral activities will be allowed in the trail corridor and logging will only be done to enhance the trail's qualities. No new, permanent roads will be allowed in the corridor and only 3 skid trails will be allowed to cross the LT/AT over the next 10 years. Many other measures will also be taken to protect the trail (PLAN IV-F).

Reasons:

Protective measures were added to the trails management guidelines and the minimum width of the protected corridor was increased from 400 to 1000 feet in recognition of how special the trail experience is to the people of the world.

All sections of the trail will be managed to provide a Semi-primitive experience even though some sections pass through Wilderness and areas managed for Primitive recreation (MA 6.1). Semi-primitive facilities and shelters will be maintained in order to protect the environment from the high amount of use the trail receives and to meet the needs of the "through" hikers who expect those conveniences. Such management of the LT/AT should not detract from the values of Wilderness or Primitive recreation. This decision should be acceptable to the public since many commenters on the Draft Plan requested these changes.

National Forest protection and management of the LT/AT is consistent with management of the trail on State lands and with the goals and objectives of the Green Mountain Club, Appalachian Mountain Club, Appalachian Trail Conference, Sierra Club, Wilderness Society and other groups which maintain and use the trail. The 1000 foot corridor width is also compatible with National Park Service guidelines for acquisition and protection of the trail.

The protection of the LT/AT outlined in the approved Forest Plan will result in environmentally and economically sound management. If the three future skid trail crossings were prohibited, then the costs of access for vegetative management in those areas would be much higher or the benefits of cutting the vegetation would have to be foregone. The Forest Service recognizes that any crossings could compromise the qualities of the LT/AT, but feels the three approved crossings occur in areas where those effects can be mitigated.

Crossings will be needed north of Route 11 and 30 near Bromley Ski Area in Peru, north of Route 9 near Maple Hill in Woodford, and south of Route 9 near Harmon Hill in Woodford. These crossings are needed to avoid building parallel access roads within the management zone of the LT/AT.

In addition, every effort will be made to relocate existing snowmobile trails outside of the 1000 foot LT/AT corridor. At times this will not be possible because of the limitations of landownership and terrain.

The long term protection of the LT/AT cannot be guaranteed on private lands so an active program to acquire public ownership along the corridor is needed. This decision allows us the flexibility to use a variety of management techniques to maintain and protect the trail and manage adjacent National Forest lands. Additional protective measures can be applied, if necessary, in the future.

Protect and Enlarge the Finger Lakes Trail System

Decision:

The decision to approve the Forest Plan results in enlargement of the total trail system on the Finger Lakes National Forest (FLNF) and better standards for trail management and protection. Wheeled, off road vehicles will not be allowed on any trails.

The decision is to expand the trail opportunities for horseback riders and snowmobilers by constructing a north-south route which intertwines with the Interloken Trail. Once this new trail is built the Interloken, Finger Lakes, Ravine, Gorge and Potomac Loop Trails will be managed for hikers and skiers only. The new trail can also be used by hikers or skiers.

The Forest Plan prescribes special management direction for a 200 foot corridor along forested portions of all recreation trails (PLAN IV-F). Emphasis will be on maintaining a natural appearing, unevenaged Forest within this corridor. Vegetative management within the corridor will be used only to enhance the trails' values. The decision is to manage lands next to the Finger Lakes and Interloken Trail corridors so that pastures, shrub openings, evenaged stands, unevenaged stands and old growth will exist. A large block of old growth will surround the Ravine Trail.

Reasons:

An enlarged trail system was chosen in order to enhance the enjoyment and opportunities of all trail users on the FLNF. The present trail system is small, but use is heavy and people's expectations of solitude and quiet are often compromised.

Restricting horseback and snowmobile use to a new trail will better satisfy the public. The new trail will cross more shrub openings and pastures than the Interloken Trail and will intersect it at all main trailheads. Gates along the new trail will be designed to facilitate horseback and snowmobile travel.

Hikers and skiers may use the new trail if they wish, but will also have the option of choosing trails where only foot traffic is allowed. The new trail will enable short and long loops by all trail users and should reduce the frequency of encountering other parties over the entire trail system.

Certain trails and sections of trail will occur within areas where old growth stands are desired. Vegetation management is precluded within the old growth stands, but the variety of management and conditions which are typical of the FLNF will occur along other sections of trail. This variety helps make the FLNF and certain trails special and reducing the variety would take away some of that special flavor.

The Forest Service believes that a variety of carefully managed vegetation in and around most of the trail corridors will be more enjoyable to pass through than a tunnel of trees where no harvesting occurs. Because trails are few and precious to the public, the Forest Service will only apply vegetative treatments which will enhance the public's enjoyment of the trails. We believe that prohibition of all vegetative treatments would harm rather than enhance the overall enjoyment of trails on the FLNF.

Wheeled, off road vehicles (ORVs) will continue to be prohibited because the land uses and small size of the FLNF makes it impractical to accommodate them. Wheeled ORVs cannot be used on 36% of the National Forest which is pastured because of the need to protect livestock and forage. We feel the best role of the remaining 64 per cent of the Finger Lakes National Forest is to provide simple, quiet recreation experiences and this cannot be done if wheeled ORVs are allowed. Their use can be better accommodated on private and other public lands nearby.

Snowmobiles can be accommodated on pastures because their use occurs in a narrow corridor in the winter when no livestock are being grazed, fragile soils are frozen and other recreation activities are light.

The decision to expand the trail system and separate some trail uses will cost money to implement and will not result in any increased revenues. The unpriced values of more and better recreation opportunities outweigh the financial costs, however. Environmental risks will be slight during periods of trail construction and vegetative management, but these risks are also worth the benefits to be realized.

Increased disruption of livestock grazing may occur as a result of more trails and gates. However, better gates in improved locations, along with a better gate management policy and higher quality recreation opportunities make this an acceptable risk. Flexibility exists to further modify the trail system and its management should the need arise in the future.

Increase Primitive Conditions

Decision:

The decision is to provide 15,400 acres of Primitive recreation opportunities in addition to 58,400 acres of Wilderness. This increase of 2,000 acres of Primitive recreation above the amount in the Proposed Plan is still less than the maximum amount which could be provided.

In addition to Wilderness, Primitive recreation opportunities will occur in three distinct portions of the Green Mountain National Forest: running along the ridges in the Worth Mountain/Monastery Mountain area; the interior of the White Rocks NRA; and the Glastenbury Mountain area.

The increases occur solely in the Worth Mountain/Monastery Mountain area and result from extending MA 601 south along the ridge to Mount Horrid and east along the ridge to Philadelphia Peak (Forest Plan Map, North Half).

Reasons:

Primitive conditions are desirable in these areas to provide wild, remote conditions of high quality for recreationists, increase old growth and remote habitats for wildlife, and enhance vegetative diversity by increasing the amount and improving the spatial distribution of such habitats across the National Forest.

At the beginning of the planning process many people expressed the desire for increasing the acreage of Primitive conditions. Although most commenters on the Proposed Plan were content with the proposed acreage of Primitive areas, others suggested places to increase it.

We agree that increasing the acreage of Primitive conditions along the Worth Mountain, Monastery Mountain ridges will improve the remoteness and solitude of those areas. At this time, roading and managing vegetation on these lands is uneconomical. The increased size will further prohibit surface disturbing mineral activities, but the areas are relatively low in importance for minerals and nearby lands provide abundant opportunities for exploration, development and extraction. No other tradeoffs are apparent.

No other increases in Primitive conditions appear to be beneficial at this time. The suggested increases adjacent to Wilderness would do little to enhance recreation, vegetative diversity, remote habitats or other Wilderness values. Instead, Semi-primitive conditions have been increased next to Wilderness and will provide the harmony between adjacent Management Areas that is desired.

Although the opportunity to enlarge the acreage of the Primitive conditions in the Glastenbury Mountain area will be preserved, we feel it is important to thoroughly inventory and analyze the newly acquired lands which surround it. These lands appear to hold great promise for future increases in Primitive conditions, but not enough information is presently known to make that decision now.

Increasing the acreage of Primitive conditions is compatible with the goals and objectives of the Vermont Statewide Forest Resources Plan and the State Comprehensive Outdoor Recreation Plan. Furthermore, many people commenting on the Proposed Plan stated that Primitive recreation opportunities were desirable and more should be offered, if possible.

Private lands are unlikely to provide Primitive conditions in the future. The population will continue to grow and greater pressures will be placed on all lands to meet society's needs. Private lands are best suited to meet the needs for housing, lumber, minerals and roaded, natural appearing areas for recreation and wildlife habitat. Public lands in Vermont are best suited to provide large tracts of unroaded, Primitive conditions. This definition of roles between private and public lands in Vermont can best meet all of society's future demands. Should unanticipated situations arise in the future, flexibility exists to change the decision about Primitive areas.

Primitive conditions provide many uncommon, unquantifiable benefits at low financial costs. Roding these areas would cost much more money than it would return, plus the unquantifiable benefits of scarce Primitive conditions would be lost.

Primitive conditions will enhance the overall diversity and stability of the ecosystem. Management actions to protect and manage the resources within Primitive areas will be allowed if appropriate (Forest Plan, MA 6.1). Increased Primitive areas will decrease the risk of environmental harm since surface disturbing activities will be prohibited within them.

In the unlikely future event the areas could increase net public benefits by being roaded and intensively managed, then that option will always exist. However, the more likely situation would be future demand for even more areas which have Primitive conditions.

Management actions in the next decade have been scheduled to keep open the option of further increasing the acreage of Primitive conditions to the extent shown in Alternative F. Semi-primitive areas (MA 6.2) will be best suited for that shift, if it is appropriate. Moreover, newly acquired lands (MA 9.2) surrounding Glastenbury Mountain and other areas will provide flexibility for even greater amounts of Primitive areas. Careful monitoring of the effects of Primitive areas and public opinion of them will help us make those difficult decisions in the future.

Increase Semi-Primitive Conditions

Decision:

The decision is to provide 134,500 acres of Semi-primitive conditions outside of the 58,400 acres of Wilderness on the National Forest. This amounts to an increase of 37,400 acres of Semi-primitive conditions above the amount in the Draft Plan. This is nearly the maximum amount which could presently be provided in combination with the Primitive conditions that are desired. To increase Semi-primitive conditions much further would require closure of major roads and would make people accustomed to using those roads very unhappy.

Semi-primitive conditions, outside of Wilderness, will occur in Management Areas 2.2, 4.2, 6.2 and 8.1. Semi-primitive acreage has been increased around Wildernesses (MA 5.1) and Management Area 6.1 where Primitive recreation is the objective. Semi-primitive conditions also occur wherever National Forest lands are well suited to provide them alone or in concert with adjacent public or private lands.

Reasons:

Semi-primitive conditions are ideal for providing a full range of public benefits on lands which are somewhat remote, lightly roaded and relatively large. Public access and management activities must be carefully controlled to maintain those conditions.

At the beginning of the planning process many people expressed a desire for areas where they could escape from the intense sights and sounds of human activity, but which still have ample roads, trails and facilities to accommodate their interests. They felt that such "accommodations" should be rustic and well suited to a backcountry experience. They expressed that timber management would be appropriate if trees were allowed to grow longer and larger before they were cut and that cutting should only be done if small, irregular, natural appearing openings were created. Semi-primitive conditions were prescribed in the Proposed Plan to meet those desires.

Many people commenting on the Proposed Plan felt that more Semi-primitive conditions should be provided to better meet future demands and create better harmony between adjacent land uses. No one suggested fewer Semi-primitive conditions should exist. The Forest Service agrees with those reasons and has decided to greatly increase the acreage of Semi-primitive conditions in the approved Forest Plan.

The amount of Semi-primitive lands to be provided is consistent with the amount suggested in the Statewide Forest Resources Plan and State Comprehensive Outdoor Recreation Plan. The areas to be managed in this condition are also compatible with the goals and objectives of adjacent public and private landowners.

The net result of managing for Semi-primitive conditions is economically sound. The principal reason for this is the relatively inexpensive road system which is required for access. Although potential timber revenues must be postponed until later decades in order to grow bigger trees, the proportion of highly valued sawtimber is greater when they are finally cut. The small allowable size of harvest cuts adds another slight financial burden, but the overall benefits of scenic beauty and backcountry recreation greatly outweigh that cost.

Increased Semi-primitive conditions also result in more environmentally sound management of the National Forest. Greater vegetative diversity results from increasing the acreage of remote habitat conditions and of softwoods, aspen, openings and older trees. Fewer roads and less intensive timber management also reduce the potential risk of environmental harm.

Private lands provide Semi-primitive conditions now, but are less likely to do so in the future. Development of private lands is apt to place greater demands on National Forest lands to provide these conditions in the future. Increasing the acreage of Semi-primitive conditions will enable the Green Mountain National Forest to satisfy the public's demands in the future, if projections are correct.

If projections change over the next ten years, then flexibility exists to meet those changes. Shifting to more intensive management would be easy in Semi-primitive areas. Large tracts of newly acquired lands provide ideal opportunities for increasing the acreage of Semi-primitive conditions in the future. Most other areas of the National Forest would be difficult to shift into this condition.

Maintain Potential to Expand Ski Areas

Decision:

The decision is to maintain the potential for downhill ski areas to expand during the next decade, but we will not approve enlargement of their boundaries onto adjacent National Forest lands until more specific proposals are received and studied. New downhill ski areas will not be allowed to use National Forest lands, however.

The Forest Plan, which implements Alternative D2, more explicitly recognizes areas with ski area expansion potential than the Proposed Plan and most other alternatives did. Only Alternative B would have given approval for future expansion, had it been selected. The approved Forest Plan explicitly recognizes and protects the potential to expand ski areas by placing the 400 acres of affected lands into Management Area 9.3 (Forest Plan, Chapter IV).

The Forest Plan outlines the types of management activities which do not conflict with the potential to expand the ski areas and will be allowed to occur on these lands. The Forest Plan also outlines the process that will be used to study and evaluate any future proposals for expansion. Coordination with state and local governments, Regional Planning Commissions and other interested publics is a major component of the process.

This decision does not imply that approval to expand ski area development on these lands will be given in the future. While future expansions do not presently appear to conflict with the overall goals and objectives of the Forest Plan, further development on National Forest lands will not be encouraged. The ski area managers will be encouraged to meet downhill skiing demands on private lands, if possible.

Reasons:

Ski area managers identified the possibility of expanding their facilities onto National Forest lands early in the planning process. They asked the Forest Service to conceptually approve the expansions during the planning process. Previously, many people had expressed concern over the expansion of the Sugarbush Ski Area on public lands and raised the issue of whether or not such expansions were environmentally sound and were a net benefit to the public interest.

Analysis and decisions about ski area expansions are complex and time consuming because of the interrelated environmental and social effects on public and private lands. The long range plans for development on both public and private lands will have to be reviewed and their effects assessed by all affected parties before conceptual approval can be given.

The Proposed Plan recognized the potential to expand the ski areas and proposed to keep the option open by placing the lands under Management Prescription 3.1. Comments by the ski area managers and the general public on the Draft Plan echoed their earlier statements.

The ski area managers felt, however, that Management Prescription 3.1 did not recognize how important certain lands were to their future growth and felt that actions could occur which might compromise the potential to expand. They suggested the areas be approved for ski area development under Management Prescription 7.1.

We agree with the ski area managers that MA 3.1 inadequately reflects and protects the expansion potential of the 400 acres in question. We also agree with the general public that the details of the proposals are insufficient to gauge their environmental effects and that approvals for expansion cannot be given at this time.

For these reasons, the Forest Service has chosen to identify and protect the lands in question by applying Management Prescription 9.3 instead of 3.1 or 7.1. If more detailed proposals to expand are presented, they will be studied and evaluated following the process outlined in the Forest Plan.

This decision is compatible with the long range plans of the ski areas since it does not preclude their future development. The decision is also compatible with the management objectives for adjacent National Forest lands.

The decision is economically sound since no financial benefits are foregone, the costs of management are low, and the possibility of greatly increased future revenues is kept open.

The decision is environmentally sound since no approval to expand has been given in advance of thorough analysis and public review. All interim management activities will comply with the Forest Plan's direction and should not result in environmental damage. No uncommon or outstanding features are known to occur on these lands.

Private lands are generally, well suited to provide downhill skiing and the Forest Service should not encourage any further ski area development on the National Forest. Exchange of the lands having expansion potential for other lands of equal value could better enable the Forest Service to provide what private lands do not and cooperatively provide greater net benefits to the public. This decision does not preclude the possibility of exchanging such lands with the ski areas if it is in the public interest to do so.

The decision provides great flexibility in responding to any future proposals for expansion while keeping the potential to expand open. The decision also keeps open the option of managing these areas for uses other than downhill skiing should the need arise.

Provide Opportunities for Off Road Vehicles

Use of off road vehicles has grown tremendously in popularity over the past several years. In terms of the Forest Plan, off road vehicles include: snowmobiles, all terrain vehicles, jeeps, motorcycles, and all terrain bicycles.

Decision:

The decision is to provide opportunities for off road vehicles on a system of travelways, roads and trails, which the Forest Service has approved for their use. Four-wheel drive pickups, jeeps and other off-road vehicles which are large and relatively heavy will be allowed only on roads open to all public vehicles. Use of unapproved travelways will not be allowed. The decision is to fully cooperate with organized groups of off road vehicle riders in order to plan, develop and maintain a safe system of approved travelways and to educate riders about proper use of the trails.

Drivers will be expected to comply with new Forest Service policies regarding off road vehicle use. The policies match the type of vehicle and timing of use with compatible environmental conditions and management objectives (Plan IV-E).

The decision recognizes that the trail system which is approved in the Forest Plan is likely to change. Future requests for modifications in the approved trail system will be analyzed against probable environmental consequences, the management objectives of the Forest Plan, and the effects on other benefits of the National Forest.

This decision varies from the proposal in the Draft Plan, which allowed off road vehicles to be used on any roads or trails in large areas approved for their use.

Reasons:

The decision to provide opportunities for off road vehicles on an approved system of travelways responds to public desires to enjoy that privilege, as well as public concerns that uncontrolled use could harm the environment or detract from other benefits.

Although a great deal of interest was shown about the winter, off road vehicle policy in the Proposed Plan, there was little opposition. The proposed system of snowmobile trails was generally accepted and requests for a few, slight modifications were received.

The requests are approved because the changes will not cause harm to the environment, and are compatible with other management objectives and public uses of the National Forest.

The policy to approve areawide use of off road vehicles in the summer and fall was opposed by some people who owned off road vehicles and those that did not. Some owners felt the approved areas did not adequately provide for their enjoyment because of their small size and the restrictions they imposed on travel. Others felt that the loose limitations would result in environmental damage and conflicts with other benefits of the National Forest.

After talking more with all interested groups, we agree with their reasons for limiting all off road vehicles to a system of travelways which is approved by the Forest Service. The decision better enables this National Forest to provide a well coordinated system of travelways which increases net public benefits. Everyone's desires cannot be fully satisfied on all travelways, at all times, but the net result is a system of travelways which adequately meets the desires of most, while protecting the environment from harm.

In order to adequately protect soil, water and the condition of our roads from harm we have chosen to restrict the use of four wheel drive pickup trucks, jeeps and other large, relatively heavy vehicles to roads which are open to all public vehicles. Most other roads on this National Forest are not stable enough to provide safe, environmentally sound routes for such vehicles. The other roads which are sufficiently stable do not interconnect to form a usable system of routes for these vehicles.

Underlying this decision is the belief that the use of off road vehicles on public lands is a privilege, not a right. Respect for the environment and the enjoyment of others is essential if the Forest Service is to continue to grant this privilege to off road vehicle riders in the future. The State of Vermont has denied owners of motorized off road vehicles, other than snowmobiles, the privilege of riding on State lands. Many private landowners have done the same.

New travelways for off road vehicles on National Forest lands will not be approved until the organizations of off road vehicle users provide written evidence that specific, interconnected, sections of travelways on private and other public lands have been approved by those landowners.

We will allow some use of ORVs on this National Forest partially because of the limited opportunities elsewhere in the State. The system initially approved in the Forest Plan is relatively small, occurs on stable, well drained travelways and is fully compatible with the other management objectives in the Plan.

Flexibility exists to expand the system of approved off road vehicle trails if demand continues to rise and the privilege of riding off road vehicles on public lands is not abused. If that privilege is abused then all or part of the ORV trail system can be closed in the future.

Increase Unevenaged and Old Growth Conditions

Unevenaged management is practiced to create stands of trees in three or more age classes. Unevenaged stands are created by selecting individual trees or small groups of trees for harvest. These two methods of cutting are referred to as individual or group selection. Both methods create slight openings in the forest canopy by harvesting mature trees and regenerating new ones in their place. The slightly less mature trees are left to grow until they are ready to be harvested in 20 years or more. The presence of several age classes of trees results in continuous forest cover, along with relatively stable wildlife habitats and recreational environments.

Old growth conditions will occur if areas are left to the processes of nature for many years. In these areas most trees will be 170 or more years old and all vegetation will reflect natural succession. Old growth areas larger than 500 acres should provide all the benefits of a natural ecological community, or ecosystem. Smaller stands of old growth will provide many of these benefits, but are less likely to act as self contained ecosystems for all old growth dependent species.

Decision:

We have chosen to increase the acreage of unevenaged and old growth conditions above present levels. Less than one percent of the National Forest presently has unevenaged conditions and no old growth exists. Almost no cutting has been done to create unevenaged stands in the past several decades.

The long term objective is to have 24,400 acres where selection cutting will be the predominant timber harvesting method (MA 2.1 and 2.2). In addition, unevenaged cutting will be used where evenaged regeneration cuts would be particularly offensive to the public, in areas where evenaged management otherwise predominates (MA 3.1 and 6.2A).

For each year over the next ten years, the Forest Plan schedules an average of 745 acres of selection cutting to begin creating those unevenaged conditions. The decision is not to increase the acreage of unevenaged timber management any more than the amount outlined in the Plan until more is learned about it.

Old growth will occur in the Wildernesses, National Recreation Area, Management Area 6.1 and some special areas (MA 8.1). The decision is to increase old growth by 9,350 acres above the amount proposed in the Proposed Plan. This decision will bring the total to 100,000 acres (31%) on the GMNF and 350 acres (3%) on the FLNF.

Reasons:

The acreage of unevenaged conditions will be increased to enhance forestwide vegetative diversity and maintain continuous forest cover in areas where clearings would look unnatural or would be incompatible with the desired recreation experience. Unevenaged management will also be used to maintain stable winter habitat for deer. Application of just evenaged regeneration would not allow us to achieve those objectives.

Unevenaged regeneration will result in forfeiting some wood and revenues which are available today. Trees which could be sold for a profit now must be left standing in order to create unevenaged stands from existing evenaged ones. The dollar cost of performing unevenaged regeneration cuts in presently evenaged stands is likely to exceed benefits.

Once unevenaged conditions are achieved, future regeneration cuts should produce high economic benefits relative to costs, however unevenaged regeneration will not create large sunny openings or the "edges" between openings and forest which benefit many wildlife. Nor will unevenaged regeneration create the valuable structure provided by thick stands of evenaged saplings.

Unevenaged regeneration cutting is desirable because we feel it carries less potential risk of soil loss, stream sedimentation and other environmental disruptions than evenaged cutting does.

The Proposed Plan was drafted in response to the public's desire for more unevenaged and old growth conditions than exist presently. Few public comments on the Proposed Plan requested further increases in unevenaged management and no one requested less acres than what was proposed. Some people requested more old growth, particularly on the FLNF where none was proposed.

For these reasons, the final Plan has nearly the same acreage of unevenaged conditions in MA 2.1 and 2.2 as before, and further increases the total amount of unevenaged regeneration by 245 acres per year by encouraging the use of selection cutting along roadsides and other highly visible locations (Plan, IV-E/F). Old growth is enlarged coincident with increased MA 6.1 on the GMNF and MA 8.1 on the FLNF.

We presently believe that any further increases in the amount of unevenaged management are unwise until more is learned about its actual costs and effects. Increasing the acreage of unevenaged conditions recognizes the economic and environmental benefits to future generations, but further increases at the present time appear to be unsound because of the financial losses which will be incurred when creating those conditions.

Our knowledge about the costs and effects of unevenaged regeneration in New England is limited because so little has been attempted on this National Forest in the past. The assumptions made about management costs, harvest yields and environmental effects are based on the experiences of others and our best judgments. More precise information will be gathered in the future about the actual effects of unevenaged regeneration. Flexibility exists to increase or decrease the acreage of unevenaged management if that appears beneficial in the future.

Increasing the acreage of old growth conditions results in forfeiting wood and potential revenues. However, the areas of old growth on the GMNF are located on high elevations, have poor soils and do not involve a substantial tradeoff. In fact, the cost of gaining access to these areas would outweigh any revenues that resulted and the environmental risks of doing so would be high.

The 12 stands of old growth on the FLNF will range from 10 to 100 acres in size and do not add up to meaningful tradeoffs in wood or revenues. On the other hand, the benefits they will bring to the Forest will be unique and priceless. One area will provide a baseline for studying natural succession from shrub opening to old growth forest stand. Other areas will provide uncommon wildlife habitats and recreation opportunities while enhancing overall vegetative diversity. One or more of these old growth stands may be designated as Research Natural Areas in the future.

More old growth than is outlined in the Forest Plan is presently not desirable. The acreage and distribution in the Plan appears to be highly satisfactory on the GMNF. We believe the old growth areas designated on the FLNF represent a sufficiently, wide variety of ecological conditions and provide good demonstration and education opportunities for the public. Although a higher total amount could be provided on the FLNF, it would be inappropriate to do so given the small size and unique role of that National Forest. The benefits of old growth will be closely monitored and the amount can easily be changed in the future if necessary.

Increase Softwoods in Deer Wintering Areas

Decision:

The decision is to increase softwoods in appropriate locations to provide at least 8 acres of suitable winter habitat for deer. This is the same total increase in softwoods that was proposed in the Draft Plan, but it will be achieved at a slightly slower rate.

The decision is to convert 245 acres of hardwoods to softwoods each year until the desired amount is achieved in about 20 years.

The annual rate of increase is the same as what was proposed earlier. The annual conversion to softwoods remains the same in spite of the overall reduction in our vegetation management program. This is because of the relatively high importance we place on creating more of this valuable wildlife habitat.

Increases will be scheduled first in locations where softwoods are needed most. The decision is to carefully use clearcutting to eliminate hardwoods and then to plant or encourage natural regeneration of softwoods. The decision recognizes that increasing softwoods will sometimes result in timber sales where financial costs exceed revenues.

Reasons:

We have chosen to increase softwoods to improve the health of deer and other species and to enhance forestwide vegetative diversity. Doing so will also help meet growing demands for softwood lumber.

State of Vermont wildlife biologists and several individuals expressed concern for the winter deer herd at the beginning of the planning process. The Proposed Plan increased softwood in wintering areas to resolve this concern, but did not propose the maximum desirable increase be undertaken immediately.

State officials agreed with the Proposed Plan's strategy and only a few commenters suggested we further increase softwoods. No one commenting on the Proposed Plan suggested the amount be reduced.

The future amount of softwoods in the approved Plan is consistent with the earlier proposal. We believe that this amount and rate of conversion will fully satisfy deer winter needs, will enhance diversity and benefit other wildlife. If monitoring shows that even more softwoods are desirable in the future or the rate of increasing softwoods should change, then that option will exist.

Protection and increase of deer wintering areas on public lands is needed because their continued existence on private lands cannot be guaranteed. The role of National Forest lands in providing stable, winter habitat is consistent with that of State lands and fully compatible with the Statewide Forest Resources Plan.

Increasing softwoods will increase financial costs. At times, financial costs will exceed revenues. In most cases, we believe the nonpriced resource benefits mentioned above will outweigh the financial losses. Each case will be analyzed and the public involved before any actions are taken, however.

Increase Aspen

Decision:

The approved Forest Plan sets an objective of 15,700 acres of aspen and paper birch. This amount is the same as that set forth in the Proposed Plan and reflects an increase of 9700 acres above present levels.

The decision is to convert an average of 170 acres of hardwood to aspen each year in areas of the Green Mountain National Forest which presently have good road access, but little aspen. At this rate, it will take 50 or more years before the Plan's objectives are reached. Conversion efforts will be focused on hardwood stands which presently contain aspen. Sites without existing aspen may require several vegetative treatments or planting before a dense stand is established.

Clearcutting will be used to create and maintain aspen stands since aspen trees grow best in full sun and will not regenerate naturally in the shade of a dense forest canopy.

Reasons:

Northern hardwoods will be converted to aspen stands to improve conditions for ruffed grouse, woodcock, beaver, cavity nesters and other wildlife. Increasing the amount and distribution of pioneer stands will also enhance vegetative diversity and opportunities for hunting and bird watching.

Only half of the existing aspen occur in thrifty, densely stocked stands providing good food and cover for wildlife. Although many northern hardwood and softwood stands presently contain some overmature aspen and paper birch, they do not provide the benefits of a thrifty, young pioneer stand. In the next 10 to 20 years the overmature aspen and paper birch will probably die and the few benefits they presently provide will be lost.

Conversions will generally occur in one to three acre stands which are scattered across the Green Mountain National Forest. The maximum size of aspen stands is unlikely to exceed 10 acres. The increases will not result in extensive monocultures of aspen which could be prone to disease or other threats. The focus will be on providing wildlife benefits, not pulpwood. Presently the market for aspen pulp is very limited and any aspen harvested is difficult to sell. Increasing the acreage of aspen for wildlife is likely to result in short-term financial losses.

We believe the increased wildlife and other nonpriced benefits will outweigh these losses over the long-term, however. Because of the lack of good market, private lands cannot be expected to maintain stands of aspen. Public lands must, therefore, assume a greater responsibility in doing so.

Increased aspen is consistent with the State of Vermont's wildlife management goals and objectives. The increase was also strongly endorsed by the Ruffed Grouse Society and other commenters on the Proposed Plan. Should monitoring show that the benefits of increased aspen do not justify the costs then the program can be abandoned and the stands will quickly revert back to hardwoods. On the other hand, flexibility also exists to further increase the acreage of aspen if that turns out to be justified.

Maintain Shrub Openings on the Finger Lakes National Forest

Decision:

The decision is to increase the 800 acres of Finger Lakes National Forest (FLNF) shrub openings (MA 1.3) outlined in the Proposed Plan to 1400 acres. Along with this, all existing aspen stands will be maintained.

The retained shrub openings have been assigned two priorities for management should insufficient funding be received to maintain them all. The higher priority openings, including the 800 acres shown in the Proposed Plan, will be maintained even under reduced budgets.

About 750 acres of shrub openings, now dominated by trees 20 to 30 feet tall, will be allowed to continue the process of natural succession to a forested condition.

Reasons:

Eight hundred acres of shrub openings were retained in the Proposed Plan because we felt they would satisfy wildlife needs and public enjoyment. The ideal size, shape and distribution of the remaining shrub openings were considered when developing that proposal.

Public comments on the Proposed Plan expressed concern over the effects of allowing 1600 acres of existing shrub openings to grow up and suggested that the policy be reconsidered and implemented slowly, if at all. We share the public's concerns and have chosen to retain nearly all young, manageable shrub openings. Their size and shape may be changed slightly to enhance wildlife benefits and other resource objectives.

The approved Plan agrees with the provision in the Proposed Plan which allows the older shrub openings to complete their natural succession to forest. The areas which now have many older trees would be the most difficult and costly to convert back to a young, shrubby condition. The effects of the natural succession from shrubs to forest on wildlife will be monitored. Until more information on the effects of this conversion is gathered through monitoring, all other shrub openings will be maintained.

Management of shrub openings will result in the infrequent sale of some fuelwood, but no other revenues. The costs of mowing and burning will be offset by the benefits which these uncommon areas provide to wildlife and people. Environmental risks of maintenance are low since the soil is not disturbed and chemicals are not used. However, converting older shrub openings to young ones would require clearcutting and bulldozing.

Flexibility exists to further reduce shrub openings if appropriate in the future. Increasing them further would be costly, but that need is highly unlikely. Reducing shrub openings costs nothing, and the revenues from future timber sales will offset the costs of managing them as forest lands.

Increase Upland Openings

The Green Mountain National Forest presently contains 3,669 acres of permanent upland openings. Openings are managed to grow a combination of grasses, forbs and shrubs, along with a few, small clumps of trees. Openings provide the primary food and cover for a wide variety of wildlife species and good opportunities for recreationists to enjoy the wildlife, scenery, and berry picking.

In addition, openings provide secondary habitat for many other wildlife species and forage for wildlife and livestock. They are also used during a part of the life cycle of many bird species. Turkeys take their brood into openings to feed on the abundant insects, which are a high protein food. Deer feed in openings during the fall and spring.

Over eighty species of nongame birds have been found to be associated with the edge of forest openings. Some of these are woodcock, field sparrow, eastern meadowlark, eastern bluebird, mourning dove, mockingbird, and red-tailed hawks.

Decision:

The decision is to annually convert an average of 40 acres of hardwoods to permanent upland openings until 3000 more acres are created. This is the same amount of annual opening creation scheduled in the Proposed Plan.

The decision is to clearcut hardwoods to form irregularly shaped openings 0.5 to 10 acres in size. The shape will be chosen to increase "edge" habitats and minimize damage to scenery. Small, irregular openings are desirable to wildlife species that do not wish to leave the protective cover of the edge and expose themselves to predators.

Hardwood stands will be converted to upland openings on sites which can provide the greatest multitude of benefits and can be most economically maintained. Creating openings near streams, ponds, lakes and wetlands particularly benefit wildlife and recreationists attracted to water. Openings on or near hiking trails will provide opportunities for camping, berry picking, viewing scenery and wildlife. If managed properly, a single wildlife opening can also serve as a trailhead for recreationists and landing for loggers.

The decision is to sell and clearcut the timber in existing hardwood stands to remove the trees. Heavy machinery may be used to turn over stumps to reduce sprouting or to pile slash to prepare the area for mowing in the future. Fire may be used to reduce slash, kill hardwood and softwood regeneration, and reduce woody shrubs. Grass seeding and planting of mast producing shrubs and trees may occur.

Reasons:

Early in the planning process people expressed a desire for more permanent openings to improve their opportunities for berry picking, camping, sightseeing, bird watching and hunting. Some commenters on the Proposed Plan suggested openings be increased even further. No one suggested fewer openings.

Increasing openings is compatible with the goals and objectives of wildlife managers employed by the State of Vermont. Furthermore, increasing the amount of small upland openings on this National Forest will be in harmony with what residents and visitors expect to see since Vermont's pastoral landscape is characterized by many openings intermingled with forest land.

Converting hardwood stands to openings will usually cost more money than will be received from the sale of timber. We believe, however, that the nonpriced benefits to wildlife and people can justify this financial loss.

The potential environmental risks of increasing openings are slight and should be easy to mitigate if plan direction is followed. Again, the benefits to wildlife and people should outweigh these potential risks.

We do not feel that a more ambitious program to create openings is presently justifiable. The amount chosen recognizes the benefits of increasing openings along with the financial and environmental risks and uncertainties. The amount of opening creation is the same in the Proposed and final Plans, even though our total vegetation management program has decreased. We will continue to place highest priority on vegetation management which yields direct benefits to wildlife and will drop from our program some of those activities which do not yield such benefits.

Flexibility remains to adjust the amount of openings to be created and the methods for doing so. The vegetative change is not irreversible since natural succession would transform the cleared openings back to northern hardwoods if regular maintenance does not occur. Careful monitoring should better inform decision makers on this in the future.

Let More Stands Grow Longer Before Cutting

Decision:

The decision is to manage 60,000 acres on the National Forest so that hardwood stands will typically grow to be 150 or more years old before they are regenerated. In the past, the objective was to regenerate hardwood stands at 100 years of age.

These longer "rotation ages" will typically be applied in areas where Semi-primitive conditions are desired (MA 2.2, 4.2, and 6.2) and the land is suitable for timber management. This will amount to about 50 per cent of the lands managed for timber and will result in larger proportions of high quality sawtimber harvested in the future.

Reasons:

Early in the planning process the public requested that public timber land grow bigger, older trees and be managed for high quality sawtimber. The Proposed Plan directed that trees be cut at 120 years of age on 32,500 acres of land and sooner on the remaining 129,000 acres of land managed for timber.

Partially in response to public comments on the Proposed Plan, the Forest Service has decided to further lengthen the rotation age of managed trees on a larger acreage than was proposed earlier. No one suggested that northern hardwoods in Semi-primitive areas should be cut when they are younger.

We believe that private forest lands in New England are ample and well suited to growing trees quickly and economically. Private timber investors cannot afford to wait an additional 20 to 50 years before cashing in a crop of trees. Indeed, the long term investment of forest management encourages most private forest landowners to harvest hardwoods as soon as it is economical to do so. This is often at 80 to 100 years of age. Even if a person decides to sacrifice income and grow big, old trees, the land ownership is likely to change before harvesting, and the new owner may not be as generous.

We believe that public lands in Vermont are generally better suited to growing bigger, older trees than private lands are. The Vermont Statewide Forest Resources Plan agrees that doing so provides benefits to society which are not as readily available on private lands. In addition to high quality sawtimber, this type of management will provide uncommon habitats in an overmature, remote forest, enhance vegetative diversity and provide a beautiful setting among big trees for recreationists.

We found that a large number of trees on this National Forest must be grown to an old age before cutting in order to maintain a non-declining yield of timber over time. This is because a very small proportion of trees on the Forest are presently 10 to 50 years of age and if all trees continued to be cut at 100 years of age, then a drastic decline in timber yields would occur 50 to 90 years from now.

Not all trees should be grown to an older age, however. Many hardwood stands must continue to be cut at around 100 years of age in order to eventually achieve an even mix of stands of all ages. Moreover, the conditions resulting from managing younger stands will benefit certain types of wildlife, as well as people who desire those wildlife species.

For these reasons, we decided not to increase the acreage of older trees any more than the approved Plan states. Another reason is that the old growth conditions resulting from Wilderness, the NRA and MA 6.1 will provide many of the same amenities that result from growing older trees for harvest. No additional increases in those amenities appear to be needed at this time.

Timber cutting will be less frequent if trees are allowed to grow older before harvesting so there should be less risk of harming the environment over the long-term. Because of the less frequent cutting, fewer roads will be needed and less construction will occur. Less related road building also reduces environmental risks and economic costs.

The large proportion of high quality sawtimber in these well managed, older trees will be economically advantageous to society in the future, even though delaying harvest means giving up some financial revenues in the interim. Furthermore, allowing stands of trees to grow to an older age may increase the chances of some trees dying before they are harvested. The benefits mentioned earlier, however, will help to outweigh the costs of this decision and we believe greater net public benefits will result.

Great flexibility exists in the choice to grow more older trees since they can still be cut before reaching 150 years of age, if necessary. If cut today, however, society would have to wait another 100 years before finding itself in the same decisionmaking position.

Reduce Clearcutting and Delay Overstory Removal

Decision:

The decision is to reduce the acreage of clearcutting far below historic levels. The approved Forest Plan schedules only 440 acres per year to be clearcut, on average, over the next ten years. This amount is 30 acres per year lower than the level suggested in the Proposed Plan.

The decision is to generally discontinue the past policy of clearcutting low quality stands or good stands of mature timber even though it is the most economical harvest method. Clearcutting will only be used when it is the only harvest method which can provide certain non-priced benefits that the public desires and when the Forest Service decides those benefits clearly justify cutting (PLAN, IV-G, Timber). In most cases, selection or shelterwood cuts will be used if the hardwood stands are to be regenerated at all. Often low quality stands will simply not be cut until conditions improve sufficiently to allow the use of a method other than clearcutting.

Furthermore, the decision is to delay the overstory removal in some shelterwoods for at least 40 to 60 years. This will be a trial treatment because it has not been done in the past and little is known about the survival of the overstory trees.

Reasons:

Many publics raised the issue of clearcutting National Forest lands several years ago. They stated that the potential negative effects on soils, water, wildlife, scenery and recreation do not always justify improved stand conditions or lower harvest costs.

The policy in the Proposed Plan reflected those concerns by reducing annual clearcutting to less than 50 per cent of past levels. The decision is to carry the proposed policy over into the approved Plan since no disagreements were expressed in the public comments received on the Proposed Plan and no other reasons to change the policy are apparent. The 39 acre reduction in annual clearcutting in the approved Plan coincides with the overall reduction in timber harvesting and does not reflect additional changes in clearcutting policies.

The Forest Service believes that the benefits to vegetative diversity, wildlife and recreationists outweigh the potential risks when clearcutting is used to regenerate aspen and paper birch or to convert hardwoods to softwoods, aspen, upland openings or vistas (PLAN, VI-A). Limited clearcutting will also be done to salvage stands which present a high risk of dying in the next ten years or are very sparsely stocked (PLAN, VI-A). In these cases, clearcutting is the only harvest method which can achieve the desired results.

We believe that the benefits of clearcutting do not outweigh the risks in any other cases on these National Forests. For this reason, if no other harvest methods can be used then no cutting will be done. This change in policy will reduce the number of timber sales where financial revenues fall below the costs incurred.

Many "below-cost" sales in the past resulted from clearcutting low quality stands which had very low dollar value and limited amenity benefits, but cost the same to sell as highly priced stands. Low quality stands were cut in the belief that the improved health of the forest outweighed the financial costs and the losses to other resources. From now on, low quality stands will generally be left alone until the market for low quality wood or the condition of the stand improves.

Furthermore, in response to public comments on the Proposed Plan, we have chosen to delay removal of the overstory in many shelterwoods for at least 40 to 60 years. The reason is to keep stands in highly visible locations from appearing to have been clearcut. When the overstory is routinely harvested 6 to 10 years after the regeneration cut the low, bushy undergrowth is all that can be seen. The overstory of mature trees should help the stand appear more like a natural forest until the regenerating seedlings become large trees.

Delayed overstory removal will be less economical to present day society, but should financially benefit future publics. The evenaged regeneration beneath the overstory should provide all the benefits to wildlife that clearcuts and routine shelterwoods do, while the retained overstory mitigates the harmful effects on scenery and recreation. Delaying overstory removal should also reduce the risk of environmental harm by eliminating the need for one cut.

We do not have specific information on the effects of delaying the removal of the overstory since this has never been attempted on the Green Mountain National Forest before. Like most new methods, it will require careful thought and practice during the initial period of learning. The overstory will need to be carefully selected if it is to survive winds, insects, disease and other natural forces for another 40 to 60 years. Open minds and careful monitoring will be essential if this new practice is to be successful.

We have decided to apply delayed shelterwood cuts in highly visible locations such as areas along roads, trails and scenic hillsides (PLAN IV-E and VI-A) . Initially, the application will be limited because of our lack of practical knowledge and experience about the effects of delaying overstory removal, as well as concern over the loss of revenues in the near term. This practice could be discontinued or modified in the future when more is learned.

Maintain Annual Amount of Wood Sold

Decision:

The decision to approve the Forest Plan which implements Alternative D2 allows an average of 16.0 million board feet (MMBF) of timber to be sold each year over the next ten years.

This translates to 15.6 MMBF per year on the Green Mountain National Forest and 0.4 MMBF per year on the Finger Lakes National Forest. Our analysis of Alternative D2 indicates these levels are the maximum allowable annual amounts that can be sold over the next several decades. This level is below the amount of timber annually offered for sale over the past five years.

Reasons:

There are many, interrelated reasons for limiting the amount of wood allowed for sale. First, the public expressed concern over the effects of increased cutting on National Forest lands and stated that private lands were better suited to meeting demands for timber in the northeast. We share the public's belief that the Green Mountain National Forest has an important role to play in providing backcountry recreation and scarce wildlife habitats that private lands cannot provide.

Providing these benefits substantially reduces the acreage of land managed for timber production. Other lands are not managed for timber because the high costs of roading or low soil productivity would make timber management uneconomical. Timber will not be cut where revenues fall below financial costs unless the non-priced benefits to wildlife or recreationists clearly justify cutting. These benefits are described in the Forest Plan (PLAN, VI-A) and elsewhere in this document. Reducing the amount of land suitable for timber production to 42 per cent of the total National Forest plays a major role in keeping harvest levels low.

Furthermore, on lands which may be suitable for timber management, our decisions cause the potential harvest levels to drop even more. Among these are the decisions to emphasize high quality sawtimber, grow trees longer, increase unevenaged management, reduce clearcutting and delay overstory removals in shelterwoods.

The national policy of maintaining a non-declining yield of timber from the National Forests may have the most significant effect on limiting the allowable sale quantity from suitable lands, however. Much of the potential harvesting in the next decade must be delayed in order to provide enough wood to cut 50 to 80 years from now.

This decision is compatible with the Vermont State Forest Resource Plan and the State Comprehensive Outdoor Recreation Plan. Both of these plans place the major role of producing wood on private lands and stress that the National Forest is to demonstrate sound forest management while producing high quality sawtimber. Ample supplies of wood exist on private lands to meet demands.

Cutting more timber than the amount specified in the Forest Plan would be economically unsound and would increase potential environmental risks, in addition to reducing the benefits that this National Forest should more properly provide. Rooding and timber management costs in many of the areas determined to be unsuitable for timber are disproportionately higher than the revenues. These same areas tend to be some of the most environmentally sensitive because of steep topography, thin soils and the remote habitats they presently provide.

Reducing the amount of wood to be cut below that shown in the Forest Plan would greatly inhibit our ability to provide wood and other benefits to society in a cost effective manner. The program outlined in the Forest Plan enables us to use the sale of timber to offset the costs of managing softwoods for wintering deer, managing aspen for beaver, grouse and other species, increasing upland openings for all wildlife, increasing vistas for people and enhancing the diversity and health of the forest as a whole.

Another important benefit of cutting this amount will be the production of high quality sawlogs. These could be bigger, better and more valuable in many ways than logs grown elsewhere.

Maintaining this level of timber cutting allows great flexibility in future decision making as well. Harvest levels could be changed in either direction rather quickly in response to major changes in future conditions or society's demands.

Maintain Pastures on the Finger Lakes National Forest

Decision:

All 4,500 acres of existing pastures will be maintained. Pasture management practices will be stepped up sufficiently to meet present demands for grazing, to protect all resources from damage and to maintain in a loss of long term productivity.

If future demands for grazing rise then grazing capacity will be increased by economically managing some pastures more intensively. No increases in acreage of pastures will be allowed, however.

Should demands for grazing fall and some pastures be vacated, then the most productive pastures will be grazed and maintained with the lowest intensity of management possible. Highly productive pastures which can best enhance other resource objectives if allowed to become forested, may be allowed to grow into forest, however.

Unutilized pastures may be mowed or cut for hay, but no other activities will be performed. A decision on the long term management of any vacated pastures will be deferred until the Forest Plan is revised.

Reasons:

No increase in the acreage of pastures is needed to meet anticipated demands. All expected increases in demand can be satisfied by more intensively managing existing pastures. Reducing the acreage of pastures at this time would be premature since they are all being utilized, can be managed economically and may be needed to meet future demands.

The lowest intensity of management which still protects long term productivity will be employed since it is most economical and still satisfies present demands. In fact, the approved Forest Plan reflects the only alternative with a positive present net value for pasture management.

The frequency of many management activities will increase slightly in the coming years. The increase will result because past management did not adequately prevent decline of forage quality and production. In fact, continuation of the very low level of past practices would probably result in the long term damage to soil productivity.

Increasing the acreage of pastures or intensity of management would be uneconomical and totally unjustifiable at the present time. Great flexibility exists with this decision since no options are foreclosed and contingencies for changes in future utilization of pastures are outlined. Mowing of any vacated pastures will maintain open conditions until a better forecast and analysis can be completed. Such analysis is not possible until trends in future markets and prices for livestock become more apparent.

Place Additional Restrictions on Mineral Activities

Decision:

The decision to select Alternative D2 and approve the Forest Plan brings additional restrictions on mineral activities with it. No oil and gas leasing, development or extraction of minerals can be allowed in Vermont's Wildernesses and National Recreation Area (87,400 acres or 26% of the NF), but we consent to exploration which does not disturb the surface. Exploration includes prospecting for hardrock minerals, such as gold and copper, as well as searching for other minerals. We will not consent to any mineral related activities on 27,300 acres (8%) of newly acquired GMNF lands (MA 9.2, Table 1) until they are studied in more detail.

We consent to oil and gas leasing and mineral exploration on 85,000 acres (25%) of the NF, as long as no surface disturbing activities occur and all other restrictions are followed. Consent will be given to oil and gas leasing and surface disturbing mineral exploration on the remaining 138,900 acres (41%) of the NF, if standard restrictions are followed and detailed, site specific analyses reveal that the environmental effects can be mitigated.

Reasons:

The laws establishing the Wildernesses and National Recreation Area require the Forest Service to withhold consent to mineral leasing or exploration which would directly grant or imply mineral development rights.

The decision to withhold consent to lease or permit exploration on 8% of the National Forest is based on the need to further examine these newly acquired lands. Consenting to oil and gas leases and subsequent surface disturbing exploration could preclude potential management options or cause damage to sensitive resources we presently know little about.

We consent to oil and gas leasing and exploration of minerals, but not surface disturbing mineral activities, on 25% of the NF because such activities could harm extremely sensitive resources or unacceptably compromise the management objectives in these tracts. We considered denying consent to oil and gas leasing and all subsequent activities in these areas, but decided that such denials were excessive and that prohibiting surface disturbances would sufficiently protect the resources and objectives in these areas (Plan, VI-I).

We feel that withholding consent to surface disturbing activities on 25% of the National Forest will not obstruct the discovery of valuable minerals since the majority of the area is comprised of small, widely scattered tracts in locations assessed as having low to moderate potential for valuable minerals. Adequate access to minerals under these tracts can be gained from adjacent National Forest lands or intermingled private lands which are geologically similar. Potential oil and gas deposits are relatively deep and can be tapped by drilling at a slant from locations outside these sensitive areas.

We consent to oil and gas leasing and surface disturbing mineral exploration on 41% of the NF because the environmental conditions and management objectives, considered on a broad scale, appear to be able to withstand such activities. Further analysis will be needed to assess whether or not proposals for specific activities and sites are acceptable if standard environmental restrictions are followed. This decision gives us the flexibility to modify the broad restrictions outlined in the Plan once specific applications are received and analyzed. The public will be fully involved in future decisions if mineral activities are proposed.

Build Fewer Roads for Less Cost per Mile

Decision:

Selection of Alternative D2 and approval of the Forest Plan means that fewer permanent roads will be built than would be if current management were continued. The decision is to give priority to building and restoring roads which help fix environmental problems on existing roads and provide public access to isolated areas of the National Forest surrounded by private lands. The decision is to give the lowest priority to building roads which are solely needed to accommodate vegetative management practices and to roads which might foreclose the option of increasing backcountry recreation opportunities in the future.

The Green Mountain National Forest will continue to maintain over 285 miles of roads in order to provide safe public use and to prevent road damage. Sixteen miles of these existing roads are presently in poor condition and will be restored in the next 10 years.

We presently project that a total of 40 miles of road construction and reconstruction are needed to meet the long-term goals and objectives of the Forest Plan. This amount is 21 miles less than if past management philosophies were continued (Alternative A) and 2 miles less than what was outlined in the Proposed Plan (Alternative D). Out of the 40 mile long-term total, 5 miles are scheduled for construction and 6 miles for major reconstruction in the next ten years.

The decision is to design and manage new roads to minimize construction and cost. This means that most new roads will be open to vehicles only when seasonal conditions allow. Pedestrians will be able to enjoy the roads year round, however.

Reasons:

The major reason that fewer permanent roads will be built and lower design standards will be used is because the goals and objectives of this National Forest have shifted away from timber production and toward providing Wilderness, backcountry recreation, remote habitats and special areas.

For many years, the public has taken issue with building high standard, permanent roads into remote areas on the Green Mountain National Forest because of the loss of backcountry recreation and remote habitats, the potential for environmental damage and the high financial costs of construction. They felt such losses were not worth the increased timber cut. The public desired roaded access to National Forest lands, but not "through" areas where backcountry values would be lost. They felt National Forest roads were being "overbuilt", cost too much and their appearance and use were not compatible with the recreation experience desired.

We shared the public's feelings when we initially suggested Alternative D and developed the Proposed Forest Plan. The people who commented on the Proposed Plan were highly encouraged by the overall shift in road management, but a few specific suggestions were made. No one requested more roads be built or higher design standards be used.

In response to those suggestions, Alternative D2 projects 2 fewer miles of total roads to be built over the long term. Moreover, the Forest Plan schedules 8 fewer miles of construction or reconstruction in the next 10 years and directs that none of it will reduce opportunities for increasing backcountry recreation in the future.

The road building scheduled in the Forest Plan is primarily intended to improve public access to, not through, the National Forest. Forty per cent of the road projects scheduled over the next ten years will be short "spurs" of 200 to 500 yards in length. These spurs comprise about 15 percent of the total miles to be constructed or reconstructed. Such roads will help people get to the National Forest and provide them with a place to park their cars at the end. The roads may occasionally be used by log trucks, but their presence or use will not eliminate the backcountry opportunities which exist. The parking areas will also serve as wildlife openings and log landings.

Building this amount and type of roads is necessary to increase net public benefits. Without construction or reconstruction of some roads a large portion of the National Forest would not have adequate public access, environmental damage would continue and vegetative management could not be used to create wildlife habitats, enhance diversity or produce high quality sawtimber.

A potential for environmental damage exists whenever roads are built. Adherence to the standards and guidelines in the Forest Plan will reduce this risk. No roads are proposed for easily damaged or unstable areas and a more detailed environmental analysis will be done prior to final design and construction. We believe the public benefits from building these roads outweigh the slight risks which are involved.

Building no more permanent roads would result in the lowest financial costs of management and yield the highest present net value, but the unpriced benefits of improved public access to the National Forest would not be realized. Building more roads than what is proposed, however, would be inconsistent with the role of this National Forest and presently appears to be unsound from an economic standpoint. We believe the roads scheduled for construction are in the public interest and are needed to perform the overall best management of this National Forest.

The decision allows much flexibility for future decisionmakers. Building some roads enables the public and managers access to the forest while retaining the potential for increased backcountry recreation. Building more roads than what is scheduled would essentially eliminate this option in the future. More roads can always be built if needed, but once built they are difficult to erase.

Cumulative Effects

The approved Forest Plan implements Alternative D2, which is the overall best one, because while resolving public issues and management concerns, it provides great flexibility, satisfies a wide variety of individual choices, emphasizes what private lands do not, meets demands, is ecologically and economically sound, and is acceptable to interested publics.

Each of these considerations was discussed earlier in this document as part of the major elements of the decision to approve the Forest Plan. In this section we have highlighted the cumulative aspects of these considerations in order to address the decision as a whole.

Alternatives Considered

Information is presented in the Environmental Impact Statement to critically compare the seven alternatives we considered. The goals and objectives of each alternative we studied are briefly described in the EIS (DEIS, pages 2.12-2.24 and FEIS, Chapter I). Furthermore, the EIS presents comparisons of individual factors tracked in the analysis of alternatives (DEIS, Chapter II and FEIS, Chapter I) and the cumulative effects of those alternatives (DEIS, Chapter IV and FEIS Chapter I).

This information is not repeated in this document. Instead, this document focuses on drawing that information together and providing meaningful rationale for selecting Alternative D2 from among the others.

Flexibility

Alternative D2 provides more flexibility and options for future management of the National Forests than any of the other alternatives. Keeping options open on public lands is one of the most important elements of a long range, strategic plan because the future is uncertain and changes are likely to be needed. However, at the same time the Plan keeps options open, it also leads us toward the future conditions that we presently perceive to be most desirable.

Greatest flexibility is not a result of least change from present conditions or the most wild, natural conditions. Instead, flexibility results from creating a diversity of land and resource conditions which are capable of rapidly responding to society's future needs to increase or decrease any one of them. Alternative D2 embodies the most diverse yet balanced sets of conditions of any alternatives considered. The amount and juxtaposition of those conditions will facilitate management shifts in any direction.

Wide Variety of Choices

In providing the most diverse, but balanced, set of land and resource conditions Alternative D2 satisfies the widest variety of individual needs and wants. In reality, peoples' needs and wants will be met by a combination of public and private lands. The emphasis that Alternative D2 places on backcountry recreation and other benefits not provided on private lands results in the widest variety of total demands being met by all lands.

Provide What Private Lands Do Not

Alternative D2 places the greatest overall emphasis on providing the benefits that private lands do not. Alternative F provides more land for Primitive recreation and Alternatives E and F outline more deer wintering area. However, during the next 10 years, Alternative D2 keeps open the option of achieving those same levels if necessary.

Of all alternatives, D2 prescribes the most land managed for aspen, upland openings and overmature (150+ years) hardwood stands. It also has among the greatest acreage of unevenaged management and old growth. The most public access, parking and backcountry facilities are also outlined. These benefits are unlikely to be provided sufficiently on private lands.

Meet Demand

As a result of providing great flexibility, a wide variety of choices and benefits that private lands do not provide, Alternative D2 will be able to satisfy all projected public demands. Alternatives A through D fall short of meeting some demands for backcountry recreation because timber management is emphasized and too many roads are built.

Alternatives E and F satisfy backcountry demands, but do not provide sufficient high quality sawtimber and adequate public access or sufficiently improve wildlife habitats and vegetative diversity. Alternative D2 meets all projected demands with the best overall balance of goods and services. This balance exists among the land and resource conditions desired on the National Forest, as well as among those on public and private lands.

Environmentally Sound Management

Application of the management Standards and Guidelines for any alternative are intended to reduce the risk of environmental harm to an acceptable level. However, Alternative D2 is one of the most environmentally sound alternatives because it has the most stringent environmental standards, the most special areas protected and next to least amounts of timber harvesting, road building and other surface disturbing activities scheduled.

Only Alternative F schedules fewer management practices with the potential to cause environmental harm (DEIS, Chapter IV and FEIS, Chapter I). However, applying the more stringent standards will reduce the slightly higher risk of environmental harm imposed by Alternative D2.

As a result of these additional practices, Alternative D2 provides better access, improved wildlife habitats, greater vegetative diversity, more and better sawtimber, more unevenaged management and more trails, parking lots and backcountry facilities than Alternative F. We feel these benefits outweigh the slight additional environmental risks that Alternative D2 presents.

Economically Sound Management

Alternative D2 is the most economically sound management alternative. Partly this is because Alternative D2 has the highest present net value of the alternatives considered (Table 4). Present net value (PNV) is only one measure of economic soundness which we used, but it was the one most heavily relied on in our analysis. Present net value was calculated by subtracting the discounted dollar value of all priced costs from the discounted dollar value of all priced benefits using a discount rate of 4 per cent.

While present net value is important to consider so are other measures of economic soundness. The limitations we faced in calculating PNV, the context it should be viewed in, and other measures of economic soundness that we explored are described in the EIS (DEIS, Chapter II and FEIS Chapter I).

Each alternative we considered incorporates the most cost efficient combination of management prescriptions to achieve its goals and objectives. Because of this, the primary difference in present net values result from differences among the philosophies, goals and objectives, of the alternatives. Differences in the placement of those philosophies on the ground also account for some differences in PNV.

Table 4 Present Net Value (Millions of 1978 Dollars)

Alternative/Benchmark	Present Net Value	Present Value Benefits	Present Value Costs
MAXIMUM PNV Benchmark	81.6	125.2	43.6
APPROVED FOREST PLAN Alternative D2	79.1	123.6	44.5
NONMARKET EMPHASIS Alternative F	78.7	122.1	43.4
PERCEIVED ROLE Alternative D	78.6	123.8	45.2
BACKCOUNTRY EMPHASIS Alternative E	78.0	123.7	45.7
CURRENT EMPHASIS Alternative A	72.0	121.1	48.9
MARKET EMPHASIS Alternative B	70.9	119.2	48.3
UNEVENAGED EMPHASIS Alternative C	69.9	118.9	49.0

The PNV of Alternative D2 is 2.5 million dollars less than the maximum possible, primarily because its goals and objectives for timber, recreation and wildlife management are more costly to achieve (Table 3).

The lower present net value of Alternative D2 partly results from greater unevenaged management, cutting on longer rotations and delay in the removal of shelterwood overstories. These decisions incur additional costs and delay the realization of potential revenues. Although these decisions lower present net value they should improve the economic benefits to people in the future. More improvements to vegetative diversity, wildlife habitats and the quality of recreation opportunities also cause some lowering in present net value.

We believe the additional benefits of Alternative D2 outweigh the very slight reduction from the maximum present net value and will better improve the economic soundness of forest management in the future.

The present net value of Alternative D2 is \$400,000 higher than the next closest choice, Alternative F (Table 4). This difference occurs primarily because in Alternative F we incur higher costs for recreation management than Alternative D2, while the priced benefits of recreation are the same between these alternatives. Alternative F schedules more trail and recreation facility construction than D even though it does not appear to be necessary to meet future recreation demands. Alternative D2 has the second most extensive recreation program and does not foreclose the option of boosting the level of that program in the future should that become desirable.

The present net value of Alternative D2 is \$500,000 higher than that of Alternative D because the discounted cost savings, resulting primarily from reducing the timber management, roadbuilding and range programs, amounts to \$700,000 while the net loss in benefits is only \$200,000 (Table 4). This net change in discounted benefits is slight because the loss in timber revenues is almost entirely offset by an increase in backcountry recreation benefits (FEIS, Chapter I).

None of the other alternatives are close to Alternative D2 because they incur disproportionately high costs for timber management and roadbuilding relative to the increased timber values which result (Table 4). Moreover, their more extensive roadbuilding and timber management programs resulted in a lowering of backcountry recreation benefits in those alternatives (DEIS, Chapter II and FEIS Chapter I).

Acceptable to the Public

We believe Alternative D2 is the overall best because it is widely accepted by publics interested in the long term management of these National Forests. Overwhelming support for Alternative D was received when the Proposed Plan was issued. Many slight modifications in Alternative D and the Proposed Plan were suggested and most of them are now reflected in Alternative D2 and the final Forest Plan (FEIS, Chapter II).

We feel most of the changes suggested by the public improve the Plan, make it acceptable to the public and make Alternative D2 the overall best choice after all things are considered.

Implementation, Monitoring and Mitigation

Introduction

The Forest Service will not begin to implement the approved Forest Plan until at least 30 days after the Notice of Availability of the Plan, Final EIS and the Record of Decision appear in the Federal Register. The time needed to bring all activities into compliance with the Plan will vary depending on the type of activity.

Subject to valid existing rights, all permits, contracts, and agreements will be made consistent with the plan. All projects will be designed, scheduled, and budgeted in accordance with the Plan.

In addition, careful monitoring of how results match those projected in the Plan will be done. Recommendations will be made on amending or revising the Plan to reflect changed conditions or unanticipated results.

This section explains the process for implementing the Plan, for monitoring the results, and for amending or revising the Plan.

Implementation

The Forest Plan will be implemented by applying its generic management prescriptions to specific, logical areas of the National Forest called Opportunity Areas, in a way which integrates consideration of all resources. These are called Opportunity Areas because of the opportunities they hold for working toward the goals and objectives of the Plan during the next ten years. An integrated strategy for implementing the Forest Plan in each of these areas will be completed by us in the next few years. The public will be asked to help us develop these integrated strategies.

The Forest Plan gives us a great deal of direction for each opportunity area. First, the Plan shows us where the various management prescriptions will be applied. Inherent in each management prescription is the desired future condition of the land and the management practices, standards and guidelines which are appropriate. The Plan establishes the desired proportions of various types of vegetation and determines the types of recreation opportunities to be provided. The Plan also considers the scenery to determine how different areas should appear to visitors and assigns appropriate standards to be applied to achieve those expectations. Finally, the Plan describes the desired road system for each opportunity area, and determines whether or not any new road construction is necessary.

The integrated strategy for each area will essentially be a formulation of site specific projects and activities which will achieve the Plan's goals and objectives and carry out its direction. The projects will be interdisciplinary, coordinating management practices affecting many resources, and achieving multiple objectives.

Implementation is the step in the planning process which brings the Plan to the ground. The opportunity area strategies will infuse the Plan's many promises, goals and objectives with real-life viability. The site specific projects will be conceived to take advantage of unique opportunities and to consider local issues and concerns. The strategies will be developed to recognize the complexities and interrelationships of all the resources.

Implementation is the stage in the planning process that is the most challenging. Implementation is also where the significant changes in policy which have been stated in this Plan will begin to become obvious. Designing on the ground projects which will meet the multiple objectives and follow all the standards and guidelines assigned to an opportunity area by the Plan will require more interdisciplinary thinking and teamwork than we have ever benefited from before.

Multi-year budget proposals will be worked up to identify and plan needed expenditures and to officially request funding. The budget proposals will be based on the specific projects which were identified when integrated strategies were developed for each opportunity area. The final budget which is approved will determine the annual program of work which will be carried out to implement the Plan.

An environmental analysis will be done when each project is studied. The analysis will begin by examining the Forest Plan and the EIS to establish the appropriateness of the project and the extent of further environmental analysis which may be required.

A project which is compatible with the Plan will require additional environmental analysis and documentation if the proposed action will significantly affect the human environment. This documentation will reference, rather than repeat, information included in the Plan and the EIS. The environmental analysis will focus on issues, alternatives and environmental consequences unique to the project. NEPA requirements for documentation and public review will be met.

A project which is compatible with the Plan, and which both prior experience and environmental analysis indicate will have no significant effect on the human environment, will not require any further environmental analysis or documentation. People who have indicated interest in this type of activity will, however, be notified of the decision. A record of the analysis will be available for public review.

A project which is not compatible with the Plan may not be approved without an amendment to the Plan.

Monitoring

The decision is to adopt the monitoring and evaluation requirements described in Chapter V of the Forest Plan. Management practices will be observed and their effects recorded in order to ensure that the goals and objectives of the Forest Plan are being met and that the anticipated results are the actual results. Other natural conditions will also be monitored to help us recognize and track environmental changes.

The monitoring results will be evaluated at intervals established in the Forest Plan in order to determine whether changes are needed to make it more effective or to respond to changed or unexpected conditions. Data gathered during monitoring will be used to modify implementation schedules, improve mitigation measures and assess the need for amending or revising the Plan.

We recognize that many people are interested in specific characteristics, outputs, or conditions and encourage cooperative monitoring projects to help evaluate progress. If an evaluation of the monitoring results indicates there is a significant difference between the conditions expected by the Plan and the actual conditions, we may recommend changes in our performance to meet the Plan's requirements, changes in funding, or changes in the Forest Plan.

We recognize that the practical aspects of much of the monitoring outlined in the Plan remain to be worked out. Many of the precise monitoring actions to be taken and timing of them will be determined as the plan is being implemented. These determinations will be based on the information learned during Plan implementation and the continuing dialogue we will have with our interested publics.

A major part of our continued dialogue will be an annual report to the public of the accomplishments we made during the previous year and how those accomplishments compare with the goals and objectives we set out in the Plan. The many items learned from our monitoring will be included in this report. This same report to the public will contain information on our program of work scheduled for the upcoming years and the relationship of those projects with the Plan's direction.

This report will provide an important means of monitoring the public's reaction to the work we accomplish under the Forest Plan and a mechanism for holding us accountable to the Plan and the public we serve. Public reactions to our annual reports may point out needs to further adjust our policies and actions by amending or revising the Forest Plan.

Amendments and Revisions

Amendments to the Forest Plan may be recommended if the Forest Service finds that the prescribed activities are not resolving the problems, that new and more important problems have been identified that should be addressed, that there are significant changes in demands, that some basic assumptions of the Plan are not valid, or that activities prescribed by the Plan seriously affect other resources or uses.

The Forest Supervisor will determine whether an amendment to the Plan is significant. Amendments will not be considered significant if they only adjust the implementation schedule to reflect differences between proposed and appropriated funding, or if they modify a prescription or a standard which is found to be unproductive, inefficient, unnecessary, or damaging, if this change does not affect the intent of the Plan. In this case the Forest Supervisor may implement the amendment following public notification and completion of the NEPA procedures.

If the proposed amendment is found to be significant, or if a complete revision of the Plan is recommended, the change could only be implemented by following the same procedures required for development and approval of this Forest Plan.

Annually, by 30 September, a summary of Forest Plan amendments will be prepared, incorporated into the Plan as an addition, and made available to the public. This is to ensure that the Plan is kept current.

The Forest Plan will be revised no later than 15 years from the date it is approved. The Plan also may be revised earlier if the Forest Service determines that changes in conditions of the land, in public demands, or in RPA policies, goals or objectives would have a significant effect on the forest program. This revision would go through the same process required for development and approval of this Forest Plan.

Concerns about the Decision

You may still have concerns after reading this Record of Decision and reviewing the Environmental Impact Statement and Forest Plan. If so, please call or drop a letter in the mail to let the Forest Service know what those concerns are. Hopefully, we will be able to resolve your worries immediately.

Concerns about Policies, Programs and Management Direction

Concerns which involve the long range policies, programs and management direction outlined in the Forest Plan can be resolved by amending or revising the Plan or by appealing this decision to approve the Forest Plan.

The process for amending or revising the Forest Plan is outlined on page 51 and in Chapter V of the Forest Plan. Appeal rights are outlined below.

Amending a small part of the Forest Plan will be the best way to resolve many of the concerns raised by the public and the Forest Service now and in the future.

If anyone feels the decision to approve the Forest Plan is flawed and that no other remedies to improving it are adequate then this decision can be appealed (36 CFR 211.18). The process for appealing decisions involves certain rules which must be followed, however. A few important points are outlined below.

- Notice of appeal must be in writing and submitted to Floyd J. Marita, Acting Regional Forester, Eastern Region, USDA Forest Service, 310 West Wisconsin Avenue, Milwaukee, Wisconsin 53203.
- The notice of appeal must be submitted within 45 days of the date of this decision, or within 30 days after the Notice of Availability of the Final EIS is published in the Federal Register, whichever is later.
- A *statement of reason to support the appeal and a request for oral presentation*, if desired, must also be submitted within these time limits.
- An appeal of this decision does not halt the implementation of the Forest Plan. In order to do so, a stay of part or all of the decision must be requested.
- A stay may be requested at any time during the appeal period until a decision on the appeal is made by the Chief, USDA Forest Service.

The Forest Service has published a citizens handbook which explains the Forest Service appeals process in layman's terms. The publication is entitled "A Guide to the Forest Service Appeal Regulation (36 CFR 211.18)" and has a reference number of FS-385. This guide may be requested by writing to the Regional Forester at the address given above.

Concerns about Specific Projects

No decisions on site-specific projects are made in this document, although a number of projects are identified in various parts of the Plan and Final EIS in order to clarify discussions, illustrate points, or show that Forest Plan goals and objectives can be achieved.

Final decisions on site-specific projects will be made during Forest Plan implementation after appropriate analyses and documentation, meeting NEPA requirements. Parties concerned about a specific project can request to become involved in the environmental analysis of it and, if necessary, can appeal the project-specific decision when it is made.

The appeal process for projects is the same as that described above for the Forest Plan, except notice of appeal must be sent to the person making the decision. This will normally be a District Ranger or the Forest Supervisor.



FLOYD J. MARITA
Acting Regional Forester

JAN 15 1987
Date

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