State of Vermont

Agency of Environmental Conservation

Department of Forests, Parks and Recreation

Land Management Plan
Maidstone State Forest

Prepared by:

Craig Whipple, Park Regional Manager Gary Sabourin, Forester

February 22, 1982

Approved:

Leo C. Lafertiere, Commissioner

6 Dec 183
Date

TABLE OF CONTENTS

Preface	1
Maidstone State Forest	
Location Map	2
General Description	3
Purpose	4
Forest Base Map	5
USGS (15 min.)	6
Existing Conditions	7
Vegetative Types	8
Vegetative Types Map	9
Soils and Geology	10
Soils Map	13
Forest Productivity Classification	14
Forest Productivity Classification Map	16
Wildlife	17
Recreation	19
Existing Recreation Maps	22
Special Constraints	24
Emphasis Zones	26
Classification Emphasis Map	27
Implementation	28
Recreation	29
Recreation Implementation Maps	30
Protection	33
Wildlife	3 4
Timbor	35

Appendices	36
Recreation Appendix	37
10 Year Recreation Capital Improvement Schedule.	37
Attendance Records	38
Soils Appendix	40
Timber Appendix	42
Cutting Schedule	43
Acreage to be Treated in 10 Years - Map	44
Cutting Summary Worksheet	45
Compartment Records	46
Forex Summary Worksheet	49
Road Improvements (10 Year)	50
Use Value Appraisal	51
Use Value Appraisal Map	53
Benefits	54
Accomplishment Evaluation	55
Glossary	56
The Purpose and Objectives of State Land Management	57

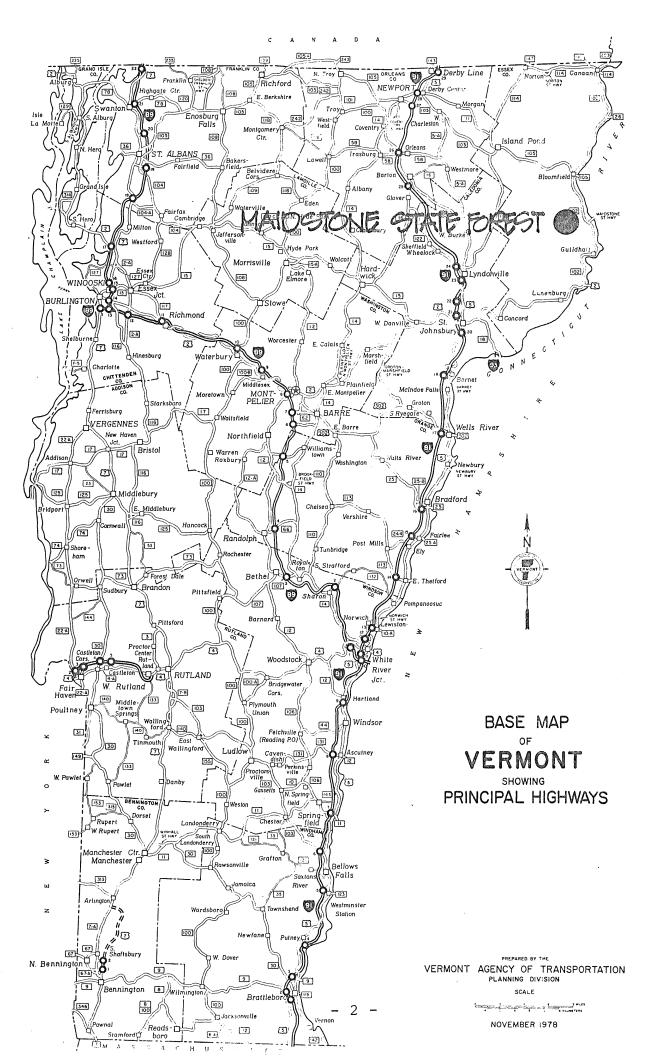
PREFACE

The objective of public land management by the Department of Forests, Parks and Recreation is the management of all resources on land owned or controlled by the Department for the greatest benefit for the people of Vermont consistent with the capability of the resources. It shall be the policy of the Department to manage these lands under the concept of integrated use, a strategy of land management which considers public need and the capabilities of the land to meet these needs, and favors the highest and best use or uses. Compatible uses shall be recognized, and as conditions and needs change, uses may be changed. Properly implemented, this multiple use concept maximizes benefits and avoids environmental deterioration.

The following plan is prepared in two sections. The first portion is a summary of the area's assets, or an inventory of the total resource, if you will. It is designed to provide the background and goals of management, and sets priorities.

The second portion provides the work plans and methods which will be applied to reach these goals and the activities planned over the next 10 years.

For the reader unfamiliar with some of the terminology, a glossary is provided in the back. Whenever various interpretations may occur, the glossary definition is the intended meaning in the plan.



GENERAL DESCRIPTION

Maidstone State Forest lies completely within the town of Maidstone with the boundaries of the adjacent towns of Granby and Ferdinand forming the southern most and westerly state property lines. The entire tract of land was purchased from the New Hampshire and Vermont Lumber Company (the predecessor of St. Regis Paper Company) in 1938 for purposes of developing a state park. Access to the Forest from Route 102 is through a 5-mile long gravel road, built and maintained by the Department.

The most significant physical feature of the forest is Maidstone Lake, a picturesque 279 acre lake of glacial origin. It has a maximum depth of about 127 feet. Only one-third of the lake shoreline is owned by the state. Of the remainder, the eastern shore is densely developed with private summer camps while the westerly side, which is not easily accessible, still has considerable undeveloped shore frontage. Water quality is excellent and the lake supports a healthy population of lake trout. Land-locked salmon are also present. Trout and salmon fishing at certain times of the year is excellent. More casual angling for the less spectacular "pan" species is less popular.

State holdings in the forest are physically separated into two units. The larger south unit, 441.5 acres in size, is linked to the 25 acre north unit by a road that extends approximately one mile through privately owned land. Except for frontage on Maidstone Lake, both parcels are bounded on all sides by private paper company lands. St. Regis Paper Company owns all adjacent land other than that next to the southern boundary, which is currently owned by

International Paper Company.

The primary feature of the north unit is a developed day use facility which includes a swimming beach and a picnic area with a shelter for group use. The day use facilities are set within a dense, mature stand of spruce and fir.

Although the focal point of the south unit is the campground, much of the property is undeveloped, supporting a mixed northern hardwood forest cover with small inclusions of spruce-fir.

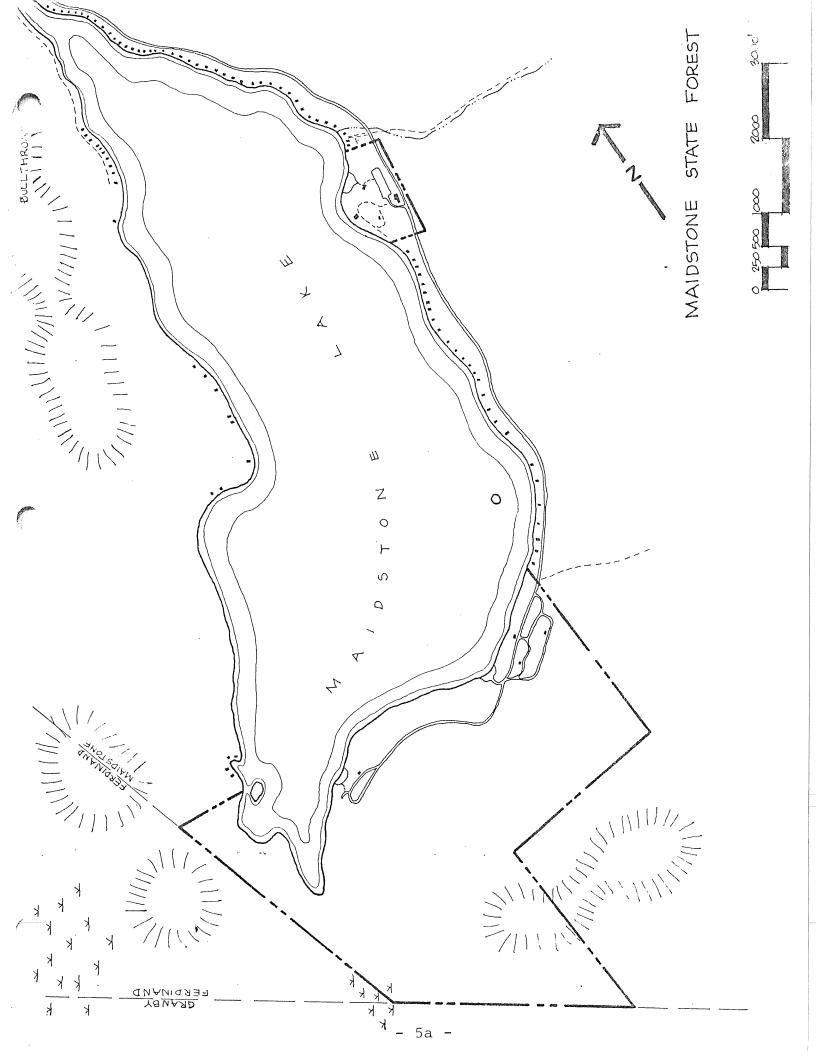
The lake is surrounded by hills but the terrain does not vary significantly over the state holding. Elevation ranges between 1300 and 1700 feet and there are no prominent peaks, ridges, or other land forms. Geologically, it is an area of thick glacial deposits with an assortment of boulders and erratics present. Sand and gravel deposits are often typical of this condition, but they are not evident on the state land. They are, however, present on adjacent privately owned land and the material is readily available for use.

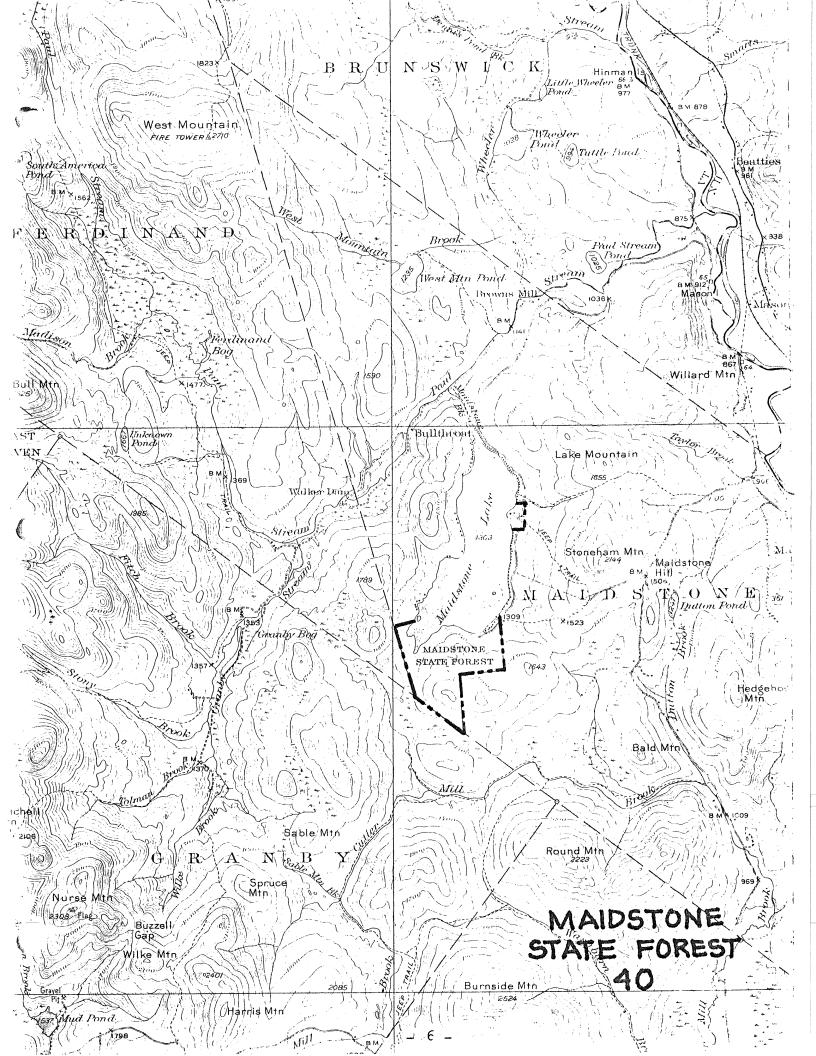
The area has experienced a relatively low level of human impact, and a variety of wildlife exists, including white-tailed deer, black bear, moose, and otter. Some deer and small game hunting takes place in the area but not to any significant extent.

Purpose

This property was acquired and developed for recreation, and this remains a viable use of the area. The primary purpose of this public land is recreation, with some secondary values derived from the timber resource.

Scale: 1" = 1320' (20 chains)





This section describes the physical characteristics of the block. It is in part an inventory of the resource, and a guide to determining capability of the area to sustain certain activities.

Vegetative Types

There are two distinct timber types in this forest, northern hardwoods and spruce-fir. The spruce-fir type (87 acres), is largely found near the lake, but a small stand exists in the southern corner of the forest. It is a mature, well-stocked stand with mixed regeneration.

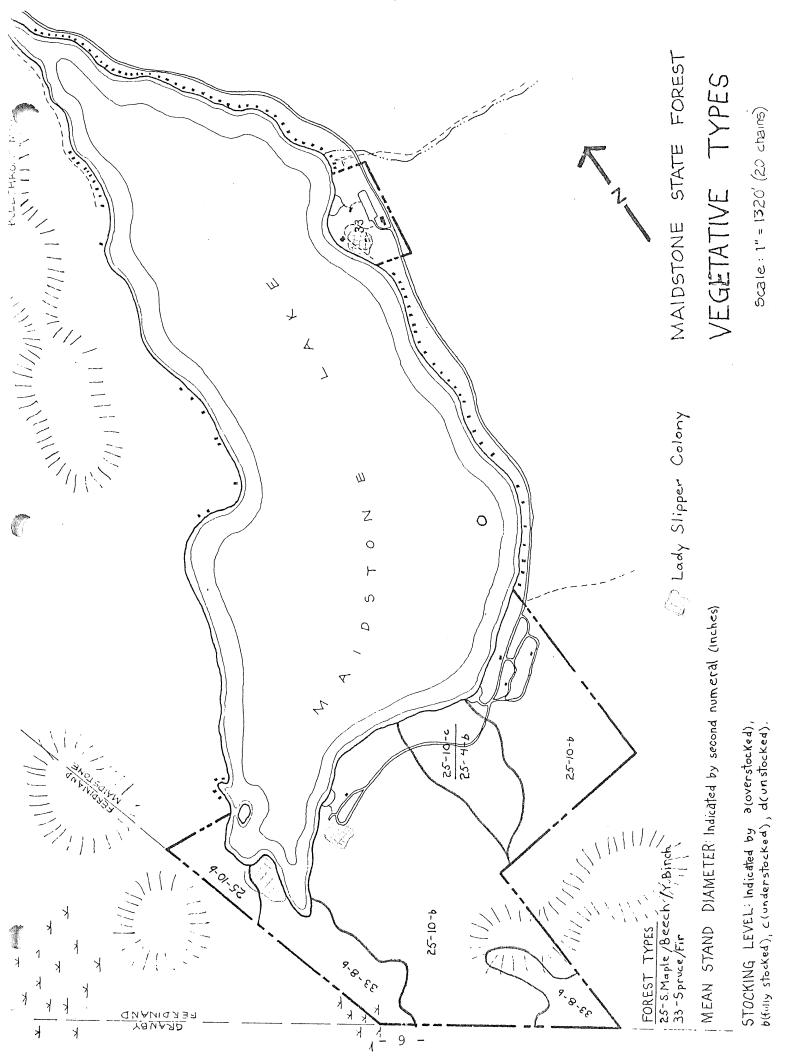
The balance of the forest, (357 acres), is northern hardwoods. One area, approximately 44 acres in size, received a shelterwood cut in 1976, creating a poorly stocked overstory and a well-stocked understory with sugar maple the dominant species. The remaining segment of northern hardwoods has a greater species diversification and has not been treated for almost 20 years. It is a well-stocked stand with yellow birch representing 41% of the total.

The east block (25 acres) is primarily mature spruce-fir with some hardwoods. This stand will be gradually changed to a long-lived and wind firm vegetative association, to be accomplished through interplanting and manipulation of the present growing stock.

The most significant of the wild flowers is the Lady's Slipper or moccasin flower (Cypripedium acaule). At Maidstone, about one-third of the blossoms are of the white form and two-thirds in pink, or intergradations between white and pink. The white moccasin flower is fairly rare and usually found only in far northern climates, while the pink is typical of a more southern area. The flower is currently on the state's endangered species list. Of most significance is the abundance of the white variety. Careful timber harvesting activities will not disturb this species.

SUMMARY OF COVER TYPES

	Forest Type	469 Acres	% of Total
	Sugar Maple-Beech-Yellow Birch	357	76
(23)	Spruce-Fir	112	24



Soils/Geology

Maidstone has not been surveyed in detail by the Soil Conservation Service. However, information obtained from the SCS general soils association map and on site observation indicate soils that are typically shallow to bedrock or water table, strewn with numerous stones and boulders and often with restricted water percolation. Special care must be taken in development projects, particularly those involving sewage disposal. It should be expected that mound type systems or modified mounds with enlarged leach field area will be in order. Careful site selection will help decrease the impact of these limitations.

Bedrock

The Maidstone State Forest property is completely underlain by granitic rock of the Maidstone Pluton (Johansson, 1963). The granite is medium to coarse grained, predominantly gray in color, containing quartz, feldspar (microcline, plagioclase, orthoclase) and both muscovite and biotite. The pluton is quite massive, however Johansson's (1963) report does indicate some fracturing (joints) in the vicinity of Maidstone State Forest. These joints are oriented vertically with both northeasterly and northwesterly strikes.

Surficial Deposits

The surficial soil/sediment cover is generally thin (0'-10" thick). The material is classified as glacial till with minor bog (muck and peat) deposits. The till is derived primarily from disintegrated granite and contains abudnant quartz grains. This makes the till somewhat "sandy" as compared to many Vermont till deposits.

Explanation of Soils Associations limitations:

1. Lyman-Marlow-Peru Associations

In areas of steep slope: Has severe limitations for development, farming, woodland production with 20-40 inches to bedrock.

In areas of moderate slope (8-25%): Has moderate to severe limitations for development with excessive stoniness and only slight limitations that can be overcome for woodland production.

2. Peru-Marlow Association

Where slopes are not severe, it has only slight limitations for woodland production and moderate limitation for other categories with consideration given to excessive stoniness. Limitations are severe for septic disposal because of slow percolation rate and excessive wetness.

3. Cabot-Peru Association

Severe limitations on all development except only slight for woodland production with consideration given to excessive stoniness.

4. Muck-Peat-Peacham Association

Severe limitations for all development because of wetness, ponding, flooding, and stones.

Source:

U. S. Department of Agriculture
Soil Conservation Service
General Soils Map - 1974

Economic Mineral and Water Resources

There are no known quarries on the state forest property, however small quantities of granite were quarried from this granite pluton in nearby Brunswick.

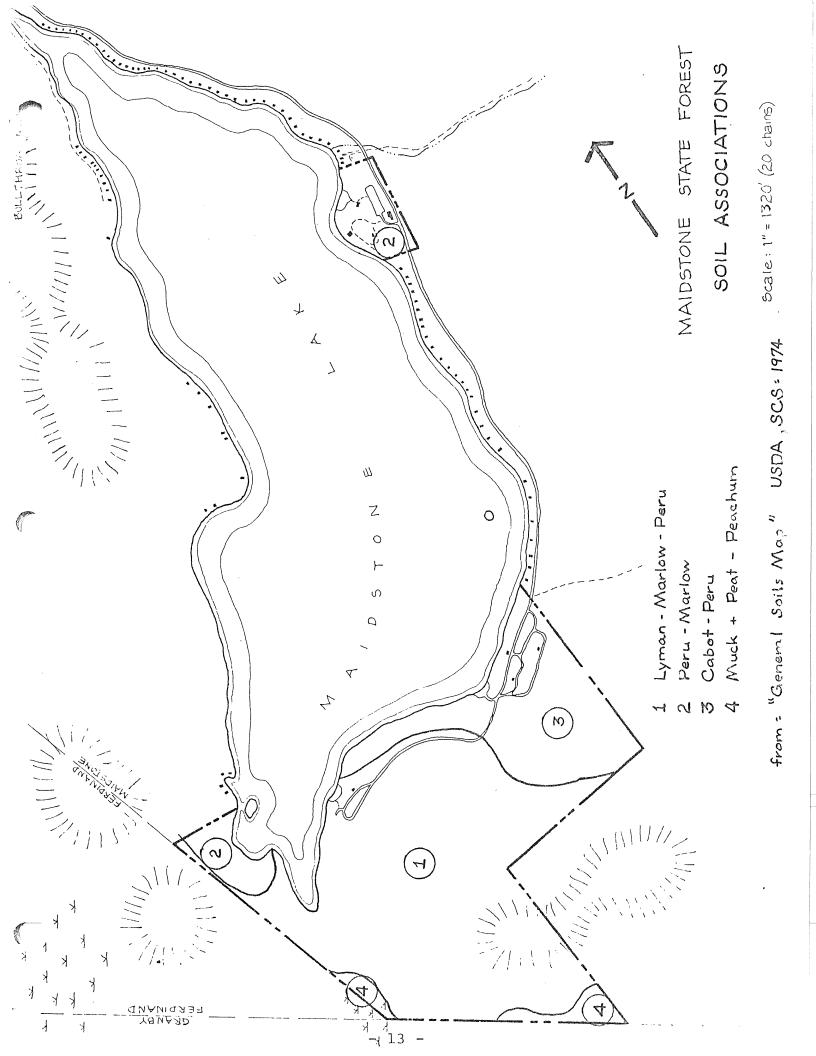
Water well records on file with the Vermont Department of Water Resources indicate that very few wells have been drilled in the granite of the Maidstone pluton. Those wells which have been drilled in granite in the towns of Maidstone and Brunswick are generally deeper than 200 feet with a wide range of yields from 3 gpm to 200+ gpm.

References

Johansson, Warren I., 1963, Geology of the Lunenburg-Brunswick Guildhall area Vermont: Vermont Geological Survey Bulletin #22.

Stewart, D. P. and MacClintock, P., 1970

Surficial Geologic Map of Vermont: Vermont Geological Survey.



Classifying Forest Productivity

Potential productivity of any particular location can be expressed in many ways. In Vermont, most Agency owned forest lands are taxed at various rates, based on the ability to produce wood.

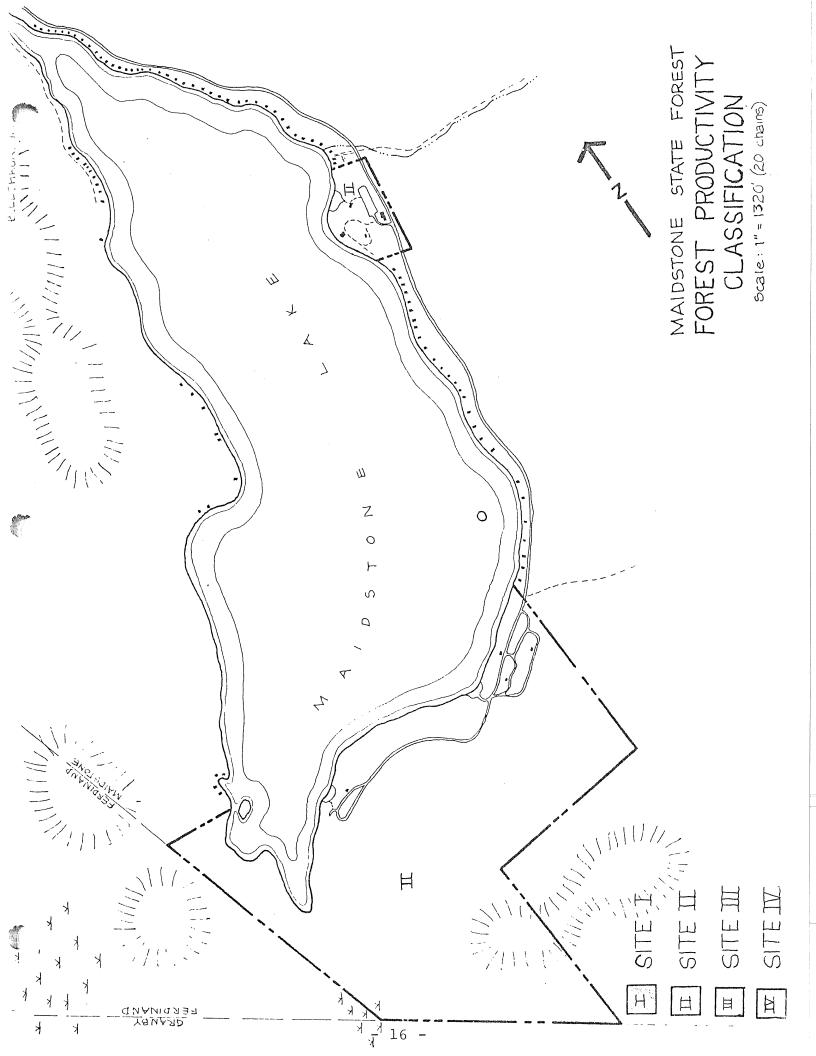
Four forest site categories have been established under the statutes, and these site categories are used in this plan. Each site category has been established as land which can produce a certain amount of wood measured in cubic feet per acre per year, or in the height which certain forest types will reach in 50 years, (called the site index).

Following are the measurements which will place the land in particular categories, and the succeeding map locates these various site classifications, as they occur in this management area.

For example, using site index, if white pine is growing on a site at a rate which will reach 70 feet tall when it is 50 years old, the site is classified as Site I. If it will be between 60 or 69 feet in height, it is Site II.

Another example would be a soils map indicating potential tree growth exceeding 85 cubic feet per acre per year. This would place the area in Site I category.

Productivity Class	Potential Productivity Per Acre Per Year	Timber Height Site Index	
Site I	more than 85 cubic feet	spruce-fir white pine n. hardwood oak hardwood	50 70 60 60
Site II	50-85 cubic feet	spruce-fir white pine n. hardwood oak hardwood	40-49 60-69 53-59 55-59
Site III	20-49 cubic feet	spruce-fir white pine n. hardwood oak hardwood	30-39 50-59 45-52 45-52
Site IV	less than 20 cubic feet	spruce-fir white pine n. hardwood oak hardwood	30 50 45 45



Wildlife

The forest provides habitat for a wide variety of wildlife species. Moose and black bear are the more spectacular animals occasionally seen by park visitors. Loons have been seen on the lake at times.

The Vermont Department of Fish & Game conducts an annual stocking program in Maidstone Lake and during each of the past few years has planted 3000 lake trout and 4000 land-locked salmon. The lake trout stocking program has been fairly successful in terms of establishing a more self-sustaining population. Each year increasing numbers of naturally reared trout are caught. On the other hand, problems have been encountered in efforts to establish salmon fishing. This can be attributed, at least in part, to three factors: the department has been unable to establish a sufficient population of smelt, a primary food supply for salmon; no major brooks or streams feed Maidstone Lake, a requirement for salmon spawning; and finally, the department has been unable to obtain hatchery stock tolerant of stress conditions. Consideration is being given to abandoning the salmon stocking program in the lake.

Some hunting occurs in the area each year but the primary sport is fishing, and some impressive fish have been taken from the lake. In most cases, it is the more serious fisherman with the proper equipment (including a boat for trolling) who is successful.

The spruce-fir timber stands in the southern end of the forest are on the fringe of a much larger stand outside the State land, a

possible wintering yard for deer. A few deer trails exist on the State property but there is very little evidence of browsing, and it appears that the use of State land as a deer yard is insignificant.

Recreation

Day use and camping activities are clearly separated in the forest. Day use activity is predominantly isolated to the 25 acre northern unit and camping limited to the southern holding.

A large log house, constructed in the 1930's by the Civilian Conservation Corps, serves as quarters for seasonal employees and an information/nature center for park visitors. There is also a two story storage barn which serves as a maintenance shop and a small residence which houses seasonal workers. Public toilet facilities are available in the restroom/changing building at the beach and at a small toilet building in the picnic area.

The buildings are currently in good condition with the exception of the beach bathhouse. Because of an inadequate foundation, the structure is shifting and sagging out of shape. Some of the sills have begun showing signs of deterioration. There is some question about the adequacy of the sewage system, although obvious signs of failure are not evident.

The trees on the thickly forested day use area, predominantly balsam fir, are reaching maturity and becoming susceptible to wind damage. During the winter of 1980, severe winds blew down most of the trees within a five to six acre area between the beach and picnic facilities. It has been cleared, filled, and is proposed for land-scaping. This opening now exposes the remaining stand to increased wind damage.

Maidstone receives only moderate day use visitation, compared to others in the state (see addendum). This situation is probably due to Maidstone's distance from any major population. Day use visitors come from small local communities or from lakefront camps.

Camping, on the other hand, is an activity that people are willing to travel considerably greater distances to experience.

Maidstone offers a classic camping experience set on the shore of a beautiful lake, in a remote area surrounded by thousands of acres of relatively undeveloped forest land. Being so far from a major transportation artery, it receives very few transients or "overnight" campers, but it is a popular destination campground for people from southern New England, Montreal, Burlington, Barre, Montpelier, and St. Johnsbury areas.

The campground has two components:

Area A

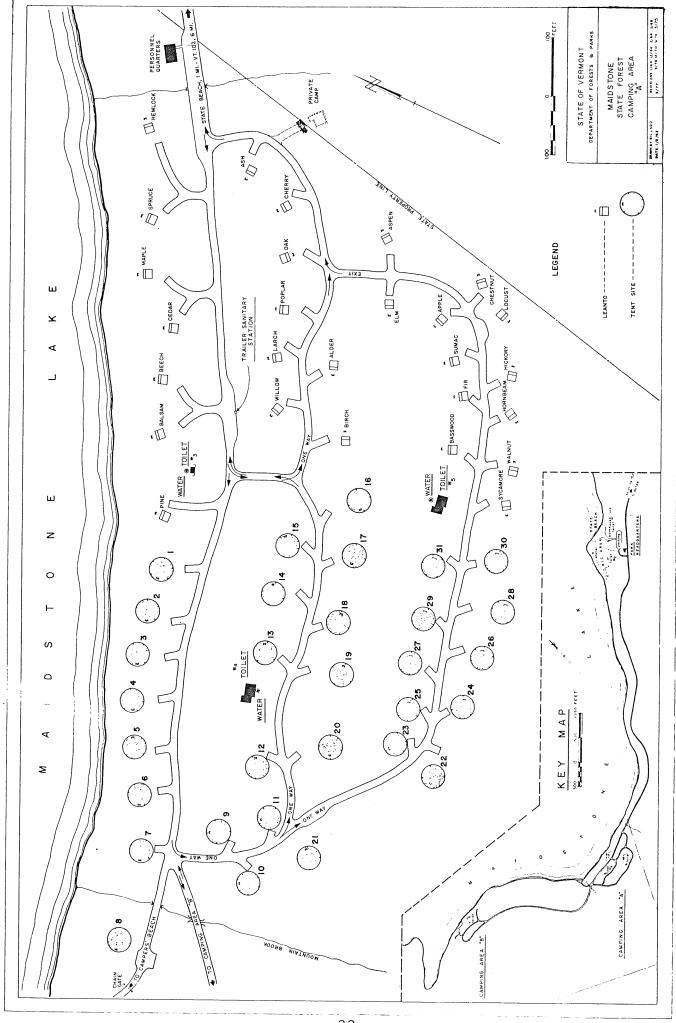
Area A, with 31 campsites and 27 lean-tos, has two toilet buildings with heated water and showers, built in the mid 1960's, and one with only toilets, built by the CCC's in the 1930's. The Park Ranger's residence serves as a campground contact station at the entrance.

Area B

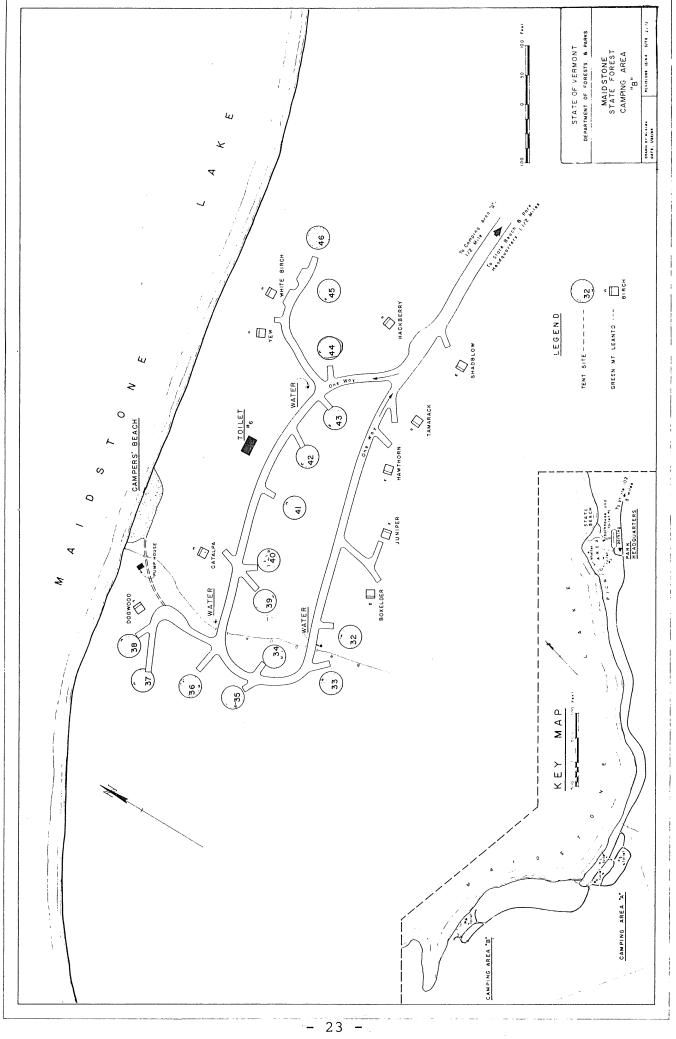
Area B, with 15 campsites and nine lean-tos, was added in the 1960's to serve as an overflow for Area A. Because of the desirability of some of the campsites, it has become popular in its own right. Area B has one toilet building with hot water and showers. All the campground structures are in good condition. During the summer of 1981, however, problems were encountered with the sewage system, when effluent surfaced in small amounts during high use.

There are trails available on State lands and many miles of roads on paper company lands adjacent to the campground. Hiking on these is popular with the campers.

There has been very little use in the winter months with only an occasional visit by a local hunter or snowmachine enthusiast, and no demand has been expressed for increased use. This is due to the remote setting and the large acreage available on paper company lands for this type of recreation. The small local population has thousands of acres open to their use for hunting, and snowmobiling in the winter.



- 22 -



(

Special Constraints

In 1939 St. Regis Paper Co. (then called New Hampshire and Vermont Lumber Co.) conveyed 400 acres to the State for a park. Ten years later St. Regis Paper Co. conveyed a right-of-way for five miles of road connecting the park property with Vt. 102. St. Regis reserved free use of the highways on park land and the State accepted responsibility for construction and maintenance.

A dam, which maintains the water level in the lake, was originally built by campers prior to 1925. There is no record that any rights were conveyed for the construction, which took place on lands of the Connecticut Valley Lumber Co. It appears that New England Power Co. has the right to develop the site for power, if they wish to, but presently the Maidstone Campers Association maintains the flashboards and dam on an informal basis.

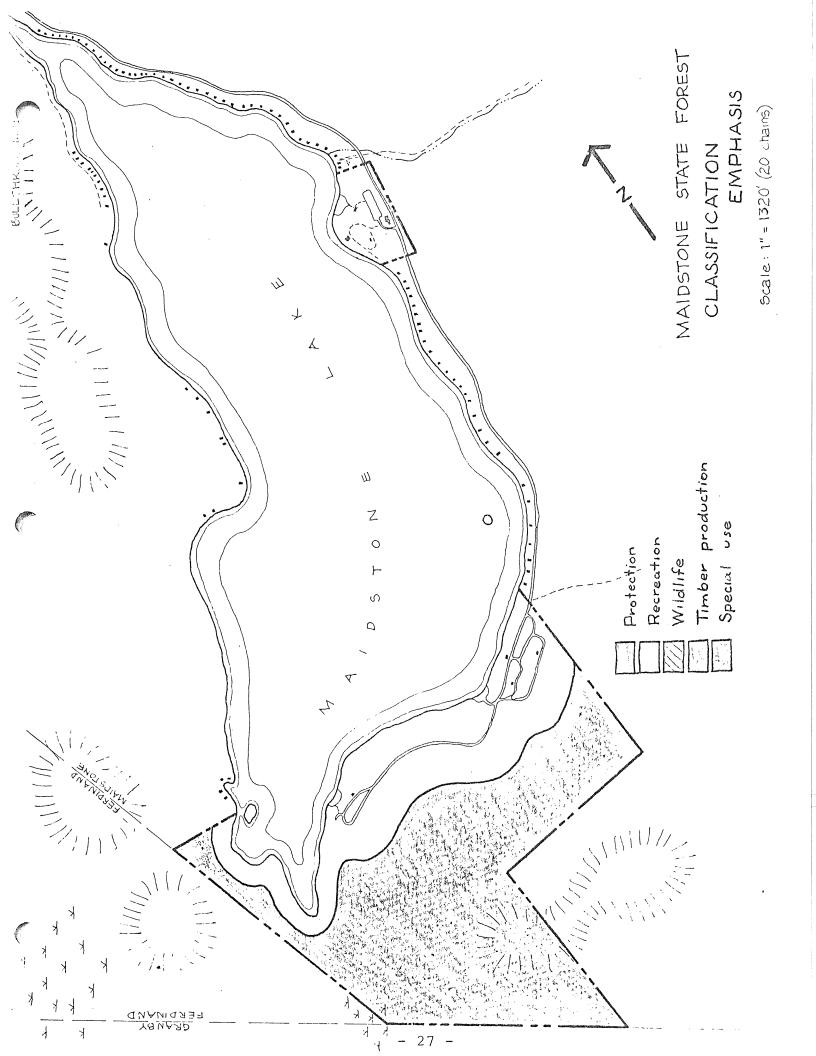
Over the years there has been discussion between the campowners and the State as to: 1) repairing the dam, and 2) agreeing on a suitable water level. To date no major repairs have been made to the dam, and no agreement exists as to the water level in the lake.

In 1976, the Maidstone Planning Commission invoked the town zoning by-laws to require a zoning permit for harvesting of timber within 1,000 feet of the shoreline of Maidstone Lake. Although a more thorough review of the by-laws showed no such legal restriction, the Planning Commission is nonetheless very concerned with what occurs with this delicate zone. Although they have no legal authority to exercise site plan review or issue a permit, they have asked that the State submit timber management plans affecting the

zone for review prior to commencing the projects. Current department policy requires towns to be notified of annual forestry work plans, but a special effort will be made if work includes cutting in the zone. The Planning Commission intends to revise the zoning by-laws in the near future.

EMPHASIS ZONES

While classification or categories of use may take place over an entire block, there are areas where specific uses predominate and certain management activities will be emphasized. The following map delineates these areas as emphasis zones to better illustrate and guide management implementation.

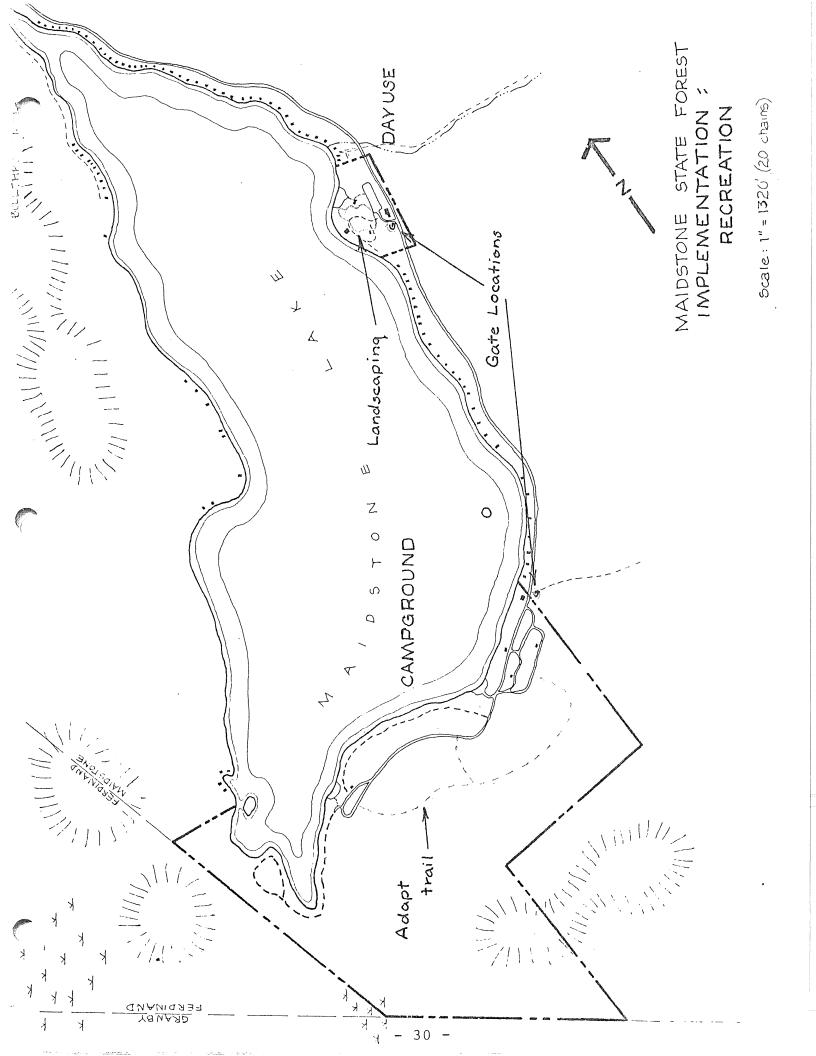


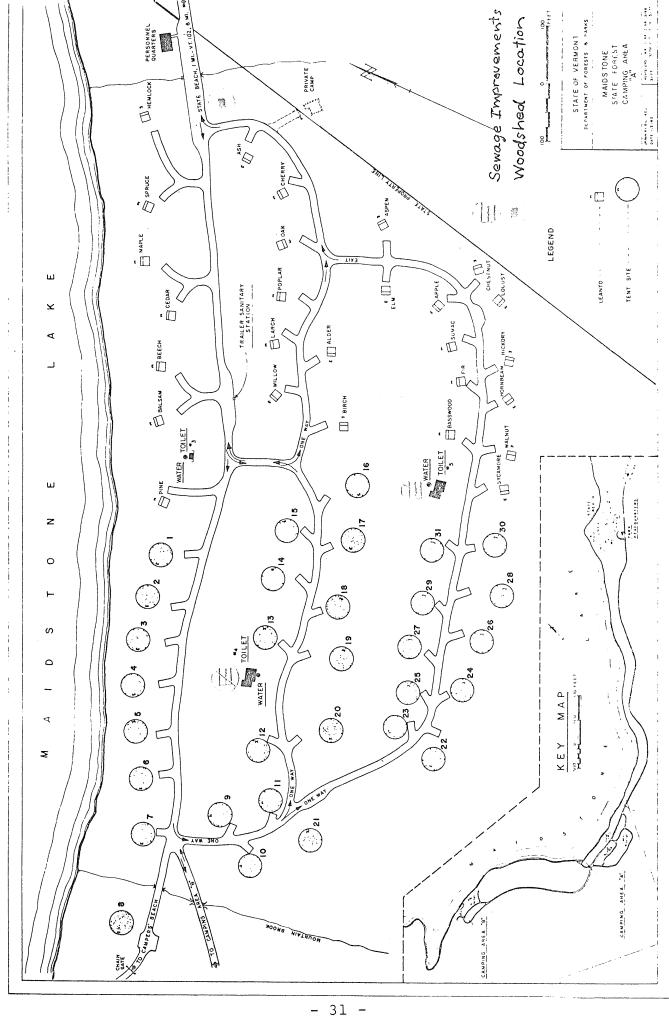
Included are specific activities to reach the objectives of the various classifications.

Recreation

Any changes or improvements will preserve the natural qualities of the site and maintain the distinction between camping and day use activities.

- Sewage systems for the campground restroom buildings will be upgraded to handle the effluent load.
- 2. Modifications will be made to the bathhouse at the beach to include rebuilding the foundation, replacing deteriorating structural members, and improving the existing sewage system. Consideration will be given to the alternative of replacing the structure completely.
- 3. Landscape improvements will be made in the vicinity of the beach and picnic areas.
- 4. Two woodsheds, for storage of firewood for sale to campers, will be constructed in the campground.
- 5. At least one of the existing hiking trails will be improved and developed into a self-guided nature interpretive trail.
- 6. Additional picnicking sites will be provided in the picnic area.
- 7. An enclosed bulletin board will be constructed and erected near the ranger's quarters at the entrance to the campground.
- 8. A program of routine maintenance will continue.
- 9. Lean-to "Dogwood" will be relocated to site number 36 to improve access to the campers' swimming beach.
- 10. Entrance gates to the day use and camping areas will be constructed.





IMPLEMTATION , RECREATION

Protection

Protection of the natural qualities of the site plays an important part in maintaining the value of the recreation experience. Protection of recreational and visual values is the goal.

- Develop a fire plan for the forest, including presuppression and suppression procedures.
- 2. Monitor major entomological or pathological problems that could adversely affect the vegetative cover.
- 3. Only selection timber harvesting will take place within 500 feet of the developed facilities, including access roads and parking lots.
- 4. The town of Maidsone, in the past, has expressed concern about timber harvesting within 1000 feet of the lakeshore.

 Thus, the town planning commission will be notified prior to any such treatment.
- 5. Whenever possible, timber harvesting operations will take place between September 15 and May 1.
- 6. Although the lady slipper colonies in the forest probably would not be adversely affected by timber harvesting, they could suffer by over-picking. Effort will be made through the seasonal naturalist program to help park visitors understand the significance of the plants and to discourage collecting.

Wildlife

Healthy wildlife populations are important not only to the sportsman, but also to the camper or day use visitor.

Occasional observation of wild animals contributes greatly to the outdoor experience.

- 1. The department will support the Fish & Game Department's efforts to establish a self sustaining salmonid fishery in Maidstone Lake.
- 2. Where shelterwood or clear-cuts are appropriate timber harvesting techniques, cuts will be made of such a size and configuration to enhance the benefit to wildlife species. This will usually consist of small, individual areas of 1/2 acre to 4 acres dispersed throughout the stand to create cover diversity. Design of the operation will leave travel lanes between openings and provide adjacent escape cover.

One or two decadent trees suitable for cavity nests or dens will be left on each acre of the hardwood types whenever they are available.

Most of the area is unsuited to mast-producing trees, but where the opportune microsite occurs, beech showing bear use will be left.

IMPLEMENTATION - TIMBER

Intensive harvesting is possible on all designated commercial timber land. Commercial timber land totals 316 acres of northern hardwood and 87 acres of spruce-fir.

- 1. A continuous forest cover is a major objective on the forest.
- 2. Uneven-aged management will be the fundamental silvicultural choice in the northern hardwood component, applied through selection cuts. The exception will be shelterwood and small clearcuts adjacent to the spruce-fir for wildlife benefit.
- 3. Even-aged management will be the fundamental silvicultural guide in the spruce-fir component, applied mostly through small clear cuts to enhance wildlife values.
- 4. Harvesting will be scheduled to achieve even-flow sustained yields, to create a balanced distribution of age classes, and to maintain the present cover types.
- 5. The forest in the future may be a suitable area to study and demonstrate uneven-aged management in northern hardwoods.