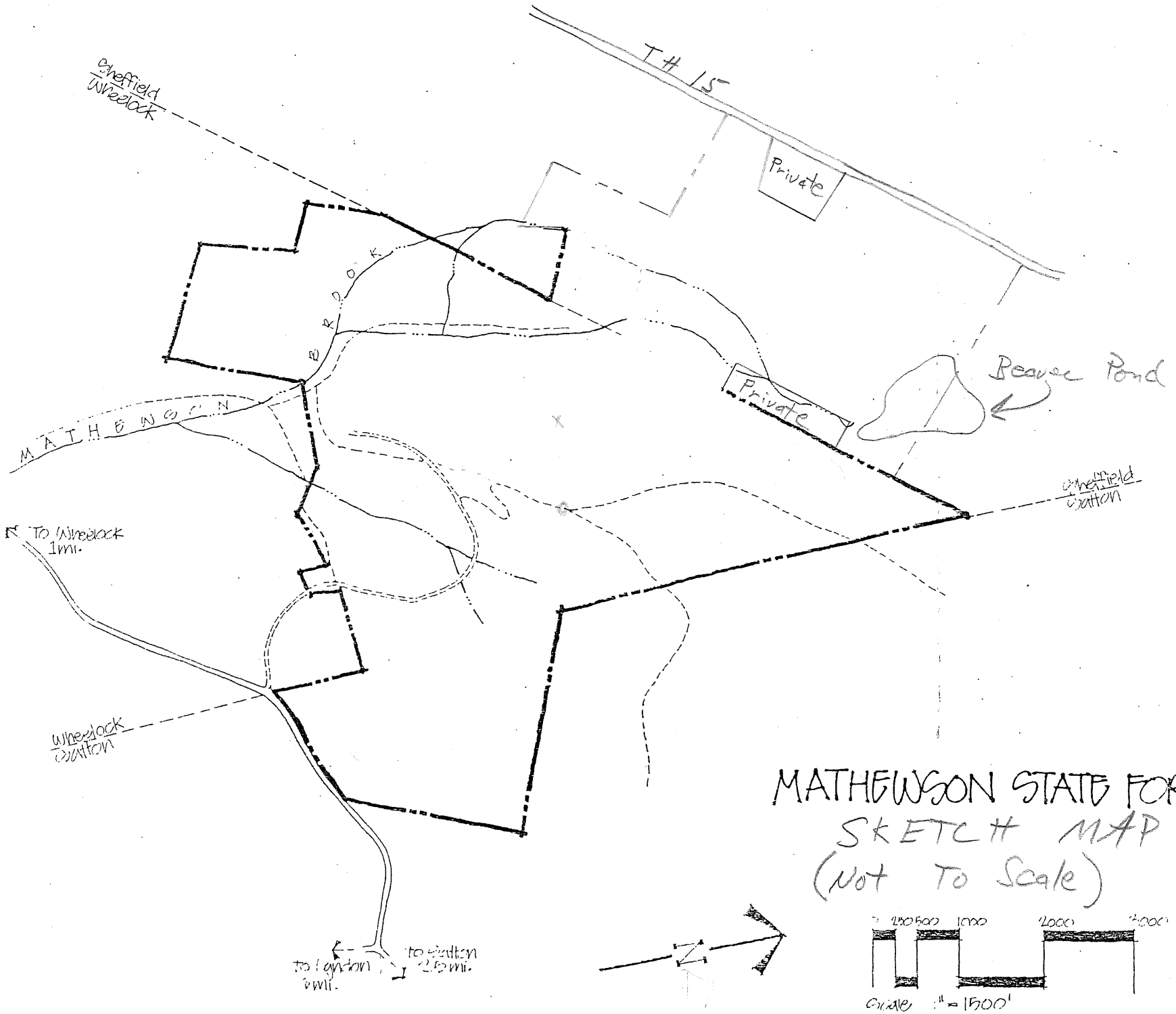


MATHEWSON STATE FOREST
SKETCH MAP
(Not To Scale)

State of Vermont

AGENCY OF ENVIRONMENTAL CONSERVATION

Montpelier, Vermont 05602

DEPARTMENT OF FORESTS, PARKS AND RECREATION

Department of Fish and Wildlife
Department of Forests, Parks, and Recreation
Department of Water Resources & Environmental Engineering
State Geologist
Natural Resources Conservation Council

MEMORANDUM:

TO: Bill Moulton, District Forester - St. Johnsbury

FROM: Charles W. Johnson, CWJ State Naturalist

DATE: December 2, 1985

SUBJECT: Protection site at Mathewson State Forest

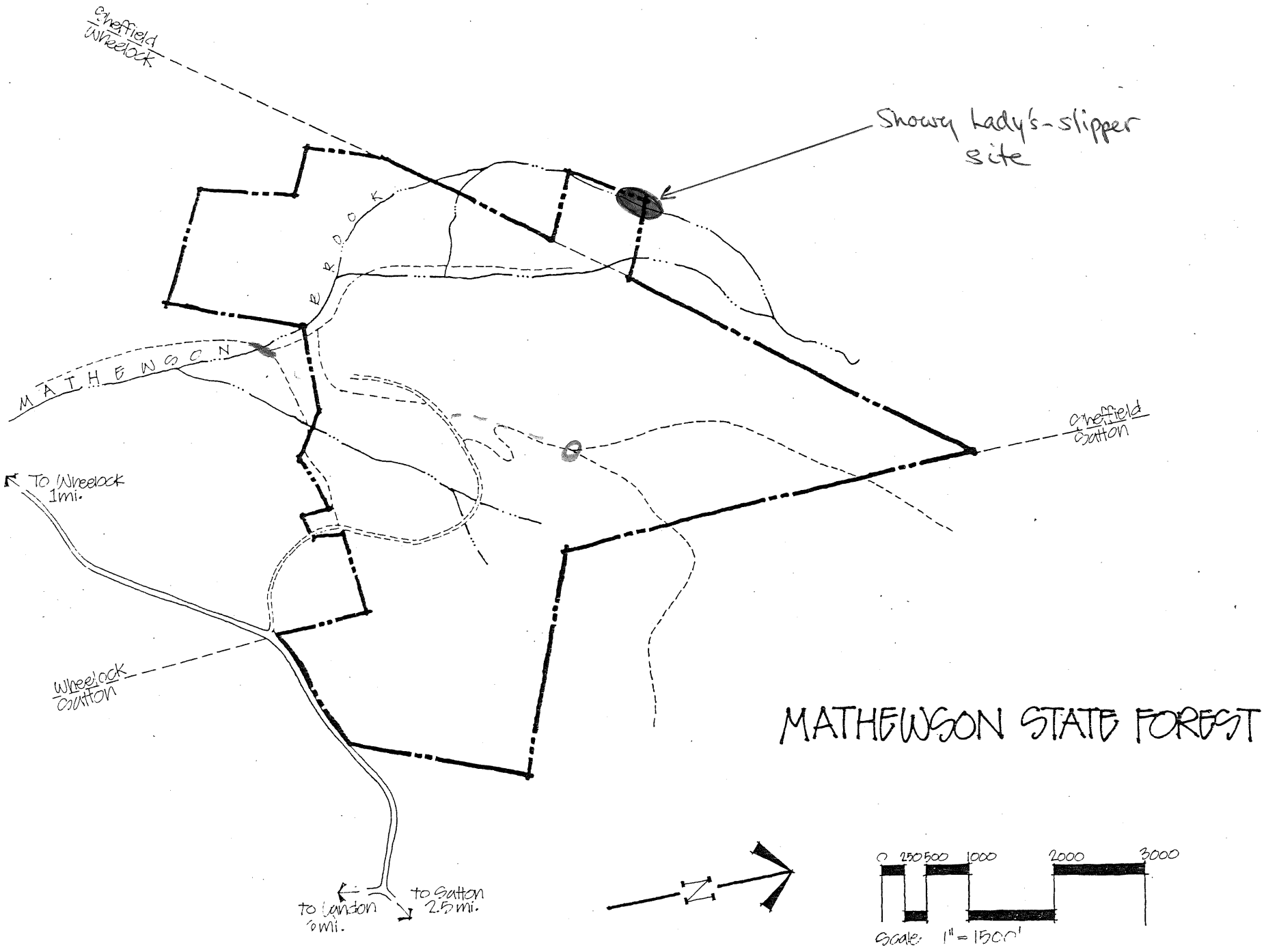
There is a small area in Mathewson State Forest (discovered last summer when looking over the Yenches property prior to its donation as a gift to The Nature Conservancy and State) which should be identified as "protection" in the forest's management plan. It is a narrow strip (perhaps 100' wide by 100 yards long) associated with a slow drainage, as shown on the attached map. Its significance is that it harbors a large colony of the rare wild orchid, showy lady's-slipper. We noted possibly a thousand or more plants there.

Almost all the colony is on existing State land, but it is possible some might be on the former Yenches land as well. In any case, the Yenches property will soon be added to the State Forest, so the entire sector should be identified. At some later date, I could go to the area and blaze it.

If you have any questions, please give me a call. Thanks very much.

RC

CC Malcolm H. Franz, Chief of State Lands Management
Bob Klein, The Nature Conservancy


Sheffield
Wheelock
Showy Lady's-slipper
site
B R O O K
MATHEWSON
Sheffield
Sutton
To Wheelock
1mi.
Wheelock
Sutton
to London
6mi.
to Sutton
2.5mi.
MATHEWSON STATE FOREST
0 250 500 1000 2000 3000
Scale: 1" = 1500'

State of Vermont

AGENCY OF ENVIRONMENTAL CONSERVATION
Department of Forests, Parks & Recreation
St. Johnsbury Regional Office
180 Portland Street
St. Johnsbury, Vermont 05819

Department of Fish and Game
Department of Forests, Parks, and Recreation
Department of Water Resources & Environmental Engineering
Natural Resources Conservation Council

M E M O R A N D U M

TO: Conrad Motyka, Assistant Director of Forests

FROM: Gary Sabourin, Forester, District V

DATE: July 31, 1984

SUBJECT: Mathewson State Forest Management Plan

I have numbered the comments that were made of the Mathewson State Forest plan. You may refer to the original copy of this plan for my following responses to your comments.

Comment 1: I have checked all the other forest plans that our district has sent to Montpelier headquarters for review. None of the plans submitted had a statement or comment regarding streambank protection. Isn't this something that should be incorporated into all of our plans? My response to your first comment is that, yes, there are steps we take when building roads or logging next to streams. Although this has not been stated in any of our plans submitted for review, we have followed the guidelines in the publication "Guides for Controlling Soil Erosion and Water Pollution on Logging Jobs in Vermont". Temporary skidder bridges are also required on all timber sales where brook crossings are necessary.

Comment 2: The areas of spruce-fir understory with a hardwood overstory are small isolated areas less than five acres that are contained within larger mapped stands. These areas are located in Block 1, Comp 1, Stand 1; Block 3, Comp 2, Stand 2; Comp 1, Stand 1 and 2. These areas coincide where soil depths are shallow to bedrock, making growing conditions suitable for spruce-fir. We will try to release the spruce-fir regeneration when it achieves a height of three feet. Release will take place when the stands containing these pockets of spruce-fir are scheduled for treatment.

MEMO: Mathewson State Forest Management Plan

FROM: G. Sabourin, Dist. V Forester

DATE: July 31, 1984

Comment 3: We are not discouraging white pine nor are we encouraging spruce-fir in Mathewson State Forest. We are striving to work with the particular species that are best suited for a particular site. The area of white pine, that is being cut, is a strong northern hardwood site. Site index measurements taken in this area for northern hardwoods range from 65 to 70 at base age 50. According to the "Silvicultural Guide for White Pine in the Northeast", the breaking point between a strong pine site and a strong hardwood site falls close to a site index of 60 for hardwoods. The literature also suggests that on these better sites, the best management choice would be to allow these stands to revert to hardwoods. The competition from hardwoods, on this site, is too great a factor to overcome in establishing white pine regeneration. The only reason the white pine exists on this site today is that it was once farmland. Once this area was abandoned and no longer used for agricultural purposes, it reverted to white pine.

Comment 4: Yes, this is a boiler plate statement copied from a previous plan. It can be omitted from this plan.

ec

cc: Mac Franz, Chief, State Lands Management

State of Vermont

AGENCY OF ENVIRONMENTAL CONSERVATION

Montpelier, Vermont 05602

Department of Fish and Game
Department of Forests, Parks, and Recreation
Department of Water Resources & Environmental Engineering
Natural Resources Conservation Council

DEPARTMENT OF FORESTS, PARKS AND RECREATION

MEMORANDUM:

TO: Gary Sabourin, Forester - St. Johnsbury

FROM: Peter R. Hudson, State Lands Planner

DATE: July 5, 1984

SUBJECT: Mathewson State Forest Management Plan -- Timber Implementation

The comments for Mathewson are few. The timber management implementation section was the only part of the plan of concern. Connie would prefer a more detailed statement describing the spruce-fir to hardwood conversion. The site suitability for this action should be qualified better, as well as the time frame ("At some point"?). Plans to regenerate hardwood on the existing 56-acre white pine stand rasied a question about reasons for doing this.

The timber management appendix includes the prescription, "On Site III, each stand will receive one thinning." There are no Site III classifications in Mathewson.

Finally, is there any intention of protecting the brook/ streambanks?

Please respond to these issues either through Connie (Brian) or the State Lands Management Section.

RC

State of Vermont
Agency of Environmental Conservation
Department of Forests, Parks and Recreation

LAND MANAGEMENT PLAN

MATHEWSON STATE FOREST

Prepared by: Gary Sabourin
February, 1984

Approved: Leo Laferriere 8 Aug '84
Leo C. Laferriere, Commissioner Date

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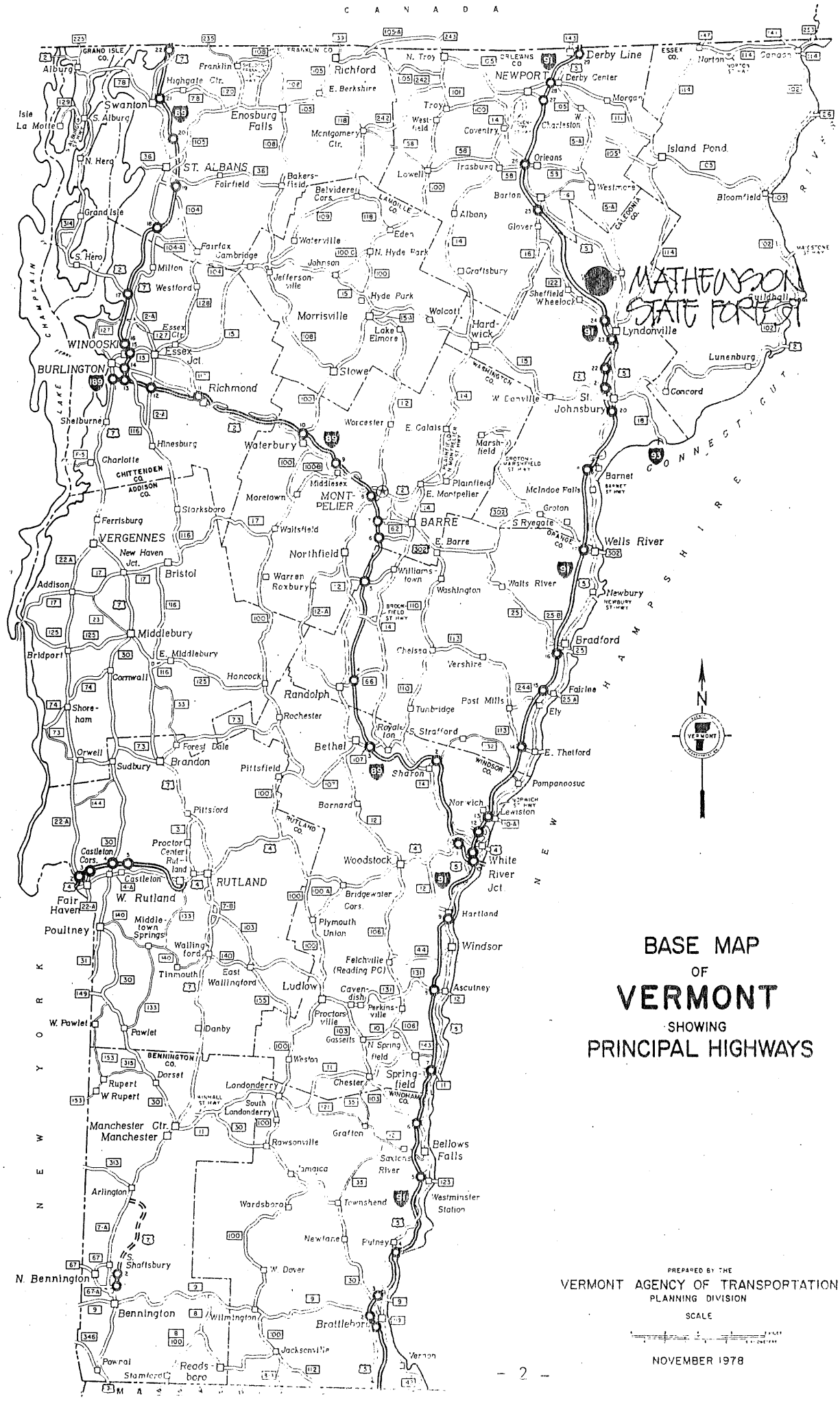
PREFACE

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.


CANADA
MATHENSON STATE FOREST
BASE MAP
OF
VERMONT
SHOWING
PRINCIPAL HIGHWAYS
PREPARED BY THE
VERMONT AGENCY OF TRANSPORTATION
PLANNING DIVISION
SCALE
NOVEMBER 1978
NEW YORK
NEW HAMPSHIRE
CONNECTICUT RIVER
MASSACHUSETTS
LAKE CHAMPLAIN
GRAND ISLE CO.
FRANKLIN CO.
ORLEANS CO.
ESSEX CO.
LAMOILLE CO.
CALEDONIA CO.
WASHINGTON CO.
ORANGE CO.
WINDSOR CO.
WINDHAM CO.
BENNINGTON CO.
RUTLAND CO.
CHITTENDEN CO.
ADDISON CO.
Alburg
Swanton
Isle La Motte
N. Hero
Grand Isle
S. Hero
Highgate Ctr.
Franklin
Richford
E. Berkshire
Enosburg Falls
Montgomery Ctr.
ST. ALBANS
Fairfield
Bakers-field
Belvidere Cors.
Fairfax
Cambridge
Johnson
Jeffersonville
Milton
Westford
Essex Ctr.
Essex Jct.
WINOOSKI
BURLINGTON
Shelburne
Hinesburg
Charlotte
Richmond
Waterville
Eden
N. Hyde Park
Hyde Park
Morrisville
Lake Elmore
Stowe
Worcester
E. Calais
Waterbury
Middlesex
MONTPELIER
E. Montpelier
Plainfield
Marshfield
Moretown
Duxbury
Waitsfield
Warren
Roxbury
Northfield
Williamstown
Washington
Orange
Barre
E. Barre
S. Ryegate
Groton
McIndoe Falls
Barnet
Wells River
Newbury
Walts River
Bradford
Fairlee
Ely
Post Mills
Tunbridge
Vershire
Chelsea
Randolph
Rochester
Bethel
Royalton
S. Strafford
Sharon
E. Thetford
Pompanoosuc
Norwich
Lewiston
White River Jct.
Hartland
Windsor
Ascutney
Felchville (Reading PO)
Cavendish
Perkinsville
Proctorsville
Ludlow
Gassetts
N. Springfield
Springfield
Chester
Bellows Falls
Saxtons River
Westminster Station
Grafton
Rawsonville
Townshend
Newfane
Putney
Brattleboro
Vernon
Jacksonville
Wilmington
Woodford
Bennington
N. Bennington
S. Shaftsbury
Arlington
Manchester Ctr.
Manchester
Dorset
Rupert
W. Rupert
W. Pawlet
Pawlet
Danby
Wallingford
Middletown Springs
Poultney
Fair Haven
Castleton Cors.
Castleton
Proctor
Center Rutland
RUTLAND
W. Rutland
Pittsford
Barnard
Woodstock
Bridgewater Cors.
Plymouth Union
Tinmouth
East Wallingford
Shoreham
Orwell
Sudbury
Brandon
Forest Dale
Pittsfield
Middlebury
E. Middlebury
Bridport
Addison
Cornwall
Hancock
Vergennes
New Haven Jct.
Bristol
Ferrisburg
Starksboro
Lincoln
Huntington
Richmond
Williston
Essex
Colchester
Milton
Georgia
Fairfax
Swanton
Highgate
Alburg
Derby Line
Derby Center
NEWPORT
Troy
N. Troy
Coventry
Westfield
Montgomery
Irasburg
Orleans
Barton
Albany
Glover
Lowell
Belvidere
Eden
Craftsbury
Hardwick
Wolcott
Sheffield
Wheelock
Lyndonville
Lunenburg
Concord
St. Johnsbury
W. Danville
Island Pond
Morgan
Charleston
Westmore
Bloomfield
Norton
Canaan
Guildhall

TEN YEAR PLAN

MATHEWSON STATE FOREST

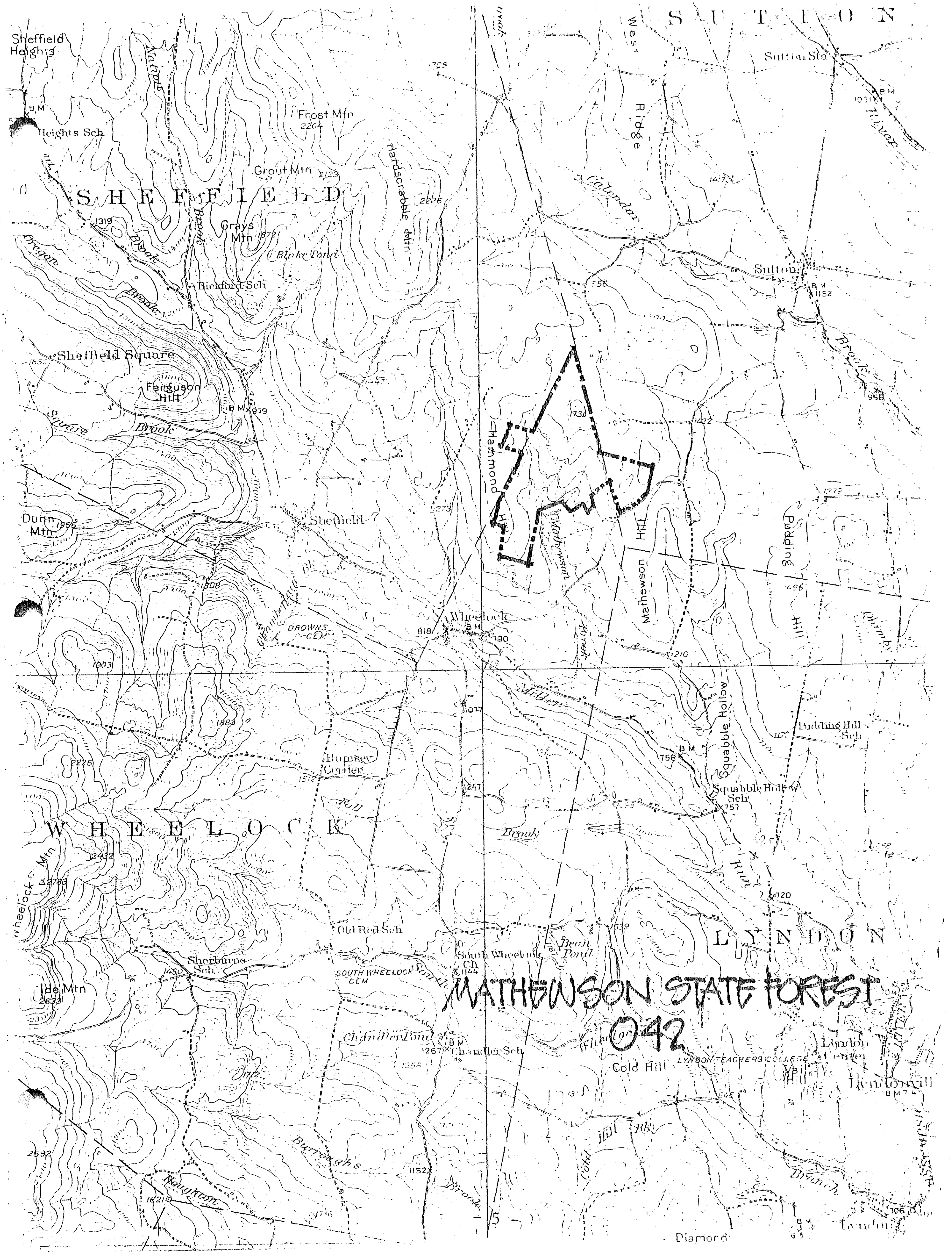
General Description

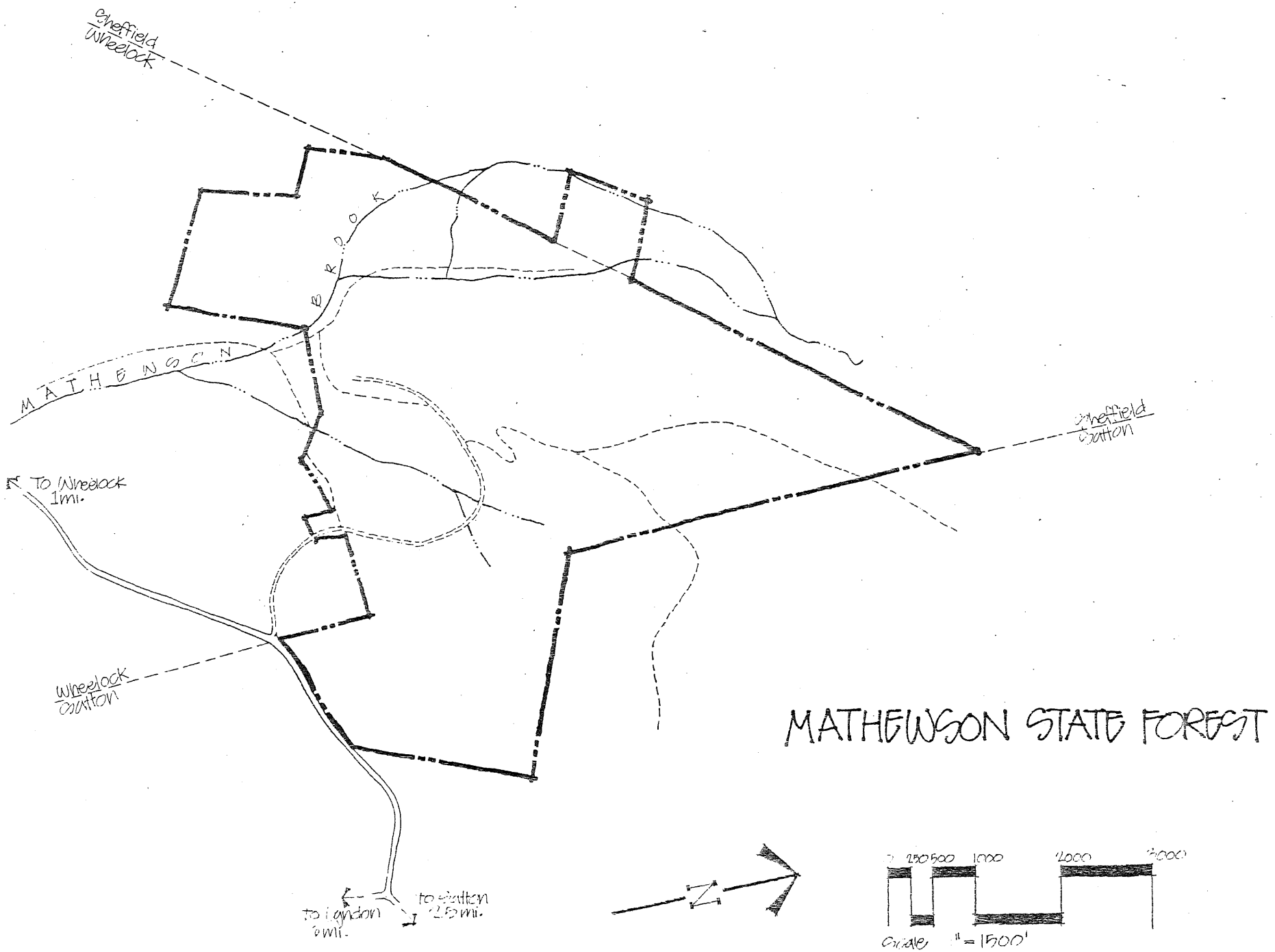
Mathewson State Forest, 591 acres in size, was purchased in portions from 1934 to 1968. The original and largest grantor to the state was Ozias D. Mathewson, who gifted 283 acres to the state and for whom the forest was named. The forest is predominantly abandoned farmland. This is evidenced by the numerous stone walls that can be found throughout the forest along with remnants of old farmhouse foundations. There are still old fields and openings in four separate areas of the forest that were once used for agricultural purposes.

The CCC's planted 25,000 white spruce and Norway spruce in 1935 and did TSI work during 1935-1936. Little activity occurred in the forest until the mid 1950's and then again during the 1970's when there were six timber sales. The sales were mainly designed to remove over-mature and poor quality stems to improve the forest stands. Three more softwood sales (white pine and balsam fir) were sold from 1979 to 1982. A major access road was started into the forest in 1981.

Purpose

The foremost priority for Mathewson State Forest is timber management with wildlife habitat as second. Due to its small size and nature, the area offers only limited recreation. The biggest demand on this forest currently is for firewood under the fuelwood permit program that our Department offers.


SUTTON
Sheffield Heights
Heights Sch
Frost Mtn
Grout Mtn
SHEFFIELD
Grays Mtn
Blake Pond
Bickford Sch
Sheffield Square
Ferguson Hill
Square Brook
Dunn Mtn
Sheffield
Wheelock
DROWNS CEM
Hardscrabble Mtn
West Ridge
Calendar
Sutton Sta
Sutton
River
Hammond Hill
Mathewson Hill
Mathewson Brook
Pudding Hill
Squabble Hollow
Pudding Hill Sch
Squabble Hollow Sch
Ramsey Corner
Brook
WHEELOCK
Wheelock Mtn
Old Red Sch
Sherburne Sch
Ide Mtn
Bean Pond
South Wheelock Ch
SOUTH WHEELOCK CEM
LYNDON
Chandler Pond
Chandler Sch
Cold Hill
LYNDON TEACHERS COLLEGE
Lyndon Center
Burroughs Brook
Houghton
Branch
MATHEWSON STATE FOREST
042


Sheffield
Wheelock
B R O O K
M A T H E W S O N
Sheffield
Sutton
To Wheelock
1mi.
Wheelock
Sutton
to Lyndon
2mi.
to Sutton
2.5 mi.
MATHEWSON STATE FOREST
0 250 500 1000 2000 4000
Scale 1" = 1500'

EXISTING CONDITIONS

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.

Existing Conditions

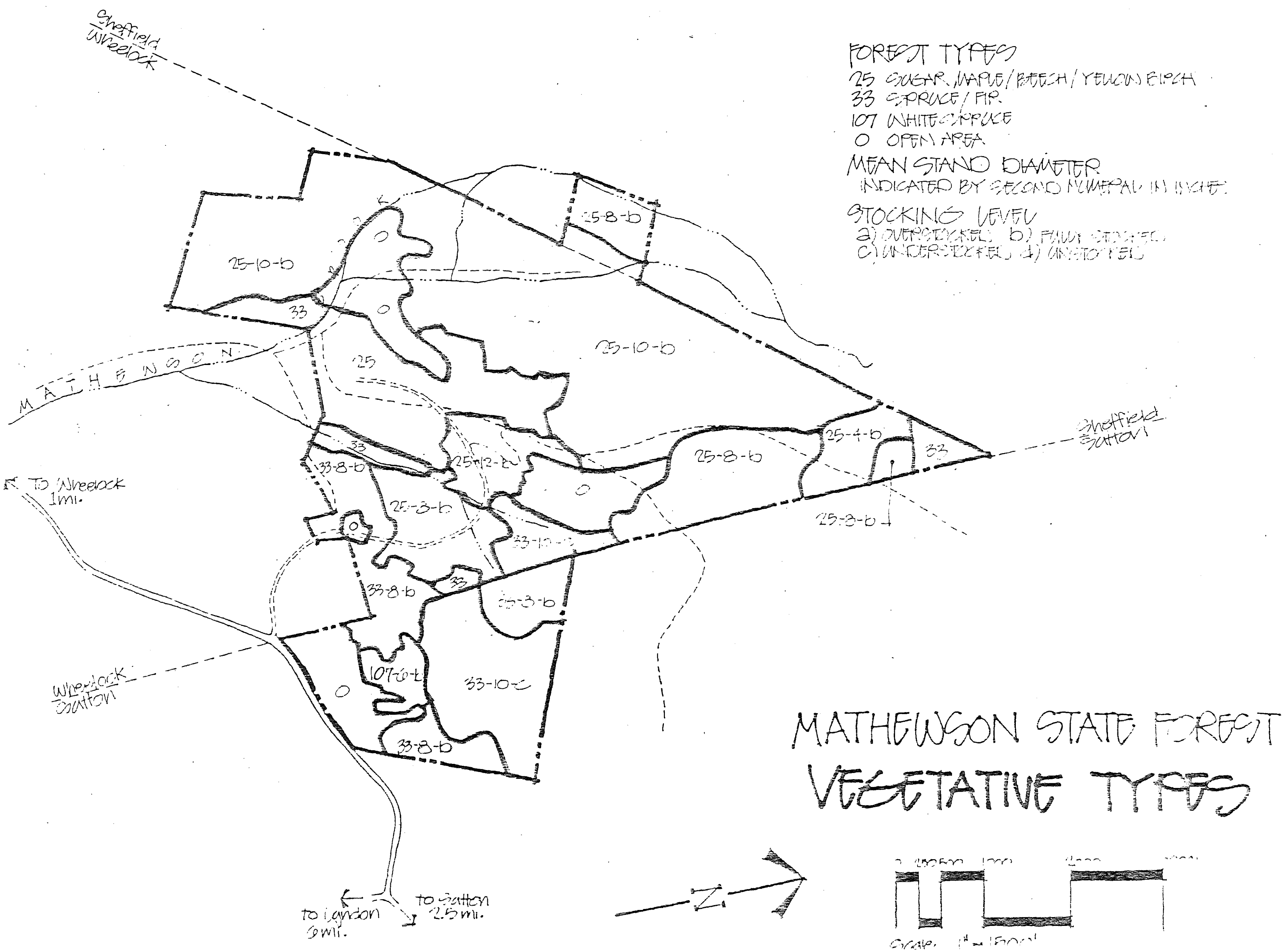
Vegetative Types

The predominant forest type in Matherson State Forest is northern hardwoods which represents 397 acres. Fifty-eight percent (232 acres) of this total figure is in the ten inch diameter class. Another significant forest type is spruce-fir which comprises 112 acres and is located mostly in the town of Sutton. Seventy-nine percent (89 acres) of this type is in the eight inch diameter class.

There are approximately 70 acres of old fields that are reverting to a forested condition. These fields are characterized by scattered apple trees, white pine, and small pockets of hardwood saplings.

Vegetation on the forest is illustrated by the following map using the Society of American Foresters classification titled "Forest Cover Types of the United States and Canada". Forest cover type is a descriptive classification of forest land based on present occupancy of an area by tree species.

Forest Type	Acres	% of Total
sugar maple, beech, yellow birch	397	67
spruce, fir	112	19
open	74	13
Norway spruce plantation	8	1
	591	100%


MATHEWSON STATE FOREST
VEGETATIVE TYPES
FOREST TYPES
25 SUGAR MAPLE/BEECH/YELLOW BIRCH
33 SPRUCE/FIR
107 WHITE SPRUCE
0 OPEN AREA
MEAN STAND DIAMETER
INDICATED BY SECOND NUMERAL IN INCHES
STOCKING LEVEL
a) OVERSTOCKED b) FULLY STOCKED
c) UNDERSTOCKED d) UNSTOCKED
Sheffield
Wheelock
Sheffield
Sutton
Wheelock
Sutton
MATHEWSON
TO Wheelock 1mi.
to Lyndon 9mi.
to Sutton 2.5mi.
N
25-10-b
25-8-b
33
25
25-12-b
33-8-b
25-3-b
25-4-b
107-6-c
33-10-c
33-3-b

Soils

Mathewson State Forest has been soil mapped*, largely shown to be Woodstock-Tunbridge associations or Berkshire. Significant, but lesser, amounts of Colrain, Limerick, Cabot, Peacham, Glover-Calais, Muck, and Peat occur as well. These soils are derived from glacial till, and are considered good for forest growth, with the minor exception of Peacham, Muck, and Peat. They also do not offer any significant problems for road construction or logging.

* Although soils have been identified, maps have not been produced for general use as yet.

EXISTING CONDITIONS

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.

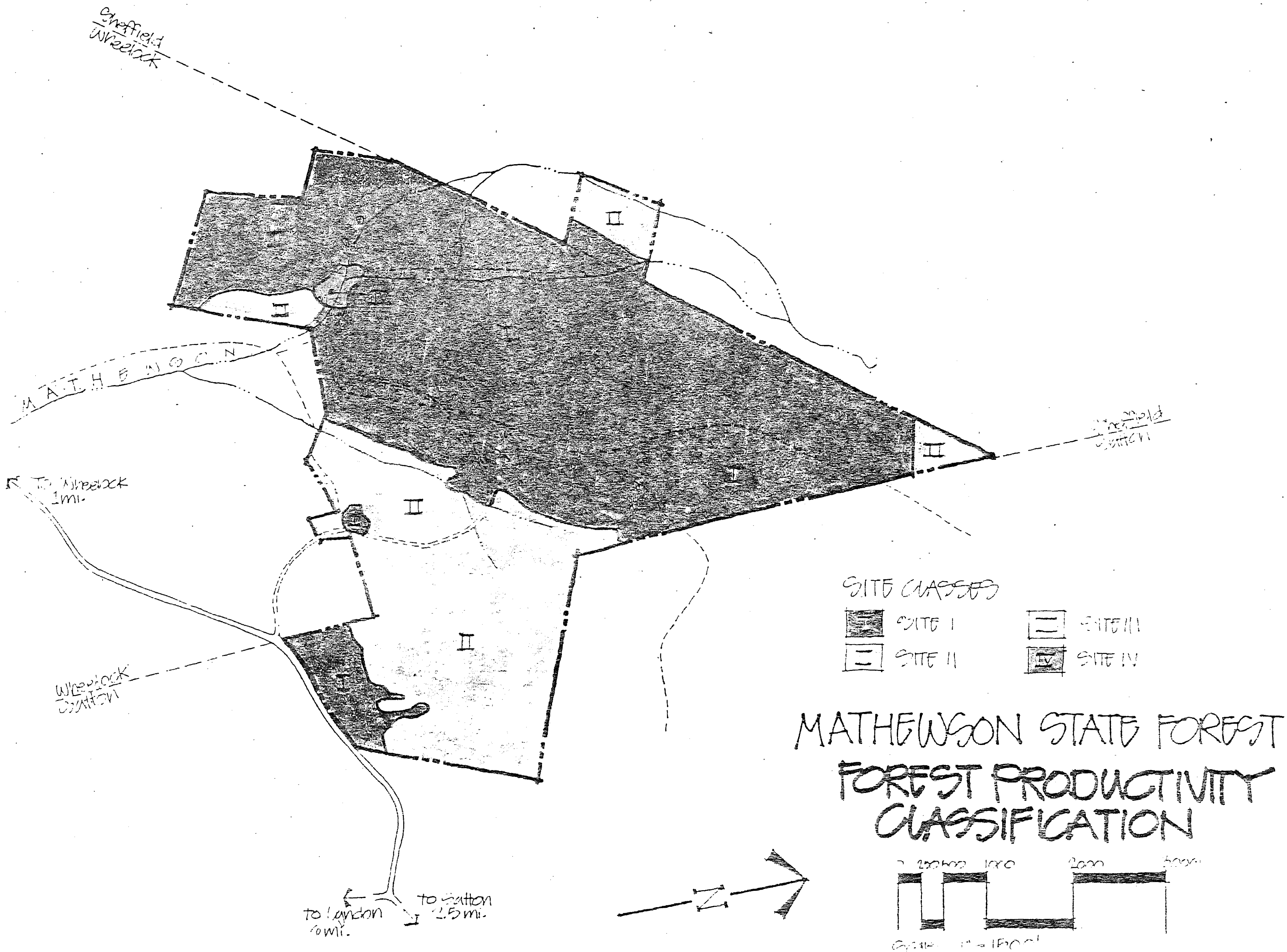
Another example would be a soils map indicating potential tree growth exceeding 85 cubic feet per acre per year. This would place the area in Site I category.

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

Forest Productivity

Site quality in Mathewson State Forest is favorable for timber production with most in Site I or II. Very small isolated areas of Muck and Peat and Peacham soil types produce less than 20 cubic feet per acre per year and only one is large enough to map as Site IV.

Site Class	Acres	% of Total
I	428	72.3
II	159	27.0
III	0	0
IV	4	0.7
	591	100.0 %


Sheffield
Wheelock
MATHEWSON
Sheffield
Sutton
To Wheelock 1mi.
Wheelock
Sutton
to Lyndon 6mi.
to Sutton 2.5mi.
SITE CLASSES
SITE I
SITE II
SITE III
SITE IV
MATHEWSON STATE FOREST
FOREST PRODUCTIVITY
CLASSIFICATION
N

Recreation

Mathewson State Forest receives a modest recreational demand, because of its small size. Most use is by hunters, who usually involve adjacent lands in their activity. Small game hunting is the most intensive use of the forest, and also offers the most potential for development.

A small, but persistent native brook trout population provides some fishing for local residents.

Snowmobilers frequently pass through the forest on the roads.

Wildife

Evidence of deer, bear, grouse, fisher, coyote, and snowshoe hare are prevalent in the forest. There is good access into and throughout the forest making the area attractive to hunters. A good diversity of vegetative types exist in the forest which greatly benefits wildlife. Deer, bear, and grouse frequent the abandoned agricultural land and forage on apples from the scattered apple trees that can be found in these openings. During 1982-1983, bush-hogging and apple tree release work was done to keep these areas open and enhance their wildlife benefits. This work was done during 1982 by a work crew of the Vermont Department of Fish and Game, and during 1983 by the Vermont Futures work crew.

Special Constraints

Land Acquisition Summary

Ozias D. Mathewson, former headmaster of Lyndon Institute, quit claimed, as gifts, five different parcels of land to the State of Vermont at different times in exchange for the privilege of having the Mathewson name used to identify what was to become a state forest. No liens or encumbrances are attached to the deeds. The sequence of acquisition and acreages were: 100 acres on 2-29-34, 60 acres on 3-18-36, 85 acres on 1-8-41, 48 acres on 3-28-42, and 35 acres on 3-31-43.

Derby T. Harris and Geneva F. Harris quit claimed on 7-19-59 by land exchange with the State, a 101 acre parcel of land known as the "Caswell Place." The transfer was free of any encumbrances.

Robert Rollins and Norris F. Mercia conveyed 81 acres known as the Hoffman lot on 3-14-66 in consideration of $2,300.00. The deed is free of encumbrances. The parcel lies in the towns of Wheelock and Sheffield.

Robert Mason conveyed 80 acres on 5-28-68 in an exchange for 52± acres in two parcels (35.5 and 16.5 acres). This transfer does not include acreage serving as town highway right-of-way across the 16.5 acre parcel, until other suitable access to the parcel is duly relocated and reconstructed to replace the town road. In addition to the exchange, Mason conveyed 85 acres to the State in consideration of $6,650.00. The total 165 acres acquired by the State, made up part of land on the Masure Farm.

Dartmouth College quit claimed the leasehold rights to 479 acres in Wheelock, on 3-24-81, in consideration of $213.00. Originally, the Vermont Assembly in 1795 granted Dartmouth 23,000 acres which became Wheelock. The

college then leased the land to tenants on the premises of the Assembly that the proceeds would help support the school. Terms of the leases ran from 900 to 999 years. Later, the Assembly permitted the tenants to buy the leased land from Dartmouth, but not the leasehold rights. The land was gradually sold off between 1851 and 1981. Mineral rights accompanied the state's acquisition on 3-24-81.

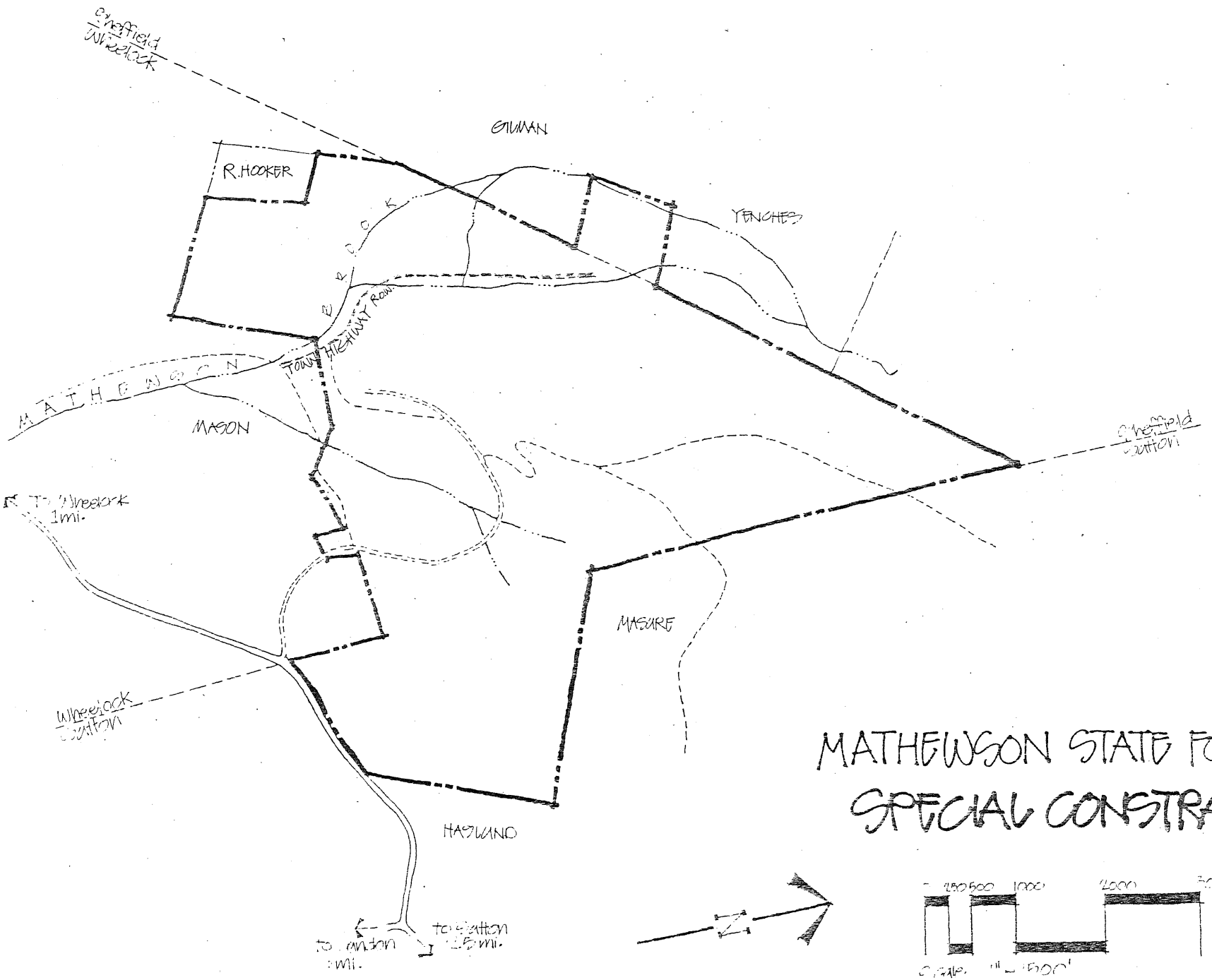
Special Constraints

The forest was established in 1944, located in the towns of:

Sheffield	15.67 acres
Sutton	95.50 acres
Wheelock	478.95 acres

Chronological Summary of Acquisitions

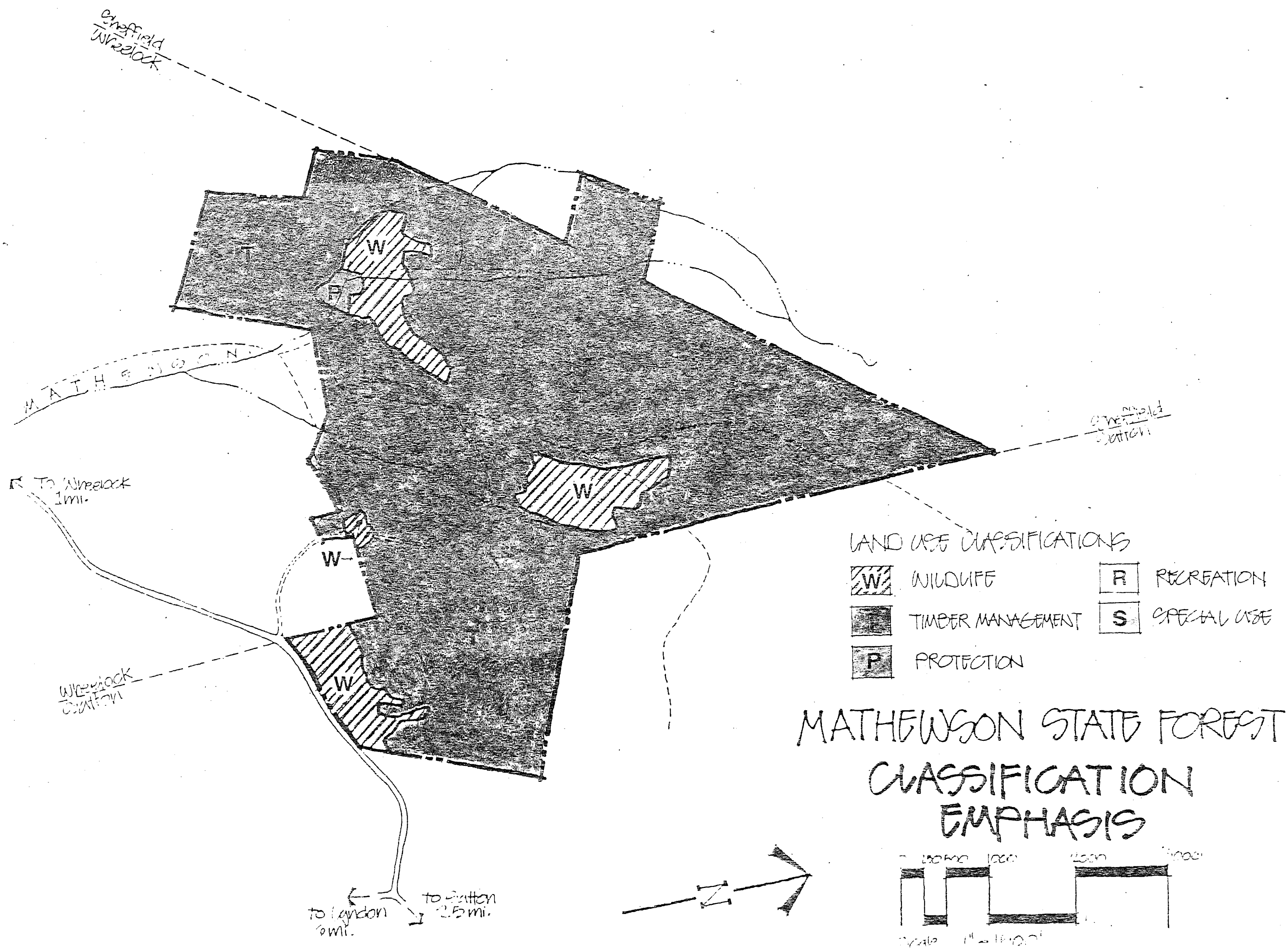
Town	Seller/Donor	Date	Acreage	Amount
Wheelock	Ozias D. Mathewson	2-29-34	100	Gift
	Ozias D. Mathewson	3-18-36	60	Gift
	Ozias D. Mathewson	1-8-41	85	Gift
	Ozias D. Mathewson	3-28-42	48	Gift
	Ozias D. Mathewson	3-31-43	35	Gift
Sutton	Derby T. Harris	7-15-59	101	Exchange
Sutton TO:	Derby T. Harris	7-15-59	48	Exchange
Wheelock	Rollins and Mercia (Hoffman lot)	3-14-66	81)	
			)	$2,300.00
Sheffield	Rollins and Mercia	3-14-66	)	
Wheelock	Robert Mason	5-28-68	85	$6,650.00
TO:	Robert Mason	5-28-68	52	Exchange
	Robert Mason	5-28-68	80	Exchange
Wheelock	Dartmouth College	3-24-81	479 (Leasehold Rights)	$213.00



MATHEWSON STATE FOREST
SPECIAL CONSTRAINTS

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.


Sheffield Wheelock
MATHEWSON
Sheffield Station
To Wheelock 1mi.
W
W
W
W
T
P
Wheelock Station
to Lyndon 6mi.
to Sutton 2.5mi.
LAND USE CLASSIFICATIONS
W WILDLIFE
T TIMBER MANAGEMENT
P PROTECTION
R RECREATION
S SPECIAL USE
MATHEWSON STATE FOREST
CLASSIFICATION EMPHASIS
N

IMPLEMENTATION

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

IMPLEMENTATION

Recreation

The recreational goal of Mathewson State Forest is to maintain and improve features for dispersed forms of recreation.

1. Improve habitat in the forest for game species thus creating better hunting. Emphasis is on habitat management for grouse and hare.
2. Maintain all roads and trails in the forest.
3. Protect stone walls in the forest for aesthetics.

IMPLEMENTATION

Wildlife

An inventory of all stands has been done and the following plan will apply:

1. Timber management is intended to increase habitat diversity.

2. All open areas of former agricultural land will be kept open by bush-hogging and apple tree release.

3. Wherever feasible, stands that are mixed hardwood and softwood will be managed to increase the softwood component to provide cover for hare and deer.

4. A ten year management plan is being developed in cooperation with the Vermont Department of Fish and Wildlife habitat biologists for areas classified as critical wildlife areas. Timber management will follow guidelines stated in the Agency document " Guides For Containing Soil Erosion and Water Pollution on Logging Jobs in Vermont". In particular, temporary skidder bridges are required of all timber sales where stream crossings are necessary, and selective cutting of mature trees only should be practiced in the 25 foot buffer strip along permanent streams.

IMPLEMENTATION

Timber Management

Timber can be managed intensively over all the area classified as commercial timber. This will be achieved through timber sales and small fuelwood sales. Timber management will be implemented in a manner to guarantee that other multiple use activities will not be diminished.

Goals of Timber Management

In the acreage classified as having "timber management emphasis," the management technique to be employed will be even-aged silviculture. The long-range goal is to achieve an even distribution of all age classes dispersed throughout the forest.

Most of the commercial timber acreage in the forest consists of the northern hardwood type (397 acres). Approximately 66% of the northern hardwood component is good quality with sugar maple being the overall dominant tree species. There is one eleven-acre northern hardwood stand where the featured stand is comprised of an adequate stocking of high quality hardwood poles with an inadequately stocked overstory of poor quality stems. The overstory will be removed in this area to release the understory. This will be achieved by a fuelwood sale or selling five cord fuelwood lots to the public.

The eventual goal is to maintain the northern hardwood cover type and strive to produce sawlogs on Sites I and II. There are some areas that are characterized by a hardwood overstory and an adequately stocked spruce-fir understory. Since these sites appear to be better suited for spruce-fir, they will be converted at some point in time when the silvicultural conditions are right. Release of the spruce-fir regeneration will take place when the

understory achieves a height of about three feet and the stands are scheduled for treatment.

A fifty-six acre area of white pine is presently being cut and regenerated to northern hardwoods by leaving all hardwoods as a seed source. This harvest cut will satisfy the area requirements for regeneration of the northern hardwood component on strongly-suited sites during the next ten year management period.

Most of the spruce-fir component (112 acres) has been treated during the last ten years. No cutting is planned in this timber type during the next ten year management period.

APPENDICES

APPENDIX

Methods of Timber Management

Timber management in Mathewson State Forest will be conducted on a stand by stand basis. Because of its small size, strict area regulation is not the most practical means of management. It is our goal, however to approach a balanced age-class distribution in the two separate timber types in the forest; northern hardwoods and spruce-fir. Specific treatment (whether it be a regeneration or thinning), is determined by analyzing stand data.

Northern Hardwood

Northern hardwood will be managed through the shelterwood system of regeneration, subject to the following parameters.

1. On sites 1 & 11, each stand will recieve three and two thinnings respectively.

2. Stands with an excessive (30% or more) component of red maple will receive two shelterwood cuts before final removal where necessary, maintaining basal areas of at least 60 square feet until regenerated.

3. Stands without significant red maple will receive one shelterwood cut, reducing basal area to 60% crown closure to encourage ash and yellow birch.

4. Intermediate cuts or thinnings will strive to encourage a mix of species suitable to the site. Ideally, at least 20 to 30%

yellow birch, white ash, and spruce, with about 50 to 70% sugar maple and beech.

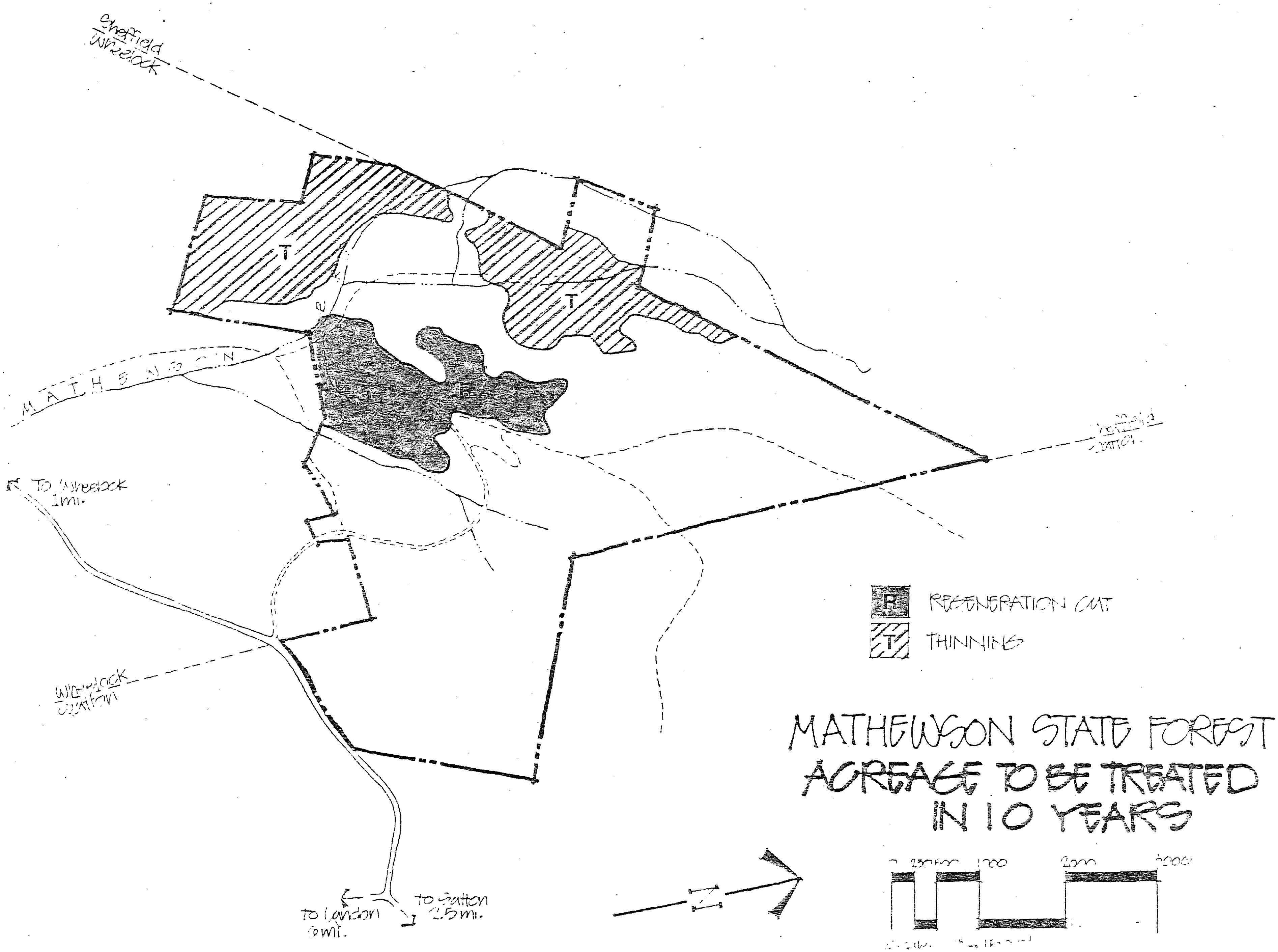
5. Shelterwood removal will leave one or two den trees or snags per acre, and small groups of beech mast trees if available.

MATHEWSON STATE FOREST

Cutting Summary

1984 - 1994

Comp.	Stand	Acres	Site Class	Treatment	Projected Volumes (B.F.)	(Cords)	F.Y.	Block
1 & 2	6	56	I	Regenerate	243,000	170	1984	3
1	2	96	I	Thinning	110,000	355	1985	3


MATHEWSON STATE FOREST
ACREAGE TO BE TREATED
IN 10 YEARS
REGENERATION CUT
THINNING
R
T
T
T
MATHEWSON
Sheffield Wheelock
Wheelock Sutton
To Wheelock 1mi.
To Sutton
To Lyndon

FOREST COMPARTMENT INVENTORY SUMMARY WORKSHEET #3

District Northeast Kingdom Forest Mathewson

Management Unit Mathewson Date January 11, 1983

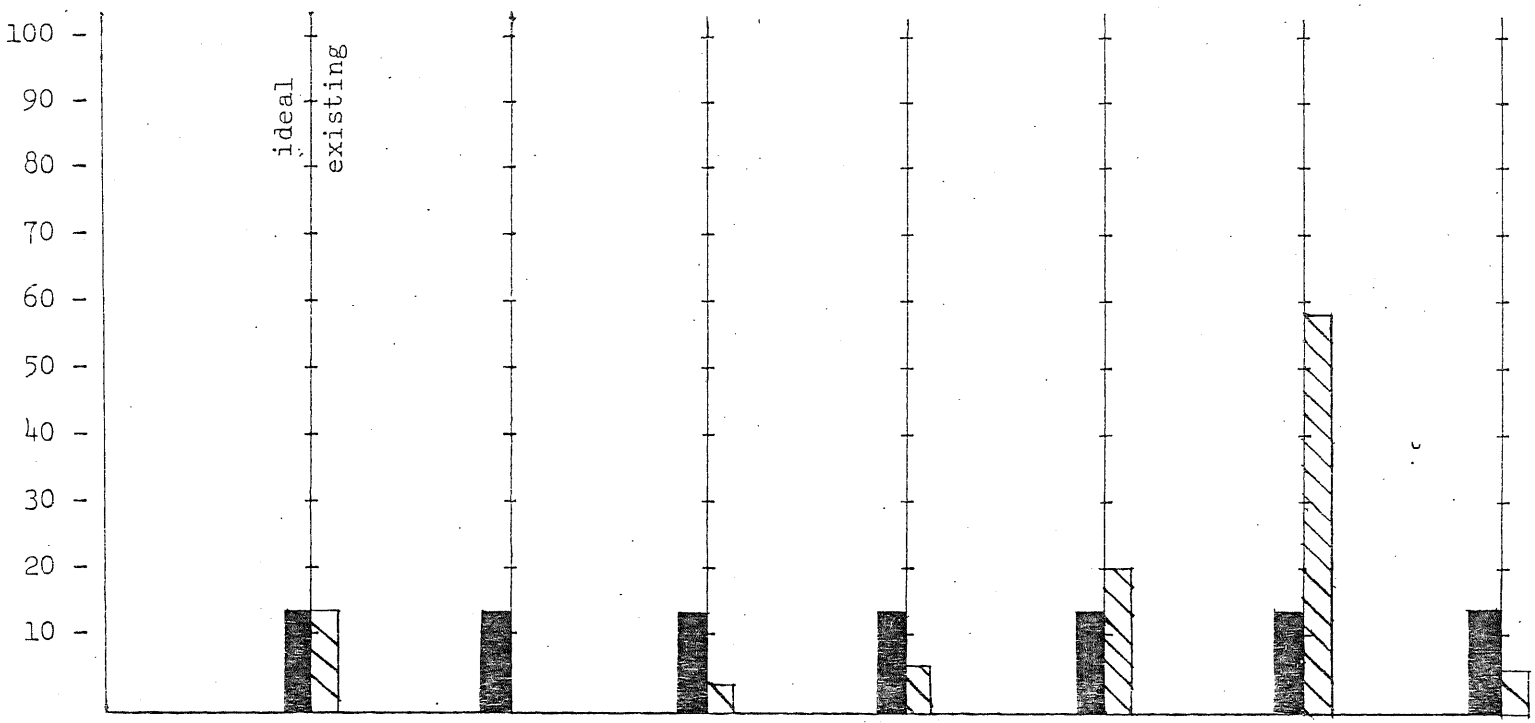
Block/Comp.	Stand	Size (acres)	M.S.D. (inches)	B.A./A. Total	Acc. B.A./A.	Unacc. B.A./A.	Cull B.A./A.	Site	Timber Type	Species % B.A.	Recom. Treat.	Access
1 1	1	10	(8) 7.0	88	50	16	22	2	NH	SM-71%	Leave	Poor
2 1	1	27	(8) 6.9	138	95	9	34	2	S-F	SP-29% Ced.-28% F -14%	Leave	Good
2 1	2	39	(8) 4.7	40	22	6	12	2	S-F	F -46% Ced-17% S -13%	Leave	Good
2 1	3	8	(6) 6.7	128	122	2	4	2	Norway Spruce Plant.	NS-92%	Leave	Good
3 1	1	136	(10) 7.8	97	29	30	38	1	NH	SM-29% Aspen 17% Fir-17%	Regenerate	Fair-Good
3 1	2	96	(10) 8.7	110	79	10	21	1	NH	SM-73%	Thin	Poor
3 1	3	11	(4) 3.5	54	8	22	24	1	NH	Be-28% SM-26% YB-26%	Overstory Removal	Good
3 2	1	23	(8) 6.9	138	95	9	34	2	S-F	Sp-29% Ced-28% F -14%	Leave	Good
3 2	2	29	(8) 6.2	96	68	26	2	2	NH	YB-48% RM-18% SM-18%	Leave	Good
3 2	3	15	(10) 6.5	102	48	34	20	2	S-F	F-42% S-23% Aspen19%	Leave	Good
3 2	4	18	(12) 11.3	110	98	10	2	1	NH	SM-86% Ash-13%	Leave	Good
3 2	5	41	(8) 8.2	87	54	18	15	1	NH	SM-83%	Leave	Good

MEAN STAND DIAMETER DISTRIBUTION WORKSHEET #4

Northern Hardwood

District Northeast Kingdom Forest Mathewson State

Management Unit Mathewson Date December 21, 1983



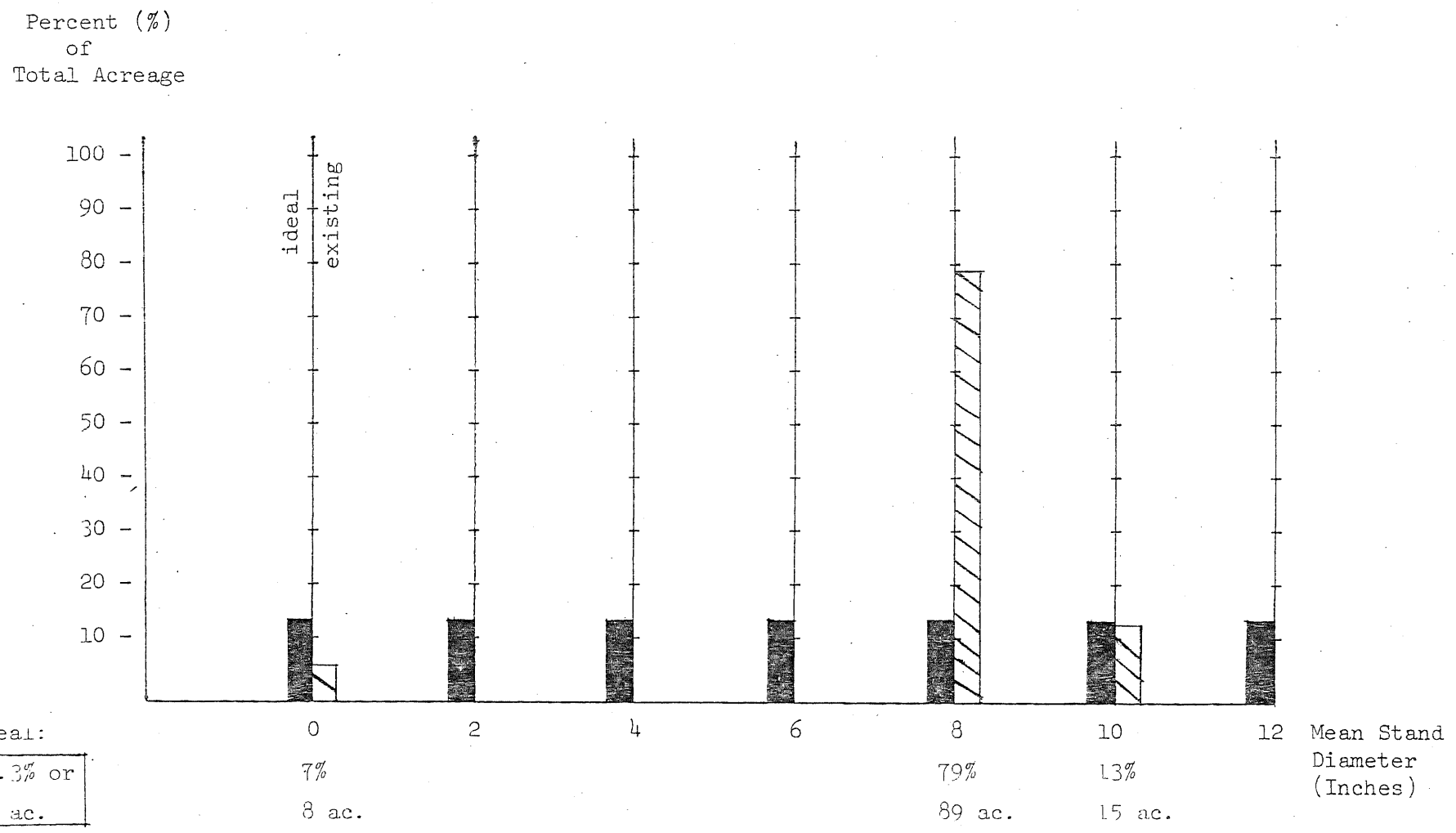
Ideal:	0	2	4	6	8	10	12
14.3% or 5 7 ac.	13 % 56 ac.		3% 11 ac.	7% 29 ac.	19 % 80 ac.	54 % 232 ac.	4% 18 ac.

MEAN STAND DIAMETER DISTRIBUTION WORKSHEET #4

Spruce-Fir

District Northeast Kingdom Forest Mathewson

Management Unit Mathewson Date December 21, 1983



Ideal:	0	2	4	6	8	10	12
14.3% or 16 ac.	7% 8 ac.				79% 89 ac.	13% 15 ac.	

APPENDIX

Roads

Approximately one-half mile of primary truck road needs to be added to the present system to make access in the forest complete. There is a good secondary road system designed for light vehicles.

Road maintenance will be kept to a minimum. Only "trouble spots" need to be repaired annually. Some maintenance on the primary truck road and the one-half mile of new construction to extend this road can be incorporated into timber sale contracts. Maintenance will also be needed on the class IV town road, the major means of entry into the forest.

MATHEWSON STATE FOREST

Road Construction and Maintenance Summary

Existing	Miles	Maintenance w/i 10 Years	Annual Cost Estimate
Gravel 2nd class (primary truck road)	.75	Periodic maintenance, reditching, and culvert replacement	$500.00
2nd truck access	1.0		$250.00
Total	1.75		$750.00

Proposed Construction w/i 10 Years

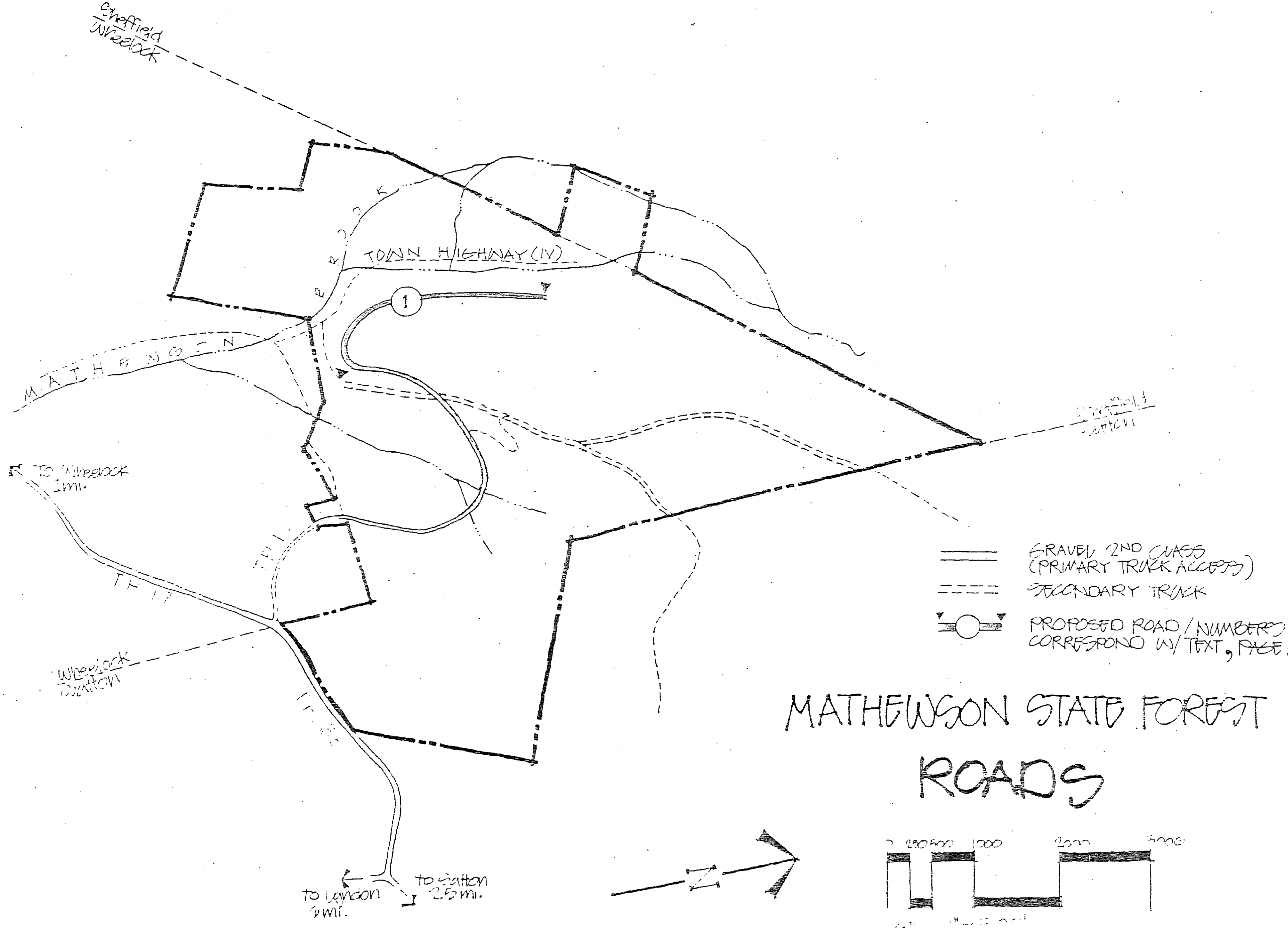
No.	Class	Miles	Cost Estimate
1	gravel 2nd	.5	$3500

Total Road Allocation over 10 Year Period

Maintenance:	$750/year	or	$7500 total
Construction:	$350/year	or	$3500 total
			$11,000 TOTAL

ROAD IMPROVEMENTS Mathewson State Forest FISCAL YEARS 1984 - 1990

Fiscal Year	Project	Estimated Cost	Allocation	Year of Work	Percent Complete	Actual Cost
1984	Concrete abutments built on culverts		(VT Futures)	1983	100%	$ 3,900.00 (materials & labor)
1984	Seeding and mulching		(VT Futures)	1983	100%	$ 500.00 (materials & labor)
1984	Repaired small portions and constructed approximately one-half mile of secondary truck access	$ 1,700	$ 1,700	1983	100%	$ 1,018.75
1985	1,000' of summer quality truck road constructed in conjunction with Mathewson Brook Thinning Sale. Three 15" x 24' metal culverts installed.	$ 1,450		1985	100%	$ 1,450.00
1986	No activities					
1987	No activities					


Sheffield
Wheelock
TOWN HIGHWAY (IV)
MATHEWSON BROOK
1
To Wheelock 1mi.
Wheelock
Sutton
TH 17
To Lyndon 6mi.
To Sutton 2.5mi.
GRAVEL 2ND CLASS (PRIMARY TRUCK ACCESS)
SECONDARY TRUCK
PROPOSED ROAD / NUMBERS CORRESPOND W/ TEXT, PAGE
MATHEWSON STATE FOREST
ROADS
N

USE VALUE APPRAISAL OF STATE LAND

To help compensate towns for loss of taxes because of State ownership of real estate within the town, the Legislature mandated that lands under the jurisdiction of the Agency of Environmental Conservation pay the towns 1% of the current use value or fair market value, whichever is less, each year.*

Current use values are established by the current use advisory board from time to time. These values are based on the productive capacity of the land, assigned to four categories: Forest site I, potential wood growth of more than 85 cubic feet per acre per year; site II, 50 to 85 cubic feet; site III, 20 to 49 cubic feet; and site IV, less than 20 cubic feet.

For 1982 these values are set at $100/acre on site I, $60/acre on site II, $20/acre on site III, and $5/acre on site IV.

To qualify, the land must have a management plan for production of forest products, and be accompanied by a map indicating the various sites and where different management is to be done.

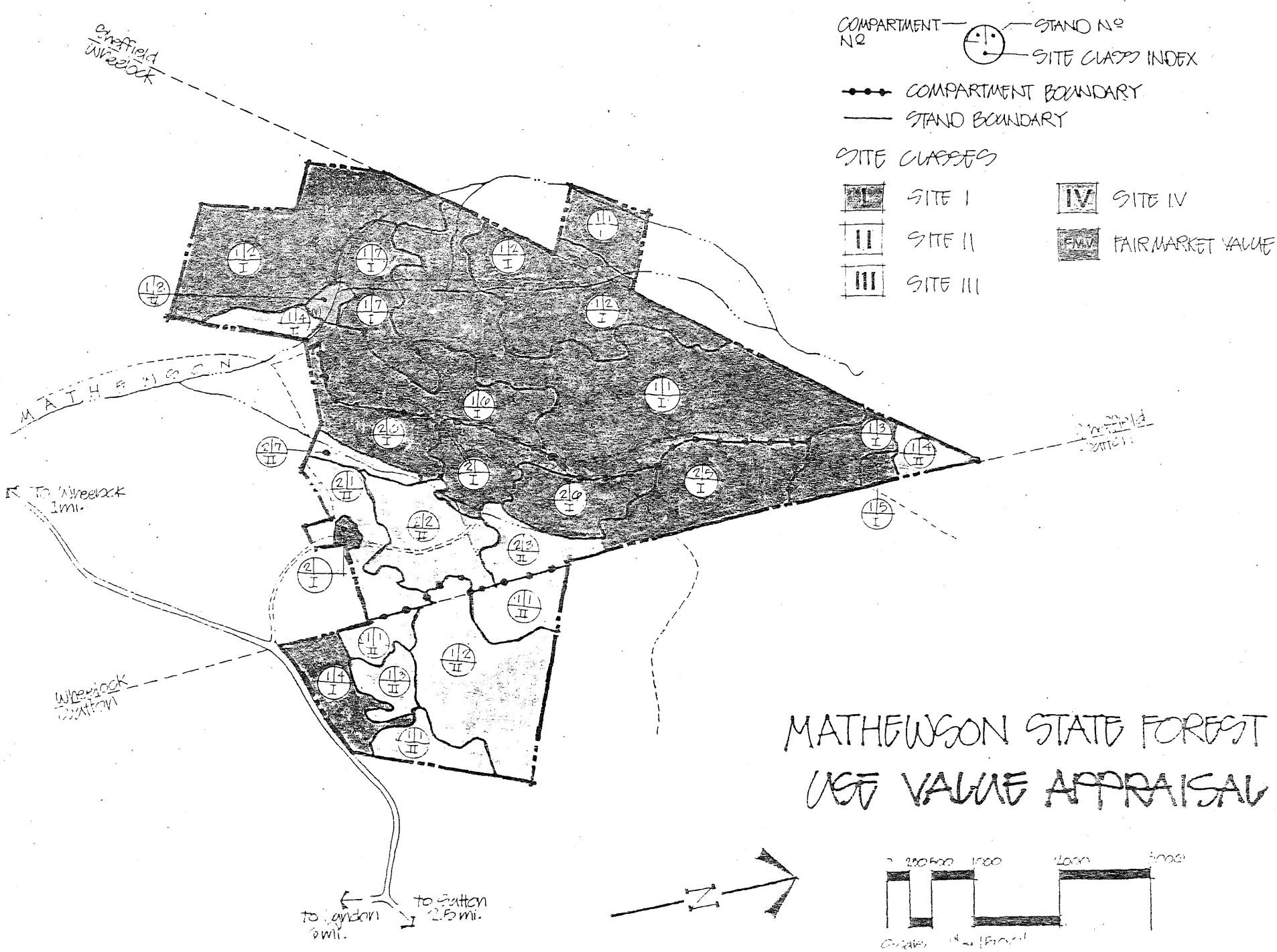
* Title 32, Section 3660 VSA.

MATHEWSON STATE FOREST

CURRENT USE SUMMARY

1983 Revision

Town	Block	Comp.	Area	Site	Acres
Sheffield	1	1	1	II	10
		1	2	I	6
Wheelock	2	1	1	I	126
		1	2	I	90
		1	3	I	11
		1	4	II	10
		1 & 2	5	I	41
		1 & 2	6	I	56
		1	7	I	19
		1	8	IV	4
		2	1	II	23
		2	2	II	29
		2	3	II	15
		2	4	I	18
		2	6	I	29
		2	7	II	8
Sutton	3	1	1	II	27
		1	2	II	39
		1	3	II	8
		1	4	I	22


COMPARTMENT NO
STAND NO
SITE CLASS INDEX
COMPARTMENT BOUNDARY
STAND BOUNDARY
SITE CLASSES
I SITE I
II SITE II
III SITE III
IV SITE IV
F.M.V. FAIR MARKET VALUE
Sheffield Wyeback
MATHEWSON
To Wyeback 1mi.
Wyebrook Sutton
to Sutton 2.5 mi.
to Lyndon 3 mi.
MATHEWSON STATE FOREST
USE VALUE APPRAISAL

BENEFITS - MATHEWSON STATE FOREST

Year		Products						Leases & Permits
		MBF	Cords	Other	Day Use	Camper Days	Dispersed	
1981	Estimate	54	226					
	Actual	58	280					
1982	Estimate	39	70					
	Actual	32	125					
1983	Estimate	50	170					
	Actual	182	70					
1984	Estimate		300					
	Actual		300					
1985	Estimate	120	1,033					
	Actual	122	1,330					
1986	Estimate		100					
	Actual		150					
1987	Estimate							
	Actual							
1988	Estimate							
	Actual							
1989	Estimate							
	Actual							
1990	Estimate							
	Actual							

MATHEWSON STATE FOREST

ACCOMPLISHMENT EVALUATION

FISCAL YEAR 1984

Proposed Project	Action	Comments
Five cord firewood lots to be marked and sold to the public	Sixty 5 cord lots totaling 300 cords were marked and sold to the public.	
Concrete abutments on culverts, seeding and mulching by Vermont Futures	Proposed project completed.	
Wildlife habitat improvement work, releasing apple trees on 22 acres in Sutton by Vermont Futures	Proposed project completed.	Area should be bush-hogged to discriminate against forest growth.
Active timber sale (regneration) in compartments 1 and 2, Wheelock, 56 acres	Sale is complete	

ACCOMPLISHMENT EVALUATION MATHEWSON STATE FOREST FISCAL YEAR 1985

Proposed Project	Action	Comments
Mathewson Brook Thinning timber sale in Compartment 1	Sale being cut.	

ACCOMPLISHMENT EVALUATION MATHEWSON STATE FOREST FISCAL YEAR 1986

Proposed Project	Action	Comments
Mathewson Brook Thinning timber sale in Compartment 1	Sale completed.	Final volumes, 122 MBF, 1330 cords.

R 7 7

ACCOMPLISHMENT EVALUATION Mathewson State Forest FISCAL YEAR 1987

Proposed Project	Action	Comments
Sale cleanup	Cutting portion of previous timber sale and firewood area	Wheelock - 1 & 2 150 cords

GLOSSARY

block -- a land management planning unit.

dispersed recreation -- outdoor recreation activities requiring few if any support facilities.

even-aged -- a stand of timber managed to maintain three or less distinct age classes.

intensive recreation -- outdoor recreation activities requiring major structures and facilities.

protection forest -- lands which will be adversely affected by minimal disturbance, or which are designated to remain undisturbed.

special use -- lands which are leased, or designated for a specific purpose usually beyond the scope of normal department operations.

sustained yield -- continuous production with the aim of achieving, at the earliest practicable time, an approximate balance between net growth and harvest.

timber lands -- properties that are managed primarily for the maximum production of forest products.

uneven-aged -- a stand of timber managed to maintain four or more distinct age classes.

wildlife habitat -- lands supplying a critical habitat need for any species of wildlife, especially that which requires specific treatment and is of limited acreage.

The Purpose and Objectives of Land Management

By the Department of Forests, Parks and Recreation

In addressing the natural resource needs of the people of the State of Vermont, the Legislature has established the Department of Forests, Parks and Recreation, as a part of the Agency of Environmental Conservation. A major assignment of the Department is the responsibility for management of lands acquired to fulfill these needs.

Consistent with legislative direction, and through a policy of economic management of its lands, the Department will protect, conserve and enhance resource qualities and provide recreational opportunities, timber products, varied plant and wildlife habitat, clean water, and natural beauty for the enjoyment and use of the people of the State.

Management of public land will be in accordance with the interests of the people of Vermont, as expressed through the democratic process, and through a systematic assessment of needs. Decisions will consider both public needs and inherent resource capabilities, through application of interdisciplinary review by a staff of professional personnel.

Public ownership shall complement private ownership by fulfilling needs which are not readily met by the private sector. The continuity of public ownership provides the opportunity to meet long-range goals and objectives, an assurance of public access to diverse natural resources, their availability for use by future generations, and the opportunity for research, education, and study for the enrichment of society.

Public management shall be consistent, yet flexible enough to adapt to changing public needs, technological advances, and relevant economic conditions. The Department recognizes the legislative charge to manage for the

purposes implied by its title and jurisdictions: the forest, recreation, and natural areas of the State, but will consider and incorporate all other values consistent with expressed goals and policy.

To achieve the Department assignment of fulfilling resource needs through state lands stewardship, the Department will be guided by the following objectives:

A. To manage the land for the greatest benefit of the people of the State, consistent with the capability of the resource, under the concept of integrated use, while favoring the highest and best use, by:

1. Establishing land-use definitions, categories, and objectives,
2. Identifying resource capacity through an inventory process,
3. Assessing and integrating public needs,
4. Establishing an input process by other state divisions and departments, individuals, and special interest groups,
5. Developing long-range plans and goals for the land,
6. Formulating work plans which outline specific tasks to be achieved over a 15-year period,
7. Reviewing and updating plans regularly,
8. Establishing a method of monitoring progress on plans, and,
9. Continually reviewing the public land ownership pattern, and making recommendations with respect to acquisition and/or disposition of property.

B. To protect the resources by:

1. Identifying for acquisition those lands needed to enhance or protect existing State ownership,
2. Identifying and recommending acquisition of lands which have outstanding scenic quality, vital ecosystems needing preservation, vulnerable habitat or landforms,

3. Devising and implementing a fire protection plan,

4. Reducing insect and disease damage through silvicultural practices, or where necessary, other appropriate techniques,

5. Implementing the best erosion control measures feasible in all activities,

6. Including educational efforts in all plans to encourage knowledgeable public use of the lands,

7. Monitoring all uses of State lands to ensure protection of the resource and to revise or adjust uses as needs demonstrate,

8. Locating and marking all property lines to maintain the integrity of the property, and

9. Designing facilities which direct use to areas most suited to certain activities.

C. To provide a suitable variety of services and products by:

1. Developing outdoor recreational opportunities such as campgrounds, beaches, trails, picnic areas, and other facilities, where compatible with the resource and where need is demonstrated,

2. Harvesting the timber growth through an orderly sales program, to provide fuelwood, logs, pulpwood, and other marketable forest products, based on a sound silvicultural management system,

3. Maintaining, enhancing, and creating a variety of wildlife habitat,

4. Acquiring and developing access for public use of State lands,

5. Allowing limited special uses through a permit system, where such uses are clearly beneficial to an individual or group, and fully compatible with the primary objectives of the parcel, and,

6. Administering all leases in a professional and timely manner, demonstrating appropriate and constructive attention to natural resources, viability of private sector interests, economics and the general public good.