

# BUREAU OF PUBLIC LANDS

## TIMBER MANAGEMENT PLAN

### CARATUNK PUBLIC RESERVED LAND

This plan adopted September, 1978.  
All information is current as of that date  
except as otherwise noted.

## TABLE OF CONTENTS

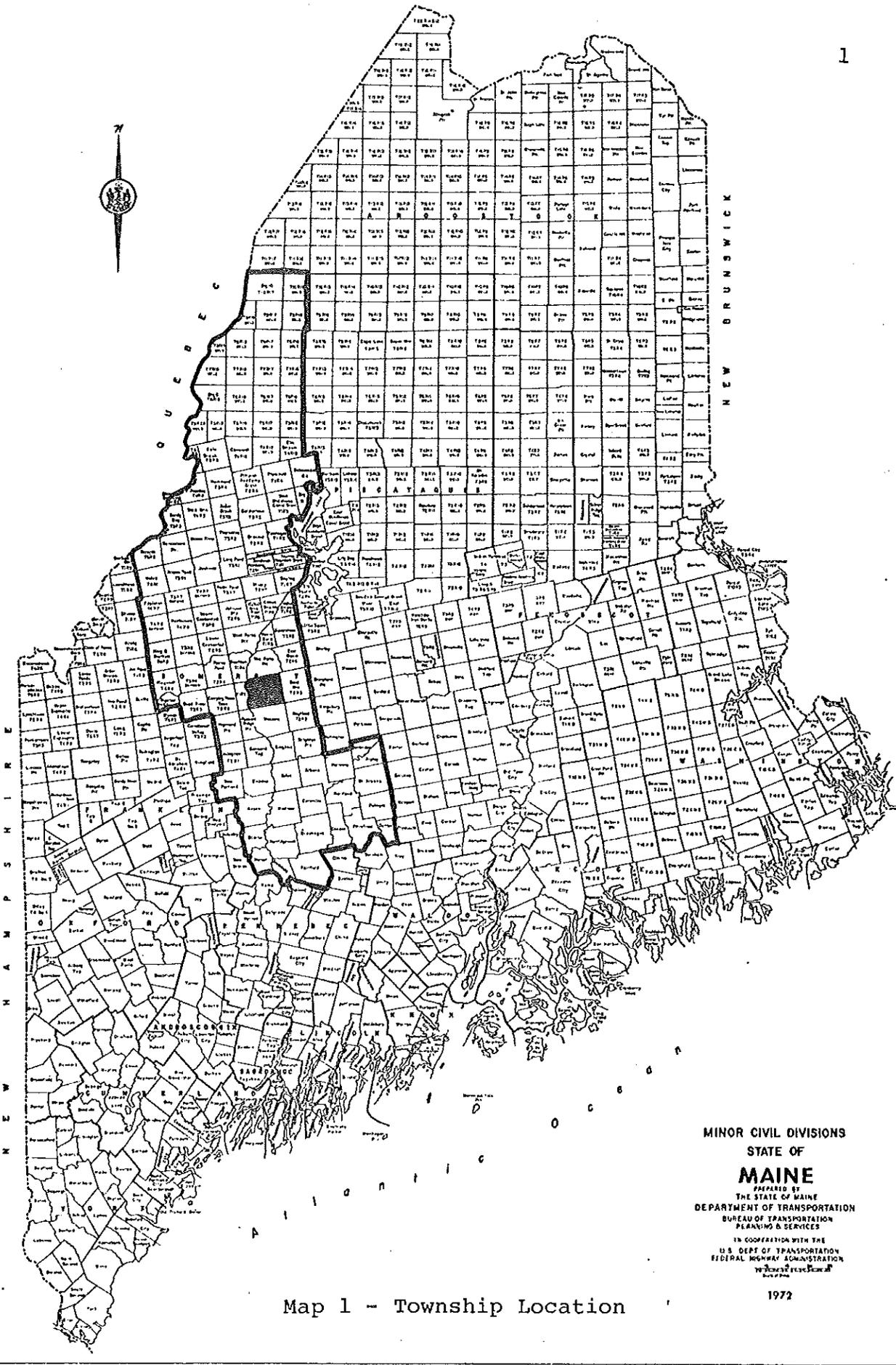
List of Maps	ii
List of Tables	iii
I. The Property	4
II. Setting and History	6
III. Resource Situation	9
IV. Management Recommendations	26
V. Schedule of Recommendations	38
VI. Appendices	39

## LIST OF MAPS

Map No.		Page
1	Township Location	1
2	General Highway	2
3	Highway Atlas	3
4	Forest Type Map - Little Heald Brook Unit	11
5	Forest Type Map - Carney Brook Unit	13
6	Forest Type Map - Pleasant Pond Stream Unit	15
7	LURC Interim Zoning - Little Heald Brook Unit	23
8	LURC Interim Zoning - Carney Brook Unit	24
9	LURC Interim Zoning - Pleasant Pond Stream Unit	25
10	Public Lot Location	A-1

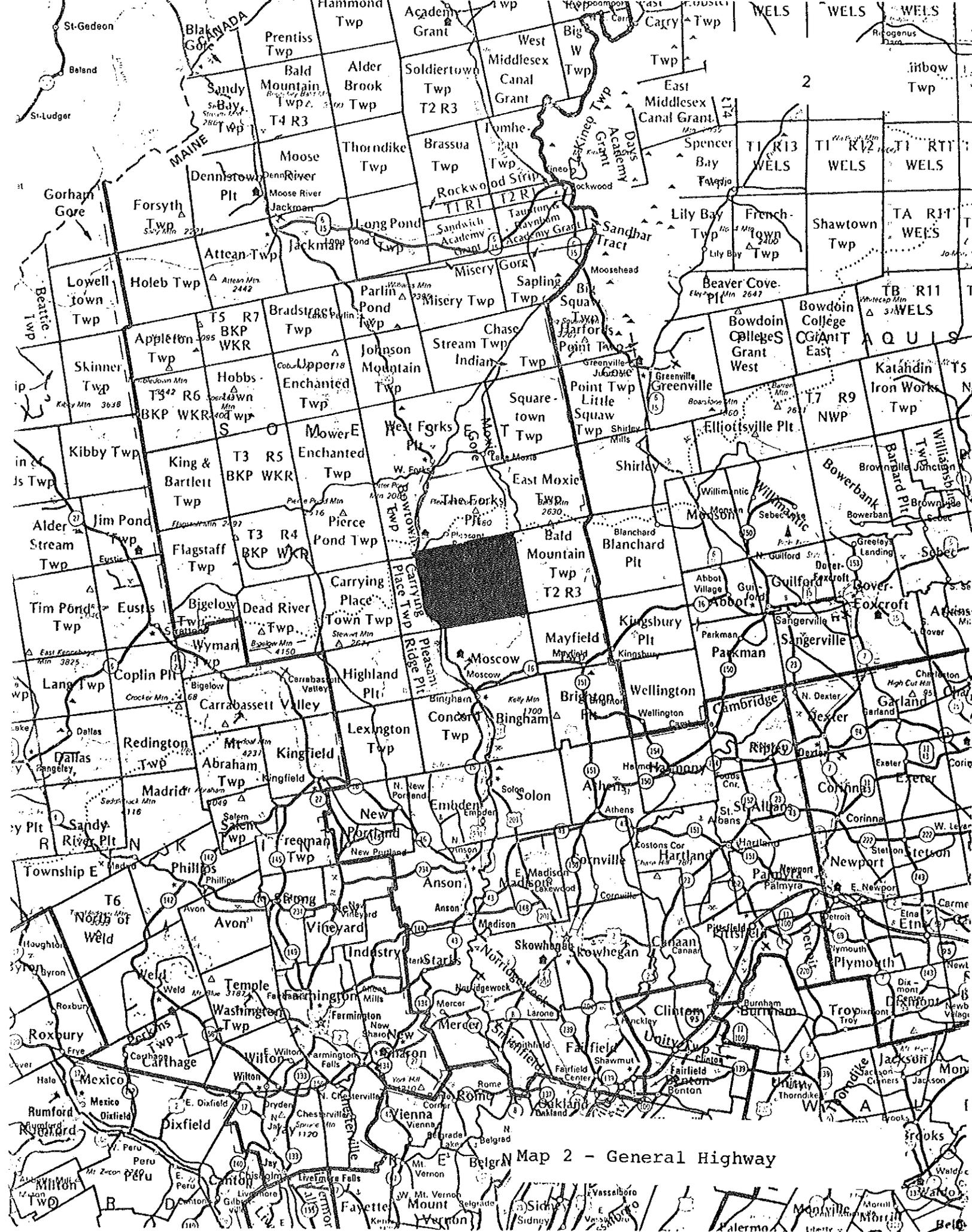
## LIST OF TABLES

Table No.		Page
1	Acreage by Forest Type	7
2	Merchantable Volume and Basal Area by Forest Type - Little Heald Brook Unit	12
3	Merchantable Volume and Basal Area by Forest Type - Carney Brook Unit	14
4	Merchantable Volume and Basal Area by Forest Type - Pleasant Pond Stream Unit	17
5	Annual Growth by Forest Type	18
6	Planned Harvests and Residual Volumes by Type - Little Heald Brook Unit	28
7	Planned Harvests and Residual Volumes by Type - Carney Brook Unit	30
8	Planned Harvests and Residual Volumes by Type - Pleasant Pond Stream Unit	32
9	Projected 1986 Inventory	34
10	Present (1976) Stand Table Summary	A-4
11	Future (1986) Stand Table Summary	A-5
12	Present (1976) Stock Table Summary	A-6
13	Future (1986) Stock Table Summary	A-7

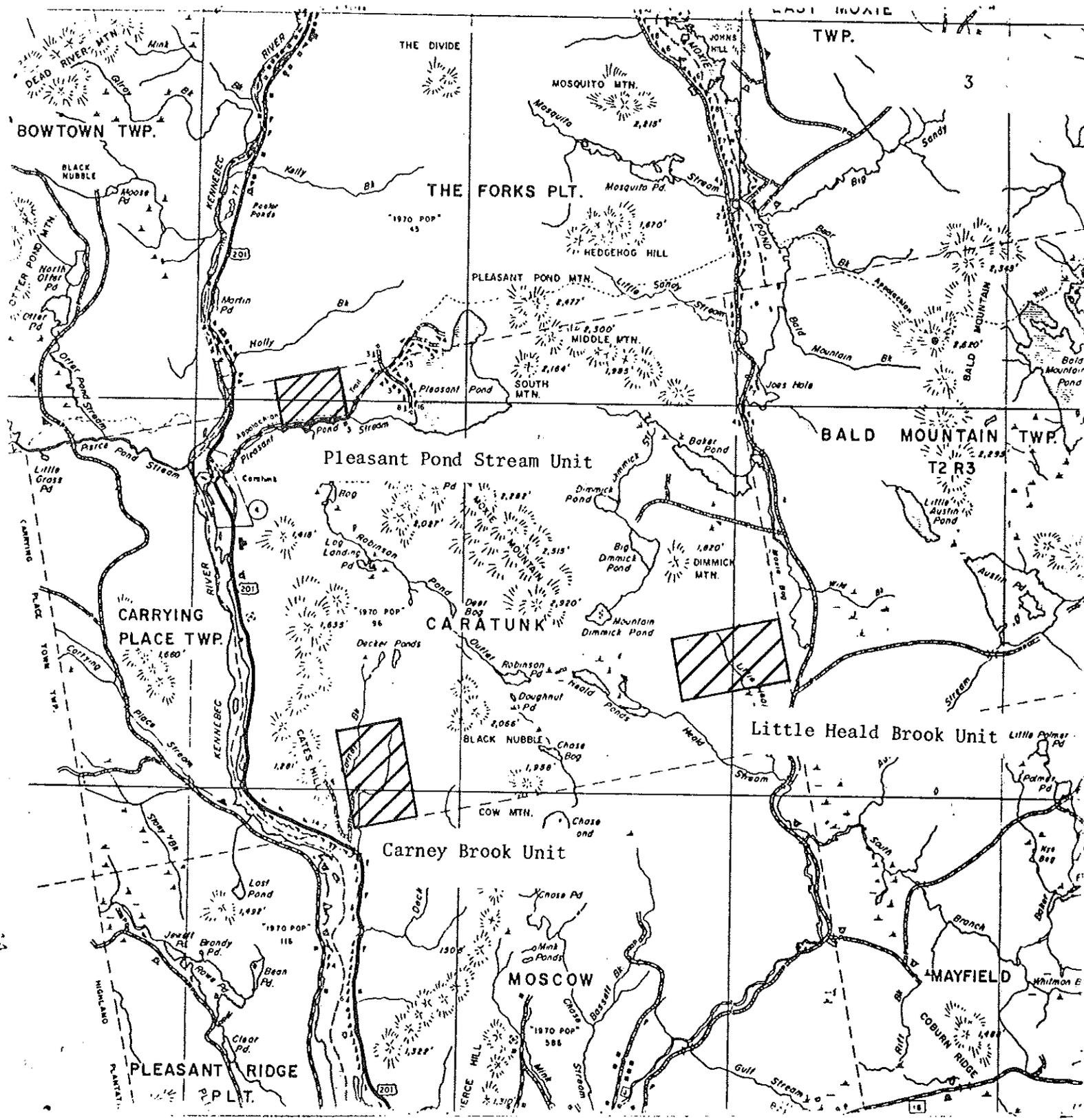


MINOR CIVIL DIVISIONS  
 STATE OF  
**MAINE**  
 PREPARED BY  
 THE STATE OF MAINE  
 DEPARTMENT OF TRANSPORTATION  
 BUREAU OF TRANSPORTATION  
 PLANNING & SERVICES  
 IN COOPERATION WITH THE  
 U.S. DEPT. OF TRANSPORTATION  
 FEDERAL HIGHWAY ADMINISTRATION

Map 1 - Township Location



Map 2 - General Highway



Map 3

General Highway Atlas  
 1" = 20 chains

Caratunk/1977

## I. THE PROPERTY

### A. NAME

Caratunk Public Reserved Land, hereinafter referred to as the Caratunk Public Lots or the Property.

### B. LOCATION

The Caratunk Public Lots are located in Caratunk, central Somerset County, about 40 miles north of Skowhegan.

The Property consists of 1,592 wooded acres in three parcels (map 3). One public lot, containing 535 acres, is situated in the southeast portion of the town and is hereinafter referred to as the Little Heald Brook Property or Management Unit, MIDAS #25070P2. The second public lot lies on the south town line near the southwest corner of the town, contains 566 acres, and is hereinafter referred to as the Carney Brook Property or Management Unit, MIDAS #25070P3. The third parcel, which contains 491 acres, abuts the north town line near the northwest corner of the town and is hereinafter referred to as the Pleasant Pond Stream Property or Management Unit, MIDAS #25070P4.

### C. MANAGEMENT AUTHORITY

Management authority is vested in the Bureau of Public Lands by Title 30, M.R.S.A., Section 4162.

Chapter 19, Private and Special Laws of 1977, provided for the incorporation of Caratunk Plantation into the Town of Caratunk. The citizens of the Plantation voted to accept incorporation in a November, 1977, election. Incorporation became effective on March 11, 1978 at the annual town meeting.

#### D. MANAGEMENT OBJECTIVES

The Property will be managed as a forest resource to produce a sustained yield of timber products, to protect and enhance wildlife habitat and to protect soil and water resources.

## II. SETTING AND HISTORY

### A. PHYSICAL

Little Heald Brook Unit. The land is gently rolling with moderate slopes reaching 10-15 percent in the steepest areas. Elevations above sea level range from 1,060' at the southeast corner to 1,400' at the northwest corner.

More than half of the forested area is in hardwood stands (Table 1) interspersed with softwood and mixedwood stands. Forest type designations are contained in the Appendix, page A-2. Most of the area east of Little Heald Brook has been harvested within the last 20 years.

The major commercial species are red spruce, balsam fir, sugar maple, red maple, yellow birch and beech. There are three major cover types as defined by the Society of American Foresters:

Type 25 - Sugar Maple, Beech, Yellow Birch

Type 31 - Red Spruce, Sugar Maple, Beech

Type 33 - Red Spruce, Balsam Fir

Carney Brook Unit. This parcel is dominated by steeply sloped ridges traversing the Property north to south. Carney Brook which flows south and a tributary entering from the east provide the major drainage for the Unit. Elevations above sea level range from 560' to 1,300'.

Sixty-one percent of the forest is comprised of hardwood stands (Table 1). Mixedwood and softwood stands are found in the lower elevations. Softwood accounts for only seven percent of the forested acres. An area of approximately 75 acres was cut in the southeast corner of the lot about 15 years ago.

The major commercial species are sugar maple, yellow birch, white birch, beech, hemlock, spruce and fir. There are two major cover types as defined by the Society of American Foresters:

Type 25 - Sugar Maple, Beech, Yellow Birch

Type 31 - Red Spruce, Sugar Maple, Beech

Pleasant Pond Stream Unit. The land is gently sloping over most of the area and then falls sharply to Pleasant Pond Stream. Elevations above sea level range from 1,240 feet in the northeast corner to 820 feet in the extreme southwestern corner.

Most of the eastern portion of the Property has poorly drained shallow soil. The forest growth is generally low quality balsam fir with scattered poor quality spruce and hardwood on the drier sites. The western portion supports better, although still low quality stands. The major species are balsam fir, red spruce, sugar maple, red maple, beech and aspen. There are three major forest types as defined by the Society of American Foresters:

Type 25 - Sugar Maple, Beech, Yellow Birch

Type 31 - Red Spruce, Sugar Maple, Beech

Type 33 - Red Spruce, Balsam Fir

TABLE 1  
ACREAGE BY TYPE

Little Heald Brook Unit

<u>S2</u>	<u>S3</u>	<u>M2</u>	<u>M3</u>	<u>H1</u>	<u>H2</u>	<u>H3</u>	<u>Non-Forest</u>	<u>Total</u>
5	123	8	83	45	162	74	35	535

Carney Brook Unit

<u>S2</u>	<u>S3</u>	<u>M2</u>	<u>M3</u>	<u>H2</u>	<u>H3</u>	<u>Non-Forest</u>	<u>Total</u>
31	9	96	83	107	236	4	566

Pleasant Pond Stream Unit

<u>S1</u>	<u>S2</u>	<u>S3</u>	<u>M1</u>	<u>M2</u>	<u>H1</u>	<u>H2</u>	<u>Non-Forest</u>	<u>Total</u>
20	197	7	38	152	12	50	15	491

## B. SOCIO-ECONOMIC FACTORS

Rural in character, Caratunk had a 1970 population of 96. First settled in 1810, the Plantation was organized in 1840 and incorporated as a town in 1978. The Property was located on the ground in 1841. Most residents are engaged in forest or wood product related activities. Skowhegan, the county seat and largest town, lies 40 miles to the south.

## C. MANAGEMENT HISTORY

Stumpage sale records date back to 1915. Since 1915, stumpage income has been \$53,123.86. Records are not available as to the nature and location of the harvesting prior to 1956. In two major harvests in 1956 and 1962, 4,282 cords of spruce and fir pulpwood, 108,940 board feet of pine, 7,521 board feet of spruce and 460 board feet of white ash were cut.

The Little Heald Brook Unit was last surveyed in 1967, the Carney Brook Unit in 1965 and the Pleasant Pond Stream Unit in 1968. Boundary lines of all parcels were respotted and repainted in 1976.

### III. RESOURCE SITUATION

#### A. ACCESS AND TRANSPORTATION

The Little Heald Brook Unit is accessible from a high quality gravel surface road which passes within one-quarter mile to the east. The road runs from Bingham to the village of Lake Moxie in the Forks Plantation and is maintained by Scott Paper Company.

An unmaintained but passable gravel road follows the west line of the Carney Brook Property and enters U.S. Route 201 approximately one-half mile from the southwest corner.

The Pleasant Pond Stream Unit lies on the Pleasant Pond Road approximately two miles from the village of Caratunk and three miles from U.S. Route 201. There is a winter truck road crossing the middle of the Property from south to north.

The nearest railroad freight facility is the Central Maine Railroad Company terminal in Bingham, 10 miles to the south of Caratunk on U.S. Route 201.

#### B. UTILITIES

There is no utility service on or near the Little Heald Brook Unit or the Carney Brook Unit.

Both New England Telephone and Central Maine Power Company have service along Pleasant Pond Road which crosses the Pleasant Pond Stream Management Unit.

#### C. TIMBER

For an explanation of the collection, utilization and reliability of the forest inventory and growth data used in preparing this plan, see Appendix, Page A-3. The timber situation varies considerably on the individual parcels and each management unit will be discussed separately.

Little Heald Brook Unit

The area east of Little Heald Brook was patch clearcut approximately 10 years ago. These areas are now H1 type (Map 4) containing dense sapling stands of red maple, sugar maple, beech and yellow and white birch.

The H2 stands are composed primarily of beech, sugar maple and red maple with scattered spruce. The stems average 6"-8" in diameter at breast height (d.b.h.) with 81 percent of the merchantable volume in pulpwood. The stands east of Little Heald Brook have been partially cut and reproduction here is mostly red maple. The stands west of the brooks are undisturbed and reproduction is mostly sapling stage beech and sugar maple.

The H3 stands are well stocked (Table 2) with mostly large, good quality sugar maple along with some low-quality beech and scattered small spruce and fir. Eighteen percent of the merchantable timber is in sawlogs and 69 percent in pulpwood. The reproduction is sapling and pole stage sugar maple and beech.

The mixedwood is almost entirely in M3 stands (Table 1). The forest is composed of mostly good-quality sugar maple, beech and spruce with some small fir. Twenty-one percent of the merchantable volume is sawlogs and 64 percent is pulpwood. The stocking is moderate (Table 2). The reproduction is well established beech, sugar maple and fir.

The softwood stands are heavily stocked (Table 2) with spruce and large fir. The softwood stands are mostly S3 type (Table 1) with 65 percent of the volume in pulpwood and 35 percent in small logs (4.6"-9.5" d.b.h.). The reproduction is mostly fir limited to areas where the dense canopy has been opened by some natural disaster.



TABLE 2  
 MERCHANTABLE VOLUME AND BASAL AREA BY FOREST TYPE  
 Little Heald Brook Unit

<u>Type</u>	<u>Basal Area</u>	(ft <sup>3</sup> ) <u>Volume/Acre</u>	<u>Acreage</u>	(ft <sup>3</sup> ) <u>Total Volume</u>
S2	117	2,278	5	11,391
S3	142	2,899	123	356,557
M2	97	1,877	8	15,014
M3	104	2,491	83	206,794
H2	82	1,694	81	137,244
H3	103	2,363	200	472,555
ALL	109	2,399	500	1,199,555

#### Carney Brook Unit

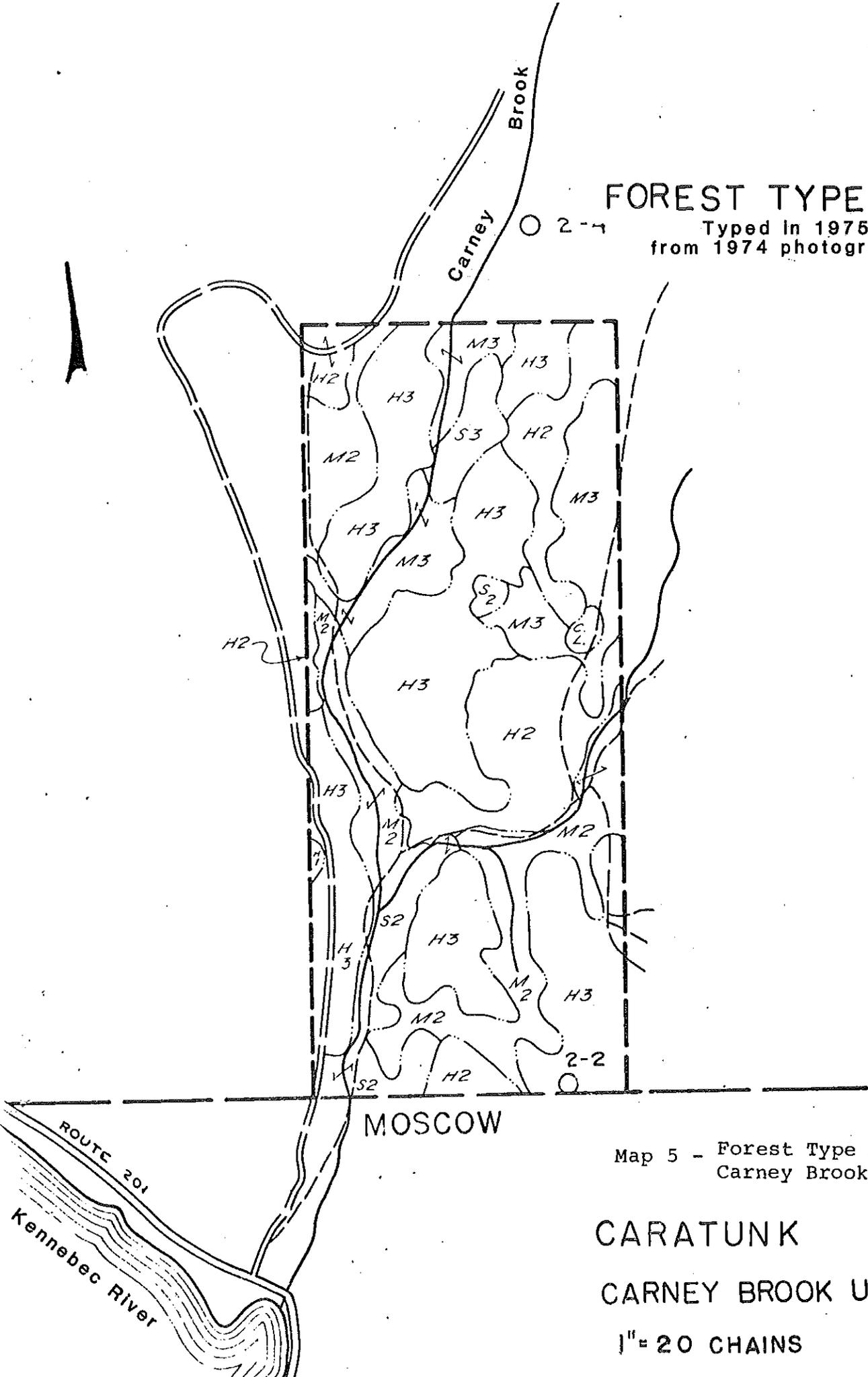
The softwood Types make up a small percentage of the growth (Table 1) and are found mostly along the streams (Map 5). The major species are spruce and fir. The S2 type has 19 percent and 17 percent of the volume in small logs and sawtimber, respectively. The S3 type has 35 percent small logs. Stocking is heavy (Table 2) and the reproduction is mostly fir.

The mixedwood stands are generally found on the sloping areas and represent a considerable portion of the forest land (Table 1).

The major species are sugar maple, beech, yellow birch, red spruce, hemlock and fir. Stocking in the M2 and M3 stands is moderate (Table 3) and the reproduction is predominantly beech and fir. Log quality trees make up 22 percent of the merchantable volume in the M2 type and 31 percent of the M3 type. Pulpwood comprises the majority of the remaining volume in both types.

# FOREST TYPE MAP

Typed in 1975  
from 1974 photography



Map 5 - Forest Type Map  
Carney Brook Property

## CARATUNK

## CARNEY BROOK UNIT

1" = 20 CHAINS

The hardwood types are found at the highest elevations and contain some very good quality trees. The major commercial species are sugar maple and beech with scattered yellow and white birch. The trees are generally of good form, especially a stand of white birch near the northeast corner. The H2 stands have 81 percent of the volume in pulpwood. The H3 stands have 69 percent of the volume in pulpwood and 25 percent in logs. The reproduction is generally well-advanced beech and sugar maple.

TABLE 3  
 MERCHANTABLE VOLUME AND BASAL AREA BY FOREST TYPE  
 Carney Brook Unit

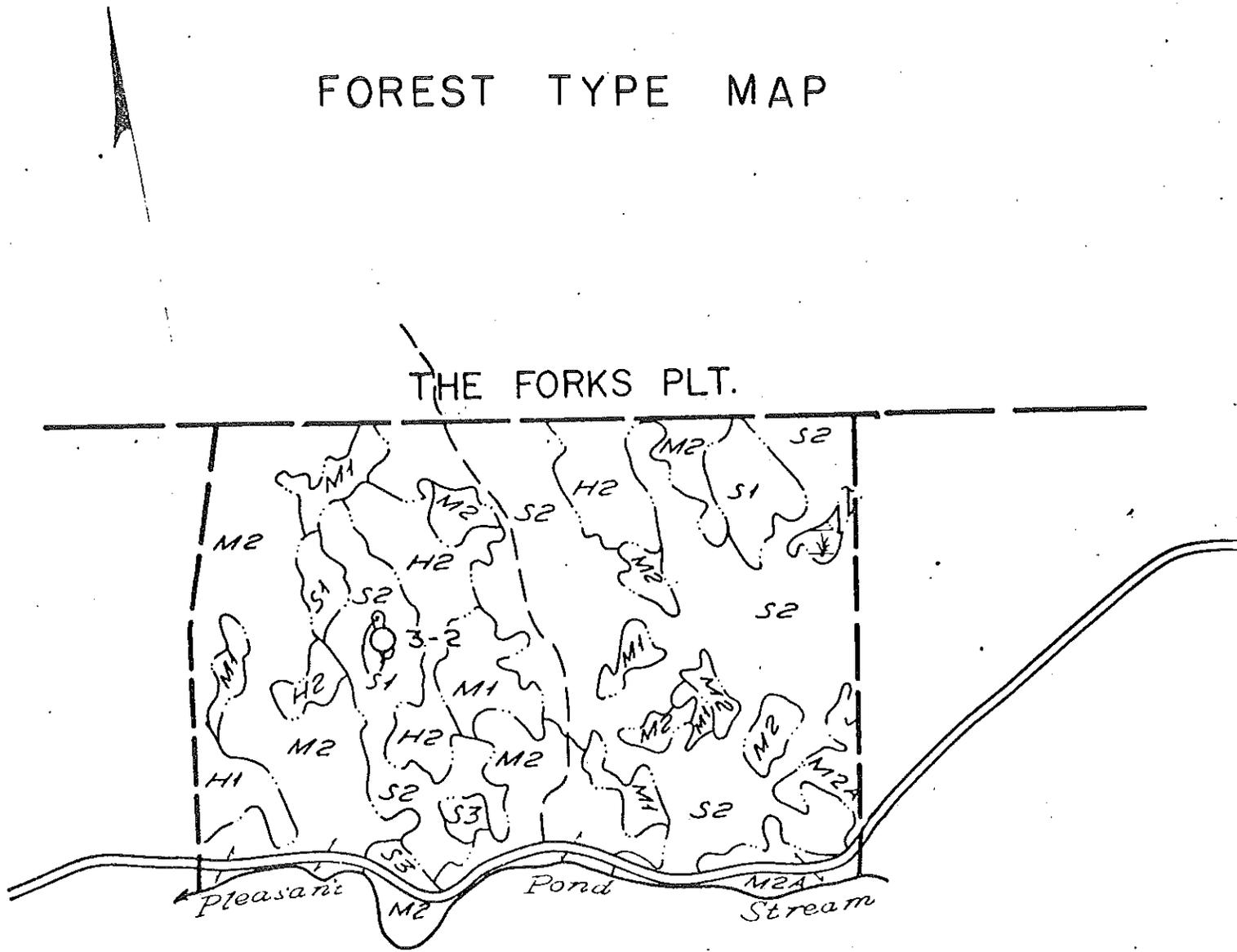
<u>Type</u>	<u>Basal Area</u>	<u>(ft<sup>3</sup>) Volume/Acre</u>	<u>Acreage</u>	<u>(ft<sup>3</sup>) Total Volume</u>
S2	117	2,278	31	70,622
S3	142	2,899	9	26,090
M2	97	1,877	96	180,170
M3	104	2,491	83	206,794
H2	82	1,694	107	181,298
H3	103	2,363	236	557,615
ALL	100	2,175	562	1,222,589

Pleasant Pond Stream Unit

The situation on this parcel can best be described by dividing the Unit into a west half and an east half, separated by the winter truck road (Map 6).

The east half of the Unit is mostly S2 type, stocked with small fir of very poor quality and scattered limby spruce. There

# FOREST TYPE MAP



Map 6 - Forest Type Map  
Pleasant Pond Stream

## CARATUNK

### PLEASANT POND STREAM UNIT

1" = 20 CHAINS

are several patches of mixedwood with poor quality red maple, beech and fir. The area has shallow, stony, poorly drained soils. Patches of the S2 type have been cut and what few trees were left in the cut areas have blown down. There is very heavy fir reproduction, but it is limited to the cut areas.

The mixedwood on the western part of the Unit is moderately stocked (Table 4) with 68 percent of the volume in pulpwood and 14 percent in small logs (under 10" in diameter). The major species are sugar and red maple, beech, aspen and fir. The reproduction is mostly beech, fir and sugar maple. The M1 stands contain the above mentioned species, but have been cut extensively. Reproduction in the cut areas is mostly aspen and red maple.

The softwood stands are predominantly fir. The quality of the trees seems quite good in the western part of the Unit. The S1 stands are harvested areas. These stands are fairly uniform in diameter and height.

The H2 stands are mostly composed of sugar maple and beech with some poorly formed red maple. Eight-one percent of the volume is in pulpwood. The reproduction is sugar maple and beech with scattered patches of fir. The H1 stand in the southwest corner of the Property has been heavily harvested.

The regional growth rates average about one cord per acre per year (Table 5). These rates should be maintained during the 10-year planning period in most stands.

TABLE 4  
 MERCHANTABLE VOLUME AND BASAL AREA BY FOREST TYPE  
 Pleasant Pond Stream Unit

<u>Type</u>	<u>Basal Area</u>	<u>(ft<sup>3</sup>) Volume/Acre</u>	<u>Acreage</u>	<u>(ft<sup>3</sup>) Total Volume</u>
S1	*		20	
S2	117	2,278	197	448,793
S3	142	2,899	7	20,292
M1	*		38	
M2	97	1,877	152	285,270
H1	*		12	
H2	82	1,694	50	84,719
ALL	98.6	1,920	476	839,074

\*Insufficient Data

TABLE 5  
 ANNUAL GROWTH<sup>1</sup> BY FOREST TYPE  
 (Regional Date)

	FT <sup>3</sup> /A	Cord/A	(ft <sup>3</sup> ) Total Volume		
			Little Heald Brook	Carney Brook	Pleasant Pond Stream
S1	No Data	--	--	--	--
S2	59.1	0.70	295	1,832	11,642
S3	92.4	1.09	11,365	832	647
M1	No Data	--	--	--	--
M2	90.7	1.07	126	8,707	13,186
M3	73.3	0.86	6,084	6,084	--
H1	87.3 <sup>2</sup>	1.03	3,928	--	1,098
H2	90.1	1.06	14,596	9,641	4,505
H3	101.9	1.20	1,541	24,048	--
TOTAL			37,935	51,144	31,078

<sup>1</sup>No allowance for mortality

<sup>2</sup>Southern Region data

1 cord = 85 ft<sup>3</sup>

#### D. GEOLOGY

The Properties are located in quadrangles 83 and 99, standard United States Geological Survey topographic quadrangle index. Gravel is available on the Pleasant Pond Stream Unit and within one-half mile of the Carney Brook and Little Heald Brook parcels.

There are no known mineral deposits of commercial significance.

A soils map has not been completed for this section of Somerset County.

#### E. HYDROLOGY

##### Little Heald Brook Unit

The brook of this name flows south through the center of the Unit and provides the major drainage. This brook flows from a small beaver pond lying on the north property line.

##### Carney Brook Unit

The brook of this name, with several small tributaries, flows south through the Unit and enters Wyman Lake about three-eighths of a mile from the south property line. This is the major drainage system. There are no bodies of standing water on the Unit.

##### Pleasant Pond Stream Unit

Pleasant Pond Stream flows along the southern boundary of the Unit and, together with an unnamed tributary, provides the major drainage for the lot. The stream flows west, crossing the southeast corner of the Unit about one mile from Pleasant Pond and entering the Kennebec River about three miles from the southwest corner. There are no bodies of standing water on this Management Unit.

#### F. FISHERIES AND WILDLIFE

The range of growth on the different Units provides habitat for a variety of upland animal and bird species.

Two deer wintering areas have been identified on the Property. The yards on the Little Heald Brook and Carney Brook Units are not currently in use and have been dropped from protective zoning. The Department of Inland Fisheries and Wildlife will monitor these areas and notify the Bureau with their recommendations if deer use resumes in the future.

#### G. RECREATION AND PUBLIC USE

There is no known demand for recreational use of the Property other than hunting and fishing, and the land is not particularly suited for other uses.

The Appalachian Trail follows Pleasant Pond Road through the Pleasant Pond Unit.

#### H. FIRE, INSECTS AND DISEASE

There is no evidence of any past or recent fires on the separate Properties.

Caratunk is in the spruce-fir forest protection district as established by the Bureau of Forestry. The east half of the Little Heald Brook Unit is scheduled to be included in the 1978 spruce budworm spray area. The fir component of the Pleasant Pond Stream Unit has had moderate feeding by the budworm. The Carney Brook Unit seems only slightly affected.

The beech scale-Nectria complex affects the beech to a limited extent on the Properties.

There are no other serious insect or disease problems affecting the Property at this time.

## I. OTHER ECONOMIC RESOURCES

The woodland constitutes the only economic resource of the Property at the present time.

## J. LAND USE CONSTRAINTS

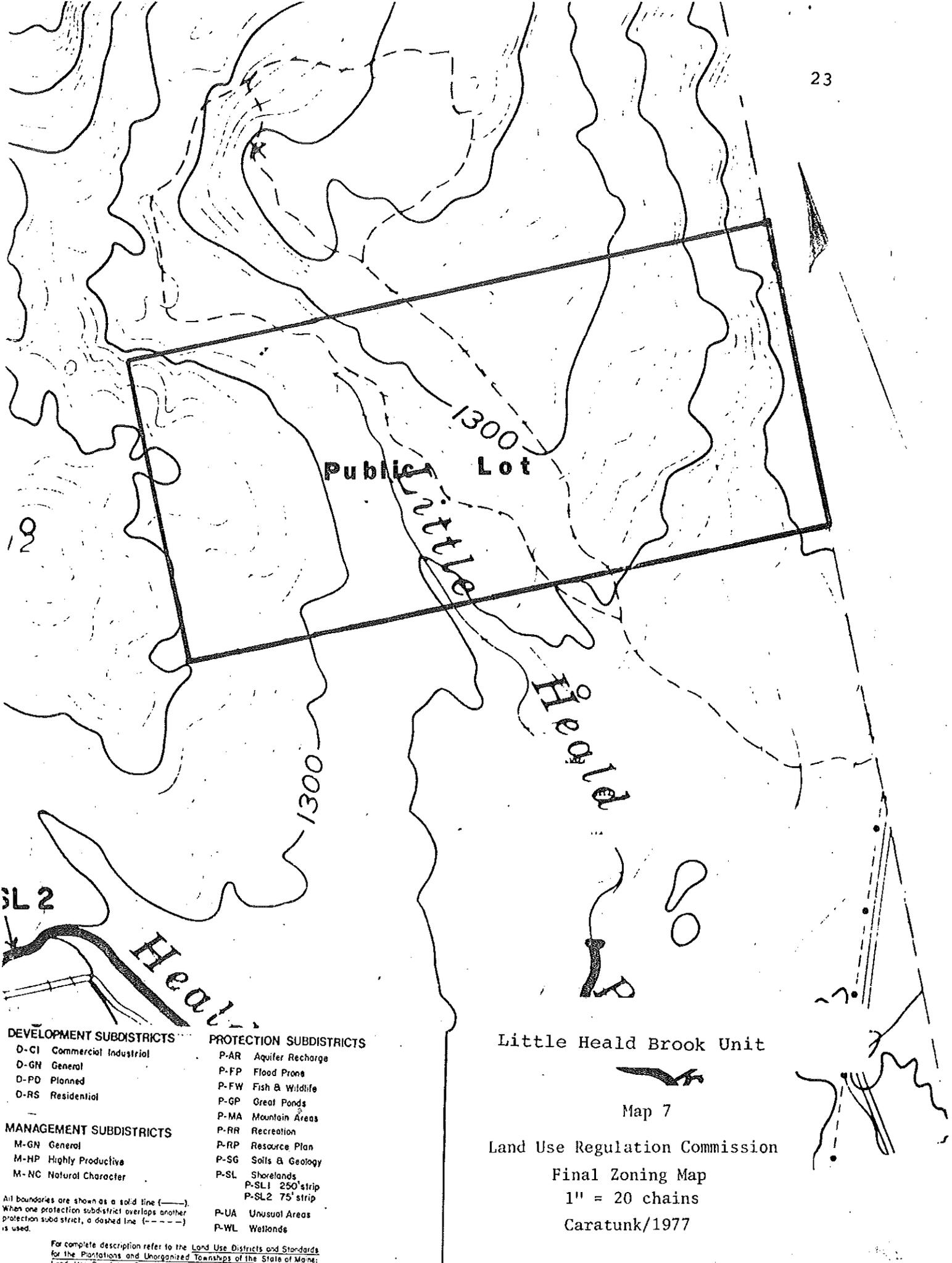
1. Easements, Leases, Rights of Way: There are no easements, leases or rights of way affecting the Property.
2. Deed Restrictions: There are no deed restrictions affecting the Property.
3. Special Uses: There are no known special use restrictions on the Property.
4. Zoning:
  - a) Little Heald Brook Unit. The Land Use Regulation Commission (LURC) has designated the Property under final zoning as a General Management Subdistrict (Map 7).
  - b) Carney Brook Unit. Carney Brook is designated as a Shoreland (P-SL2) Protection Subdistrict (Map 8) under final LURC zoning. This restricts activities within 75 feet of either side of the normal high water mark. The remaining area is zoned a General Management Subdistrict.
  - c) Pleasant Pond Stream Unit. Pleasant Pond Stream is designated a Shoreland (P-SL2) Protection Subdistrict (Map 9). The Appalachian Trail is on the Pleasant Pond Road and is zoned a Recreation (P-RR) Protection Subdistrict. Since the protection zone for the trail is the paved highway, there are effectively no restrictions. The remaining area is zoned as a General Management Subdistrict.
5. There are no known features of unusual natural, scenic, scientific or historical significance which should be nominated for critical area registration.

#### K. ADMINISTRATIVE FACILITIES

The Bureau of Public Lands maintains a small camp beside the Pleasant Pond Road on the Pleasant Pond Stream Unit. The Bureau of Forestry has a fire ranger station off U.S. Route 201 in the Village of Caratunk.

#### L. MARKET ANALYSIS

There are numerous outlets for roundwood in the area. There are sawmills in Caratunk, Bingham, Anson, Madison and Norridgewock that buy hardwood and/or softwood logs. Pulpwood markets are located in Skowhegan, Jay, Rumford and Milo.



- DEVELOPMENT SUBDISTRICTS**
- D-CI Commercial Industrial
  - D-GN General
  - D-PD Planned
  - D-RS Residential
- MANAGEMENT SUBDISTRICTS**
- M-GN General
  - M-HP Highly Productive
  - M-NC Natural Character

- PROTECTION SUBDISTRICTS**
- P-AR Aquifer Recharge
  - P-FP Flood Prone
  - P-FW Fish & Wildlife
  - P-GP Great Ponds
  - P-MA Mountain Areas
  - P-RR Recreation
  - P-RP Resource Plan
  - P-SG Soils & Geology
  - P-SL Shorelands
    - P-SL1 250' strip
    - P-SL2 75' strip
  - P-UA Unusual Areas
  - P-WL Wetlands

All boundaries are shown as a solid line (——).  
 When one protection sub-district overlaps another  
 protection sub-district, a dashed line (-----)  
 is used.

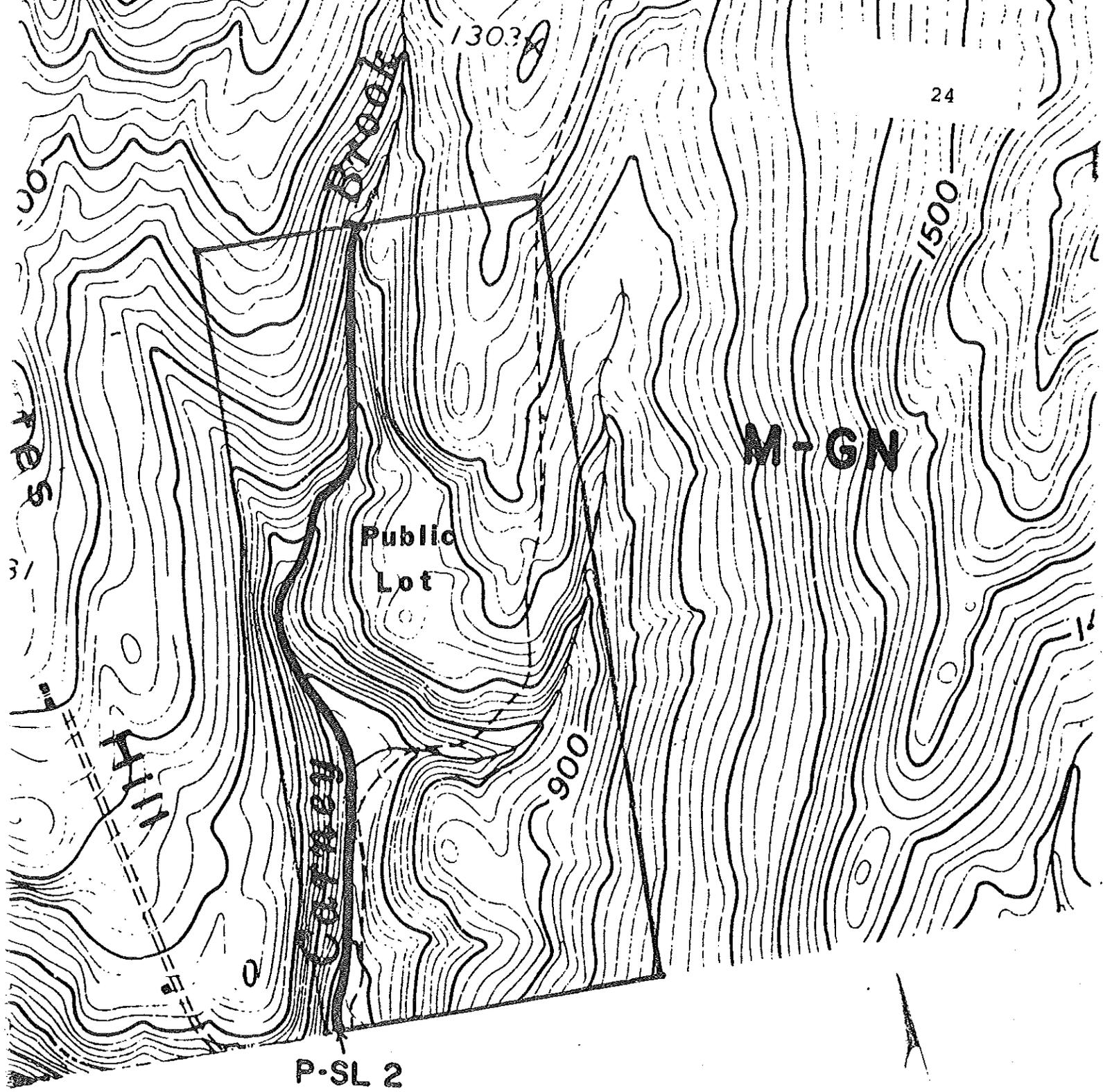
For complete description refer to the Land Use Districts and Standards  
 for the Plantations and Unorganized Townships of the State of Maine.

Little Heald Brook Unit



Map 7

Land Use Regulation Commission  
 Final Zoning Map  
 1" = 20 chains  
 Caratunk/1977



**LEGEND**

**DEVELOPMENT SUBDISTRICTS**

- D-CI Commercial Industrial
- D-GN General
- D-PD Planned
- D-RS Residential

**MANAGEMENT SUBDISTRICTS**

- M-GN General
- M-HP Highly Productive
- M-NC Natural Character

**PROTECTION SUBDISTRICTS**

- P-AR Aquifer Recharge
- P-FP Flood Prone
- P-FW Fish & Wildlife
- P-GP Great Ponds
- P-MA Mountain Areas
- P-RR Recreation
- P-RP Resource Plan
- P-SG Soils & Geology
- P-SL Shorelands  
 P-SL1 250' strip  
 P-SL2 75' strip
- P-UA Unusual Areas
- P-WL Welllands

All boundaries are shown as a solid line (——). When one protection subdistrict overlaps another protection subdistrict, a dashed line (----) is used.

For complete description refer to the Land Use Districts and Standards for the Plantations and Unorganized Townships of the State of Maine.

**Carney Brook Unit**

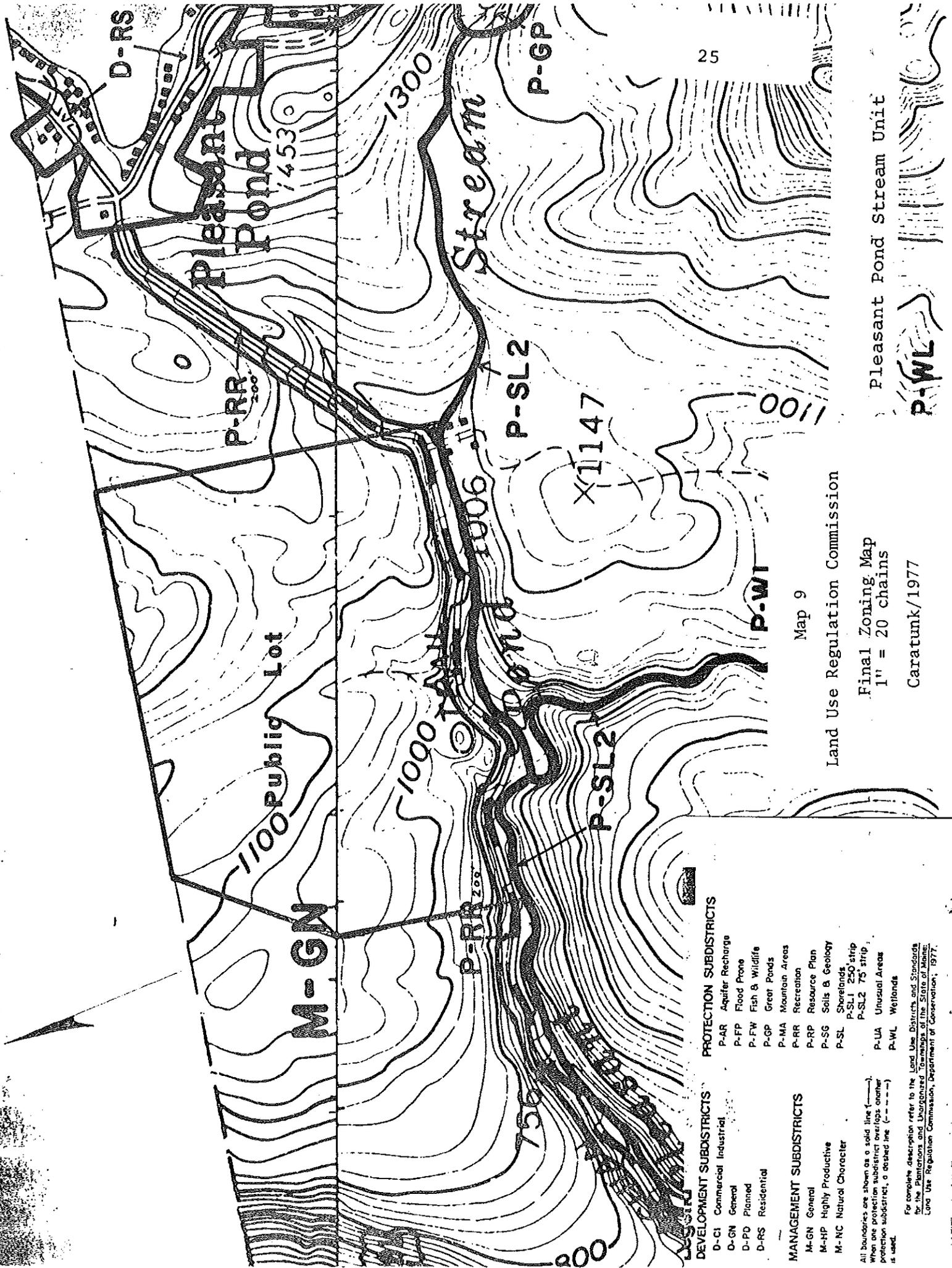
Map 8

Land Use Regulation Commission

Final Zoning Map

1" = 20 chains

Caratunk/1977



- |                                 |                                |
|---------------------------------|--------------------------------|
| <b>DEVELOPMENT SUBDISTRICTS</b> | <b>PROTECTION SUBDISTRICTS</b> |
| D-CI Commercial Industrial      | P-AR Aquifer Recharge          |
| D-GN General                    | P-FP Flood Prone               |
| D-PD Planned                    | P-FW Fish & Wildlife           |
| D-RS Residential                | P-GP Great Ponds               |
|                                 | P-MA Mountain Areas            |
|                                 | P-RR Recreation                |
|                                 | P-RP Resource Plan             |
|                                 | P-SG Soils & Geology           |
|                                 | P-SL Shorelands                |
|                                 | P-SL1 250' strip               |
|                                 | P-SL2 75' strip                |
|                                 | P-UA Unusual Areas             |
|                                 | P-WL Wetlands                  |
| <b>MANAGEMENT SUBDISTRICTS</b>  |                                |
| M-GN General                    |                                |
| M-HP Highly Productive          |                                |
| M-NC Natural Character          |                                |

All boundaries are shown as a solid line (—) when one protection subdistrict overlaps another protection subdistrict, a dashed line (---) is used.

For complete description refer to the Land Use Districts and Standards for the Planations and Unorganized Townships of the State of Maine, Land Use Regulation Commission, Department of Conservation, 1977.

Map 9  
 Land Use Regulation Commission  
 Final Zoning Map  
 1" = 20 chains  
 Caratunk/1977

Pleasant Pond Stream Unit



#### IV. MANAGEMENT RECOMMENDATIONS

##### A. GENERAL

The Caratunk public lands will be managed primarily for timber production and wildlife habitat maintenance and improvement.

The period specified for a given management activity is intended to be a guide allowing flexibility for the schedule of the Bureau, market conditions, fire, disease or similar factors.

##### B. SPECIFIC TIMBER RECOMMENDATIONS

1. Management Units: The different parcels lend themselves to management as individual units, with treatment by separate types.

2. Type Treatment: The major objective of the individual type treatments will be to produce as good-growing and as high-quality stands as possible given the variations in site and present stand conditions. Uneven-aged management will be practiced on all forest types to as large an extent as possible. With such a system, the more shade tolerant tree species will be favored. Most harvesting will be done on an individual tree and group selection marked wood basis. Type treatments will generally be the same on the three parcels, although zoning constraints affect certain areas (Section III.J.4).

##### Little Heald Brook Unit

a) The H3 type is moderately stocked (Table 2) with generally good quality trees. These stands will be harvested in 1981 with a removal of 918 ft<sup>3</sup>/acre (40 ft<sup>2</sup> of B.A.). Old growth and poor quality trees will be selected first for harvesting. The reproduction is well advanced in most places and a well-stocked residual stand (Table 6) should provide high quality timber in the future.

The H2 stands are stocked with mostly pulpwood quality trees. A thinning operation will be done in 1981. Volume removals will be 413 ft<sup>3</sup>/acre (BA 20 ft<sup>2</sup>/acre) leaving a residual stand of 1,735 ft<sup>3</sup>/acre (BA 84 ft<sup>2</sup>/acre). Only the low quality and low value stems will be removed, leaving a good growing residual stand composed primarily of sugar maple and beech.

b) The mixedwood stands at present have medium stocking (Table 2) in both the M2 and M3 types. If present growth rates (Table 5) continue, both types will be ready for harvesting in 1981. Six hundred seventy-seven ft<sup>3</sup>/acre (BA 35 ft<sup>2</sup>/acre) will be removed from the M2 type. This will leave a residual of 1,654 ft<sup>3</sup>/acre (BA 86 ft<sup>2</sup>/acre). The removal in the M3 type will be 719 ft<sup>3</sup>/acre (BA 30 ft<sup>2</sup>/acre) with a residual stand of 2,453 ft<sup>3</sup> (BA 89 ft<sup>2</sup>/acre). Harvesting will concentrate on the overmature fir and hardwood first, then the poorly formed spruce and shorter lived hardwoods. The purpose is to reduce the fir component, and thus the spruce budworm threat, and to insure good quality spruce, sugar maple and beech.

c) The management goals for the softwood types are suppression of the spruce budworm and production of quality softwood sawlogs. Spruce production will be favored by concentrating harvests in the fir component. The desired result is a high percentage of spruce in the residual stand which will produce enough seed for spruce regeneration.

The S3 stands are heavily stocked with a large amount of over mature fir. These large fir trees should be harvested before mortality occurs. Harvesting will be done in 1981 at the same time as the

adjacent stands. Removals will be 817 ft<sup>3</sup>/acre (BA 40 ft<sup>2</sup>/acre) which will leave a residual of 2,544 ft<sup>3</sup>/acre. Harvesting will concentrate on the overmature fir and poor quality spruce.

The S2 stands will be harvested in 1981 with a removal of 584 ft<sup>3</sup>/acre (BA 30 ft<sup>2</sup>/acre). The residual volume will be 1,990 ft<sup>3</sup>/acre (BA 102 ft<sup>2</sup>/acre). Harvesting will concentrate on fir.

TABLE 6

## PLANNED HARVESTS AND RESIDUAL VOLUMES BY TYPE

Little Heald Brook Unit

<u>Type</u>	<u>Year</u>	<u>Acreage</u>	<u>Cubic Feet</u>		
			<u>Removal Vol./Acre</u>	<u>Total Harvest</u>	<u>Residual Vol./Acre</u>
H3	1981	74	918	67,932	1,955
H2	1981	162	413	66,906	1,735
M3	1981	83	677	56,191	1,635
M2	1981	8	719	5,752	2,453
S3	1981	123	817	100,491	2,544
S2	1981	5	584	2,920	1,990
TOTAL				300,192	

Carney Brook Unit

a) The H3 stands will be harvested in 1982 (Table 7). Nine hundred eighteen ft<sup>3</sup>/acre (40 ft<sup>2</sup> of BA) will be removed. Harvesting will concentrate on the low quality trees first, the short-lived species next and then the larger diameter tolerant species. The yield from this harvest will be mostly boltwood and sawlogs. A well-stocked residual stand of sugar maple and yellow birch coupled with the heavy seedling stage reproduction insures a good future for these stands.

The H2 stands will be thinned concurrently with the harvesting of the H3 stands. The removal will be 496 ft<sup>3</sup>/acre (B.A. 24 ft<sup>2</sup>/acre). Cutting will concentrate on the low value trees with the objective of reducing the competition for the better trees. The residual stand will be stocked at 1,739 ft<sup>3</sup>/acre.

b) Given the present stocking (Table 3) and growth rate (Table 5), both the M2 and M3 types will be ready to harvest in 1982. The harvest will be 838 ft<sup>3</sup>/acre (35 ft<sup>2</sup> B.A.) in the M3 and 774 ft<sup>3</sup>/acre (40 ft<sup>2</sup>/acre B.A.) in the M2. Overmature fir will be harvested first and then the low value spruce and hardwoods. This plan should produce a good quality stand of sugar maple, yellow birch, spruce and hemlock while reducing the primary food supply (fir) for the spruce budworm.

c) The softwood stands are minor on the Carney Brook Unit (Table 1 and Map 5). The most economical means of management is to treat the stands when working in adjacent areas. Therefore, these stands will be harvested in 1982. Eight hundred seventeen ft<sup>3</sup>/acre (40 ft<sup>2</sup>/acre B.A.) will be cut in the S3 type and 584 ft<sup>3</sup>/acre (30 ft<sup>2</sup>/acre B.A.) from the S2 type. Residual volumes will be 2,636 ft<sup>3</sup>/acre for the S3 and 2,049 ft<sup>3</sup>/acre for the S2. Fir will be selected for harvesting leaving a residual stand of spruce and good-quality fir.

#### Pleasant Pond Stream Unit

a) The S2 stands to the east of the winter haul road (Map 6) need special attention because of site problems (III.C.). Even-aged management is best for these stands given the stand composition and site condition. Under this method strips will be clearcut in 1984. Cut strips will be one chain wide with uncut strips two chains

TABLE 7  
 PLANNED HARVESTS & RESIDUAL VOLUMES BY TYPE

Carney Brook Unit

<u>Type</u>	<u>Year</u>	<u>Acreage</u>	<u>Vol./Acre Removal</u>	<u>Cubic Feet</u>	
				<u>Total Harvest</u>	<u>Residual Vol./Acre</u>
H3	1982	236	918	216,648	2,051
H2	1982	107	496	53,072	1,739
M3	1982	83	838	69,554	2,093
M2	1982	96	774	74,304	1,647
S3	1982	9	817	7,353	2,636
S2	1982	31	584	18,104	2,049
TOTAL				439,035	

wide. Strips will be oriented east-west to help prevent wind damage to the residual stands.

The S2 stands on the west side of the Property will be harvested in 1984 on a selection basis. At that time, 681 ft<sup>3</sup>/acre (35 ft<sup>2</sup>/acre B.A.) will be removed leaving a residual stand of 2,070 ft<sup>3</sup>/acre (106 ft<sup>2</sup>/acre B.A.) The S3 stands are small pockets (Map 6) and will be harvested in 1984. One thousand four hundred thirty ft<sup>3</sup>/acre (70 ft<sup>2</sup>/acre B.A.) will be cut which will leave a residual stand of 2,268 ft<sup>3</sup>/acre (108 ft<sup>2</sup>/acre B.A.).

The selection cutting will favor spruce while removing as much spruce budworm affected fir as possible within the above stated limits. Fir and spruce will remain as the major species.

b) The M2 stands are scheduled for harvest in 1984. The cut will be 774 ft<sup>3</sup>/acre (35 ft<sup>2</sup>/acre B.A.) with a residual stand stocked at 1,829 ft<sup>3</sup>/acre (95 ft<sup>2</sup>/acre B.A.). Harvesting will concentrate on the budworm affected fir, red maple, aspen and poor quality beech. The residual stand will contain sugar maple, beech and fir with lesser amounts of red maple and aspen.

The M1 stands are not scheduled for treatment in the 10-year planning period.

c) The hardwood stands will be managed to favor the better quality sugar maple and beech. Historically, these stands have had the best trees cut with the low quality trees left as growing stock. The treatments will attempt to improve the quality of the residual stand. The H2 stands are currently scheduled for harvesting in 1984. The removal will be 661 ft<sup>3</sup>/acre (32 ft<sup>2</sup>/acre B.A.). The residual stand will have 1,754 ft<sup>3</sup>/acre (85 ft<sup>2</sup>/acre B.A.).

TABLE 8

## PLANNED HARVESTS AND RESIDUAL VOLUMES BY TYPE

Pleasant Pond Stream Unit

<u>Type</u>	<u>Treatment</u>	<u>Year</u>	<u>Acreage</u>	<u>Cubic Feet</u>		
				<u>Vol./Acre Removal</u>	<u>Total Harvest</u>	<u>Vol./Acre Residual</u>
S2	strip cut	1984	162	917	148,554	1,834
S2	Selection	1984	35	681	23,835	2,070
S3	selection	1984	7	1,430	10,010	2,208
M2	Selection	1984	152	774	117,648	1,829
H2	Selection	1984	50	661	33,050	1,754
TOTAL					333,097	

3. Rotation and Cutting Cycle: The rotation age for the northern hardwoods will be 120 years. The softwoods, except for fir, will have a rotation age of 100 years. Balsam fir and paper birch are shorter-lived species so the rotation age will not exceed 70 years. The cutting cycle in all types will be 15 years.

4. Growth and Stocking: Growth rates vary widely among the types (Table 5), as does the overall volume growth between the different management units. The S2 stands are not growing very well at the present time (59 ft<sup>3</sup>/acre/year), but the rates should increase in the areas scheduled for partial harvest. In the stands scheduled for block cuts the regeneration is not expected to advance quickly due to the poor sites involved. The growth of the S3 stands is currently good (92 ft<sup>3</sup>/acre/year) but is expected to decrease after the planned harvest. Individual tree growth, however, should increase with the opening of the stands.

The M2 stands are growing at a respectable 91 ft<sup>3</sup>/acre/year. The planned harvest will reduce the stand growth considerably, but the trees of the residual stand should respond with vigorous growth. The growth in the M3 stands is quite low (73 ft<sup>3</sup>/acre/year) which may be due to the overmature fir present. The overall growth rate will be low following the harvest, but should increase as the stocking increases.

The S2 type growth is low (59 ft<sup>3</sup>/acre/year) due to the low grade fir present. This rate should increase as the stands are thinned and the fir is replaced by spruce. On the poor sites found on the Pleasant Pond Stream Property, the growth rates are not expected to increase dramatically. The S3 stands at present are growing at the rate of 92 ft<sup>3</sup>/acre/year. Harvesting will no doubt reduce the stand growth but should produce rapid growing residual trees.

5. Allowable Cut: Flexible limits for harvesting will be followed for the various timber types. These limits will encourage development of well-stocked residual stands of improved quality stems by application of basal area removal guides based on average stand diameter and number of stems. Stocking predictions for each timber type (Table 7) do not provide for mortality and ingrowth.

#### C. ACCESS AND TRANSPORTATION

It is recommended that woods roads planned in the future be located so that subsequent logging operations do not disturb previously harvested areas.

Roads will be designed for minimal environmental impact.

TABLE 9

## PROJECTED 1986 INVENTORY REFLECTING PLANNED HARVESTS

Little Heald Brook Unit

<u>Type</u>	<u>Acreage</u>	<u>FT<sup>3</sup> Vol./Acre</u>	<u>FT<sup>3</sup> Total Volume</u>
S2	5	2,248	11,240
S3	123	2,951	362,973
M2	8	2,056	16,448
M3	83	2,453	203,599
H1	45	1,318*	59,310
H2	162	2,196	355,752
H3	74	2,375	175,750
TOTAL			1,185,072

\*Southern Region Data

Carney Brook Unit

<u>Type</u>	<u>Acreage</u>	<u>FT<sup>3</sup> Vol./Acre</u>	<u>FT<sup>3</sup> Total Volume</u>
S2	31	2,261	70,091
S3	9	2,972	26,748
M2	96	1,965	188,640
M3	83	2,338	194,054
H2	107	2,113	226,091
H3	236	2,403	<u>567,108</u>
TOTAL			1,272,732

## PROJECTED 1986 INVENTORY REFLECTING PLANNED HARVESTS

<u>Pleasant Pond Stream Unit</u>			<u>FT<sup>3</sup></u>	<u>FT<sup>3</sup></u>
<u>Type</u>	<u>Acreage</u>		<u>Vol./Acre</u>	<u>Total Volume</u>
S1	20		*	
S2 Strip Cut	162		1,929	312,498
S2 Selection Cut	35		2,177	76,195
S3	7		2,349	16,443
M1	38		*	
M2	152		2,006	304,912
H1	12		1,318	15,816
H2	50		1,941	97,050
TOTAL				822,914

\*No Data

#### D. GEOLOGY

No recommendations at this time.

#### E. HYDROLOGY

All operations and road construction will be conducted so as to protect the water resources and will equal or exceed LURC guidelines for water quality protection.

#### F. FISHERIES AND WILDLIFE

The Department of Inland Fisheries and Wildlife has agreed to the recommended uneven-aged management as being beneficial to the greatest number of species.

They have also suggested that four to five existing and potential cavity trees per acre be maintained for primary and secondary cavity nesting birds. Not all cavity nesters re-use old holes and new sites are needed.

The Department of Inland Fisheries and Wildlife will continue to monitor the abandoned deer wintering areas and will continue to advise the Bureau as is necessary.

#### G. RECREATION

Casual dispersed recreational use of the Properties will be encouraged.

#### H. FIRE, INSECTS AND DISEASE

Forest fire prevention measures will be followed during all operations. Gravel surface roads will be left open for fire access.

The planned harvests will reduce the food supply (balsam fir) for the spruce budworm. Bureau of Forestry recommendations for aerial spraying will be followed.

Control of beech scale-Nectria will not be considered as the problem is slight. No other insects or diseases warrant specific control measures at this time.

I. OTHER ECONOMIC RESOURCES

No recommendations at this time.

J. LAND USE CONSTRAINTS

LURC regulations will be followed in all operations.

K. ADMINISTRATIVE FACILITIES

No recommendations at this time.

L. MARKETING

Efforts will be made to assist operators in finding suitable markets for the timber harvested.

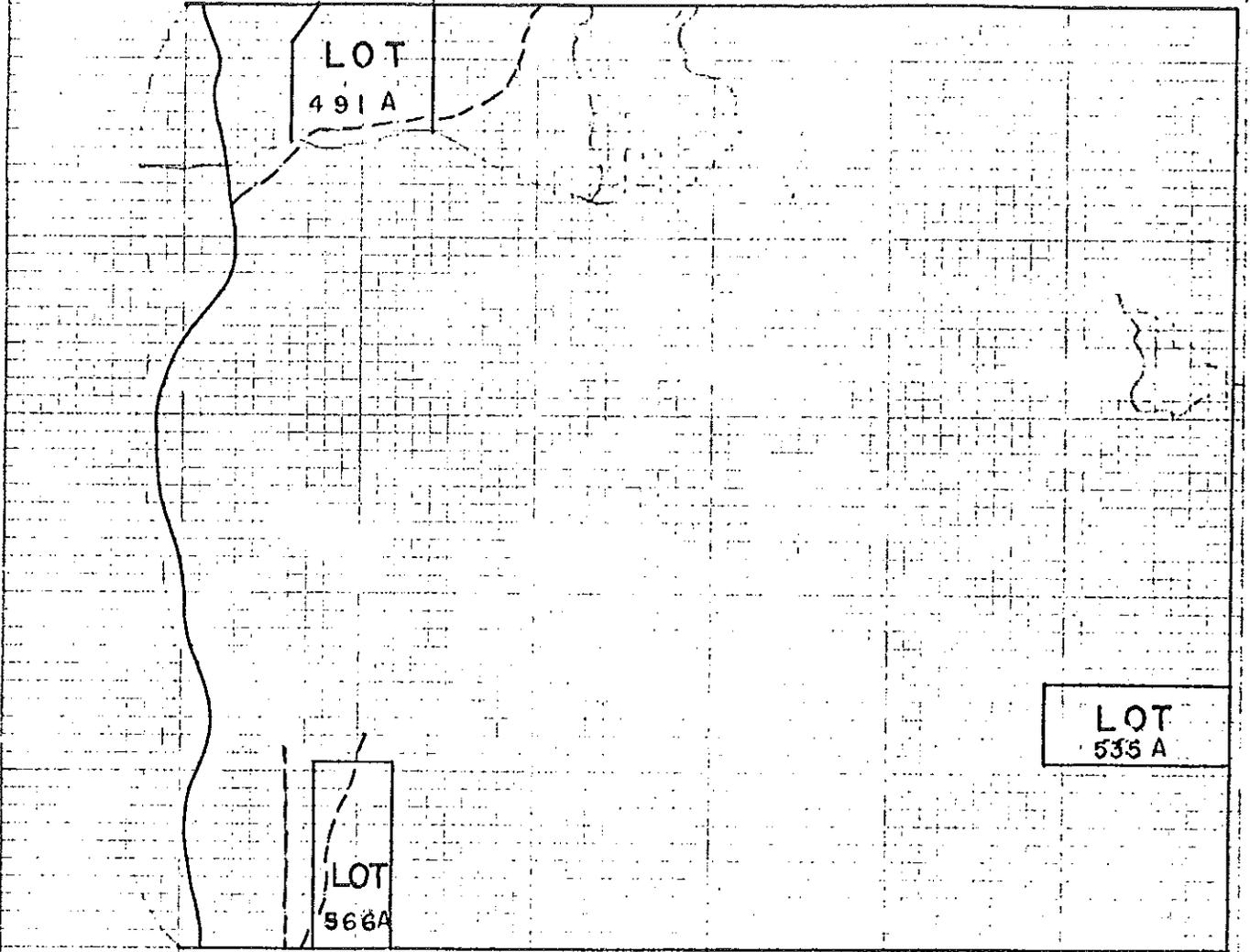
## V. SCHEDULE OF RECOMMENDATIONS

<u>Year</u>	<u>Unit</u>	<u>Type</u>	<u>Operation</u>	<u>Acreage</u>
1981	1	All	Harvest (300,192 ft <sup>3</sup> )	535
1982	2	All	Harvest (439,035 ft <sup>3</sup> )	566
1984	3	All	Harvest (333,097 ft <sup>3</sup> )	406
1985		All	Re-Inventory Forest	1,592
1986		All	Update Management Plan	1,592

## Unit No.

- 1 - Little Heald Brook
- 2 - Carney Brook
- 3 - Pleasant Pond Stream

## VI. APPENDICES



SOMERSET  
BKP-EKR

CARATUNK  
PUBLIC LOTS

TABLE  
CLASSIFICATIONS OF MAJOR FOREST TYPES

A-2

S1

S1 is a seedling-sapling stand containing more than 75 percent softwood species with a volume of less than 510 cubic feet.

S2

S2 is a second growth stand containing more than 75 percent softwood species with a volume in excess of 510 cubic feet per acre and less than half its volume in sawlog size trees.

S3

S3 is a mature stand comprised of more than 75 percent softwood with a volume in excess of 1,275 cubic feet per acre and more than half the volume in sawlog size trees.

M1

M1 is a seedling-sapling stand containing not less than 25 percent nor more than 75 percent of either softwood and hardwood and has a volume of less than 510 cubic feet per acre.

M2

M2 is a second growth stand containing not less than 25 percent nor more than 75 percent of either hardwood or softwood and has a volume in excess of 510 cubic feet per acre with less than half the volume in sawlogs.

M3

M3 is a mature stand containing not less than 25 percent nor more than 75 percent hardwood or softwood with a volume not less than 1,275 cubic feet per acre with more than half the volume in sawlog size trees.

H1

H1 is a seedling-sapling stand containing more than 75 percent hardwood species with a volume less than 510 cubic feet.

H2

H2 is a second growth stand of at least 75 percent hardwood with a volume over 510 cubic feet per acre with less than half the volume in sawlog size trees.

H3

H3 is a mature stand of more than 75 percent hardwood species and having a volume over 1,275 cubic feet per acre with more than half the volume in sawlog size trees.

NP

NP is a non-productive area such as open swamp, bogs, alders, roads, water, or other non-forest area.

EXPLANATION OF INVENTORY, GROWTH ESTIMATES,  
AND SILVICULTURAL PRESCRIPTIONS

Following is a brief explanation of the methods used to gather inventory data, make growth estimates, and prescribe silvicultural treatments on the 67,000 acres of Public Reserved Land inventoried in 1975.

A. INVENTORY

For the purpose of the inventory, the public lands were divided into three regions referred to as the Western, Northern and Southern-Coastal Regions. Each region contains 23,000 acres of public lands. Two hundred variable radius plots were sampled. In addition, 3-P sampling was done on the same plots to construct regional volume tables. The output of this inventory includes, for each type: stems/acre, volume (ft<sup>3</sup>)/acre, and five-year radial growth increment.

B. GROWTH

Volume growth by type within a region was determined on a per acre basis by predicting 1986 stand and stock tables from 1976 stand stock tables, applying historical growth rates, and calculating the differences between future and present stock tables. The results were allocated to each management parcel based on the total acreage of each forest type within the parcel.

The growth rates are estimates of gross growth. Ingrowth from the 4" d.b.h. class to the 5" class was included but mortality was not. Therefore, growth rates appear to exceed typical Maine rates. A reliable measure of mortality and cull increment is being developed and will be used to adjust growth estimates.

### C. SILVICULTURAL PRESCRIPTIONS

The major silvicultural system used on the Public Reserved Lands is individual tree and small group selection within the context of unevenaged management. General prescriptions were developed from existing silvicultural guidelines for spruce-fir and northern hardwood types.

### D. ALLOWABLE HARVEST

A harvest schedule and residual volume estimate by type was developed using the inventory, growth estimates, and silvicultural prescriptions outlined above.

#### Important Note:

Statistical reliability of the data varies when it is allocated to a particular management unit. Accordingly, adjustments are made in silvicultural prescriptions and allowable harvests to account for on-site conditions when preparing operating plans for a scheduled treatment on a given management unit.

TABLE 10

PRESENT (1976) STAND TABLE SUMMARY WESTERN REGION. STEMS/  
ACRE DISTRIBUTION BY TYPE<sup>1</sup> AND D.B.H. CLASS.

Type	S2	S3	M2	M3	H2	H3
D.B.H. Class						
5-9	371	399	282	190	213	140
10-15	46	76	36	48	32	55
16 and up	2	0	3	7	4	12
Total	419	475	321	345	249	207

<sup>1</sup> S1, M1, and H1 are not included because of insufficient data.

TABLE 11

FUTURE (1986) STAND TABLE SUMMARY WESTERN REGION. STEMS/  
ACRE DISTRIBUTION BY TYPE<sup>1</sup> AND D.B.H. CLASS.

Type	S2	S3	M2	M3	H2	H3
D.B.H. Class						
5-92	395	459	315	242	224	155
10-15	74	110	51	66	50	68
16 and up	3	3	4	12	5	16
Total	472	562	370	320	279	239

<sup>1</sup> S1, M1, and H1 are not included because of insufficient data.

<sup>2</sup> Includes ingrowth from 4" d.b.h. class.

TABLE 12

PRESENT (1976) STOCK TABLE SUMMARY WESTERN REGION. VOLUME  
(FT<sup>3</sup>)/ACRE DISTRIBUTION BY TYPE<sup>1</sup> AND D.B.H. CLASS.

Type	S2	S3	M2	M3	H2	H3
D.B.H. Class						
5-9	1334	2468	1153	734	996	778
10-15	798	431	587	1237	495	950
16 and up	146	0	137	520	204	635
Total	2278	2899	1877	2491	1695	2363

<sup>1</sup> S1, M1, and H1 are not included because of insufficient data.

TABLE 13

FUTURE (1986) STOCK TABLE SUMMARY WESTERN REGION. VOLUME  
(FT<sup>3</sup>)/ACRE DISTRIBUTION BY TYPE<sup>1</sup> AND D.B.H. CLASS.

Type	S2	S3	M2	M3	H2	H3
D.B.H. Class						
5-9 <sup>2</sup>	1603	1925	1634	1159	1366	930
10-15	1138	1898	953	1332	932	1506
16 and up	128	0	197	733	297	946
Total	2869	3828	2784	3224	2595	3382

<sup>1</sup> S1, M., and H1 are not included because of insufficient data.

<sup>2</sup> Includes ingrowth from 4" d.b.h. class.

