

# Charles Downer



1866-1926

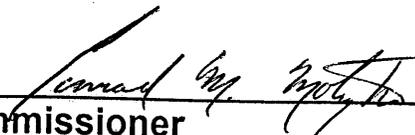
*PHOTO COURTESY SHARON  
HISTORICAL SOCIETY*

STATE OF VERMONT  
AGENCY OF NATURAL RESOURCES  
DEPARTMENT OF FORESTS, PARKS AND RECREATION

LAND MANAGEMENT PLAN  
DOWNER STATE FOREST

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Rick R. White  
March 1995

Approved:

  
Commissioner

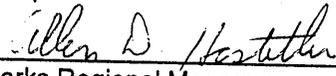
  
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VERMONT AGENCY OF NATURAL RESOURCES  
DEPARTMENT OF FORESTS, PARKS AND RECREATION

District I  
Downer State Forest Long Range Management Plan

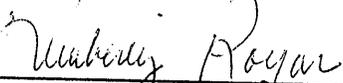
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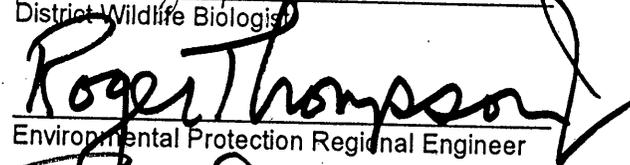
Prepared by:   
State Lands Forester

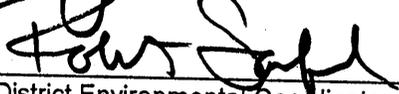
  
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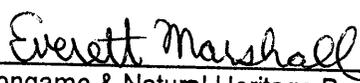
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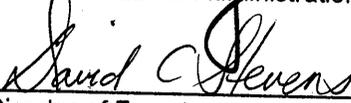
  
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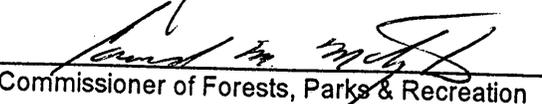
  
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## PREFACE

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 to provide a summary of the area's assets, or an inventory of the total resource, and is designed to present the background and goals of management, set priorities, and provide the work plans and methods which will be applied to reach these goals and the activities planned over the next 20 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.

# **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 Natural Resources. 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 assignments 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 capability 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 acquisitions 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 review 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, when such uses are clearly beneficial to an individual or group, and fully compatible with the primary objectives of the parcel,
6. Administering all leases in a professional and timely manner, demonstrating appropriate and constructive attention to natural resources, viability and private sector interests, economics and the general public good.

## DOWNER STATE FOREST

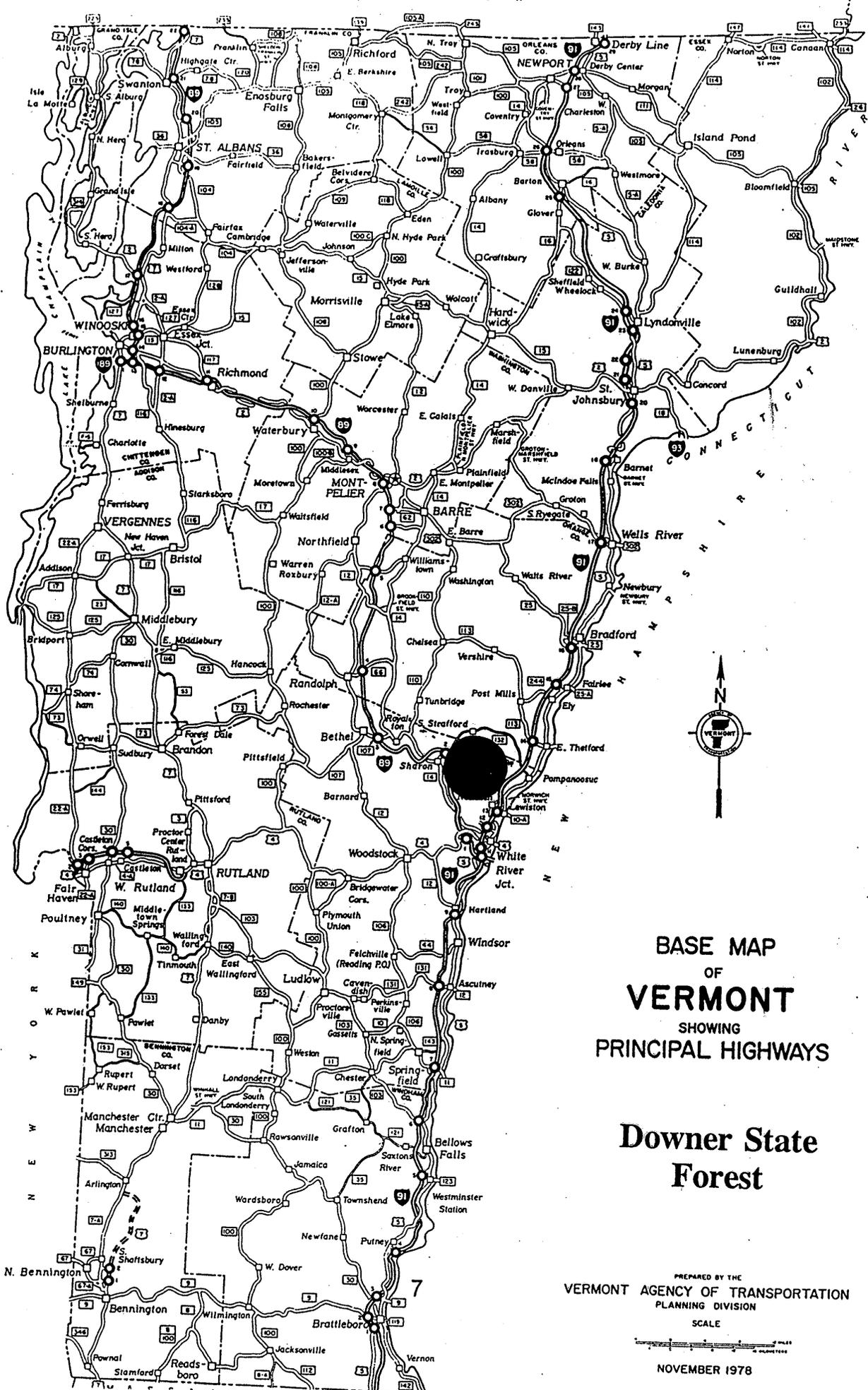
### General Description

Downer State Forest contains 705 acres located along the northern boundary of the Town of Sharon. This forest was established in 1910 as a gift from Charles Downer making it the second state forest in the newly established State Board of Agriculture and Forestry (1909).

The area was actively farmed up to the early 1900's and was mostly open land when given to the state. All the open lands were planted in the first 20 years of state ownership with at least 20 different species. A CCC camp established here provided access and did considerable improvement work on the extensive plantations.

In 1945 a 4H-Camp was organized and leased the buildings of CCC camp and is still actively operated today. There are no other high recreational uses on this property.

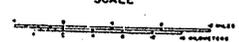
The soils in this area are generally productive, combined with the intensive management that has been carried out, have produced some very impressive stands of softwood plantations.



BASE MAP  
OF  
**VERMONT**  
SHOWING  
PRINCIPAL HIGHWAYS

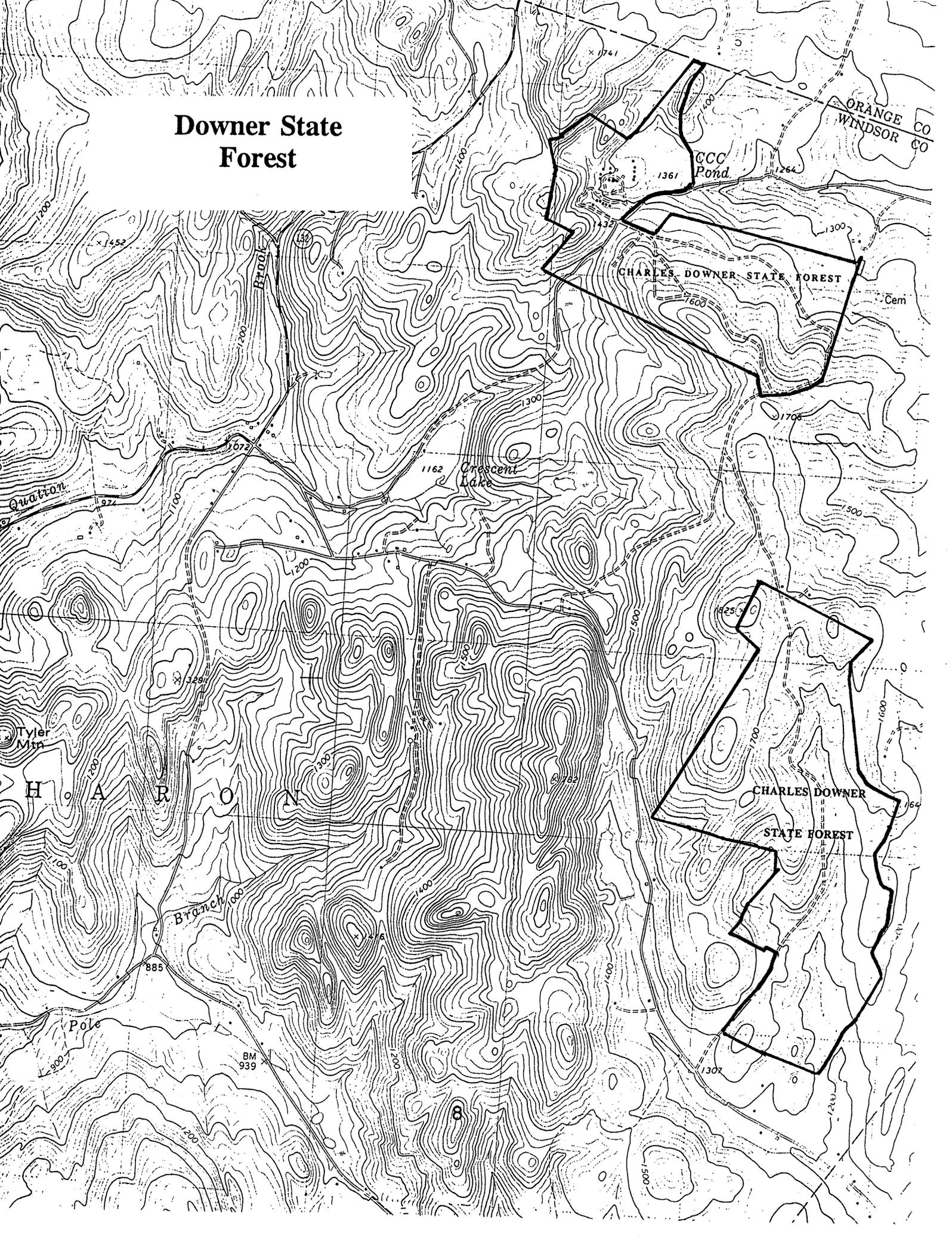
**Downer State  
Forest**

PREPARED BY THE  
VERMONT AGENCY OF TRANSPORTATION  
PLANNING DIVISION

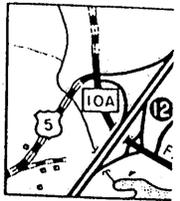


NOVEMBER 1978

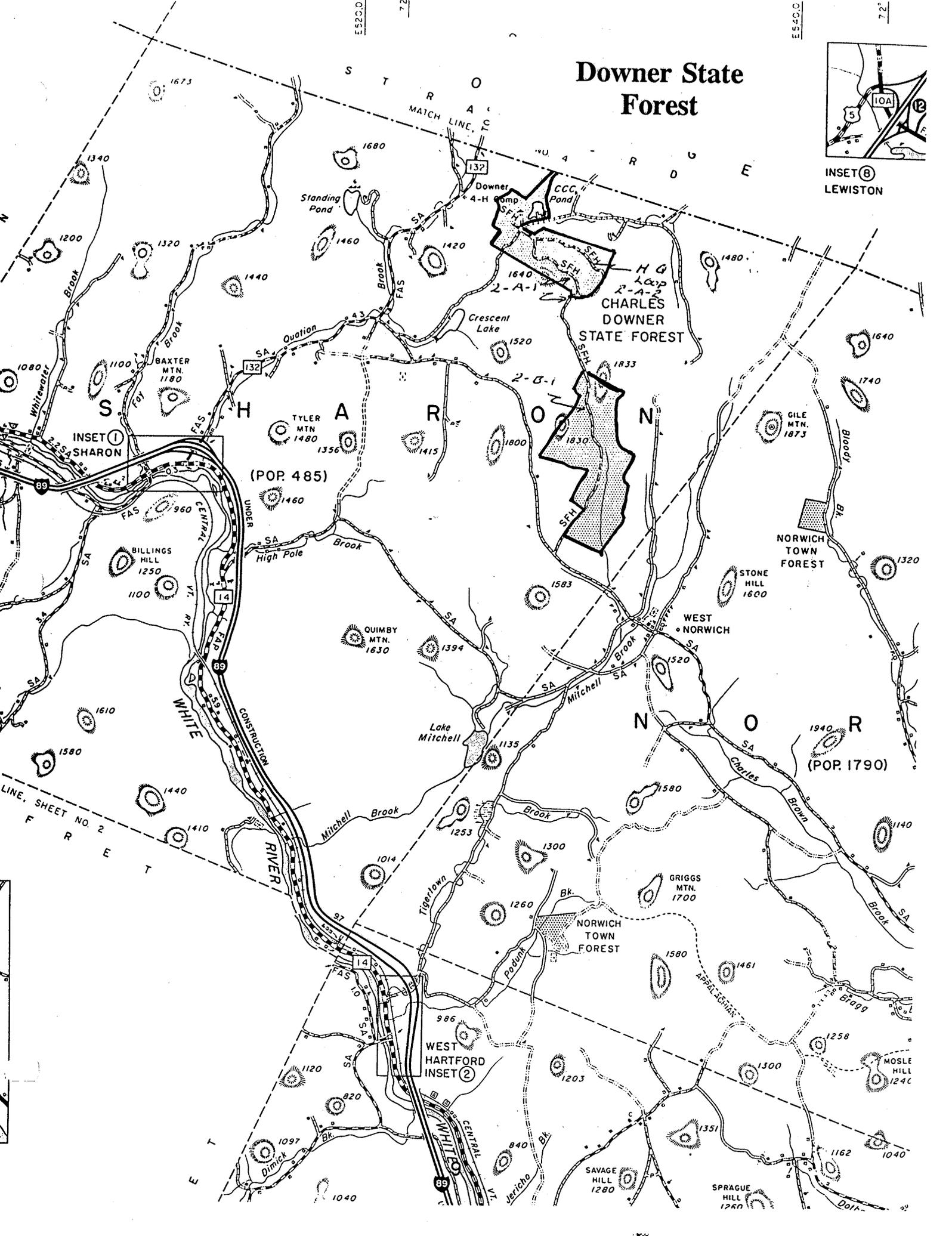
# Downer State Forest



# Downer State Forest



INSET ⑧  
LEWISTON



INSET ①  
SHARON

(POP. 485)

NORWICH TOWN FOREST

WEST HARTFORD INSET ②

(POP. 1790)

## **PURPOSE**

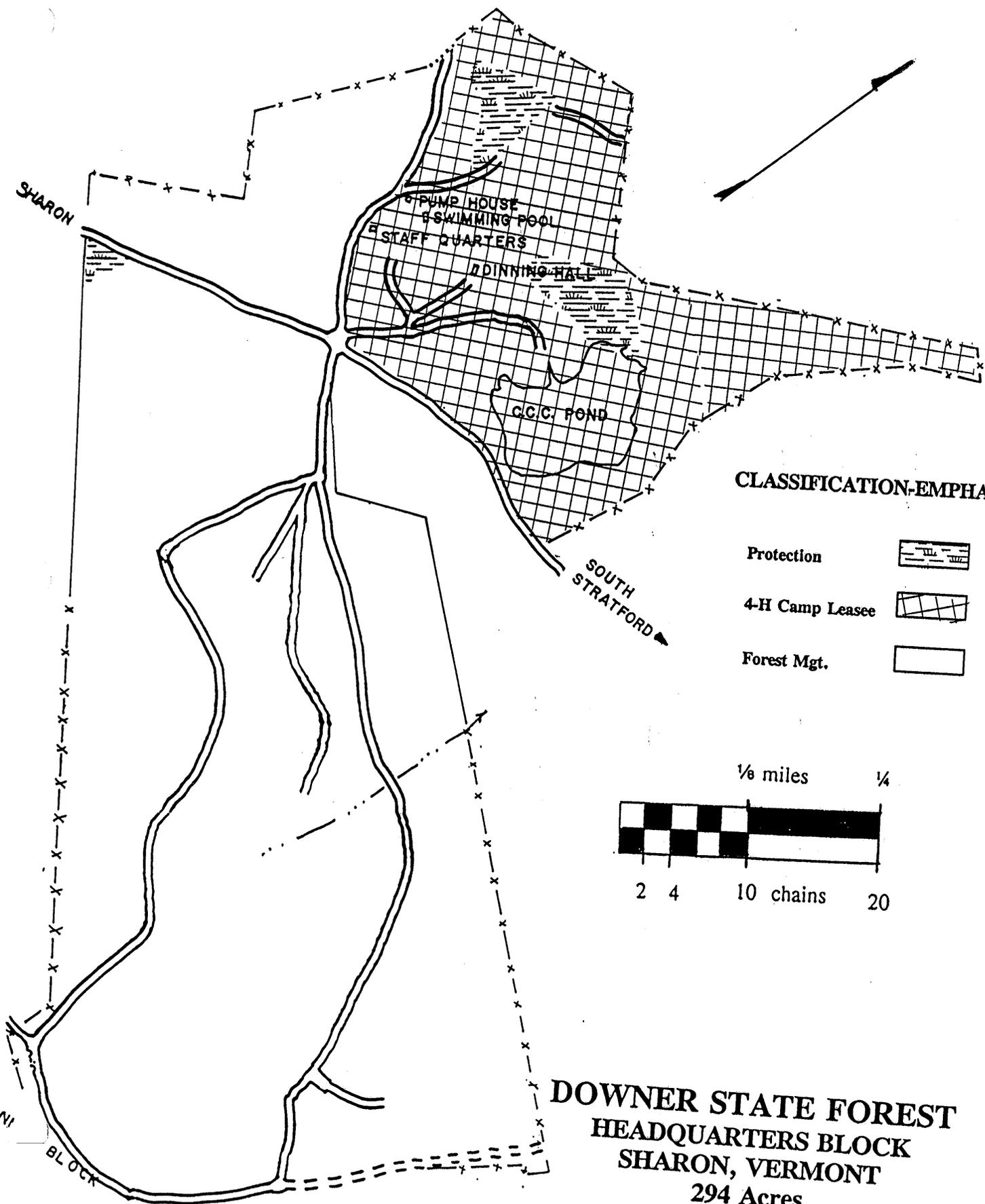
The Deed for the gift of Downer State Forest contained conditions which parallel the stated purpose this Department uses today for public ownership of land, see Appendix for original deed.

This forest is meant to serve as an ongoing timber management demonstration, mixed with intensive and dispersed recreation, improvement and preservation of wildlife habitat, and preservation of historic remains.

This plan should be reviewed at 10 year intervals to determine if planned activities are still in line with Department policies.

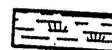
## EMPHASIS ZONES

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 maps delineate these areas as emphasis zones to better illustrate and guide management implementation.



**CLASSIFICATION-EMPHASIS**

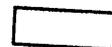
Protection



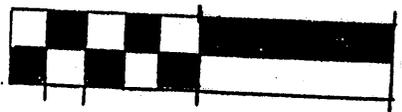
4-H Camp Leasee



Forest Mgt.

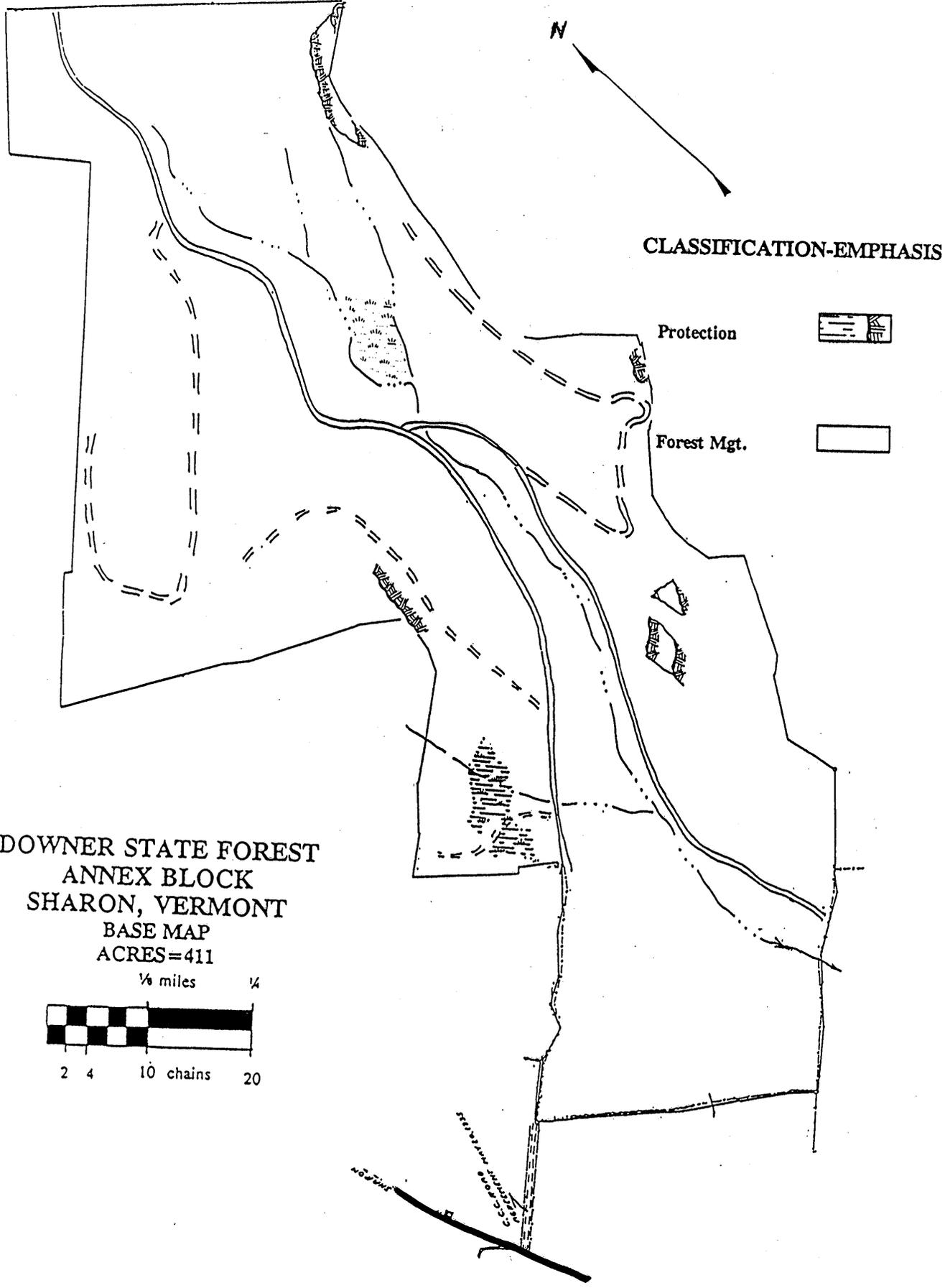


1/8 miles 1/4



2 4 10 chains 20

**DOWNER STATE FOREST  
HEADQUARTERS BLOCK  
SHARON, VERMONT  
294 Acres**



## **PUBLIC INVOLVEMENT**

### **PUBLIC INVOLVEMENT POLICY**

It is the policy of the Department of Forest, Parks and Recreation to manage state parks and forest in a way that considers the needs and concerns of the public within the communities surrounding those lands, the region and the state.

### **DOWNER STATE FOREST PUBLIC INVOLVEMENT PROCESS**

The Vermont Department of Forests, Parks and Recreation in Springfield developed a schedule in 1989 for revising the long range management plans in District I. On this schedule, **Downer State Forest** is listed for 1994. The public involvement process for **Downer** began in 1993 with the inventory of both blocks.

On February 13, 1995 our Department conducted an advertised public input meeting to discuss all aspects of management on **Downer State Forest**. The meeting was held at the Sharon Elementary School and information provided to the public on the history of the forest, past management activities and our proposed activities for the next 15 to 20 years. The 24 people who attended the meeting offered 20 comments plus two comments received in the mail from non-resident abutting landowners.

### **ANALYSIS OF PUBLIC COMMENT**

Following the public meeting, the comments were reviewed and analyzed using a technique known as "content summary." The substance of comments recorded and summarized with no tabulation made of the number of persons expressing or endorsing specific opinions made at the meeting. After compiling all comments received at the meeting and in writing, comments were grouped into similar subject areas and answers developed for each group of similar comments received. In cases where opinions were found in conflict, alternatives were created to find acceptable solutions.

The answers to public comments received were written as a "responsiveness summary" and often outlined a specific action or set of actions to be carried out to accomplish a desired condition. Once formulated, these management actions were analyzed based on how they influenced other factors that effect the management of **Downer State Forest**. These factors include:

1. the specific policies, regulations, and statutes governing the management and use of state forest and parks,
2. the existing deed restrictions and long term lease agreements,

3. the capability of the resources within the parcel to accept development or activities without environmental degradation; and
4. the costs of specific management actions in relation to the benefits received.

If actions prescribed within the responsiveness summary did not conflict with these other factors that influence the management of **Downer State Forest**, they were subsequently incorporated as scheduled activities to be carried out within the implementation portion of the long range management plan.

Comments considered but not incorporated into the long range management plan for the forest were addressed within the "responsiveness summary" with an explanation of the Department's decision.

### **SUMMARY OF THE DEPARTMENT'S RESPONSE TO PUBLIC COMMENTS**

Most of the comments and ideas expressed by the public during the **Downer** public involvement meeting were compatible with the stated purpose and management objectives developed for management of **Downer State Forest**. They have been incorporated into the implementation section of this plan.

A list of comments received during the public involvement process, a summary of the Department's response to the comments, and additional information about the public involvement process is included in the appendices.

## ABSTRACT

Downer State Forest was established as a gift to the State of Vermont in 1910 by Charles Downer, a part-time resident of Sharon. The original deed stated "*work of experimental and scientific forestry shall be carried on and where the seedlings of forest trees shall be grown for public distribution*". This deed stipulation has been the principle focus of management for the past 83 years.

Prior to state ownership, the forest was previously operated as the Baldwin Springs Farm and was mostly open land. The open lands were planted to many different softwood species during the first 20 years of state ownership.

A Civilian Conservation Corps camp was established here in 1933. They built the state forest highway system which exists today and did considerable improvement work on the extensive plantations.

In 1945 a 4-H Camp was organized and leased the buildings of the CCC camp which still operates in many of the same buildings. Other recreational uses of the forest would include snowmobiling, cross-country skiing, hunting, and berry picking.

The extensive softwood plantations were first commercially thinned in 1957 and have been thinned at about 10 to 12 year intervals since. These stands now average 18 inches in diameter at DBH (diameter breast height). The plan calls for this thinning to continue until average diameters of 30 inches are achieved on healthy stems. The hardwood stands will be managed to maintain healthy stems with a good variety of age classes.

The existing road system will be maintained, sufficient to accommodate standards for prevailing log trucks.

Portions of the hardwood stands in the Annex Block will be specifically managed to benefit certain wildlife species.

## Cultural and Historic

The first settlers to arrive in America from the Downer family were Joseph and Robert, brothers from Wiltshire England, who settled in Newbury, Massachusetts about 1650. The first Downer descendants to arrive in Sharon were Andrew and Mary Brown Downer about 1765. A great-grandson was Chester Downer born in 1818. Chester went on to become very active in real estate throughout the White River Valley and eventually with interest well beyond Vermont boundaries. Chester married, somewhat late in life even by our standards today, at 45 to Francis Elizabeth Shepard and they had two children Harriet 1864 and Charles 1866.

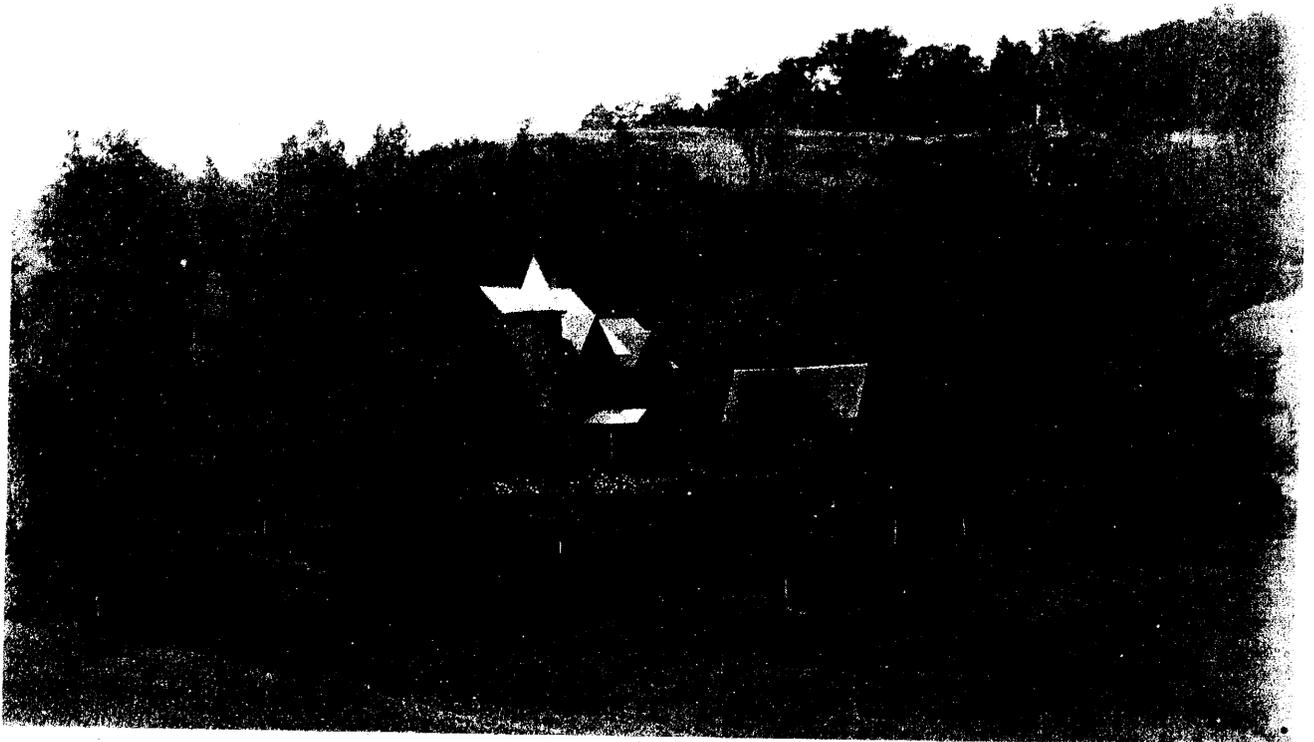
Charles Downer was born in Sharon. His parents moved to Boston when the children were in their teens, where Charles went on to Harvard College and Harvard Law School. Charles returned to Vermont where he was active in the state legislature from 1898 to 1906 serving in both the House and Senate. Charles never married. When he was in Sharon, he made his home with Mr. and Mrs. M. C. Noyes where he maintained a room with his own furniture. (This house is now occupied by a third generation member of the same family, Sarah Donahue.) In later years Charles Downer spent most of his time in Boston and Washington D.C.

The gift of Charles Downer came in two parcels, the first in 1910 being what was then known as the Baldwin Spring Farm and now referred to as the Headquarters Block. This parcel was put together starting in 1885 when Chester Downer bought the Baldwin Spring farm from Eleazer Baldwin and added parcels to it in 1888 and 1889. Apparently Charles inherited this property upon the death of his father in 1890 and then further added to the property through action of the Probate Court in 1903. In 1908 the last addition was made.

The second property given in 1914 and now known as the Annex Block, was made up of two parcels both acquired from R.A. Spafford in 1913.

The original deed stated among other things the "*work of experimental and scientific forestry shall be carried on and where the seedlings of forest trees shall be grown for public distribution*". Much of property when acquired was abandoned farmland and plans were immediately put into effect to establish a nursery here to produce seedlings for public distribution and state forest land. This nursery was operated until 1932 when it was abandoned in favor of the nursery at Essex established in 1922. Prior to 1915 much of the nursery stock came from out of state.

*PHOTO COURTESY SHARO  
HISTORICAL SOCIETY*



**BALDWIN SPRINGS FARM CIRCA 1900**



**BALDWIN SPRINGS FARM WITH  
NURSERY BEDS IN FOREGROUND**

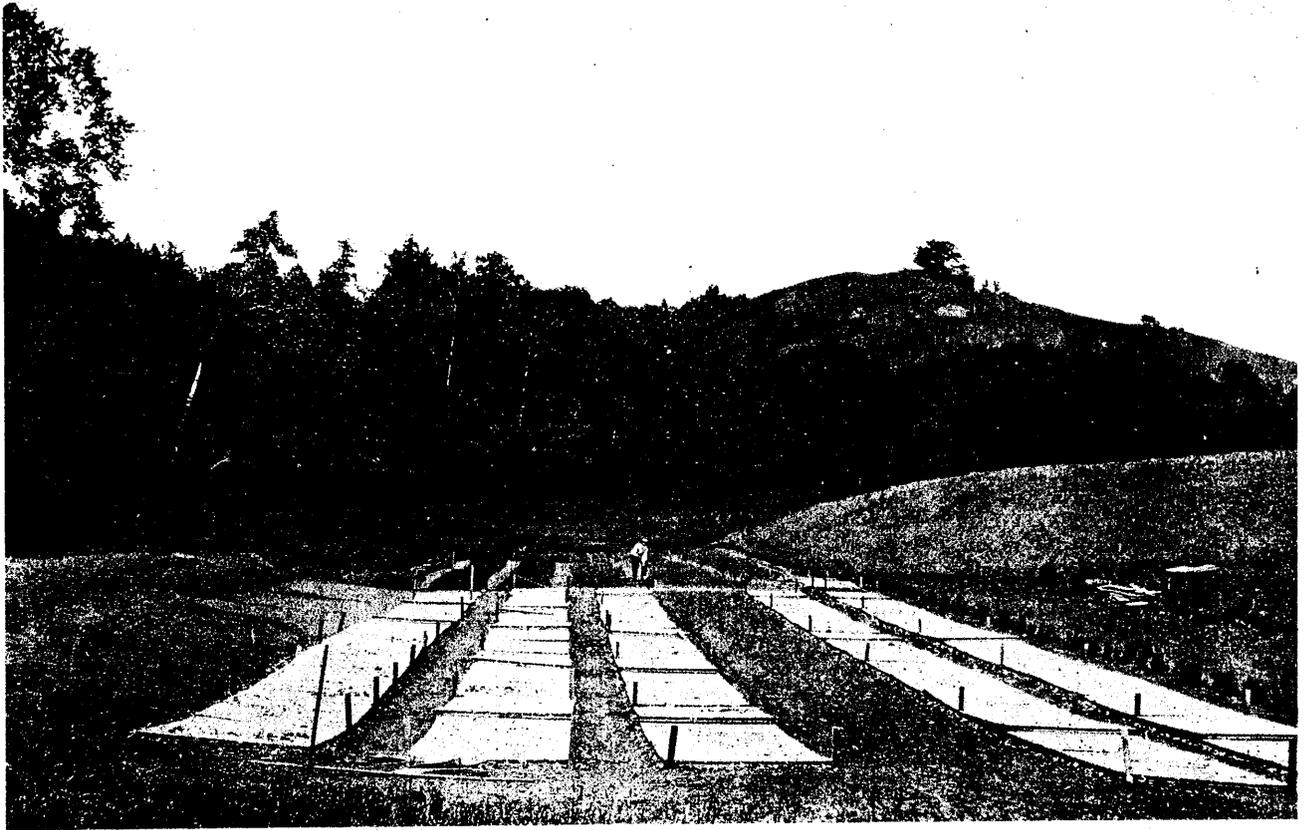


The above buildings became a "state farm" and nursery, being described as the Downer Lodge and School Building. Young men pictured working above at the nursery were described as students leading one to believe a conservation school was operated here for a number of years using this labor to help operate the nursery and plant the many thousands of seedlings planted at Downer prior to the 1930's. These buildings were taken down in 1929 and materials salvaged.

Early maps dated 1855 and 1869 do not show the Baldwin Springs Farm. The road leading to the forest from Sharon (T.H. 16) does not show on 1855 maps but does appear on Beers Atlas in 1869 as dashed line perhaps indicating under construction or a private road. When the boundary lines of Downer State Forest are superimposed on the Beers Atlas, it would appear there were up to three houses on the Annex block. At this time we have not located any cellar holes other than the Baldwin Springs Farm mentioned above.

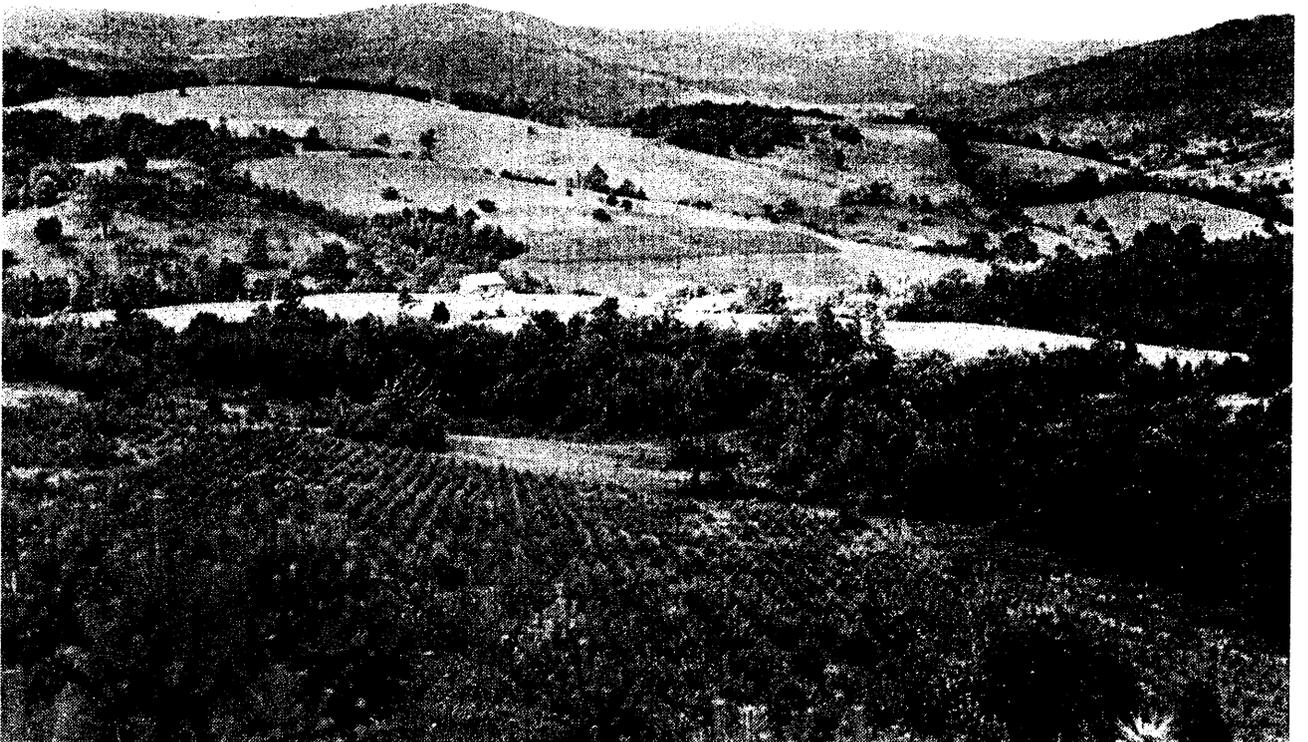


The Camp, Downer State Forest, 1911.



**NURSERY OPERATIONS AT SHARON 1910**

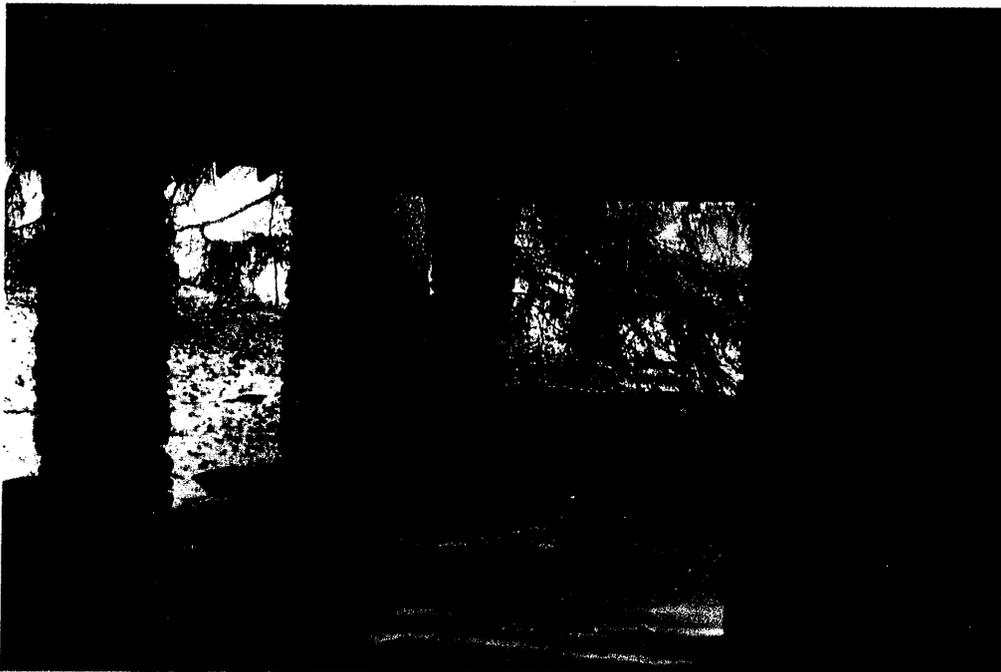




Downer Headquarters Block looking northeast over Scotch Pine plantation stand  
number 27 circa 1915

The CCC'S The 199th Co.of the Civilian Conservation Corps (CCC) was established at Downer on June 28, 1933 and operated through October 28, 1935. (A property transfer for the buildings is contained in the appendix.) They built the truck roads which exist today, the dam for the CCC pond and fishing access and did extensive pruning and weeding through the softwood stands.

**SHELTER BUILT BY THE CCC'S  
AT DOWNER - 1994 PHOTO**





**PRUNING RED PINE**



**FIREWOOD OPERATIONS**





**PRUNING NORWAY SPRUCE**



Downer Headquarters Block looking southeast on upper loop road stand 33  
on the left stand 14 on the right circa 1936

**The 38 Hurricane:** On September 21, 1938 a very destructive hurricane came up the Connecticut River Valley and did extensive damage in the low lands and the slopes facing the Connecticut River. A side camp from the Plymouth CCC Camp was established to salvage blown down timber and reduce the fire hazard. Fifty thousand board feet was salvaged on Downer State Forest. To aid the states in the area of the hurricane, the New England Forest Emergency Project (NEFE) was established by the federal government under the jurisdiction of the U.S. Forest Service. In concert with the existing CCC organization, NEFE was charged with:

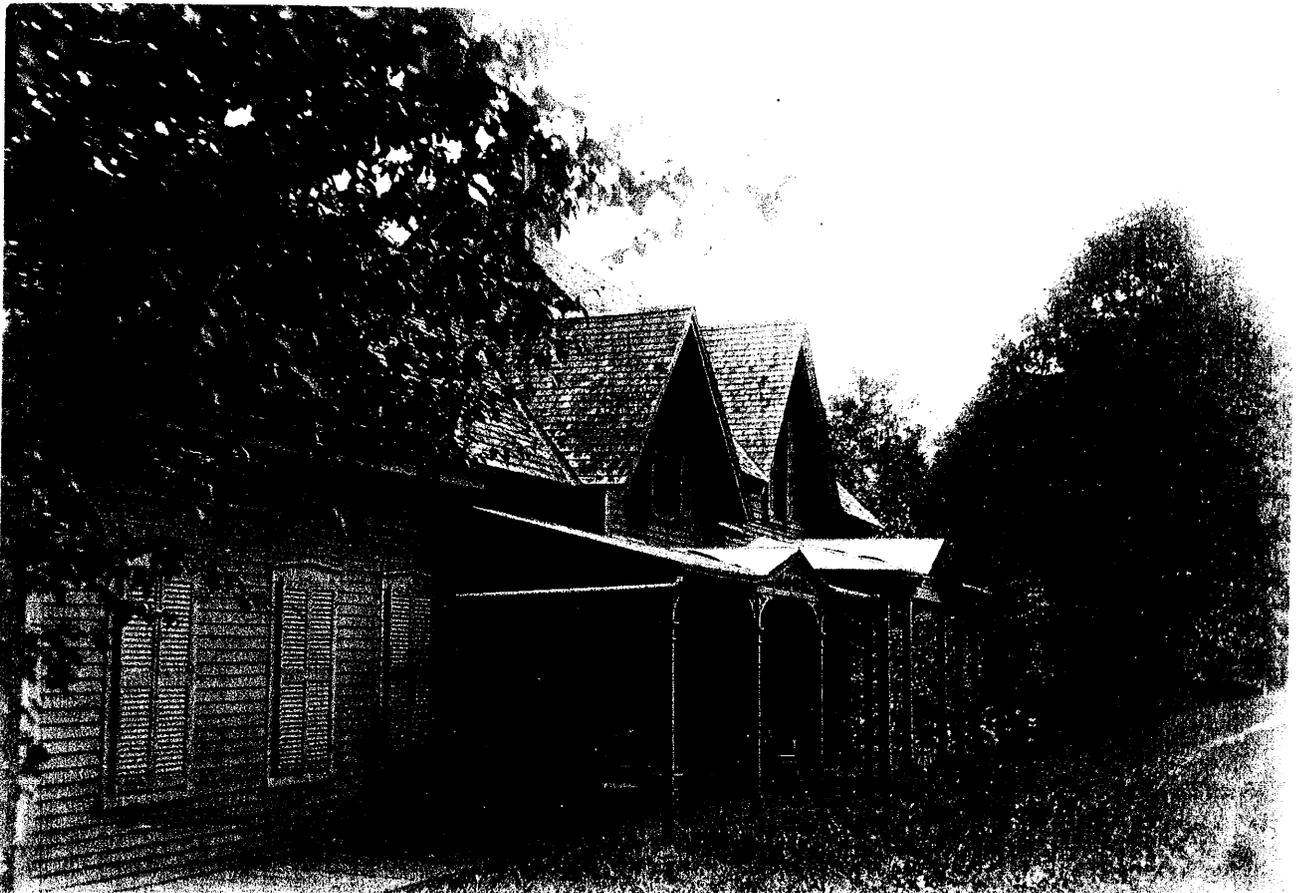
1. Reducing the potential fire hazard resulting from the hurricane damage. Three fire towers were blown down and a fourth damaged, telephone lines to every fire tower in the area were down.
2. To develop and administer a system for salvaging the tremendous quantity of damaged timber without flooding the market.

Another hurricane struck Vermont in 1950; this one came up the Champlain Lake Valley doing minimal damage in the area of Downer.

**Prehistoric:** We have no information regarding prehistoric nor native American activities on portions of Downer, nor can we conclude the presence nor absence of evidence. The state forest lies three miles north of and 1100 foot elevation above the White River which was a historic salmon stream.

The Downer 4-H Camp, organized and leased in 1945, is located at the former CCC camp and still uses several of the original buildings to include the mess hall, recreation building, infirmary and officers quarters. Two barracks buildings were used until heavy snow loads destroyed the last one in 1967. The 4H-camp also used the so-called "white house" which was originally part of the Baldwin Springs Farm. This building was razed and salvaged in 1984. That building is seen below as it appeared in 1910.

*PHOTO COURTESY SHARON  
HISTORICAL SOCIETY*



## IMPLEMENTATION

The purpose of this section in the plan has been to assemble this information for posterity. None of the cultural artifacts discussed or shown here are located in areas where timber management activities are currently being practiced.

In the event future activities of the 4H Camp involve ground disturbances, the remnants of the Baldwin Springs Estate and the White House will be protected.

There are very few stone walls bordering this property and none currently noted in the interior. Normal management activities should not disturb any of the stone walls known to exist.

VEGETATIVE  
EXISTING CONDITIONS

Vegetative Types

Headquarters Block: This parcel was the Baldwin Spring Farm having only recently ceased operation as a active farm, when given to the State in 1910. Most of the land was still open with deep somewhat excessively drained soils (Pomfret), which on grades less than 15%, would be considered prime agriculture soils. In the drainage, depressions are moderately well drained Buckland soils, a site I forest soil. On the northwest end of this block are found Glover-Vershire soils which are about 60% shallow excessively drained soils with rock outcrop. Approximately 70% of this parcel was planted to various softwood and hardwood species. With the intensive management that has been carried on here, a very high percent of the plantations survived the early years of stiff competition on these otherwise hardwood sites.

Annex Block: This parcel is much more typical of Vermont hill country with steep slopes but the soils are still the same with about 60% Pomfret and 33% Glover-Vershire. Most of the Pomfret soils would appear to have been open land when the Charles Downer deeded this parcel to the state in 1915 and were promptly planted to white pine or Norway spruce.

The vegetation on the forest is illustrated by the type maps on the following pages. Plantations comprise 38% of the vegetative types on Downer.

It is interesting to note, from a historical perspective, that many different combinations of species were planted on Downer at a time when there was not a wealth of knowledge regarding successful mixtures. Some of these mixtures were:

- **White pine-Douglas fir** where a few remnants of the fir can still be found, but are totally suppressed.

- **White pine-Scotch pine** generally competed about equally but the generally poor form of the Scotch have seen these stems removed in early thinnings.
- **Norway Spruce-white ash** (hard to verify the white ash were planted) but where this mixture still appears to exist the diameter of the spruce far exceeds the white ash.
- **White pine-red pine** survival about the same.
- **European larch-Norway spruce** generally larch established early dominance and many of the dominant larch were removed in earlier thinnings for piling. Larch does not seem to have done so well on soils with seasonal high water.

## EXISTING CONDITIONS

### CLASSIFYING FOREST PRODUCTIVITY

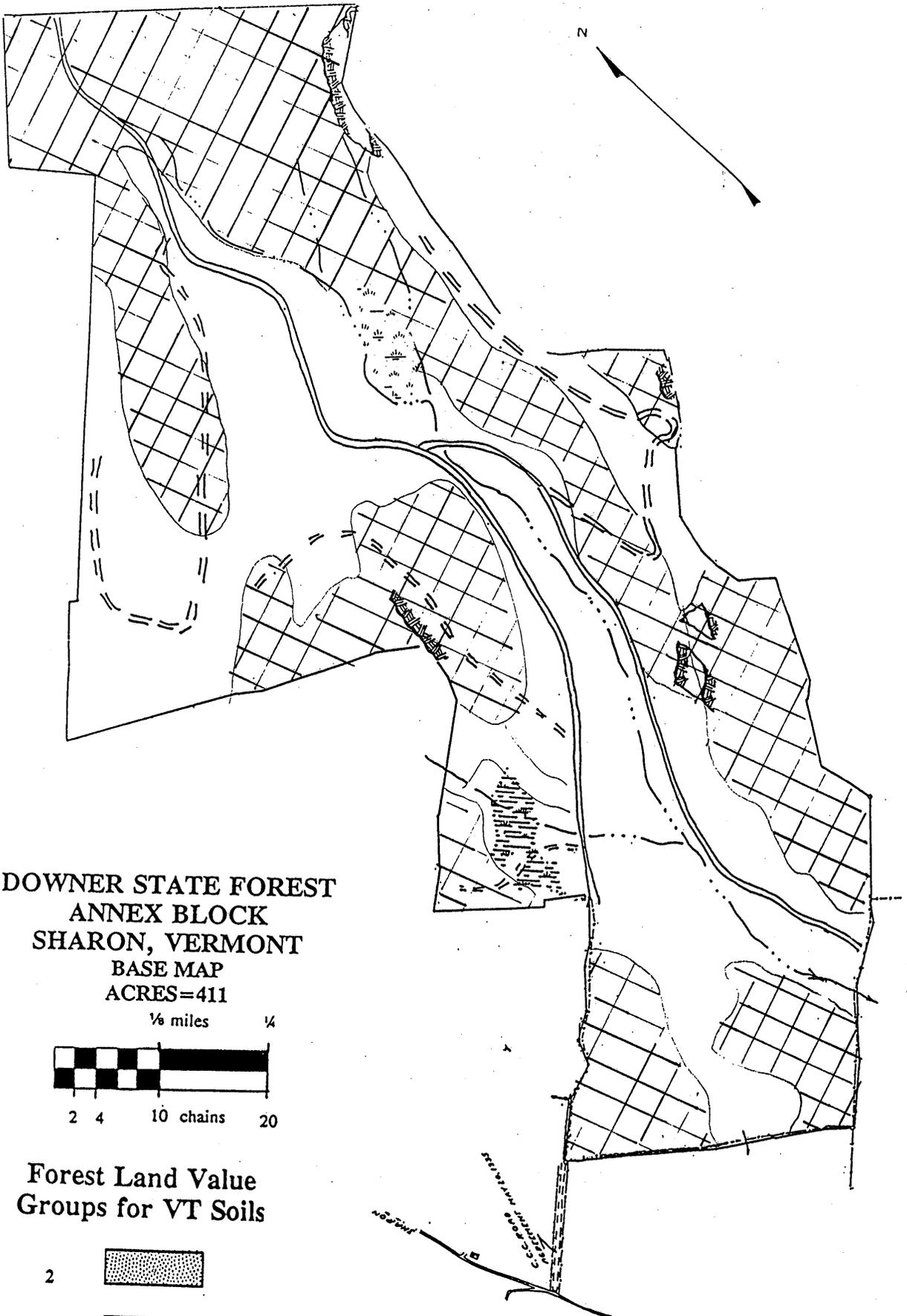
Eight forest site categories are used in this plan to express potential management activity. This is based on the publication *Soil Potential Study and Forest Land Value Groups for Vermont Soils* published in 1991 by SCS in cooperation with Vermont Department of Forests, Parks and Recreation. This study considers soil potential, soil limitations, slope, and surface features. The succeeding maps locates these various site classifications, as they occur in this management area.

The relative value can be used for broad planning purposes, however on-site investigations are recommended to access variations in site conditions, slopes variations especially in "E" which range from 35 to 60% and to access the unique character of the mapping unit itself.

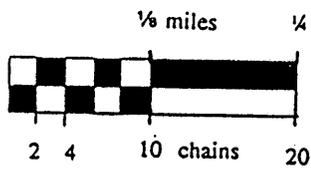
Sugar maple is the indicator species used to develop soil potential ratings for northern hardwoods. On glacial outwash soils white pine tends to dominate and was substituted for sugar maple ratings.

A recommendation can be made for associating intensity of management with these forest land value groups. A recommendation is listed below which gives a guideline for entry interval for crop tree release:

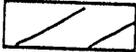
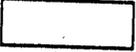
FOREST LAND VALUE GROUP	BROAD FOREST TYPE ENTRY INTERVAL IN YEARS	
	NORTHERN HARDWOOD	WHITE PINE
1	15	8
2	18	10
3	20	12
4	24	14
5	27	16
6	30	18
7	35	20

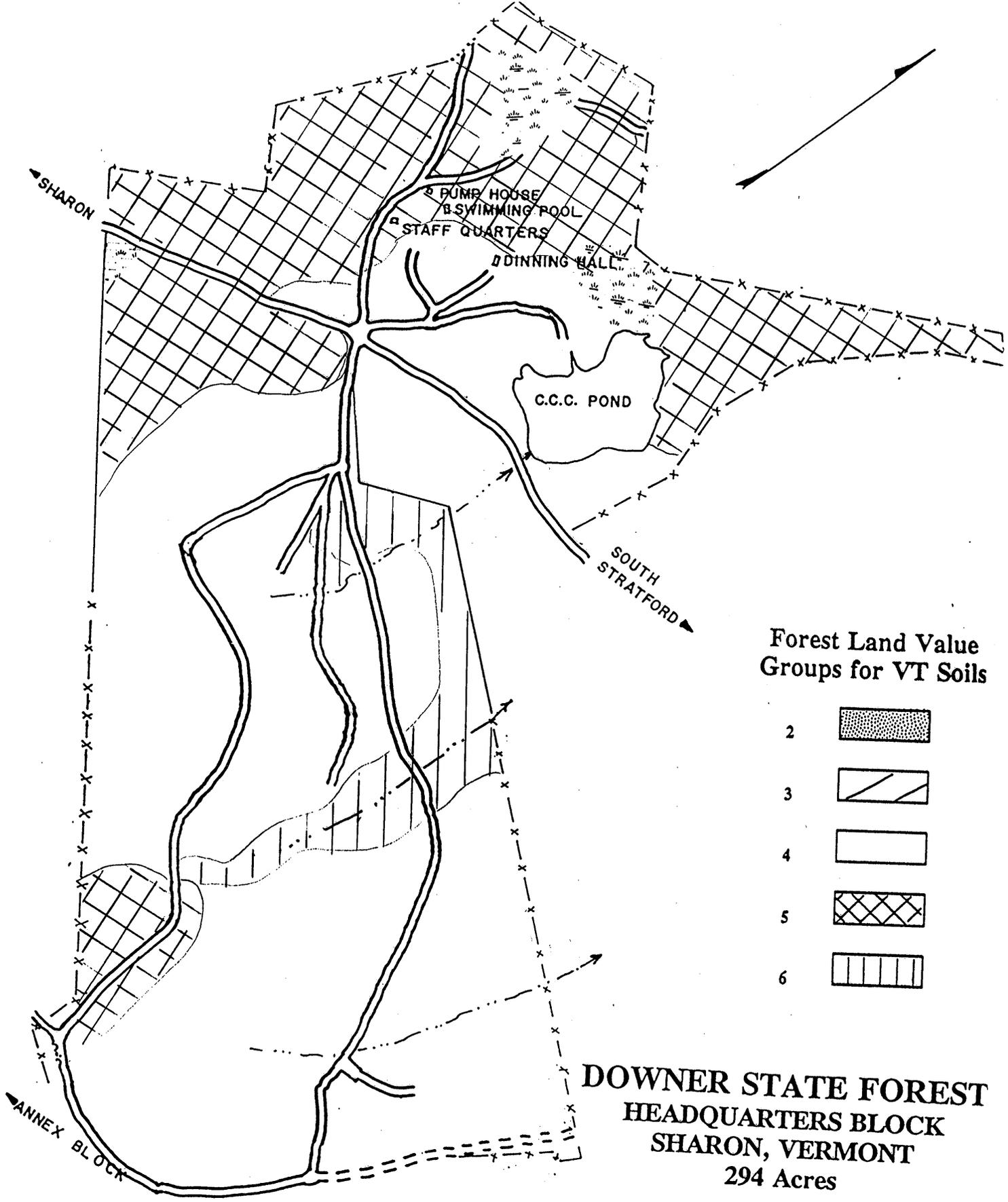


**DOWNER STATE FOREST  
ANNEX BLOCK  
SHARON, VERMONT  
BASE MAP  
ACRES=411**

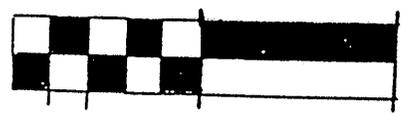


**Forest Land Value  
Groups for VT Soils**

- 2 
- 3 
- 4 
- 5 



1/8 miles 1/4



2 4 10 chains 20

## IMPLEMENTATION

### Timber Management

Downer is a highly visible forest with an extensive road system allowing one to view almost 80% of the property from the state forest highway, thus aesthetics will be a major factor in planning management activities.

Thinning decisions will be based on crown closure and to a lesser extent basal area. This will be modified at times by the general quality of the stems available in the stands.

Some special forest management techniques may be utilized in regenerating specific species, if necessary.

Silvicultural operations and harvesting will be scheduled to improve timber quality, release regeneration, create a better distribution of age classes and to improve species composition.

The **plantations** on Downer have received intensive treatment starting in the 30's with pre-commercial weeding and pruning by the CCC's. The first commercial thinnings were conducted in 1956 with repeated thinnings at 10 to 15 year intervals. Some of the white pine and Norway spruce stands were recently thinned for the fourth time. Total production per acre in some of the most recently thinned white pine (stands 22 and 26) would be in excess of 36,000 board feet per acre (residual plus harvested volume), that volume having been produced in 82 years. The Norway spruce stands will produce very similar numbers.

The goal in these plantations will be to increase the live crown ratio of the residual trees which can only be achieved if thinning is not delayed beyond crown closure. Red rot (*Fomes pini*) is becoming more of a concern, seemingly in trees which may have been suppressed, and may be cause for complete elimination of some stands.

As these plantations mature, they will slowly revert to hardwood due to good quality soils and the general inability of the softwood regeneration to compete with the more aggressive hardwood. An attempt should be made to retain a minimum of 30 square feet of softwood to maintain a mixed component for wildlife. Some attempts were made on a trial basis to spray understory with Roundup (herbicide) to kill hardwood competing with established pine and spruce regeneration with generally short term success. It has been our finding that such treatments would have to be repeated at least 2 or 3 times to insure some degree of success. Our department has since banned the use of herbicides on state forest land for general hardwood vegetation control.

**Northern Hardwood:** A very typical mixture of sugar maple, white ash, beech, and yellow birch usually in that order with higher beech on the drier sites.

A primary objective of hardwood management in Downer will be to provide a variety of conditions with a healthy distribution of age classes and species throughout the forest. This will be achieved here through all-aged management using single tree selection and small patch clearcuts up to 1.5 acres to provide a variety of conditions and species. When marking sales, it will be necessary to release healthy stems in three broad categories, namely poles, small sawtimber and large sawtimber. A large clearcut occurred on Downer in 1982 after a series of three heavy defoliations by saddle prominent lead to considerable mortality and the need to salvage 52 acres of relatively young sugar maple.

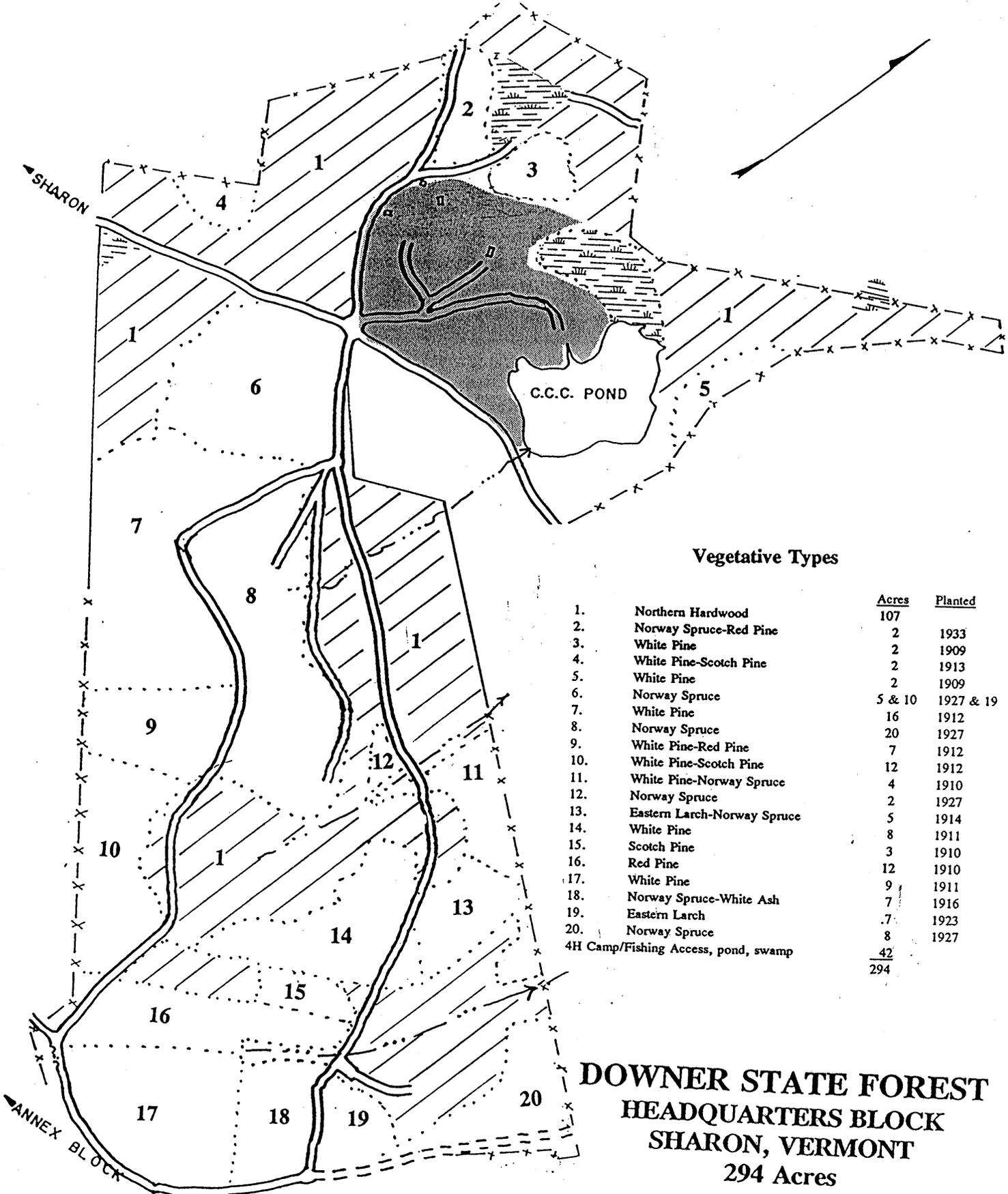
Approximate thinning intervals or stand entries and ideally, number of acres in two broad categories to be treated each year.

Timber Type	Commercial <sup>1</sup> Acres	Entry Interval	Acres per year to be thinned	
			Selection	Regenerated
Plantations	271	15	1.8	0.0
NH Site II <sup>1</sup>	250	20-25	10.0	2.0
NH Site III	68	30	2.2	0.4

<sup>1</sup> Acres above 9.0" mean stand diameter where management activities are preferred under current economic conditions.

# Downer State Forest Vegetative Types

	Acres	Percent of total land area
White Pine	147	20.8
White Pine-Scotch Pine	14	1.9
White Pine-Red Pine	7	0.9
White Pine-Norway Spruce	4	0.5
Norway Spruce	63	8.9
Norway Spruce-Red Pine	2	0.2
Norway Spruce-Eastern Larch	5	0.7
Norway Spruce-White Ash	7	0.9
Scotch Pine	3	0.4
European Larch	7	0.9
Red Pine	12	1.7
Northern Hardwood	370	52.4
4-H Camp Fishing Access	64	9.0
Swamp, etc.		
	<b>705</b>	

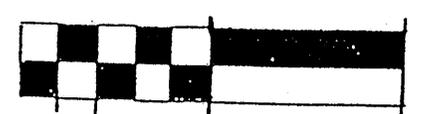


**Vegetative Types**

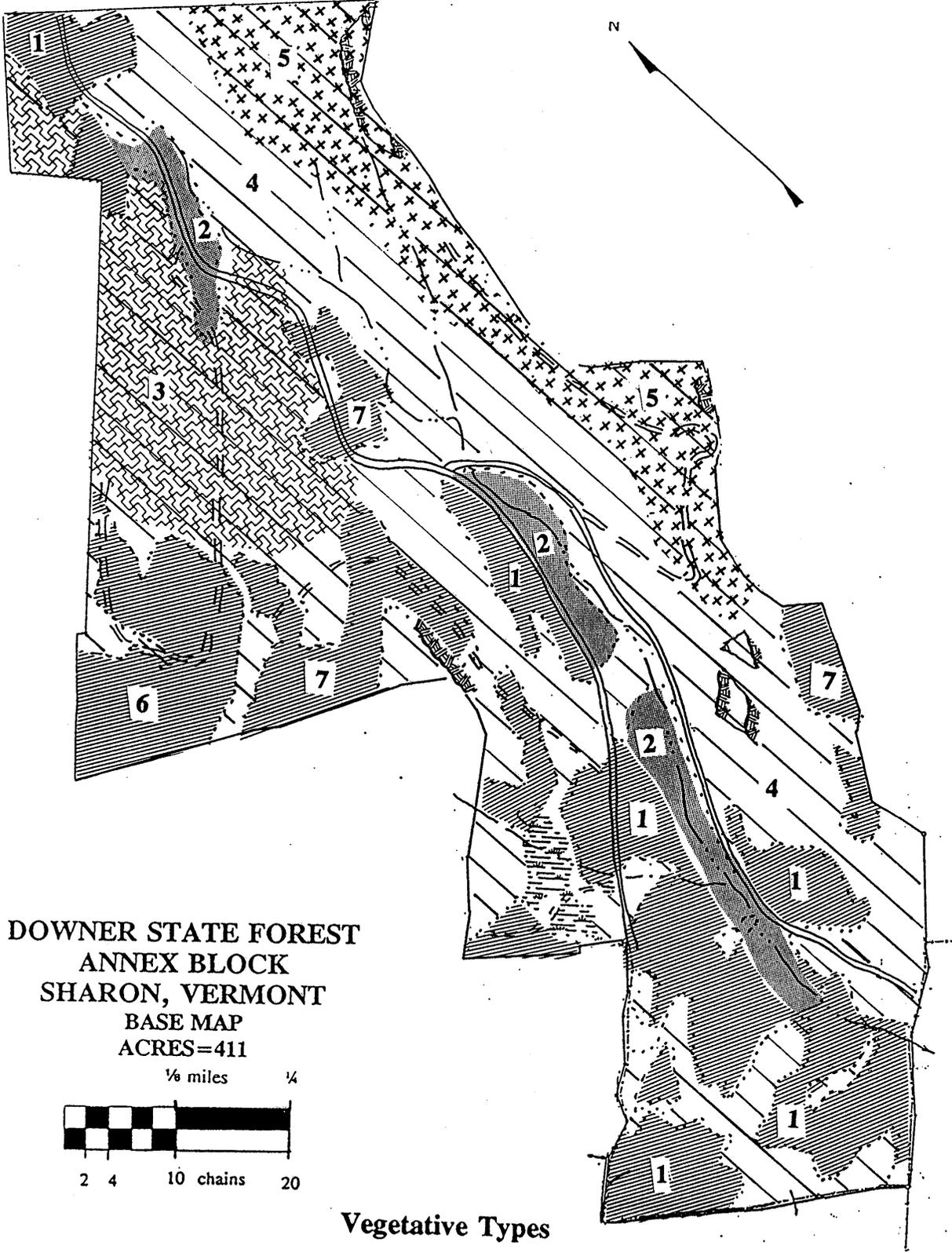
		<u>Acres</u>	<u>Planted</u>
1.	Northern Hardwood	107	
2.	Norway Spruce-Red Pine	2	1933
3.	White Pine	2	1909
4.	White Pine-Scotch Pine	2	1913
5.	White Pine	2	1909
6.	Norway Spruce	5 & 10	1927 & 19
7.	White Pine	16	1912
8.	Norway Spruce	20	1927
9.	White Pine-Red Pine	7	1912
10.	White Pine-Scotch Pine	12	1912
11.	White Pine-Norway Spruce	4	1910
12.	Norway Spruce	2	1927
13.	Eastern Larch-Norway Spruce	5	1914
14.	White Pine	8	1911
15.	Scotch Pine	3	1910
16.	Red Pine	12	1910
17.	White Pine	9	1911
18.	Norway Spruce-White Ash	7	1916
19.	Eastern Larch	.7	1923
20.	Norway Spruce	8	1927
	4H Camp/Fishing Access, pond, swamp	42	
		294	

**DOWNER STATE FOREST  
HEADQUARTERS BLOCK  
SHARON, VERMONT  
294 Acres**

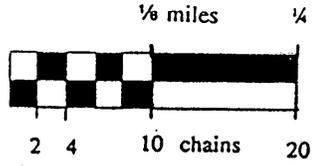
1/8 miles 1/4



2 4 10 chains 20



DOWNER STATE FOREST  
 ANNEX BLOCK  
 SHARON, VERMONT  
 BASE MAP  
 ACRES=411



**Vegetative Types**

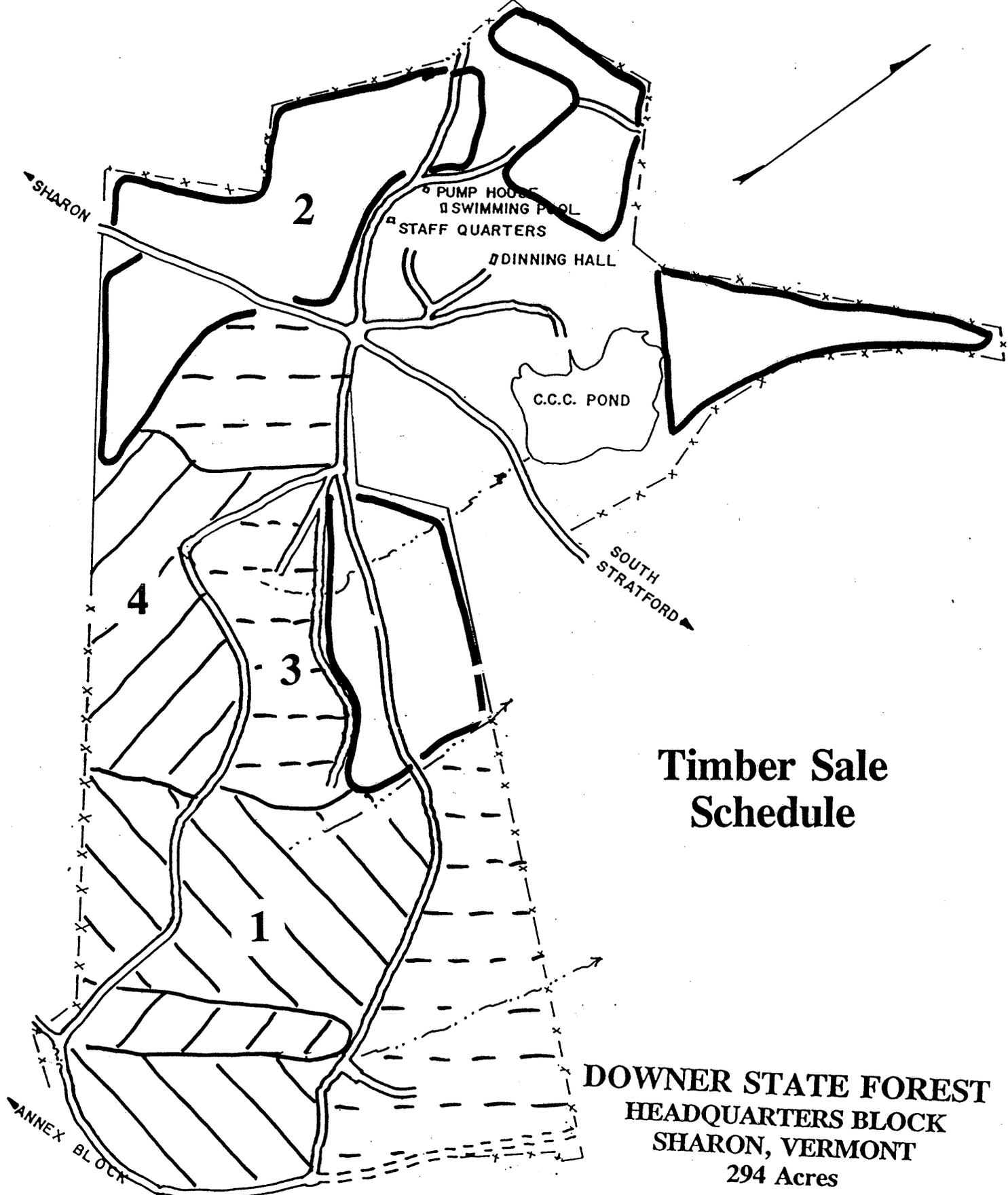
	<u>Species/Type</u>	<u>Acres</u>	<u>Year Planted</u>
1.	White Pine	60	1915
2.	Norway Spruce	18	1915
3.	Northern Hardwood SS	52	cc 1982
4.	Northern Hardwood Site II	143	
5.	Northern Hardwood Site III	68	
6.	White Pine	21	1915
7.	White Pine-Northern Hardwood	29	1915
	Non-Commercial	20	
		<u>411</u>	

## DOWNER TIMBER SALE SCHEDULE

The two blocks of Downer have been divided in nine sale areas. Three are primarily hardwood <sup>and</sup> with six <sup>are</sup> being mostly softwood plantation. The intention being the entire land area will be treated at each scheduled entry which will require more sorts, but less entries on the land.

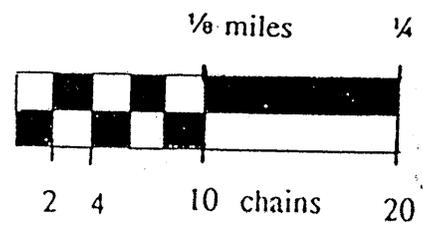
STAND NO.	YEAR LAST TREATED	ACRES	PLANNED INTERVAL	YEAR FOR PLANNED ENTRIES
1	92-93	51	10-15	2007, 2022, 2037
2	67	94	20-25	1994, 2016, 2038
3	84	70	10-15	1999, <sup>2008</sup> <del>2014</del> , 2029
4	77/86	34	10-15	1996, 2011, 2026
5	94	67	10-15	2009, 2024, 2039
6	77	108	15	1998, 2013, 2028
7	77	30	15	2001, 2016, 2031
8	56/80'S	137	25	2005, 2030, 2055
9	82 CC	52	25	2032 OVERWOOD REMOVAL, 2057

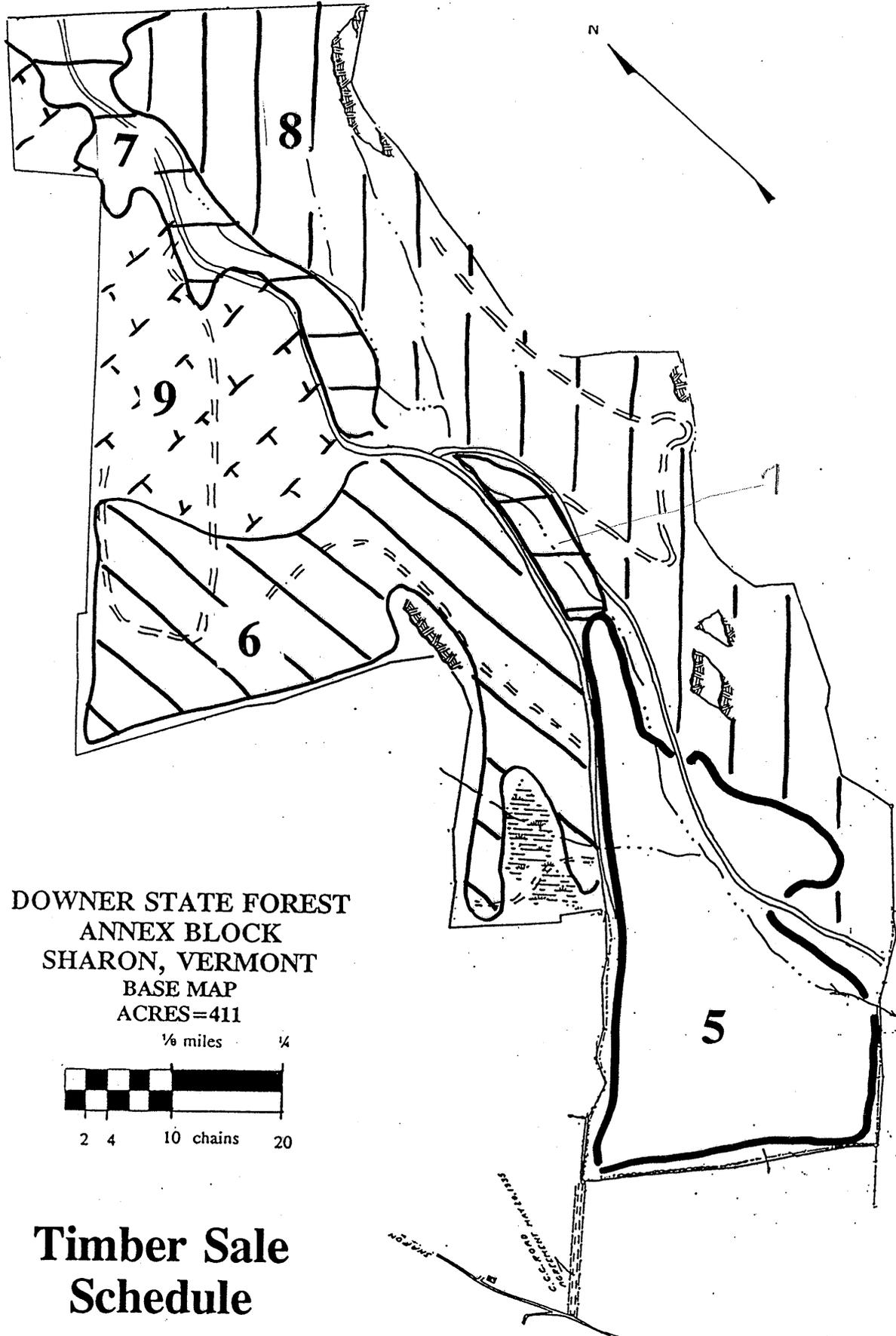
*per 2006 Amendment*



## Timber Sale Schedule

**DOWNER STATE FOREST  
HEADQUARTERS BLOCK  
SHARON, VERMONT  
294 Acres**





DOWNER STATE FOREST  
 ANNEX BLOCK  
 SHARON, VERMONT  
 BASE MAP  
 ACRES=411

# Timber Sale Schedule

## FOREST HEALTH

**Monitoring** - The health of the forest stands within Downer State Forest will be monitored yearly by Department personnel through a system of aerial observation and ground checking.

**Management** - Significant changes in forest stand conditions will be recorded and investigated by the Forest Resource Protection Specialist. The specialist will provide specific information on identified problems sufficient to make informed management decisions, and will assist the state lands staff in formulating appropriate management strategies.

Strategies for managing stands damaged by insect and disease will be ecologically acceptable and will be based on silvicultural practices and/or the use of pesticides in conformance with existing state regulations and Department policy. A good example of this began unfolding in 1979 with a buildup of Saddle Prominent, a native insect defoliator, in hardwood stands of the Annex Block. An area approximately 90 acres was defoliated three years in succession resulting in very heavy mortality. The result was a salvage sale in 1982 in which all stems were cut excepting white ash. Stand has now regenerated with northern hardwood saplings.

## **FIRE MANAGEMENT**

**Fire Prevention** - District state lands staff will advise loggers and other forest users about hazard reduction, fire access roads, and woods operation precautions during fire season.

All timber harvesting operations, TSI crews, VYCC crews operating within Downer State Forest will be carried out in conformance with state slash disposal regulations and department standards for preventing wildfire.

**Fire Detection** - Wildfire detection will be based upon public reporting and air patrol during periods of high to extreme fire conditions.

**Fire Suppression** - The town fire warden in Sharon is responsible for wildfire suppression on all fires in Downer State Forest. The Protection Technician C will assist the fire warden with overhead fire responsibilities as well as provide guidance in determining compensation to the town involved in a suppression effort. State lands personnel will actively assist the town in suppression efforts if requested.

**Prescribed Burns** - Prescribed fire may be used as a management tool within Downer State Forest to maintain vegetation in existing forest openings and to reduce fire hazard. All prescribed burns will be conducted in accordance with a written prescribed burn plan and Department of Forests, Parks and Recreation procedural directives for conducting prescribed fires.

## LAND ACQUISITION

The values of public land are enhanced when inholdings are minimized and travel corridors remain unbroken. Acquiring woodland has a low priority in the Department's land acquisition program, however the long-term goal should be to acquire land between the Headquarters and Annex Blocks eventually controlling all the road frontage on the state forest highway. The acreage to achieve this goal could be as low as 300 acres.

## ROADS

### EXISTING CONDITIONS

The forest highway system as it exists today was laid out and constructed by the CCC's in 1935. This road 5.6 miles in length connects the two blocks and also serves as a through road. Gates were erected at either end of the SFH in 1982 in order to close the road during mud season, which has generally been the case since with some exceptions due to vandalism.

When the CCC's built the road system, approximately 0.5 miles was laid out on an existing but abandoned town R.O.W., today referred to as town highway number 24. Neither the town nor the state have been able to document any conversations which may have taken place between the parties involved. The status of this R.O.W. shown on roads map was changed in 1960 to a legal trail from the Beaver Meadow Road to the SFH. The portion underlying the SFH to where it left Downer State Forest was not addressed at that time.

Two firewood roads were constructed in the late 70's which considerably improved the access in the Annex Block. The access for forest management purposes would seem to be adequate for the foreseeable future. The only changes will be to build larger landings due to more sorts.

During the years 89 to 94 the roads was resurfaced with gravel. Prior to those years very little gravel was added resulting in exposure of the subgrade and bedrock.

## ROADS IMPLEMENTATION

During the next 15 years efforts should be made through annual maintenance and road requirements in timber sales to further upgrade the road system.

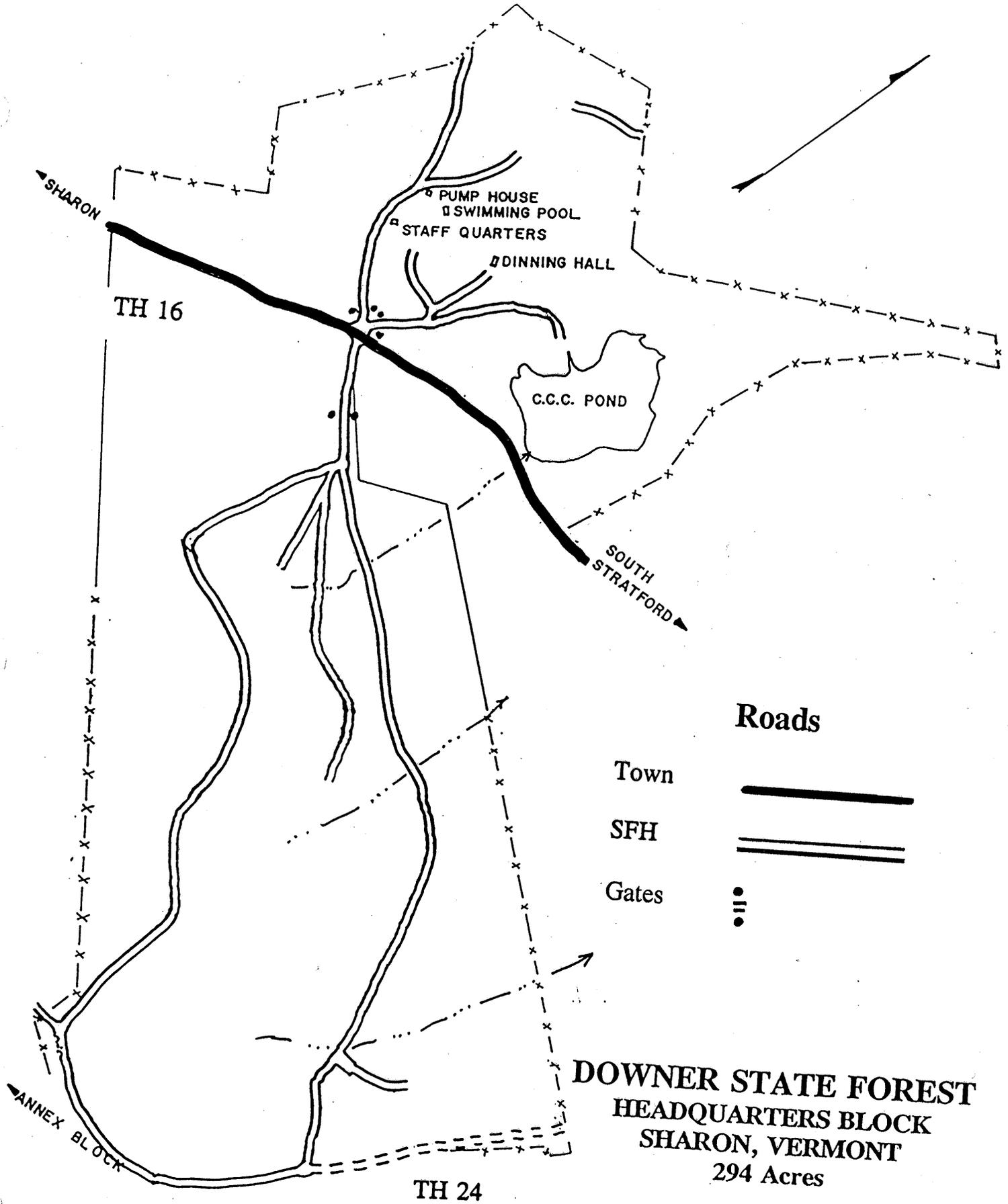
All the original cross drainage culverts need to be replaced with generally longer pipes with 15 inch being the minimum diameter. At least 5 cross drainage pipes should be replaced each year until all have been replaced. There are only four culverts which carry water throughout the year and three have already failed and been replaced.

In an effort to even out the annual maintenance, 450 yards of crushed gravel or ledge should be applied each year which should be adequate to resurface the road over 15 years. The grades exceeding 6% where surface erosion is a problem should be resurfaced with crushed ledge which generally stands up better than crushed gravel.

The road should be graded at least twice a year, once soon after the gates are opened. The Town of Sharon has agreed to grade the road at their convenience, as long as no overtime is involved, and at an agreed upon hourly rate. Instructions were to make arrangements directly with the road foremen. Generally work such as culvert installation, ditching, gravel in place, and roadside mowing has been annually put out to bid. Efforts also need to be made to remove roadside stumps which tend to get buried and then hooked by the grader.

The road sides should be mowed every three years at a minimum. Mowing annually makes grading considerably easier.





## WILDLIFE

### EXISTING CONDITIONS

This forest is not typical of most public lands due to the large area in plantations which have in the past been dense with little or no understory vegetation. As these stands have matured, hardwoods have become established in the understory providing some cover for wildlife and some variety in an otherwise limited environment. The softwood stands are strictly temporary on these hardwood soils where sugar maple will be the predominant species. Wildlife found here would be typical of the farm country of Orange County and northern Windsor county. This is not suitable habitat for bear, somewhat questionable for turkey, and limited for beaver. Some moose activity was seen after a large hardwood clearcut following mortality caused by Saddle Prominent in 1982.

Species to be specifically addressed in this plan with management recommendations will include white-tailed deer, grouse and nongame.

**TURKEY:** Turkey is a forest bird that prefers mature hardwood stands of mast producing trees such as beech and oak. Other preferred foods are hickory nuts, ash seeds, black cherries, hophornbeam seeds, fern spores and fronds, grass and sedge seeds. There is one south-facing slope on this forest which has an oak component. Beech is a common species but generally occurs in mixed stands with other hardwoods with slightly higher concentrations on south-facing and droughty sites. Hickory is not a component on this forest. Ash is a common component on the better sites, and black cherry is a minor component especially on more recently abandoned lands. Hophornbeam, also called

hardhack or ironwood, is most prevalent on ridge tops with soils shallow to bedrock often with grassy understory, there are no "savannah" types on this forest. Ferns and sedges are common components in areas of poor drainage which are limited in size due to the generally steep terrain.

**BEAR:** This forest is what Fish and Wildlife describe as low-use area or regions infrequently utilized by bear.

**DEER:** The white-tailed deer is an extremely adaptable species being found in all Vermont towns but being more abundant in southern and central regions. The summer home range of deer is approximately 500 acres. There is considerable amount of data available discussing summer and winter range which this document is not prepared to discuss, be it sufficient to say this forest is confined to deer management unit **J2** and winter range is mapped using 1992 data.

Listed below are a summary of optimum guidelines for management of non-winter range:

- Maintain at least 5-10% in herbaceous vegetation
- Manage forest stands using 100-year rotations or less
- Regenerate using even-aged techniques
- Manage under an area regulation system
- Maintain at least 10% in regenerating (0-10 stands)
- Maintain at least 30% of area in mast producing age classes (50+ years)

- Maintain or develop at least 10% of each stand's basal area in mast producing species
- Keep regeneration cuts to less than 25 acres, preferably 10 acres
- Stands which are composed of primarily mast producers, oak or beech should be managed as "key" mast areas

There is no mapped winter range on this forest.

**GROUSE:** The home range of ruffed grouse varies from 15-40 acres. Grouse are closely associated with early successional hardwood species such as bigtooth and quaking aspen and paper birch. Superior grouse habitat contains 3 critical age classes of forest (0-10, 10-25, 25+) all located within a 10 to 15 acre area. Grouse habitat can be further improved by intermixing grassy openings, apple trees, and scattered patches of softwoods with hardwood forest.

**NONGAME:** There are three groups of nongame wildlife: 1) mammals, 2) birds, and 3) reptiles and amphibians. These guidelines are intended for use in managing these three non-game groups in a forested environment, with emphasis on bird habitats.

Due to the tremendous variety of habitat types used by the three nongame groups, it is safe to say at least one of the three groups inhabit every natural habitat found in Vermont.

In the long term this forest will be almost 100% hardwood due to high percentage of good soils. Mixed stands, however, have an extremely high bird species diversity associated with them. Leaving occasional conifer in a deciduous stand (or vice versa), will increase the

number of animal species. For nongame species it would be best to retain a component of the softwood plantations beyond financial maturity (30 inch DBH for purposes of this plan).

Many animal species prefer or require one or more particular age classes for one or more of their annual or daily activities (i.e. breeding, feeding, nesting, roosting, hibernation etc.) By diversifying the age classes species diversity can be maximized in any one type.

Den and snag (see appendix for definition) trees are especially important to nongame management and play a critical role in maintaining and diversifying wintering bird populations.

## PLANNED ACTIVITIES

**WHITE-TAILED DEER:** The amount of herbaceous vegetation is quite limited on state land in general and on this forest is limited to landings and roadsides. The roadside will be mowed at least once every three years to keep the woody vegetation in check. The landings on Downer have generally been closed off due to littering.

Forest stands will be managed using all aged management with patch clearcuts up to 1.5 acres in size to insure diversity of species and age classes.

No key mast areas have been identified. Healthy mast trees will be retained as they occur in the hardwood stands up to the point of biological maturity.

None of the plantations are mapped as deer winter range.

**GROUSE:** Management activities for grouse will consist of regeneration of aspen clones up to 1.5 acres in size.

**NONGAME:** The softwood plantations will continue to be thinned striving to increase the live crown ratio. When the point in time arrives where stands are too large in diameter to be commercially harvested, these residuals plantations should be left standing, leaving a mixture of hardwood with overmature softwood.

Using up to 1.5 acre patch clearcuts in the northern hardwood stands will create a diversity of age classes over the period of a rotation.

Den trees goals:

- Leave as a minimum one 15" or larger den tree having a cavity opening of at least 4 inches per acre. Snag or dead trees are not addressed here due to normal mortality or girdled trees. Exception being around the CCC pond or swamp north of the 4H Camp where a minimum of 6 snags per acre within 300 feet of the water would be ideal.

## **EXISTING RECREATION**

### **ROADS**

The existing State Forest Highway system within Downer State Forest provides many opportunities for recreational users. During the winter, this road serves as a portion of VAST corridor trail #5, a heavily-used north-south snowmobile route. This trail is maintained and groomed by two local snowmobile clubs, the Justin Morrill Drift Skippers, based out of Strafford, VT and the Up And Downers based out of Sharon, VT. Money for the state Snowmobile Trail Allocation Fund has been used in recent years to replace several culverts in the road system.

Cross-country skiing is another popular winter activity on the road system. During the summer, the road provides good opportunities for horseback riding, biking, and walking.

### **CCC Pond Fishing Access**

The Vermont Department of Fish and Wildlife maintains a fishing area on the 10-acre CCC pond. According to District Fisheries Biologist John Claussen, the pond is too shallow to support a permanent trout population and up until several years ago, it was stocked annually with trout and managed on a "put-and-take" basis, meaning that the stocked trout were fished out every year. Stunted rough fish and weed growth were periodically controlled by draining the pond during the winter or by applying rotenone.

Since the recent discovery in the CCC pond of the humped bladderwort, a potentially endangered plant, draining or poisoning the pond is no longer allowed. As a result, fish such as stunted perch and chubs have become abundant and weed growth has become very heavy, so heavy that fishing has become almost impossible. In an effort to control the rough fish

populations, largemouth bass were introduced into the pond. So far this experiment has enjoyed limited success -- some bass have developed into large fish (several pounds in size) but the majority have remained small. Currently the CCC pond receives very little recreational fishing pressure due to these poor fishing conditions.

Beavers have been a chronic problem in the management of the pond. Nearly every year beavers plug the outlet from the pond requiring the Fish and Wildlife Department to remove the beavers handiwork.

## **HUNTING**

Hunting is a popular activity on the forest with most of the pressure occurring during Vermont's fall deer season. Ruffed grouse are also hunted within the forest.

## **THE 4-H CAMP**

The 4-H camp was organized and leased the former CCC camp from the Department in 1945. See page 83 in the appendix for the list of buildings when CCC camp was transferred to Forests, Parks & Recreation. The camp still uses at least five of the original buildings to include dining hall, recreation hall, officers quarters, infirmary and one other building currently used for arts and crafts.

Campers were originally housed in two dormitories the last of which was lost to snow in 1967. A boys and girls village has since been built at either end of the camp each consisting of several cabins sleeping 6 to 8 campers with a separate building for showers and toilets. The camp used the "white house" for various purposes over the years until it was torn down in 1984.

A nature cabin was built overlooking the wetland draining into the CCC pond in the early 80's.

Water has been a problem in many regards over the years. Drinking water has in many years been scarce. In 1970 Forests and Parks agreed to pay for a well which was drilled to 1000 feet and still turned out to be dry. The current water system is from a series of springs which is then chlorinated. The camp uses the CCC pond for canoe instruction but weeds have been a concern. Over the years attempts were made to control weeds in portions of the pond but these efforts have since ceased due to concerns with using herbicides plus the discovery of an endangered plant found in the pond. The septic system has generated much concern and activity over the years, but remains useable.

The 4H-Camp and the Department have worked closely together over the years. The Department continues to manage timber within the lease area buffering the camp trail system and scheduling logging activities around the times camp is open.

## **RECREATION IMPLEMENTATION**

During the next 15 years there are no plans to expand recreational facilities outside the 4H lease area. Aesthetics will continue to be a primary concern within sight of state forest highway.

Timber sale contracts will stipulate that no trucking will be permitted on weekends after the start of "snowmobile season".

Investigate possibility of constructing a parking area in Headquarters Block near 4H Camp to better serve cross-country skiers. The Department has expressed a willingness to work with local groups to develop hiking or cross-country ski trails.

---

# *Appendix*

January 26, 1995

FIELD 1  
FIELD 2  
FIELD 3

Dear FIELD 4:

The Vermont Department of Forests, Parks and Recreation is currently drafting the long range management plan for **DOWNER STATE FOREST** in the town of Sharon. This forest consist of 705 acres in the northeast corner of Sharon. As part of this planning process, the department schedules a public forum to obtain your opinion and comment on tentative plans. This meeting will be held February 13, 1995 at the Sharon Elementary School from 7:00 to 9:00 p.m. and will be co-sponsored by the Sharon Conservation Commission.

For your quick review, enclosed is an abstract and map of Downer State Forest showing the primary emphasis for management which exist in the proposed draft. Two copies of the draft plan will be available for public review at the Sharon Town Clerk's Office.

The Department will give a brief overview of why we have asked you to come, the history of Downer State Forest to date, and what we anticipate doing in the next 20 years.

The rest of the evening will be devoted to seeking your comment on: what has been done, the tentative plan proposed, and what you would like to see incorporated into the Long Range Plan.

This meeting is open to all, and your attendance is encoraged. Additional information is available by contacting the Springfield Office of Forests, Parks and Recreation at 886-2215.

Very truly yours,

Roy S. Burton  
State Lands Forester

Enc.

## ABSTRACT

Downer State Forest was established as a gift to the State of Vermont in 1910 by Charles Downer, a part-time resident of Sharon. The original deed stated "*work of experimental and scientific forestry shall be carried on and where the seedlings of forest trees shall be grown for public distribution*". This deed stipulation has been the principle focus of management for the past 83 years.

Prior to state ownership, the forest was previously operated as the Baldwin Springs Farm and was mostly open land. The open lands were planted to many different softwood species during the first 20 years of state ownership.

A Civilian Conservation Corps camp was established here in 1933. They built the state forest highway system which exists today and did considerable improvement work on the extensive plantations.

In 1945 a 4-H Camp was organized and leased the buildings of the CCC camp which still operates in many of the same buildings. Other recreational uses of the forest would include snowmobiling, cross-country skiing, hunting, and berry picking.

The extensive softwood plantations were first commercially thinned in 1957 and have been thinned at about 10 to 12 year intervals since. These stands now average 18 inches in diameter at DBH (diameter breast height). The plan calls for this thinning to continue until average diameters of 30 inches are achieved on healthy stems. The hardwood stands will be managed to maintain healthy stems with a good variety of age classes.

The existing road system will be maintained, sufficient to accommodate standards for prevailing log trucks.

Portions of the hardwood stands in the Annex Block will be specifically managed to benefit certain wildlife species.



# LAND MANAGEMENT PLAN DOWNER STATE FOREST

February 13, 1995

NAME	ADDRESS	DO YOU WANT TO BE KEPT INFORMED OF PROGRESS TOWARD LRMP?
Mike Zwikelmaier	RR 1, Box 393, Sharon, VT 05065	Yes
Armand Gauthier	Jericho Street, White River Jct., VT 05001	Yes
Bob Ammel	1 Ammel Road, White River Jct., VT 05001	Yes
Mr. & Mrs. Frederick Johnson Jr.	Canaan, VT 05903	Yes
Mr. & Mrs. Richard W. Johnson	Hartland, VT 05048	Yes
Cecile Thornton	RR 1, Box 545, Sharon, VT 05065	Yes
Daniel George	PO Box 565, Wilder, VT 05088	Yes
Ms. Tobey Levine	RR 1, Box 386, Sharon, VT 05065	Yes
A. J. Zwikelmaier		
Dennis Preston	RR 1, Box 140, Strafford, VT 05072	Yes
Philip Coburn	PO Box 64, S. Strafford VT 05070	Yes
Dale Potter	Rt. 14, Box 14, Sharon, VT 05065	Yes
John Sears	HCR 65, Box 94, Sharon, VT 05065	Yes
Carol Longstaff	Downer Forest Road, Sharon, VT 05065	Yes
Ted Kenyon	RD 2, Box 293A, S. Royalton, VT 05068	Yes
Peter A. Johnke	RR 1, Box 584, Sharon, VT 05065	Yes
Judson D. Burnham	PO Box 220, Sharon, VT 05065	Yes
Dick Tracy	PO Box 14, Sharon, VT 05065	Yes
Shirley A. Owen	RR 1, Box 447, Sharon, VT 05065	Yes
Bill Kitchel	RR 1, Box 388E, Sharon, VT 05065	Yes
James Crowley	RFD 1, Box 406, Sharon, Vt. 05065	yes
Jon Binhammer	RR 1, Box 570, Sharon, VT 05065	Yes
<b>MAILED IN COMMENTS</b>		
Harold & Catherine Falk	893 Alpine Drive, Teaneck, NJ 07666-5542	Yes
George T. Diller	11528 SW 8th Ave., Gainesville, FL 32607	Yes

Tom Linell

46 Rip Road Hanover NH 03755

February 27, 1995

FIELD(name)  
FIELD(street)  
FIELD(town)

RE: *Downer Long Range Management Plan*

Dear FIELD(salutation):

At the public meeting for the Downer long range management held on February 13, 1995 at the Sharon Elementary School we expressed our interest in your comment on our proposed management plan. We also said we would contact you in regard to how we would respond to your comment.

Attached is that responsiveness summary which also includes two written comments received prior to the meeting from non-resident abutting owners.

Please read this over and see if we captured the intent of your comment. As you read through this, you will see where some changes to the draft proposal have been made. If you have further comments or are not content with our response, please advise in fifteen days or by March 15, 1995.

Very truly yours,

Roy S. Burton  
State Lands Forester

Attachment

# DOWNER STATE FOREST PUBLIC INPUT

*responses developed by Rick White and Roy Burton*

1. ***Several inconsistencies: 84 acres used for 4H camp - should have small portion set aside for studying older growth, 84 acres for "sole purpose" of 4H camp. How can it be sole if you are cutting timber?***

This actually references the Downer 4H lease which is for the sole purpose of youth camping activities. The State retains the right to manage the land but does so in a manner to cause minimum disruption of camp activities. Current hardwood sale contract does not permit operations on any portion of the sale during periods camp is in session, and tops must be lopped to within four feet of the ground throughout the sale area.

***Will there be any areas that will be unmanaged? Would be interesting to establish old growth. Some sort of research area?***

On Downer there are no plans to set aside areas as unmanaged other than the very limited areas identified as protection due to soils, slopes or wetlands. However, there are numerous natural areas on state and federal lands elsewhere in Vermont and attached is that list.

2. ***In back under wildlife management, need to explain better why softwoods need to be left in stands for wildlife. They are not native species.***

The Vermont Department of Fish and Wildlife guidelines state that mixed forest types containing both softwood and hardwood trees have an increased number of animals species associated with them. Softwoods add species and structural diversity to wildlife habitat. Based on the productive soils found in Downer, we expect the forest to be composed primarily of hardwoods within the next 100 years. In an attempt to keep some areas of mixed softwood-hardwood type, we considered retaining some of the plantation softwoods indefinitely. However, these trees would be of limited value to wildlife because of their very high crown cover, and we now plan to gradually eliminate the plantations over a period of approximately 50 years. Although we do not expect much natural softwood regeneration, wherever softwood does get established in the understory we plan to release it as part of our timber management practices.

3. ***Not enough for interior forest dwellers. Diversifying age classes - could do that through selective cutting, not necessarily through patch clearcutting (enough edge in Sharon for habitat).***

The 700 acres of Downer State Forest is really not suitable for interior forest dweller (species that require remoteness and songbirds that are disrupted by predators from the "edge"). Downer is located close to farm land, has many neighbors, is bisected by a well traveled road system, has a long history of human disturbance, experiences a lot of human activity, and a large portion is covered by plantations. Because Sharon does have a lot of edge habitat, it makes sense to manage the forest for the species which are currently using this habitat.

***Twelve acres worth of clearcut will not come back for many, many years.***

We have decided to use all-aged management for the hardwood on Downer. We believe that individual tree selection does not adequately diversify species or age classes. In order to get the diversity we desire group selection will be used where patch clearcuts up to a maximum of 1.5 acres will be used. (The first draft stated up to three acres). Some species such as white birch and popple will not tolerate shade, while others such as white ash, yellow birch, and white pine will only tolerate moderate amounts of shade. Species such as red maple, sugar maple, beech, and hemlock, respectively are considered tolerant to very tolerant of shade and thus in management schemes with limited openings tend to dominate the stands over long periods of time.

***Grouse: There is enough clearcut because there is edge along road.***

We have dropped our original proposal to put in one grouse management unit. In an effort to maintain a aspen component efforts will continue to regenerate encountered aspen in patch cuts not to exceed 1.5 acres as outlined above.

4. ***Would hate to see Downer without conifers in 100 years. We should be able to work something out with local schools, Corrections.***

At this time we are unable to come up with a feasible recommendation for this suggestion. Some white pine and Norway spruce will become established in the understory of these plantations, efforts through timber sale activity will be made to release this softwood understory, however we do not anticipate extraordinary measures will be used to guarantee success. To bring these seedlings along to the point where they will compete with hardwood, will be very labor intensive and would most likely have to be repeated 2 or 3 times in order to insure some degree of success. Technology in the next 50 years might make this easier. On other areas where pine competes better with hardwood, we have made some successful efforts but only on a very limited basis due mostly to limitations of manpower and finances. The removal of the conifers will be a gradual process - occurring over a 50 year time frame.

5. ***Wetlands should be adequately buffered.  
Logging should protect water quality.  
Protected land should include grades less than 60% steep.***

State wetland rules require a minimum buffer of 50 feet around mapped wetlands (mapped wetlands not included in original plan will be added with minimum 50 foot buffers). In August of 1987 *Acceptable Management Practices for Maintaining Water on Logging Jobs in Vermont* was put into effect and we have complied with these rules. These practices apply during logging and after logging and address truck roads, skid roads, surface water, stream crossings, and log landings. A copy of these regulations are available at our Springfield office.

In our current round of management plans, we have made a concerted effort to identify areas where management activities should be limited or curtailed completely. In 1992 foresters from our department conducted a forest inventory of Downer State Forest to gather information that was used in compiling our long range management plan. During this inventory process, we covered nearly every acre of Downer State Forest and made on-site determinations as to whether logging was possible or practical based on soil types, seasonal high water tables, surface conditions, equipment operability along with per cent slope. Since you brought it to our attention, we have similarly aligned our definition of protection in the classification emphasis section.

6. ***No structures or towers on height of land.***

There are no prominent high elevation points on Downer that would be suitable, nor is the State interested in pursuing this sort of development. It would be fair to say though that we as managers of public lands are not the ultimate decision makers, you are - often through your legislators.

7. ***Pay attention to supervising timber sales/contracts to protect abutters.  
Loggers should know where Downer Forest lines are.  
Clearly mark boundaries.***

These are two areas where we are currently doing a good job. We repaint 13 miles of boundary line a year which puts us on a schedule of remarking all boundary lines over a twelve year period. The lines on Downer were last repainted in 1988, and are scheduled to be repainted in the year 2000.

When a proposed timber sale is put out to bid a public showing is held. All terms of the contract are discussed and all items that are considered possible conflicts are closely looked at, boundary lines being one of these factors.

Timber sales are routinely visited once a week. The state requires a comprehensive contract, with a bond equal to 20% of the total sale value to insure contractual compliance. We are, however, human and don't always see everything that goes on, but we will address problems that arise if brought to our attention in a timely manner.

8. ***Is there any way we can develop hiking/cross-country ski trails?***

We would be happy to work with any local group interested in constructing hiking or cross-country ski trails on Downer State Forest. The first step would be for the group to meet with us to discuss their ideas and proposals. Issues to consider before any trail is approved would include projected trail use, potential impacts on the resource, wildlife habitat, and forest management activities, parking needs, construction and maintenance responsibilities, and trail specifics such as general location, length, type of use, construction standards, starting and ending points, and points of interest along the trail.

***Should have a small parking lot at top of hill - near 4H camp - also on southeastern end.***

We will investigate the possibility of constructing a small parking lot near the entrance to the 4H Camp. This investigation will be coordinated with any planning work conducted on hiking or cross-country ski trail proposals. A parking area in the Annex Block near the Beaver Meadow Road would be much more difficult to arrange because the State only owns a narrow right-of-way at this location.

***Snowmobile trails are important in this area. Downer is all we have in this area.***

We recognize the importance of the snowmobile trails within Downer State Forest, and we plan to continue to cooperate with VAST and the local snowmobile clubs.

***Only concerns about the recreational development regard the "spill over" onto our property of activities such as snowmobiling, camping, and hunting.***

There are very distinct advantages to living up against public lands, i.e. the protection from development or encroachment, the longevity of ownership and being as how they are public lands they are open for hunting, fishing, hiking, etc. Although the state property lines are marked, most people who are enjoying the out-of-doors are not going to stop at the state property line unless you choose to tell them through some sort of posting signs or safety zone signs, like any other landowner who wishes to restrict certain or all activities on their property.

9. ***Can town get more taxes out of property?***

Although the payment in lieu of taxes made by the State on land is less than the amount the town would receive in property taxes, we believe that there are a lot of offsetting benefits to state ownership. However, if a town is concerned about the loss of tax revenues associated with state ownership, then they need to express their concerns to their legislators.

10. ***We should water quality test the pond to see where the nutrients are coming from.***

An inquiry was made of the Water Quality Division of the Vt. Dept. of Environmental Conservation. Plant surveys were conducted in 1988 and 1990 and a species list compiled (attached). Some algae and much surface growth appear to be the natural condition of this pond. It would appear that little water quality information is generally available on lakes under 20 acres in size.

There is a Lay Monitoring Program where volunteers are trained and equipped to conduct periodic water quality sampling on lakes. The principal objectives of the program are to accumulate an accurate water quality database on lakes and to inform lake residents about lake protection. If any local residents are interested in doing some monitoring on the CCC Pond they should contact Amy Picotte Aquatic Biologist at 241-4520.

11. ***The beauty strip is dishonest and doesn't help to educate people about the working forest. I'm for the working forest as long as it is treated with respect. Go ahead and cut those pines/spruces. Don't let them go to waste, especially considering that they are exotic species.***

The first draft contained a proposal to leave blocks of plantation approximately 300 feet wide either side of the state forest highway which would be perpetuated beyond a 30 inch cap. Other discussions, similar in nature but not noted here, held in the first half of this public meeting revolved around our original proposal to establish a cap of 30 inches diameter breast height (4½' above ground) on the plantations and a concern of clearcutting the plantations as they approached these diameters.

We would propose to modify these plans to:

1. delete the timber reserve section
2. delete the cap with no upper limit at which trees would automatically be harvested, but slowly remove the softwood trees through scheduled thinning over the next 50 years.

3. The discussions of the plantations under **TIMBER IMPLEMENTATION** will be revised to read "The goal in these plantations will be to maintain healthy stems and to increase the live crown ratio of the residual trees which can only be achieved if thinning is not delayed beyond crown closure. Red rot (*Fomes pini*) is becoming more of a concern, seemingly in trees which may have been suppressed, and may be cause for complete elimination of some stands.

Attached graph shows the seedlings planted at Downer, indicating that 51% of planted seedlings were native eastern white pine. Today 56% of the existing plantations are white pine.

2/16/95

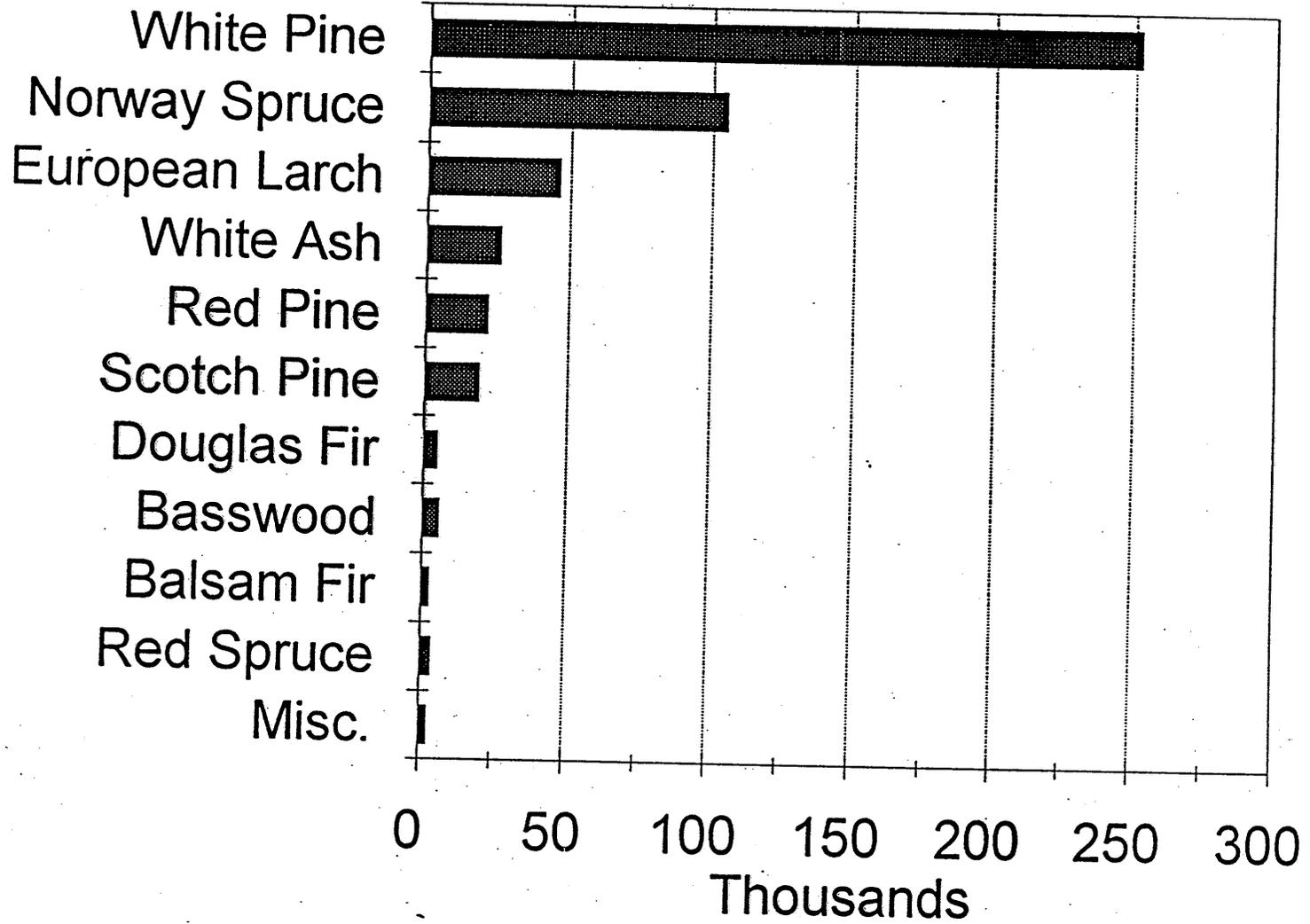
## Plants found in C.C.C. Pond

Page 1

Date	Genus	Species	VH List
7/26/88	Ceratophyllum	demersum	
7/26/88	Chara	sp.	
7/26/88	Equisetum	fluviatile	
7/26/88	Lemna	minor	
7/26/88	Najas	flexilis	
7/26/88	Nuphar	variegata	
7/26/88	Polygonum	amphibium	
7/26/88	Potamogeton	amplifolius	
7/26/88	Potamogeton	gramineus	
7/26/88	Potamogeton	natans	
7/26/88	Potamogeton	obtusifolius	R
7/26/88	Potamogeton	strictifolius	R
7/26/88	Sagittaria	sp.	
7/26/88	Sparganium	sp.	
7/26/88	Utricularia	gibba	R
8/03/90	Chara	sp.	
8/03/90	Najas	sp.	
8/03/90	Nuphar	variegata	
8/03/90	Potamogeton	gramineus	
8/03/90	Potamogeton	natans	
8/03/90	Utricularia	geminiscapa	

# Seedlings Planted-Downer

1910-1933



# CHARLES DOWNER DIED THURSDAY

REMAINS BROUGHT TO SHARON  
FORMER HOME FOR FUNERAL

Once Prominent in Public Life of Vermont, He Had Latterly Lived in Boston and Washington.—Death Resulted at Johns Hopkins from Cancer.—Made Home for Thirty Years With Mr. and Mrs. M. C. Noyes.—Highly Educated, He Was a Lawyer by Profession.—Active in Republican Politics, He Represented Sharon Twice and Windsor County One Term in Senate.—Gave State Forest to Vermont.—Funeral Sunday.

Charles Downer died at the Johns Hopkins hospital, Baltimore, Md., Thursday, June 17th. He had been a patient there since February and his death was caused from cancer.

He was born in Sharon, May 14, 1806, the son of Mr. and Mrs. Chester Downer. His only sister, Mrs. John H. McCarthy, died in 1905. Mr. Downer was never married.



For some years Mr. Downer made his home with Mr. and Mrs. M. C. Noyes, always keeping his room there and coming as he wished. Much of his time used to be spent in Sharon, but of late years it was only for an occasional visit. This home is now occupied by Mr. and Mrs. John W. Gibson (Mrs. Gibson being a daughter of the late Mr. and Mrs. Noyes.) ; Mr. Downer spent much time at the Parker House in Boston and has many friends in that city and also in Washington, D. C., where he has spent several winters and it was from here that he was taken to Baltimore to re-

(92-33)-C1-A-1926

him away. He was always hopeful in his letters to friends and most cheerful to all who called.

Mr. Downer was educated in Boston Latin school, Harvard college, class of 1889, and the Harvard Law school. While in college he was prominent in athletics, especially baseball. At the time of his death he was a member of the Harvard clubs of New York city and of Boston.

Mr. Downer was a Republican. He was a member of the Vermont Legislature as representative in 1886 and as senator in 1902. In 1904 he was again in the House. During this time he was associated with many of the most prominent men of the state. He served on the Republican State committee.

He was a member of Lake Mitchell Trout club and for some years its secretary and treasurer.

His close friend and physician, Dr. Charles L. Swan of Stoughton, Mass., was with him the last week and accompanied the remains to Sharon. Other close friends who were often with him at Baltimore were E. A. Davis, vice-president of the National Shawmut Bank, Boston and Henry S. Wardner of New York city and Windsor.

The remains reached Sharon Saturday morning from Baltimore and were taken to the home of Mr. and Mrs. John W. Gibson. The funeral was held from the Congregational church Sunday afternoon at 2:30, with N. C. Powers of White River Junction in charge. Services were by the local pastor, Rev. P. H. Fisk, assisted by Rev. Mr. Dewart of Baltimore, Md. Mrs. Mark Drown was organist at the services and Mark Drown and Wells Porter acted as ushers. The honorary bearers were Gov. Franklin Billings, Hon. H. T. Baldwin and Hon. F. G. Fleetwood. The pall bearers were F. B. Brown, D. E. Moore, G. B. Drown, W. E. Heath, B. W. Roberts of Sharon, W. A. Thurston of Everett, Mass., J. W. Tyson, E. E. Morrill, H. H. Udall and C. W. Sleeper of Strafford.

The floral tributes were many and beautiful and included a large design of roses from Harvard class of '89.

Friends from away who attended the services besides those already mentioned were Mr. and Mrs. E. A. Davis of Chelsea, Mr. and Mrs. Henry Wardner of Windsor, Mr. and Mrs.

the marital bonds.

There are several more cases to be tried by jury on the criminal list and there are also a number of divorce cases marked for hearing, but it looks at this time as though the work of the term might be cleaned up before the first of July.

Lawrence Bullard of Windsor, Stanley Wilson of Chelsea, Fletcher of Cavendish, Dr. C. L. Swan and son of Stoughton, Mass., Mrs. H. T. Baldwin of Wells River, N. P. Wheeler and F. L. Davis of White River Junction, Mr. and Mrs. A. E. Watson, Mr. and Mrs. William Pingree, Mrs. Lydia Pingree of Hartford, Mr. and Mrs. C. W. Avery of West Lebanon, N. H., J. H. Hewitt, W. O. Belknap, P. S. Belknap, George Harrington, Leon Skinner, Mr. and Mrs. George Brown, Mrs. George Ladd and Miss Minnie Parker of South Royalton, Mr. and Mrs. W. P. Stone, Mr. and Mrs. Stickney, Mrs. Elmer Morrill, Mrs. James Tyson, Miss Tyson, Mrs. William Sanborn, Mrs. H. H. Udall of Strafford.

Interment was in the family lot in Pine Tree cemetery, with the committal service by Rev. Mr. Dewart.

The following remarks by Rev. Pliny H. Fisk at the funeral aptly expressed the regard and appreciation of this community towards Mr. Downer.

"There has passed from a large sphere of useful service in this and other communities a citizen as highly respected as he was widely known, Charles Downer. He leaves behind no near relatives as mourners, but a real sense of loss, if not of bereavement, is felt by all who knew him well.

"A man of considerable fortune he, nevertheless, made legitimate and generous use of his wealth. He donated to the state of Vermont a tract of 800 acres of land in the town of Sharon for experimentation purposes and forest production. He made also other considerable donations to his native town, Sharon, and to individuals, but modestly withheld his benefactions from public notice.

"As a man he gained the respect and esteem of the community and the enmity of few or none. His was a character such as men delight to honor. Such a character is priceless. It cannot be purchased. It must be built day by day upon the solid foundation of strict moral uprightness. To attain such a character is a goal worthy the ambition of all youth. There is but one goal of greater worth,

that of gaining the favor and approval of Almighty God. We may hope that this friend of men, who proved himself worthy of their high approval, gained also the approval of his God, and entered into fellowship with the Most High, who permits us to call Him our Father in Heaven."

1926

MR. DOWNERS ORIGINAL GIFT OF 300 ACRES.

KNOW ALL MEN BY THESE PRESENTS:

That I, Charles Downer, of Sharon in the County of Windsor and State of Vermont, in consideration of One and no/100---Dollars, and other valuable considerations hereinafter mentioned, paid to my full satisfaction by the State of Vermont, by these presents do hereby give, grant, bargain, sell and convey unto the said State of Vermont, forever, certain pieces of land in Sharon in the County of Windsor and State of Vermont, described as follows, viz:

First. All that land conveyed to Chester Downer by Eleazer B. Baldwin by two warranty deeds, one dated December 5, 1885, and recorded in Sharon Land Records in Vol. 16, page 122, and the other dated February 11, 1887, and recorded in said records in Vol. 16, page 149.

Second. All that land conveyed to Chester Downer by warranty deed of Albert M. Holder, dated September 24, 1888, and recorded in Sharon Land Records in Vol. 16, page 189.

Third. All that land conveyed to Chester Downer by Cordelia W. Lane and Charles W. Lane by warranty deed dated June 21, 1889, and recorded in Sharon Land Records in Vol. 17, page 13, except that part of said land conveyed by Frances E. Downer to Albert M. Holder by warranty deed dated August 23, 1894, and recorded in Sharon Land Records in Vol. 17, page 122.

Fourth. All that land conveyed to Frances E. Downer by Albert M. Holder and wife by warranty deed dated August 23, 1894, and recorded in Sharon Land Records in Vol. 17, page 123.

Fifth. All that land decreed to me, the said grantor, by decree of the Court of Chancery, dated December 8, 1903, and recorded in Sharon Land Records in Vol. 18, pages 508 and 509, to which said decree and record thereof, and to all deeds of said land and their records, reference is hereby made for a more particular description of said premises.

Sixth. All that land conveyed to me, the said grantor, by William R. Hayes by warranty deed dated May 1, 1908, and recorded in Sharon Land Records in Vol. 19, page 55.

Meaning hereby to convey my so-called Baldwin Spring Farm and lands owned by me that adjoin the same, there being about three hundred and fifty (350) acres, be the same more or less. And for a more definite description of said lands I hereby refer to all deeds and records thereof mentioned herein and to all prior deeds and their records.

To Have and to Hold said granted premises, with all the privileges and appurtenances thereof, to the said State of Vermont, to its own use and behoof forever, upon condition, nevertheless, that the State of Vermont shall occupy, maintain and use said granted premises as a permanent State Forestry Station or Reservation, where the work of experimental and scientific forestry shall be carried on and where the seedlings of forest trees shall be grown for public distribution; but this condition shall not preclude the said grantee from using said granted premises in connection with the work of forestry for any other purpose, especially

those of agriculture, which said grantee may desire.

The grantor hopes that this grant will be the means of stimulating and of giving permanency to the forestry movement already begun by the State of Vermont, and that the granted premises will be so used that they will be adapted to giving thereon public demonstrations in the work of forestry and of holding thereon a summer school of forestry, if, at some future time, the State of Vermont shall herself, or through her universities, decide to establish such a school.

And it is the wish of the grantor, although not intended as a condition of this grant, that the Fish and Game Commission of the State shall be allowed to operate upon said granted premises in any way that said commission shall see fit for the purpose of ascertaining the best methods of protecting and preserving our native game birds, and for the further purpose of rearing game birds for public distribution, and of carrying on any experimental work connected therewith.

And I hereby for myself and my heirs, executors and administrators covenant with me the said State of Vermont. That I am lawfully seized in fee simple of the granted premises, that they are free from all encumbrances, that I have good right to sell and convey the same as aforesaid, and that I will, and my heirs, executors and administrators shall, warrant and defend the same to the State of Vermont, forever, against the lawful claims and demands of all persons whomsoever.

IN WITNESS WHEREOF, I hereunto set my hand and seal this 21st day of February, A. D. 1910.

Charles Downer

In the presence of

D. E. Parkhurst

W. A. Thurston

STATE OF VERMONT )  
)  
)

Windsor County, - ss. ) At Sharon this 21st day of February A. D. 1910, Charles Downer, to me known personally appeared and acknowledged this instrument by him sealed and subscribed to be his free act and deed.

D. E. Parkhurst  
Notary Public

-----  
Newport, Vermont.  
March 3, 1910.

In accordance with the provisions of Sec. 3 of No. 11 of the Laws of 1908,  
I do hereby accept the foregoing deed for and on behalf of the State of Vermont.

George H. Prouty  
Governor.

MR. DOWNERS GIFT OF 500 ACRES.

KNOW ALL MEN BY THESE PRESENTS:

That I, Charles Downer of Sharon in the County of Windsor and State of Vermont and in consideration of One Dollar paid to my full satisfaction by the STATE OF VERMONT have remised, released, and forever quit-claimed unto the said STATE OF VERMONT all right and title which I, Charles Downer, or my heirs have in, and to certain pieces of land in Sharon in the County of Windsor and State of Vermont, described as follows, viz:

First, all and the same land conveyed to me by deed of R. A. Spafford dated Oct. 20, 1913 and recorded in the land records of Sharon, Vt. in Vol. 19, page 564 to which deed and record thereof and to all prior deeds and records of said land reference is hereby made for a more definite description, said parcel estimated to contain One Hundred (100) acres be the same more or less.

Second, all and the same land conveyed me by deed of R. A. Spafford dated Dec. 6, 1913 and recorded in the land records of Sharon, Vt. in Vol. 19, on pages 566, 567 to which deed and record thereof and to all prior deeds and records thereof reference is hereby made for a more definite description of said premises, said parcel estimated to contain Three Hundred Eighty (380) acres be the same more or less. One Hundred (100) acres of this parcel of land is leased land and is subject to a rental of Nine (\$9.00) Dollars per annum payable to the Town of Sharon, Vt.

All the land herein conveyed is to be held by the STATE OF VERMONT for forestry purposes and is to be held with and in connection with land conveyed by Charles Downer to the STATE OF VERMONT by his deed dated Feb. 21, 1910 and recorded in Sharon land records in Vol. 19, on pages 503, 504, 505, to which deed and record thereof reference is hereby made for a more particular description of said premises.

To Have and to Hold all my right and title in and to quit-claimed premises, with the appurtenances thereof, to the said STATE OF VERMONT and its assigns and successors forever.

Furthermore I the said Charles Downer do for myself and my heirs, executors and administrators covenant with the said STATE OF VERMONT its assigns and successors that from and after ensembling of these presents I the said Charles Downer will have and claim no right, in, or to said quit-claimed premises.

IN WITNESS WHEREOF I hereunto set my hand and seal this 19th day of January, A. D. 1914.

Charles Downer (Seal)

In Presence of

Herbert E. Stone

Frank W. Byrant

COMMONWEALTH OF MASSACHUSETTS  
County of Suffolk

ss On this 19th day of January A. D. 1914.

Before me a Notary Public in and for said, County, Charles Downer, to me known,  
personally appeared and acknowledged this instrument, by him sealed and subscribed,  
to be his free act and deed.

Herbert E. Stone  
NOTARY PUBLIC, COUNTY OF SUFFOLK,

STATE OF MASSACHUSETTS.

My Commission Expires March 30, 1919.

STATE OF VERMONT  
AGENCY OF NATURAL RESOURCES  
DEPARTMENT OF FORESTS, PARKS AND RECREATION

*Jarg Maciejowski*  
JUL 31 1991

LEASE

This LEASE and INDENTURE made by and between the State of Vermont, hereinafter referred to as State, by its Commissioner of the Department of Forests, Parks and Recreation, pursuant to 10 V.S.A., §2606(b), and the Downer 4-H Camp, Inc., a corporation with its principal place of business in the Town of Sharon, County of Windsor, State of Vermont, hereinafter referred to as Lessee;

WITNESSETH THAT, it is mutually agreed by and between the parties hereto as follows:

THAT in consideration of the terms and conditions set forth herein, State does hereby DEMISE, LEASE, and LET unto Lessee, its successors and assigns, for the sole purpose of conducting youth camping programs in accordance with the goals and objectives of the Downer 4-H Camp, Inc., the following parcel of land with all buildings, structures, and improvements thereon, situated within the DOWNER STATE FOREST in the Town of Sharon, County of Windsor, State of Vermont, described as follows:

An irregularly shaped parcel of land containing eighty-four (84) acres, more or less, bounded on the south by the town road through the Downer State Forest from Sharon to South Strafford, on the west by the Forest road from the "five corners" past the site of the "White House" to the forest boundary, more clearly depicted on the map attached hereto and made a part hereof.

NOW THEREFORE, in consideration of the mutual covenants contained herein, the parties hereto agree as follows:

THAT the lease of the described parcels shall be subject to the following terms and conditions:

1. a) The Lessee shall have and hold the premises above described with all the appurtenances thereof and the right to enforce the covenants of the State herein contained for and during a term to commence on May 31, 1991 and terminate May 30, 2001, however, it may be terminated with cause at any time upon ninety (90) days' written notice by either the Lessee or the State.

b) The Lessee is hereby given and granted an option to extend the terms and provisions hereof for four (4) further periods of ten (10) years, making in all an original term of ten (10) years, plus the option for four (4) additional extensions of the same length of time for a total of fifty (50) years, ending May 30, 2041. Lessee must exercise option at the end of each ten (10) year term giving the State notice of its intent, in writing, not less than ninety (90) days and not more than one hundred twenty (120) days prior to the expiration of the current term.

2. THAT Lessee covenants and agrees with the State that Lessee shall pay or cause to be paid to the State as rental the sum of Two Hundred Fifty Dollars (\$250.00) payable annually on or before September 1st of each year. The State also reserves the right to renegotiate the rental rates at the end of each 10-year term.

3. THAT Lessee furthers covenants and agrees to hold the State harmless from any and every claim, suit or payment arising from the use, maintenance or operation of the herein demised property. This covenant shall not apply to claims, suits or payments arising from the State's occupancy or use of any buildings or facilities.

4. Lessee shall:

a) use and occupy said premises in a careful and proper manner and not use said premises for any unlawful purpose;

b) make no alterations or additions in or to said premises without prior written consent of the State;

c) maintain the grounds and buildings, structures, and improvements thereon, either presently existing or to be erected, constructed or installed in a condition satisfactory to the State;

d) permit the State to enter upon said premises at all reasonable times to examine the condition of the same.

e) save the State harmless for all damages legally recoverable against the State by any person or persons (except employees or officials of the State and their invitees) who may use the area as part of these stipulations, and specifically save the State of Vermont free from any such claim;

f) have in force public liability insurance covering property damage in the amount of (\$10,000.00) Ten Thousand Dollars and damages to persons in the minimum amount of Five Hundred Thousand Dollars (\$500,000.00) in the event of death or injury to one individual and the minimum amount of Five Hundred Thousand Dollars (\$500,000.00) in the event of death or injury to more than one individual. The coverage shall extend to bodily injury or death arising out of the Lessee's activities under this license, including, but not limited to, the occupancy or use of the land and the construction, maintenance, and operation of the facilities or equipment authorized by this license. Such insurance shall also name the State of Vermont as a co-insured. The Lessee shall provide the State with an authenticated copy of its insurance policy prior to issuance of this lease, and such copy shall be attached to this license and become a part thereof.

g) obtain at its own expense, all permits or license necessary for the permitted activity.

5) In no event shall the Lessee be responsible for major repairs to or the rebuilding of any buildings, structures or improvements when the damage necessitating said major repairs or said rebuilding was not caused by negligence attributable to the Lessee, however, in such an event, Lessee shall, with the approval of the State, demolish such damaged buildings, structures, or improvements and reclaim the site.

6. a) Any and all new buildings, structures, or improvements erected, constructed, or installed by Lessee on the demised premises and any and all alterations or changes made to the demised premises except in either instance such improvements as constitute trade fixtures under the law of the State of Vermont shall be surrendered with the demised premises as a part thereof at the expiration or termination of this lease. Lessee may remove the aforementioned trade fixtures from the demised premises prior to the expiration or termination of this lease or within sixty (60) days thereafter. Such removal shall be effected so as to disturb or damage the demised premises as little as possible, and after such removal the Lessee shall, at its own expense, restore said land to its original condition to the greatest extent reasonably possible.

b) Lessee shall have the right to remove all personal property owned by it from the demised premises prior to the expiration or termination of this lease or within sixty (60) days thereafter.

7. a) The State reserves the right to use any of the buildings for any necessary period under terms and at such times as are mutually agreeable between the State and Lessee.

b) State reserves the right to approve the selection of any person who might be engaged by Lessee as a permanent caretaker to live on the demised premises, but in no event shall this clause be construed to impose a duty on Lessee to engage such caretaker.

8. a) This lease is not assignable without prior written permission of the State, however, such approval shall not be unreasonably withheld.

b) Lessee shall not sublease or otherwise allow the use of the demised premises, without prior written permission of the State.

9. This lease does not prohibit the use by the public of the CCC pond, so-called, for fishing, provided that public access to the pond shall be limited to the access area built and maintained by the Department of Fish and Wildlife on the easterly side of said pond. Lessee shall have the absolute right to restrict, prohibit, or control any and all vehicular and other traffic over the demised premises for access to said pond.

10. The state reserves the right of ingress and egress to inspect the demised premises at all times.

PROVIDED ALWAYS that if it should so happen that the said Lessee shall, at any time, fail to perform any of the stipulations of this agreement on its part to be done and performed, then and in that event, it shall be lawful for the State or its agents or assigns forthwith to reenter upon and repossess the premises hereby leased, anything to the contrary thereof notwithstanding.

The State Department of Forests, Parks and Recreation is prohibited by 10 V.S.A., §2606(b), from granting leases without the prior approval of the General Assembly. Such approval has not been granted as of the date hereof. It is understood, therefore, that notwithstanding the terms and conditions set forth herein relating to the term or period of time, that unless or until legislative approval is granted, this instrument shall be construed as a permit or license only, revokable at the pleasure of the State at any time. Lessee accepts this instrument subject to this provision, and all expenditures or other actions or steps taken by Lessee in reliance on or expectation of the continuity of occupancy

shall be entirely at its own risk. It is further understood, however, that if and when legislative approval is granted, this instrument shall ripen into a full binding lease with the term commencing as set forth above.

IN WITNESS WHEREOF, the parties have hereunto signed these present:

IN PRESENCE OF:

Jean A. Neill  
\_\_\_\_\_

STATE OF VERMONT  
DEPT. OF FOREST, PARKS  
AND RECREATION

Conrad M. Motyka  
Conrad Motyka, Acting Commissioner

IN PRESENCE OF:

DJP Parlow  
Carl P. Jewett

DOWNER 4-H CAMP, INC.

Donald Whaples  
~~President~~ Vice Chair

STATE OF VERMONT )  
WASHINGTON COUNTY ) §

At Waterbury, in said County, this 29th day of July A.D., 1991, personally appeared Conrad Motyka, ~~Acting~~ Commissioner of the Department of Forests, Parks and Recreation, and acknowledged the foregoing instrument by him subscribed to be his free act and deed and the free act and deed of the State of Vermont.

Before me,

Jean A. Neill  
Notary Public

STATE OF VERMONT )  
Washington COUNTY) §

At Barre, Vermont, in said County, this 25th day of July A.D., 1991, personally appeared Donald Whaples, duly authorized agent of Downer 4-H Camp, Inc., and acknowledged the foregoing instrument by him subscribed to be his free act and deed and the free act and deed of Downer 4-H Camp, Inc.

Before me,

DJP Parlow  
Notary Public

APPROVED AS TO FORM,

J. J. Maloney  
Attorney General's Office





TREASURY DEPARTMENT

IN REPLY ADDRESS  
BRANCH OF SUPPLY  
AND REFER TO FILE NO.

PROCUREMENT DIVISION

December 2, 1937

WASHINGTON

TCP-899  
SPC-1785

The Director,  
Civilian Conservation Corps,  
New Post Office Department Bldg.,  
Washington, D. C.

Report: 10/27/37

Requisition: 7/17/37

Sir:

Reference is made to your letter of October 27, 1937, reporting surplus to the needs of the Civilian Conservation Corps property located on public land at CCC Camp 8-56, Sharon, in Windsor County, Vermont.

Inasmuch as it has been determined by the Procurement Division that this property, described as follows, is not desired by any Federal agency, it is hereby transferred to the State of Vermont, Department of Conservation and Development, in accordance with the recommendation of the Department of Agriculture, Forest Service, in a letter to you dated October 25, 1937, and of your office October 27, 1937.

4 Barracks Buildings	20' x 100'
1 Officers etc.	20' x 70'
Quarters Bldgs.	
1 Infirmary Bldg.	20' x 40'
1 Recreational Bldg.	20' x 100'
1 Mess Hall Bldg.	20' x 123' with 20' x 20' Ell
1 Lavatory Bldg.	20' x 100'
1 Latrine Bldg.	8' x 20'
1 Garage Bldg.	2 Rooms, 11 stall parking spaces - 6 Army, 5 Forestry
1 Reservoir	15' x 26' x 10'-6" Deep at dam
1 Root Cellar	18' x 16'
1 Chlorinator Bldg.	7' x 11'
1 Garbage Stand	10'-6" x 3' x 2'-6" 5 Pipe racks
1 Incinerator	4' x 8' x 4'
1 Incinerator	4' x 4' x 5'
1 Barrack Bldg.	20' x 70'

(Value - \$16,482.61)

December 2, 1937

The Director,  
Civilian Conservation Corps

TCP-899  
SPC-1785

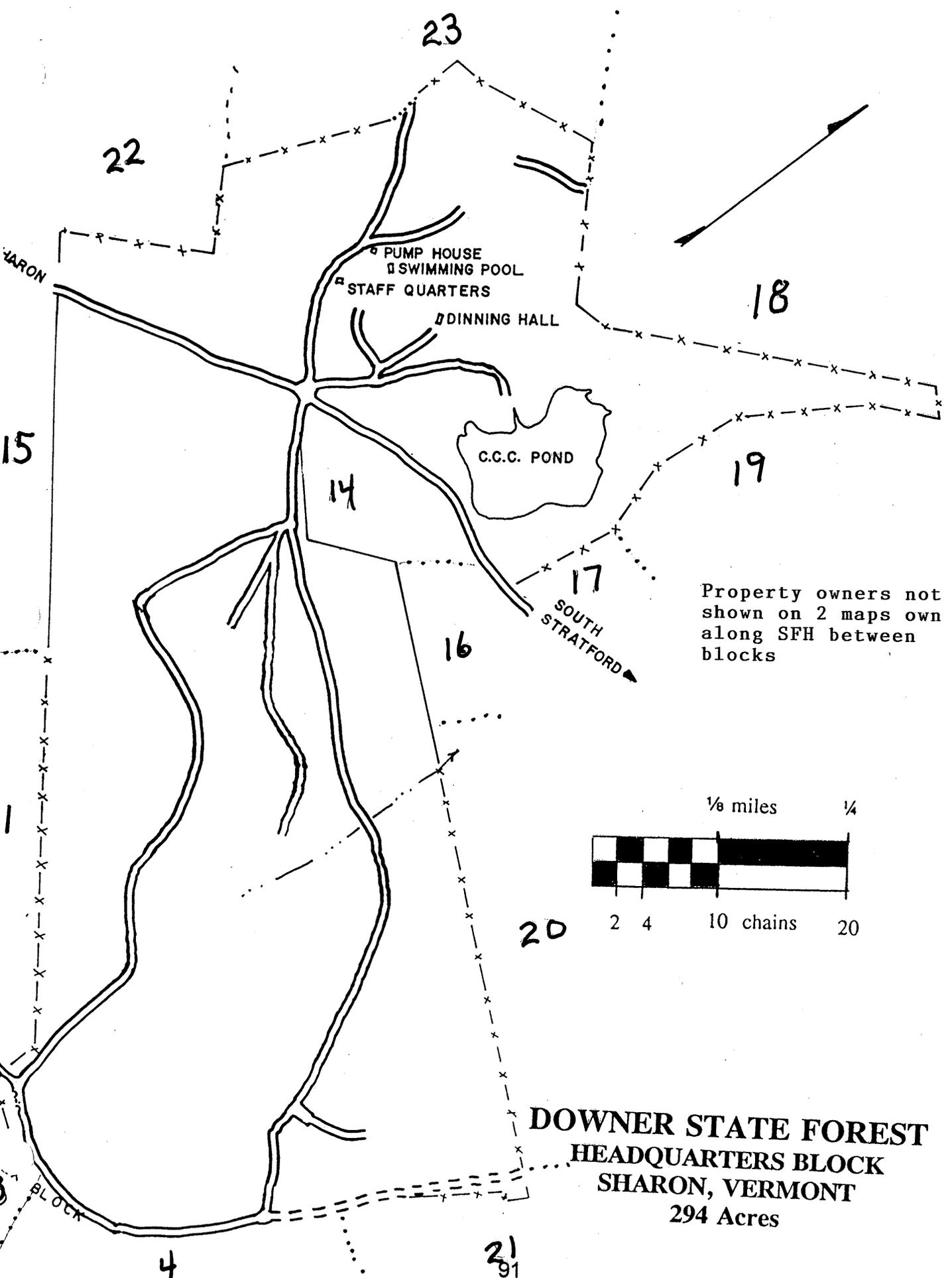
There are not included in this transfer any operating accessories or equipment now on the premises which may be required for further CCC use at other locations. The Department of Conservation and Development will arrange for taking delivery of the buildings listed above by communicating with the CCC technical and custodial agency, the Department of Agriculture, Forest Service.

Very truly yours,

W. N. Rehlaender,  
Administrative Assistant.

Copy to:

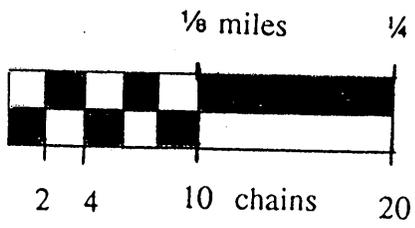
Governor of Vermont  
Department of Conservation  
and Development  
Department of Agriculture,  
Forest Service



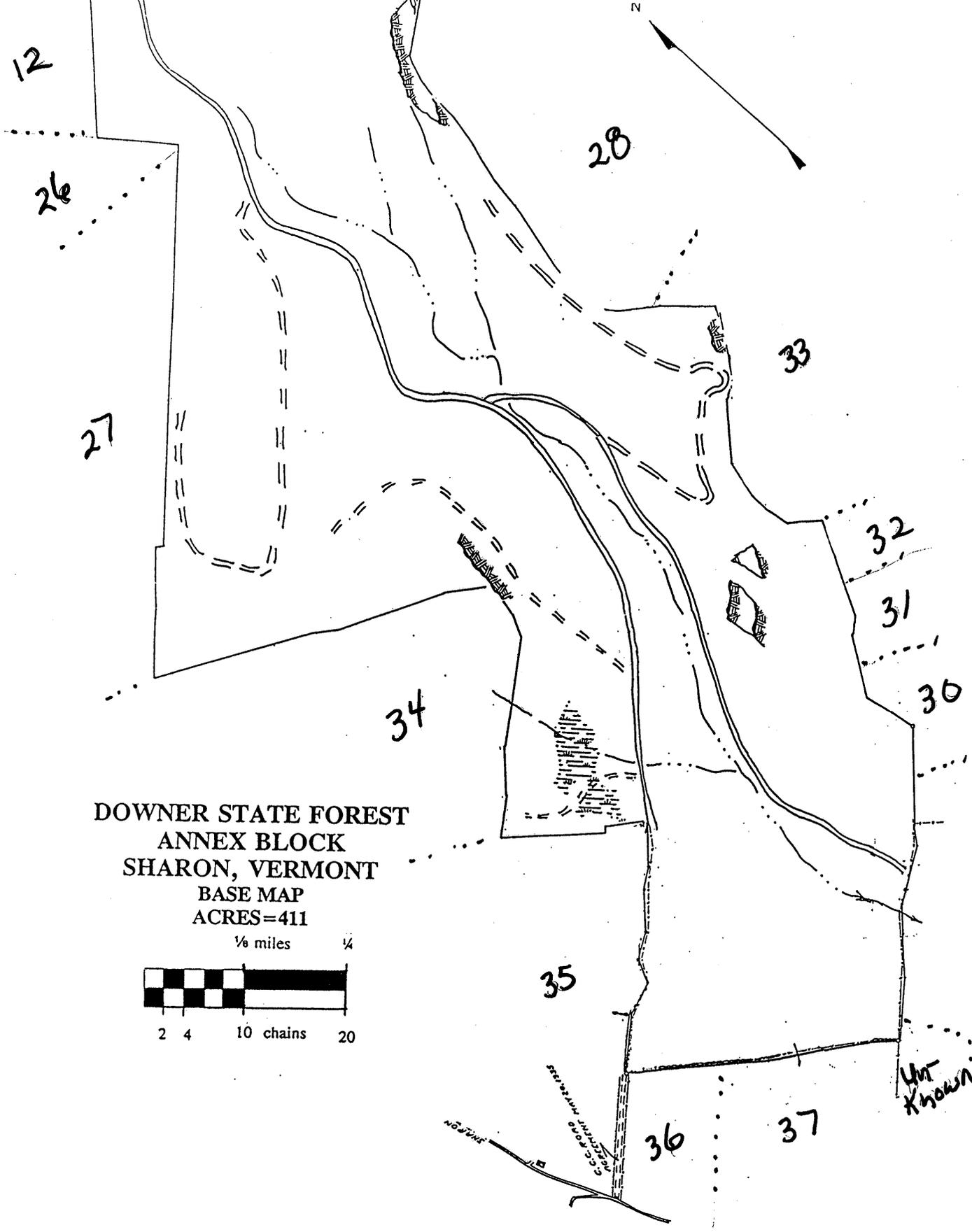
PUMP HOUSE  
 SWIMMING POOL  
 STAFF QUARTERS  
 DINNING HALL

C.C.C. POND

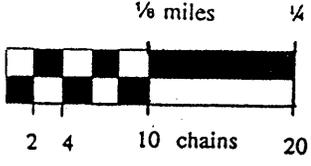
Property owners not shown on 2 maps own along SFH between blocks



**DOWNER STATE FOREST  
 HEADQUARTERS BLOCK  
 SHARON, VERMONT  
 294 Acres**



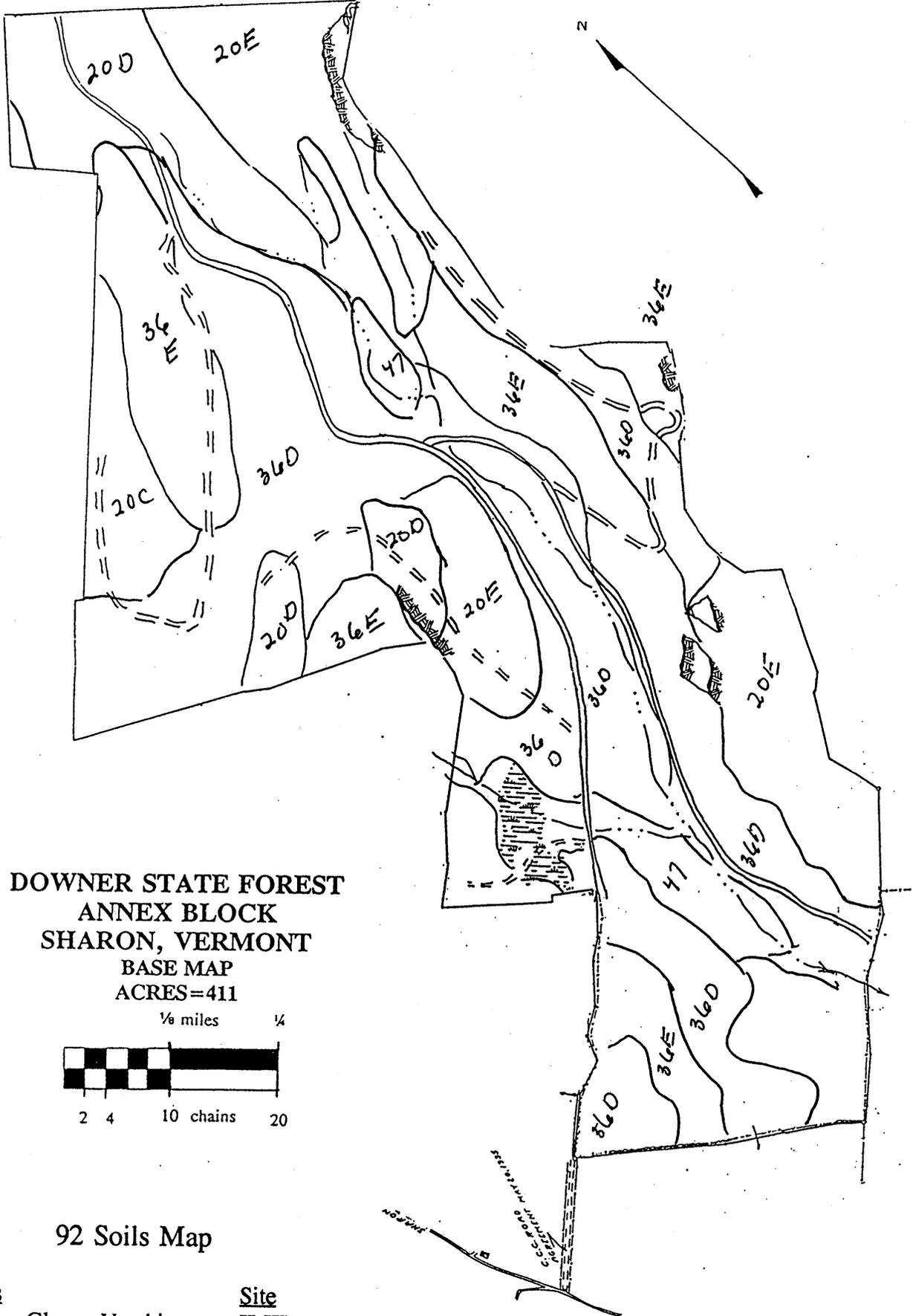
DOWNER STATE FOREST  
 ANNEX BLOCK  
 SHARON, VERMONT  
 BASE MAP  
 ACRES=411



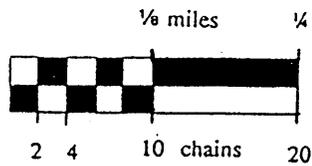
# LANDOWNERS ABUTTING DOWNER STATE FOREST

- |    |   |    |   |
|----|---|----|---|
| 1  | Thornton, Bert & Cecile<br>RR 1, Box 545<br>Sharon, VT 05065  | 12 | Root, Susan<br>Kitchel, William<br>RR 1, Box 388E<br>Sharon, VT 05065               |
| 2  | Barrett, Paul and Mary<br>P.O. Box 25<br>Sharon, VT 05065   | 13 | George, Daniel<br>P.O. Box 565<br>Wilder, VT 05088                                  |
| 3  | Bass, Jack and Stephanie<br>4360F North Kellen Drive<br>Mt. Hume AFB, ID 83648  | 14 | Dion, Robert T. and Joyce R.<br>HC 65, Box 91<br>Sharon, VT 05065                   |
| 4  | Day, Gordon & Charles<br>RR 1, Box 301<br>Sharon, VT 05065  | 15 | Sears, John and Janet<br>HCR 65, Box 94<br>Sharon, VT 05065                         |
| 5  | Donahue, Sarah<br>P.O. Box 122<br>Sharon, VT 05065  | 16 | Wilcox, William and Jill<br>P.O. Box 178<br>Sharon, VT 05065                        |
| 6  | Barton, Douglas and Judy<br>RFD 3, Box 300<br>Newport, NH 03773   | 17 | Longstaff, John and Laurel<br>404 Longleaf Drive<br>Chapel Hill, NC 27514           |
| 7  | Barr, Robert A.<br>6 Bryan Street<br>Littleton, NH 03561  | 18 | Lent, Cardine and Harlow<br>Box 115<br>South Strafford, VT 05070                    |
| 8  | Joyce, Robert E. Jr.<br>245 Scribner Road<br>Northfield, NH 03276   | 19 | Longstaff, Carol<br>Downer Forest Road<br>Sharon, VT 05065                          |
| 9  | Reilly, Raymond and Carolyn<br>997 River Road, Box 505<br>Agawam, MA 01001<br><u>(sold at tax sale to Susan Root)</u> | 20 | Burnham, Judson and Carol<br>P.O. Box 220<br>Sharon, VT 05065                       |
| 10 | Smith, Edward and Anna<br>P.O. Box 98, Main Street<br>Fiskdale, MA 01058  | 21 | Butterworth, Mabel<br>HCR 65, Box 97<br>South Strafford, VT 05070                   |
| 11 | Root, Richard II<br>RD 2, Box 226C<br>Chester, VT 05143   | 22 | Rodewald, Steven and Brenda<br>Revocable Trust<br>RR 1, Box 272<br>Sharon, VT 05065 |

- |    |  |    |   |
|----|--|----|---|
| 23 | Aldrich, Robert and Denise<br>24 Charles Street<br>Penacook, NH 03303                    | 34 | Johnson, Frederick and Ethelyn<br>Johnson, Richard W.<br>Canaan, VT 05903 |
| 24 | Gagliardone, Steven and Carol<br>P.O. Box 247<br>Thetford Center, VT 05075               | 35 | Falk, Harold and Catherine<br>893 Alpine Drive<br>Teaneck, NJ 07666       |
| 25 | Swett, Steven C.<br>RR 2, Box 222<br>Norwich, VT 05055                                   | 36 | Slater, Rickie and Joanne<br>RR 1, Box 404<br>Sharon, VT 05065            |
| 26 | Webster, Kenneth<br>Box 160<br>Randolph, VT 05060  | 37 | Crowley, Belle<br>RR 1, Box 405<br>Sharon, VT 05065                       |
| 27 | Diller, George and Anne Maria<br>11528 SW 8th Ave.<br>Gainesville, FL 32601              | 38 | Prince, Sandra<br>3036 42 Ave. West.<br>Seattle, WA 98199                 |
| 28 | Adams, Bradford and Charlotte<br>P.O. Box 603<br>315 Millbury Ave.<br>Millbury, MA 01527 |    |   |
| 29 | Wallis, Ian and Teri<br>RR 1, Box 409<br>Sharon, VT 05065                                |    |   |
| 30 | Owen, Arthur and Shirley<br>RFD 1, Box 447<br>Sharon, VT 05065                           |    |   |
| 31 | Simonds, Trustee Albert<br>407 Village Lane<br>Winter Park, FL 32792                     |    |   |
| 32 | Simonds, Todd and Lauren<br>102 Lake Street<br>Florence, MA 21797                        |    |   |
| 33 | Adams, Bertis Jr.<br>49 Warren Street<br>Westboro, MA 01581                              |    |   |

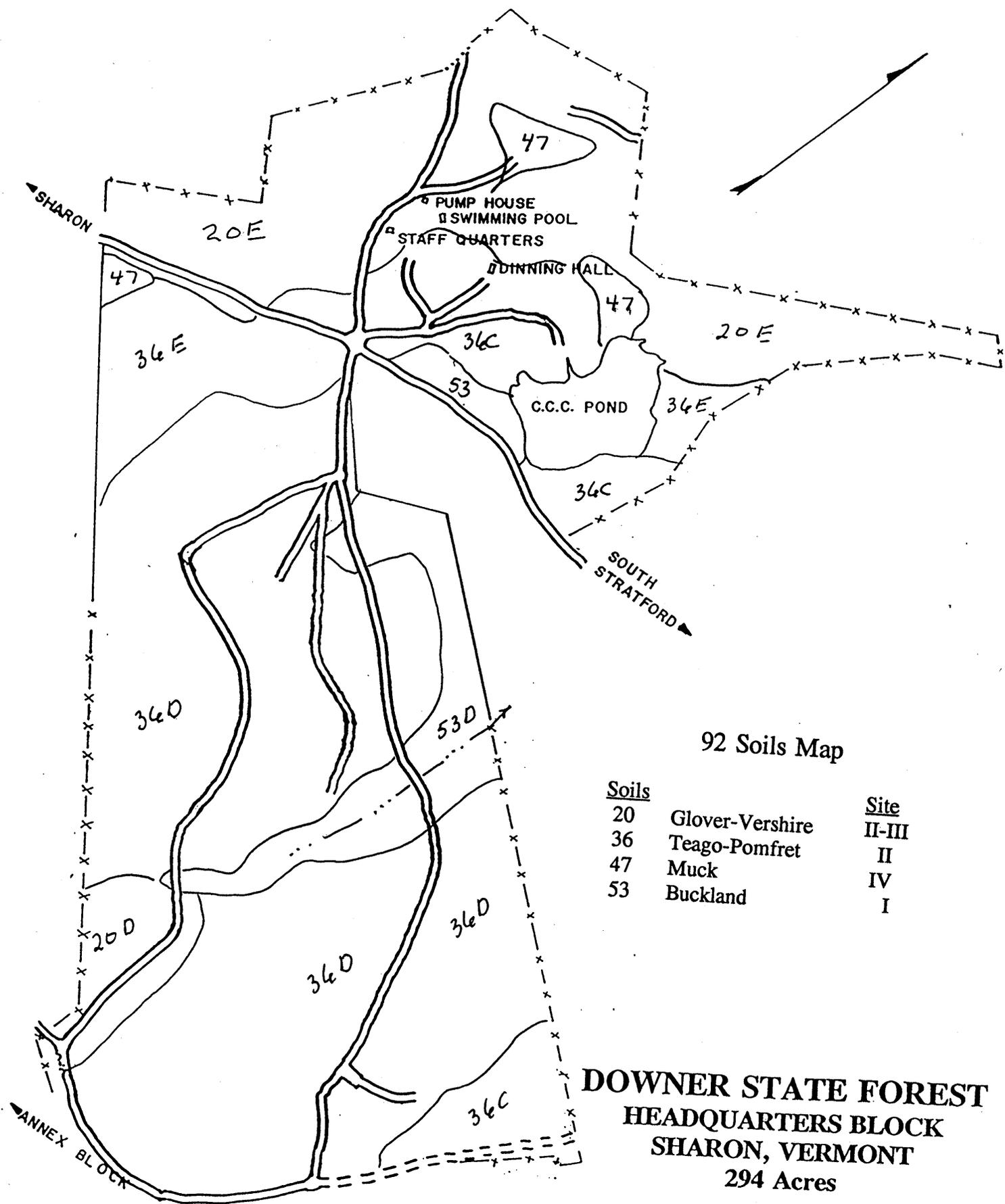


**DOWNER STATE FOREST  
ANNEX BLOCK  
SHARON, VERMONT  
BASE MAP  
ACRES=411**

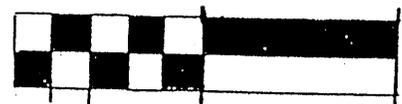


**92 Soils Map**

<u>Soils</u>		<u>Site</u>
20	Glover-Vershire	II-III
36	Teago-Pomfret	II
47	Muck	IV



1/8 miles 1/4

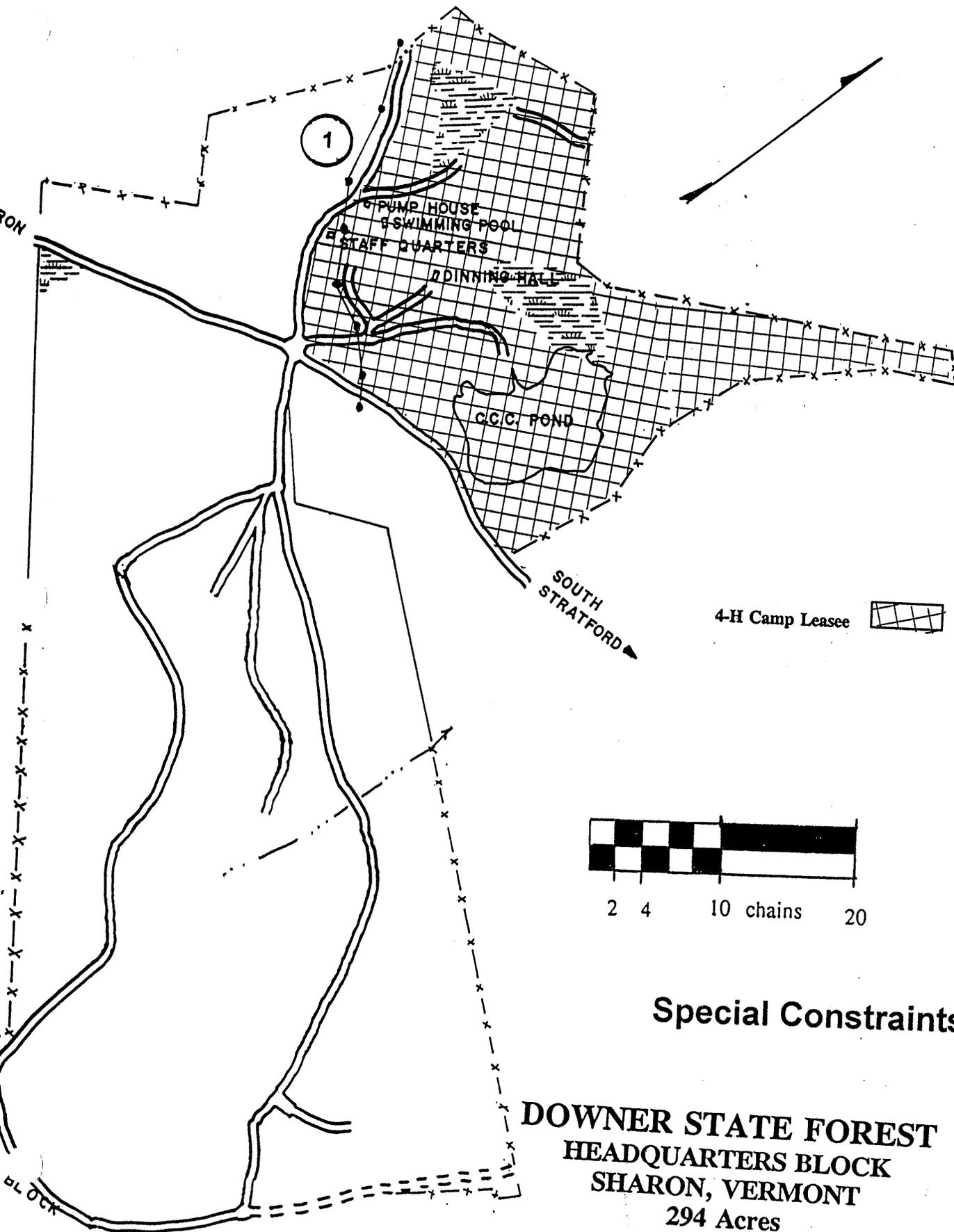


2 4 10 chains 20

## **Special Constraints**

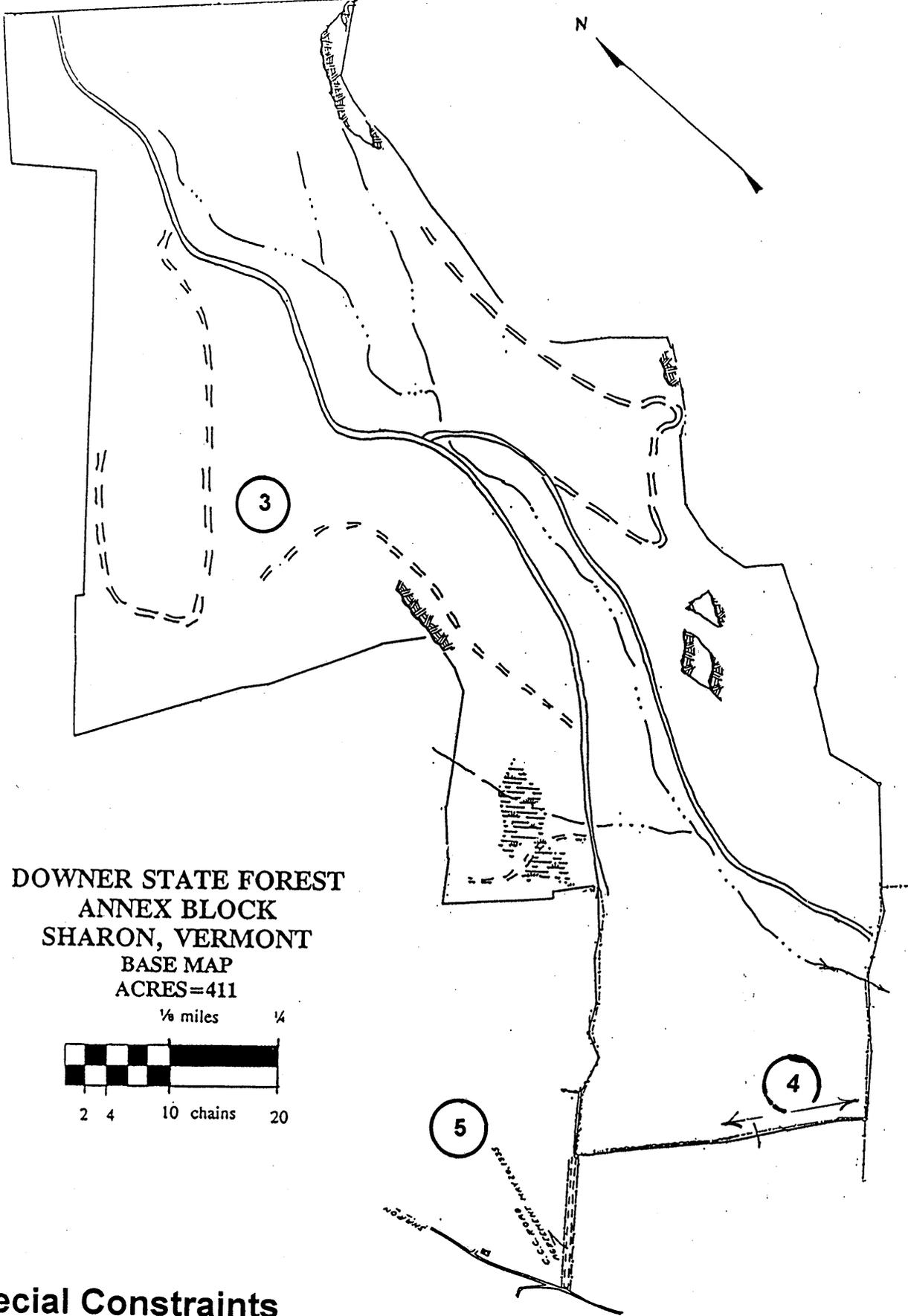
### **DOWNER STATE FOREST**

- ① Central Vermont Public Service Corporation lease agreement for 30 foot R.O.W. power line to supply 4H Camp buildings and adjacent landowners.
- ② The Downer 4H Camp, Inc. leases 84 acres from the State for holding youth camping programs. The 4H Camp Inc. has the right to alter or demolish any buildings on the leased acreage. Costs attached to repair and maintenance of the CCC dam must be borne by the 4H Camp, Inc. The State is co-insurer of coverage for liability on the leased acreage. Public access to the CCC Pond is permitted via access owned and maintained by the Department of Fish and Wildlife.
- ③ There is a 100 acre Glebe lot in the Annex Block.
- ④ Fence agreement along the Annex Block with Crowley for 13.75 chains.
- ⑤ Right-of-Way granted to the State of Vermont by George May, date May 20, 1935.
- ⑥ Act 250 permits granted to the 4H camp numbers #3WO253 and 3WO253-1.



**Special Constraints**

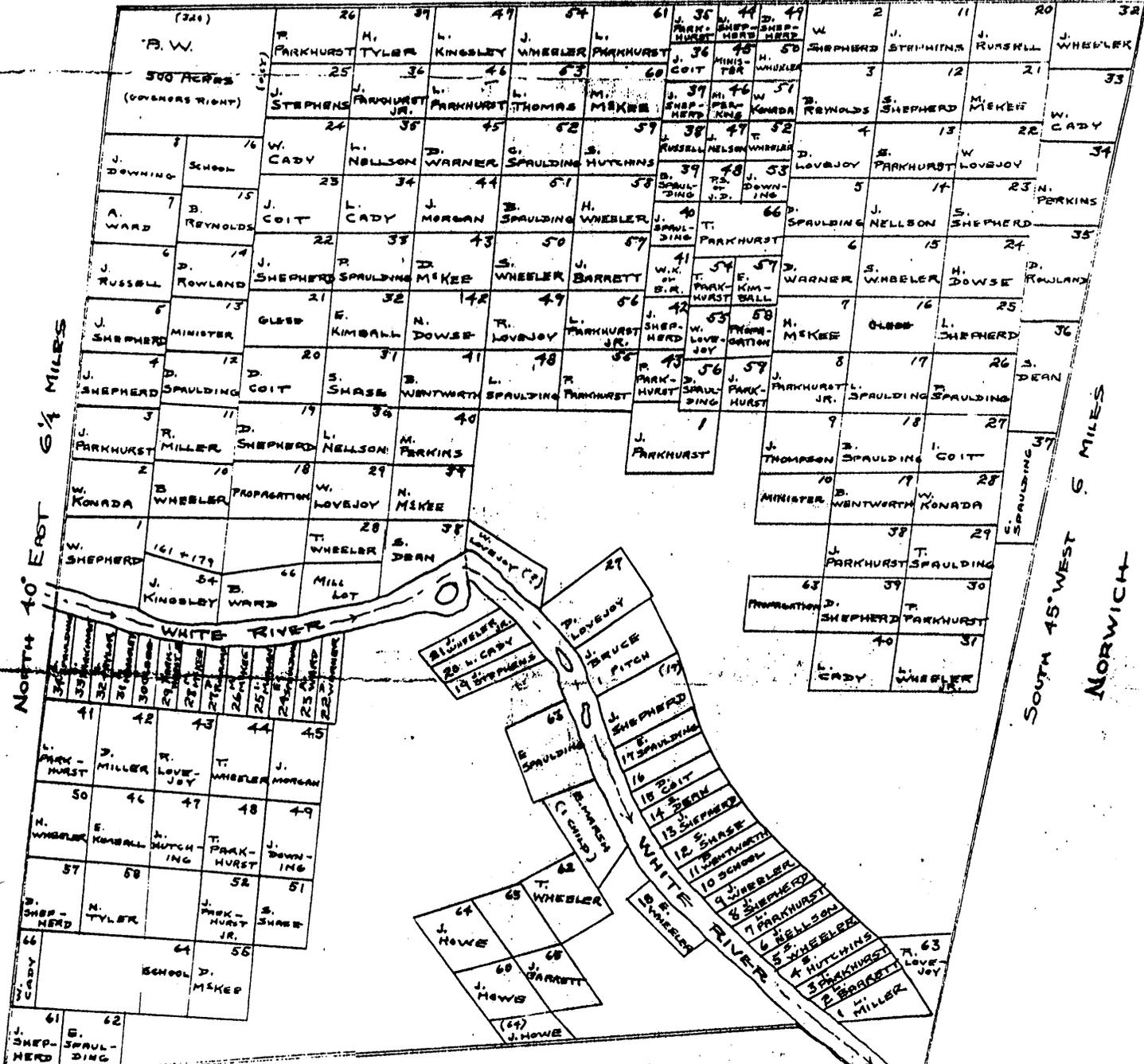
**DOWNER STATE FOREST  
 HEADQUARTERS BLOCK  
 SHARON, VERMONT  
 294 Acres**



## Special Constraints

STRAFFORD

SOUTH 57° EAST 6 MILES



TRACED FROM THE ORIGINAL TOWN LOTTING MAP IN THE OFFICE OF THE TOWN CLERK, SHARON, VT.

~~UNITED STATES MAPS ARE THE NAMES OF THE ORIGINAL PROPRIETORS,~~

TRACED BY N. GARDNER, 2/21/1955 VT FOREST SERVICE

**SHARON**  
**VT.**

DOWNER STATE FOREST

Local Volume Tables for White Pine Plantations in Sharon, Vermont, aged 65-68, Soils are mostly Colrain, Pomfret and Woodstock all fine sandy loam, average elevation is 1580'.

The average form class is 86.6. Information is based on 77 sampled measured from tree length logs cut in 1977-78 timber sale.

Measurements by:

Myron E. Smith &  
Steve Sinclair

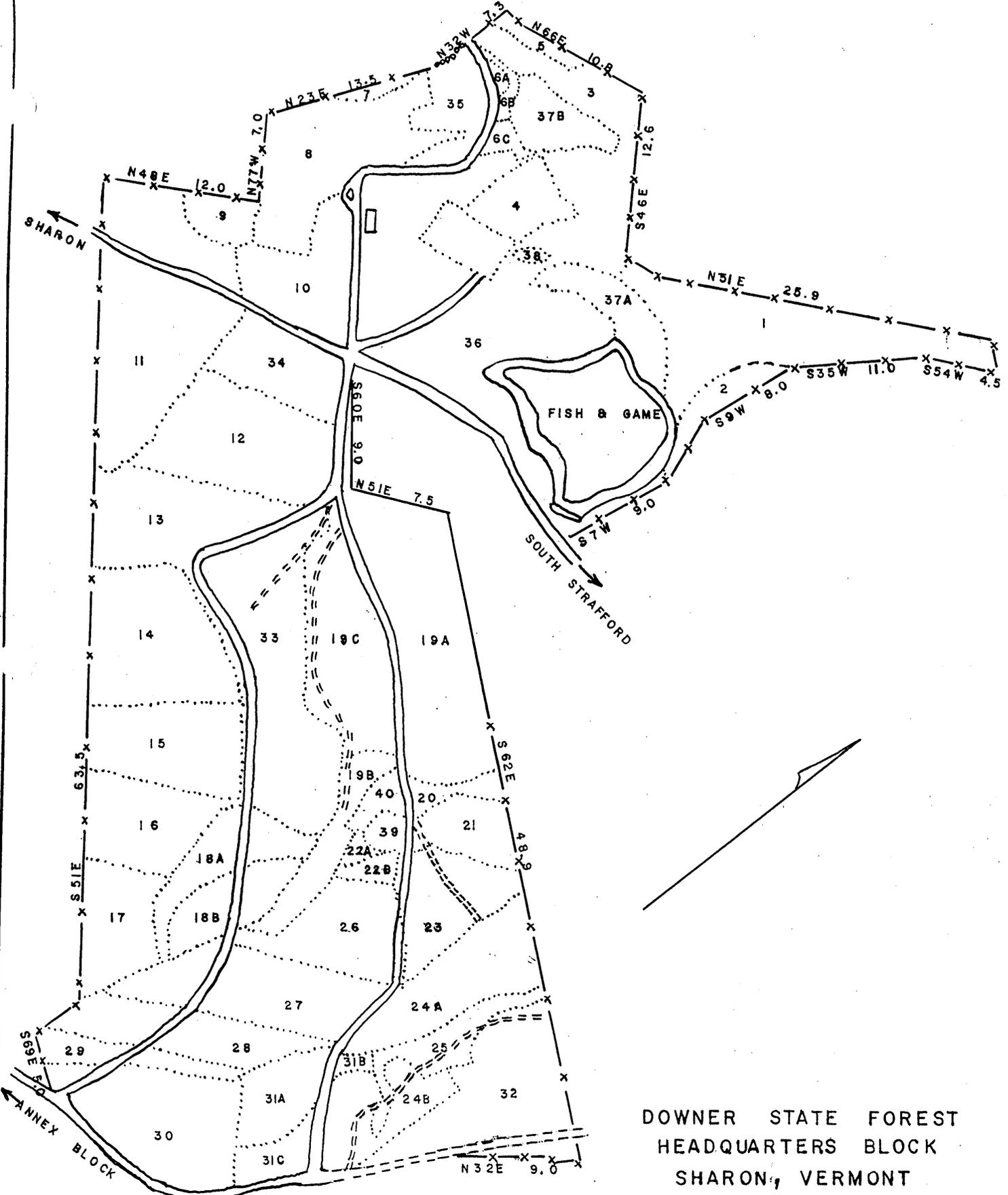
FC-86 VOLUME TABLE INTERNATIONAL 1/4 INCH RULE

VOLUME BY NUMBER OF USABLE 16-FOOT LOGS IN BOARD FEET

	1	1½	2	2½	3	3½	4	4½	5	5½	6
10	46	61	76	86	97						
12	69	92	116	134	153	165	177				
14	97	132	166	194	222	241	260				
16	131	178	226	266	307	338	369				
18	169	232	294	348	401	442	484				
20	211	291	371	439	507	560	613	656	698		
22	257	356	455	540	625	692	760	818	876		
24	308	428	548	652	757	836	916	994	1,071		
26	367	512	657	783	909	1,010	1,012	1,207	1,302		
28	428	598	769	920	1,070	1,188	1,305	1,421	1,537	1,640	1,743
30	493	690	888	1,062	1,237	1,374	1,511	1,651	1,791	1,924	2,057
32	563	790	1,017	1,221	1,425	1,588	1,751	1,906	2,060	2,222	2,384
34	637	896	1,154	1,388	1,622	1,808	1,995	2,173	2,351	2,544	2,737
36	721	1,015	1,314	1,582	1,850	2,064	2,279	2,487	2,695	2,906	3,118

VOLUME BY DIAMETER CLASS FOR AVERAGE HEIGHTS

DBH	Board Feet	Average Height in 16' Logs	# Samples
10	86	2.5	8
12	157	3.2	25
14	240	3.47	20
16	344	3.6	17
18	Insufficient Data		

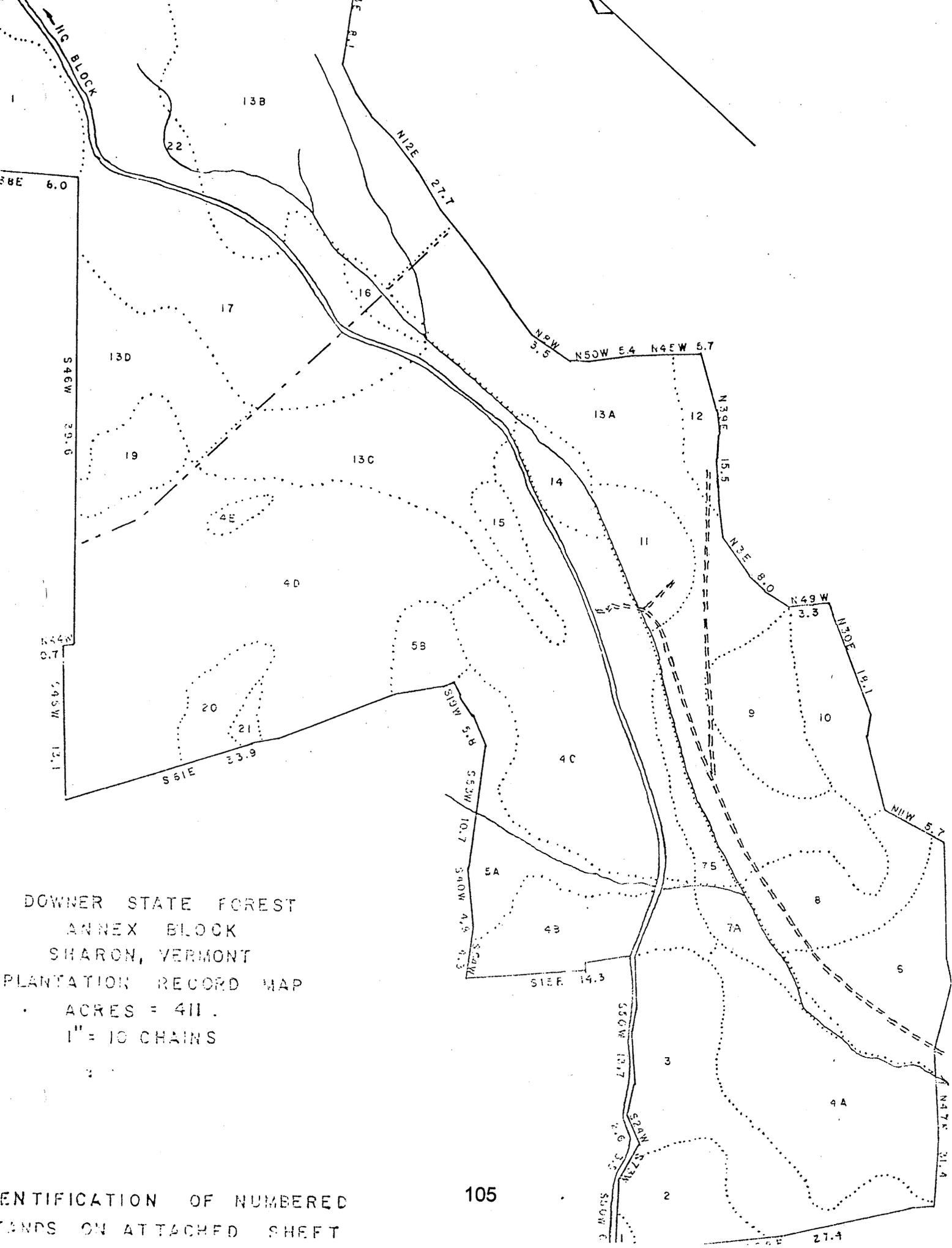


DOWNER STATE FOREST  
 HEADQUARTERS BLOCK  
 SHARON, VERMONT  
 ACRES = 294.  
 1" = 10 CHAINS  
 PLANTATION RECORD MAP

IDENTIFICATION OF NUMBERED  
 STANDS ON ATTACHED SHEET 103

DOWNER STATE FOREST  
Headquarters Block

<u>#</u>	<u>SPECIES</u>	<u>ACRES</u>	<u>YEAR</u>
1	Northern Hardwoods	13.35	
2	White Pine	1.6	1909
3	Northern Hardwoods	9.4	
4	White Pine	1.95	1909
5	Black Locust	2.2	1911-1912
6a	Australian Pine	.3	1917
6b	Norway Spruce	.6	1933
6c	Australian Pine	.4	1917
7	Black Locust	0.6	1911
8	Northern Hardwoods	13.7	
9	Scotch Pine-White Pine	2.2	1913
10	Northern Hardwoods	7.3	
11	Northern Hardwoods	12.5	
12	Scotch Pine-Norway Spruce	9.6	1912-1913
13	White Pine	7.4	1911-1912
14	White Pine	8.9	1913
15	Red Pine-White Pine	7.25	1911-1912
16	White Pine	5.15	1913
17	Scotch Pine-White Pine	6.3	1911
18a	Young Hardwoods	5.0	
18b	Mature Hardwoods	4.38	
19a	Northern Hardwoods	15.8	
19b	Northern Hardwoods	5.0	
19c	Northern Hardwoods	8.9	
20	Norway Spruce	1.4	1910
21	Norway Spruce-White Pine	2.4	1911
22a	White Pine	1.2	1913
22b	White Pine	1.1	1913
23	Eastern Larch-Norway Spruce	4.7	1913-1914
24a	Eastern Larch	8.8	1923
24b	Eastern Larch	7.1	1921
25	Northern Hardwoods	2.5	
26	White Pine-Red Fir	6.0	1911
27	Scotch Pine	8.25	1910
28	Red Pine	6.7	1911
29	Red Pine	5.0	1910
30	White Pine	8.75	1910
31a	White Ash-Norway Spruce	4.9	1916
31b	White Ash-Norway Spruce	1.0	1914
31c	White Ash-Norway Spruce	2.4	1916
32	Norway Spruce	8.5	1927
33	Norway Spruce	20.0	1927
34	Norway Spruce	5.0	1927
35	Norway Spruce-Red Pine	2.8	1933
36	Campsite and Fishing Area	34.8	
37a	Swamp	4.25	
37b	Swamp	4.38	
38	Red Pine	.25	1935
	Total	<u>302.0</u>	



DOWNER STATE FOREST  
 ANNEX BLOCK  
 SHARON, VERMONT  
 PLANTATION RECORD MAP  
 ACRES = 411.  
 1" = 10 CHAINS

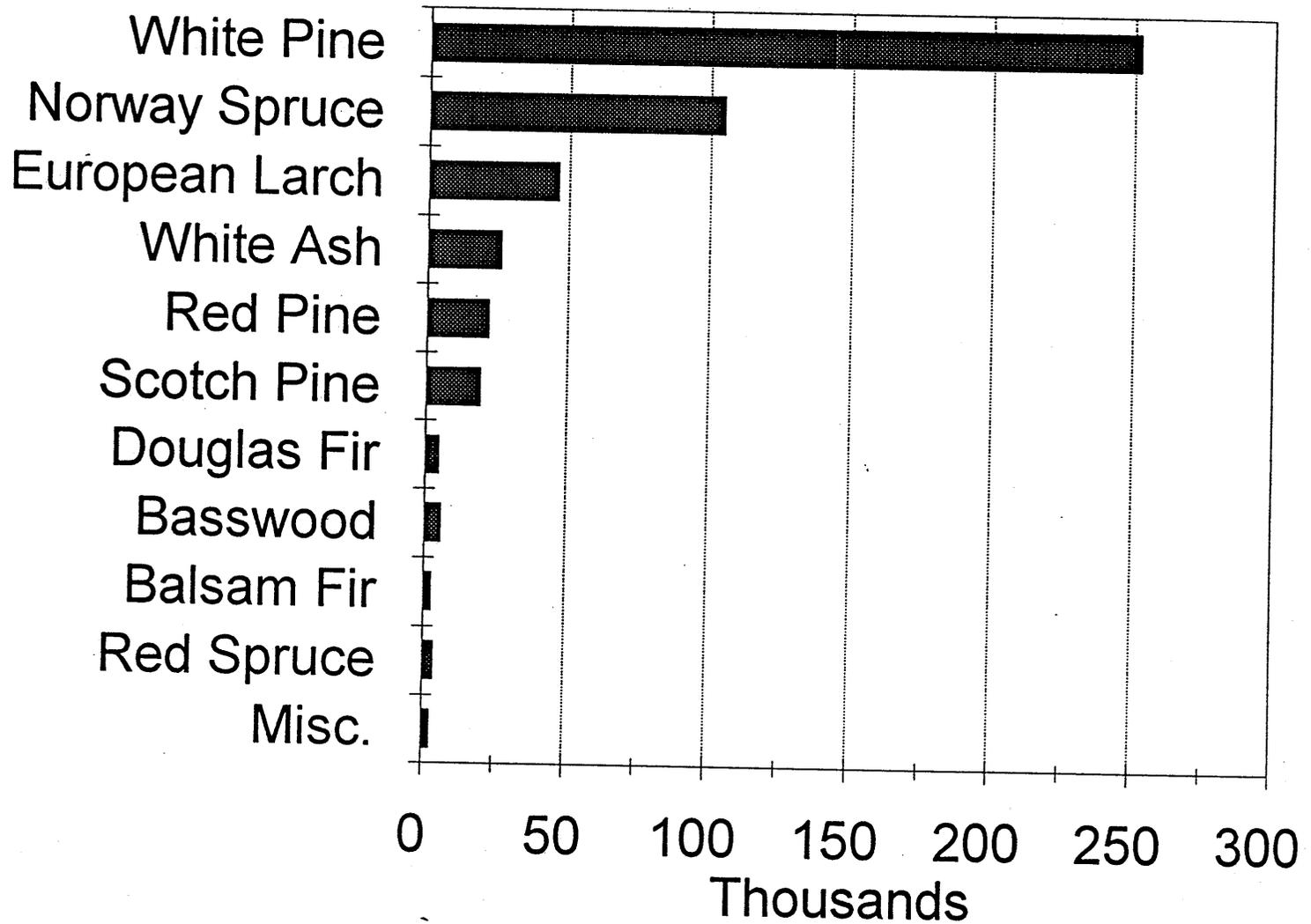
IDENTIFICATION OF NUMBERED  
 LANDS ON ATTACHED SHEET

DOWNER STATE FOREST  
Annex Block

<u>#</u>	<u>SPECIES</u>	<u>ACRES</u>	<u>YEAR</u>
1	Northern Hardwoods	1.0	
2	White Pine	9.0	1915
3	White Pine-Northern Hardwoods	20.0	1915
4a	White Pine	24.0	1915
4b	White Pine	11.9	1915
4c	White Pine	37.5	1915
4d	White Pine-Northern Hardwoods	56.5	1915
4e	Norway Spruce	.8	1921
5a	Northern Hardwoods	11.2	
5b	Northern Hardwoods	4.4	
6	Northern Hardwoods	12.3	
7a	Norway Spruce	3.8	1915
7b	Norway Spruce	2.8	1915
8	White Pine	8.8	1915
9	Northern Hardwoods-Hemlock (uneven)	8.9	
10	White Pine-Northern Hardwoods	6.6	1915
11	Northern Hardwoods	7.1	
12	White Pine	2.4	1915
13a	Northern Hardwoods	49.8	
13b	Northern Hardwoods	37.1	
13c	Northern Hardwoods	22.0	
13d	Northern Hardwoods	13.0	
14	Norway Spruce	4.1	1915
15	Open	2.3	
16	Norway Spruce	1.9	1915
17	White Pine	43.8	1915
18	Northern Hardwoods	7.6	
19	Norway Spruce	5.6	1921
20	Norway Spruce	4.1	1921
21	Northern Hardwoods	1.0	
22	Norway Spruce	.7	1915
	Total	<u>422.0</u>	

# Seedlings Planted-Downer

1910-1933



# Downer State Forest

## \*Seedling Survival

	Acres	1000's Seedlings Planted	@ 1000/acre acreage of survival today
White Pine	147		
White Pine-Scotch Pine	14		
White Pine-Red Pine	7		
White Pine-Norway Spruce	4		
<b>Total White Pine</b>	<b>172</b>	<b>252</b>	<b>63%</b>
Red Pine	12		
Red Pine-White Pine	7		
Red Pine-Norway Pine	2		
<b>Total Red Pine</b>	<b>21</b>	<b>21</b>	<b>78%</b>
Scotch Pine	3		
Scotch Pine-White Pine	14		
<b>Total Scotch Pine</b>	<b>17</b>	<b>19</b>	<b>52%</b>
Norway Spruce	63		
Norway Spruce-Red Pine	2		
Norway Spruce-Eastern Larch	5		
Norway Spruce-White Ash	7		
Norway Spruce-White Pine	4		
<b>Total Norway Spruce</b>	<b>81</b>	<b>105</b>	<b>68%</b>
European Larch	7		
European Larch-Norway Spruce	5		
<b>Total European Larch</b>	<b>12</b>	<b>46</b>	<b>20%</b>

\*The above table on softwood seedling survival is an attempt to display the information we have. Assumptions made in doing this:

- #1 1000 trees were planted per acre
- #2 in mixed stands 500 trees of that specie were planted per acre

# APPENDIX

## GLOSSARY

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

**BLOCK** - A land management planning unit.

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

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

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

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

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

I. **REGENERATION CUTTING (Harvest Cut)** - Includes four basic cutting methods used to regenerate a forest: clearcutting, seed-tree, shelterwood, selection. Trees are removed from the stand to create conditions that will allow the forest to renew or reproduce itself. This is accomplished under either an evenaged management system or an unevenaged management system.

A. **EVENAGED MANAGEMENT** - Timber management which produces a forest or stand composed of trees having relatively

small differences in age. Regeneration cutting methods in this system include those below:

- (1) Clearcutting - A cut which removes all trees from a designated area at one time, for the purpose of creating a new, evenaged stand.
- (2) Seed-Tree (Seed Cut) - The removal of most of the trees in one cut, leaving a few scattered trees of desired species to serve as a seed source to reforest the area.
- (3) Shelterwood - A series of two or three cuttings which open the stand and stimulate natural reproduction. A two cutting series has a seed cut and a removal cut, while a three cutting series has a preparatory cut, a seed cut, and a removal cut.

B. ALL-AGED OR UNEVENAGED MANAGEMENT - Timber management which produces a stand or forest composed of a variety of ages and sizes. Regeneration cutting methods in this system include the following:

- (1) Group Selection - The removal of small groups of trees to meet a predetermined goal of size, distribution, and species.
- (2) Single Tree Selection - The removal of trees individually in a scattered pattern from an area. Trees are chosen to meet a predetermined goal of size, distribution, and species.

II. INTERMEDIATE CUTTING - Any removal of trees from a stand between the time of formation and the harvest cutting undertaken to improve the growth and/or species composition. (Normally done as a commercial venture).

A. SALVAGE CUTTING - The removal of dead, dying, and damaged trees after a natural disaster such as fire, insect or disease attack, wind or ice storm to utilize the wood before it rots.

- B. **SANITATION CUTTING** - The removal of dead, dying, and damaged trees after a natural disaster to prevent the spread of insects or disease.
  - C. **THINNING** - Removing some of the trees in a dense immature stand primarily to improve the growth rate and form of the remaining trees.
- III. **CULTURAL OPERATIONS** - Treatments (usually non-commercial) made to assist or complete the establishment of regeneration or promote the development of existing stands.
- A. **TIMBER STAND IMPROVEMENT** - Activities conducted in young stands of timber to improve growth rate and form of the remaining trees.
  - B. **CLEANING OR WEEDING** - Regulating the composition of a young stand by eliminating some trees and encouraging others, and also freeing seedlings or saplings from competition with ground vegetation, vines, and shrubs.
  - C. **RELEASE** - The freeing of well established cover trees, usually large seedlings or saplings, from closely surrounding growth.
  - D. **SITE PREPARATION** - Activity intended to make conditions favorable for planting or the establishment of natural regeneration.

**DBH** - Diameter at breast (4.5 feet) height.

**DEER WINTERING AREA** - Forest area with at least 70 percent conifer that provides suitable, stable habitat to meet deer needs during the winter.

**DEN TREE** - A live tree at least 15" DBH containing a natural cavity used by wildlife for nesting, brood rearing, hibernating, daily or seasonal shelter and escape from predators.

**DEVELOPED RECREATION** - Activities associated with man-made structures and facilities that result in concentrated use of an area. Examples are campgrounds and ski areas.

**DISPERSED RECREATION** - Outdoor recreation activities requiring few, if any, support facilities.

**ENDANGERED SPECIES** - Species list in the current Federal Register as being in danger of extinction nationally throughout all or a significant portion of their ranges.

**EVENAGED MANAGEMENT** - The application of a combination of actions that results in the creation of stands in which trees of essentially the same age growth together. Managed evenaged forests are characterized by a distribution of stands of varying ages (and, therefore, tree sizes throughout the forest area). The difference in age between trees forming the main canopy level of a stand usually does not exceed 20% of the age of the stand at harvest rotation age. Regeneration in a particular stand is obtained during a short period at or near the time that a stand has reached the desired age or size for regeneration and is harvested. Clearcut, shelterwood, or seed tree cutting methods produce evenaged stands.

**FOREST TYPE** - A natural group or association of different species of trees which commonly occur together over a large area. Forest types are defined and named after the one or more dominant species of trees, such as the spruce-fir and the birch-beech-maple types.

**FORESTRY** - The art and science of growing and managing forests and forest lands for the continuing use of their resources.

**GAME SPECIES** - Wild animals hunted for sport or food.

**HARDWOOD** - A broad leaved, flowering tree, as distinguished from a conifer. Trees belonging to the botanical group of angiospermae.

**INTENSIVE RECREATION** - Outdoor recreation activities requiring major structures and facilities.

**MAST** - The fruit and nuts of such plants as oaks, beech, hickories, dogwood, blueberry, and grape.

**MOTORIZED USE** - Land uses requiring or largely dependent on motor vehicles and roads.

**NON-GAME SPECIES** - Animal species that are not usually hunted in this state. This classification is determined by the state legislature.

**NORTHERN HARDWOOD** - Primarily sugar maple, yellow birch, and beech. May include red maple, white ash, black berry, red spruce, and hemlock.

**OVERSTORY** - Upper crown canopy of a forest.

**POLE TIMBER** - As used in timber survey, a size class definition, tree 5.0 to 8.9 inches at DBH. As used in logging operations, trees from which pole products are produced, such as telephone poles, pilings, etc.

**REMOVAL CUT** - The final cut of the shelterwood system which removes the remaining mature trees, completely releasing the young stand. An evenaged stand results.

**SALVAGE** - Dead, dying, or deteriorating trees due to old age or damage by fire, wind, insects, or disease. Those trees not reserved for wildlife area harvested while still merchantable.

**SANITATION** - The removal of dead, damaged, or susceptible trees to prevent the spread of insects or disease.

**SAPLING** - As used in timber survey, a size class definition; trees 1.0 to 4.9 inches at DBH.

**SILVICULTURAL SYSTEMS** - A management process whereby forests are tended, harvested, and replaced, resulting in a forest of distinctive form. Systems are classified according to the method of carrying out the fellings that remove the mature crop and provide for regeneration and according to the type of forest thereby produced.

**SNAG** - Includes standing dead or partially dead trees which are at least 6" in diameter at breast height (DBH) and 20 feet tall.

**SOFTWOODS** - A coniferous tree. Trees belonging to the botanical group gymnospermae. Softwoods on the Downer State Forest principally include Norway spruce, white pine, red pine, scotch pine, European larch and small amounts of Austrian pine and Douglas fir.

**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.

**UNEVENAGED MANAGEMENT** - The application of a combination of actions needed to simultaneously maintain continuous high-forest cover, recurring regeneration of desirable species, and the orderly growth and development of trees through a range of diameter of age classes to provide a sustained yield of forest products. Cutting is usually regulated by specifying the number or proportion of trees of particular sizes to retain within each area, thereby maintaining a planned distribution to size classes. Cutting methods that develop and maintain unevenaged stands are single tree selection and group selection.

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