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Forest Wildlife Habitat Statistics for Vermont—1983

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Abstract

This is a statistical report on the first forest wildlife habitat survey of Vermont conducted in 1982-83 by the Forest Inventory, Analysis, and Economics Unit, Northeastern Forest Experiment Station. Results are displayed in 67 tables covering forest area, ownership, land pattern, mast potential, standing dead and cavity trees, and lesser woody vegetation. Data are presented at county and/or unit and state levels of resolution.

Foreword

The fourth inventory of Vermont was under the overall direction of Joseph E. Barnard, Project Leader of the Forest Inventory and Analysis Unit. John R. Peters assisted in the development and administration of the operating plan and had supervisory responsibility for the inventory process. Charles T. Scott was responsible for the design of the inventory and sample selection. David J. Alerich supervised the aerial-photo interpretation and data collection. He was assisted by Thomas B. Hartman, Joseph G. Reddan, and Karen J. Sykes. Numerous temporary employees assisted with field data collection.

David R. Dickson and Thomas S. Frieswyk applied FINSYS (Forest INventory SYStem), a generalized data processing system, to the specific needs of the Vermont inventory and produced summary tables for the state, geographic sampling units, and counties. Thomas W. Birch and Thomas S. Frieswyk were instrumental in assuring that the area estimates were consistent with the three previous inventories. Anne M. Malley assisted in various data processing capacities and prepared and balanced the tables in this report. Margaret Little, Carol McAfee, J. Roger Trettel, and Karen Sykes performed a variety of data editing and compilation tasks.

Carmela M. Hyland was responsible for administrative and secretarial services. Marie Pennestri typed the text for this report.

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Introduction

Under the authority of the McSweeney-McNary Forest Research Act of 1928 and subsequent acts including the Renewable Resources Planning Act of 1974 and the Renewable Resources Research Act of 1978, the USDA Forest Service conducts periodic forest inventories of all states to provide up-to-date information on the forest resource of the Nation. The initial inventory of Vermont's forest resources was conducted in 1948 (McGuire and Wray 1952). Succeeding inventories were carried out in 1966 (Kingsley and Barnard 1968) and 1972 (Kingsley 1977). This report presents the forest wildlife habitat resource data from the fourth inventory which was completed in 1983. The 1983 survey was the first to be conducted in Vermont that incorporated collection of wildlife habitat resources data. This inventory involved a cooperative effort of the Vermont Department of Forests, Parks, and Recreation, the USDA Soil Conservation Service, the Green Mountain National Forest, and the Northeastern Forest Experiment Station.

The Forest Inventory, Analysis, and Economics Unit of the Northeastern Forest Experiment Station conducted the inventory on all forest land, developed the resource tables, and prepared this report.

Photo interpreters systematically plotted 16,313 points on new aerial photography and classified these according to land use. Points determined to be timberland were further stratified into cubic-foot volume classes. A subsample of 823 of the photo points was randomly chosen to be established on the ground. Data from the ground plots were edited and summarized using the FINSYS computer system.

The resurvey of Vermont's forest resources involved several associated studies and considerable analysis. Ultimately, reports such as this one on habitat resources will be published presenting information on forest resources (that is area, number of trees, and volume), biomass, ownership, primary forest products industry.

For additional data summaries or information, contact the Forest Inventory, Analysis, and Economics Unit, USDA Forest Service, 370 Reed Road, Broomall, PA 19008 (phone 215-461-3037).

This report is Vermont's first in a continuing series of state-by-state wildlife habitat resource bulletins. The format used was chosen to expeditiously report on the Forest Inventory and Analysis habitat survey. It is our intent to write additional publications(s) that will include detailed analyses and interpretation of the habitat survey.

Forest Inventory reports are produced at a scale appropriate for regional (that is large county or multi-county and larger areas) applications. The information in the publications is useful to resource professionals concerned with planning and policy formulation for extensive areas of forest land. The use of the information

for site-specific applications would be as background standards for comparison to the site conditions.

This habitat report, when used in conjunction with the timber (Frieswyk and Malley 1985) and ownership reports, provides a detailed description of the forest land of Vermont. From these reports, a user can select tables that collectively describe a specific habitat resource.

Example Application

The following example describes the condition of regional white-tailed deer (Odocoileus virginianus) habitat. The information selected serves to illustrate the process of habitat evaluation using forest inventory information. In this example, the percentage of total land area in forest/nonforest and land use edge indices (Brooks and Sykes 1984) is a measure of forest landscape diversity. Nonforest lands, in particular agricultural lands, can be an important component of deer habitat. As this survey is of forested lands, it would be inappropriate to characterize nonforest land resources. Users of this report are advised to secure supplemental comparable information on nonforest lands for a more complete habitat evaluation.

Generally, the greater the diversity of land use, the better the habitat conditions for deer. The percentage of timberland in sawtimber, conifer forest types is a measure of winter range availability. The percentage of timberland in sapling/seedling forest cover is related to the availability of foraging habitat (Vermont Fish and Wildlife Department 1986). The percentage of timberland in forest stands of 100 acres or less is a measure of the diversity of forest land cover. This habitat component, as with previous landscape diversity measures, is a double-edged sword. A small level of diversity implies extensive forest cover offering little variety of habitat conditions, whereas a high level of diversity indicates excessive forest fragmentation resulting in a deterioration in cover value and impediments to travel to parts of an animal's home range. Mast tree and sapling, seedling, and shrub densities are measures of potential forage resources (Vermont Fish and Wildlife Department 1986).

A comparison of geographic unit (Fig. 1) habitat conditions to overall state (see Appendix) and adjacent New Hampshire habitat conditions (Fig. 2) shows that:

Northern Unit

- Forest area, as a percentage of total land area, is only slightly lower than the state average but much less than that in adjacent northern New Hampshire.
- Landscape diversity is less than the state average but greater than that in neighboring northern New Hampshire.
- Winter range area is greater than the state overall and equivalent to that in neighboring New Hampshire.
- Foraging range area is equivalent to the state average and greater than that in New Hampshire's northern counties.
- Small acreage stands are less common than the state overall but equivalent to that in adjacent New Hampshire.
- Oak and beech mast potential is less than that for either the state average or northern New Hampshire.
- Browse potential is equivalent to the state average but with less observed use and greater than that in the northern New Hampshire resource but with much greater use.

GEOGRAPHIC UNITS

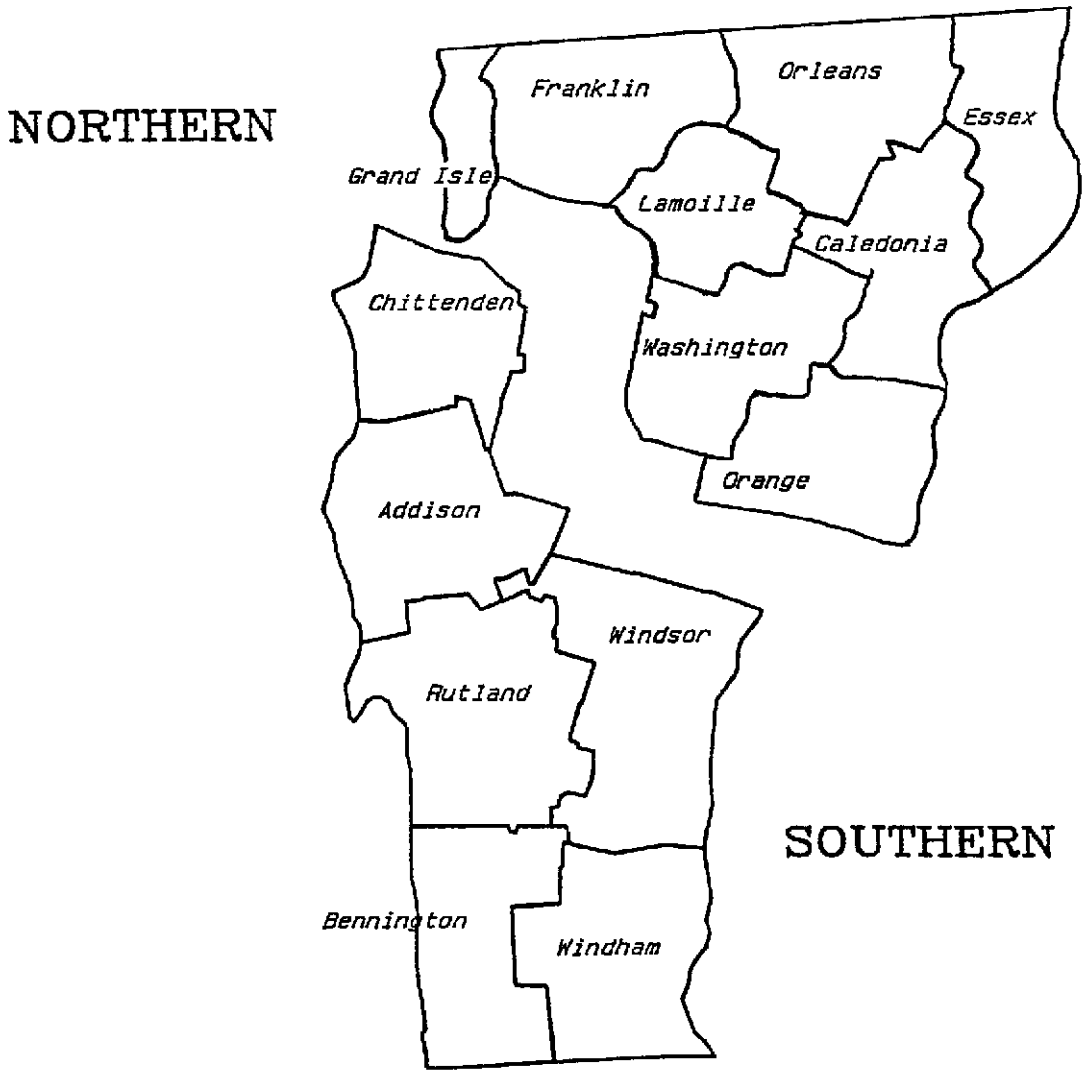

Figure 1.--Map of Vermont delineating geographic units and their constituent counties.

Figure 2.--Selected habitat components that collectively describe the condition of white-tailed deer habitat by geographic unit for Vermont (1983) and adjacent New Hampshire (1983)

Habitat component	Vermont		New Hampshire	
	Northern Unit	Southern Unit	Northern Unit	Southern Unit
Percent total area				
Forest land	75.7	77.4	92.2	81.2
Nonforest land	24.3	22.6	7.8	18.8
Land use edge indices				
Total	72.2	90.4	44.7	97.9
Sum Forest- and Shrub-	48.5	63.5	26.5	58.2
Percent Timberland area				
Sawtimber, conifer types	22.9	17.0	22.8	36.0
Sapling/seedling	11.6	9.8	6.8	6.7
Stands less than 100 acres	65.1	93.7	65.8	90.6
Mast potential - trees per acre timberland				
Beech	6.2	17.5	11.2	7.5
Oak	1.0	5.8	7.7	27.2
Browse potential - thousand sapling, seedling, and shrub stems per acre timberland				
Readily browsed	1.6	1.3	1.9	1.2
Commonly browsed	4.1	3.5	5.6	3.2
Infrequently browsed	0.8	1.5	1.0	0.8
Questionable species and others	0.2	0.6	0.3	0.7
Total	6.8	6.8	8.9	5.9
Browse potential - percent with observed browse use				
Readily browsed	27.5	26.2	21.7	13.5
Commonly browsed	12.9	24.8	8.3	9.6
Infrequently browsed	12.5	32.6	4.3	13.3
Questionable species and others	3.4	23.0	7.1	7.1
Total	16.1	26.6	10.8	10.6

Conclusion: The Northern Unit has slightly poorer habitat conditions than the state average based on the less diverse land cover patterns and lesser mast resource potential; marginally better habitat conditions than adjacent northern New Hampshire mainly due to a more diverse landscape and to a lesser extent, to a larger acreage of regenerating forest lands. The depauperate mast resource is a concern.

Southern Unit

- Forest area is slightly greater than the state average but less than that in adjacent New Hampshire counties.

- Landscape diversity is greater than the overall state value but less than that in southern New Hampshire.

- Winter range acreage is less than the state average and much less than that in the southern counties of New Hampshire.

- Foraging range area is less than the state average value but greater than that for the comparable New Hampshire estimate.

- Small acreage forest stands are much more common than in the state overall and only slightly more common than that across the border in New Hampshire.

- Both oak and beech mast potential is greater than the state average, and the beech estimate is greater than that in adjacent New Hampshire, while the oak mast estimate is much less.

- The browse resource availability and use are little different than the state values and availability is only slightly greater than that in southern New Hampshire but use is much greater.

Conclusion: The Southern Unit has habitat conditions that are only marginally better than the state overall based on a slightly more diverse landscape and better mast resource potential; slightly poorer conditions than in adjacent southern New Hampshire counties because of lesser mast resource potential and a much higher level of use of the browse resource.

A process similar to this white-tailed deer habitat evaluation could be completed for other wildlife species (Vermont Fish and Wildlife Department 1986). It should work best for species with broad habitat requirements (eurytopic) and with larger home range sizes, as these limits are most comparable to the resolution of the Forest Inventory.

In addition to a synthesis of various habitat information for species specific habitat evaluation, the survey is very useful as a benchmark report on the status of individual habitat components useful to a variety of wildlife. This information will gain value after the subsequent (1990's) resurvey of the State's forest resources. At that time, trends can be identified that will be useful to the development of regional habitat resource management guidelines for the maintenance and improvement of Vermont's wildlife habitat resources.

Highlights

* Vermont, with 4,544.4 thousand acres of forest land, is 76.6 percent forested. Forest land has increased 5 percent since 1968. The eight counties of the northern geographic unit are only slightly less forested (75.7 percent of total land area) than the six counties of the southern unit (77.4 percent).

* Southern Vermont has a more diverse landscape than the northern part of the State.

* Private ownership of timberland predominates throughout the state (90.3 percent) over public ownership.

* Large diameter, sawtimber-size stands dominate (65.3 percent) other stand sizes

* Small area forest stands of less than 50 acres are more common (67.3 percent) than stands larger than 50 acres.

* American beech is the predominant mast-producing tree species, followed by eastern hophornbean, northern red oak, and black cherry.

* Red spruce is Vermont's most common standing dead tree, followed closely by balsam fir; American beech is the most common standing dead tree with an observed cavity; and sugar maple is the most common tree, alive or dead, with an observed cavity.

* Sugar maple sapling and seedlings are the most common understory woody-stemmed species of Vermont's forest, followed in order by brambles and spirea. For all understory woody-stemmed species, browse use is generally none (78.6 percent) to light (16.3 percent).

Reliability of the Estimates

The data in this report were based on a carefully designed sample of forest conditions throughout Vermont. The data are estimates and the reliability of the estimating procedure can be judged by two important statistical measures: accuracy and precision. Among statisticians, accuracy refers to the success of estimating the true value, precision refers to the clustering of sample values about their own averages or to the variation among repeated samples. We are mainly interested in the accuracy of the inventory, but in most instances we can only measure its precision.

Although accuracy cannot be measured exactly, it can be checked. Preliminary tables are sent to other agencies and to outside experts familiar with the resources of Vermont. If questions arise, the data are reviewed and re-analyzed to resolve the differences. Also, great care is taken to keep all sources of procedural error to a minimum by careful training of both field and office personnel, frequent inspection of field and office work, and application of the most reliable inventory methods.

Because of the care exercised in the inventory process, estimates of precision afford a reasonable measure of the inventory's adequacy. The precision of each estimate is described by its sampling error. Sampling errors are given with several tables in this report. The others are available upon request.

The following example serves to illustrate how to use reported sampling errors. There are an estimated 76.4 million standing dead trees in Vermont (Table 8). The reported sampling error is 5.0 percent or 3.8 million trees. If we assume the estimates of this statistic are normally distributed, this means that if there were no errors in procedure and we repeated the survey in the same way, the odds are 2 to 1 (66 percent probability) that the resulting estimate of standing dead trees in the State would be 72.6 to 80.2 million trees, or 76.4 ± 3.8 million trees. Similarly there is a 95 percent probability (19 to 1) that the estimate would be 68.8 to 84.1, or 76.4 ± 7.6 million trees. Estimates are most precise or reliable at the state level, followed by unit estimates and finally county estimates. For example, where the state level sampling error on the number of standing dead trees is 5.0 percent, the same value for the Northern unit is 6.7 percent (Table 16), the Southern unit is 7.3 percent (Table 24), and county values range from 13.3 percent (Windsor County, Table 66) to 25.1 percent (Chittenden County, Table 39). Thus, county estimates are often considerably less reliable than unit or

state estimates. In general, as the size of the estimate decreases in relation to the total, the sampling error, expressed as a percentage of the estimate, increases.

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Index to Tables

The following tables are divided into four major sections: (1) State, (2) Northern Unit, (3) Southern Unit, and (4) County.

Tables at the State level cover land area, tree and shrub numbers, and dead and cavity tree resources. These tables are mostly repeated at the Unit level. For each county, tables cover numbers of mast-producing trees, standing dead trees, and understory woody stems.

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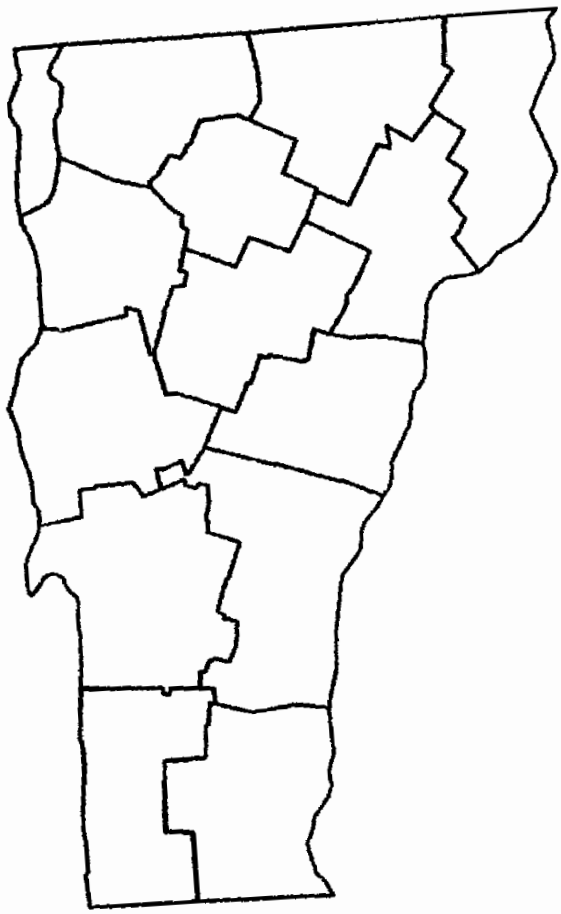


Table 1.--Land area by land use class and county, Vermont, 1983

(Thousands of acres)

Land use class	Caledonia	Essex	Franklin/ Grand Isle	Lamoille	Orange	Orleans	Washington	Northern unit
Forest land:								
Timberland	292.3	393.7	278.1	235.5	341.9	305.1	353.8	2,200.4
Unproductive	6.7	4.2	-	2.8	.8	4.7	1.1	20.3
Productive reserved	.7	.3	.1	.7	1.5	.2	.8	4.3
Total forest	299.7	398.2	278.2	239.0	344.2	310.0	355.7	2,225.0
Nonforest land:								
Cropland[a]	35.4	7.4	102.3	17.9	38.2	64.2	23.7	289.1
Improved pasture[a]	20.3	4.1	59.5	11.8	27.9	33.8	15.6	173.0
Idle farmland								51.5[b]
Other farmland								20.7[b]
Bog/marsh/swamp								.0[b]
Right-of-way								78.5[b]
Mining/wasteland								14.6[b]
Recreation site								5.5[b]
Industrial/commercial								10.1[b]
Tract/multi-family								.0[b]
Single/custom house								52.5[b]
Other nonforest								8.3[b]
Census water								5.6[b]
Non-census water								5.0[b]
Other	61.5[c]	16.6[c]	32.2[c]	26.3[c]	31.2[c]	37.9[c]	46.6[c]	-
Total nonforest	117.2	28.1	194.0	56.0	97.3	135.9	85.9	714.4
Total land area	416.9	426.3	472.2	295.0	441.5	445.9	441.6	2,939.4

Table 1.--Continued

(Thousands of acres)

Land use class	Addison	Bennington	Chittenden	Rutland	Windham	Windsor	Southern unit	All counties
Forest land:								
Timberland	285.6	354.8	214.9	444.7	421.0	500.7	2,221.7	4,422.1
Unproductive	4.1	.4	4.7	3.0	-	.7	12.9	33.2
Productive reserved	23.4	24.8	6.7	27.8	.1	2.0	84.8	89.1
Total forest	313.1	380.0	226.3	475.5	421.1	503.4	2,319.4	4,544.4
Nonforest land:								
Cropland[a]	123.4	12.4	46.4	48.6	17.7	29.1	277.6	566.7
Improved pasture[a]	47.0	7.5	24.6	40.3	10.1	17.8	147.3[b]	320.3
Idle farmland							27.3[b]	78.8
Other farmland							17.5[b]	38.2
Bog/marsh/swamp							28.8[b]	28.8
Right-of-way							62.1[b]	140.6
Mining/wasteland							.0[b]	14.6
Recreation site							18.1[b]	23.6
Industrial/commercial							8.8[b]	18.9
Tract/multi-family							9.3[b]	9.3
Single/custom house							44.4[b]	96.9
Other nonforest							17.8[b]	26.1
Census water							.0[b]	5.6
Non-census water							16.9[b]	21.9
Other	11.2[c]	33.2[c]	48.1[c]	32.4[c]	54.7[c]	71.4[c]	-	-
Total nonforest	181.6	53.1	119.1	121.3	82.5	118.3	675.9	1,390.3
Total land area	494.7	433.1	345.4	596.8	503.6	621.7	2,995.3	5,934.7

[a]Source: 1982 Census of Agriculture.
[b]Detailed nonforest land use class area estimates for the unit are based on the number of nonforest field plots.
[c]Detailed nonforest land use class area not estimated at the county level.

Table 2.--Index to land use edge by type of land use and county, Vermont, 1983

(Edge hits[a] per thousand acres)

Land use edge type	Caledonia	Essex	Franklin	Grand Isle	Lamoille	Orange	Orleans	Washington	Northern unit
Forest -									
forest	5.1	10.7	22.5	11.6	38.8	3.6	49.6	4.0	18.2
shrub	3.0	6.5	12.9	7.8	6.5	1.1	4.7	0.5	5.0
agricultural/ herbaceous	23.3	1.1	26.8	26.3	18.3	24.2	28.1	16.9	20.0
cultural	1.8	0.1	1.3	2.9	2.2	1.0	12.0	1.5	2.9
Shrub -									
agricultural/ herbaceous	0.5	0.2	8.4	5.6	4.2	0.2	2.1	0.1	2.2
cultural	t[b]	0.3	0.7	0.7	0.7	t	0.1	0.0	0.2
Agicultural/herbaceous - cultural	0.9	0.1	4.1	8.3	3.7	0.1	3.4	0.0	1.8
Hedgerow	1.5	0.6	5.2	15.0	3.8	3.1	8.9	0.7	3.6
Transportation right-of-way	16.1	7.0	11.8	13.8	10.0	14.9	13.0	16.0	12.9
Utility right-of-way	2.2	0.0	1.3	0.0	0.9	0.9	1.6	0.9	1.1
Aquatic	2.6	3.7	5.5	8.3	7.7	1.0	4.9	5.3	4.3
All types	57.1	30.3	100.5	100.3	96.9	50.2	128.3	46.0	72.2

Table 2.--Continued

(Edge hits[a] per thousand acres)

Land use edge type	Addison	Bennington	Chittenden	Rutland	Windham	Windsor	Southern unit	All counties
Forest -								
forest	31.0	56.3	36.8	42.4	26.3	19.2	34.3	26.5
shrub	4.6	3.8	4.2	4.6	1.2	1.2	3.1	4.0
agricultural/ herbaceous	21.4	16.1	31.6	24.3	16.0	16.7	20.5	20.3
cultural	0.8	2.5	5.6	2.8	3.0	1.7	2.6	2.7
Shrub -								
agricultural/ herbaceous	4.3	3.1	3.9	5.0	0.7	0.3	2.8	2.5
cultural	0.3	0.4	0.6	0.2	0.1	0.0	0.2	0.2
Agicultural/herbaceous - cultural	4.4	3.3	7.3	3.9	1.2	0.4	3.1	2.5
Hedgerow	11.0	7.7	8.0	8.8	1.1	1.7	6.1	4.9
Transportation right-of-way	8.7	11.5	12.6	9.3	12.1	10.8	10.7	11.7
Utility right-of-way	0.3	3.0	2.4	2.8	2.5	1.7	2.1	1.6
Aquatic	7.7	4.1	6.8	5.3	3.6	2.5	4.8	4.6
All types	94.4	111.8	119.7	109.4	67.6	56.1	90.4	81.6

[a]Edge condition on an aerial photograph sample by a line transect (Brooks and Sykes 1984).
[b]Trace amount, less than 0.05.

Table 3.--Area of timberland by ownership class and geographic unit, Vermont, 1983

(In thousands of acres)

Ownership class	Northern Unit	Southern Unit	All units
National Forest	2.9	180.2	183.1
Other federal	.8	7.8	8.6
State	113.4	73.8	187.2
County and municipal	22.4	28.2	50.6
Total public	139.5	290.0	429.5
Forest industry	302.7	106.9	409.6
Farmer[a]	513.8	460.4	974.2
Miscellaneous private:			
Individual	1,072.4	1,089.2	2,161.6
Corporate	49.7	168.9	218.6
Other	122.3	106.3	228.6
Total private	2,060.9	1,931.7	3,992.6
All ownerships	2,200.4	2,221.7	4,422.1

[a]Includes "part-time farmers" (persons whose occupation is not farmer but who say their land is part of a farm). These acres were included in miscellaneous private in the previous survey.

Table 4.-Area of timberland by forest type, forest-type group, and stand-size class, Vermont, 1983

(In thousands of acres)

Forest type and forest-type group	Stand-size class				All classes
	Sawtimber	Poletimber	Sapling and seedling	Nonstocked	
Red pine	7.5	.0	.0	.0	7.5
White pine	236.9	43.1	44.0	.0	324.0
White pine/hemlock	100.4	7.5	.0	.0	107.9
Hemlock	177.2	14.7	.0	.0	191.9
White/red pine group	522.0	65.3	44.0	.0	631.3
Balsam fir	15.0	64.8	22.6	.0	102.4
Red spruce	100.6	14.4	.0	.0	115.0
Red spruce/balsam fir	168.2	52.6	65.8	.0	286.6
White spruce	22.8	14.3	.0	.0	37.1
Black spruce	.0	.0	6.9	.0	6.9
Northern white-cedar	51.8	7.4	26.4	.0	85.6
Spruce/fir group	358.4	153.5	121.7	.0	633.6
Wh. pine/no. red oak/wh. ash	6.7	6.8	.0	.0	13.5
Oak/pine group	6.7	6.8	.0	.0	13.5
White oak/red oak/hickory	7.2	7.1	6.0	.0	20.3
White oak	6.7	13.8	.0	.0	20.5
Northern red oak	58.3	14.2	6.7	.0	79.2
Hawthorn/reverting field	.0	2.9	5.6	6.4	14.9
Red maple/central hardwoods	.0	.0	6.4	.0	6.4
Mixed central hardwoods	8.5	7.4	7.2	.0	23.1
Oak/hickory group	80.7	45.4	31.9	6.4	164.4
Black ash/Amer. elm/red maple	43.6	28.3	27.1	.0	99.0
Elm/ash/red maple group	43.6	28.3	27.1	.0	99.0
Sugar maple/beech/yellow birch	1,462.4	395.2	132.1	.0	1,989.7
Black cherry	12.2	.0	13.0	.0	25.2
Red maple/northern hardwoods	193.5	108.3	14.8	.0	316.6
Pin cherry/reverting field	.0	.0	32.6	5.6	38.2
Mixed northern hardwoods	164.2	121.1	42.5	.0	327.8
Northern hardwoods group	1,832.3	624.6	235.0	5.6	2,697.5
Aspen	15.0	29.8	14.1	.0	58.9
Paper birch	29.1	88.0	.0	.0	117.1
Gray birch	.0	6.8	.0	.0	6.8
Aspen/birch group	44.1	124.6	14.1	.0	182.8
All forest types	2,887.8	1,048.5	473.8	12.0	4,422.1

Table 5.--Area of timberland by stand area class and county, Vermont, 1983

(Thousands of acres)

Stand area class	Caledonia	Essex	Franklin/ Grand Isle	Lamoille	Orange	Orleans	Washington	Northern unit
1 - 9 acres	6.3	12.6	55.8	59.5	49.9	91.1	22.2	297.4
10 - 19 acres	14.6	14.8	62.7	29.4	37.1	103.3	.0	261.9
20 - 49 acres	44.2	93.6	85.4	95.6	73.9	103.3	73.2	569.2
50 - 99 acres	73.3	51.6	43.6	29.2	76.2	7.4	22.2	303.5
100 -499 acres	110.5	169.5	22.7	21.8	89.7	.0	96.3	510.5
500+ acres	43.4	51.6	7.9	.0	15.1	.0	139.9	257.9
All classes	292.3	393.7	278.1	235.5	341.9	305.1	353.8	2,200.4

Table 5.--Continued

(Thousands of acres)

Stand area class	Addison	Bennington	Chittenden	Rutland	Windham	Windsor	Southern unit	All counties
1 - 9 acres	74.7	106.6	49.2	98.0	73.0	117.8	519.3	816.7
10 - 19 acres	53.8	115.0	48.1	190.2	93.6	62.6	563.3	825.2
20 - 49 acres	118.6	112.6	89.2	135.2	161.5	145.9	763.0	1,332.2
50 - 99 acres	24.7	13.9	21.5	21.3	50.1	104.6	236.1	539.6
100 -499 acres	13.8	6.7	6.9	.0	42.8	69.8	140.0	650.5
500+ acres	.0	.0	.0	.0	.0	.0	.0	257.9
All classes	285.6	354.8	214.9	444.7	421.0	500.7	2,221.7	4,422.1

Table 6.--Number of all live nut- and fruit-producing trees on timberland by species and diameter class, Vermont, 1983

Species	Diameter class (inches at breast height)										All classes	Sampling error
	5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-28.9	29+		
	Thousand trees											Percent
Eastern redcedar	359	102	0	0	0	0	0	0	0	0	461	64
Serviceberry	479	274	0	0	0	0	0	0	0	0	753	55
Hickory	2,931	967	340	293	113	92	36	17	0	0	4,789	33
Hawthorn	79	13	0	0	0	0	0	0	0	0	92	100
Beech	20,274	11,315	7,522	4,972	3,253	2,156	1,445	928	660	8	52,533	8
Butternut	171	332	174	81	66	17	51	17	26	22	957	44
Black walnut	28	0	0	0	0	0	0	0	0	0	28	100
Apple	1,187	714	89	17	16	33	0	0	0	0	2,056	31
Eastern hophornbeam	10,356	2,791	1,075	193	82	35	82	0	0	0	14,614	16
Pin cherry	420	221	109	0	0	0	0	0	0	0	750	38
Black cherry	4,081	3,377	1,828	1,264	373	242	120	37	45	0	11,367	14
White oak	63	1,053	438	192	117	30	63	36	56	16	2,064	46
Swamp white oak	0	0	0	0	0	17	0	0	0	0	17	100
Chestnut oak	0	0	70	0	0	32	0	0	0	0	102	76
Northern red oak	2,927	2,590	2,217	2,282	968	872	496	198	266	83	12,899	16
Mountain ash	207	100	0	0	0	0	0	0	0	0	307	48
Total all species	43,562	23,849	13,862	9,294	4,988	3,526	2,293	1,233	1,053	129	103,789	5.6
Sampling error (percent)	8	8	9	8	10	10	11	14	13	39	5.6	

Table 7.--Number of shrubs and saplings on timberland by stand-size class, type of stem, and mast type, Vermont, 1983

(In thousands of stems)

Stand-size class and type of stem	Mast type			Unidentified species	Total stems
	Nuts	Other seeds	Berries		
Sawtimber:					
Shrubs	104,537	1,291,839	3,755,142	224,042	5,375,560
Saplings	200,148	681,823	14,072	4,535	900,578
Total sawtimber	304,685	1,973,662	3,769,214	228,577	6,276,138
Poletimber:					
Shrubs	88,362	646,734	1,862,614	21,580	2,619,290
Saplings	71,667	411,426	7,258	0	490,351
Total poletimber	160,029	1,058,160	1,869,872	21,580	3,109,641
Sapling/seedling:					
Shrubs	37,945	2,253,926	2,702,451	60,126	5,054,448
Saplings	30,970	219,920	43,840	1,212	295,942
Total sapling/seedling	68,915	2,473,846	2,746,291	61,338	5,350,390
Nonstocked:					
Shrubs	0	99,247	58,059	0	157,306
Saplings	0	0	0	0	0
Total nonstocked	0	99,247	58,059	0	157,306
Total, all classes	533,629	5,604,915	8,443,436	311,495	14,893,475

Table 8.--Number of standing dead trees on timberland by species, condition, and diameter class, Vermont, 1983

Species	Intact top				Broken top				Total all trees	Sampling error
	5.0-10.9	11.0-14.9	15+	Total	5.0-10.9	11.0-14.9	15+	Total		
	Thousand trees									Percent
Balsam fir	3,438	274	58	3,770	5,518	627	48	6,193	9,963	15
Tamarack	159	14	0	173	34	0	0	34	207	79
White spruce	753	34	0	787	228	0	0	228	1,015	55
Black spruce	0	0	0	0	0	0	0	0	0	0
Red spruce	4,768	271	90	5,129	4,787	598	212	5,597	10,726	14
Red pine	0	17	0	17	0	0	0	0	17	100
White pine	1,435	195	67	1,697	2,621	345	158	3,124	4,821	19
Northern white-cedar	1,885	34	0	1,919	469	17	0	486	2,405	32
Hemlock	721	18	19	758	1,475	268	120	1,863	2,621	24
Other softwoods	0	0	0	0	0	0	0	0	0	0
Total softwoods	13,159	857	234	14,250	15,132	1,855	538	17,525	31,775	9
Sugar maple	1,435	134	99	1,668	3,607	915	806	5,328	6,996	14
Red maple	1,804	60	15	1,879	2,653	492	214	3,359	5,238	21
Yellow birch	910	166	52	1,128	4,066	1,559	1,160	6,785	7,913	12
Paper birch	789	95	17	901	2,976	772	204	3,952	4,853	20
Gray birch	70	0	0	70	505	0	0	505	575	43
Beech	169	216	154	539	1,821	1,281	1,073	4,175	4,714	12
White ash	468	53	17	538	401	75	53	529	1,067	41
Black ash	0	0	0	0	35	0	0	35	35	100
Aspen	834	109	31	974	2,195	181	98	2,474	3,448	22
White oaks	71	0	16	87	31	0	34	65	152	63
Red oaks	66	0	0	66	64	0	36	100	166	51
Basswood	55	0	0	55	231	15	9	255	310	41
Elm	736	113	77	926	1,832	636	253	2,721	3,647	24
Other hardwoods[a]	1,451	34	53	1,538	3,389	456	140	3,985	5,523	15
Total hardwoods	8,858	980	531	10,369	23,806	6,382	4,080	34,268	44,637	6
Total, all species	22,017	1,837	765	24,619	38,938	8,237	4,618	51,793	76,412	5.0
Sampling error (percent)	9	15	17	8	7	8	7	5	5.0	

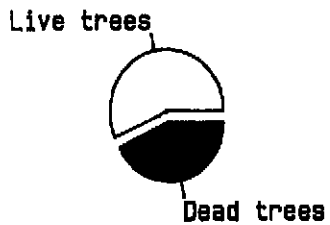
[a]Includes noncommercial hardwoods.

Table 9.--Number of trees (5.0+ inches d.b.h.) with observed cavities on timberland by species and condition, Vermont, 1983

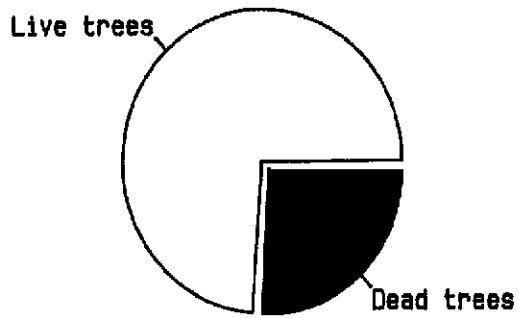
Species	Live				Total live	Dead		Total dead	Total all trees	Sampling error
	No cull	Intact live top	Broken top	Dead top		Intact top	Broken top			
	Thousand trees									Percent
Balsam fir	1,053	688	0	0	1,741	206	1,269	1,475	3,216	19
Tamarack	0	0	0	0	0	0	0	0	0	0
White spruce	46	85	0	0	131	17	125	142	273	67
Black spruce	0	0	0	0	0	0	0	0	0	0
Red spruce	520	253	0	0	773	51	549	600	1,373	23
Red pine	0	0	0	0	0	0	0	0	0	0
White pine	319	457	16	0	792	238	354	592	1,384	26
Northern white-cedar	215	217	0	0	432	17	50	67	499	33
Hemlock	491	473	16	17	997	0	731	731	1,728	22
Other softwoods	0	0	0	0	0	0	0	0	0	0
Total softwoods	2,644	2,173	32	17	4,866	529	3,078	3,607	8,473	11
Sugar maple	4,791	6,480	317	200	11,788	108	2,421	2,529	14,317	9
Red maple	2,090	4,703	16	118	6,927	132	1,285	1,417	8,344	13
Yellow birch	962	2,202	17	108	3,289	44	2,567	2,611	5,900	11
Paper birch	981	570	0	18	1,569	32	633	665	2,234	20
Gray birch	122	31	0	0	153	0	34	34	187	62
Beech	2,190	5,110	67	250	7,617	220	2,793	3,013	10,630	12
White ash	916	461	0	0	1,377	37	87	124	1,501	24
Black ash	134	16	0	0	150	0	35	35	185	83
Aspen	316	206	84	0	606	33	643	676	1,282	29
White oaks	48	12	0	0	60	0	5	5	65	61
Red oaks	279	113	0	0	392	0	15	15	407	35
Basswood	151	211	35	0	397	0	74	74	471	30
Elm	35	28	0	0	63	51	552	603	666	33
Other hardwoods[a]	758	1,804	0	49	2,611	457	1,041	1,498	4,109	16
Total hardwoods	13,773	21,947	536	743	36,999	1,114	12,185	13,299	50,298	5
Total, all species	16,417	24,120	568	760	41,865	1,643	15,263	16,906	58,771	4.4
Sampling error (percent)	7	6	27	20	5	21	7	7	4.4	

[a]Includes noncommercial hardwoods.

TREES WITH OBSERVED CAVITIES
Proportional Distribution
Softwood-Hardwood and Live-Dead



Softwood trees



Hardwood trees

Table 10.--Number of shrubs, seedlings, and saplings on timberland by species, browse preference class, and stand-size class, Vermont, 1983

(In millions of stems)

Species and browse preference class	Stand-size class				All classes	Percent saplings
	Sawtimber	Poletimber	Sapling and seedling	Non-stocked		
Northern white-cedar	43.1	22.4	47.3	.0	112.8	39
Eastern hemlock	245.2	50.8	7.5	.0	303.5	38
Striped maple	1,502.0	539.6	89.2	.0	2,130.8	3
Red maple	474.7	221.8	212.4	5.2	914.1	14
Mountain maple	405.0	173.3	125.8	.0	704.1	4
Apple	5.1	5.9	20.4	.0	31.4	5
Smooth sumac	.0	1.5	.0	.0	1.5	s[a]
Staghorn sumac	1.5	.0	18.2	.0	19.7	s
Mountain ash	16.4	4.5	.0	.0	20.9	s
Hobblebush viburnum	1,501.4	572.1	106.6	.0	2,180.1	s
Total readily browsed	4,194.4	1,591.9	627.4	5.2	6,418.9	
Balsam fir	402.0	321.4	161.8	.0	885.2	26
Common juniper	43.2	7.5	162.5	.0	213.2	s
White pine	50.2	22.5	3.7	.0	76.4	47
Sugar maple	3,240.0	1,100.8	732.1	.0	5,072.9	6
Shadbush	48.9	8.4	7.0	.0	64.3	s
Yellow birch	471.0	215.5	151.6	.0	838.1	8
Black birch	52.0	12.8	2.8	.0	67.6	28
Paper birch	133.1	86.3	53.3	.0	272.7	15
Red-osier dogwood	96.8	32.2	167.1	.0	296.1	s
Hawthorn	22.6	5.8	20.2	.0	48.6	6
American hazelnut	69.5	74.5	2.8	.0	146.8	s
Beaked hazelnut	35.1	13.8	35.1	.0	84.0	s
Beech	1,371.4	348.6	152.1	.0	1,872.1	11
White ash	542.5	170.6	196.1	.0	909.2	4
Black ash	7.5	7.0	.0	.0	14.5	38
Honeysuckle	54.3	13.5	19.0	.0	86.8	s
Balsam poplar	4.4	.0	.0	.0	4.4	0
Bigtooth aspen	4.3	4.8	1.4	.0	10.5	0
Quaking aspen	41.4	23.8	71.6	.0	136.8	13
Pin cherry	103.7	86.1	75.7	.0	265.5	8
Black cherry	185.0	106.8	129.5	.0	421.3	4
Chokecherry	26.5	37.3	129.4	.0	193.2	s
White oak	10.9	.0	8.5	.0	19.4	7
Roses	9.0	.0	6.7	.0	15.7	s
Brambles	1,697.2	891.8	1,709.8	39.6	4,338.4	s
Willows	29.9	.0	35.6	.0	65.5	11
Common elderberry	41.9	19.4	27.7	.0	89.0	s
Red-berried elder	10.1	13.2	28.6	1.1	53.0	s
American elm	18.5	34.3	44.6	.0	97.4	20
Blueberries	9.0	25.8	50.6	.0	85.4	s
Sweetfern	72.7	15.4	32.5	.0	120.6	s
Maple-leaf viburnum	29.7	50.8	.0	.0	80.5	s
Total commonly browsed	8,934.3	3,750.7	4,219.4	40.7	16,945.1	

Table 10.--Continued

(In millions of stems)

Species and browse preference class	Stand-size class				All classes	Percent saplings
	Sawtimber	Poletimber	Sapling and seedling	Non-stocked		
Tamarack	1.5	.0	.0	.0	1.5	0
White spruce	26.2	4.2	14.5	.0	44.9	55
Black spruce	.0	.0	5.6	.0	5.6	50
Red spruce	370.3	147.9	49.7	.0	567.9	16
Speckled alder	66.4	56.8	30.9	53.4	207.5	s
Black chokecherry	.0	4.8	2.9	.0	7.7	s
Gray birch	39.8	25.7	14.6	.0	80.1	37
Lambkill	3.0	.0	.0	.0	3.0	s
Eastern hophornbeam	204.0	87.4	36.9	.0	328.3	24
Red oak	30.9	17.9	9.4	.0	58.2	12
Spiraea	1,133.5	525.0	2,130.6	45.8	3,834.9	s
Total infrequently browsed	1,875.6	869.7	2,295.1	99.2	5,139.6	
Red ash	15.0	11.9	.0	.0	26.9	s
Witch-hazel	31.6	26.4	31.6	.0	89.6	s
Gooseberries	29.3	41.6	42.0	11.7	124.6	s
Total questionable	75.9	79.9	73.6	11.7	241.1	
Other species	640.9	337.5	529.3	5.7	1,513.4	
Total all species	15,721.1	6,629.7	7,744.8	162.5	30,258.1	
Sampling error (percent)	6	10	15	71	4.2	

[a]Classed as shrub species.

Table 11.--Number of shrubs, seedlings, and saplings on timberland by species, browse preference class, and forest-type group, Vermont, 1983

(In millions of stems)

Species and browse preference class	Forest-type group							All groups
	White/ red pine	Spruce/ fir	Oak/ pine	Oak/ hickory	Elm/ash/ red maple	Northern hardwoods	Aspen/ birch	
Northern white-cedar	7.3	69.2	.0	9.1	.0	27.2	.0	112.8
Eastern hemlock	136.4	36.3	.0	15.3	3.4	110.7	1.4	303.5
Striped maple	43.5	41.7	6.8	4.0	.0	1,934.2	100.6	2,130.8
Red maple	129.7	208.6	5.4	29.0	29.6	487.2	24.6	914.1
Mountain maple	115.8	64.9	.0	.0	.0	478.3	45.1	704.1
Apple	9.3	.0	.0	11.7	.0	9.0	1.4	31.4
Smooth sumac	.0	.0	.0	.0	.0	1.5	.0	1.5
Staghorn sumac	1.5	1.4	.0	15.4	1.4	.0	.0	19.7
Mountain ash	.0	.0	.0	.0	.0	11.7	9.2	20.9
Hobblebush viburnum	61.8	146.8	.0	.0	.0	1,900.5	71.0	2,180.1
Total readily browsed	505.3	568.9	12.2	84.5	34.4	4,960.3	253.3	6,418.9
Balsam fir	81.1	458.2	.0	2.9	.0	258.5	84.5	885.2
Common juniper	152.8	18.8	.0	.0	.0	41.6	.0	213.2
White pine	44.5	.0	.0	7.1	.0	24.8	.0	76.4
Sugar maple	375.4	178.3	1.4	134.8	106.0	4,126.9	150.1	5,072.9
Shadbush	8.5	4.5	14.9	11.8	2.6	20.5	1.5	64.3
Yellow birch	63.5	43.4	.0	7.5	.0	717.6	6.1	838.1
Black birch	11.6	.0	.0	22.1	.0	31.0	2.9	67.6
Paper birch	57.7	49.6	2.7	7.6	.0	146.1	9.0	272.7
Red-osier dogwood	111.6	142.7	.0	.0	41.8	.0	.0	296.1
Hawthorn	7.5	1.5	.0	3.4	.0	32.0	4.2	48.6
American hazelnut	2.6	15.7	.0	46.1	15.5	66.9	.0	146.8
Beaked hazelnut	3.1	13.4	.0	.0	.0	17.7	49.8	84.0
Beech	54.3	16.7	8.2	7.4	15.1	1,734.8	35.6	1,872.1
White ash	142.7	65.0	1.4	23.2	101.9	520.3	54.7	909.2
Black ash	.0	6.9	.0	.0	1.5	6.1	.0	14.5
Honeysuckle	40.3	1.5	.0	.0	19.0	26.0	.0	86.8
Balsam poplar	1.5	2.9	.0	.0	.0	.0	.0	4.4
Bigtooth aspen	1.4	.0	.0	1.4	.0	4.3	3.4	10.5
Quaking aspen	30.3	15.8	.0	2.7	1.4	66.7	19.9	136.8
Pin cherry	21.2	15.2	.0	5.5	10.5	170.5	42.6	265.5
Black cherry	50.7	53.6	.0	33.4	18.0	259.8	5.8	421.3
Chokecherry	27.4	59.0	.0	3.7	.0	76.2	26.9	193.2
White oak	.0	.0	.0	12.2	.0	7.2	.0	19.4
Roses	5.9	.0	.0	.0	.0	9.8	.0	15.7
Brambles	529.7	831.5	.0	203.8	92.0	2,602.2	79.2	4,338.4

Table 11.--Continued

(In millions of stems)

Species and browse preference class	Forest-type group							All groups
	White/ red pine	Spruce/ fir	Oak/ pine	Oak/ hickory	Elm/ash/ red maple	Northern hardwoods	Aspen/ birch	
Willows	1.4	39.4	.0	.0	.0	20.2	4.5	65.5
Common elderberry	.0	7.5	.0	.0	.0	81.5	.0	89.0
Red-berried elder	.0	.0	.0	.0	.0	51.5	1.5	53.0
American elm	21.1	.0	.0	10.7	42.0	22.1	1.5	97.4
Blueberries	30.0	28.9	.0	19.0	.0	7.5	.0	85.4
Sweetfern	8.7	9.1	.0	20.4	.0	79.4	3.0	120.6
Maple-leaf viburnum	.0	.0	20.3	1.4	.0	58.8	.0	80.5
Total commonly browsed	1,886.5	2,079.1	48.9	588.1	467.3	11,288.5	586.7	16,945.1
Tamarack	.0	1.5	.0	.0	.0	.0	.0	1.5
White spruce	13.2	27.4	.0	.0	.0	4.3	.0	44.9
Black spruce	.0	5.6	.0	.0	.0	.0	.0	5.6
Red spruce	41.3	148.8	.0	6.0	.0	347.7	24.1	567.9
Speckled alder	9.4	77.0	.0	.0	54.2	56.4	10.5	207.5
Black chokecherry	1.5	.0	.0	.0	1.4	4.8	.0	7.7
Gray birch	19.5	27.5	.0	2.9	.0	15.0	15.2	80.1
Lambkill	.0	3.0	.0	.0	.0	.0	.0	3.0
Eastern hophornbeam	54.4	7.5	1.3	47.2	6.9	209.6	1.4	328.3
Red oak	24.7	.0	1.4	13.0	.0	16.0	3.1	58.2
Spiraea	1,090.4	1,133.1	40.7	208.8	196.7	1,138.8	26.4	3,834.9
Total infrequently browsed	1,254.4	1,431.4	43.4	277.9	259.2	1,792.6	80.7	5,139.6
Red ash	17.9	.0	.0	.0	7.5	1.5	.0	26.9
Witch-hazel	14.5	.0	.0	.0	.0	56.3	18.8	89.6
Gooseberries	9.0	41.6	.0	16.3	11.7	46.0	.0	124.6
Total questionable	41.4	41.6	.0	16.3	19.2	103.8	18.8	241.1
Other species	192.7	274.0	.0	115.8	234.6	653.6	42.7	1,513.4
Total all species	3,880.3	4,395.0	104.5	1,082.6	1,014.7	18,798.8	982.2	30,258.1
Sampling error (percent)	15	17	95	26	36	6	24	4.2

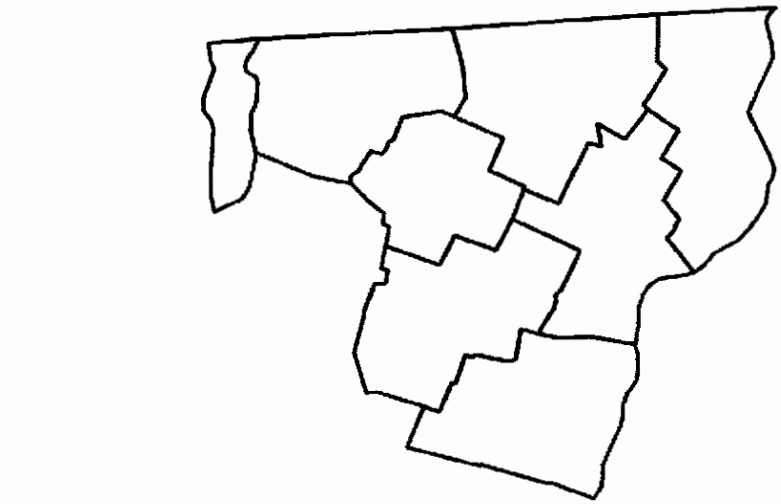
Table 12.--Number of shrubs, seedlings, and saplings on timberland by species, browse preference class, and browse utilization class, Vermont, 1983

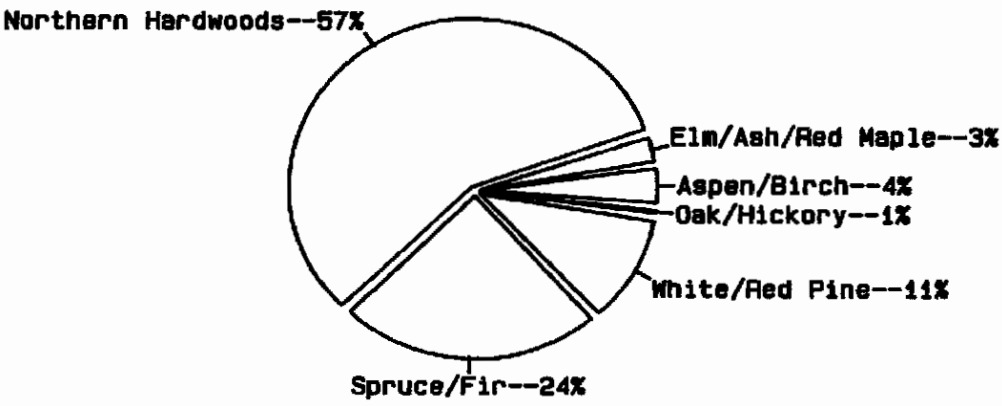
Species and browse preference class	Browse utilization class				All classes	Sampling error
	None	Light	Moderate	Heavy		
	Million stems					Percent
Northern white-cedar	100.6	6.0	6.2	.0	112.8	27
Eastern hemlock	302.1	.0	1.4	.0	303.5	18
Striped maple	1,608.0	389.5	109.9	23.4	2,130.8	9
Red maple	634.1	176.4	81.7	21.9	914.1	11
Mountain maple	455.1	212.8	36.2	.0	704.1	19
Apple	19.6	2.9	8.9	.0	31.4	32
Smooth sumac	1.5	.0	.0	.0	1.5	100
Staghorn sumac	6.0	3.8	1.4	8.5	19.7	61
Mountain ash	18.1	2.8	.0	.0	20.9	54
Hobblebush viburnum	1,542.7	385.2	252.2	.0	2,180.1	12
Total readily browsed	4,687.8	1,179.4	497.9	53.8	6,418.9	6
Balsam fir	867.3	14.9	.0	3.0	885.2	11
Common juniper	213.2	.0	.0	.0	213.2	73
White pine	75.0	1.4	.0	.0	76.4	20
Sugar maple	3,898.6	1,005.4	136.6	32.3	5,072.9	8
Shadbush	46.7	16.3	1.3	.0	64.3	31
Yellow birch	535.8	276.3	26.0	.0	838.1	18
Black birch	63.3	4.3	.0	.0	67.6	37
Paper birch	205.4	42.1	23.8	1.4	272.7	20
Red-osier dogwood	186.7	40.2	1.5	67.7	296.1	49
Hawthorn	43.7	4.9	.0	.0	48.6	37
American hazelnut	131.3	.0	15.5	.0	146.8	41
Beaked hazelnut	52.8	.0	31.2	.0	84.0	50
Beech	1,491.2	299.5	66.9	14.5	1,872.1	9
White ash	656.4	164.7	68.4	19.7	909.2	12
Black ash	14.5	.0	.0	.0	14.5	33
Honeysuckle	59.1	27.7	.0	.0	86.8	54
Balsam poplar	2.9	1.5	.0	.0	4.4	55
Bigtooth aspen	7.1	3.4	.0	.0	10.5	49
Quaking aspen	104.3	32.5	.0	.0	136.8	23
Pin cherry	240.7	16.5	8.3	.0	265.5	29
Black cherry	321.4	41.3	52.6	6.0	421.3	17
Chokecherry	162.1	21.4	7.4	2.3	193.2	32
White oak	15.1	4.3	.0	.0	19.4	68
Roses	15.7	.0	.0	.0	15.7	54
Brambles	3,996.2	340.7	1.5	.0	4,338.4	11
Willows	57.1	2.7	5.7	.0	65.5	40
Common elderberry	39.8	29.8	19.4	.0	89.0	36
Red-berried elder	31.1	11.2	10.7	.0	53.0	52
American elm	62.2	30.4	4.8	.0	97.4	30
Blueberries	62.6	21.3	1.5	.0	85.4	49
Sweetfern	105.7	14.9	.0	.0	120.6	54
Maple-leaf viburnum	60.2	.0	20.3	.0	80.5	64
Total commonly browsed	13,825.2	2,469.6	503.4	146.9	16,945.1	5

Table 12.--Continued

Species and browse preference class	Browse utilization class				All classes	Sampling error
	None	Light	Moderate	Heavy		
	Million stems					Percent
Tamarack	1.5	.0	.0	.0	1.5	100
White spruce	44.9	.0	.0	.0	44.9	39
Black spruce	5.6	.0	.0	.0	5.6	100
Red spruce	560.6	7.3	.0	.0	567.9	10
Speckled alder	176.5	31.0	.0	.0	207.5	37
Black chokecherry	7.7	.0	.0	.0	7.7	68
Gray birch	67.4	7.3	5.4	.0	80.1	32
Lambkill	3.0	.0	.0	.0	3.0	100
Eastern hophornbeam	271.2	53.1	4.0	.0	328.3	14
Red oak	52.6	2.7	2.9	.0	58.2	30
Spiraea	2,641.1	1,056.0	117.8	20.0	3,834.9	21
Total infrequently browsed	3,832.1	1,157.4	130.1	20.0	5,139.6	16
Red ash	23.9	3.0	.0	.0	26.9	48
Witch-hazel	75.5	14.1	.0	.0	89.6	41
Gooseberries	124.6	.0	.0	.0	124.6	36
Total questionable	224.0	17.1	.0	.0	241.1	24
Other species	1,224.4	113.9	154.2	20.9	1,513.4	14
Total all species	23,793.5	4,937.4	1,285.6	241.6	30,258.1	4.2
Sampling error (percent)	4	13	17	33	4.2	

NORTHERN UNIT TABLES





Area of timberland by type group

Table 13.--Area of timberland by forest type, forest-type group, and stand-size class, Northern Unit, Vermont, 1983

(In thousands of acres)

Forest type and forest-type group	Stand-size class				All classes
	Sawtimber	Poletimber	Sapling and seedling	Nonstocked	
White pine	80.8	.0	12.7	.0	93.5
White pine/hemlock	52.0	7.5	.0	.0	59.5
Hemlock	75.6	14.7	.0	.0	90.3
White/red pine group	208.4	22.2	12.7	.0	243.3
Balsam fir	15.0	64.8	22.6	.0	102.4
Red spruce	44.3	7.4	.0	.0	51.7
Red spruce/balsam fir	161.2	44.9	51.2	.0	257.3
White spruce	22.8	14.3	.0	.0	37.1
Black spruce	.0	.0	6.9	.0	6.9
Northern white-cedar	51.8	7.4	14.4	.0	73.6
Spruce/fir group	295.1	138.8	95.1	.0	529.0
Northern red oak	7.5	.0	.0	.0	7.5
Hawthorn/reverting field	.0	2.9	.0	.0	2.9
Mixed central hardwoods	.0	7.4	.0	.0	7.4
Oak/hickory group	7.5	10.3	.0	.0	17.8
Black ash/Amer. elm/red maple	14.8	21.3	20.4	.0	56.5
Elm/ash/red maple group	14.8	21.3	20.4	.0	56.5
Sugar maple/beech/yellow birch	641.3	281.3	69.9	.0	992.5
Black cherry	7.3	.0	6.3	.0	13.6
Red maple/northern hardwoods	51.8	58.4	7.6	.0	117.8
Pin cherry/reverting field	.0	.0	21.7	.0	21.7
Mixed northern hardwoods	37.8	59.3	14.2	.0	111.3
Northern hardwoods group	738.2	399.0	119.7	.0	1,256.9
Aspen	15.0	7.5	7.3	.0	29.8
Paper birch	.0	67.1	.0	.0	67.1
Aspen/birch group	15.0	74.6	7.3	.0	96.9
All forest types	1,279.0	666.2	255.2	.0	2,200.4

Table 14.--Number of all live nut- and fruit-producing trees on timberland by species and diameter class, Northern Unit, Vermont, 1983

Species	Diameter class (inches at breast height)										All classes	Sampling error
	5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-28.9	29+		
	Thousand trees											Percent
Serviceberry	292	35	0	0	0	0	0	0	0	0	327	100
Hickory	420	166	0	71	0	29	0	0	0	0	686	78
Hawthorn	79	13	0	0	0	0	0	0	0	0	92	100
Beech	5,366	2,934	1,407	1,216	854	741	455	336	338	0	13,647	14
Butternut	138	299	34	0	0	17	25	17	15	22	567	59
Apple	345	35	35	0	0	0	0	0	0	0	415	62
Eastern hophornbeam	4,163	552	105	36	33	35	17	0	0	0	4,941	28
Pin cherry	293	182	70	0	0	0	0	0	0	0	545	50
Black cherry	1,671	1,225	790	408	199	99	50	0	15	0	4,457	21
White oak	0	117	0	0	0	30	0	0	18	0	165	90
Swamp white oak	0	0	0	0	0	17	0	0	0	0	17	100
Northern red oak	507	799	204	271	144	18	17	0	0	57	2,017	35
Mountain ash	171	0	0	0	0	0	0	0	0	0	171	59
Total all species	13,445	6,357	2,645	2,002	1,230	986	564	353	386	79	28,047	10.0
Sampling error (percent)	14	14	16	18	18	20	23	28	24	53	10.0	

Table 15.--Number of shrubs and saplings on timberland by stand-size class, type of stem, and mast type, Northern Unit, Vermont, 1983

(In thousands of stems)

Stand-size class and type of stem	Mast type			Unidentified species	Total stems
	Nuts	Other seeds	Berries		
Sawtimber:					
Shrubs	67,572	344,604	1,663,407	55,407	2,130,990
Saplings	43,611	391,483	6,572	1,527	443,193
Total sawtimber	111,183	736,087	1,669,979	56,934	2,574,183
Poletimber:					
Shrubs	36,838	369,359	1,267,498	14,493	1,688,188
Saplings	19,258	265,056	5,895	0	290,209
Total poletimber	56,096	634,415	1,273,393	14,493	1,978,397
Sapling/seedling:					
Shrubs	37,945	658,754	1,286,810	20,421	2,003,930
Saplings	5,888	145,718	27,004	0	178,610
Total sapling/seedling	43,833	804,472	1,313,814	20,421	2,182,540
Nonstocked:					
Shrubs	0	0	0	0	0
Saplings	0	0	0	0	0
Total nonstocked	0	0	0	0	0
Total, all classes	211,112	2,174,974	4,257,186	91,848	6,735,120

Table 16.--Number of standing dead trees on timberland by species, condition, and diameter class, Northern Unit, Vermont, 1983

Species	Intact top				Broken top				Total all trees	Sampling error
	5.0-10.9	11.0-14.9	15+	Total	5.0-10.9	11.0-14.9	15+	Total		
	Thousand trees									Percent
Balsam fir	3,107	237	58	3,402	3,658	430	0	4,088	7,490	15
Tamarack	159	0	0	159	34	0	0	34	193	84
White spruce	753	34	0	787	228	0	0	228	1,015	55
Black spruce	0	0	0	0	0	0	0	0	0	0
Red spruce	3,107	116	43	3,266	2,463	353	77	2,893	6,159	18
Red pine	0	0	0	0	0	0	0	0	0	0
White pine	226	83	51	360	1,043	157	52	1,252	1,612	40
Northern white-cedar	1,822	34	0	1,856	436	17	0	453	2,309	33
Hemlock	388	18	19	425	1,004	119	16	1,139	1,564	33
Other softwoods	0	0	0	0	0	0	0	0	0	0
Total softwoods	9,562	522	171	10,255	8,866	1,076	145	10,087	20,342	11
Sugar maple	1,122	85	49	1,256	1,812	293	300	2,405	3,661	22
Red maple	748	60	0	808	1,042	157	80	1,279	2,087	31
Yellow birch	689	135	28	852	2,245	802	537	3,584	4,436	15
Paper birch	508	0	17	525	1,657	93	34	1,784	2,309	32
Gray birch	70	0	0	70	276	0	0	276	346	42
Beech	68	184	105	357	274	346	429	1,049	1,406	21
White ash	332	0	0	332	199	17	44	260	592	68
Black ash	0	0	0	0	35	0	0	35	35	100
Aspen	444	76	0	520	1,503	118	40	1,661	2,181	27
White oaks	0	0	0	0	0	0	0	0	0	0
Red oaks	0	0	0	0	0	0	0	0	0	0
Basswood	0	0	0	0	36	0	9	45	45	82
Elm	140	16	50	206	1,083	247	139	1,469	1,675	41
Other hardwoods[a]	688	18	34	740	2,192	273	60	2,525	3,265	20
Total hardwoods	4,809	574	283	5,666	12,354	2,346	1,672	16,372	22,038	9
Total, all species	14,371	1,096	454	15,921	21,220	3,422	1,817	26,459	42,380	6.7
Sampling error (percent)	12	21	24	11	9	12	11	8	6.7	

[a]Includes noncommercial hardwoods.

Table 17.--Number of trees (5.0+ inches d.b.h.) with observed cavities on timberland by species and condition, Northern Unit, Vermont, 1983

Species	Live				Total live	Dead		Total dead	Total all trees	Sampling error
	No cull	Intact live top	Broken top	Dead top		Intact top	Broken top			
	Thousand trees									Percent
Balsam fir	1,053	535	0	0	1,588	190	997	1,187	2,775	22
Tamarack	0	0	0	0	0	0	0	0	0	0
White spruce	46	85	0	0	131	17	125	142	273	67
Black spruce	0	0	0	0	0	0	0	0	0	0
Red spruce	324	129	0	0	453	17	317	334	787	28
Red pine	0	0	0	0	0	0	0	0	0	0
White pine	121	17	0	0	138	103	73	176	314	32
Northern white-cedar	178	217	0	0	395	17	17	34	429	34
Hemlock	222	96	0	17	335	0	367	367	702	36
Other softwoods	0	0	0	0	0	0	0	0	0	0
Total softwoods	1,944	1,079	0	17	3,040	344	1,896	2,240	5,280	15
Sugar maple	2,370	3,507	203	89	6,169	91	985	1,076	7,245	13
Red maple	806	1,715	0	64	2,585	68	541	609	3,194	20
Yellow birch	425	1,021	17	17	1,480	28	1,339	1,367	2,847	15
Paper birch	563	231	0	18	812	0	107	107	919	36
Gray birch	122	0	0	0	122	0	34	34	156	72
Beech	468	1,487	52	73	2,080	174	782	956	3,036	17
White ash	321	86	0	0	407	0	78	78	485	58
Black ash	134	0	0	0	134	0	35	35	169	90
Aspen	130	135	84	0	349	0	527	527	876	39
White oaks	0	0	0	0	0	0	0	0	0	0
Red oaks	35	11	0	0	46	0	0	0	46	76
Basswood	36	59	35	0	130	0	9	9	139	49
Elm	0	0	0	0	0	34	249	283	283	41
Other hardwoods[a]	356	401	0	17	774	137	760	897	1,671	26
Total hardwoods	5,766	8,653	391	278	15,088	532	5,446	5,978	21,066	7
Total, all species	7,710	9,732	391	295	18,128	876	7,342	8,218	26,346	6.3
Sampling error (percent)	10	9	36	30	7	24	11	10	6.3	

[a]Includes noncommercial hardwoods.

Table 18.--Number of shrubs, seedlings, and saplings on timberland by species, browse preference class, and stand-size class, Northern Unit, Vermont, 1983

(In millions of stems)

Species and browse preference class	Stand-size class				All classes	Percent saplings
	Sawtimber	Poletimber	Sapling and seedling	Non-stocked		
Northern white-cedar	40.2	22.4	37.5	.0	100.1	42
Eastern hemlock	112.8	46.3	7.5	.0	166.6	44
Striped maple	667.2	372.5	39.9	.0	1,079.6	2
Red maple	272.1	142.6	154.0	.0	568.7	13
Mountain maple	346.7	127.9	113.5	.0	588.1	3
Apple	.0	4.5	7.6	.0	12.1	0
Smooth sumac	.0	1.5	.0	.0	1.5	s[a]
Staghorn sumac	1.5	.0	.0	.0	1.5	s
Mountain ash	8.9	4.5	.0	.0	13.4	s
Hobblebush viburnum	590.9	406.8	91.5	.0	1,089.2	s
Total readily browsed	2,040.3	1,129.0	451.5	.0	3,620.8	
Balsam fir	357.1	280.7	150.1	.0	787.9	25
Common juniper	43.2	7.5	156.1	.0	206.8	s
White pine	3.0	.0	1.5	.0	4.5	67
Sugar maple	1,827.6	633.3	481.0	.0	2,941.9	6
Shadbush	7.5	3.0	4.3	.0	14.8	s
Yellow birch	227.9	167.2	74.8	.0	469.9	10
Paper birch	81.4	40.6	41.8	.0	163.8	16
Red-osier dogwood	27.7	32.2	123.2	.0	183.1	s
Hawthorn	21.2	3.1	15.4	.0	39.7	4
American hazelnut	32.5	23.0	2.8	.0	58.3	s
Beaked hazelnut	35.1	13.8	35.1	.0	84.0	s
Beech	312.5	188.6	88.3	.0	589.4	8
White ash	185.1	71.2	96.5	.0	352.8	5
Black ash	7.5	7.0	.0	.0	14.5	38
Honeysuckle	4.5	13.5	.0	.0	18.0	s
Balsam poplar	4.4	.0	.0	.0	4.4	0
Bigtooth aspen	2.9	.0	.0	.0	2.9	0
Quaking aspen	24.0	22.4	42.2	.0	88.6	12
Pin cherry	98.2	69.1	61.1	.0	228.4	9
Black cherry	79.7	64.6	26.3	.0	170.6	3
Chokecherry	25.1	2.9	118.8	.0	146.8	s
Roses	9.0	.0	6.7	.0	15.7	s
Brambles	889.2	640.8	832.5	.0	2,362.5	s
Willows	24.4	.0	7.9	.0	32.3	5
Common elderberry	16.6	19.4	20.8	.0	56.8	s
Red-berried elder	5.9	10.4	28.6	.0	44.9	s
American elm	7.1	3.0	7.0	.0	17.1	0
Blueberries	3.0	4.5	1.6	.0	9.1	s
Sweetfern	4.4	4.5	3.0	.0	11.9	s
Total commonly browsed	4,367.7	2,326.3	2,427.4	.0	9,121.4	

Table 18.--Continued

(In millions of stems)

Species and browse preference class	Stand-size class				All classes	Percent saplings
	Sawtimber	Poletimber	Sapling and seedling	Non-stocked		
Tamarack	1.5	.0	.0	.0	1.5	0
White spruce	26.2	4.2	14.5	.0	44.9	55
Black spruce	.0	.0	5.6	.0	5.6	50
Red spruce	147.3	99.6	42.2	.0	289.1	18
Speckled alder	66.4	56.8	30.9	.0	154.1	s
Black chokecherry	.0	4.8	1.4	.0	6.2	s
Gray birch	22.0	12.0	2.9	.0	36.9	15
Lambkill	3.0	.0	.0	.0	3.0	s
Eastern hophornbeam	68.5	37.9	3.1	.0	109.5	17
Red oak	19.2	6.3	2.6	.0	28.1	5
Spiraea	255.8	274.9	616.6	.0	1,147.3	s
Total infrequently browsed	609.9	496.5	719.8	.0	1,826.2	
Red ash	15.0	11.9	.0	.0	26.9	s
Witch-hazel	8.9	7.7	.0	.0	16.6	s
Gooseberries	22.4	41.6	10.2	.0	74.2	s
Total questionable	46.3	61.2	10.2	.0	117.7	
Other species	128.2	171.2	77.7	.0	377.1	
Total all species	7,192.4	4,184.2	3,686.6	.0	15,063.2	
Sampling error (percent)	8	12	18	-	5.2	

[a]Classed as shrub species.

Table 19.--Number of shrubs, seedlings, and saplings on timberland by species, browse preference class, and forest-type group, Northern Unit, Vermont, 1983

(In millions of stems)

Species and browse preference class	Forest-type group							All groups
	White/ red pine	Spruce/ fir	Oak/ pine	Oak/ hickory	Elm/ash/ red maple	Northern hardwoods	Aspen/ birch	
Northern white-cedar	4.4	63.5	.0	9.1	.0	23.1	.0	100.1
Eastern hemlock	59.7	36.3	.0	3.0	.0	67.6	.0	166.6
Striped maple	14.8	40.3	.0	.0	.0	945.0	79.5	1,079.6
Red maple	76.8	171.0	.0	1.5	28.2	282.2	9.0	568.7
Mountain maple	78.0	64.9	.0	.0	.0	400.1	45.1	588.1
Apple	.0	.0	.0	4.5	.0	7.6	.0	12.1
Smooth sumac	.0	.0	.0	.0	.0	1.5	.0	1.5
Staghorn sumac	1.5	.0	.0	.0	.0	.0	.0	1.5
Mountain ash	.0	.0	.0	.0	.0	8.9	4.5	13.4
Hobblebush viburnum	.0	142.2	.0	.0	.0	879.4	67.6	1,089.2
Total readily browsed	235.2	518.2	.0	18.1	28.2	2,615.4	205.7	3,620.8
Balsam fir	76.5	423.7	.0	.0	.0	203.2	84.5	787.9
Common juniper	150.7	14.5	.0	.0	.0	41.6	.0	206.8
White pine	1.5	.0	.0	.0	.0	3.0	.0	4.5
Sugar maple	171.7	139.9	.0	3.1	101.9	2,428.8	96.5	2,941.9
Shadbush	1.5	4.5	.0	.0	1.3	6.0	1.5	14.8
Yellow birch	41.9	43.4	.0	1.5	.0	378.5	4.6	469.9
Paper birch	34.7	39.3	.0	.0	.0	82.2	7.6	163.8
Red-osier dogwood	.0	142.7	.0	.0	40.4	.0	.0	183.1
Hawthorn	6.1	1.5	.0	.0	.0	30.6	1.5	39.7
American hazelnut	1.3	15.7	.0	.0	.0	41.3	.0	58.3
Beaked hazelnut	3.1	13.4	.0	.0	.0	17.7	49.8	84.0
Beech	8.9	15.3	.0	.0	.0	563.7	1.5	589.4
White ash	18.0	49.7	.0	7.6	31.1	229.8	16.6	352.8
Black ash	.0	6.9	.0	.0	1.5	6.1	.0	14.5
Honeysuckle	.0	1.5	.0	.0	.0	16.5	.0	18.0
Balsam poplar	1.5	2.9	.0	.0	.0	.0	.0	4.4
Bigtooth aspen	.0	.0	.0	.0	.0	2.9	.0	2.9
Quaking aspen	7.3	14.4	.0	.0	.0	59.3	7.6	88.6
Pin cherry	4.5	15.2	.0	.0	10.5	157.0	41.2	228.4
Black cherry	9.2	46.5	.0	12.0	5.8	95.6	1.5	170.6
Chokecherry	19.9	54.7	.0	.0	.0	72.2	.0	146.8
Roses	5.9	.0	.0	.0	.0	9.8	.0	15.7
Brambles	283.8	632.9	.0	49.9	25.6	1,339.0	31.3	2,362.5

Table 19.--Continued

(In millions of stems)

Species and browse preference class	Forest-type group							All groups
	White/ red pine	Spruce/ fir	Oak/ pine	Oak/ hickory	Elm/ash/ red maple	Northern hardwoods	Aspen/ birch	
Willows	1.4	19.9	.0	.0	.0	6.5	4.5	32.3
Common elderberry	.0	7.5	.0	.0	.0	49.3	.0	56.8
Red-berried elder	.0	.0	.0	.0	.0	43.4	1.5	44.9
American elm	4.1	.0	.0	.0	1.5	11.5	.0	17.1
Blueberries	.0	7.6	.0	.0	.0	1.5	.0	9.1
Sweetfern	4.4	.0	.0	.0	.0	4.5	3.0	11.9
Total commonly browsed	857.9	1,713.6	.0	74.1	219.6	5,901.5	354.7	9,121.4
Tamarack	.0	1.5	.0	.0	.0	.0	.0	1.5
White spruce	13.2	27.4	.0	.0	.0	4.3	.0	44.9
Black spruce	.0	5.6	.0	.0	.0	.0	.0	5.6
Red spruce	10.5	105.1	.0	3.1	.0	156.7	13.7	289.1
Speckled alder	9.4	77.0	.0	.0	54.2	3.0	10.5	154.1
Black chokecherry	.0	.0	.0	.0	1.4	4.8	.0	6.2
Gray birch	9.3	24.6	.0	.0	.0	1.5	1.5	36.9
Lambkill	.0	3.0	.0	.0	.0	.0	.0	3.0
Eastern hophornbeam	26.1	6.1	.0	1.5	.0	75.8	.0	109.5
Red oak	20.4	.0	.0	.0	.0	7.7	.0	28.1
Spiraea	51.2	550.1	.0	15.6	149.3	361.6	19.5	1,147.3
Total infrequently browsed	140.1	800.4	.0	20.2	204.9	615.4	45.2	1,826.2
Red ash	17.9	.0	.0	.0	7.5	1.5	.0	26.9
Witch-hazel	7.3	.0	.0	.0	.0	9.3	.0	16.6
Gooseberries	9.0	41.6	.0	4.6	11.7	7.3	.0	74.2
Total questionable	34.2	41.6	.0	4.6	19.2	18.1	.0	117.7
Other species	12.3	75.7	.0	4.5	32.0	252.6	.0	377.1
Total all species	1,279.7	3,149.5	.0	121.5	503.9	9,403.0	605.6	15,063.2
Sampling error (percent)	23	14	-	68	49	8	32	5.2

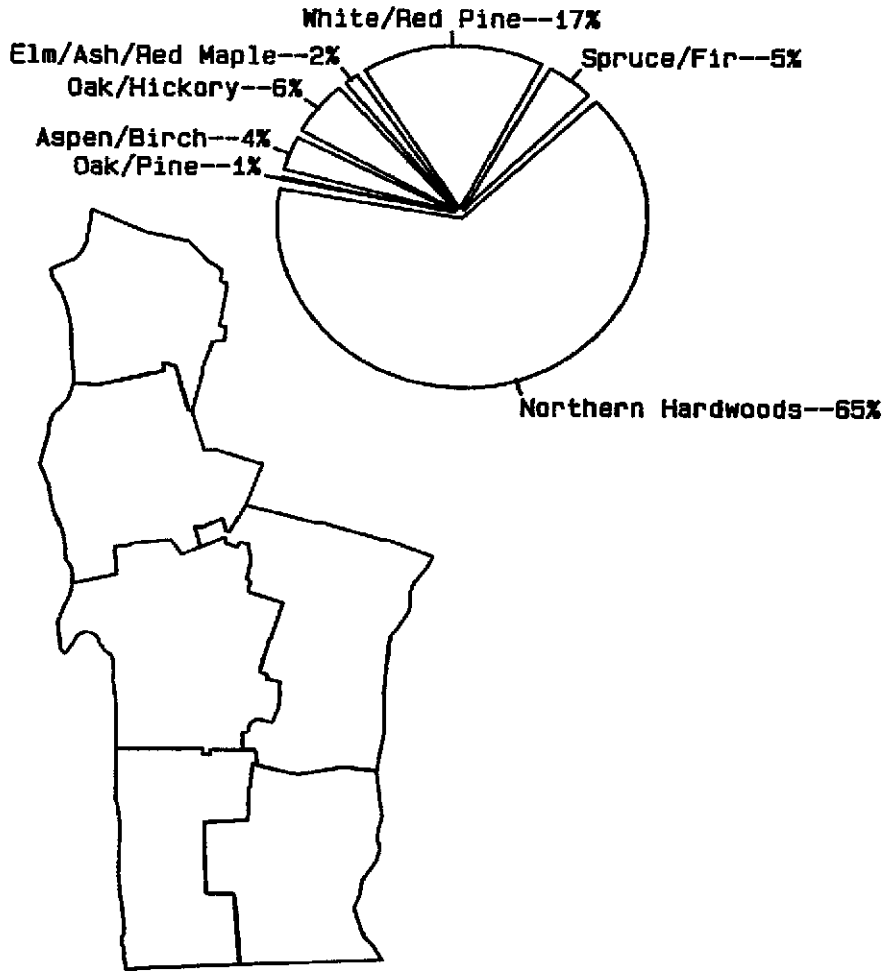
Table 20.--Number of shrubs, seedlings, and saplings on timberland by species, browse preference class, and browse utilization class, Northern Unit, Vermont, 1983

Species and browse preference class	Browse utilization class				All classes	Sampling error
	None	Light	Moderate	Heavy		
	Million stems					Percent
Northern white-cedar	87.9	6.0	6.2	.0	100.1	29
Eastern hemlock	165.2	.0	1.4	.0	166.6	24
Striped maple	874.7	174.5	30.4	.0	1,079.6	12
Red maple	410.9	94.7	55.7	7.4	568.7	16
Mountain maple	385.5	166.4	36.2	.0	588.1	20
Apple	8.9	.0	3.2	.0	12.1	59
Smooth sumac	1.5	.0	.0	.0	1.5	100
Staghorn sumac	1.5	.0	.0	.0	1.5	100
Mountain ash	13.4	.0	.0	.0	13.4	74
Hobblebush viburnum	674.4	268.3	146.5	.0	1,089.2	15
Total readily browsed	2,623.9	709.9	279.6	7.4	3,620.8	8
Balsam fir	770.0	14.9	.0	3.0	787.9	12
Common juniper	206.8	.0	.0	.0	206.8	75
White pine	4.5	.0	.0	.0	4.5	58
Sugar maple	2,296.1	564.5	75.4	5.9	2,941.9	12
Shadbush	13.5	1.3	.0	.0	14.8	40
Yellow birch	384.6	64.3	21.0	.0	469.9	15
Paper birch	134.0	6.0	23.8	.0	163.8	28
Red-osier dogwood	141.4	40.2	1.5	.0	183.1	66
Hawthorn	38.2	1.5	.0	.0	39.7	44
American hazelnut	58.3	.0	.0	.0	58.3	47
Beaked hazelnut	52.8	.0	31.2	.0	84.0	50
Beech	530.2	42.6	15.1	1.5	589.4	15
White ash	280.3	52.9	19.6	.0	352.8	19
Black ash	14.5	.0	.0	.0	14.5	33
Honeysuckle	16.5	1.5	.0	.0	18.0	69
Balsam poplar	2.9	1.5	.0	.0	4.4	55
Bigtooth aspen	2.9	.0	.0	.0	2.9	100
Quaking aspen	63.1	25.5	.0	.0	88.6	30
Pin cherry	219.2	9.2	.0	.0	228.4	33
Black cherry	148.1	13.4	4.5	4.6	170.6	22
Chokecherry	128.2	11.2	7.4	.0	146.8	39
Roses	15.7	.0	.0	.0	15.7	54
Brambles	2,308.4	52.6	1.5	.0	2,362.5	14
Willows	23.9	2.7	5.7	.0	32.3	48
Common elderberry	29.9	7.5	19.4	.0	56.8	40
Red-berried elder	24.4	9.8	10.7	.0	44.9	60
American elm	15.6	1.5	.0	.0	17.1	38
Blueberries	7.6	.0	1.5	.0	9.1	52
Sweetfern	8.9	3.0	.0	.0	11.9	59
Total commonly browsed	7,940.5	927.6	238.3	15.0	9,121.4	7

Table 20.--Continued

Species and browse preference class	Browse utilization class				All classes	Sampling error
	None	Light	Moderate	Heavy		
	Million stems					Percent
Tamarack	1.5	.0	.0	.0	1.5	100
White spruce	44.9	.0	.0	.0	44.9	39
Black spruce	5.6	.0	.0	.0	5.6	100
Red spruce	286.1	3.0	.0	.0	289.1	14
Speckled alder	148.1	6.0	.0	.0	154.1	36
Black chokecherry	6.2	.0	.0	.0	6.2	81
Gray birch	31.5	.0	5.4	.0	36.9	46
Lambkill	3.0	.0	.0	.0	3.0	100
Eastern hophornbeam	97.3	12.2	.0	.0	109.5	22
Red oak	28.1	.0	.0	.0	28.1	52
Spiraea	946.1	76.9	110.5	13.8	1,147.3	27
Total infrequently browsed	1,598.4	98.1	115.9	13.8	1,826.2	17
Red ash	23.9	3.0	.0	.0	26.9	48
Witch-hazel	16.6	.0	.0	.0	16.6	59
Gooseberries	74.2	.0	.0	.0	74.2	45
Total questionable	114.7	3.0	.0	.0	117.7	31
Other species	363.4	3.0	9.2	1.5	377.1	21
Total all species	12,640.9	1,741.6	643.0	37.7	15,063.2	5.2
Sampling error (percent)	6	15	24	48	5.2	

SOUTHERN UNIT TABLES



Area of timberland by type group

Table 21.--Area of timberland by forest type, forest-type group, and stand-size class, Southern Unit, Vermont, 1983

(In thousands of acres)

Forest type and forest-type group	Stand-size class				All classes
	Sawtimber	Poletimber	Sapling and seedling	Nonstocked	
Red pine	7.5	.0	.0	.0	7.5
White pine	156.1	43.1	31.3	.0	230.5
White pine/hemlock	48.4	.0	.0	.0	48.4
Hemlock	101.6	.0	.0	.0	101.6
White/red pine group	313.6	43.1	31.3	.0	388.0
Red spruce	56.3	7.0	.0	.0	63.3
Red spruce/balsam fir	7.0	7.7	14.6	.0	29.3
Northern white-cedar	.0	.0	12.0	.0	12.0
Spruce/fir group	63.3	14.7	26.6	.0	104.6
White pine/no. red oak/white ash	6.7	6.8	.0	.0	13.5
Oak/pine group	6.7	6.8	.0	.0	13.5
White oak/red oak/hickory	7.2	7.1	6.0	.0	20.3
White oak	6.7	13.8	.0	.0	20.5
Northern red oak	50.8	14.2	6.7	.0	71.7
Hawthorn/reverting field	.0	.0	5.6	6.4	12.0
Red maple/central hardwoods	.0	.0	6.4	.0	6.4
Mixed central hardwoods	8.5	.0	7.2	.0	15.7
Oak/hickory group	73.2	35.1	31.9	6.4	146.6
Black ash/Amer. elm/red maple	28.8	7.0	6.7	.0	42.5
Elm/ash/red maple group	28.8	7.0	6.7	.0	42.5
Sugar maple/beech/yellow birch	821.1	113.9	62.2	.0	997.2
Black cherry	4.9	.0	6.7	.0	11.6
Red maple/northern hardwoods	141.7	49.9	7.2	.0	198.8
Pin cherry/reverting field	.0	.0	10.9	5.6	16.5
Mixed northern hardwoods	126.4	61.8	28.3	.0	216.5
Northern hardwoods group	1,094.1	225.6	115.3	5.6	1,440.6
Aspen	.0	22.3	6.8	.0	29.1
Paper birch	29.1	20.9	.0	.0	50.0
Gray birch	.0	6.8	.0	.0	6.8
Aspen/birch group	29.1	50.0	6.8	.0	85.9
All forest types	1,608.8	382.3	218.6	12.0	2,221.7

Table 22.--Number of all live nut- and fruit-producing trees on timberland by species and diameter class, Southern Unit, Vermont, 1983

Species	Diameter class (inches at breast height)										All classes	Sampling error
	5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-28.9	29+		
	Thousand trees											Percent
Eastern redcedar	359	102	0	0	0	0	0	0	0	0	461	64
Serviceberry	187	239	0	0	0	0	0	0	0	0	426	59
Hickory	2,511	801	340	222	113	63	36	17	0	0	4,103	36
Beech	14,908	8,381	6,115	3,756	2,399	1,415	990	592	322	8	38,886	10
Butternut	33	33	140	81	66	0	26	0	11	0	390	67
Black walnut	28	0	0	0	0	0	0	0	0	0	28	100
Apple	842	679	54	17	16	33	0	0	0	0	1,641	35
Eastern hophornbeam	6,193	2,239	970	157	49	0	65	0	0	0	9,673	19
Pin cherry	127	39	39	0	0	0	0	0	0	0	205	48
Black cherry	2,410	2,152	1,038	856	174	143	70	37	30	0	6,910	18
White oak	63	936	438	192	117	0	63	36	38	16	1,899	49
Chestnut oak	0	0	70	0	0	32	0	0	0	0	102	76
Northern red oak	2,420	1,791	2,013	2,011	824	854	479	198	266	26	10,882	18
Mountain ash	36	100	0	0	0	0	0	0	0	0	136	78
Total all species	30,117	17,492	11,217	7,292	3,758	2,540	1,729	880	667	50	75,742	6.8
Sampling error (percent)	9	10	10	10	12	12	13	16	16	55	6.8	

Table 23.--Number of shrubs and saplings on timberland by stand-size class, type of stem, and mast type, Southern Unit, Vermont, 1983

(In thousands of stems)

Stand-size class and type of stem	Mast type			Unidentified species	Total stems
	Nuts	Other seeds	Berries		
Sawtimber:					
Shrubs	36,965	947,235	2,091,735	168,635	3,244,570
Saplings	156,537	290,340	7,500	3,008	457,385
Total sawtimber	193,502	1,237,575	2,099,235	171,643	3,701,955
Poletimber:					
Shrubs	51,524	277,375	595,116	7,087	931,102
Saplings	52,409	146,370	1,363	0	200,142
Total poletimber	103,933	423,745	596,479	7,087	1,131,244
Sapling/seedling:					
Shrubs	0	1,595,172	1,415,641	39,705	3,050,518
Saplings	25,082	74,202	16,836	1,212	117,332
Total sapling/seedling	25,082	1,669,374	1,432,477	40,917	3,167,850
Nonstocked:					
Shrubs	0	99,247	58,059	0	157,306
Saplings	0	0	0	0	0
Total nonstocked	0	99,247	58,059	0	157,306
Total, all classes	322,517	3,429,941	4,186,250	219,647	8,158,355

Table 24.--Number of standing dead trees on timberland by species, condition, and diameter class, Southern Unit, Vermont, 1983

Species	Intact top				Broken top				Total all trees	Sampling error
	5.0-10.9	11.0-14.9	15+	Total	5.0-10.9	11.0-14.9	15+	Total		
	Thousand trees									Percent
Balsam fir	331	37	0	368	1,860	197	48	2,105	2,473	37
Tamarack	0	14	0	14	0	0	0	0	14	100
White spruce	0	0	0	0	0	0	0	0	0	0
Black spruce	0	0	0	0	0	0	0	0	0	0
Red spruce	1,661	155	47	1,863	2,324	245	135	2,704	4,567	23
Red pine	0	17	0	17	0	0	0	0	17	100
White pine	1,209	112	16	1,337	1,578	188	106	1,872	3,209	20
Northern white-cedar	63	0	0	63	33	0	0	33	96	57
Hemlock	333	0	0	333	471	149	104	724	1,057	36
Other softwoods	0	0	0	0	0	0	0	0	0	0
Total softwoods	3,597	335	63	3,995	6,266	779	393	7,438	11,433	16
Sugar maple	313	49	50	412	1,795	622	506	2,923	3,335	16
Red maple	1,056	0	15	1,071	1,611	335	134	2,080	3,151	27
Yellow birch	221	31	24	276	1,821	757	623	3,201	3,477	18
Paper birch	281	95	0	376	1,319	679	170	2,168	2,544	24
Gray birch	0	0	0	0	229	0	0	229	229	87
Beech	101	32	49	182	1,547	935	644	3,126	3,308	15
White ash	136	53	17	206	202	58	9	269	475	37
Black ash	0	0	0	0	0	0	0	0	0	0
Aspen	390	33	31	454	692	63	58	813	1,267	39
White oaks	71	0	16	87	31	0	34	65	152	63
Red oaks	66	0	0	66	64	0	36	100	166	51
Basswood	55	0	0	55	195	15	0	210	265	46
Elm	596	97	27	720	749	389	114	1,252	1,972	28
Other hardwoods[a]	763	16	19	798	1,197	183	80	1,460	2,258	23
Total hardwoods	4,049	406	248	4,703	11,452	4,036	2,408	17,896	22,599	8
Total, all species	7,646	741	311	8,698	17,718	4,815	2,801	25,334	34,032	7.3
Sampling error (percent)	13	21	25	12	10	11	10	8	7.3	

[a]Includes noncommercial hardwoods.

Table 25.--Number of trees (5.0+ inches d.b.h.) with observed cavities on timberland by species and condition, Southern Unit, Vermont, 1983

Species	Live				Total live	Dead		Total dead	Total all trees	Sampling error
	No cull	Intact live top	Broken top	Dead top		Intact top	Broken top			
	Thousand trees									Percent
Balsam fir	0	153	0	0	153	16	272	288	441	43
Tamarack	0	0	0	0	0	0	0	0	0	0
White spruce	0	0	0	0	0	0	0	0	0	0
Black spruce	0	0	0	0	0	0	0	0	0	0
Red spruce	196	124	0	0	320	34	232	266	586	38
Red pine	0	0	0	0	0	0	0	0	0	0
White pine	198	440	16	0	654	135	281	416	1,070	33
Northern white-cedar	37	0	0	0	37	0	33	33	70	100
Hemlock	269	377	16	0	662	0	364	364	1,026	28
Other softwoods	0	0	0	0	0	0	0	0	0	0
Total softwoods	700	1,094	32	0	1,826	185	1,182	1,367	3,193	17
Sugar maple	2,421	2,973	114	111	5,619	17	1,436	1,453	7,072	12
Red maple	1,284	2,988	16	54	4,342	64	744	808	5,150	18
Yellow birch	537	1,181	0	91	1,809	16	1,228	1,244	3,053	15
Paper birch	418	339	0	0	757	32	526	558	1,315	24
Gray birch	0	31	0	0	31	0	0	0	31	100
Beech	1,722	3,623	15	177	5,537	46	2,011	2,057	7,594	15
White ash	595	375	0	0	970	37	9	46	1,016	22
Black ash	0	16	0	0	16	0	0	0	16	100
Aspen	186	71	0	0	257	33	116	149	406	35
White oaks	48	12	0	0	60	0	5	5	65	61
Red oaks	244	102	0	0	346	0	15	15	361	38
Basswood	115	152	0	0	267	0	65	65	332	38
Elm	35	28	0	0	63	17	303	320	383	49
Other hardwoods[a]	402	1,403	0	32	1,837	320	281	601	2,438	20
Total hardwoods	8,007	13,294	145	465	21,911	582	6,739	7,321	29,232	7
Total, all species	8,707	14,388	177	465	23,737	767	7,921	8,688	32,425	6.1
Sampling error (percent)	10	8	33	26	7	35	10	10	6.1	

[a]Includes noncommercial hardwoods.

Table 26.--Number of shrubs, seedlings, and saplings on timberland by species, browse preference class, and stand-size class, Southern Unit, Vermont, 1983

(In millions of stems)

Species and browse preference class	Stand-size class				All classes	Percent saplings
	Sawtimber	Poletimber	Sapling and seedling	Non-stocked		
Northern white-cedar	2.9	.0	9.8	.0	12.7	11
Eastern hemlock	132.4	4.5	.0	.0	136.9	31
Striped maple	834.8	167.1	49.3	.0	1,051.2	4
Red maple	202.6	79.2	58.4	5.2	345.4	15
Mountain maple	58.3	45.4	12.3	.0	116.0	3
Apple	5.1	1.4	12.8	.0	19.3	8
Staghorn sumac	.0	.0	18.2	.0	18.2	s[a]
Mountain ash	7.5	.0	.0	.0	7.5	s
Hobblebush viburnum	910.5	165.3	15.1	.0	1,090.9	s
Total readily browsed	2,154.1	462.9	175.9	5.2	2,798.1	
Balsam fir	44.9	40.7	11.7	.0	97.3	34
Common juniper	.0	.0	6.4	.0	6.4	s
White pine	47.2	22.5	2.2	.0	71.9	45
Sugar maple	1,412.4	467.5	251.1	.0	2,131.0	6
Shadbush	41.4	5.4	2.7	.0	49.5	s
Yellow birch	243.1	48.3	76.8	.0	368.2	6
Black birch	52.0	12.8	2.8	.0	67.6	28
Paper birch	51.7	45.7	11.5	.0	108.9	13
Red-osier dogwood	69.1	.0	43.9	.0	113.0	s
Hawthorn	1.4	2.7	4.8	.0	8.9	16
American hazelnut	37.0	51.5	.0	.0	88.5	s
Beech	1,058.9	160.0	63.8	.0	1,282.7	12
White ash	357.4	99.4	99.6	.0	556.4	3
Honeysuckle	49.8	.0	19.0	.0	68.8	s
Bigtooth aspen	1.4	4.8	1.4	.0	7.6	0
Quaking aspen	17.4	1.4	29.4	.0	48.2	15
Pin cherry	5.5	17.0	14.6	.0	37.1	6
Black cherry	105.3	42.2	103.2	.0	250.7	5
Chokecherry	1.4	34.4	10.6	.0	46.4	s
White oak	10.9	.0	8.5	.0	19.4	7
Brambles	808.0	251.0	877.3	39.6	1,975.9	s
Willows	5.5	.0	27.7	.0	33.2	17
Common elderberry	25.3	.0	6.9	.0	32.2	s
Red-berried elder	4.2	2.8	.0	1.1	8.1	s
American elm	11.4	31.3	37.6	.0	80.3	24
Blueberries	6.0	21.3	49.0	.0	76.3	s
Sweetfern	68.3	10.9	29.5	.0	108.7	s
Maple-leaf viburnum	29.7	50.8	.0	.0	80.5	s
Total commonly browsed	4,566.6	1,424.4	1,792.0	40.7	7,823.7	

Table 26.--Continued

(In millions of stems)

Species and browse preference class	Stand-size class				All classes	Percent saplings
	Sawtimber	Poletimber	Sapling and seedling	Non-stocked		
Red spruce	223.0	48.3	7.5	.0	278.8	14
Speckled alder	.0	.0	.0	53.4	53.4	s
Black chokecherry	.0	.0	1.5	.0	1.5	s
Gray birch	17.8	13.7	11.7	.0	43.2	56
Eastern hophornbeam	135.5	49.5	33.8	.0	218.8	28
Red oak	11.7	11.6	6.8	.0	30.1	18
Spiraea	877.7	250.1	1,514.0	45.8	2,687.6	s
Total infrequently browsed	1,265.7	373.2	1,575.3	99.2	3,313.4	
Witch-hazel	22.7	18.7	31.6	.0	73.0	s
Gooseberries	6.9	.0	31.8	11.7	50.4	s
Total questionable	29.6	18.7	63.4	11.7	123.4	
Other species	512.7	166.3	451.6	5.7	1,136.3	
Total all species	8,528.7	2,445.5	4,058.2	162.5	15,194.9	
Sampling error (percent)	9	17	22	71	6.5	

[a]Classed as shrub species.

Table 27.--Number of shrubs, seedlings, and saplings on timberland by species, browse preference class, and forest-type group, Southern Unit, Vermont, 1983

(In millions of stems)

Species and browse preference class	Forest-type group							All groups
	White/ red pine	Spruce/ fir	Oak/ pine	Oak/ hickory	Elm/ash/ red maple	Northern hardwoods	Aspen/ birch	
Northern white-cedar	2.9	5.7	.0	.0	.0	4.1	.0	12.7
Eastern hemlock	76.7	.0	.0	12.3	3.4	43.1	1.4	136.9
Striped maple	28.7	1.4	6.8	4.0	.0	989.2	21.1	1,051.2
Red maple	52.9	37.6	5.4	27.5	1.4	205.0	15.6	345.4
Mountain maple	37.8	.0	.0	.0	.0	78.2	.0	116.0
Apple	9.3	.0	.0	7.2	.0	1.4	1.4	19.3
Staghorn sumac	.0	1.4	.0	15.4	1.4	.0	.0	18.2
Mountain ash	.0	.0	.0	.0	.0	2.8	4.7	7.5
Hobblebush viburnum	61.8	4.6	.0	.0	.0	1,021.1	3.4	1,090.9
Total readily browsed	270.1	50.7	12.2	66.4	6.2	2,344.9	47.6	2,798.1
Balsam fir	4.6	34.5	.0	2.9	.0	55.3	.0	97.3
Common juniper	2.1	4.3	.0	.0	.0	.0	.0	6.4
White pine	43.0	.0	.0	7.1	.0	21.8	.0	71.9
Sugar maple	203.7	38.4	1.4	131.7	4.1	1,698.1	53.6	2,131.0
Shadbush	7.0	.0	14.9	11.8	1.3	14.5	.0	49.5
Yellow birch	21.6	.0	.0	6.0	.0	339.1	1.5	368.2
Black birch	11.6	.0	.0	22.1	.0	31.0	2.9	67.6
Paper birch	23.0	10.3	2.7	7.6	.0	63.9	1.4	108.9
Red-osier dogwood	111.6	.0	.0	.0	1.4	.0	.0	113.0
Hawthorn	1.4	.0	.0	3.4	.0	1.4	2.7	8.9
American hazelnut	1.3	.0	.0	46.1	15.5	25.6	.0	88.5
Beech	45.4	1.4	8.2	7.4	15.1	1,171.1	34.1	1,282.7
White ash	124.7	15.3	1.4	15.6	70.8	290.5	38.1	556.4
Honeysuckle	40.3	.0	.0	.0	19.0	9.5	.0	68.8
Bigtooth aspen	1.4	.0	.0	1.4	.0	1.4	3.4	7.6
Quaking aspen	23.0	1.4	.0	2.7	1.4	7.4	12.3	48.2
Pin cherry	16.7	.0	.0	5.5	.0	13.5	1.4	37.1
Black cherry	41.5	7.1	.0	21.4	12.2	164.2	4.3	250.7
Chokecherry	7.5	4.3	.0	3.7	.0	4.0	26.9	46.4
White oak	.0	.0	.0	12.2	.0	7.2	.0	19.4
Brambles	245.9	198.6	.0	153.9	66.4	1,263.2	47.9	1,975.9

Table 27.--Continued

(In millions of stems)

Species and browse preference class	Forest-type group							All groups
	White/ red pine	Spruce/ fir	Oak/ pine	Oak/ hickory	Elm/ash/ red maple	Northern hardwoods	Aspen/ birch	
Willows	.0	19.5	.0	.0	.0	13.7	.0	33.2
Common elderberry	,0	.0	.0	.0	.0	32.2	.0	32.2
Red-berried elder	.0	.0	.0	.0	.0	8.1	.0	8.1
American elm	17.0	.0	.0	10.7	40.5	10.6	1.5	80.3
Blueberries	30.0	21.3	.0	19.0	.0	6.0	.0	76.3
Sweetfern	4.3	9.1	.0	20.4	.0	74.9	.0	108.7
Maple-leaf viburnum	.0	.0	20.3	1.4	.0	58.8	.0	80.5
Total commonly browsed	1,028.6	365.5	48.9	514.0	247.7	5,387.0	232.0	7,823.7
Red spruce	30.8	43.7	.0	2.9	.0	191.0	10.4	278.8
Speckled alder	.0	.0	.0	.0	.0	53.4	.0	53.4
Black chokecherry	1.5	.0	.0	.0	.0	.0	.0	1.5
Gray birch	10.2	2.9	.0	2.9	.0	13.5	13.7	43.2
Eastern hophornbeam	28.3	1.4	1.3	45.7	6.9	133.8	1.4	218.8
Red oak	4.3	.0	1.4	13.0	.0	8.3	3.1	30.1
Spiraea	1,039.2	583.0	40.7	193.2	47.4	777.2	6.9	2,687.6
Total infrequently browsed	1,114.3	631.0	43.4	257.7	54.3	1,177.2	35.5	3,313.4
Witch-hazel	7.2	.0	.0	.0	.0	47.0	18.8	73.0
Gooseberries	.0	.0	.0	11.7	.0	38.7	.0	50.4
Total questionable	7.2	.0	.0	11.7	.0	85.7	18.8	123.4
Other species	180.4	198.3	.0	111.3	202.6	401.0	42.7	1,136.3
Total all species	2,600.6	1,245.5	104.5	961.1	510.8	9,395.8	376.6	15,194.9
Sampling error (percent)	20	50	95	28	53	9	36	6.5

Table 28.--Number of shrubs, seedlings, and saplings on timberland by species, browse preference class, and browse utilization class, Southern Unit, Vermont, 1983

Species and browse preference class	Browse utilization class				All classes	Sampling error
	None	Light	Moderate	Heavy		
	Million stems					Percent
Northern white-cedar	12.7	.0	.0	.0	12.7	60
Eastern hemlock	136.9	.0	.0	.0	136.9	27
Striped maple	733.3	215.0	79.5	23.4	1,051.2	12
Red maple	223.2	81.7	26.0	14.5	345.4	14
Mountain maple	69.6	46.4	.0	.0	116.0	52
Apple	10.7	2.9	5.7	.0	19.3	37
Staghorn sumac	4.5	3.8	1.4	8.5	18.2	66
Mountain ash	4.7	2.8	.0	.0	7.5	73
Hobblebush viburnum	868.3	116.9	105.7	.0	1,090.9	17
Total readily browsed	2,063.9	469.5	218.3	46.4	2,798.1	10
Balsam fir	97.3	.0	.0	.0	97.3	29
Common juniper	6.4	.0	.0	.0	6.4	75
White pine	70.5	1.4	.0	.0	71.9	21
Sugar maple	1,602.5	440.9	61.2	26.4	2,131.0	11
Shadbush	33.2	15.0	1.3	.0	49.5	38
Yellow birch	151.2	212.0	5.0	.0	368.2	37
Black birch	63.3	4.3	.0	.0	67.6	37
Paper birch	71.4	36.1	.0	1.4	108.9	26
Red-osier dogwood	45.3	.0	.0	67.7	113.0	71
Hawthorn	5.5	3.4	.0	.0	8.9	49
American hazelnut	73.0	.0	15.5	.0	88.5	60
Beech	961.0	256.9	51.8	13.0	1,282.7	10
White ash	376.1	111.8	48.8	19.7	556.4	15
Honeysuckle	42.6	26.2	.0	.0	68.8	66
Bigtooth aspen	4.2	3.4	.0	.0	7.6	55
Quaking aspen	41.2	7.0	.0	.0	48.2	37
Pin cherry	21.5	7.3	8.3	.0	37.1	41
Black cherry	173.3	27.9	48.1	1.4	250.7	25
Chokecherry	33.9	10.2	.0	2.3	46.4	47
White oak	15.1	4.3	.0	.0	19.4	68
Brambles	1,687.8	288.1	.0	.0	1,975.9	16
Willows	33.2	.0	.0	.0	33.2	63
Common elderberry	9.9	22.3	.0	.0	32.2	71
Red-berried elder	6.7	1.4	.0	.0	8.1	61
American elm	46.6	28.9	4.8	.0	80.3	36
Blueberries	55.0	21.3	.0	.0	76.3	55
Sweetfern	96.8	11.9	.0	.0	108.7	59
Maple-leaf viburnum	60.2	.0	20.3	.0	80.5	64
Total commonly browsed	5,884.7	1,542.0	265.1	131.9	7,823.7	7

Table 28.--Continued

Species and browse preference class	Browse utilization class				All classes	Sampling error
	None	Light	Moderate	Heavy		
	Million stems					Percent
Red spruce	274.5	4.3	.0	.0	278.8	15
Speckled alder	28.4	25.0	.0	.0	53.4	100
Black chokecherry	1.5	.0	.0	.0	1.5	100
Gray birch	35.9	7.3	.0	.0	43.2	43
Eastern hophornbeam	173.9	40.9	4.0	.0	218.8	17
Red oak	24.5	2.7	2.9	.0	30.1	31
Spiraea	1,695.0	979.1	7.3	6.2	2,687.6	27
Total infrequently browsed	2,233.7	1,059.3	14.2	6.2	3,313.4	22
Witch-hazel	58.9	14.1	.0	.0	73.0	48
Gooseberries	50.4	.0	.0	.0	50.4	60
Total questionable	109.3	14.1	.0	.0	123.4	36
Other species	861.0	110.9	145.0	19.4	1,136.3	17
Total all species	11,152.6	3,195.8	642.6	203.9	15,194.9	6.5
Sampling error (percent)	6	18	23	38	6.5	

COUNTY TABLES

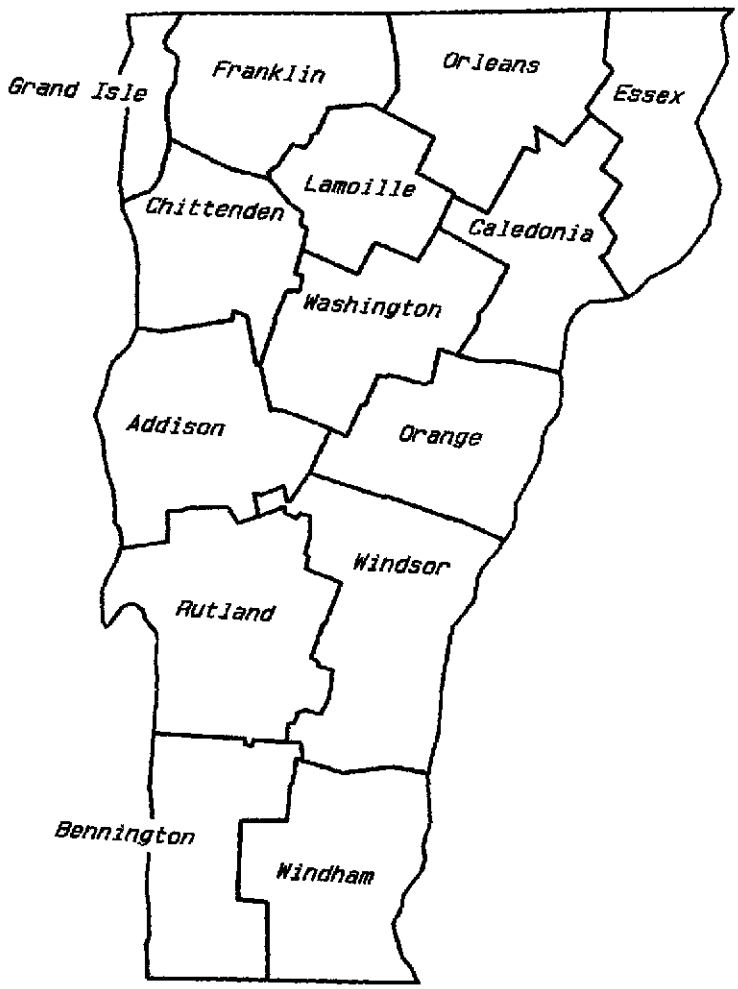


Table 29.--Number of all live nut- and fruit-producing trees on timberland by species and diameter class, Addison County, Vermont, 1983

Species	Diameter class (inches at breast height)										All classes	Sampling error
	5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-28.9	29+		
	Thousand trees											Percent
Eastern redcedar	71	36	0	0	0	0	0	0	0	0	107	100
Serviceberry	0	138	0	0	0	0	0	0	0	0	138	100
Hickory	227	0	0	87	0	0	0	17	0	0	331	70
Beech	1,048	866	801	419	213	122	137	39	31	0	3,676	29
Butternut	0	0	0	18	0	0	26	0	0	0	44	70
Black walnut	28	0	0	0	0	0	0	0	0	0	28	100
Apple	197	104	0	0	0	0	0	0	0	0	301	100
Eastern hophornbeam	1,132	0	0	0	0	0	0	0	0	0	1,132	39
Pin cherry	40	39	39	0	0	0	0	0	0	0	118	72
Black cherry	99	36	127	172	0	0	0	0	0	0	434	55
White oak	0	0	0	19	0	0	0	20	12	0	51	70
Chestnut oak	0	0	0	0	0	32	0	0	0	0	32	100
Northern red oak	289	196	157	171	141	142	55	0	34	0	1,185	63
Mountain ash	36	0	0	0	0	0	0	0	0	0	36	100
Total all species	3,167	1,415	1,124	886	354	296	218	76	77	0	7,613	18.1
Sampling error (percent)	23	24	29	24	36	32	30	62	43	-	18.1	

Table 30.--Number of standing dead trees on timberland by species, condition, and diameter class, Addison County, Vermont, 1983

Species	Intact top				Broken top				Total all trees	Sampling error
	5.0-10.9	11.0-14.9	15+	Total	5.0-10.9	11.0-14.9	15+	Total		
	Thousand trees									Percent
Balsam fir	118	37	0	155	313	18	0	331	486	87
Tamarack	0	14	0	14	0	0	0	0	14	100
White spruce	0	0	0	0	0	0	0	0	0	0
Black spruce	0	0	0	0	0	0	0	0	0	0
Red spruce	123	20	0	143	110	0	0	110	253	45
Red pine	0	0	0	0	0	0	0	0	0	0
White pine	173	0	0	173	217	0	0	217	390	57
Northern white-cedar	0	0	0	0	0	0	0	0	0	0
Hemlock	39	0	0	39	157	0	0	157	196	100
Other softwoods	0	0	0	0	0	0	0	0	0	0
Total softwoods	453	71	0	524	797	18	0	815	1,339	39
Sugar maple	138	0	0	138	235	204	34	473	611	31
Red maple	107	0	0	107	0	0	0	0	107	56
Yellow birch	28	0	0	28	748	182	115	1,045	1,073	40
Paper birch	79	0	0	79	111	80	0	191	270	58
Gray birch	0	0	0	0	0	0	0	0	0	0
Beech	39	0	0	39	332	174	142	648	687	33
White ash	39	37	0	76	0	0	0	0	76	80
Black ash	0	0	0	0	0	0	0	0	0	0
Aspen	67	0	0	67	0	0	0	0	67	72
White oaks	0	0	0	0	0	0	0	0	0	0
Red oaks	0	0	0	0	0	0	0	0	0	0
Basswood	55	0	0	55	98	0	0	98	153	71
Elm	39	0	0	39	72	0	19	91	130	71
Other hardwoods[a]	107	0	0	107	255	14	0	269	376	54
Total hardwoods	698	37	0	735	1,851	654	310	2,815	3,550	16
Total, all species	1,151	108	0	1,259	2,648	672	310	3,630	4,889	15.5
Sampling error (percent)	24	56	0	24	19	27	28	17	15.5	

[a]Includes noncommercial hardwoods.

Table 31.--Number of shrubs, seedlings, and saplings on timberland by species, browse preference class, and browse utilization class, Addison County, Vermont, 1983

Species and browse preference class	Browse utilization class				All classes	Sampling error
	None	Light	Moderate	Heavy		
	Million stems					Percent
Eastern hemlock	12.0	.0	.0	.0	12.0	54
Striped maple	156.1	48.1	26.7	6.5	237.4	31
Red maple	46.6	3.3	3.4	.0	53.3	38
Mountain maple	47.1	46.4	.0	.0	93.5	64
Apple	.0	.0	5.7	.0	5.7	100
Staghorn sumac	4.5	2.4	.0	8.5	15.4	77
Mountain ash	4.7	.0	.0	.0	4.7	100
Hobblebush viburnum	65.4	87.2	29.2	.0	181.8	45
Total readily browsed	336.4	187.4	65.0	15.0	603.8	24
Balsam fir	14.1	.0	.0	.0	14.1	100
White pine	5.9	.0	.0	.0	5.9	64
Sugar maple	333.3	128.2	25.4	15.8	502.7	27
Shadbush	6.4	.0	.0	.0	6.4	78
Yellow birch	6.9	159.3	3.7	.0	169.9	75
Black birch	4.8	.0	.0	.0	4.8	74
Paper birch	1.6	3.1	.0	.0	4.7	72
Hawthorn	.0	3.4	.0	.0	3.4	100
American hazelnut	.0	.0	15.5	.0	15.5	100
Beech	116.4	75.9	26.6	1.7	220.6	23
White ash	52.3	17.5	8.1	2.5	80.4	29
Honeysuckle	1.6	.0	.0	.0	1.6	100
Bigtooth aspen	.0	3.4	.0	.0	3.4	100
Quaking aspen	1.7	.0	.0	.0	1.7	100
Pin cherry	9.4	7.3	6.2	.0	22.9	57
Black cherry	57.9	.0	36.9	.0	94.8	53
Chokecherry	.0	5.9	.0	2.3	8.2	65
Brambles	68.8	160.5	.0	.0	229.3	69
Common elderberry	.0	22.3	.0	.0	22.3	100
Red-berried elder	1.1	.0	.0	.0	1.1	100
American elm	7.8	7.8	4.8	.0	20.4	48
Sweetfern	10.9	.0	.0	.0	10.9	100
Maple-leaf viburnum	58.8	.0	.0	.0	58.8	81
Total commonly browsed	759.7	594.6	127.2	22.3	1,503.8	24
Red spruce	40.0	.0	.0	.0	40.0	29
Speckled alder	28.4	25.0	.0	.0	53.4	100
Gray birch	4.7	.0	.0	.0	4.7	100
Eastern hophornbeam	17.6	1.6	4.0	.0	23.2	47
Red oak	6.4	.0	.0	.0	6.4	78
Spiraea	156.9	261.5	7.3	6.2	431.9	77
Total infrequently browsed	254.0	288.1	11.3	6.2	559.6	61
Witch-hazel	10.3	.0	.0	.0	10.3	100
Total questionable	10.3	.0	.0	.0	10.3	100
Other species	66.4	23.4	95.4	17.9	203.1	36
Total all species	1,426.8	1,093.5	298.9	61.4	2,880.6	17.7
Sampling error (percent)	17	34	31	39	17.7	

Table 32.--Number of all live nut- and fruit-producing trees on timberland by species and diameter class, Bennington County, Vermont, 1983

Species	Diameter class (inches at breast height)										All classes	Sampling error
	5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-28.9	29+		
	Thousand trees											Percent
Eastern redcedar	23	0	0	0	0	0	0	0	0	0	23	100
Serviceberry	187	101	0	0	0	0	0	0	0	0	288	74
Hickory	29	0	0	0	16	0	15	0	0	0	60	79
Beech	4,503	3,099	1,146	1,065	661	387	237	137	95	8	11,338	16
Butternut	0	0	0	0	16	0	0	0	0	0	16	100
Apple	45	23	22	0	0	0	0	0	0	0	90	100
Eastern hophornbeam	708	172	106	35	11	0	41	0	0	0	1,073	61
Pin cherry	23	0	0	0	0	0	0	0	0	0	23	100
Black cherry	244	341	159	331	42	11	0	0	0	0	1,128	44
White oak	32	312	166	88	32	0	63	16	13	0	722	96
Northern red oak	30	192	333	292	168	179	56	34	26	0	1,310	50
Total all species	5,824	4,240	1,932	1,811	946	577	412	187	134	8	16,071	14.0
Sampling error (percent)	19	20	23	20	20	23	25	34	32	100	14.0	

Table 33.--Number of standing dead trees on timberland by species, condition, and diameter class, Bennington County, Vermont, 1983

Species	Intact top				Broken top				Total all trees	Sampling error
	5.0-10.9	11.0-14.9	15+	Total	5.0-10.9	11.0-14.9	15+	Total		
	Thousand trees									Percent
Balsam fir	0	0	0	0	571	16	29	616	616	70
Tamarack	0	0	0	0	0	0	0	0	0	0
White spruce	0	0	0	0	0	0	0	0	0	0
Black spruce	0	0	0	0	0	0	0	0	0	0
Red spruce	0	16	0	16	320	78	72	470	486	40
Red pine	0	0	0	0	0	0	0	0	0	0
White pine	0	17	0	17	0	0	0	0	17	100
Northern white-cedar	0	0	0	0	0	0	0	0	0	0
Hemlock	0	0	0	0	0	0	17	17	17	100
Other softwoods	0	0	0	0	0	0	0	0	0	0
Total softwoods	0	33	0	33	891	94	118	1,103	1,136	43
Sugar maple	30	49	17	96	323	62	188	573	669	36
Red maple	257	0	15	272	357	160	31	548	820	57
Yellow birch	127	0	24	151	265	148	184	597	748	26
Paper birch	0	63	0	63	419	309	17	745	808	51
Gray birch	0	0	0	0	0	0	0	0	0	0
Beech	30	0	0	30	731	273	168	1,172	1,202	24
White ash	0	0	0	0	0	0	0	0	0	0
Black ash	0	0	0	0	0	0	0	0	0	0
Aspen	0	0	0	0	0	15	0	15	15	100
White oaks	0	0	0	0	31	0	29	60	60	100
Red oaks	0	0	0	0	31	0	0	31	31	100
Basswood	0	0	0	0	0	0	0	0	0	0
Elm	23	0	11	34	125	77	19	221	255	52
Other hardwoods[a]	0	0	0	0	421	0	14	435	435	58
Total hardwoods	467	112	67	646	2,703	1,044	650	4,397	5,043	14
Total, all species	467	145	67	679	3,594	1,138	768	5,500	6,179	14.2
Sampling error (percent)	60	57	51	43	19	20	19	15	14.2	

[a]Includes noncommercial hardwoods.

Table 34.--Number of shrubs, seedlings, and saplings on timberland by species, browse preference class, and browse utilization class, Bennington County, Vermont, 1983

Species and browse preference class	Browse utilization class				All classes	Sampling error
	None	Light	Moderate	Heavy		
	Million stems					Percent
Eastern hemlock	3.0	.0	.0	.0	3.0	100
Striped maple	149.6	42.8	.0	.0	192.4	21
Red maple	43.6	36.5	.0	.0	80.1	23
Mountain maple	5.5	.0	.0	.0	5.5	100
Hobblebush viburnum	573.5	22.7	.0	.0	596.2	23
Total readily browsed	775.2	102.0	.0	.0	877.2	17
Balsam fir	24.8	.0	.0	.0	24.8	57
Sugar maple	123.6	75.4	.0	.0	199.0	35
Shadbush	4.5	.0	.0	.0	4.5	100
Yellow birch	57.6	19.9	.0	.0	77.5	51
Black birch	2.5	.0	.0	.0	2.5	72
Paper birch	9.8	.0	.0	.0	9.8	50
Hawthorn	1.4	.0	.0	.0	1.4	100
Beech	254.2	50.2	.0	.0	304.4	15
White ash	40.3	3.0	.0	.0	43.3	42
Honeysuckle	7.9	.0	.0	.0	7.9	100
Quaking aspen	1.5	.0	.0	.0	1.5	100
Pin cherry	10.7	.0	.0	.0	10.7	71
Black cherry	1.3	1.5	.0	.0	2.8	71
White oak	10.9	.0	.0	.0	10.9	100
Brambles	351.9	3.0	.0	.0	354.9	37
Blueberries	36.0	.0	.0	.0	36.0	85
Sweetfern	4.5	.0	.0	.0	4.5	100
Total commonly browsed	943.4	153.0	.0	.0	1,096.4	15
Red spruce	55.7	.0	.0	.0	55.7	44
Eastern hophornbeam	18.9	13.5	.0	.0	32.4	51
Red oak	4.1	1.4	.0	.0	5.5	78
Spiraea	297.7	.0	.0	.0	297.7	79
Total infrequently browsed	376.4	14.9	.0	.0	391.3	60
Other species	31.9	1.3	1.3	.0	34.5	59
Total all species	2,126.9	271.2	1.3	.0	2,399.4	13.3
Sampling error (percent)	15	24	100	-	13.3	

Table 35.--Number of all live nut- and fruit-producing trees on timberland by species and diameter class, Caledonia County, Vermont, 1983

Species	Diameter class (inches at breast height)										All classes	Sampling error
	5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-28.9	29+		
	Thousand trees											Percent
Beech	258	306	152	0	82	18	18	19	28	0	881	49
Butternut	35	0	0	0	0	0	25	0	0	0	60	100
Apple	0	35	35	0	0	0	0	0	0	0	70	100
Eastern hophornbeam	388	34	0	0	0	0	0	0	0	0	422	84
Pin cherry	35	0	0	0	0	0	0	0	0	0	35	100
Black cherry	126	273	34	71	0	0	0	0	0	0	504	38
Northern red oak	0	0	0	0	37	0	0	0	0	0	37	100
Total all species	842	648	221	71	119	18	43	19	28	0	2,009	30.0
Sampling error (percent)	52	39	52	80	57	100	68	100	71	-	30.0	

Table 36.--Number of standing dead trees on timberland by species, condition, and diameter class, Caledonia County, Vermont, 1983

Species	Intact top				Broken top				Total all trees	Sampling error
	5.0-10.9	11.0-14.9	15+	Total	5.0-10.9	11.0-14.9	15+	Total		
	Thousand trees									Percent
Balsam fir	414	0	0	414	563	63	0	626	1,040	30
Tamarack	159	0	0	159	0	0	0	0	159	100
White spruce	616	16	0	632	0	0	0	0	632	82
Black spruce	0	0	0	0	0	0	0	0	0	0
Red spruce	245	0	0	245	228	0	26	254	499	57
Red pine	0	0	0	0	0	0	0	0	0	0
White pine	119	49	17	185	31	20	17	68	253	41
Northern white-cedar	497	0	0	497	282	0	0	282	779	56
Hemlock	138	0	0	138	0	0	0	0	138	100
Other softwoods	0	0	0	0	0	0	0	0	0	0
Total softwoods	2,188	65	17	2,270	1,104	83	43	1,230	3,500	34
Sugar maple	68	0	27	95	387	34	88	509	604	51
Red maple	250	0	0	250	0	0	0	0	250	71
Yellow birch	0	82	0	82	265	38	41	344	426	36
Paper birch	34	0	17	51	0	0	0	0	51	73
Gray birch	0	0	0	0	0	0	0	0	0	0
Beech	34	0	14	48	0	0	16	16	64	62
White ash	0	0	0	0	0	0	0	0	0	0
Black ash	0	0	0	0	35	0	0	35	35	100
Aspen	0	0	0	0	68	18	0	86	86	83
White oaks	0	0	0	0	0	0	0	0	0	0
Red oaks	0	0	0	0	0	0	0	0	0	0
Basswood	0	0	0	0	0	0	0	0	0	0
Elm	35	0	0	35	0	0	0	0	35	100
Other hardwoods[a]	285	0	0	285	957	49	0	1,006	1,291	39
Total hardwoods	706	82	58	846	1,712	139	145	1,996	2,842	27
Total, all species	2,894	147	75	3,116	2,816	222	188	3,226	6,342	19.8
Sampling error (percent)	36	66	50	33	22	39	41	20	19.8	

[a]Includes noncommercial hardwoods.

Table 37.--Number of shrubs, seedlings, and saplings on timberland by species, browse preference class, and browse utilization class, Caledonia County, Vermont, 1983

Species and browse preference class	Browse utilization class				All classes	Sampling error
	None	Light	Moderate	Heavy		
	Million stems					Percent
Northern white-cedar	30.3	.0	6.2	.0	36.5	53
Eastern hemlock	7.6	.0	1.4	.0	9.0	74
Striped maple	66.1	30.4	.0	.0	96.5	36
Red maple	51.3	16.6	7.6	.0	75.5	32
Mountain maple	15.1	20.8	3.0	.0	38.9	57
Smooth sumac	1.5	.0	.0	.0	1.5	100
Hobblebush viburnum	62.8	.0	.0	.0	62.8	49
Total readily browsed	234.7	67.8	18.2	.0	320.7	23
Balsam fir	133.1	.0	.0	.0	133.1	20
Common juniper	41.6	.0	.0	.0	41.6	100
White pine	1.5	.0	.0	.0	1.5	100
Sugar maple	469.3	38.6	3.0	5.9	516.8	29
Shadbush	1.5	.0	.0	.0	1.5	100
Yellow birch	51.9	.0	.0	.0	51.9	58
Paper birch	6.0	.0	.0	.0	6.0	60
Red-osier dogwood	4.4	.0	.0	.0	4.4	75
Hawthorn	1.5	.0	.0	.0	1.5	100
American hazelnut	2.9	.0	.0	.0	2.9	66
Beaked hazelnut	17.7	.0	17.8	.0	35.5	64
Beech	33.2	.0	.0	.0	33.2	51
White ash	76.0	.0	.0	.0	76.0	54
Black ash	6.1	.0	.0	.0	6.1	59
Balsam poplar	2.9	1.5	.0	.0	4.4	55
Quaking aspen	13.0	10.2	.0	.0	23.2	94
Pin cherry	68.8	.0	.0	.0	68.8	69
Black cherry	13.3	7.4	.0	.0	20.7	57
Chokecherry	11.8	.0	7.4	.0	19.2	100
Roses	11.0	.0	.0	.0	11.0	71
Brambles	518.6	.0	1.5	.0	520.1	23
Willows	3.0	2.7	.0	.0	5.7	81
Common elderberry	4.5	.0	.0	.0	4.5	74
Blueberries	3.0	.0	.0	.0	3.0	100
Sweetfern	.0	3.0	.0	.0	3.0	100
Total commonly browsed	1,496.6	63.4	29.7	5.9	1,595.6	16
White spruce	10.2	.0	.0	.0	10.2	51
Red spruce	24.0	.0	.0	.0	24.0	39
Speckled alder	69.3	.0	.0	.0	69.3	57
Eastern hophornbeam	5.9	.0	.0	.0	5.9	76
Spiraea	273.2	.0	.0	.0	273.2	64
Total infrequently browsed	382.6	.0	.0	.0	382.6	49
Red ash	7.4	.0	.0	.0	7.4	100
Gooseberries	11.8	.0	.0	.0	11.8	73
Total questionable	19.2	.0	.0	.0	19.2	58
Other species	21.8	.0	.0	.0	21.8	43
Total all species	2,154.9	131.2	47.9	5.9	2,339.9	13.1
Sampling error (percent)	14	35	46	69	13.1	

Table 38.--Number of all live nut- and fruit-producing trees on timberland by species and diameter class, Chittenden County, Vermont, 1983

Species	Diameter class (inches at breast height)										All classes	Sampling error
	5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-28.9	29+		
	Thousand trees											Percent
Eastern redcedar	265	0	0	0	0	0	0	0	0	0	265	100
Hickory	315	0	175	15	16	31	0	0	0	0	552	67
Beech	545	394	690	238	105	114	204	85	28	0	2,403	33
Butternut	0	0	0	0	0	0	0	0	11	0	11	100
Eastern hophornbeam	310	282	149	0	0	0	0	0	0	0	741	69
Pin cherry	31	0	0	0	0	0	0	0	0	0	31	100
Black cherry	530	409	66	97	0	0	0	0	0	0	1,102	52
Northern red oak	216	0	0	73	0	78	22	16	14	6	425	46
Total all species	2,212	1,085	1,080	423	121	223	226	101	53	6	5,530	23.4
Sampling error (percent)	39	32	33	31	60	40	41	48	46	100	23.4	

Table 39.--Number of standing dead trees on timberland by species, condition, and diameter class, Chittenden County, Vermont, 1983

Species	Intact top				Broken top				Total all trees	Sampling error
	5.0-10.9	11.0-14.9	15+	Total	5.0-10.9	11.0-14.9	15+	Total		
	Thousand trees									Percent
Balsam fir	16	0	0	16	0	0	0	0	16	100
Tamarack	0	0	0	0	0	0	0	0	0	0
White spruce	0	0	0	0	0	0	0	0	0	0
Black spruce	0	0	0	0	0	0	0	0	0	0
Red spruce	0	0	0	0	0	0	0	0	0	0
Red pine	0	0	0	0	0	0	0	0	0	0
White pine	31	0	16	47	32	16	0	48	95	61
Northern white-cedar	0	0	0	0	0	0	0	0	0	0
Hemlock	0	0	0	0	0	0	30	30	30	100
Other softwoods	0	0	0	0	0	0	0	0	0	0
Total softwoods	47	0	16	63	32	16	30	78	141	51
Sugar maple	32	0	0	32	68	17	0	85	117	40
Red maple	0	0	0	0	0	16	31	47	47	72
Yellow birch	0	0	0	0	32	15	41	88	88	54
Paper birch	104	0	0	104	32	0	0	32	136	100
Gray birch	0	0	0	0	0	0	0	0	0	0
Beech	0	16	16	32	0	0	29	29	61	49
White ash	97	16	0	113	32	0	0	32	145	68
Black ash	0	0	0	0	0	0	0	0	0	0
Aspen	31	0	0	31	89	0	0	89	120	78
White oaks	0	0	16	16	0	0	0	0	16	100
Red oaks	0	0	0	0	0	0	0	0	0	0
Basswood	0	0	0	0	64	0	0	64	64	67
Elm	91	15	0	106	85	0	40	125	231	59
Other hardwoods[a]	127	0	0	127	161	41	0	202	329	62
Total hardwoods	482	47	32	561	563	89	141	793	1,354	28
Total, all species	529	47	48	624	595	105	171	871	1,495	25.1
Sampling error (percent)	44	56	56	36	41	48	41	29	25.1	

[a]Includes noncommercial hardwoods.

Table 40.--Number of shrubs, seedlings, and saplings on timberland by species, browse preference class, and browse utilization class, Chittenden County, Vermont, 1983

Species and browse preference class	Browse utilization class				All classes	Sampling error
	None	Light	Moderate	Heavy		
	Million stems					Percent
Northern white-cedar	4.1	.0	.0	.0	4.1	100
Eastern hemlock	34.9	.0	.0	.0	34.9	57
Striped maple	106.5	31.7	.0	.0	138.2	42
Red maple	19.2	1.4	.0	.0	20.6	40
Mountain maple	8.4	.0	.0	.0	8.4	84
Apple	1.5	.0	.0	.0	1.5	100
Hobblebush viburnum	54.8	.0	1.4	.0	56.2	60
Total readily browsed	229.4	33.1	1.4	.0	263.9	28
Sugar maple	391.0	4.4	.0	.0	395.4	30
Shadbush	4.1	.0	.0	.0	4.1	72
Yellow birch	44.3	.0	.0	.0	44.3	48
Paper birch	.0	4.2	.0	.0	4.2	100
Red-osier dogwood	43.9	.0	.0	.0	43.9	100
Hawthorn	1.4	.0	.0	.0	1.4	100
Beech	110.2	.0	.0	.0	110.2	33
White ash	41.9	9.7	.0	.0	51.6	30
Bigtooth aspen	1.4	.0	.0	.0	1.4	100
Quaking aspen	7.3	.0	.0	.0	7.3	100
Pin cherry	1.4	.0	.0	.0	1.4	100
Black cherry	51.2	.0	.0	.0	51.2	35
Chokecherry	12.4	.0	.0	.0	12.4	67
Brambles	370.8	.0	.0	.0	370.8	38
Willows	13.7	.0	.0	.0	13.7	74
Common elderberry	9.9	.0	.0	.0	9.9	57
Red-berried elder	5.6	1.4	.0	.0	7.0	69
American elm	11.6	.0	.0	.0	11.6	54
Sweetfern	19.0	.0	.0	.0	19.0	100
Total commonly browsed	1,141.1	19.7	.0	.0	1,160.8	16
Red spruce	4.2	.0	.0	.0	4.2	100
Black chokeberry	1.5	.0	.0	.0	1.5	100
Gray birch	25.4	.0	.0	.0	25.4	63
Eastern hophornbeam	36.2	.0	.0	.0	36.2	38
Red oak	1.4	.0	.0	.0	1.4	100
Spiraea	93.2	1.4	.0	.0	94.6	48
Total infrequently browsed	161.9	1.4	.0	.0	163.3	32
Witch-hazel	35.6	.0	.0	.0	35.6	88
Gooseberries	50.4	.0	.0	.0	50.4	60
Total questionable	86.0	.0	.0	.0	86.0	48
Other species	303.1	2.7	.0	.0	305.8	33
Total all species	1,921.5	56.9	1.4	.0	1,979.8	11.3
Sampling error (percent)	11	51	100	-	11.3	

Table 41.--Number of all live nut- and fruit-producing trees on timberland by species and diameter class, Essex County, Vermont, 1983

Species	Diameter class (inches at breast height)										All classes	Sampling error
	5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-28.9	29+		
	Thousand trees											Percent
Beech	937	679	270	63	153	51	0	0	27	0	2,180	27
Eastern hophornbeam	0	83	0	0	0	0	0	0	0	0	83	100
Pin cherry	34	68	34	0	0	0	0	0	0	0	136	61
Black cherry	34	116	0	0	34	33	0	0	0	0	217	57
Mountain ash	68	0	0	0	0	0	0	0	0	0	68	100
Total all species	1,073	946	304	63	187	84	0	0	27	0	2,684	25.4
Sampling error (percent)	39	38	46	100	49	60	-	-	70	-	25.4	

Table 42.--Number of standing dead trees on timberland by species, condition, and diameter class, Essex County, Vermont, 1983

Species	Intact top				Broken top				Total all trees	Sampling error
	5.0-10.9	11.0-14.9	15+	Total	5.0-10.9	11.0-14.9	15+	Total		
	Thousand trees									Percent
Balsam fir	889	18	31	938	884	130	0	1,014	1,952	25
Tamarack	0	0	0	0	0	0	0	0	0	0
White spruce	0	0	0	0	35	0	0	35	35	69
Black spruce	0	0	0	0	0	0	0	0	0	0
Red spruce	378	0	0	378	578	16	0	594	972	40
Red pine	0	0	0	0	0	0	0	0	0	0
White pine	0	0	0	0	17	0	0	17	17	100
Northern white-cedar	0	17	0	17	0	0	0	0	17	100
Hemlock	33	0	0	33	188	60	0	248	281	88
Other softwoods	0	0	0	0	0	0	0	0	0	0
Total softwoods	1,300	35	31	1,366	1,702	206	0	1,908	3,274	21
Sugar maple	360	68	0	428	382	0	28	410	838	66
Red maple	397	0	0	397	659	81	46	786	1,183	49
Yellow birch	0	0	0	0	673	245	288	1,206	1,206	23
Paper birch	0	0	0	0	0	0	0	0	0	0
Gray birch	0	0	0	0	0	0	0	0	0	0
Beech	0	17	0	17	33	114	115	262	279	58
White ash	0	0	0	0	0	0	0	0	0	0
Black ash	0	0	0	0	0	0	0	0	0	0
Aspen	34	0	0	34	0	0	0	0	34	100
White oaks	0	0	0	0	0	0	0	0	0	0
Red oaks	0	0	0	0	0	0	0	0	0	0
Basswood	0	0	0	0	0	0	0	0	0	0
Elm	0	0	0	0	0	0	0	0	0	0
Other hardwoods[a]	34	0	0	34	772	38	22	832	866	37
Total hardwoods	825	85	0	910	2,519	478	499	3,496	4,406	21
Total, all species	2,125	120	31	2,276	4,221	684	499	5,404	7,680	14.8
Sampling error (percent)	29	48	100	27	17	27	22	15	14.8	

[a]Includes noncommercial hardwoods.

Table 43.--Number of shrubs, seedlings, and saplings on timberland by species, browse preference class, and browse utilization class, Essex County, Vermont, 1983

Species and browse preference class	Browse utilization class				All classes	Sampling error
	None	Light	Moderate	Heavy		
	Million stems					Percent
Northern white-cedar	.0	6.0	.0	.0	6.0	100
Eastern hemlock	3.0	.0	.0	.0	3.0	69
Striped maple	171.2	28.3	10.5	.0	210.0	22
Red maple	85.1	8.9	40.4	7.4	141.8	31
Mountain maple	138.9	77.6	22.4	.0	238.9	33
Hobblebush viburnum	180.5	174.4	121.0	.0	475.9	25
Total readily browsed	578.7	295.2	194.3	7.4	1,075.6	15
Balsam fir	198.6	13.4	.0	3.0	215.0	25
Common juniper	7.5	.0	.0	.0	7.5	100
Sugar maple	484.2	85.0	25.4	.0	594.6	30
Shadbush	4.5	.0	.0	.0	4.5	75
Yellow birch	144.8	32.8	17.9	.0	195.5	24
Paper birch	19.4	4.5	5.9	.0	29.8	30
Red-osier dogwood	1.5	.0	.0	.0	1.5	100
Beaked hazelnut	.0	.0	13.4	.0	13.4	100
Beech	149.3	.0	1.5	.0	150.8	37
White ash	9.0	1.5	.0	.0	10.5	41
Black ash	4.5	.0	.0	.0	4.5	58
Honeysuckle	13.5	1.5	.0	.0	15.0	81
Quaking aspen	8.3	1.5	.0	.0	9.8	37
Pin cherry	36.7	.0	.0	.0	36.7	48
Black cherry	4.5	.0	3.0	.0	7.5	44
Brambles	618.7	34.4	.0	.0	653.1	36
Willows	2.1	.0	.0	.0	2.1	100
Common elderberry	13.4	4.5	17.9	.0	35.8	59
Red-berried elder	20.0	6.8	10.7	.0	37.5	71
Blueberries	3.0	.0	1.5	.0	4.5	74
Total commonly browsed	1,743.5	185.9	97.2	3.0	2,029.6	21
White spruce	9.0	.0	.0	.0	9.0	73
Red spruce	43.3	3.0	.0	.0	46.3	40
Speckled alder	31.3	3.0	.0	.0	34.3	88
Eastern hophornbeam	1.5	.0	.0	.0	1.5	100
Spiraea	25.4	26.9	.0	.0	52.3	72
Total infrequently browsed	110.5	32.9	.0	.0	143.4	41
Gooseberries	29.9	.0	.0	.0	29.9	100
Total questionable	29.9	.0	.0	.0	29.9	100
Other species	52.3	3.0	6.0	.0	61.3	56
Total all species	2,514.9	517.0	297.5	10.4	3,339.8	13.7
Sampling error (percent)	16	27	34	77	13.7	

Table 44.--Number of all live nut- and fruit-producing trees on timberland by species and diameter class, Franklin/Grand Isle Counties, Vermont, 1983

Species	Diameter class (inches at breast height)										All classes	Sampling error
	5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-28.9	29+		
	Thousand trees											Percent
Hickory	280	166	0	71	0	29	0	0	0	0	546	95
Hawthorn	79	13	0	0	0	0	0	0	0	0	92	100
Beech	357	107	33	203	116	114	63	37	85	0	1,115	40
Apple	273	0	0	0	0	0	0	0	0	0	273	87
Eastern hophornbeam	420	0	0	0	33	17	17	0	0	0	487	81
Pin cherry	0	114	0	0	0	0	0	0	0	0	114	100
Black cherry	405	0	185	67	0	0	0	0	0	0	657	52
White oak	0	117	0	0	0	30	0	0	18	0	165	90
Swamp white oak	0	0	0	0	0	17	0	0	0	0	17	100
Northern red oak	101	143	0	0	0	0	0	0	0	0	244	62
Total all species	1,915	660	218	341	149	207	80	37	103	0	3,710	30.8
Sampling error (percent)	40	48	51	43	69	41	62	100	56	-	30.8	

Table 45.--Number of standing dead trees on timberland by species, condition, and diameter class, Franklin/Grand Isle Counties, Vermont, 1983

Species	Intact top				Broken top				Total all trees	Sampling error
	5.0-10.9	11.0-14.9	15+	Total	5.0-10.9	11.0-14.9	15+	Total		
	Thousand trees									Percent
Balsam fir	231	0	0	231	63	0	0	63	294	23
Tamarack	0	0	0	0	34	0	0	34	34	100
White spruce	0	0	0	0	0	0	0	0	0	0
Black spruce	0	0	0	0	0	0	0	0	0	0
Red spruce	254	0	0	254	152	55	19	226	480	45
Red pine	0	0	0	0	0	0	0	0	0	0
White pine	55	0	17	72	34	38	18	90	162	47
Northern white-cedar	184	0	0	184	85	0	0	85	269	24
Hemlock	114	18	19	151	212	59	0	271	422	55
Other softwoods	0	0	0	0	0	0	0	0	0	0
Total softwoods	838	18	36	892	580	152	37	769	1,661	21
Sugar maple	33	0	0	33	389	17	52	458	491	53
Red maple	0	0	0	0	0	0	0	0	0	0
Yellow birch	34	18	28	80	599	60	0	659	739	46
Paper birch	0	0	0	0	177	18	0	195	195	77
Gray birch	0	0	0	0	137	0	0	137	137	78
Beech	0	63	54	117	0	0	48	48	165	70
White ash	298	0	0	298	34	17	27	78	376	100
Black ash	0	0	0	0	0	0	0	0	0	0
Aspen	0	0	0	0	0	0	0	0	0	0
White oaks	0	0	0	0	0	0	0	0	0	0
Red oaks	0	0	0	0	0	0	0	0	0	0
Basswood	0	0	0	0	0	0	0	0	0	0
Elm	0	16	0	16	510	98	67	675	691	70
Other hardwoods[a]	137	0	0	137	0	94	0	94	231	53
Total hardwoods	502	97	82	681	1,846	304	194	2,344	3,025	23
Total, all species	1,340	115	118	1,573	2,426	456	231	3,113	4,686	17.4
Sampling error (percent)	29	58	50	25	25	30	32	21	17.4	

[a]Includes noncommercial hardwoods.

Table 46.--Number of shrubs, seedlings, and saplings on timberland by species, browse preference class, and browse utilization class, Franklin/Grand Isle Counties, Vermont, 1983

Species and browse preference class	Browse utilization class				All classes	Sampling error
	None	Light	Moderate	Heavy		
	Million stems					Percent
Northern white-cedar	1.3	.0	.0	.0	1.3	24
Eastern hemlock	24.1	.0	.0	.0	24.1	33
Striped maple	68.5	.0	.0	.0	68.5	46
Red maple	44.3	19.6	.0	.0	63.9	50
Mountain maple	89.8	.0	.0	.0	89.8	77
Apple	2.8	.0	.0	.0	2.8	100
Hobblebush viburnum	52.9	38.4	.0	.0	91.3	53
Total readily browsed	283.7	58.0	.0	.0	341.7	32
Balsam fir	57.4	.0	.0	.0	57.4	69
Sugar maple	212.3	39.7	.0	.0	252.0	32
Yellow birch	42.6	4.4	.0	.0	47.0	49
Paper birch	27.6	.0	.0	.0	27.6	50
Red-osier dogwood	107.1	40.2	.0	.0	147.3	81
Hawthorn	11.3	.0	.0	.0	11.3	100
Beech	43.8	3.2	.0	.0	47.0	45
White ash	20.6	.0	.0	.0	20.6	42
Black ash	2.4	.0	.0	.0	2.4	24
Bigtooth aspen	2.9	.0	.0	.0	2.9	100
Quaking aspen	1.4	.0	.0	.0	1.4	100
Pin cherry	4.3	.0	.0	.0	4.3	74
Black cherry	20.1	.0	.0	.0	20.1	43
Chokecherry	58.8	8.3	.0	.0	67.1	54
Brambles	61.1	.0	.0	.0	61.1	55
Willows	1.5	.0	.0	.0	1.5	100
American elm	9.8	.0	.0	.0	9.8	53
Total commonly browsed	685.0	95.8	.0	.0	780.8	20
Red spruce	14.3	.0	.0	.0	14.3	52
Speckled alder	13.9	.0	.0	.0	13.9	100
Black chokeberry	6.2	.0	.0	.0	6.2	81
Gray birch	4.1	.0	.0	.0	4.1	100
Eastern hophornbeam	15.6	.0	.0	.0	15.6	41
Red oak	16.4	.0	.0	.0	16.4	83
Spiraea	122.6	.0	.0	.0	122.6	72
Total infrequently browsed	193.1	.0	.0	.0	193.1	48
Witch-hazel	8.9	.0	.0	.0	8.9	84
Gooseberries	14.5	.0	.0	.0	14.5	60
Total questionable	23.4	.0	.0	.0	23.4	47
Other species	80.1	.0	3.2	.0	83.3	37
Total all species	1,265.3	153.8	3.2	.0	1,422.3	14.9
Sampling error (percent)	15	39	100	-	14.9	

Table 47.--Number of all live nut- and fruit-producing trees on timberland by species and diameter class, Lamoille County, Vermont, 1983

Species	Diameter class (inches at breast height)										All classes	Sampling error
	5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-28.9	29+		
	Thousand trees											Percent
Beech	1,779	615	339	416	150	318	191	205	101	0	4,114	22
Eastern hophornbeam	34	113	0	0	0	0	0	0	0	0	147	80
Black cherry	68	0	129	0	40	0	0	0	0	0	237	48
Total all species	1,881	728	468	416	190	318	191	205	101	0	4,498	21.2
Sampling error (percent)	33	34	32	28	42	38	41	36	48	-	21.2	

Table 48.--Number of standing dead trees on timberland by species, condition, and diameter class, Lamoille County, Vermont, 1983

Species	Intact top				Broken top				Total all trees	Sampling error
	5.0-10.9	11.0-14.9	15+	Total	5.0-10.9	11.0-14.9	15+	Total		
	Thousand trees									Percent
Balsam fir	220	48	0	268	331	0	0	331	599	41
Tamarack	0	0	0	0	0	0	0	0	0	0
White spruce	0	0	0	0	0	0	0	0	0	0
Black spruce	0	0	0	0	0	0	0	0	0	0
Red spruce	67	15	0	82	17	164	0	181	263	38
Red pine	0	0	0	0	0	0	0	0	0	0
White pine	0	0	0	0	0	0	0	0	0	0
Northern white-cedar	0	0	0	0	0	0	0	0	0	0
Hemlock	34	0	0	34	327	0	16	343	377	88
Other softwoods	0	0	0	0	0	0	0	0	0	0
Total softwoods	321	63	0	384	675	164	16	855	1,239	30
Sugar maple	104	17	22	143	69	148	69	286	429	29
Red maple	33	60	0	93	0	17	17	34	127	61
Yellow birch	495	17	0	512	348	109	59	516	1,028	39
Paper birch	0	0	0	0	244	0	0	244	244	100
Gray birch	0	0	0	0	0	0	0	0	0	0
Beech	34	34	20	88	0	54	51	105	193	42
White ash	0	0	0	0	0	0	17	17	17	100
Black ash	0	0	0	0	0	0	0	0	0	0
Aspen	0	0	0	0	0	0	0	0	0	0
White oaks	0	0	0	0	0	0	0	0	0	0
Red oaks	0	0	0	0	0	0	0	0	0	0
Basswood	0	0	0	0	0	0	0	0	0	0
Elm	0	0	0	0	380	41	0	421	421	100
Other hardwoods[a]	0	0	0	0	34	0	0	34	34	100
Total hardwoods	666	128	42	836	1,075	369	213	1,657	2,493	26
Total, all species	987	191	42	1,220	1,750	533	229	2,512	3,732	17.7
Sampling error (percent)	39	48	68	32	33	34	29	23	17.7	

[a]Includes noncommercial hardwoods.

Table 49.--Number of shrubs, seedlings, and saplings on timberland by species, browse preference class, and browse utilization class, Lamoille County, Vermont, 1983

Species and browse preference class	Browse utilization class				All classes	Sampling error
	None	Light	Moderate	Heavy		
	Million stems					Percent
Eastern hemlock	22.2	.0	.0	.0	22.2	45
Striped maple	199.4	3.0	.0	.0	202.4	25
Red maple	72.3	3.0	.0	.0	75.3	40
Mountain maple	45.9	1.5	.0	.0	47.4	48
Apple	1.6	.0	3.2	.0	4.8	100
Hobblebush viburnum	165.4	6.0	16.5	.0	187.9	33
Total readily browsed	506.8	13.5	19.7	.0	540.0	19
Balsam fir	38.0	.0	.0	.0	38.0	51
Sugar maple	433.1	20.6	25.5	.0	479.2	26
Shadbush	3.0	.0	.0	.0	3.0	100
Yellow birch	47.0	1.5	.0	.0	48.5	29
Paper birch	3.0	.0	.0	.0	3.0	71
American hazelnut	6.0	.0	.0	.0	6.0	100
Beech	166.5	.0	.0	.0	166.5	26
White ash	11.9	.0	13.5	.0	25.4	56
Honeysuckle	3.0	.0	.0	.0	3.0	100
Pin cherry	4.4	.0	.0	.0	4.4	100
Black cherry	13.3	1.5	1.5	.0	16.3	39
Chokecherry	19.2	2.9	.0	.0	22.1	88
Roses	1.6	.0	.0	.0	1.6	100
Brambles	92.2	10.5	.0	.0	102.7	57
Red-berried elder	2.9	3.0	.0	.0	5.9	71
American elm	1.5	.0	.0	.0	1.5	100
Blueberries	1.6	.0	.0	.0	1.6	100
Sweetfern	8.9	.0	.0	.0	8.9	71
Total commonly browsed	857.1	40.0	40.5	.0	937.6	17
Red spruce	16.4	.0	.0	.0	16.4	41
Eastern hophornbeam	14.9	.0	.0	.0	14.9	58
Red oak	1.5	.0	.0	.0	1.5	100
Spiraea	88.1	.0	.0	.0	88.1	83
Total infrequently browsed	120.9	.0	.0	.0	120.9	61
Gooseberries	4.4	.0	.0	.0	4.4	100
Total questionable	4.4	.0	.0	.0	4.4	100
Other species	57.8	.0	.0	1.5	59.3	38
Total all species	1,547.0	53.5	60.2	1.5	1,662.2	13.2
Sampling error (percent)	15	38	50	100	13.2	

Table 50.--Number of all live nut- and fruit-producing trees on timberland by species and diameter class, Orange County, Vermont, 1983

Species	Diameter class (inches at breast height)										All classes	Sampling error
	5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-28.9	29+		
	Thousand trees											Percent
Serviceberry	292	35	0	0	0	0	0	0	0	0	327	100
Hickory	140	0	0	0	0	0	0	0	0	0	140	100
Beech	315	615	228	276	192	111	0	0	63	0	1,800	48
Apple	72	0	0	0	0	0	0	0	0	0	72	100
Eastern hophornbeam	2,245	142	105	36	0	18	0	0	0	0	2,546	43
Pin cherry	189	0	36	0	0	0	0	0	0	0	225	100
Black cherry	35	35	209	54	0	18	27	0	0	0	378	38
Northern red oak	371	513	101	220	90	18	17	0	0	57	1,387	44
Total all species	3,659	1,340	679	586	282	165	44	0	63	57	6,875	21.8
Sampling error (percent)	30	29	33	40	35	40	70	-	59	63	21.8	

Table 51.--Number of standing dead trees on timberland by species, condition, and diameter class, Orange County, Vermont, 1983

Species	Intact top				Broken top				Total all trees	Sampling error
	5.0-10.9	11.0-14.9	15+	Total	5.0-10.9	11.0-14.9	15+	Total		
	Thousand trees									Percent
Balsam fir	161	0	0	161	533	67	0	600	761	43
Tamarack	0	0	0	0	0	0	0	0	0	0
White spruce	0	18	0	18	0	0	0	0	18	100
Black spruce	0	0	0	0	0	0	0	0	0	0
Red spruce	255	18	0	273	340	0	0	340	613	46
Red pine	0	0	0	0	0	0	0	0	0	0
White pine	35	17	17	69	365	0	0	365	434	48
Northern white-cedar	0	0	0	0	0	0	0	0	0	0
Hemlock	0	0	0	0	208	0	0	208	208	57
Other softwoods	0	0	0	0	0	0	0	0	0	0
Total softwoods	451	53	17	521	1,446	67	0	1,513	2,034	22
Sugar maple	255	0	0	255	70	0	21	91	346	49
Red maple	0	0	0	0	184	59	0	243	243	65
Yellow birch	0	0	0	0	70	63	35	168	168	63
Paper birch	196	0	0	196	301	0	0	301	497	100
Gray birch	0	0	0	0	0	0	0	0	0	0
Beech	0	53	0	53	141	90	58	289	342	39
White ash	0	0	0	0	131	0	0	131	131	100
Black ash	0	0	0	0	0	0	0	0	0	0
Aspen	105	35	0	140	695	18	17	730	870	44
White oaks	0	0	0	0	0	0	0	0	0	0
Red oaks	0	0	0	0	0	0	0	0	0	0
Basswood	0	0	0	0	36	0	9	45	45	82
Elm	35	0	0	35	105	56	27	188	223	82
Other hardwoods[a]	0	0	0	0	35	0	0	35	35	100
Total hardwoods	591	88	0	679	1,768	286	167	2,221	2,900	26
Total, all species	1,042	141	17	1,200	3,214	353	167	3,734	4,934	19.4
Sampling error (percent)	30	51	100	27	25	41	28	22	19.4	

[a]Includes noncommercial hardwoods.

Table 52.--Number of shrubs, seedlings, and saplings on timberland by species, browse preference class, and browse utilization class, Orange County, Vermont, 1983

Species and browse preference class	Browse utilization class				All classes	Sampling error
	None	Light	Moderate	Heavy		
	Million stems					Percent
Northern white-cedar	3.9	.0	.0	.0	3.9	100
Eastern hemlock	66.1	.0	.0	.0	66.1	48
Striped maple	72.2	13.8	.0	.0	86.0	63
Red maple	29.1	29.9	.0	.0	59.0	62
Mountain maple	4.6	9.2	.0	.0	13.8	74
Total readily browsed	175.9	52.9	.0	.0	228.8	31
Balsam fir	65.0	1.5	.0	.0	66.5	45
Common juniper	150.7	.0	.0	.0	150.7	99
White pine	1.5	.0	.0	.0	1.5	100
Sugar maple	271.0	185.4	10.8	.0	467.2	32
Yellow birch	4.5	4.6	.0	.0	9.1	58
Paper birch	19.1	.0	.0	.0	19.1	73
Red-osier dogwood	9.4	.0	.0	.0	9.4	100
Hawthorn	12.2	.0	.0	.0	12.2	57
American hazelnut	30.7	.0	.0	.0	30.7	73
Beaked hazelnut	35.1	.0	.0	.0	35.1	91
Beech	50.2	16.9	3.1	1.5	71.7	40
White ash	55.7	24.7	1.5	.0	81.9	25
Quaking aspen	14.9	12.3	.0	.0	27.2	36
Pin cherry	48.9	.0	.0	.0	48.9	85
Black cherry	10.9	3.0	.0	.0	13.9	50
Chokecherry	2.8	.0	.0	.0	2.8	71
Roses	3.1	.0	.0	.0	3.1	100
Brambles	324.3	.0	.0	.0	324.3	37
Willows	14.2	.0	4.1	.0	18.3	79
American elm	4.3	.0	.0	.0	4.3	74
Total commonly browsed	1,128.5	248.4	19.5	1.5	1,397.9	19
White spruce	13.2	.0	.0	.0	13.2	89
Red spruce	32.0	.0	.0	.0	32.0	30
Speckled alder	12.6	.0	.0	.0	12.6	76
Gray birch	1.3	.0	5.4	.0	6.7	81
Eastern hophornbeam	39.9	12.2	.0	.0	52.1	37
Red oak	10.2	.0	.0	.0	10.2	50
Spiraea	54.3	3.2	.0	.0	57.5	40
Total infrequently browsed	163.5	15.4	5.4	.0	184.3	20
Red ash	1.5	.0	.0	.0	1.5	100
Witch-hazel	6.2	.0	.0	.0	6.2	100
Gooseberries	4.6	.0	.0	.0	4.6	100
Total questionable	12.3	.0	.0	.0	12.3	63
Other species	83.7	.0	.0	.0	83.7	61
Total all species	1,563.9	316.7	24.9	1.5	1,907.0	14.6
Sampling error (percent)	18	37	43	100	14.6	

Table 53.--Number of all live nut- and fruit-producing trees on timberland by species and diameter class, Orleans County, Vermont, 1983

Species	Diameter class (inches at breast height)										All classes	Sampling error
	5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-28.9	29+		
	Thousand trees											Percent
Beech	415	0	176	35	127	0	25	0	0	0	778	52
Eastern hophornbeam	807	69	0	0	0	0	0	0	0	0	876	54
Black cherry	68	191	105	168	70	0	0	0	15	0	617	57
Total all species	1,290	260	281	203	197	0	25	0	15	0	2,271	29.2
Sampling error (percent)	42	62	63	59	46	-	100	-	100	-	29.2	

Table 54.--Number of standing dead trees on timberland by species, condition, and diameter class, Orleans County, Vermont, 1983

Species	Intact top				Broken top				Total all trees	Sampling error
	5.0-10.9	11.0-14.9	15+	Total	5.0-10.9	11.0-14.9	15+	Total		
	Thousand trees									Percent
Balsam fir	857	171	27	1,055	948	170	0	1,118	2,173	38
Tamarack	0	0	0	0	0	0	0	0	0	0
White spruce	0	0	0	0	125	0	0	125	125	100
Black spruce	0	0	0	0	0	0	0	0	0	0
Red spruce	1,068	13	0	1,081	362	17	0	379	1,460	52
Red pine	0	0	0	0	0	0	0	0	0	0
White pine	0	0	0	0	64	0	0	64	64	83
Northern white-cedar	1,141	17	0	1,158	35	17	0	52	1,210	51
Hemlock	35	0	0	35	69	0	0	69	104	74
Other softwoods	0	0	0	0	0	0	0	0	0	0
Total softwoods	3,101	201	27	3,329	1,603	204	0	1,807	5,136	27
Sugar maple	233	0	0	233	86	0	25	111	344	72
Red maple	0	0	0	0	112	0	17	129	129	66
Yellow birch	160	18	0	178	221	170	56	447	625	35
Paper birch	0	0	0	0	832	58	17	907	907	44
Gray birch	70	0	0	70	105	0	0	105	175	52
Beech	0	0	0	0	0	0	0	0	0	0
White ash	0	0	0	0	0	0	0	0	0	0
Black ash	0	0	0	0	0	0	0	0	0	0
Aspen	271	0	0	271	324	0	0	324	595	58
White oaks	0	0	0	0	0	0	0	0	0	0
Red oaks	0	0	0	0	0	0	0	0	0	0
Basswood	0	0	0	0	0	0	0	0	0	0
Elm	36	0	20	56	88	35	22	145	201	56
Other hardwoods[a]	129	18	0	147	154	0	0	154	301	48
Total hardwoods	899	36	20	955	1,922	263	137	2,322	3,277	21
Total, all species	4,000	237	47	4,284	3,525	467	137	4,129	8,413	16.9
Sampling error (percent)	22	55	71	21	23	29	32	21	16.9	

[a]Includes noncommercial hardwoods.

Table 55.--Number of shrubs, seedlings, and saplings on timberland by species, browse preference class, and browse utilization class, Orleans County, Vermont, 1983

Species and browse preference class	Browse utilization class				All classes	Sampling error
	None	Light	Moderate	Heavy		
	Million stems					Percent
Northern white-cedar	37.4	.0	.0	.0	37.4	45
Eastern hemlock	12.3	.0	.0	.0	12.3	45
Striped maple	130.9	10.5	16.9	.0	158.3	35
Red maple	98.8	9.2	7.7	.0	115.7	36
Mountain maple	17.7	16.8	10.8	.0	45.3	62
Hobblebush viburnum	77.8	49.5	.0	.0	127.3	47
Total readily browsed	374.9	86.0	35.4	.0	496.3	21
Balsam fir	173.2	.0	.0	.0	173.2	24
Common juniper	7.0	.0	.0	.0	7.0	100
Sugar maple	214.4	36.3	7.7	.0	258.4	24
Yellow birch	38.2	.0	1.6	.0	39.8	29
Paper birch	20.0	.0	1.5	.0	21.5	72
Red-osier dogwood	12.3	.0	1.5	.0	13.8	100
American hazelnut	18.7	.0	.0	.0	18.7	78
Beech	16.8	.0	.0	.0	16.8	67
White ash	59.0	4.6	.0	.0	63.6	48
Black ash	1.5	.0	.0	.0	1.5	100
Quaking aspen	18.0	.0	.0	.0	18.0	49
Pin cherry	5.2	4.7	.0	.0	9.9	59
Black cherry	30.3	.0	.0	4.6	34.9	42
Chokecherry	35.6	.0	.0	.0	35.6	100
Brambles	375.4	7.7	.0	.0	383.1	29
Willows	3.1	.0	1.6	.0	4.7	57
Common elderberry	7.5	.0	1.5	.0	9.0	70
American elm	.0	1.5	.0	.0	1.5	100
Total commonly browsed	1,036.2	54.8	15.4	4.6	1,111.0	14
White spruce	9.7	.0	.0	.0	9.7	100
Black spruce	5.6	.0	.0	.0	5.6	100
Red spruce	24.4	.0	.0	.0	24.4	30
Gray birch	24.6	.0	.0	.0	24.6	63
Lambkill	3.0	.0	.0	.0	3.0	100
Eastern hophornbeam	12.0	.0	.0	.0	12.0	54
Spiraea	197.1	26.6	104.5	13.8	342.0	56
Total infrequently browsed	276.4	26.6	104.5	13.8	421.3	45
Witch-hazel	1.5	.0	.0	.0	1.5	100
Total questionable	1.5	.0	.0	.0	1.5	100
Other species	20.0	.0	.0	.0	20.0	56
Total all species	1,709.0	167.4	155.3	18.4	2,050.1	12.2
Sampling error (percent)	14	36	68	84	12.2	

Table 56.--Number of all live nut- and fruit-producing trees on timberland by species and diameter class, Rutland County, Vermont, 1983

Species	Diameter class (inches at breast height)										All classes	Sampling error
	5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-28.9	29+		
	Thousand trees											Percent
Eastern redcedar	0	66	0	0	0	0	0	0	0	0	66	100
Hickory	1,490	406	31	0	0	0	21	0	0	0	1,948	68
Beech	2,005	1,565	828	523	276	208	106	51	30	0	5,592	34
Butternut	0	0	0	63	0	0	0	0	0	0	63	49
Apple	429	273	0	17	0	33	0	0	0	0	752	52
Eastern hophornbeam	2,273	1,063	434	122	38	0	24	0	0	0	3,954	30
Black cherry	437	354	31	65	53	0	22	0	16	0	978	39
White oak	31	497	272	16	85	0	0	0	13	16	930	64
Chestnut oak	0	0	70	0	0	0	0	0	0	0	70	100
Northern red oak	864	502	555	499	39	25	61	46	23	0	2,614	44
Total all species	7,529	4,726	2,221	1,305	491	266	234	97	82	16	16,967	16.6
Sampling error (percent)	20	22	26	27	28	34	36	50	48	100	16.6	

Table 57.--Number of standing dead trees on timberland by species, condition, and diameter class, Rutland County, Vermont, 1983

Species	Intact top				Broken top				Total all trees	Sampling error
	5.0-10.9	11.0-14.9	15+	Total	5.0-10.9	11.0-14.9	15+	Total		
	Thousand trees									Percent
Balsam fir	0	0	0	0	298	107	0	405	405	74
Tamarack	0	0	0	0	0	0	0	0	0	0
White spruce	0	0	0	0	0	0	0	0	0	0
Black spruce	0	0	0	0	0	0	0	0	0	0
Red spruce	201	48	18	267	483	70	25	578	845	57
Red pine	0	0	0	0	0	0	0	0	0	0
White pine	202	48	0	250	744	59	39	842	1,092	38
Northern white-cedar	33	0	0	33	33	0	0	33	66	70
Hemlock	0	0	0	0	0	61	41	102	102	54
Other softwoods	0	0	0	0	0	0	0	0	0	0
Total softwoods	436	96	18	550	1,558	297	105	1,960	2,510	33
Sugar maple	31	0	0	31	418	50	151	619	650	40
Red maple	103	0	0	103	609	44	26	679	782	67
Yellow birch	33	15	0	48	413	128	132	673	721	46
Paper birch	0	15	0	15	246	241	79	566	581	54
Gray birch	0	0	0	0	0	0	0	0	0	0
Beech	0	0	0	0	260	176	0	436	436	50
White ash	0	0	0	0	0	0	9	9	9	100
Black ash	0	0	0	0	0	0	0	0	0	0
Aspen	0	17	31	48	118	0	15	133	181	56
White oaks	71	0	0	71	0	0	5	5	76	94
Red oaks	0	0	0	0	0	0	36	36	36	71
Basswood	0	0	0	0	0	15	0	15	15	100
Elm	412	82	16	510	273	79	0	352	862	51
Other hardwoods[a]	95	16	0	111	99	0	0	99	210	43
Total hardwoods	745	145	47	937	2,436	733	453	3,622	4,559	21
Total, all species	1,181	241	65	1,487	3,994	1,030	558	5,582	7,069	17.8
Sampling error (percent)	34	32	60	30	24	32	21	20	17.8	

[a]Includes noncommercial hardwoods.

Table 58.--Number of shrubs, seedlings, and saplings on timberland by species, browse preference class, and browse utilization class, Rutland County, Vermont, 1983

Species and browse preference class	Browse utilization class				All classes	Sampling error
	None	Light	Moderate	Heavy		
	Million stems					Percent
Northern white-cedar	8.6	.0	.0	.0	8.6	74
Eastern hemlock	33.6	.0	.0	.0	33.6	48
Striped maple	118.4	20.5	.0	4.1	143.0	31
Red maple	22.1	18.0	4.0	.0	44.1	29
Mountain maple	8.6	.0	.0	.0	8.6	100
Apple	.0	2.9	.0	.0	2.9	100
Staghorn sumac	.0	1.4	1.4	.0	2.8	71
Hobblebush viburnum	53.3	.0	.0	.0	53.3	60
Total readily browsed	244.6	42.8	5.4	4.1	296.9	21
Balsam fir	23.2	.0	.0	.0	23.2	59
Common juniper	4.3	.0	.0	.0	4.3	100
White pine	31.0	.0	.0	.0	31.0	37
Sugar maple	258.5	126.6	34.4	4.1	423.6	23
Shadbush	13.9	15.0	1.3	.0	30.2	56
Yellow birch	18.3	25.6	1.3	.0	45.2	32
Black birch	11.0	.0	.0	.0	11.0	60
Paper birch	2.7	11.6	.0	1.4	15.7	67
Red-osier dogwood	.0	.0	.0	67.7	67.7	100
American hazelnut	73.0	.0	.0	.0	73.0	69
Beech	110.6	75.3	19.5	2.7	208.1	28
White ash	73.4	64.4	39.4	.0	177.2	32
Honeysuckle	33.1	26.2	.0	.0	59.3	75
Bigtooth aspen	1.4	.0	.0	.0	1.4	100
Quaking aspen	6.9	2.8	.0	.0	9.7	47
Black cherry	46.9	17.9	4.1	.0	68.9	43
Chokecherry	18.7	4.3	.0	.0	23.0	83
White oak	4.2	4.3	.0	.0	8.5	86
Brambles	422.4	97.1	.0	.0	519.5	32
Willows	18.1	.0	.0	.0	18.1	100
American elm	22.9	19.0	.0	.0	41.9	62
Blueberries	19.0	.0	.0	.0	19.0	100
Sweetfern	1.4	4.3	.0	.0	5.7	80
Maple-leaf viburnum	1.4	.0	20.3	.0	21.7	94
Total commonly browsed	1,216.3	494.4	120.3	75.9	1,906.9	14
Red spruce	56.4	.0	.0	.0	56.4	35
Gray birch	2.9	.0	.0	.0	2.9	100
Eastern hophornbeam	60.0	22.9	.0	.0	82.9	30
Red oak	8.2	1.3	2.9	.0	12.4	48
Spiraea	527.5	650.7	.0	.0	1,178.2	48
Total infrequently browsed	655.0	674.9	2.9	.0	1,332.8	42
Witch-hazel	7.2	14.1	.0	.0	21.3	50
Total questionable	7.2	14.1	.0	.0	21.3	50
Other species	343.2	79.2	45.5	.0	467.9	28
Total all species	2,466.3	1,305.4	174.1	80.0	4,025.8	16.1
Sampling error (percent)	14	33	32	85	16.1	

Table 59.--Number of all live nut- and fruit-producing trees on timberland by species and diameter class, Washington County, Vermont, 1983

Species	Diameter class (inches at breast height)										All classes	Sampling error
	5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-28.9	29+		
	Thousand trees											Percent
Beech	1,305	612	209	223	34	129	158	75	34	0	2,779	35
Butternut	103	299	34	0	0	17	0	17	15	22	507	65
Eastern hophornbeam	269	111	0	0	0	0	0	0	0	0	380	100
Pin cherry	35	0	0	0	0	0	0	0	0	0	35	100
Black cherry	935	610	128	48	55	48	23	0	0	0	1,847	41
Northern red oak	35	143	103	51	17	0	0	0	0	0	349	95
Mountain ash	103	0	0	0	0	0	0	0	0	0	103	73
Total all species	2,785	1,775	474	322	106	194	181	92	49	22	6,000	24.2
Sampling error (percent)	31	28	40	38	57	47	44	52	58	100	24.2	

Table 60.--Number of standing dead trees on timberland by species, condition, and diameter class, Washington County, Vermont, 1983

Species	Intact top				Broken top				Total all trees	Sampling error
	5.0-10.9	11.0-14.9	15+	Total	5.0-10.9	11.0-14.9	15+	Total		
	Thousand trees									Percent
Balsam fir	335	0	0	335	336	0	0	336	671	54
Tamarack	0	0	0	0	0	0	0	0	0	0
White spruce	137	0	0	137	68	0	0	68	205	71
Black spruce	0	0	0	0	0	0	0	0	0	0
Red spruce	840	70	43	953	786	101	32	919	1,872	30
Red pine	0	0	0	0	0	0	0	0	0	0
White pine	17	17	0	34	532	99	17	648	682	86
Northern white-cedar	0	0	0	0	34	0	0	34	34	100
Hemlock	34	0	0	34	0	0	0	0	34	100
Other softwoods	0	0	0	0	0	0	0	0	0	0
Total softwoods	1,363	87	43	1,493	1,756	200	49	2,005	3,498	28
Sugar maple	69	0	0	69	429	94	17	540	609	45
Red maple	68	0	0	68	87	0	0	87	155	63
Yellow birch	0	0	0	0	69	117	58	244	244	50
Paper birch	278	0	0	278	103	17	17	137	415	60
Gray birch	0	0	0	0	34	0	0	34	34	100
Beech	0	17	17	34	100	88	141	329	363	41
White ash	34	0	0	34	34	0	0	34	68	71
Black ash	0	0	0	0	0	0	0	0	0	0
Aspen	34	41	0	75	416	82	23	521	596	46
White oaks	0	0	0	0	0	0	0	0	0	0
Red oaks	0	0	0	0	0	0	0	0	0	0
Basswood	0	0	0	0	0	0	0	0	0	0
Elm	34	0	30	64	0	17	23	40	104	62
Other hardwoods[a]	103	0	34	137	240	92	38	370	507	33
Total hardwoods	620	58	81	759	1,512	507	317	2,336	3,095	17
Total, all species	1,983	145	124	2,252	3,268	707	366	4,341	6,593	17.0
Sampling error (percent)	28	41	49	26	24	23	22	19	17.0	

[a]Includes noncommercial hardwoods.

Table 61.--Number of shrubs, seedlings, and saplings on timberland by species, browse preference class, and browse utilization class, Washington County, Vermont, 1983

Species and browse preference class	Browse utilization class				All classes	Sampling error
	None	Light	Moderate	Heavy		
	Million stems					Percent
Northern white-cedar	15.0	.0	.0	.0	15.0	72
Eastern hemlock	29.9	.0	.0	.0	29.9	59
Striped maple	166.4	88.5	3.0	.0	257.9	25
Red maple	30.0	7.5	.0	.0	37.5	38
Mountain maple	73.5	40.5	.0	.0	114.0	34
Apple	4.5	.0	.0	.0	4.5	100
Staghorn sumac	1.5	.0	.0	.0	1.5	100
Mountain ash	13.4	.0	.0	.0	13.4	74
Hobblebush viburnum	135.0	.0	9.0	.0	144.0	38
Total readily browsed	469.2	136.5	12.0	.0	617.7	17
Balsam fir	104.7	.0	.0	.0	104.7	27
White pine	1.5	.0	.0	.0	1.5	100
Sugar maple	211.8	158.9	3.0	.0	373.7	32
Shadbush	4.5	1.3	.0	.0	5.8	62
Yellow birch	55.6	21.0	1.5	.0	78.1	36
Paper birch	38.9	1.5	16.4	.0	56.8	67
Red-osier dogwood	6.7	.0	.0	.0	6.7	100
Hawthorn	13.2	1.5	.0	.0	14.7	75
Beech	70.4	22.5	10.5	.0	103.4	35
White ash	48.1	22.1	4.6	.0	74.8	47
Quaking aspen	7.5	1.5	.0	.0	9.0	51
Pin cherry	50.9	4.5	.0	.0	55.4	60
Black cherry	55.7	1.5	.0	.0	57.2	50
Brambles	318.1	.0	.0	.0	318.1	37
Common elderberry	4.5	3.0	.0	.0	7.5	72
Red-berried elder	1.5	.0	.0	.0	1.5	100
Total commonly browsed	993.6	239.3	36.0	.0	1,268.9	14
Tamarack	1.5	.0	.0	.0	1.5	100
White spruce	2.8	.0	.0	.0	2.8	71
Red spruce	131.7	.0	.0	.0	131.7	22
Speckled alder	21.0	3.0	.0	.0	24.0	63
Gray birch	1.5	.0	.0	.0	1.5	100
Eastern hophornbeam	7.5	.0	.0	.0	7.5	52
Spiraea	185.4	20.2	6.0	.0	211.6	46
Total infrequently browsed	351.4	23.2	6.0	.0	380.6	27
Red ash	15.0	3.0	.0	.0	18.0	59
Gooseberries	9.0	.0	.0	.0	9.0	69
Total questionable	24.0	3.0	.0	.0	27.0	45
Other species	47.7	.0	.0	.0	47.7	49
Total all species	1,885.9	402.0	54.0	.0	2,341.9	11.7
Sampling error (percent)	12	36	51	-	11.7	

Table 62.--Number of all live nut- and fruit-producing trees on timberland by species and diameter class, Windham County, Vermont, 1983

Species	Diameter class (inches at breast height)										All classes	Sampling error
	5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-28.9	29+		
	Thousand trees											Percent
Hickory	320	182	33	50	81	32	0	0	0	0	698	55
Beech	2,648	1,267	1,043	751	431	240	166	103	30	0	6,679	24
Apple	0	111	0	0	0	0	0	0	0	0	111	100
Eastern hophornbeam	133	142	77	0	0	0	0	0	0	0	352	65
Pin cherry	33	0	0	0	0	0	0	0	0	0	33	100
Black cherry	762	317	442	128	63	103	16	18	0	0	1,849	37
White oak	0	0	0	17	0	0	0	0	0	0	17	100
Northern red oak	332	660	459	691	411	325	285	86	105	20	3,374	31
Total all species	4,228	2,679	2,054	1,637	986	700	467	207	135	20	13,113	15.7
Sampling error (percent)	21	24	25	20	29	25	24	35	36	100	15.7	

Table 63.--Number of standing dead trees on timberland by species, condition, and diameter class, Windham County, Vermont, 1983

Species	Intact top				Broken top				Total all trees	Sampling error
	5.0-10.9	11.0-14.9	15+	Total	5.0-10.9	11.0-14.9	15+	Total		
	Thousand trees									Percent
Balsam fir	197	0	0	197	554	40	0	594	791	79
Tamarack	0	0	0	0	0	0	0	0	0	0
White spruce	0	0	0	0	0	0	0	0	0	0
Black spruce	0	0	0	0	0	0	0	0	0	0
Red spruce	754	71	0	825	998	65	17	1,080	1,905	42
Red pine	0	17	0	17	0	0	0	0	17	100
White pine	573	0	0	573	325	49	28	402	975	39
Northern white-cedar	30	0	0	30	0	0	0	0	30	100
Hemlock	64	0	0	64	167	55	16	238	302	48
Other softwoods	0	0	0	0	0	0	0	0	0	0
Total softwoods	1,618	88	0	1,706	2,044	209	61	2,314	4,020	34
Sugar maple	82	0	0	82	235	51	74	360	442	40
Red maple	558	0	0	558	283	33	30	346	904	43
Yellow birch	33	0	0	33	221	118	31	370	403	43
Paper birch	33	17	0	50	336	0	16	352	402	55
Gray birch	0	0	0	0	229	0	0	229	229	87
Beech	0	0	17	17	66	74	99	239	256	37
White ash	0	0	17	17	66	42	0	108	125	67
Black ash	0	0	0	0	0	0	0	0	0	0
Aspen	259	0	0	259	204	48	27	279	538	84
White oaks	0	0	0	0	0	0	0	0	0	0
Red oaks	66	0	0	66	33	0	0	33	99	74
Basswood	0	0	0	0	0	0	0	0	0	0
Elm	0	0	0	0	63	86	0	149	149	75
Other hardwoods[a]	66	0	0	66	66	112	50	228	294	46
Total hardwoods	1,097	17	34	1,148	1,802	564	327	2,693	3,841	19
Total, all species	2,715	105	34	2,854	3,846	773	388	5,007	7,861	19.5
Sampling error (percent)	24	59	69	23	26	22	28	21	19.5	

[a]Includes noncommercial hardwoods.

Table 64.--Number of shrubs, seedlings, and saplings on timberland by species, browse preference class, and browse utilization class, Windham County, Vermont, 1983

Species and browse preference class	Browse utilization class				All classes	Sampling error
	None	Light	Moderate	Heavy		
	Million stems					Percent
Eastern hemlock	40.8	.0	.0	.0	40.8	59
Striped maple	38.9	53.5	21.7	.0	114.1	36
Red maple	53.8	11.4	11.7	14.5	91.4	32
Hobblebush viburnum	26.2	.0	.0	.0	26.2	84
Total readily browsed	159.7	64.9	33.4	14.5	272.5	23
Balsam fir	33.8	.0	.0	.0	33.8	41
White pine	18.9	1.4	.0	.0	20.3	34
Sugar maple	85.7	60.2	1.4	6.5	153.8	33
Yellow birch	4.3	1.5	.0	.0	5.8	60
Black birch	45.0	4.3	.0	.0	49.3	49
Paper birch	22.3	7.3	.0	.0	29.6	49
Beech	67.6	7.3	2.9	.0	77.8	20
White ash	4.5	7.2	1.3	.0	13.0	59
Black cherry	7.5	1.4	.0	.0	8.9	71
Brambles	72.6	27.5	.0	.0	100.1	42
American elm	1.5	.0	.0	.0	1.5	100
Sweetfern	1.5	7.6	.0	.0	9.1	100
Total commonly browsed	365.2	125.7	5.6	6.5	503.0	16
Red spruce	83.0	4.3	.0	.0	87.3	24
Gray birch	2.9	7.3	.0	.0	10.2	76
Eastern hophornbeam	11.5	1.5	.0	.0	13.0	71
Red oak	4.4	.0	.0	.0	4.4	58
Spiraea	42.1	58.4	.0	.0	100.5	57
Total infrequently browsed	143.9	71.5	.0	.0	215.4	32
Witch-hazel	5.8	.0	.0	.0	5.8	100
Total questionable	5.8	.0	.0	.0	5.8	100
Other species	52.1	4.3	.0	1.5	57.9	57
Total all species	726.7	266.4	39.0	22.5	1,054.6	11.8
Sampling error (percent)	13	26	60	77	11.8	

Table 65.--Number of all live nut- and fruit-producing trees on timberland by species and diameter class, Windsor County, Vermont, 1983

Species	Diameter class (inches at breast height)										All classes	Sampling error
	5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-28.9	29+		
	Thousand trees											Percent
Hickory	130	213	101	70	0	0	0	0	0	0	514	72
Beech	4,159	1,190	1,607	760	713	344	140	177	108	0	9,198	19
Butternut	33	33	140	0	50	0	0	0	0	0	256	100
Apple	171	168	32	0	16	0	0	0	0	0	387	70
Eastern hophornbeam	1,637	580	204	0	0	0	0	0	0	0	2,421	39
Black cherry	338	695	213	63	16	29	32	19	14	0	1,419	38
White oak	0	127	0	52	0	0	0	0	0	0	179	100
Northern red oak	689	241	509	285	65	105	0	16	64	0	1,974	37
Mountain ash	0	100	0	0	0	0	0	0	0	0	100	100
Total all species	7,157	3,347	2,806	1,230	860	478	172	212	186	0	16,448	14.3
Sampling error (percent)	22	17	17	20	25	25	36	32	33	-	14.3	

Table 66.--Number of standing dead trees on timberland by species, condition, and diameter class, Windsor County, Vermont, 1983

Species	Intact top				Broken top				Total all trees	Sampling error
	5.0-10.9	11.0-14.9	15+	Total	5.0-10.9	11.0-14.9	15+	Total		
	Thousand trees									Percent
Balsam fir	0	0	0	0	124	16	19	159	159	81
Tamarack	0	0	0	0	0	0	0	0	0	0
White spruce	0	0	0	0	0	0	0	0	0	0
Black spruce	0	0	0	0	0	0	0	0	0	0
Red spruce	583	0	29	612	413	32	21	466	1,078	40
Red pine	0	0	0	0	0	0	0	0	0	0
White pine	230	47	0	277	260	64	39	363	640	34
Northern white-cedar	0	0	0	0	0	0	0	0	0	0
Hemlock	230	0	0	230	147	33	0	180	410	70
Other softwoods	0	0	0	0	0	0	0	0	0	0
Total softwoods	1,043	47	29	1,119	944	145	79	1,168	2,287	24
Sugar maple	0	0	33	33	516	238	59	813	846	38
Red maple	31	0	0	31	362	82	16	460	491	62
Yellow birch	0	16	0	16	142	166	120	428	444	34
Paper birch	65	0	0	65	175	49	58	282	347	43
Gray birch	0	0	0	0	0	0	0	0	0	0
Beech	32	16	16	64	158	238	206	602	666	32
White ash	0	0	0	0	104	16	0	120	120	88
Black ash	0	0	0	0	0	0	0	0	0	0
Aspen	33	16	0	49	281	0	16	297	346	45
White oaks	0	0	0	0	0	0	0	0	0	0
Red oaks	0	0	0	0	0	0	0	0	0	0
Basswood	0	0	0	0	33	0	0	33	33	100
Elm	31	0	0	31	131	147	36	314	345	71
Other hardwoods[a]	368	0	19	387	195	16	16	227	614	50
Total hardwoods	560	48	68	676	2,097	952	527	3,576	4,252	15
Total, all species	1,603	95	97	1,795	3,041	1,097	606	4,744	6,539	13.3
Sampling error (percent)	30	56	45	27	20	22	20	14	13.3	

[a]Includes noncommercial hardwoods.

Table 67.--Number of shrubs, seedlings, and saplings on timberland by species, browse preference class, and browse utilization class, Windsor County, Vermont, 1983

Species and browse preference class	Browse utilization class				All classes	Sampling error
	None	Light	Moderate	Heavy		
	Million stems					Percent
Eastern hemlock	12.6	.0	.0	.0	12.6	45
Striped maple	163.8	18.4	31.1	12.8	226.1	23
Red maple	37.9	11.1	6.9	.0	55.9	37
Apple	9.2	.0	.0	.0	9.2	33
Mountain ash	.0	2.8	.0	.0	2.8	100
Hobblebush viburnum	95.1	7.0	75.1	.0	177.2	51
Total readily browsed	318.6	39.3	113.1	12.8	483.8	26
Balsam fir	1.4	.0	.0	.0	1.4	100
Common juniper	2.1	.0	.0	.0	2.1	100
White pine	14.7	.0	.0	.0	14.7	39
Sugar maple	410.4	46.1	.0	.0	456.5	21
Shadbush	4.3	.0	.0	.0	4.3	100
Yellow birch	19.8	5.7	.0	.0	25.5	56
Paper birch	35.0	9.9	.0	.0	44.9	46
Red-osier dogwood	1.4	.0	.0	.0	1.4	100
Hawthorn	2.7	.0	.0	.0	2.7	67
Beech	302.0	48.2	2.8	8.6	361.6	24
White ash	163.7	10.0	.0	17.2	190.9	26
Bigtooth aspen	1.4	.0	.0	.0	1.4	100
Quaking aspen	23.8	4.2	.0	.0	28.0	56
Pin cherry	.0	.0	2.1	.0	2.1	100
Black cherry	8.5	7.1	7.1	1.4	24.1	38
Chokecherry	2.8	.0	.0	.0	2.8	100
Brambles	401.3	.0	.0	.0	401.3	31
Willows	1.4	.0	.0	.0	1.4	100
American elm	2.8	2.1	.0	.0	4.9	71
Blueberries	.0	21.3	.0	.0	21.3	100
Sweetfern	59.5	.0	.0	.0	59.5	100
Total commonly browsed	1,459.0	154.6	12.0	27.2	1,652.8	13
Red spruce	35.2	.0	.0	.0	35.2	35
Eastern hophornbeam	29.7	1.4	.0	.0	31.1	41
Spiraea	577.6	7.1	.0	.0	584.7	38
Total infrequently browsed	642.5	8.5	.0	.0	651.0	34
Other species	64.3	.0	2.8	.0	67.1	85
Total all species	2,484.4	202.4	127.9	40.0	2,854.7	13.1
Sampling error (percent)	15	31	77	63	13.1	

Appendix

Definition of Terms

Agricultural/herbaceous land. Land with herbaceous plant cover, both grasses and/or forbs, including cropland, pasture land, and natural grass lands.

Aquatic edge. An edge condition created when a terrestrial land use abuts a lake, pond, river, stream, or major wetland.

Bog/Marsh/Swamp. Land that has less than 16.7 percent stocking with live trees; and which characteristically supports low, generally herbaceous or shrubby vegetation, and which is intermittently covered with water during all seasons; includes tidal areas that are covered with salty or brackish water during high tides.

Browse. Forage resource; defined here as current twig growth of woody-stemmed plants occurring between 1 and 8 feet in height.

Browse preference class. Classification of each woody-stemmed species based on observed selection by white-tailed deer during winters in Maine (provided by Maine Department of Inland Fisheries and Wildlife). These classifications may not accurately represent browse preference throughout northern New England but are used for comparative purposes.

Browse utilization class. Four levels of browse use, generally by white-tailed deer but also by snowshoe hare (Lepus americanus) and cottontail rabbits (Sylvilagus floridanus); none, light (1-10 percent of available), moderate (11-40 percent), and heavy (greater than 40 percent).

Cavity. A hollowed out space in a tree, either natural or faunal caused; frequently used as a nesting site or temporary refuge by many species of wildlife.

Commercial species. Tree species presently or prospectively suitable for industrial wood products. Excludes species of typically small size, poor form, or inferior quality, such as hawthorn and sumac.

Condition class. Classification of trees based on live or dead and condition of top of the tree (i.e. intact, broken, dead).

County and municipal lands. Lands owned by counties and local public agencies or municipalities or leased to them for 50 years or more.

Cropland. Land that currently supports agricultural crops including silage and feed grains, bare farm fields resulting from cultivation of harvest, and maintained orchards.

Cull tree. A live tree predominantly rotten or of rough form (see Growing-stock trees).

Cultural land. Land with human development as the major land cover; includes industrial, commercial, and residential land uses.

Diameter at breast height (d.b.h.). The diameter outside bark of a standing tree measured at 4-1/2 feet above the ground.

Farmer-owned lands. Lands owned by farm operators, whether part of the farmstead or not. Excludes land leased by farm operators from non-farm owners.

Federal lands. Lands (other than National Forests) administered by Federal agencies.

Forest industry lands. Lands owned by companies or individuals operating primary wood-using plants.

Forest land. Land at least 10 percent stocked with trees of any size or that formerly had such tree cover and is not currently developed for nonforest use. The minimum area for classification of forest land is 1 acre.

Forest type. A classification of forest land by species that form a plurality of live tree basal area stocking.

Forest-type group. A combination of forest types that share closely associated species or site requirements. The many forest types in Vermont were combined into the following major forest-type groups (the descriptions apply to forests in Vermont):

a. White/red pine--forests in which white pine, hemlock, or red pine, singly or in combination, make up a plurality of the stocking; common associates include red maple, red spruce, balsam fir, northern red oak, paper birch, and aspen.

b. Spruce/fir--forests in which red spruce, northern white-cedar, balsam fir, white spruce, black spruce, or tamarack, singly or in combination, make up a plurality of the stocking; common associates include paper birch, red maple, aspen, white pine, hemlock, yellow birch, and sugar maple.

c. Oak/pine--forests in which northern red oak or white ash, singly or in combination, make up a plurality of the stocking but where white pine contributes 25 to 50 percent of the stocking; beech and red spruce are associates.

d. Oak/hickory--forests in which upland oaks, red maple (when associated with central hardwoods), or hawthorn, singly or in combination, make up a plurality of the stocking and in which white pine makes up less than 75 percent of the stocking; common associates include white pine, paper birch, red spruce, beech, hemlock, and balsam fir.

e. Elm/ash/red maple--forests in which black ash, elm, red maple (when growing on wet sites), willow, or green ash, singly or in combination, make up a plurality of the stocking; common associates include balsam fir, northern white-cedar, aspen, and white ash.

f. Northern hardwoods--forests in which sugar maple, beech, yellow birch, red maple (when associated with northern hardwoods), pin cherry, or black cherry, singly or in combination, make up a plurality of the stocking; common associates include balsam fir, red spruce, paper birch, hemlock, white ash, aspen, and white pine.

g. Aspen-birch--forests in which aspen, paper birch, or gray birch, singly or in combination, make up a plurality of the stocking; common associates include balsam fir, red maple, red spruce, white spruce, and white pine.

Growing-stock trees. Live trees of commercial species classified as sawtimber, poletimber, saplings, and seedlings; that is, all live trees of commercial species except rough and rotten trees.

Hardwoods. Dicotyledonous trees, usually broad-leaved and deciduous.

Harvested cropland. All land from which crops were harvested or hay was cut and all land in orchards, citrus groves, vineyards, and nursery and greenhouse products.

Idle farmland. Former cropland or pasture that has not been tended within the last 2 years and that has less than 16.7 percent stocking with live trees, (established seedlings or larger trees) regardless of species.

Improved/maintained pasture. Land that is currently used and maintained for grazing (not including grazed cropland).

Industrial and commercial land. Supply yards, parking lots, factories, etc.

Land area. (a) Bureau of Census: The area of dry land and land temporarily or partly covered by water, such as marshes, swamps, and river flood plains; streams, sloughs, estuaries, and canals less than 1/8 statute mile wide; and lakes, reservoirs, and ponds less than 40 acres in area. (b) Forest Inventory

and Analysis: same as (a) except that the minimum width of streams, etc., is 120 feet, and the minimum size of lakes, etc., is 1 acre.

Land use edge. A condition created by the juxtaposition of two differing land uses or land covers.

Mast. Seed produced by woody stemmed, perennial plants, generally refers to soft (fruit) and hard (nuts) mast.

Mining and waste land. Surface mining, gravel pits, dumps.

Miscellaneous private lands. Privately owned lands other than forest-industry and farmer-owned lands.

National Forest lands. Federal lands legally designated as National Forests or purchase units and other lands administered as part of the National Forest System by the USDA Forest Service.

Noncommercial forest land. Productive-reserved, urban, and unproductive forest land.

Noncensus water. Streams/rivers between 120 feet and 1/8 mile in width, and bodies of water between 1 and 40 acres in size. The Bureau of the Census classifies such water as land.

Noncommercial species. Tree species of typically small size, poor form, or inferior quality that normally do not develop into trees suitable for industrial wood products.

Nonforest land. Land that has never supported forests, or land formerly forested but now in nonforest use such as cropland, pasture, residential areas, and highways.

Nonstocked area. A stand-size class of forest land that is stocked with less than 10 percent of minimum full stocking with all live trees.

Other cropland. Includes cropland used for cover crops; legumes, soil-improvement grasses, but not harvested and not pastured; cropland on which all crops failed; cropland in summer fallow and idle cropland.

Other farmland. All nonforest land on a farm excluding cropland, pasture, and idle farmland; includes farm lanes, stock pens, and farmsteads.

Pasture land. Includes any pasture land other than cropland and woodland pasture. Can include lands which had applied lime fertilizer, seed, improved by irrigation, drainage, or control of weeds and brush.

Pastured cropland. Includes rotation pasture and grazing land that would have been used for crops without additional improvement.

Poletimber stands. A stand-size class of forest land that is stocked with at least 10 percent of minimum full stocking with all live trees with half or more of such stocking in poletimber or sawtimber trees or both, and in which the stocking of poletimber exceeds that of sawtimber.

Poletimber trees. Live trees of commercial species meeting regional specifications of soundness and form and at least 5.0 inches in d.b.h., but smaller than sawtimber trees.

Productive-reserved forest land. Forest land sufficiently productive to qualify as timberland, but withdrawn from timber utilization through statute, administrative designation, or exclusive use for Christmas tree production.

Recreation site. Parks, campgrounds, playing fields, tracks, etc.

Rights-of-way. Highways, pipelines, powerlines, canals.

Rotten trees. Live trees of commercial species that do not contain at least one 12-foot sawlog or two noncontiguous sawlogs, each 8 feet or longer, now or

prospectively, and do not meet regional specifications for freedom from defect primarily because of rot; that is, when more than 50 percent of the cull volume in a tree is rotten.

Rough trees. (a) The same as rotten trees, except that rough trees do not meet regional specifications for freedom from defect primarily because of roughness or poor form, and (b) all live trees of noncommercial species.

Saplings. Live trees 1.0 through 4.9 inches d.b.h.

Sapling-seedling stands. A stand-size class of forest land that is stocked with at least 10 percent of minimum full stocking with all live trees, with half or more of such stocking in saplings or seedlings or both.

Sawtimber stands. A stand-size class of forest land that is stocked with at least 10 percent of minimum full stocking with all live trees, with half or more of such stocking in poletimber or sawtimber trees or both, and in which the stocking of sawtimber is at least equal to that of poletimber.

Sawtimber trees. Live trees of commercial species at least 9.0 inches d.b.h. for softwoods or 11.0 inches for hardwoods containing at least one 12-foot sawlog or two noncontiguous 8-foot sawlogs, and meeting regional specifications for freedom from defect.

Seedlings. Live trees less than 1.0 inch d.b.h. that are expected to survive.

Shrub. Woody stemmed perennial plant, generally with no well-defined main stem and less than 12 feet in height at maturity.

Shrub land. Land with shrub and/or tree cover and an obvious herbaceous understory; average canopy height of less than 25 feet and crown closure of less than 70 percent.

Single-family/custom house. House sheltering one family and immediately adjacent managed land.

Softwoods. Coniferous trees, usually evergreen and having needles or scalelike leaves.

Stand. A group of forest trees growing on forest land.

Stand area class. The area, contiguous to the plot, that is of the same overall stand size and major type group (hardwood, softwood, or uniform mixture of both).

Standing dead tree (snag) - woody stem greater than 5.0 inches in diameter and 10 feet in height.

Stand-size class. A classification of forest land based on the size class (that is, seedlings, saplings, poletimber, or sawtimber) of all live trees in the area.

State lands. Lands owned by the State or leased to the State for 50 years or more.

Stocking. The degree of occupancy of land by trees, measured by basal area and/or number of trees in a stand compared to the basal area and/or number of trees required to fully use the growth potential of the land (or the stocking standard). In the Eastern United States this standard is 75 square feet of basal area per acre for trees 5.0 inches d.b.h. and larger, or its equivalent in numbers of trees per acre for seedlings and saplings.

Two categories of stocking are used:

All live trees--these are used to classify forest land, forest types, and stand-size classes.

Growing-stock trees--these are used to classify stand-size classes.

Stripmine. Area devoid of vegetation due to current or recent general excavation.

Timberland. Forest land producing or capable of producing crops of industrial wood (more than 20 cubic feet per acre per year) and not withdrawn from timber utilization (previously termed commercial forest land).

Tract/multiple family. Multiple individual residential units or attached units (e.g. apartment buildings, condominiums) and immediately adjacent managed land.

Transportation right-of-way. Land associated with highways and railroads.

Trees. Woody plants that have well-developed stems and are usually more than 12 feet in height at maturity.

Unproductive forest land. Forest land that is incapable of producing 20 cubic feet per acre per year of industrial wood under natural conditions, because of adverse site conditions.

Urban forest land. Noncommercial forest land within urban areas that is completely surrounded by urban development (not parks), whether commercial, industrial, or residential.

Utility right-of-way. Land associated with pipeline and electric transmission lines; identified only if vegetative cover differs from adjacent land use.

Windbreak/hedgerow. Linear areas, less than 120 feet in width; with predominantly tree and/or shrub vegetation.

Tree Species of Vermont (as encountered on field plots) (Frieswyk and Malley, 1985)

Scientific Name[a]	Common Name(s)	Occurrence[b]
	Softwoods	
Abies balsamea (L.) Mill.	balsam fir	vc
Juniperus virginiana L.	eastern redcedar	r
Larix laricina (Du Roi) K. Koch	tamarack, eastern larch	r
Picea glauca (Moench) Voss	white spruce	c
P. mariana (Mill.) B.S.P.	black spruce	r
P. rubens Sarg.	red spruce	vc
Pinus resinosa Ait.	red or Norway pine	r
P. strobus L.	eastern white pine	vc
Thuja occidentalis L.	northern white-cedar	c
Tsuga canadensis (L.) Carr.	eastern hemlock	vc
	Hardwoods	
Acer negundo L.	boxelder	vr
Acer pensylvanicum L.[c]	striped maple, moosewood	c
A. rubrum L.	red, soft, or swamp maple	vc
A. saccharinum L.	silver or soft maple	c
A. saccharum Marsh.	sugar, rock, or hard maple	vc
Ailanthus altissima (Mill.) Swingle[c]	ailanthus, tree-of-heaven	vr
Betula alleghaniensis Britton	yellow birch	vc
B. lenta L.	sweet, black, or cherry birch	c
B. papyrifera Marsh.	paper, white, or canoe birch	vc
B. populifolia Marsh.	gray birch	c
Carpinus caroliniana Walt.[c]	American hornbeam, blue beech	vr
Carya spp. Nutt.	hickory	c
Crataegus spp. L.[c]	hawthorn	vr
Fagus grandifolia Ehrh.	American beech	vc
Fraxinus americana L.	white ash	c
F. nigra Marsh.	black ash, brown ash	r
F. pennsylvanica Marsh.	green ash, red ash	r
Gleditsia triacanthos L.	honeylocust	vr
Juglans cinera L.	butternut	r
Juglans nigra L.	black walnut	vr
Malus spp. Mill.[c]	apple	r
Ostrya virginiana (Mill.) K. Koch[c]	eastern hophornbeam, ironwood	c
Populus balsamifera L.	balsam poplar	vr
P. deltoides Bartr. ex Marsh	eastern cottonwood	vr
P. grandidentata Michx.	bigtooth aspen, poplar, popple	r
P. tremuloides Michx.	quaking or trembling aspen	c
Prunus pensylvanica L.f.[c]	pin or fire cherry	r
Prunus serotina Ehrh.	black cherry	c
Quercus alba L.	white oak	r
Q. bicolor Willd.	swamp white oak	vr
Q. prinus L.	chestnut oak	vr
Q. rubra L.	northern red oak	c

Robinia pseudoacacia L.	black locust	vr
Tilia americana L.	American basswood	r
Ulmus americana L.	American elm	c
U. rubra Muhl.	slippery or red elm	r

[a]Names according to: Little, Elbert L., Jr. 1979. Checklist of United States Trees (native and naturalized). Agric. Handb. 541. Washington, DC: U.S Department of Agriculture, Forest Service. 375 p.

[b]Occurrence is based on the proportion of the species among all live trees 5.0 inches d.b.h. or larger encountered on forest survey field plots: vr = very rare (<0.05%), r = rare (0.05 to 0.49%), c = common (0.5 to 4.9%), and vc = very common (≥5.0%).

[c]Noncommercial species.

Shrub, Sapling, and Seedling Species of Vermont(as encountered on field plots, but not listed in the tree species list)

Scientific Name[a]	Common Name
Juniperus communis	common juniper
Acer spicatum Lam.	mountain maple
Alnus spp. Mill.	alder
A. rugosa (Du Roi) Spreng.	speckled alder
Amelanchier spp. Medic.	serviceberry
Aronia melanocarpa (Michx.) Ell.	black chokecherry
Carya cardiformis (Wangenh.) K. Koch	bitternut hickory
C. glabra (Mill.) Sweet	pignut hickory
C. ovata (Mill.) K. Koch	shagbark hickory
C. tomentosa (Poir.) Nutt.	mockernut hickory
Ceanothus americanus L.	New Jersey tea
Celastrus scandens L.	American bittersweet
Clematis verticillaris DC	purple clematis
Comptonia peregrina (L.) J. Coult.	sweetfern
Cornus alternifolia L.f.	alternate-leaf dogwood
C. amomum Mill.	silky dogwood
C. canadensis L.	bunchberry
C. florida L.	flowering dogwood
C. racemosa Lam.	gray or red-panicled dogwood
C. rugosa Lam.	round-leaved dogwood
C. stolonifera Michx.	red-osier dogwood
Corylus americana Marsh.	American hazelnut
C. cornuta Marsh.	beaked hazelnut
Gaultheria hispidula R. Br.	creeping snowberry
G. procumbens L.	teaberry
Hamamelis virginiana L.	witch-hazel
Kalmia angustifolia L.	sheep laurel
Lonicera spp. L.	honeysuckle
Mitchella repens L.	partridgeberry
Parthenocisus quinquefolia (L.) Planch.	Virginia creeper
Prunus. virginiana L.	chokecherry
Rhamnus spp. L.	buckthorn
Rhus glabra L.	smooth sumac
R. radicans L.	poison ivy
R. typhina L.	staghorn sumac
Ribes spp. L.	currant, gooseberry
Rosa spp. L.	rose
Rubus spp. L.	briers, brambles
Salix spp. L.	willow
Sambucus canadensis L.	American elder
S. pubens Michx.	red-berried elder
Sorbus americana Marsh.	American mountain ash
Spirea spp. L.	spirea
Tilia spp. L.	basswood
Ulmus spp. L.	elm
Vaccinium spp. L.	blueberry
Viburnum spp. L.	viburnum
V. acerifolium L.	maple-leaved viburnum

V. alnifolium Marsh.	hobblebush viburnum
V. dentatum L.	arrowwood
V. lentago L.	nannyberry
V. trilobum Marsh.	American cranberry bush
Vitis spp. L.	grape
Zanthoxylum americanum Mill.	common prickly-ash

[a]Names according to: Little, Elbert L., Jr. 1979. Checklist of United States trees (native and naturalized). Agric. Handb. 541. Washington, DC: U.S. Department of Agriculture, Forest Service. 375 p. and Symonds, George W.D. 1963. The Shrub Identification Book. New York, NY: William Morrow & Co. 379 p.

Relative Density and Frequency and Importance Values of Lesser Woody Stems[a], by Geographic Unit and Species, Vermont, 1983

Species	Northern Unit			Southern Unit			State total		
	Density	Frequency	Importance value	Density	Frequency	Importance value	Density	Frequency	Importance value
Balsam fir	5.4	39.5	44.9	.6	6.7	7.3	3.0	22.6	25.7
Common juniper	1.4	1.7	3.0	.0	.6	.7	.7	1.1	1.8
Eastern redcedar	.0	.3	.3	.0	.3	.3	.0	.3	.3
Tamarack	.0	.7	.7	.0	.0	.0	.0	.3	.3
White spruce	.3	4.3	4.7	.0	.0	.0	.2	2.1	2.3
Black spruce	.0	.7	.7	.0	.0	.0	.0	.3	.3
Red spruce	2.1	29.4	31.5	1.9	26.3	28.3	2.0	27.9	29.9
Eastern white pine	.1	4.0	4.1	.7	13.7	14.3	.4	9.0	9.4
Northern white-cedar	.7	6.4	7.1	.1	1.0	1.0	.4	3.6	4.0
Eastern hemlock	1.2	15.7	16.9	1.1	14.0	15.1	1.2	14.8	16.0
Striped maple	7.1	35.5	42.5	6.8	34.6	41.4	6.9	35.0	41.9
Red maple	3.9	31.1	35.0	2.5	30.8	33.3	3.2	30.9	34.1
Silver maple	.1	.7	.7	.0	.3	.3	.0	.5	.5
Sugar maple	19.8	61.2	81.0	14.1	54.9	69.0	16.9	58.0	74.9
Mountain maple	3.9	19.4	23.3	.7	2.2	3.0	2.3	10.6	12.9
Alder sp.	.3	1.3	1.7	.6	2.9	3.4	.5	2.1	2.6
Speckled alder	1.0	4.0	5.0	.3	.3	.7	.7	2.1	2.8
Serviceberry	.1	2.3	2.4	.3	3.5	3.8	.2	2.9	3.1
Black chokecherry	.0	.7	.7	.0	.3	.3	.0	.5	.5
Yellow birch	3.2	29.8	33.0	2.5	17.5	19.9	2.9	23.5	26.3
Black birch	.0	.0	.0	.4	4.8	5.2	.2	2.4	2.7
Paper birch	1.2	15.1	16.2	.8	11.7	12.6	1.0	13.4	14.4
Gray birch	.3	2.7	2.9	.3	2.2	2.5	.3	2.4	2.7
American hornbeam	.1	1.7	1.7	.6	2.2	2.8	.3	2.0	2.3
Hickory	.0	.3	.3	.0	.3	.3	.0	.3	.3
Bitternut hickory	.0	.3	.3	.1	1.3	1.3	.0	.8	.8
Pignut hickory	.0	.0	.0	.0	.3	.3	.0	.2	.2
Shagbark hickory	.0	.0	.0	.1	1.9	2.0	.1	1.0	1.0
Mockernut hickory	.0	.0	.0	.0	.6	.7	.0	.3	.3
American bittersweet	.0	.3	.3	.0	.0	.0	.0	.2	.2
Purple clematis	.0	.3	.3	.0	1.0	1.0	.0	.7	.7
Sweetfern	.0	.0	.0	.1	.3	.4	.0	.2	.2
Flowering dogwood	.1	.3	.4	.0	.0	.0	.1	.2	.2
Alternate-leaved dogwood	.2	3.7	3.9	.2	1.9	2.1	.2	2.8	3.0
Silky dogwood	.0	.3	.4	.1	.3	.4	.0	.3	.4
Round-leaved dogwood	.2	.7	.9	.0	.6	.7	.1	.7	.8
Panicled dogwood	.0	.3	.3	.0	.3	.3	.0	.3	.3
Gray dogwood	.0	.0	.0	1.9	3.2	5.1	1.0	1.6	2.6
Red-osier dogwood	.4	2.7	3.1	.7	1.0	1.7	.6	1.8	2.4

Relative Density and Frequency and Importance Values of Lesser Woody Stems[a], by Geographic Unit and Species, Vermont, 1983 (Cont'd.)

Species	Northern Unit			Southern Unit			State total		
	Density	Frequency	Importance value	Density	Frequency	Importance value	Density	Frequency	Importance value
Bunchberry	.0	9.7	9.7	.0	1.3	1.3	.0	5.4	5.4
American hazelnut	.4	3.0	3.4	.6	1.6	2.2	.5	2.3	2.8
Beaked hazelnut	.6	2.0	2.6	.0	.0	.0	.3	1.0	1.3
Hawthorn sp.	.3	3.0	3.3	.1	1.6	1.6	.2	2.3	2.4
American beech	4.0	29.1	33.1	8.5	47.6	56.1	6.3	38.6	44.9
White ash	2.3	22.7	25.1	3.6	30.5	34.1	3.0	26.7	29.7
Black ash	.1	2.7	2.8	.0	.0	.0	.1	1.3	1.4
Green ash	.2	1.7	1.8	.0	.0	.0	.1	.8	.9
Creeping snowberry	.0	1.3	1.3	.0	.0	.0	.0	.7	.7
Teaberry	.0	1.0	1.0	.0	2.9	2.9	.0	2.0	2.0
Honeylocust	.0	.0	.0	.0	.3	.3	.0	.2	.2
Witch-hazel	.1	1.3	1.4	.5	2.5	3.0	.3	2.0	2.2
Butternut	.0	1.3	1.4	.2	1.6	1.8	.1	1.5	1.6
Sheep laurel	.0	.3	.4	.0	.0	.0	.0	.2	.2
Bush honeysuckle	.1	1.3	1.5	.4	1.3	1.7	.3	1.3	1.6
Apple sp.	.1	1.3	1.4	.1	3.2	3.3	.1	2.3	2.4
Partridgeberry	.0	4.3	4.3	.0	7.9	7.9	.0	6.2	6.2
Eastern hornbeam	.7	10.0	10.8	1.4	15.2	16.7	1.1	12.7	13.8
Virginia creeper	.0	.3	.3	.0	1.0	1.0	.0	.7	.7
Balsam poplar	.0	1.0	1.0	.0	.0	.0	.0	.5	.5
Eastern cottonwood	.1	.3	.4	.0	.0	.0	.0	.2	.2
Bigtooth aspen	.0	.3	.4	.0	1.3	1.3	.0	.8	.8
Quaking aspen	.6	10.0	10.7	.3	4.1	4.4	.5	7.0	7.5
Pin cherry	1.5	11.0	12.6	.3	2.5	2.8	.9	6.7	7.6
Black cherry	1.1	14.7	15.9	1.6	12.1	13.7	1.4	13.4	14.7
Chokecherry	1.0	4.3	5.3	.3	3.2	3.5	.6	3.7	4.4
White oak	.0	.3	.3	.1	1.0	1.1	.1	.7	.7
Chestnut oak	.0	.0	.0	.0	.6	.7	.0	.3	.3
Northern red oak	.2	2.3	2.5	.3	6.0	6.3	.2	4.2	4.5
Buckthorn	.4	1.0	1.4	.3	.6	.9	.3	.8	1.1
Smooth sumac	.0	.3	.3	.0	.0	.0	.0	.2	.2
Staghorn sumac	.0	.3	.3	.1	1.3	1.4	.1	.8	.9
Poison ivy	.0	.0	.0	.0	.6	.6	.0	.3	.3
Currants sp.	.4	3.3	3.8	.3	1.3	1.6	.4	2.3	2.7
Black locust	.0	.0	.0	.2	.3	.6	.1	.2	.3
Rose sp.	.1	1.3	1.4	.0	.0	.0	.1	.7	.7
Rubus sp.	15.4	32.8	48.2	12.7	25.7	38.5	14.1	29.2	43.2
Willow sp.	.2	3.3	3.6	.2	1.3	1.5	.2	2.3	2.5
American elderberry	.4	4.0	4.4	.2	1.3	1.5	.3	2.6	2.9
Red-berried elder	.3	2.7	3.0	.1	1.0	1.0	.2	1.8	2.0

Relative Density and Frequency and Importance Values of Lesser Woody Stems[a], by Geographic Unit and Species, Vermont, 1983 (Cont'd.)

Species	Northern Unit			Southern Unit			State total		
	Density	Frequency	Importance value	Density	Frequency	Importance value	Density	Frequency	Importance value
Red-berried elder	.3	2.7	3.0	.1	1.0	1.0	.2	1.8	2.0
American mountain ash	.1	.7	.8	.0	.6	.7	.1	.7	.7
Spiraea sp.	7.5	15.1	22.5	17.3	13.0	30.3	12.4	14.0	26.5
Basswood sp.	.0	.3	.4	.0	.6	.7	.0	.5	.5
American basswood	.1	1.7	1.8	.1	2.2	2.4	.1	2.0	2.1
Elm sp.	.0	.0	.0	.0	.3	.3	.0	.2	.2
American elm	.1	3.7	3.8	.5	5.7	6.3	.3	4.7	5.1
Slippery elm	.1	1.3	1.5	.2	2.2	2.4	.2	1.8	1.9
American cranberry	.0	.3	.3	.0	.0	.0	.0	.2	.2
Blueberry sp.	.1	1.3	1.4	.5	1.3	1.8	.3	1.3	1.6
Viburnum sp.	.1	1.0	1.1	.7	2.2	2.9	.4	1.6	2.0
Maple-leaved viburnum	.0	.0	.0	.5	1.6	2.1	.3	.8	1.1
Hobblebush viburnum	7.2	18.1	25.2	7.0	16.8	23.9	7.1	17.4	24.5
Arrowwood	.0	.0	.0	.1	.6	.8	.1	.3	.4
Nannyberry	.1	1.0	1.1	.3	.3	.6	.2	.7	.9
Grape	.0	.0	.0	.0	1.6	1.6	.0	.8	.8
Common prickly ash	.0	.0	.0	.4	1.3	1.7	.2	.7	.9
Unknown vine	.0	3.0	3.0	.0	2.5	2.5	.0	2.8	2.8
Unknown dwarf shrub	.0	.7	.7	.0	.6	.6	.0	.7	.7
Unknown deciduous shrub	.6	5.4	5.9	.9	5.1	6.0	.7	5.2	6.0
Unknown evergreen shrub	.0	.0	.0	.5	.3	.8	.2	.2	.4
Unknown tree	.0	.0	.0	.2	3.5	3.7	.1	1.8	1.9

[a]Includes shrub and vine species and tree stems less than 5.0 inches d.b.h.

Selected habitat components, with source tables, that collectively describe the condition of white-tailed deer habitat by county and geographic unit, Vermont, 1983

Habitat component	Caledonia	Essex	Franklin/ Grand Isle	Lamoille	Orange	Orleans	Washington	Northern unit
Percent total area (Table 1)								
Forest land	71.9	93.4	58.9	81.0	78.0	69.5	80.5	75.7
Nonforest land	28.1	6.6	41.1	19.0	22.0	30.5	19.5	24.3
Land use edge indices (Table 2)								
Total	57.1	30.3	100.4	96.9	50.2	28.3	46.0	72.2
Sum Forest- and Shrub-	33.7	18.8	63.8	70.7	30.1	96.6	23.0	48.5
Percent Timberland area (Tables 4, 5, unit, and county tables)								
Sawtimber, conifer types	30.2	11.2	26.9	9.3	32.6	31.6	18.8	22.9
Sapling/seedling	14.4	17.6	12.4	10.1	8.0	9.8	7.9	11.6
Stands less than 100 acres	47.3	43.8	89.0	90.7	69.3	100.0	33.2	65.1
Mast potential - trees per acre timberland (Table 6, unit, and county tables)								
Beech	3.0	5.5	4.0	17.5	5.3	2.6	7.9	6.2
Oak	0.1	0.0	1.5	0.0	4.1	0.0	1.0	1.0
Browse potential - thousand sapling, seedling, and shrub stems per acre timberland (Table 12, unit, and county tables)								
Readily browsed	1.1	2.7	1.2	2.3	0.7	1.6	1.7	1.6
Commonly browsed	5.5	5.2	2.8	4.0	4.1	3.6	3.6	4.1
Infrequently browsed	1.3	0.4	0.7	0.5	0.5	1.4	1.1	0.8
Questionable species and others	0.1	0.2	0.4	0.3	0.3	0.7	0.2	0.2
Total	8.0	8.5	5.1	7.1	5.6	6.7	6.6	6.8
Browse potential - percent with observed browse use (Table 12, unit, and county tables)								
Readily browsed	26.8	46.2	17.0	6.1	23.1	24.5	24.0	27.5
Commonly browsed	6.2	14.1	12.3	8.6	19.3	6.7	21.7	12.9
Infrequently browsed	0.0	22.9	0.0	0.0	11.3	34.4	7.7	12.5
Questionable species and others	0.0	9.9	0.3	2.4	0.0	0.0	4.0	3.4
Total	7.9	24.7	11.0	6.9	18.0	16.6	19.5	16.1

Selected habitat components, with source tables, that collectively describe the condition of white-tailed deer habitat by county and geographic unit, Vermont, 1983, (cont'd.)

Habitat Component	Addison	Bennington	Chittenden	Rutland	Windham	Windsor	Southern unit	All counties
Percent total area (Table 1)								
Forest land	63.3	87.7	65.5	79.7	83.6	81.0	77.4	76.6
Nonforest land	36.7	12.3	34.5	20.3	16.4	19.0	22.6	23.4
Land use edge indices (Table 2)								
Total	94.4	111.8	119.7	109.4	67.6	56.1	90.4	81.6
Sum Forest- and Shrub-	62.4	82.2	82.7	79.3	47.3	39.1	63.5	56.2
Percent Timberland area (Tables 4, 5, unit, and county tables)								
Sawtimber, conifer types	8.0	0.0	9.6	22.1	25.3	25.7	17.0	19.9
Sapling/seedling	8.9	9.2	29.2	11.6	5.2	4.9	9.8	10.7
Stands < 100 acres	95.2	98.1	96.8	100.0	89.8	86.1	93.7	79.5
Mast potential - trees per acre timberland (Table 6, unit, and county tables)								
Beech	12.9	32.0	11.2	12.6	15.9	18.4	17.5	11.9
Oak	4.4	5.7	2.0	8.1	8.1	4.3	5.8	3.4
Browse potential - thousand sapling, seedling, and shrub stems per acre timberland (Table 12, unit, and county tables)								
Readily browsed	2.1	2.5	1.2	0.7	0.6	1.0	1.3	1.5
Commonly browsed	5.3	3.1	5.4	4.3	1.2	3.3	3.5	3.8
Infrequently browsed	2.0	1.1	0.8	3.0	0.5	1.3	1.5	1.2
Questionable species and others	0.7	1.2	1.8	1.1	0.2	1.4	0.6	0.4
Total	10.1	6.8	9.2	9.1	2.5	5.7	6.8	6.8
Browse potential - percent with observed browse use (Table 12, unit, and county tables)								
Readily browsed	44.3	11.6	13.1	17.6	41.4	34.1	26.2	27.0
Commonly browsed	49.5	14.0	1.7	36.2	27.4	11.7	24.8	18.4
Infrequently browsed	54.6	3.8	0.9	50.9	33.2	1.3	32.6	25.4
Questionable species and others	64.1	4.1	0.7	28.4	9.1	1.6	23.0	17.4
Total	50.5	11.4	2.9	38.7	31.1	13.0	26.6	21.4

Metric Equivalent of Units Used in This Report

1 acre = 4,046.86 square meters or 0.404686 hectares
1,000 acres = 404.686 hectares
1,000,000 acres = 404,686
1 inch = 2.54 centimeters or 0.0254 meters
1 foot = 30.48 centimeters or 0.3048 meters
Breast height = 1.4 meters above ground level
1 mile = 1.609 kilometers
1 square foot = 929.03 square centimeters or 0.0929 square meters
1 square foot per acre basal area = 0.229568 square meters per hectare
1 ton = 907.1848 kilograms
1,000 tons = 907.1848 metric tons

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Brooks, Robert T., Frieswyk, Thomas S.; Malley, Anne M. 1987. Forest wildlife habitat statistics for Vermont--1983. Resour. Bull. NE-100. Broomall, PA: U.S. Department of Agriculture, Forest Service, Northeastern Forest Experiment Station. 118 p.

A statistical report on the first forest wildlife habitat survey of Vermont (1983). Findings are displayed in 67 tables covering forest area, landscape patterns, mast potential, standing dead and cavity trees, and lesser woody stemmed vegetation. Data are presented at county and/or unit and state levels of resolution.

Keywords: Forest habitat survey, inventory, landscape pattern, snags, mast, browse

Headquarters of the Northeastern Forest Experiment Station are in Broomall, Pa. Field laboratories are maintained at:

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