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# Biomass Statistics for Vermont - 1983

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## Abstract

A new measure of the forest resource has been added to the fourth forest inventory of Vermont. The inventory, which was conducted in 1982-83, included estimates of aboveground tree biomass on timberland. There are approximately 413 million green tons of wood and bark in the aboveground portion of all trees, which equates to an average of 93 green tons per acre statewide. Approximately 51 percent or 212 million green tons is in growing stock and nearly 49 percent or 202 million green tons is nongrowing stock (growing-stock tops, saplings, cull trees, stumps and salvable dead trees).

## 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 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 by the field crews. He was assisted by Thomas B. Hartman, Joseph G. Reddan, and Karen Sykes. Members of the field crews were:

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David R. Dickson and Thomas S. Frieswyk used FINSYS (Forest INventory SYstem), a generalized data processing system, to address the specific informational 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 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.

Robert L. Nevel, Richard H. Widmann, and Eric H. Wharton, with the assistance of William G. Gove, Vermont Department of Forests, Parks and Recreation, collected and compiled the data on timber products output and timber removals.

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

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# BIOMASS STATISTICS FOR VERMONT – 1983

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## Highlights

- \* There are more than 413 million green tons of aboveground biomass in all trees. Over 98 percent or 407 million green tons is in live trees.
- \* Two hundred and ten million tons or 51 percent of the net green weight of all trees is in growing stock.
- \* More than two hundred and three million tons or 49 percent of the net green weight of all trees is in nongrowing stock. Thirty-eight percent of the nongrowing stock is in growing-stock tops, 34 percent is in rough and rotten cull trees, and 21 percent is in saplings and 6 percent is in stumps and salvable dead trees.
- \* Seventy-one percent or 295 million green tons of the net aboveground biomass of all trees is in hardwoods.
- \* Net aboveground biomass for all trees averages 93 green tons per acre in Vermont, and ranges from a low of 80 green tons per acre in Franklin/Grand Isle Counties to a high of 105 green tons per acre in Orange County.

- \* Sawtimber stands contain 297 million green tons or 73 percent of aboveground biomass of all live trees.
- \* The northern hardwoods forest-type group contains the largest amount of aboveground tree biomass (253 million green tons), but the aspen/birch group is more concentrated (104 green tons per acre of timberland).
- \* Sugar maple is the leading species in terms of aboveground biomass as well as in cubic-foot volume. It accounts for 23 percent of the aboveground biomass of all live trees. Hemlock is the leading softwood species and accounts for 7 percent of the aboveground biomass.
- \* Cull and salvable dead trees average 18 green tons per acre of timberland, and range from a low of 9 green tons per acre in Addison County to a high of 33 green tons per acre in Windsor County.

## Introduction

The USDA Forest Service completed the fourth inventory of Vermont's forest resources in 1983. Previous inventories were conducted in 1948, 1966, and 1973.

The inventories are conducted 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 biomass, area, and volume statistics presented in this report are a summary of data collected on new field plots established during the fourth inventory. The new plot sample consisted of 823 ground plots randomly selected from 16,313 photo points classified by land use and cubic-foot volume class.

Data were collected, processed, and analyzed by the Forest Inventory and Analysis staff. A complete list of available biomass tables is included in the appendix of this report. These tables are available on microfiche by state, geographic unit (Fig. 1), and county levels. Other tables or additional information may be developed. For further information, contact the Forest Inventory, Analysis, and Economics Project, USDA Forest Service, 370 Reed Road, Broomall, PA 19008 (phone 215-461-3037).

## Background

Traditionally, forest resource data have been collected to describe the forest in terms of its timber production capabilities. Board- and cubic-foot measures of volume (Fig. 2) were and are adequate for that purpose. Today, timber production is still considered by many to be the primary use of forest land, however, many data users are also interested in how the resource can be used for energy production, fiber-based products, wildlife or recreation. Because board-foot and cubic-foot volume estimates do not describe the forest

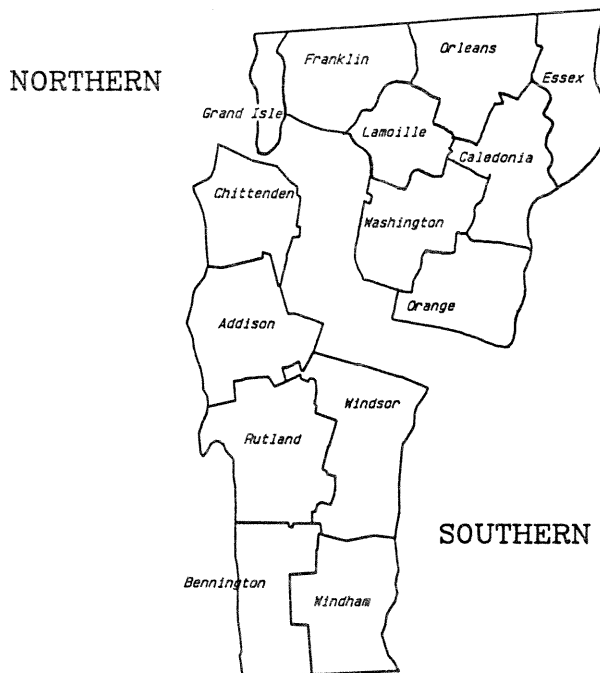


Figure 1.--Geographic Units.

resource broadly enough, biomass estimates have been built into the standard Forest Service inventory procedure (Fig. 2).

Weight equations developed for the major tree species in Maine (Young et al. 1980) were included along with the conventional volume equations used during the compilation of statewide statistics. The weight equations provide an estimate of the above-stump biomass of all trees. Separate techniques had to be used to derive estimates for specific components of trees such as stump biomass (ground level to a 1-foot stump height), merchantable stem biomass (1-foot stump height to a 4-inch top diameter outside bark (d.o.b.) and tops and branches.

Determination of stump biomass involved a two step process. First, the volume in stumps was estimated using regression equations in which diameter at breast height (d.b.h.) was the independent

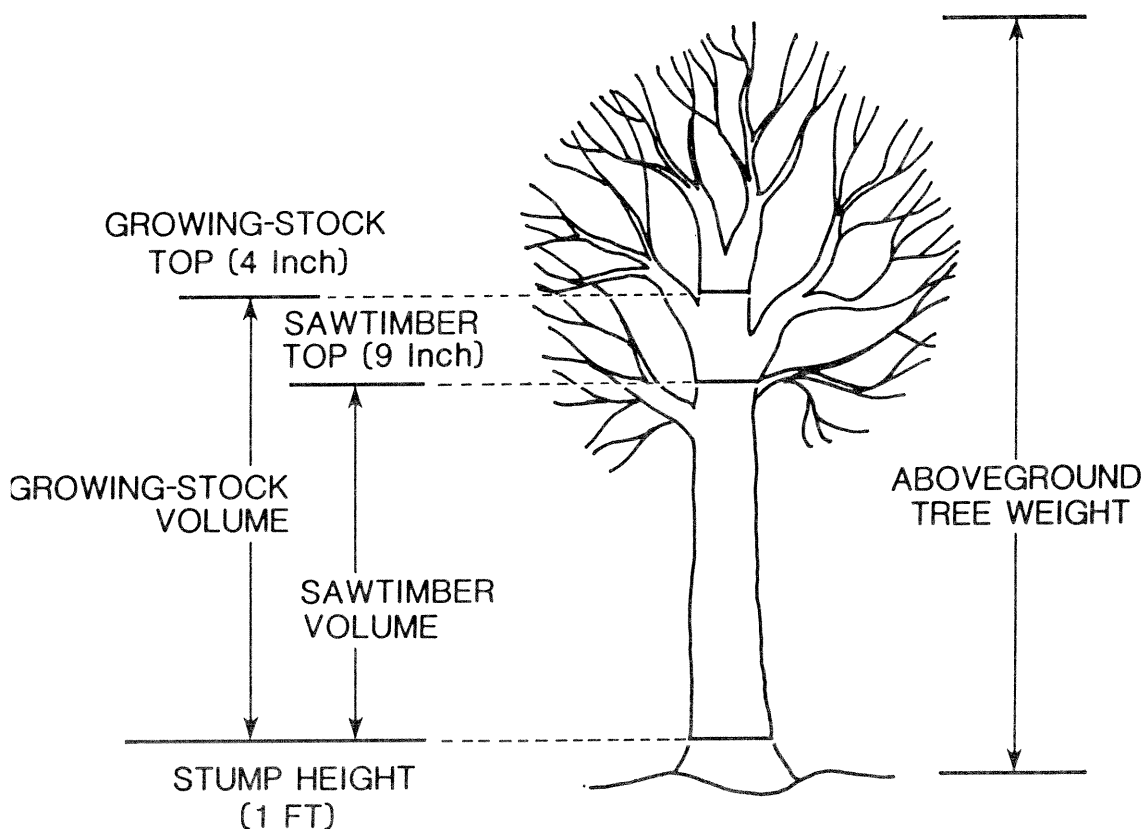


Figure 2.--Volume and weight relationships of hardwood aboveground tree biomass components.

variable (Raile 1982). Then the volumes were converted to weight using species-specific weight/volume ratios (Markwardt 1930).

The weight of the merchantable stem was calculated by applying weight/volume ratios to estimates of volume. Timber volume was estimated from new equations for both sawtimber and growing stock (Scott 1979, 1981). The difference between above-stump biomass from the weight regression equations and the independent estimate of merchantable stem biomass was the estimate for tops and branches.

Estimates of area, volume, numbers of trees, and aboveground tree biomass have been summarized in this report. The statistics are presented by forest-type group, species or species group, and diameter group; tables are provided by state and county level.

#### Reliability of Estimates

The data in this report were based on a carefully designed sample of forest conditions throughout Vermont. However, because the field crews did not measure every tree nor examine every acre in the State, the data are estimates. Therefore, zeros in any table cell indicate that the condition did not appear in the sample, or that the amount encountered was negligible. They do not necessarily mean that the condition does not exist.

There are two important sources of error to consider when looking at the estimates provided in this report: (1) the error associated with estimation from sample plots, and (2) the error associated with combining independent estimates. Some of the errors associated with estimation from sample plots are included in the tables and are called sampling error. We are not able

to calculate a value for the error associated with combining independent estimates.

Briefly, here is an example of how the sampling error is used to indicate reliability. The estimate of aboveground biomass of all trees on timberland in Vermont is 413 million green tons. It has an associated sampling error of 1.5 percent, or 6.6 million green tons. This means that if the survey were repeated, the odds are 2 to 1 (66 percent probability) that the estimate would be between 406.4 and 419.6 million green tons ( $413 \pm 6.6$ ). Similarly, the odds are 19 to 1 (95 percent probability) that the estimate would be within  $\pm 13.2$  million green tons.

State estimates have the smallest sampling errors and therefore are the most reliable. Geographic unit estimates are the next most reliable followed by county estimates. For example, the sampling error of aboveground tree biomass for Vermont is 1.5 percent, while the sampling error for Chittenden County is 7.3 percent. County estimates are expected to be considerably less reliable than state estimates. The state estimates are based on a larger sample than county estimates, and as the sample size used to obtain the estimate decreases in relation to the population size, the sampling error is expected to increase.

Some of the estimates have sampling errors that are greater than 25 percent and may not be usable. A single and double asterisk have been used to denote errors that exceed 25 and 50 percent, respectively. Any estimate with a sampling error of 50 percent or more would not be significantly different from zero, and those estimates with errors between 25 and 50 percent are suspect. Therefore, any estimates that have errors exceeding 25 percent should be used with caution.

The second important source of error occurs when two independent estimates are used to derive a third estimate.

The biomass in tops and branches has been derived in this manner. The estimate of the merchantable stem biomass was subtracted from the estimate of total above-stump biomass to yield an estimate of the biomass in tops and branches. Consequently, the estimates of tops and branches should be used with caution.

## Index to Tables

The tables are divided into three sections: (1) net volume and aboveground biomass of all trees, (2) net aboveground biomass of all live trees and (3) net aboveground biomass of cull and salvable dead trees.

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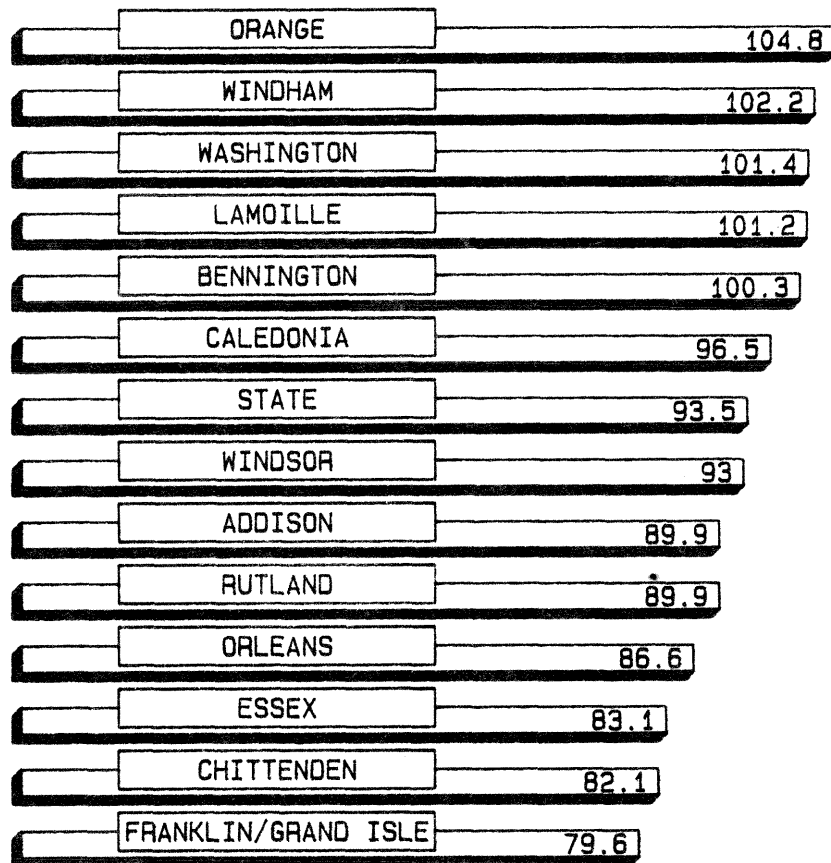
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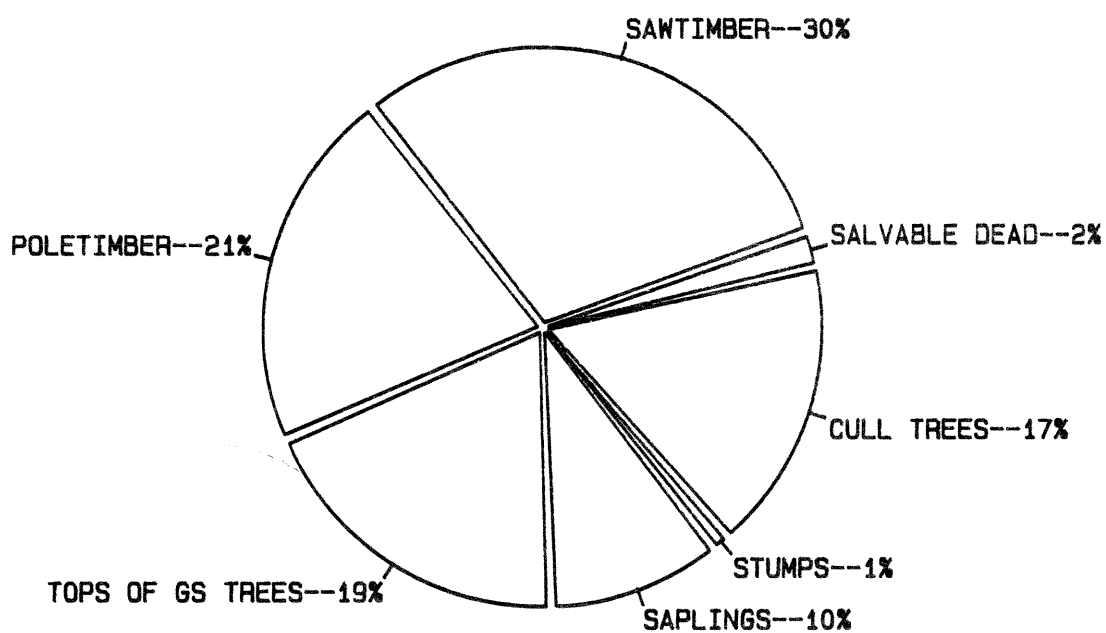
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NET ABOVEGROUND TREE BIOMASS  
PER ACRE of TIMBERLAND  
green tons per acre

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# ABOVEGROUND BIOMASS of ALL TREES



CLASS OF MATERIAL

Table 1.--Net volume of sawtimber, growing stock, and aboveground tree biomass of all trees on timberland, by county and species group, Vermont, 1983

| County                                | Species group |           | All species |
|---------------------------------------|---------------|-----------|-------------|
|                                       | Softwoods     | Hardwoods |             |
| SAWTIMBER <sup>a</sup>                |               |           |             |
| ----- <u>Million board feet</u> ----- |               |           |             |
| Addison                               | 187.7         | 629.3     | 817.0       |
| Bennington                            | 128.1         | 1,272.5   | 1,400.6     |
| Caledonia                             | 510.6         | 534.5     | 1,045.1     |
| Chittenden                            | 105.3         | 471.7     | 577.0       |
| Essex                                 | 416.7         | 636.7     | 1,053.4     |
| Franklin/Grand Isle                   | 383.7         | 400.2     | 783.9       |
| Lamoille                              | 177.5         | 459.4     | 636.9       |
| Orange                                | 636.4         | 728.2     | 1,364.6     |
| Orleans                               | 437.6         | 262.9     | 700.5       |
| Rutland                               | 419.5         | 972.8     | 1,392.3     |
| Washington                            | 531.1         | 666.0     | 1,197.1     |
| Windham                               | 758.3         | 1,022.8   | 1,781.1     |
| Windsor                               | 389.8         | 848.2     | 1,238.0     |
| All counties                          | 5,082.3       | 8,905.2   | 13,987.5    |
| GROWING STOCK <sup>b</sup>            |               |           |             |
| ----- <u>Million cubic feet</u> ----- |               |           |             |
| Addison                               | 79.4          | 316.0     | 395.4       |
| Bennington                            | 43.6          | 485.3     | 528.9       |
| Caledonia                             | 220.0         | 257.3     | 477.3       |
| Chittenden                            | 39.4          | 221.9     | 261.3       |
| Essex                                 | 183.1         | 310.1     | 493.2       |
| Franklin/Grand Isle                   | 142.4         | 192.3     | 334.7       |
| Lamoille                              | 76.3          | 232.2     | 308.5       |
| Orange                                | 237.7         | 334.4     | 572.1       |
| Orleans                               | 208.8         | 176.0     | 384.8       |
| Rutland                               | 156.4         | 441.9     | 598.3       |
| Washington                            | 208.8         | 376.9     | 585.7       |
| Windham                               | 261.7         | 494.0     | 755.7       |
| Windsor                               | 146.9         | 432.6     | 579.5       |
| All counties                          | 2,004.5       | 4,270.9   | 6,275.4     |

Table 1.--Continued

| County                                | Species group                          |           | All species |
|---------------------------------------|----------------------------------------|-----------|-------------|
|                                       | Softwoods                              | Hardwoods |             |
| ABOVEGROUND TREE BIOMASS <sup>C</sup> |                                        |           |             |
|                                       | <u>----- Thousand green tons -----</u> |           |             |
| Addison                               | 4,613.0                                | 21,060.3  | 25,673.3    |
| Bennington                            | 2,847.8                                | 32,736.1  | 35,583.9    |
| Caledonia                             | 12,334.7                               | 15,861.0  | 28,195.7    |
| Chittenden                            | 2,307.1                                | 15,335.8  | 17,642.9    |
| Essex                                 | 9,920.3                                | 22,806.8  | 32,727.1    |
| Franklin/Grand Isle                   | 8,166.7                                | 13,959.2  | 22,125.9    |
| Lamoille                              | 4,778.0                                | 19,064.1  | 23,842.1    |
| Orange                                | 13,604.1                               | 22,234.2  | 35,838.3    |
| Orleans                               | 12,075.2                               | 14,338.3  | 26,413.5    |
| Rutland                               | 9,311.7                                | 30,685.6  | 39,997.3    |
| Washington                            | 11,325.9                               | 24,547.7  | 35,873.6    |
| Windham                               | 14,244.5                               | 28,789.9  | 43,034.4    |
| Windsor                               | 13,067.3                               | 33,479.9  | 46,547.2    |
| All counties                          | 118,596.3                              | 294,898.9 | 413,495.2   |

<sup>a</sup>Net volume in board feet, by International 1/4-inch rule, of live trees of commercial species at least 9.0 inches d.b.h. (diameter breast height) for softwoods or 11.0 inches d.b.h. for hardwoods, between a 1-foot stump height and a minimum sawlog top of 7.0 inches d.o.b. (diameter outside bark) for softwoods or 9.0 inches d.o.b. for hardwoods, or until the point on the main stem above which a sawlog cannot be produced.

<sup>b</sup>Net volume, in cubic feet, of live trees of commercial species at least 5.0 inches d.b.h. between a 1-foot stump height and a minimum top of 4.0 inches d.o.b., or to the point where the main stem breaks into limbs.

<sup>c</sup>Net biomass, in green tons, of all trees (commercial species, noncommercial species, cull trees, and salvable dead trees) at least 1.0 inch d.b.h., above the ground level (excluding foliage).

Table 2.--Area of timberland, net aboveground tree biomass of all trees on timberland, and net aboveground tree biomass per acre of timberland, by county, Vermont, 1983

| County              | Timberland<br>area    | Total aboveground<br>tree biomass <sup>a</sup> | Total aboveground tree<br>biomass per unit area |
|---------------------|-----------------------|------------------------------------------------|-------------------------------------------------|
|                     | <u>Thousand acres</u> | <u>Thousand green tons</u>                     | <u>Green tons per acre</u>                      |
| Addison             | 285.6                 | 25,673.3                                       | 89.9                                            |
| Bennington          | 354.8                 | 35,583.9                                       | 100.3                                           |
| Caledonia           | 292.3                 | 28,195.7                                       | 96.5                                            |
| Chittenden          | 214.9                 | 17,642.9                                       | 82.1                                            |
| Essex               | 393.7                 | 32,727.1                                       | 83.1                                            |
| Franklin/Grand Isle | 278.1                 | 22,125.9                                       | 79.6                                            |
| Lamoille            | 235.5                 | 23,842.1                                       | 101.2                                           |
| Orange              | 341.9                 | 35,838.3                                       | 104.8                                           |
| Orleans             | 305.1                 | 26,413.5                                       | 86.6                                            |
| Rutland             | 444.7                 | 39,997.3                                       | 89.9                                            |
| Washington          | 353.8                 | 35,873.6                                       | 101.4                                           |
| Windham             | 421.0                 | 43,034.4                                       | 102.2                                           |
| Windsor             | 500.7                 | 46,547.2                                       | 93.0                                            |
| All counties        | 4,422.1               | 413,495.2                                      | 93.5                                            |

<sup>a</sup>Net biomass, in green tons, of all trees (commercial species, noncommercial species, cull trees, and salvable dead trees) at least 1.0 inch d.b.h. above the ground level (excluding foliage).

Table 3.--Net aboveground tree biomass of all trees on timberland, by class of material and species group, Vermont, 1983

| Class of material                | Species group              |           | All species | Sampling error <sup>a</sup> |
|----------------------------------|----------------------------|-----------|-------------|-----------------------------|
|                                  | Softwoods                  | Hardwoods |             |                             |
|                                  | <u>Thousand green tons</u> |           |             | <u>Percent</u>              |
| Sawtimber trees:                 |                            |           |             |                             |
| Sawlog portion                   | 38,783.3                   | 65,388.5  | 104,171.8   | 3                           |
| Upper stem                       | 5,156.8                    | 15,953.6  | 21,110.4    | 3                           |
| Total                            | 43,940.1                   | 81,342.1  | 125,282.2   | 3                           |
| Poletimber trees                 | 18,545.2                   | 65,962.0  | 84,507.2    | 3                           |
| All growing stock                | 62,485.3                   | 147,304.1 | 209,789.4   | 2                           |
| Rough cull trees <sup>b</sup>    | 10,169.5                   | 22,384.7  | 32,554.2    | 5                           |
| Rotten cull trees <sup>b</sup>   | 1,330.4                    | 19,126.5  | 20,456.9    | 5                           |
| Salvable dead trees <sup>c</sup> | 2,749.3                    | 3,512.4   | 6,261.7     | 9                           |
| Saplings <sup>d</sup>            | 13,242.9                   | 29,189.0  | 42,431.9    | 6                           |
| Stumps <sup>e</sup>              | 1,553.0                    | 4,671.3   | 6,224.3     | 2                           |
| Tops - growing stock             | 22,986.0                   | 54,800.4  | 77,786.4    | 2                           |
| Tops - rough and rotten          | 4,079.9                    | 13,910.5  | 17,990.4    | 3                           |
| All nongrowing stock             | 56,111.0                   | 147,594.8 | 203,705.8   | 2                           |
| All classes                      | 118,596.3                  | 294,898.9 | 413,495.2   | 1.5                         |
| Sampling error (percent)         | 5                          | 2         | 1.5         |                             |

<sup>a</sup>Sampling errors are expressed as a percent of the total and are included only for row and column totals. A single asterisk (\*) by a cell value indicates that the estimate has an associated sampling error between 25 and 50 percent; a double asterisk (\*\*) indicates that the estimate has an associated sampling error greater than 50 percent, and therefore is not significantly different from zero.

<sup>b</sup>Main stem portion of trees 5.0 inches d.b.h. and larger between a 1-foot stump height and a 4-inch top d.o.b.

<sup>c</sup>Includes entire tree above a 1-foot stump height.

<sup>d</sup>Includes entire tree above the ground.

<sup>e</sup>Of all trees 5.0 inches d.b.h. and larger.

Table 4.--Net aboveground tree biomass of all trees on timberland, by class of material and species group, Addison County, Vermont, 1983

| Class of material                | Species group                   |           | All species | Sampling error <sup>a</sup> |
|----------------------------------|---------------------------------|-----------|-------------|-----------------------------|
|                                  | Softwoods                       | Hardwoods |             |                             |
|                                  | ----- Thousand green tons ----- |           |             | Percent                     |
| Sawtimber trees:                 |                                 |           |             |                             |
| Sawlog portion                   | 1,445.3*                        | 4,746.3   | 6,191.6     | 10                          |
| Upper stem                       | 186.5*                          | 1,183.9   | 1,370.4     | 10                          |
| Total                            | 1,631.8*                        | 5,930.2   | 7,562.0     | 10                          |
| Poletimber trees                 | 996.4*                          | 5,388.7   | 6,385.1     | 11                          |
| All growing stock                | 2,628.2*                        | 11,318.9  | 13,947.1    | 8                           |
| Rough cull trees <sup>b</sup>    | 92.9*                           | 943.3     | 1,036.2     | 19                          |
| Rotten cull trees <sup>b</sup>   | 33.2**                          | 721.2     | 754.4       | 20                          |
| Salvable dead trees <sup>c</sup> | 42.7**                          | 228.7*    | 271.4       | 33                          |
| Saplings <sup>d</sup>            | 714.3**                         | 2,726.1   | 3,440.4     | 20                          |
| Stumps <sup>e</sup>              | 58.4*                           | 331.1     | 389.5       | 7                           |
| Tops - growing stock             | 991.2*                          | 4,272.1   | 5,263.3     | 8                           |
| Tops - rough and rotten          | 52.1**                          | 518.9     | 571.0       | 14                          |
| All nongrowing stock             | 1,984.8*                        | 9,741.4   | 11,726.2    | 9                           |
| All classes                      | 4,613.0                         | 21,060.3  | 25,673.3    | 6.9                         |
| Sampling error (percent)         | 27                              | 8         | 6.9         |                             |

<sup>a</sup>Sampling errors are expressed as a percent of the total and are included only for row and column totals. A single asterisk (\*) by a cell value indicates that the estimate has an associated sampling error between 25 and 50 percent; a double asterisk (\*\*) indicates that the estimate has an associated sampling error greater than 50 percent, and therefore is not significantly different from zero.

<sup>b</sup>Main stem portion of trees 5.0 inches d.b.h. and larger between a 1-foot stump height and a 4-inch top d.o.b.

<sup>c</sup>Includes entire tree above a 1-foot stump height.

<sup>d</sup>Includes entire tree above the ground.

<sup>e</sup>Of all trees 5.0 inches d.b.h. and larger.

Table 5.--Net aboveground tree biomass of all trees on timberland, by class of material and species group, Bennington County, Vermont, 1983

| Class of material                | Species group              |           | All species | Sampling error <sup>a</sup> |
|----------------------------------|----------------------------|-----------|-------------|-----------------------------|
|                                  | Softwoods                  | Hardwoods |             |                             |
|                                  | <u>Thousand green tons</u> |           |             | <u>Percent</u>              |
| Sawtimber trees:                 |                            |           |             |                             |
| Sawlog portion                   | 1,079.6*                   | 9,287.6   | 10,367.2    | 8                           |
| Upper stem                       | 124.9                      | 2,192.7   | 2,317.6     | 8                           |
| Total                            | 1,204.5*                   | 11,480.3  | 12,684.8    | 8                           |
| Poletimber trees                 | 315.6                      | 5,671.1   | 5,986.7     | 10                          |
| All growing stock                | 1,520.1                    | 17,151.4  | 18,671.5    | 6                           |
| Rough cull trees <sup>b</sup>    | 215.8*                     | 2,131.2   | 2,347.0     | 16                          |
| Rotten cull trees <sup>b</sup>   | 46.9**                     | 1,581.1   | 1,628.0     | 17                          |
| Salvable dead trees <sup>c</sup> | 3.7**                      | 178.4*    | 182.1       | 38                          |
| Saplings <sup>d</sup>            | 377.0*                     | 3,840.3   | 4,217.3     | 16                          |
| Stumps <sup>e</sup>              | 36.3                       | 521.9     | 558.2       | 5                           |
| Tops - growing stock             | 534.2                      | 6,144.1   | 6,678.3     | 6                           |
| Tops - rough and rotten          | 113.8*                     | 1,187.7   | 1,301.5     | 12                          |
| All nongrowing stock             | 1,327.7                    | 15,584.7  | 16,912.4    | 5                           |
| All classes                      | 2,847.8                    | 32,736.1  | 35,583.9    | 4.2                         |
| Sampling error (percent)         | 20                         | 5         | 4.2         |                             |

<sup>a</sup>Sampling errors are expressed as a percent of the total and are included only for row and column totals. A single asterisk (\*) by a cell value indicates that the estimate has an associated sampling error between 25 and 50 percent; a double asterisk (\*\*) indicates that the estimate has an associated sampling error greater than 50 percent, and therefore is not significantly different from zero.

<sup>b</sup>Main stem portion of trees 5.0 inches d.b.h. and larger between a 1-foot stump height and a 4-inch top d.o.b.

<sup>c</sup>Includes entire tree above a 1-foot stump height.

<sup>d</sup>Includes entire tree above the ground.

<sup>e</sup>Of all trees 5.0 inches d.b.h. and larger.

Table 6.--Net aboveground tree biomass of all trees on timberland, by class of material and species group, Caledonia County, Vermont, 1983

| Class of material                | Species group                          |           | All species | Sampling error <sup>a</sup> |
|----------------------------------|----------------------------------------|-----------|-------------|-----------------------------|
|                                  | Softwoods                              | Hardwoods |             |                             |
|                                  | ----- <u>Thousand green tons</u> ----- |           |             | <u>Percent</u>              |
| Sawtimber trees:                 |                                        |           |             |                             |
| Sawlog portion                   | 3,724.0                                | 3,668.1   | 7,392.1     | 11                          |
| Upper stem                       | 511.6                                  | 845.2     | 1,356.8     | 11                          |
| Total                            | 4,235.6                                | 4,513.3   | 8,748.9     | 11                          |
| Poletimber trees                 | 2,365.2                                | 4,047.1   | 6,412.3     | 11                          |
| All growing stock                | 6,600.8                                | 8,560.4   | 15,161.2    | 8                           |
| Rough cull trees <sup>b</sup>    | 241.0*                                 | 943.1     | 1,184.1     | 18                          |
| Rotten cull trees <sup>b</sup>   | 62.9**                                 | 446.8*    | 509.7       | 26                          |
| Salvable dead trees <sup>c</sup> | 511.7*                                 | 611.2*    | 1,122.9     | 23                          |
| Saplings <sup>d</sup>            | 2,145.1*                               | 1,424.7*  | 3,569.8     | 20                          |
| Stumps <sup>e</sup>              | 148.0                                  | 232.7     | 380.7       | 7                           |
| Tops - growing stock             | 2,509.3                                | 3,203.9   | 5,713.2     | 8                           |
| Tops - rough and rotten          | 115.9*                                 | 438.2     | 554.1       | 15                          |
| All nongrowing stock             | 5,733.9                                | 7,300.6   | 13,034.5    | 8                           |
| All classes                      | 12,334.7                               | 15,861.0  | 28,195.7    | 6.5                         |
| Sampling error (percent)         | 15                                     | 13        | 6.5         |                             |

<sup>a</sup>Sampling errors are expressed as a percent of the total and are included only for row and column totals. A single asterisk (\*) by a cell value indicates that the estimate has an associated sampling error between 25 and 50 percent; a double asterisk (\*\*) indicates that the estimate has an associated sampling error greater than 50 percent, and therefore is not significantly different from zero.

<sup>b</sup>Main stem portion of trees 5.0 inches d.b.h. and larger between a 1-foot stump height and a 4-inch top d.o.b.

<sup>c</sup>Includes entire tree above a 1-foot stump height.

<sup>d</sup>Includes entire tree above the ground.

<sup>e</sup>Of all trees 5.0 inches d.b.h. and larger.

Table 7.--Net aboveground tree biomass of all trees on timberland, by class of material and species group, Chittenden County, Vermont, 1983

| Class of material                | Species group                   |           | All species | Sampling error <sup>a</sup> |
|----------------------------------|---------------------------------|-----------|-------------|-----------------------------|
|                                  | Softwoods                       | Hardwoods |             |                             |
|                                  | ----- Thousand green tons ----- |           |             | Percent                     |
| Sawtimber trees:                 |                                 |           |             |                             |
| Sawlog portion                   | 831.1*                          | 3,389.9   | 4,221.0     | 10                          |
| Upper stem                       | 116.6*                          | 773.7     | 890.3       | 10                          |
| Total                            | 947.7*                          | 4,163.6   | 5,111.3     | 10                          |
| Poletimber trees                 | 331.0*                          | 3,170.1   | 3,501.1     | 11                          |
| All growing stock                | 1,278.7*                        | 7,333.7   | 8,612.4     | 8                           |
| Rough cull trees <sup>b</sup>    | 284.5*                          | 1,099.4   | 1,383.9     | 14                          |
| Rotten cull trees <sup>b</sup>   | 15.2**                          | 801.1     | 816.3       | 21                          |
| Salvable dead trees <sup>c</sup> | 2.7**                           | 101.1*    | 103.8       | 43                          |
| Saplings <sup>d</sup>            | 99.9**                          | 2,433.3*  | 2,533.2     | 31                          |
| Stumps <sup>e</sup>              | 34.9*                           | 233.5     | 268.4       | 7                           |
| Tops - growing stock             | 473.0*                          | 2,694.1   | 3,167.1     | 8                           |
| Tops - rough and rotten          | 118.2*                          | 639.6     | 757.8       | 10                          |
| All nongrowing stock             | 1,028.4*                        | 8,002.1   | 9,030.5     | 10                          |
| All classes                      | 2,307.1                         | 15,335.8  | 17,642.9    | 7.3                         |
| Sampling error (percent)         | 33                              | 9         | 7.3         |                             |

<sup>a</sup>Sampling errors are expressed as a percent of the total and are included only for row and column totals. A single asterisk (\*) by a cell value indicates that the estimate has an associated sampling error between 25 and 50 percent; a double asterisk (\*\*) indicates that the estimate has an associated sampling error greater than 50 percent, and therefore is not significantly different from zero.

<sup>b</sup>Main stem portion of trees 5.0 inches d.b.h. and larger between a 1-foot stump height and a 4-inch top d.o.b.

<sup>c</sup>Includes entire tree above a 1-foot stump height.

<sup>d</sup>Includes entire tree above the ground.

<sup>e</sup>Of all trees 5.0 inches d.b.h. and larger.

Table 8.--Net aboveground tree biomass of all trees on timberland, by class of material and species group, Essex County, Vermont, 1983

| Class of material                | Species group                          |           | All species | Sampling error <sup>a</sup> |
|----------------------------------|----------------------------------------|-----------|-------------|-----------------------------|
|                                  | Softwoods                              | Hardwoods |             |                             |
|                                  | ----- <u>Thousand green tons</u> ----- |           |             | <u>Percent</u>              |
| Sawtimber trees:                 |                                        |           |             |                             |
| Sawlog portion                   | 2,594.1                                | 4,586.6   | 7,180.7     | 10                          |
| Upper stem                       | 388.8                                  | 1,123.8   | 1,512.6     | 10                          |
| Total                            | 2,982.9                                | 5,710.4   | 8,693.3     | 10                          |
| Poletimber trees                 | 2,080.3                                | 4,989.3   | 7,069.6     | 7                           |
| All growing stock                | 5,063.2                                | 10,699.7  | 15,762.9    | 6                           |
| Rough cull trees <sup>b</sup>    | 470.4*                                 | 1,884.4   | 2,354.8     | 16                          |
| Rotten cull trees <sup>b</sup>   | 190.2*                                 | 1,642.7   | 1,832.9     | 13                          |
| Salvable dead trees <sup>c</sup> | 324.5*                                 | 173.9*    | 498.4       | 22                          |
| Saplings <sup>d</sup>            | 1,474.1*                               | 2,864.3   | 4,338.4     | 16                          |
| Stumps <sup>e</sup>              | 133.8                                  | 354.3     | 488.1       | 5                           |
| Tops - growing stock             | 1,993.0                                | 3,921.8   | 5,914.8     | 6                           |
| Tops - rough and rotten          | 271.1                                  | 1,265.7   | 1,536.8     | 10                          |
| All nongrowing stock             | 4,857.1                                | 12,107.1  | 16,964.2    | 6                           |
| All classes                      | 9,920.3                                | 22,806.8  | 32,727.1    | 4.8                         |
| Sampling error (percent)         | 17                                     | 8         | 4.8         |                             |

<sup>a</sup>Sampling errors are expressed as a percent of the total and are included only for row and column totals. A single asterisk (\*) by a cell value indicates that the estimate has an associated sampling error between 25 and 50 percent; a double asterisk (\*\*) indicates that the estimate has an associated sampling error greater than 50 percent, and therefore is not significantly different from zero.

<sup>b</sup>Main stem portion of trees 5.0 inches d.b.h. and larger between a 1-foot stump height and a 4-inch top d.o.b.

<sup>c</sup>Includes entire tree above a 1-foot stump height.

<sup>d</sup>Includes entire tree above the ground.

<sup>e</sup>Of all trees 5.0 inches d.b.h. and larger.

Table 9.--Net aboveground tree biomass of all trees on timberland, by class of material and species group, Franklin/Grand Isle Counties, Vermont, 1983

| Class of material                | Species group                   |           | All species | Sampling error <sup>a</sup> |
|----------------------------------|---------------------------------|-----------|-------------|-----------------------------|
|                                  | Softwoods                       | Hardwoods |             |                             |
|                                  | ----- Thousand green tons ----- |           |             | Percent                     |
| Sawtimber trees:                 |                                 |           |             |                             |
| Sawlog portion                   | 3,226.4                         | 2,979.9   | 6,206.3     | 14                          |
| Upper stem                       | 413.0                           | 728.9     | 1,141.9     | 14                          |
| Total                            | 3,639.4                         | 3,708.8   | 7,348.2     | 14                          |
| Poletimber trees                 | 979.7                           | 2,897.0   | 3,876.7     | 11                          |
| All growing stock                | 4,619.1                         | 6,605.8   | 11,224.9    | 9                           |
| Rough cull trees <sup>b</sup>    | 644.6*                          | 1,222.3   | 1,866.9     | 21                          |
| Rotten cull trees <sup>b</sup>   | 32.6*                           | 1,069.9   | 1,102.5     | 23                          |
| Salvable dead trees <sup>c</sup> | 222.4*                          | 325.0**   | 547.4       | 41                          |
| Saplings <sup>d</sup>            | 673.8*                          | 1,262.8*  | 1,936.6     | 23                          |
| Stumps <sup>e</sup>              | 116.6                           | 221.3     | 337.9       | 8                           |
| Tops - growing stock             | 1,631.7                         | 2,499.1   | 4,130.8     | 8                           |
| Tops - rough and rotten          | 225.9*                          | 753.0     | 978.9       | 16                          |
| All nongrowing stock             | 3,547.6                         | 7,353.4   | 10,901.0    | 9                           |
| All classes                      | 8,166.7                         | 13,959.2  | 22,125.9    | 7.5                         |
| Sampling error (percent)         | 20                              | 10        | 7.5         |                             |

<sup>a</sup>Sampling errors are expressed as a percent of the total and are included only for row and column totals. A single asterisk (\*) by a cell value indicates that the estimate has an associated sampling error between 25 and 50 percent; a double asterisk (\*\*) indicates that the estimate has an associated sampling error greater than 50 percent, and therefore is not significantly different from zero.

<sup>b</sup>Main stem portion of trees 5.0 inches d.b.h. and larger between a 1-foot stump height and a 4-inch top d.o.b.

<sup>c</sup>Includes entire tree above a 1-foot stump height.

<sup>d</sup>Includes entire tree above the ground.

<sup>e</sup>Of all trees 5.0 inches d.b.h. and larger.

Table 10.--Net aboveground tree biomass of all trees on timberland, by class of material and species group, Lamoille County, Vermont, 1983

| Class of material                | Species group              |           | All species | Sampling error <sup>a</sup> |
|----------------------------------|----------------------------|-----------|-------------|-----------------------------|
|                                  | Softwoods                  | Hardwoods |             |                             |
|                                  | <u>Thousand green tons</u> |           |             | <u>Percent</u>              |
| Sawtimber trees:                 |                            |           |             |                             |
| Sawlog portion                   | 1,353.5*                   | 3,562.9   | 4,916.4     | 12                          |
| Upper stem                       | 193.0*                     | 885.6     | 1,078.6     | 11                          |
| Total                            | 1,546.5*                   | 4,448.5   | 5,995.0     | 12                          |
| Poletimber trees                 | 829.6*                     | 3,875.0   | 4,704.6     | 10                          |
| All growing stock                | 2,376.1*                   | 8,323.5   | 10,699.6    | 7                           |
| Rough cull trees <sup>b</sup>    | 509.9*                     | 1,907.9   | 2,417.8     | 11                          |
| Rotten cull trees <sup>b</sup>   | 47.7**                     | 1,765.2   | 1,812.9     | 19                          |
| Salvable dead trees <sup>c</sup> | 125.1*                     | 184.3*    | 309.4       | 30                          |
| Saplings <sup>d</sup>            | 512.0**                    | 2,214.3   | 2,726.3     | 24                          |
| Stumps <sup>e</sup>              | 73.4*                      | 300.9     | 374.3       | 5                           |
| Tops - growing stock             | 907.5*                     | 3,094.3   | 4,001.8     | 7                           |
| Tops - rough and rotten          | 226.3*                     | 1,273.7   | 1,500.0     | 9                           |
| All nongrowing stock             | 2,401.9*                   | 10,740.6  | 13,142.5    | 7                           |
| All classes                      | 4,778.0                    | 19,064.1  | 23,842.1    | 5.7                         |
| Sampling error (percent)         | 25                         | 7         | 5.7         |                             |

<sup>a</sup>Sampling errors are expressed as a percent of the total and are included only for row and column totals. A single asterisk (\*) by a cell value indicates that the estimate has an associated sampling error between 25 and 50 percent; a double asterisk (\*\*) indicates that the estimate has an associated sampling error greater than 50 percent, and therefore is not significantly different from zero.

<sup>b</sup>Main stem portion of trees 5.0 inches d.b.h. and larger between a 1-foot stump height and a 4-inch top d.o.b.

<sup>c</sup>Includes entire tree above a 1-foot stump height.

<sup>d</sup>Includes entire tree above the ground.

<sup>e</sup>Of all trees 5.0 inches d.b.h. and larger.

Table 11.--Net aboveground tree biomass of all trees on timberland, by class of material and species group, Orange County, Vermont, 1983

| Class of material                             | Species group                   |           | All species | Sampling error <sup>a</sup> |
|-----------------------------------------------|---------------------------------|-----------|-------------|-----------------------------|
|                                               | Softwoods                       | Hardwoods |             |                             |
|                                               | ----- Thousand green tons ----- |           |             | Percent                     |
| Sawtimber trees:                              |                                 |           |             |                             |
| Sawlog portion                                | 4,998.5                         | 5,346.1   | 10,344.6    | 10                          |
| Upper stem                                    | 652.2                           | 1,329.5   | 1,981.7     | 9                           |
| Total                                         | 5,650.7                         | 6,675.6   | 12,326.3    | 10                          |
| Poletimber trees                              | 1,963.8                         | 4,629.8   | 6,593.6     | 9                           |
| All growing stock                             | 7,614.5                         | 11,305.4  | 18,919.9    | 7                           |
| Rough cull trees <sup>b</sup>                 | 908.4*                          | 1,537.9   | 2,446.3     | 17                          |
| Rotten cull trees <sup>b</sup>                | 50.7**                          | 1,894.8   | 1,945.5     | 22                          |
| Salvable <sup>d</sup> dead trees <sup>c</sup> | 140.0*                          | 367.0*    | 507.0       | 25                          |
| Saplings <sup>d</sup>                         | 1,636.0*                        | 1,573.6*  | 3,209.6     | 19                          |
| Stumps <sup>e</sup>                           | 168.3                           | 329.9     | 498.2       | 6                           |
| Tops - growing stock                          | 2,757.3                         | 4,189.8   | 6,947.1     | 7                           |
| Tops - rough and rotten                       | 328.9                           | 1,035.8   | 1,364.7     | 12                          |
| All nongrowing stock                          | 5,989.6                         | 10,928.8  | 16,918.4    | 7                           |
| All classes                                   | 13,604.1                        | 22,234.2  | 35,838.3    | 6.0                         |
| Sampling error (percent)                      | 13                              | 9         | 6.0         |                             |

<sup>a</sup>Sampling errors are expressed as a percent of the total and are included only for row and column totals. A single asterisk (\*) by a cell value indicates that the estimate has an associated sampling error between 25 and 50 percent; a double asterisk (\*\*) indicates that the estimate has an associated sampling error greater than 50 percent, and therefore is not significantly different from zero.

<sup>b</sup>Main stem portion of trees 5.0 inches d.b.h. and larger between a 1-foot stump height and a 4-inch top d.o.b.

<sup>c</sup>Includes entire tree above a 1-foot stump height.

<sup>d</sup>Includes entire tree above the ground.

<sup>e</sup>Of all trees 5.0 inches d.b.h. and larger.

Table 12.--Net aboveground tree biomass of all trees on timberland, by class of material and species group, Orleans County, Vermont, 1983

| Class of material                | Species group                   |           | All species | Sampling error <sup>a</sup> |
|----------------------------------|---------------------------------|-----------|-------------|-----------------------------|
|                                  | Softwoods                       | Hardwoods |             |                             |
|                                  | ----- Thousand green tons ----- |           |             | Percent                     |
| Sawtimber trees:                 |                                 |           |             |                             |
| Sawlog portion                   | 2,969.0                         | 2,120.2   | 5,089.2     | 12                          |
| Upper stem                       | 438.5                           | 562.4     | 1,000.9     | 12                          |
| Total                            | 3,407.5                         | 2,682.6   | 6,090.1     | 12                          |
| Poletimber trees                 | 2,255.2                         | 3,571.4   | 5,826.6     | 9                           |
| All growing stock                | 5,662.7                         | 6,254.0   | 11,916.7    | 8                           |
| Rough cull trees <sup>b</sup>    | 908.9                           | 1,855.8   | 2,764.7     | 14                          |
| Rotten cull trees <sup>b</sup>   | 181.8*                          | 1,221.3   | 1,403.1     | 20                          |
| Salvable dead trees <sup>c</sup> | 567.9*                          | 241.4*    | 809.3       | 29                          |
| Saplings <sup>d</sup>            | 1,946.2*                        | 1,007.8*  | 2,954.0     | 24                          |
| Stumps <sup>e</sup>              | 169.4                           | 232.7     | 402.1       | 7                           |
| Tops - growing stock             | 2,193.5                         | 2,405.5   | 4,599.0     | 8                           |
| Tops - rough and rotten          | 444.8                           | 1,119.8   | 1,564.6     | 12                          |
| All nongrowing stock             | 6,412.5                         | 8,084.3   | 14,496.8    | 8                           |
| All classes                      | 12,075.2                        | 14,338.3  | 26,413.5    | 6.3                         |
| Sampling error (percent)         | 15                              | 13        | 6.3         |                             |

<sup>a</sup>Sampling errors are expressed as a percent of the total and are included only for row and column totals. A single asterisk (\*) by a cell value indicates that the estimate has an associated sampling error between 25 and 50 percent; a double asterisk (\*\*) indicates that the estimate has an associated sampling error greater than 50 percent, and therefore is not significantly different from zero.

<sup>b</sup>Main stem portion of trees 5.0 inches d.b.h. and larger between a 1-foot stump height and a 4-inch top d.o.b.

<sup>c</sup>Includes entire tree above a 1-foot stump height.

<sup>d</sup>Includes entire tree above the ground.

<sup>e</sup>Of all trees 5.0 inches d.b.h. and larger.

Table 13.--Net aboveground tree biomass of all trees on timberland, by class of material and species group, Rutland County, Vermont, 1983

| Class of material                | Species group                   |           | All species | Sampling error <sup>a</sup> |
|----------------------------------|---------------------------------|-----------|-------------|-----------------------------|
|                                  | Softwoods                       | Hardwoods |             |                             |
|                                  | ----- Thousand green tons ----- |           |             | Percent                     |
| Sawtimber trees:                 |                                 |           |             |                             |
| Sawlog portion                   | 3,636.7                         | 7,232.4   | 10,869.1    | 9                           |
| Upper stem                       | 450.0                           | 1,714.7   | 2,164.7     | 8                           |
| Total                            | 4,086.7                         | 8,947.1   | 13,033.8    | 8                           |
| Poletimber trees                 | 1,359.4                         | 6,677.2   | 8,036.6     | 9                           |
| All growing stock                | 5,446.1                         | 15,624.3  | 21,070.4    | 6                           |
| Rough cull trees <sup>b</sup>    | 564.5*                          | 2,783.0   | 3,347.5     | 14                          |
| Rotten cull trees <sup>b</sup>   | 137.0**                         | 1,286.7   | 1,423.7     | 15                          |
| Salvable dead trees <sup>c</sup> | 59.2*                           | 202.5*    | 261.7       | 28                          |
| Saplings <sup>d</sup>            | 847.4*                          | 3,173.9   | 4,021.3     | 16                          |
| Stumps <sup>e</sup>              | 120.7                           | 494.3     | 615.0       | 5                           |
| Tops - growing stock             | 1,912.7                         | 5,906.1   | 7,818.8     | 5                           |
| Tops - rough and rotten          | 224.1                           | 1,214.8   | 1,438.9     | 10                          |
| All nongrowing stock             | 3,865.6                         | 15,061.3  | 18,926.9    | 5                           |
| All classes                      | 9,311.7                         | 30,685.6  | 39,997.3    | 4.6                         |
| Sampling error (percent)         | 15                              | 7         | 4.6         |                             |

<sup>a</sup>Sampling errors are expressed as a percent of the total and are included only for row and column totals. A single asterisk (\*) by a cell value indicates that the estimate has an associated sampling error between 25 and 50 percent; a double asterisk (\*\*) indicates that the estimate has an associated sampling error greater than 50 percent, and therefore is not significantly different from zero.

<sup>b</sup>Main stem portion of trees 5.0 inches d.b.h. and larger between a 1-foot stump height and a 4-inch top d.o.b.

<sup>c</sup>Includes entire tree above a 1-foot stump height.

<sup>d</sup>Includes entire tree above the ground.

<sup>e</sup>Of all trees 5.0 inches d.b.h. and larger.

Table 14.--Net aboveground tree biomass of all trees on timberland, by class of material and species group, Washington County, Vermont, 1983

| Class of material                | Species group                   |           | All species | Sampling error <sup>a</sup> |
|----------------------------------|---------------------------------|-----------|-------------|-----------------------------|
|                                  | Softwoods                       | Hardwoods |             |                             |
|                                  | ----- Thousand green tons ----- |           |             | Percent                     |
| Sawtimber trees:                 |                                 |           |             |                             |
| Sawlog portion                   | 3,554.2                         | 4,842.6   | 8,396.8     | 9                           |
| Upper stem                       | 526.9                           | 1,223.5   | 1,750.4     | 8                           |
| Total                            | 4,081.1                         | 6,066.1   | 10,147.2    | 9                           |
| Poletimber trees                 | 2,032.4                         | 6,940.7   | 8,973.1     | 8                           |
| All growing stock                | 6,113.5                         | 13,006.8  | 19,120.3    | 6                           |
| Rough cull trees <sup>b</sup>    | 343.7*                          | 1,425.0   | 1,768.7     | 14                          |
| Rotten cull trees <sup>b</sup>   | 66.9*                           | 961.0     | 1,027.9     | 22                          |
| Salvable dead trees <sup>c</sup> | 515.6*                          | 688.6*    | 1,204.2     | 20                          |
| Saplings <sup>d</sup>            | 1,645.2*                        | 2,333.5   | 3,978.7     | 16                          |
| Stumps <sup>e</sup>              | 135.0                           | 348.9     | 483.9       | 4                           |
| Tops - growing stock             | 2,334.1                         | 4,982.1   | 7,316.2     | 6                           |
| Tops - rough and rotten          | 171.9*                          | 801.8     | 973.7       | 11                          |
| All nongrowing stock             | 5,212.4                         | 11,540.9  | 16,753.3    | 5                           |
| All classes                      | 11,325.9                        | 24,547.7  | 35,873.6    | 4.8                         |
| Sampling error (percent)         | 18                              | 7         | 4.8         |                             |

<sup>a</sup>Sampling errors are expressed as a percent of the total and are included only for row and column totals. A single asterisk (\*) by a cell value indicates that the estimate has an associated sampling error between 25 and 50 percent; a double asterisk (\*\*) indicates that the estimate has an associated sampling error greater than 50 percent, and therefore is not significantly different from zero.

<sup>b</sup>Main stem portion of trees 5.0 inches d.b.h. and larger between a 1-foot stump height and a 4-inch top d.o.b.

<sup>c</sup>Includes entire tree above a 1-foot stump height.

<sup>d</sup>Includes entire tree above the ground.

<sup>e</sup>Of all trees 5.0 inches d.b.h. and larger.

Table 15.--Net aboveground tree biomass of all trees on timberland, by class of material and species group, Windham County, Vermont, 1983

| Class of material                | Species group                   |           | All species | Sampling error <sup>a</sup> |
|----------------------------------|---------------------------------|-----------|-------------|-----------------------------|
|                                  | Softwoods                       | Hardwoods |             |                             |
|                                  | ----- Thousand green tons ----- |           |             | Percent                     |
| Sawtimber trees:                 |                                 |           |             |                             |
| Sawlog portion                   | 6,183.0                         | 7,443.6   | 13,626.6    | 8                           |
| Upper stem                       | 732.0                           | 1,830.2   | 2,562.2     | 7                           |
| Total                            | 6,915.0                         | 9,273.8   | 16,188.8    | 7                           |
| Poletimber trees                 | 1,997.1                         | 7,317.1   | 9,314.2     | 8                           |
| All growing stock                | 8,912.1                         | 16,590.9  | 25,503.0    | 6                           |
| Rough cull trees <sup>b</sup>    | 1,010.0*                        | 1,397.1   | 2,407.1     | 20                          |
| Rotten cull trees <sup>b</sup>   | 141.0*                          | 1,563.8   | 1,704.8     | 19                          |
| Salvable dead trees <sup>c</sup> | 168.6*                          | 112.6*    | 281.2       | 22                          |
| Saplings <sup>d</sup>            | 444.4*                          | 1,621.8*  | 2,066.2     | 24                          |
| Stumps <sup>e</sup>              | 186.2                           | 473.9     | 660.1       | 5                           |
| Tops - growing stock             | 3,074.7                         | 6,093.9   | 9,168.6     | 6                           |
| Tops - rough and rotten          | 307.5*                          | 935.9     | 1,243.4     | 13                          |
| All nongrowing stock             | 5,332.4                         | 12,199.0  | 17,531.4    | 5                           |
| All classes                      | 14,244.5                        | 28,789.9  | 43,034.4    | 4.6                         |
| Sampling error (percent)         | 13                              | 6         | 4.6         |                             |

<sup>a</sup>Sampling errors are expressed as a percent of the total and are included only for row and column totals. A single asterisk (\*) by a cell value indicates that the estimate has an associated sampling error between 25 and 50 percent; a double asterisk (\*\*) indicates that the estimate has an associated sampling error greater than 50 percent, and therefore is not significantly different from zero.

<sup>b</sup>Main stem portion of trees 5.0 inches d.b.h. and larger between a 1-foot stump height and a 4-inch top d.o.b.

<sup>c</sup>Includes entire tree above a 1-foot stump height.

<sup>d</sup>Includes entire tree above the ground.

<sup>e</sup>Of all trees 5.0 inches d.b.h. and larger.

Table 16.--Net aboveground tree biomass of all trees on timberland, by class of material and species group, Windsor County, Vermont, 1983

| Class of material                | Species group                   |           | All species | Sampling error <sup>a</sup> |
|----------------------------------|---------------------------------|-----------|-------------|-----------------------------|
|                                  | Softwoods                       | Hardwoods |             |                             |
|                                  | ----- Thousand green tons ----- |           |             | Percent                     |
| Sawtimber trees:                 |                                 |           |             |                             |
| Sawlog portion                   | 3,187.9                         | 6,182.3   | 9,370.2     | 9                           |
| Upper stem                       | 422.8                           | 1,559.5   | 1,982.3     | 8                           |
| Total                            | 3,610.7                         | 7,741.8   | 11,352.5    | 8                           |
| Poletimber trees                 | 1,039.5                         | 6,787.5   | 7,827.0     | 9                           |
| All growing stock                | 4,650.2                         | 14,529.3  | 19,179.5    | 6                           |
| Rough cull trees <sup>b</sup>    | 3,974.9                         | 3,254.3   | 7,229.2     | 12                          |
| Rotten cull trees <sup>b</sup>   | 324.3*                          | 4,170.9   | 4,495.2     | 9                           |
| Salvable dead trees <sup>c</sup> | 65.2**                          | 97.7*     | 162.9       | 32                          |
| Saplings <sup>d</sup>            | 727.5*                          | 2,712.6   | 3,440.1     | 20                          |
| Stumps <sup>e</sup>              | 172.0                           | 595.9     | 767.9       | 4                           |
| Tops - growing stock             | 1,673.8                         | 5,393.6   | 7,067.4     | 6                           |
| Tops - rough and rotten          | 1,479.4                         | 2,725.6   | 4,205.0     | 8                           |
| All nongrowing stock             | 8,417.1                         | 18,950.6  | 27,367.7    | 5                           |
| All classes                      | 13,067.3                        | 33,479.9  | 46,547.2    | 4.0                         |
| Sampling error (percent)         | 15                              | 6         | 4.0         |                             |

<sup>a</sup>Sampling errors are expressed as a percent of the total and are included only for row and column totals. A single asterisk (\*) by a cell value indicates that the estimate has an associated sampling error between 25 and 50 percent; a double asterisk (\*\*) indicates that the estimate has an associated sampling error greater than 50 percent, and therefore is not significantly different from zero.

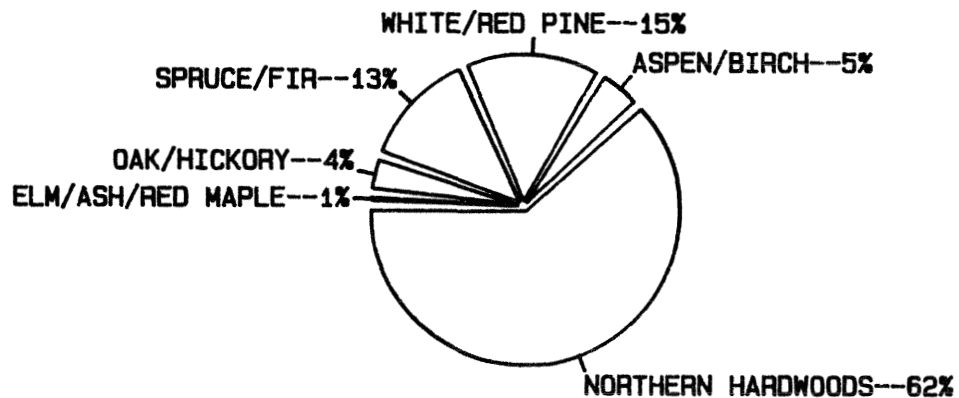
<sup>b</sup>Main stem portion of trees 5.0 inches d.b.h. and larger between a 1-foot stump height and a 4-inch top d.o.b.

<sup>c</sup>Includes entire tree above a 1-foot stump height.

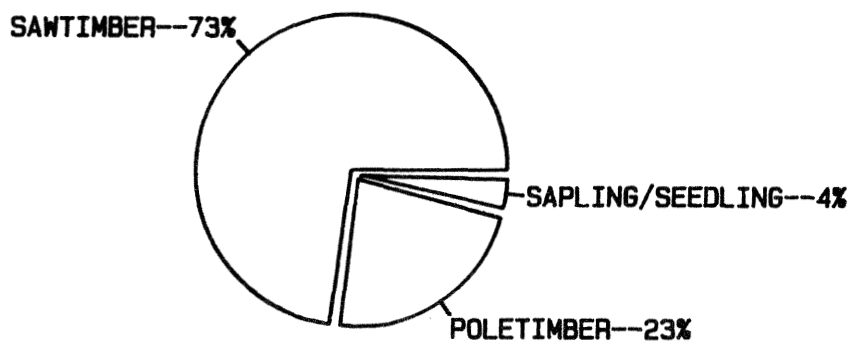
<sup>d</sup>Includes entire tree above the ground.

<sup>e</sup>Of all trees 5.0 inches d.b.h. and larger.

# ABOVEGROUND BIOMASS of ALL LIVE TREES



## FOREST-TYPE GROUP



## STANDSIZE CLASS

Table 17.--Net aboveground tree biomass of all live trees on timberland, by forest-type group and stand-size class, Vermont, 1983

| Forest-type group        | Stand-size class                             |            |                      |            | All classes | Sampling error <sup>a</sup> |
|--------------------------|----------------------------------------------|------------|----------------------|------------|-------------|-----------------------------|
|                          | Sawtimber                                    | Poletimber | Sapling and seedling | Nonstocked |             |                             |
|                          | ----- Thousand green tons -----              |            |                      |            |             | Percent                     |
| White/red pine           | 54,733.7                                     | 5,659.3*   | 1,473.9*             | .0         | 61,866.9    | 11                          |
| Spruce/fir               | 36,611.2                                     | 12,600.0   | 4,450.0*             | .0         | 53,661.2    | 10                          |
| Oak/pine                 | 595.1**                                      | 507.3**    | .0                   | .0         | 1,102.4     | 71                          |
| Oak/hickory              | 9,176.6*                                     | 3,641.4*   | 1,207.8**            | 56.0**     | 14,081.8    | 24                          |
| Elm/ash/red maple        | 2,632.5*                                     | 1,268.5**  | 474.0**              | .0         | 4,375.0     | 33                          |
| Northern hardwoods       | 187,855.1                                    | 57,983.5   | 7,234.1              | .0         | 253,072.7   | 4                           |
| Aspen/birch              | 5,435.1*                                     | 13,030.6   | 471.8**              | .0         | 18,937.5    | 21                          |
| Total, all groups        | 297,039.3                                    | 94,690.6   | 15,311.6             | 56.0       | 407,097.5   | 1.5                         |
| Sampling error (percent) | 3                                            | 8          | 14                   | 100        | 1.5         |                             |
|                          | ----- Thousand acres -----                   |            |                      |            |             | Percent                     |
| White/red pine           | 522.0                                        | 65.3*      | 44.0*                | .0         | 631.3       | 10                          |
| Spruce/fir               | 358.4                                        | 153.5      | 121.7                | .0         | 633.6       | 9                           |
| Oak/pine                 | 6.7**                                        | 6.8**      | .0                   | .0         | 13.5        | 71                          |
| Oak/hickory              | 80.7*                                        | 45.4*      | 31.9*                | 6.4**      | 164.4       | 20                          |
| Elm/ash/red maple        | 43.6*                                        | 28.3*      | 27.1*                | .0         | 99.0        | 26                          |
| Northern hardwoods       | 1,832.3                                      | 624.6      | 235.0                | 5.6**      | 2,697.5     | 3                           |
| Aspen/birch              | 44.1*                                        | 124.6      | 14.1**               | .0         | 182.8       | 20                          |
| Total, all groups        | 2,887.8                                      | 1,048.5    | 473.8                | 12.0       | 4,422.1     | .7                          |
| Sampling error (percent) | 3                                            | 7          | 10                   | 71         | .7          |                             |
|                          | ----- Green tons per acre <sup>b</sup> ----- |            |                      |            |             |                             |
| White/red pine           | 104.9                                        | 86.7       | 33.5                 | .0         | 98.0        |                             |
| Spruce/fir               | 102.2                                        | 82.1       | 36.6                 | .0         | 84.7        |                             |
| Oak/pine                 | 88.8                                         | 74.6       | .0                   | .0         | 81.7        |                             |
| Oak/hickory              | 113.7                                        | 80.2       | 37.9                 | 8.8        | 85.7        |                             |
| Elm/ash/red maple        | 60.4                                         | 44.8       | 17.5                 | .0         | 44.2        |                             |
| Northern hardwoods       | 102.5                                        | 92.8       | 30.8                 | .0         | 93.8        |                             |
| Aspen/birch              | 123.2                                        | 104.6      | 33.5                 | .0         | 103.6       |                             |
| All groups               | 102.9                                        | 90.3       | 32.3                 | 4.7        | 92.1        |                             |

<sup>a</sup>Sampling errors are expressed as a percent of the total and are included only for row and column totals. A single asterisk (\*) by a cell value indicates that the estimate has an associated sampling error between 25 and 50 percent; a double asterisk (\*\*) indicates that the estimate has an associated sampling error greater than 50 percent, and therefore is not significantly different from zero.

<sup>b</sup>Per acre estimates are based on the timberland area in each forest-type group and stand-size class.

Table 18.--Net aboveground tree biomass of all live trees on timberland, by forest-type group and stand-size class, Addison County, Vermont, 1983

| Forest-type group        | Stand-size class                             |            |                      |            | All classes | Sampling error <sup>a</sup> |
|--------------------------|----------------------------------------------|------------|----------------------|------------|-------------|-----------------------------|
|                          | Sawtimber                                    | Poletimber | Sapling and seedling | Nonstocked |             |                             |
|                          | ----- Thousand green tons -----              |            |                      |            |             | Percent                     |
| White/red pine           | 2,429.7**                                    | 538.5**    | .0                   | .0         | 2,968.2     | 50                          |
| Spruce/fir               | .0                                           | 909.6**    | .0                   | .0         | 909.6       | 100                         |
| Oak/pine                 | .0                                           | .0         | .0                   | .0         | .0          | -                           |
| Oak/hickory              | 1,585.0**                                    | .0         | 81.4**               | .0         | 1,666.4     | 69                          |
| Elm/ash/red maple        | 882.6**                                      | .0         | .0                   | .0         | 882.6       | 100                         |
| Northern hardwoods       | 12,421.9                                     | 4,102.5    | 447.2**              | .0         | 16,971.6    | 14                          |
| Aspen/birch              | 1,304.7**                                    | 691.2**    | .0                   | .0         | 1,995.9     | 74                          |
| Total, all groups        | 18,623.9                                     | 6,241.8    | 528.6                | .0         | 25,394.3    | 7.0                         |
| Sampling error (percent) | 14                                           | 30         | 67                   | -          | 7.0         |                             |
|                          | ----- Thousand acres -----                   |            |                      |            |             | Percent                     |
| White/red pine           | 22.9**                                       | 7.8**      | .0                   | .0         | 30.7        | 49                          |
| Spruce/fir               | .0                                           | 7.7**      | .0                   | .0         | 7.7         | 100                         |
| Oak/pine                 | .0                                           | .0         | .0                   | .0         | .0          | -                           |
| Oak/hickory              | 16.2**                                       | .0         | 11.6**               | .0         | 27.8        | 51                          |
| Elm/ash/red maple        | 8.5**                                        | .0         | .0                   | .0         | 8.5         | 100                         |
| Northern hardwoods       | 124.1                                        | 51.3*      | 13.7**               | 5.6**      | 194.7       | 12                          |
| Aspen/birch              | 7.7**                                        | 8.5**      | .0                   | .0         | 16.2        | 71                          |
| Total, all groups        | 179.4                                        | 75.3       | 25.3                 | 5.6        | 285.6       | 2.2                         |
| Sampling error (percent) | 12                                           | 27         | 48                   | 100        | 2.2         |                             |
|                          | ----- Green tons per acre <sup>b</sup> ----- |            |                      |            |             |                             |
| White/red pine           | 106.1                                        | 69.0       | .0                   | .0         | 96.7        |                             |
| Spruce/fir               | .0                                           | 118.1      | .0                   | .0         | 118.1       |                             |
| Oak/pine                 | .0                                           | .0         | .0                   | .0         | .0          |                             |
| Oak/hickory              | 97.8                                         | .0         | 7.0                  | .0         | 59.9        |                             |
| Elm/ash/red maple        | 103.8                                        | .0         | .0                   | .0         | 103.8       |                             |
| Northern hardwoods       | 100.1                                        | 80.0       | 32.6                 | .0         | 87.2        |                             |
| Aspen/birch              | 169.4                                        | 81.3       | .0                   | .0         | 123.2       |                             |
| All groups               | 103.8                                        | 82.9       | 20.9                 | .0         | 88.9        |                             |

<sup>a</sup>Sampling errors are expressed as a percent of the total and are included only for row and column totals. A single asterisk (\*) by a cell value indicates that the estimate has an associated sampling error between 25 and 50 percent; a double asterisk (\*\*) indicates that the estimate has an associated sampling error greater than 50 percent, and therefore is not significantly different from zero.

<sup>b</sup>Per acre estimates are based on the timberland area in each forest-type group and stand-size class.

Table 19.--Net aboveground tree biomass of all live trees on timberland, by forest-type group and stand-size class, Bennington County, Vermont, 1983

| Forest-type group        | Stand-size class                             |            |                      |            | All classes | Sampling error <sup>a</sup> |
|--------------------------|----------------------------------------------|------------|----------------------|------------|-------------|-----------------------------|
|                          | Sawtimber                                    | Poletimber | Sapling and seedling | Nonstocked |             |                             |
|                          | ----- Thousand green tons -----              |            |                      |            |             | Percent                     |
| White/red pine           | .0                                           | .0         | 357.7**              | .0         | 357.7       | 100                         |
| Spruce/fir               | .0                                           | .0         | .0                   | .0         | .0          | -                           |
| Oak/pine                 | .0                                           | .0         | .0                   | .0         | .0          | -                           |
| Oak/hickory              | 1,627.9**                                    | .0         | 347.4**              | .0         | 1,975.3     | 61                          |
| Elm/ash/red maple        | .0                                           | .0         | .0                   | .0         | .0          | -                           |
| Northern hardwoods       | 25,633.1                                     | 6,228.9*   | 1,201.3**            | .0         | 33,063.3    | 6                           |
| Aspen/birch              | .0                                           | .0         | .0                   | .0         | .0          | -                           |
| Total, all groups        | 27,261.0                                     | 6,228.9    | 1,906.4              | .0         | 35,396.3    | 4.1                         |
| Sampling error (percent) | 9                                            | 34         | 39                   | -          | 4.1         |                             |
|                          | ----- Thousand acres -----                   |            |                      |            |             | Percent                     |
| White/red pine           | .0                                           | .0         | 6.5**                | .0         | 6.5         | 100                         |
| Spruce/fir               | .0                                           | .0         | .0                   | .0         | .0          | -                           |
| Oak/pine                 | .0                                           | .0         | .0                   | .0         | .0          | -                           |
| Oak/hickory              | 14.2**                                       | .0         | 6.4**                | .0         | 20.6        | 58                          |
| Elm/ash/red maple        | .0                                           | .0         | .0                   | .0         | .0          | -                           |
| Northern hardwoods       | 251.2                                        | 56.6*      | 19.9**               | .0         | 327.7       | 4                           |
| Aspen/birch              | .0                                           | .0         | .0                   | .0         | .0          | -                           |
| Total, all groups        | 265.4                                        | 56.6       | 32.8                 | .0         | 354.8       | 1.8                         |
| Sampling error (percent) | 8                                            | 33         | 38                   | -          | 1.8         |                             |
|                          | ----- Green tons per acre <sup>b</sup> ----- |            |                      |            |             |                             |
| White/red pine           | .0                                           | .0         | 55.0                 | .0         | 55.0        |                             |
| Spruce/fir               | .0                                           | .0         | .0                   | .0         | .0          |                             |
| Oak/pine                 | .0                                           | .0         | .0                   | .0         | .0          |                             |
| Oak/hickory              | 114.6                                        | .0         | 54.3                 | .0         | 95.9        |                             |
| Elm/ash/red maple        | .0                                           | .0         | .0                   | .0         | .0          |                             |
| Northern hardwoods       | 102.0                                        | 110.1      | 60.4                 | .0         | 100.9       |                             |
| Aspen/birch              | .0                                           | .0         | .0                   | .0         | .0          |                             |
| All groups               | 102.7                                        | 110.1      | 58.1                 | .0         | 99.8        |                             |

<sup>a</sup>Sampling errors are expressed as a percent of the total and are included only for row and column totals. A single asterisk (\*) by a cell value indicates that the estimate has an associated sampling error between 25 and 50 percent; a double asterisk (\*\*) indicates that the estimate has an associated sampling error greater than 50 percent, and therefore is not significantly different from zero.

<sup>b</sup>Per acre estimates are based on the timberland area in each forest-type group and stand-size class.

Table 20.--Net aboveground tree biomass of all live trees on timberland, by forest-type group and stand-size class, Caledonia County, Vermont, 1983

| Forest-type group        | Stand-size class                             |            |                      |            | All classes | Sampling error <sup>a</sup> |
|--------------------------|----------------------------------------------|------------|----------------------|------------|-------------|-----------------------------|
|                          | Sawtimber                                    | Poletimber | Sapling and seedling | Nonstocked |             |                             |
|                          | ----- Thousand green tons -----              |            |                      |            |             | Percent                     |
| White/red pine           | 4,544.0*                                     | 1,043.9**  | .0                   | .0         | 5,587.9     | 37                          |
| Spruce/fir               | 4,300.2*                                     | 2,274.5**  | 442.7**              | .0         | 7,017.4     | 28                          |
| Oak/pine                 | .0                                           | .0         | .0                   | .0         | .0          | -                           |
| Oak/hickory              | .0                                           | .0         | .0                   | .0         | .0          | -                           |
| Elm/ash/red maple        | .0                                           | .0         | .0                   | .0         | .0          | -                           |
| Northern hardwoods       | 7,945.1                                      | 5,023.6*   | 236.4**              | .0         | 13,205.1    | 19                          |
| Aspen/birch              | .0                                           | 899.3**    | 343.2**              | .0         | 1,242.5     | 77                          |
| Total, all groups        | 16,789.3                                     | 9,241.3    | 1,022.3              | .0         | 27,052.9    | 6.5                         |
| Sampling error (percent) | 16                                           | 25         | 54                   | -          | 6.5         |                             |
|                          | ----- Thousand acres -----                   |            |                      |            |             | Percent                     |
| White/red pine           | 44.2*                                        | 7.3**      | .0                   | .0         | 51.5        | 35                          |
| Spruce/fir               | 44.1*                                        | 28.2*      | 14.6**               | .0         | 86.9        | 24                          |
| Oak/pine                 | .0                                           | .0         | .0                   | .0         | .0          | -                           |
| Oak/hickory              | .0                                           | .0         | .0                   | .0         | .0          | -                           |
| Elm/ash/red maple        | .0                                           | .0         | .0                   | .0         | .0          | -                           |
| Northern hardwoods       | 66.8*                                        | 52.0*      | 20.2**               | .0         | 139.0       | 17                          |
| Aspen/birch              | .0                                           | 7.6**      | 7.3**                | .0         | 14.9        | 71                          |
| Total, all groups        | 155.1                                        | 95.1       | 42.1                 | .0         | 292.3       | 3.8                         |
| Sampling error (percent) | 15                                           | 24         | 39                   | -          | 3.8         |                             |
|                          | ----- Green tons per acre <sup>b</sup> ----- |            |                      |            |             |                             |
| White/red pine           | 102.8                                        | 143.0      | .0                   | .0         | 108.5       |                             |
| Spruce/fir               | 97.5                                         | 80.7       | 30.3                 | .0         | 80.8        |                             |
| Oak/pine                 | .0                                           | .0         | .0                   | .0         | .0          |                             |
| Oak/hickory              | .0                                           | .0         | .0                   | .0         | .0          |                             |
| Elm/ash/red maple        | .0                                           | .0         | .0                   | .0         | .0          |                             |
| Northern hardwoods       | 118.9                                        | 96.6       | 11.7                 | .0         | 95.0        |                             |
| Aspen/birch              | .0                                           | 118.3      | 47.0                 | .0         | 83.4        |                             |
| All groups               | 108.2                                        | 97.2       | 24.3                 | .0         | 92.6        |                             |

<sup>a</sup>Sampling errors are expressed as a percent of the total and are included only for row and column totals. A single asterisk (\*) by a cell value indicates that the estimate has an associated sampling error between 25 and 50 percent; a double asterisk (\*\*) indicates that the estimate has an associated sampling error greater than 50 percent, and therefore is not significantly different from zero.

<sup>b</sup>Per acre estimates are based on the timberland area in each forest-type group and stand-size class.

Table 21.--Net aboveground tree biomass of all live trees on timberland, by forest-type group and stand-size class, Chittenden County, Vermont, 1983

| Forest-type group        | Stand-size class                 |            |                      |            | All classes | Sampling error <sup>a</sup> |
|--------------------------|----------------------------------|------------|----------------------|------------|-------------|-----------------------------|
|                          | Sawtimber                        | Poletimber | Sapling and seedling | Nonstocked |             |                             |
|                          | Thousand green tons              |            |                      |            |             | Percent                     |
| White/red pine           | 1,961.0**                        | .0         | 156.4**              | .0         | 2,117.4     | 53                          |
| Spruce/fir               | .0                               | .0         | .0                   | .0         | .0          | -                           |
| Oak/pine                 | .0                               | .0         | .0                   | .0         | .0          | -                           |
| Oak/hickory              | .0                               | .0         | 442.1**              | 56.0**     | 498.1       | 90                          |
| Elm/ash/red maple        | 578.1**                          | .0         | .0                   | .0         | 578.1       | 71                          |
| Northern hardwoods       | 10,139.7                         | 1,022.9**  | 1,516.9*             | .0         | 12,679.5    | 13                          |
| Aspen/birch              | .0                               | 1,661.5**  | .0                   | .0         | 1,661.5     | 69                          |
| Total, all groups        | 12,678.8                         | 2,684.4    | 2,115.4              | 56.0       | 17,534.6    | 7.3                         |
| Sampling error (percent) | 12                               | 57         | 27                   | 100        | 7.3         |                             |
|                          | Thousand acres                   |            |                      |            |             | Percent                     |
| White/red pine           | 20.7**                           | .0         | 7.2**                | .0         | 27.9        | 49                          |
| Spruce/fir               | .0                               | .0         | .0                   | .0         | .0          | -                           |
| Oak/pine                 | .0                               | .0         | .0                   | .0         | .0          | -                           |
| Oak/hickory              | .0                               | .0         | 7.3**                | 6.4**      | 13.7        | 71                          |
| Elm/ash/red maple        | 13.5**                           | .0         | .0                   | .0         | 13.5        | 68                          |
| Northern hardwoods       | 91.1                             | 7.0**      | 48.2*                | .0         | 146.3       | 12                          |
| Aspen/birch              | .0                               | 13.5**     | .0                   | .0         | 13.5        | 68                          |
| Total, all groups        | 125.3                            | 20.5       | 62.7                 | 6.4        | 214.9       | 3.8                         |
| Sampling error (percent) | 12                               | 56         | 20                   | 100        | 3.8         |                             |
|                          | Green tons per acre <sup>b</sup> |            |                      |            |             |                             |
| White/red pine           | 94.7                             | .0         | 21.7                 | .0         | 75.9        |                             |
| Spruce/fir               | .0                               | .0         | .0                   | .0         | .0          |                             |
| Oak/pine                 | .0                               | .0         | .0                   | .0         | .0          |                             |
| Oak/hickory              | .0                               | .0         | 60.6                 | 8.8        | 36.4        |                             |
| Elm/ash/red maple        | 42.8                             | .0         | .0                   | .0         | 42.8        |                             |
| Northern hardwoods       | 111.3                            | 146.1      | 31.5                 | .0         | 86.7        |                             |
| Aspen/birch              | .0                               | 123.1      | .0                   | .0         | 123.1       |                             |
| All groups               | 101.2                            | 130.9      | 33.7                 | 8.8        | 81.6        |                             |

<sup>a</sup>Sampling errors are expressed as a percent of the total and are included only for row and column totals. A single asterisk (\*) by a cell value indicates that the estimate has an associated sampling error between 25 and 50 percent; a double asterisk (\*\*) indicates that the estimate has an associated sampling error greater than 50 percent, and therefore is not significantly different from zero.

<sup>b</sup>Per acre estimates are based on the timberland area in each forest-type group and stand-size class.

Table 22.--Net aboveground tree biomass of all live trees on timberland, by forest-type group and stand-size class, Essex County, Vermont, 1983

| Forest-type group        | Stand-size class                             |            |                      |            | All classes | Sampling error <sup>a</sup> |
|--------------------------|----------------------------------------------|------------|----------------------|------------|-------------|-----------------------------|
|                          | Sawtimber                                    | Poletimber | Sapling and seedling | Nonstocked |             |                             |
|                          | ----- Thousand green tons -----              |            |                      |            |             | Percent                     |
| White/red pine           | .0                                           | .0         | .0                   | .0         | .0          | -                           |
| Spruce/fir               | 5,406.4*                                     | 4,125.4*   | 980.7**              | .0         | 10,512.5    | 24                          |
| Oak/pine                 | .0                                           | .0         | .0                   | .0         | .0          | -                           |
| Oak/hickory              | .0                                           | .0         | .0                   | .0         | .0          | -                           |
| Elm/ash/red maple        | 164.6**                                      | .0         | .0                   | .0         | 164.6       | 100                         |
| Northern hardwoods       | 10,836.5                                     | 9,137.0    | 1,568.8*             | .0         | 21,542.3    | 11                          |
| Aspen/birch              | .0                                           | .0         | .0                   | .0         | .0          | -                           |
| Total, all groups        | 16,407.5                                     | 13,262.4   | 2,549.5              | .0         | 32,219.4    | 4.7                         |
| Sampling error (percent) | 17                                           | 17         | 35                   | -          | 4.7         |                             |
|                          | ----- Thousand acres -----                   |            |                      |            |             | Percent                     |
| White/red pine           | .0                                           | .0         | .0                   | .0         | .0          | -                           |
| Spruce/fir               | 44.2*                                        | 51.5*      | 20.0**               | .0         | 115.7       | 22                          |
| Oak/pine                 | .0                                           | .0         | .0                   | .0         | .0          | -                           |
| Oak/hickory              | .0                                           | .0         | .0                   | .0         | .0          | -                           |
| Elm/ash/red maple        | 7.4**                                        | .0         | .0                   | .0         | 7.4         | 100                         |
| Northern hardwoods       | 110.5                                        | 110.6      | 49.5**               | .0         | 270.6       | 10                          |
| Aspen/birch              | .0                                           | .0         | .0                   | .0         | .0          | -                           |
| Total, all groups        | 162.1                                        | 162.1      | 69.5                 | .0         | 393.7       | 2.0                         |
| Sampling error (percent) | 16                                           | 16         | 25                   | -          | 2.0         |                             |
|                          | ----- Green tons per acre <sup>b</sup> ----- |            |                      |            |             |                             |
| White/red pine           | .0                                           | .0         | .0                   | .0         | .0          |                             |
| Spruce/fir               | 122.3                                        | 80.1       | 49.0                 | .0         | 90.9        |                             |
| Oak/pine                 | .0                                           | .0         | .0                   | .0         | .0          |                             |
| Oak/hickory              | .0                                           | .0         | .0                   | .0         | .0          |                             |
| Elm/ash/red maple        | 22.2                                         | .0         | .0                   | .0         | 22.2        |                             |
| Northern hardwoods       | 98.1                                         | 82.6       | 31.7                 | .0         | 79.6        |                             |
| Aspen/birch              | .0                                           | .0         | .0                   | .0         | .0          |                             |
| All groups               | 101.2                                        | 81.8       | 36.7                 | .0         | 81.8        |                             |

<sup>a</sup>Sampling errors are expressed as a percent of the total and are included only for row and column totals. A single asterisk (\*) by a cell value indicates that the estimate has an associated sampling error between 25 and 50 percent; a double asterisk (\*\*) indicates that the estimate has an associated sampling error greater than 50 percent, and therefore is not significantly different from zero.

<sup>b</sup>Per acre estimates are based on the timberland area in each forest-type group and stand-size class.

Table 23.--Net aboveground tree biomass of all live trees on timberland, by forest-type group and stand-size class, Franklin/Grand Isle Counties, Vermont, 1983

| Forest-type group        | Stand-size class                             |            |                      |            | All classes | Sampling error <sup>a</sup> |
|--------------------------|----------------------------------------------|------------|----------------------|------------|-------------|-----------------------------|
|                          | Sawtimber                                    | Poletimber | Sapling and seedling | Nonstocked |             |                             |
|                          | ----- Thousand green tons -----              |            |                      |            |             | Percent                     |
| White/red pine           | 6,905.2*                                     | .0         | .0                   | .0         | 6,905.2     | 31                          |
| Spruce/fir               | 1,157.8**                                    | 616.2      | 152.3**              | .0         | 1,926.3     | 61                          |
| Oak/pine                 | .0                                           | .0         | .0                   | .0         | .0          | -                           |
| Oak/hickory              | .0                                           | 9.2**      | .0                   | .0         | 9.2         | 100                         |
| Elm/ash/red maple        | .0                                           | 850.7**    | 72.6**               | .0         | 923.3       | 60                          |
| Northern hardwoods       | 9,315.4                                      | 2,251.9*   | 236.7**              | .0         | 11,804.0    | 18                          |
| Aspen/birch              | .0                                           | .0         | .0                   | .0         | .0          | -                           |
| Total, all groups        | 17,378.4                                     | 3,728.0    | 461.6                | .0         | 21,568.0    | 7.5                         |
| Sampling error (percent) | 13                                           | 30         | 49                   | -          | 7.5         |                             |
|                          | ----- Thousand acres -----                   |            |                      |            |             | Percent                     |
| White/red pine           | 67.7*                                        | .0         | .0                   | .0         | 67.7        | 29                          |
| Spruce/fir               | 7.3**                                        | 6.0        | 6.9**                | .0         | 20.2        | 50                          |
| Oak/pine                 | .0                                           | .0         | .0                   | .0         | .0          | -                           |
| Oak/hickory              | .0                                           | 2.9**      | .0                   | .0         | 2.9         | 100                         |
| Elm/ash/red maple        | .0                                           | 21.3**     | 13.8**               | .0         | 35.1        | 42                          |
| Northern hardwoods       | 100.2                                        | 38.2*      | 13.8**               | .0         | 152.2       | 15                          |
| Aspen/birch              | .0                                           | .0         | .0                   | .0         | .0          | -                           |
| Total, all groups        | 175.2                                        | 68.4       | 34.5                 | .0         | 278.1       | 3.4                         |
| Sampling error (percent) | 12                                           | 29         | 28                   | -          | 3.4         |                             |
|                          | ----- Green tons per acre <sup>b</sup> ----- |            |                      |            |             |                             |
| White/red pine           | 102.0                                        | .0         | .0                   | .0         | 102.0       |                             |
| Spruce/fir               | 158.6                                        | 102.7      | 22.1                 | .0         | 95.4        |                             |
| Oak/pine                 | .0                                           | .0         | .0                   | .0         | .0          |                             |
| Oak/hickory              | .0                                           | 3.2        | .0                   | .0         | 3.2         |                             |
| Elm/ash/red maple        | .0                                           | 39.9       | 5.3                  | .0         | 26.3        |                             |
| Northern hardwoods       | 93.0                                         | 59.0       | 17.2                 | .0         | 77.6        |                             |
| Aspen/birch              | .0                                           | .0         | .0                   | .0         | .0          |                             |
| All groups               | 99.2                                         | 54.5       | 13.4                 | .0         | 77.6        |                             |

<sup>a</sup>Sampling errors are expressed as a percent of the total and are included only for row and column totals. A single asterisk (\*) by a cell value indicates that the estimate has an associated sampling error between 25 and 50 percent; a double asterisk (\*\*) indicates that the estimate has an associated sampling error greater than 50 percent, and therefore is not significantly different from zero.

<sup>b</sup>Per acre estimates are based on the timberland area in each forest-type group and stand-size class.

Table 24.--Net aboveground tree biomass of all live trees on timberland, by forest-type group and stand-size class, Lamoille County, Vermont, 1983

| Forest-type group        | Stand-size class                 |            |                      |            | All classes | Sampling error <sup>a</sup> |
|--------------------------|----------------------------------|------------|----------------------|------------|-------------|-----------------------------|
|                          | Sawtimber                        | Poletimber | Sapling and seedling | Nonstocked |             |                             |
|                          | Thousand green tons              |            |                      |            |             | Percent                     |
| White/red pine           | 898.9**                          | .0         | .0                   | .0         | 898.9       | 100                         |
| Spruce/fir               | 1,673.5**                        | .0         | 293.3**              | .0         | 1,966.8     | 67                          |
| Oak/pine                 | .0                               | .0         | .0                   | .0         | .0          | -                           |
| Oak/hickory              | .0                               | .0         | .0                   | .0         | .0          | -                           |
| Elm/ash/red maple        | .0                               | .0         | .0                   | .0         | .0          | -                           |
| Northern hardwoods       | 13,605.5                         | 7,040.5    | 14.2**               | .0         | 20,660.2    | 9                           |
| Aspen/birch              | .0                               | .0         | .0                   | .0         | .0          | -                           |
| Total, all groups        | 16,177.9                         | 7,040.5    | 307.5                | .0         | 23,525.9    | 5.7                         |
| Sampling error (percent) | 13                               | 29         | 58                   | -          | 5.7         |                             |
|                          | Thousand acres                   |            |                      |            |             | Percent                     |
| White/red pine           | 7.2**                            | .0         | .0                   | .0         | 7.2         | 100                         |
| Spruce/fir               | 14.6**                           | .0         | 15.8**               | .0         | 30.4        | 43                          |
| Oak/pine                 | .0                               | .0         | .0                   | .0         | .0          | -                           |
| Oak/hickory              | .0                               | .0         | .0                   | .0         | .0          | -                           |
| Elm/ash/red maple        | .0                               | .0         | .0                   | .0         | .0          | -                           |
| Northern hardwoods       | 124.7                            | 65.3*      | 7.9**                | .0         | 197.9       | 8                           |
| Aspen/birch              | .0                               | .0         | .0                   | .0         | .0          | -                           |
| Total, all groups        | 146.5                            | 65.3       | 23.7                 | .0         | 235.5       | 1.7                         |
| Sampling error (percent) | 12                               | 27         | 12                   | -          | 1.7         |                             |
|                          | Green tons per acre <sup>b</sup> |            |                      |            |             |                             |
| White/red pine           | 124.8                            | .0         | .0                   | .0         | 124.8       |                             |
| Spruce/fir               | 114.6                            | .0         | 18.6                 | .0         | 64.7        |                             |
| Oak/pine                 | .0                               | .0         | .0                   | .0         | .0          |                             |
| Oak/hickory              | .0                               | .0         | .0                   | .0         | .0          |                             |
| Elm/ash/red maple        | .0                               | .0         | .0                   | .0         | .0          |                             |
| Northern hardwoods       | 109.1                            | 107.8      | 1.8                  | .0         | 104.4       |                             |
| Aspen/birch              | .0                               | .0         | .0                   | .0         | .0          |                             |
| All groups               | 110.4                            | 107.8      | 13.0                 | .0         | 99.9        |                             |

<sup>a</sup>Sampling errors are expressed as a percent of the total and are included only for row and column totals. A single asterisk (\*) by a cell value indicates that the estimate has an associated sampling error between 25 and 50 percent; a double asterisk (\*\*) indicates that the estimate has an associated sampling error greater than 50 percent, and therefore is not significantly different from zero.

<sup>b</sup>Per acre estimates are based on the timberland area in each forest-type group and stand-size class.

Table 25.--Net aboveground tree biomass of all live trees on timberland, by forest-type group and stand-size class, Orange County, Vermont, 1983

| Forest-type group        | Stand-size class                 |            |                      |            | All classes | Sampling error <sup>a</sup> |
|--------------------------|----------------------------------|------------|----------------------|------------|-------------|-----------------------------|
|                          | Sawtimber                        | Poletimber | Sapling and seedling | Nonstocked |             |                             |
|                          | Thousand green tons              |            |                      |            |             | Percent                     |
| White/red pine           | 6,968.7*                         | .0         | 338.7**              | .0         | 7,307.4     | 32                          |
| Spruce/fir               | 3,891.3*                         | 725.9**    | 298.7**              | .0         | 4,915.9     | 28                          |
| Oak/pine                 | .0                               | .0         | .0                   | .0         | .0          | -                           |
| Oak/hickory              | 1,768.0**                        | .0         | .0                   | .0         | 1,768.0     | 100                         |
| Elm/ash/red maple        | .0                               | .0         | .0                   | .0         | .0          | -                           |
| Northern hardwoods       | 15,810.9                         | 3,948.8*   | 65.8**               | .0         | 19,825.5    | 15                          |
| Aspen/birch              | 593.6**                          | 911.3**    | .0                   | .0         | 1,504.9     | 71                          |
| Total, all groups        | 29,032.5                         | 5,586.0    | 703.2                | .0         | 35,321.7    | 6.1                         |
| Sampling error (percent) | 10                               | 36         | 62                   | -          | 6.1         |                             |
|                          | Thousand acres                   |            |                      |            |             | Percent                     |
| White/red pine           | 67.2*                            | .0         | 12.7**               | .0         | 79.9        | 27                          |
| Spruce/fir               | 44.3*                            | 7.7**      | 7.8**                | .0         | 59.8        | 25                          |
| Oak/pine                 | .0                               | .0         | .0                   | .0         | .0          | -                           |
| Oak/hickory              | 7.5**                            | .0         | .0                   | .0         | 7.5         | 100                         |
| Elm/ash/red maple        | .0                               | .0         | .0                   | .0         | .0          | -                           |
| Northern hardwoods       | 135.0                            | 37.8*      | 6.8**                | .0         | 179.6       | 13                          |
| Aspen/birch              | 7.5**                            | 7.6**      | .0                   | .0         | 15.1        | 69                          |
| Total, all groups        | 261.5                            | 53.1       | 27.3                 | .0         | 341.9       | 4.0                         |
| Sampling error (percent) | 9                                | 35         | 50                   | -          | 4.0         |                             |
|                          | Green tons per acre <sup>b</sup> |            |                      |            |             |                             |
| White/red pine           | 103.7                            | .0         | 26.7                 | .0         | 91.5        |                             |
| Spruce/fir               | 87.8                             | 94.3       | 38.3                 | .0         | 82.2        |                             |
| Oak/pine                 | .0                               | .0         | .0                   | .0         | .0          |                             |
| Oak/hickory              | 235.7                            | .0         | .0                   | .0         | 235.7       |                             |
| Elm/ash/red maple        | .0                               | .0         | .0                   | .0         | .0          |                             |
| Northern hardwoods       | 117.1                            | 104.5      | 9.7                  | .0         | 110.4       |                             |
| Aspen/birch              | 79.1                             | 119.9      | .0                   | .0         | 99.7        |                             |
| All groups               | 111.0                            | 105.2      | 25.8                 | .0         | 103.3       |                             |

<sup>a</sup>Sampling errors are expressed as a percent of the total and are included only for row and column totals. A single asterisk (\*) by a cell value indicates that the estimate has an associated sampling error between 25 and 50 percent; a double asterisk (\*\*) indicates that the estimate has an associated sampling error greater than 50 percent, and therefore is not significantly different from zero.

<sup>b</sup>Per acre estimates are based on the timberland area in each forest-type group and stand-size class.

Table 26.--Net aboveground tree biomass of all live trees on timberland, by forest-type group and stand-size class, Orleans County, Vermont, 1983

| Forest-type group        | Stand-size class                             |            |                      |            | All classes | Sampling error <sup>a</sup> |
|--------------------------|----------------------------------------------|------------|----------------------|------------|-------------|-----------------------------|
|                          | Sawtimber                                    | Poletimber | Sapling and seedling | Nonstocked |             |                             |
|                          | ----- Thousand green tons -----              |            |                      |            |             | Percent                     |
| White/red pine           | .0                                           | 254.8**    | .0                   | .0         | 254.8       | 100                         |
| Spruce/fir               | 8,687.2*                                     | 2,077.1**  | 1,517.7**            | .0         | 12,282.0    | 18                          |
| Oak/pine                 | .0                                           | .0         | .0                   | .0         | .0          | -                           |
| Oak/hickory              | .0                                           | .0         | .0                   | .0         | .0          | -                           |
| Elm/ash/red maple        | .0                                           | .0         | .0                   | .0         | .0          | -                           |
| Northern hardwoods       | 6,088.6*                                     | 4,863.8*   | .0                   | .0         | 10,952.4    | 20                          |
| Aspen/birch              | .0                                           | 2,100.9**  | .0                   | .0         | 2,100.9     | 57                          |
| Total, all groups        | 14,775.8                                     | 9,296.6    | 1,517.7              | .0         | 25,590.1    | 6.2                         |
| Sampling error (percent) | 17                                           | 23         | 61                   | -          | 6.2         |                             |
|                          | ----- Thousand acres -----                   |            |                      |            |             | Percent                     |
| White/red pine           | .0                                           | 7.4**      | .0                   | .0         | 7.4         | 100                         |
| Spruce/fir               | 96.3                                         | 30.4*      | 30.0*                | .0         | 156.7       | 16                          |
| Oak/pine                 | .0                                           | .0         | .0                   | .0         | .0          | -                           |
| Oak/hickory              | .0                                           | .0         | .0                   | .0         | .0          | -                           |
| Elm/ash/red maple        | .0                                           | .0         | .0                   | .0         | .0          | -                           |
| Northern hardwoods       | 67.9*                                        | 50.7*      | .0                   | .0         | 118.6       | 19                          |
| Aspen/birch              | .0                                           | 22.4**     | .0                   | .0         | 22.4        | 56                          |
| Total, all groups        | 164.2                                        | 110.9      | 30.0                 | .0         | 305.1       | 3.9                         |
| Sampling error (percent) | 15                                           | 22         | 49                   | -          | 3.9         |                             |
|                          | ----- Green tons per acre <sup>b</sup> ----- |            |                      |            |             |                             |
| White/red pine           | .0                                           | 34.4       | .0                   | .0         | 34.4        |                             |
| Spruce/fir               | 90.2                                         | 68.3       | 50.6                 | .0         | 78.4        |                             |
| Oak/pine                 | .0                                           | .0         | .0                   | .0         | .0          |                             |
| Oak/hickory              | .0                                           | .0         | .0                   | .0         | .0          |                             |
| Elm/ash/red maple        | .0                                           | .0         | .0                   | .0         | .0          |                             |
| Northern hardwoods       | 89.7                                         | 95.9       | .0                   | .0         | 92.3        |                             |
| Aspen/birch              | .0                                           | 93.8       | .0                   | .0         | 93.8        |                             |
| All groups               | 90.0                                         | 83.8       | 50.6                 | .0         | 83.9        |                             |

<sup>a</sup> Sampling errors are expressed as a percent of the total and are included only for row and column totals. A single asterisk (\*) by a cell value indicates that the estimate has an associated sampling error between 25 and 50 percent; a double asterisk (\*\*) indicates that the estimate has an associated sampling error greater than 50 percent, and therefore is not significantly different from zero.

<sup>b</sup> Per acre estimates are based on the timberland area in each forest-type group and stand-size class.

Table 27.--Net aboveground tree biomass of all live trees on timberland, by forest-type group and stand-size class, Rutland County, Vermont, 1983

| Forest-type group        | Stand-size class                             |            |                      |            | All classes | Sampling error <sup>a</sup> |
|--------------------------|----------------------------------------------|------------|----------------------|------------|-------------|-----------------------------|
|                          | Sawtimber                                    | Poletimber | Sapling and seedling | Nonstocked |             |                             |
|                          | ----- Thousand green tons -----              |            |                      |            |             | Percent                     |
| White/red pine           | 7,349.4*                                     | 2,257.7**  | .0                   | .0         | 9,607.1     | 23                          |
| Spruce/fir               | 1,136.0**                                    | .0         | 536.7**              | .0         | 1,672.7     | 53                          |
| Oak/pine                 | 595.1**                                      | .0         | .0                   | .0         | 595.1       | 100                         |
| Oak/hickory              | .0                                           | 2,665.6*   | 336.9**              | .0         | 3,002.5     | 45                          |
| Elm/ash/red maple        | .0                                           | 417.8**    | 258.2**              | .0         | 676.0       | 73                          |
| Northern hardwoods       | 19,713.5                                     | 3,559.7*   | 440.4**              | .0         | 23,713.6    | 12                          |
| Aspen/birch              | .0                                           | 459.0**    | .0                   | .0         | 459.0       | 100                         |
| Total, all groups        | 28,794.0                                     | 9,359.8    | 1,572.2              | .0         | 39,726.0    | 4.6                         |
| Sampling error (percent) | 10                                           | 25         | 40                   | -          | 4.6         |                             |
|                          | ----- Thousand acres -----                   |            |                      |            |             | Percent                     |
| White/red pine           | 84.0*                                        | 28.4*      | .0                   | .0         | 112.4       | 21                          |
| Spruce/fir               | 14.3**                                       | .0         | 19.1**               | .0         | 33.4        | 44                          |
| Oak/pine                 | 6.7**                                        | .0         | .0                   | .0         | 6.7         | 100                         |
| Oak/hickory              | .0                                           | 27.6*      | 6.7**                | .0         | 34.3        | 43                          |
| Elm/ash/red maple        | .0                                           | 7.0**      | 6.7**                | .0         | 13.7        | 71                          |
| Northern hardwoods       | 184.5                                        | 33.5*      | 19.1*                | .0         | 237.1       | 11                          |
| Aspen/birch              | .0                                           | 7.1 **     | .0                   | .0         | 7.1         | 100                         |
| Total, all groups        | 289.5                                        | 103.6      | 51.6                 | .0         | 444.7       | 1.3                         |
| Sampling error (percent) | 9                                            | 23         | 31                   | -          | 1.3         |                             |
|                          | ----- Green tons per acre <sup>b</sup> ----- |            |                      |            |             |                             |
| White/red pine           | 87.5                                         | 79.5       | .0                   | .0         | 85.5        |                             |
| Spruce/fir               | 79.4                                         | .0         | 28.1                 | .0         | 50.1        |                             |
| Oak/pine                 | 88.8                                         | .0         | .0                   | .0         | 88.8        |                             |
| Oak/hickory              | .0                                           | 96.6       | 50.3                 | .0         | 87.5        |                             |
| Elm/ash/red maple        | .0                                           | 59.7       | 38.5                 | .0         | 49.3        |                             |
| Northern hardwoods       | 106.8                                        | 106.3      | 23.1                 | .0         | 100.0       |                             |
| Aspen/birch              | .0                                           | 64.6       | .0                   | .0         | 64.6        |                             |
| All groups               | 99.5                                         | 90.3       | 30.5                 | .0         | 89.3        |                             |

<sup>a</sup>Sampling errors are expressed as a percent of the total and are included only for row and column totals. A single asterisk (\*) by a cell value indicates that the estimate has an associated sampling error between 25 and 50 percent; a double asterisk (\*\*) indicates that the estimate has an associated sampling error greater than 50 percent, and therefore is not significantly different from zero.

<sup>b</sup>Per acre estimates are based on the timberland area in each forest-type group and stand-size class.

Table 28.--Net aboveground tree biomass of all live trees on timberland, by forest-type group and stand-size class, Washington County, Vermont, 1983

| Forest-type group        | Stand-size class                             |            |                      |            | All classes | Sampling error <sup>a</sup> |
|--------------------------|----------------------------------------------|------------|----------------------|------------|-------------|-----------------------------|
|                          | Sawtimber                                    | Poletimber | Sapling and seedling | Nonstocked |             |                             |
|                          | ----- Thousand green tons -----              |            |                      |            |             | Percent                     |
| White/red pine           | 3,250.5**                                    | 558.4**    | .0                   | .0         | 3,808.9     | 51                          |
| Spruce/fir               | 5,806.7*                                     | 1,313.8**  | .0                   | .0         | 7,120.5     | 35                          |
| Oak/pine                 | .0                                           | .0         | .0                   | .0         | .0          | -                           |
| Oak/hickory              | .0                                           | 663.1**    | .0                   | .0         | 663.1       | 100                         |
| Elm/ash/red maple        | 665.3**                                      | .0         | 143.2**              | .0         | 808.5       | 84                          |
| Northern hardwoods       | 12,654.3                                     | 4,027.5*   | 735.6**              | .0         | 17,417.4    | 14                          |
| Aspen/birch              | 727.3**                                      | 4,104.0*   | .0                   | .0         | 4,831.3     | 40                          |
| Total, all groups        | 23,104.1                                     | 10,666.8   | 878.8                | .0         | 34,649.7    | 4.9                         |
| Sampling error (percent) | 12                                           | 22         | 52                   | -          | 4.9         |                             |
|                          | ----- Thousand acres -----                   |            |                      |            |             | Percent                     |
| White/red pine           | 22.2**                                       | 7.4**      | .0                   | .0         | 29.6        | 49                          |
| Spruce/fir               | 44.4*                                        | 14.9**     | .0                   | .0         | 59.3        | 33                          |
| Oak/pine                 | .0                                           | .0         | .0                   | .0         | .0          | -                           |
| Oak/hickory              | .0                                           | 7.4**      | .0                   | .0         | 7.4         | 100                         |
| Elm/ash/red maple        | 7.4**                                        | .0         | 6.6**                | .0         | 14.0        | 71                          |
| Northern hardwoods       | 133.0                                        | 44.5*      | 21.5**               | .0         | 199.0       | 14                          |
| Aspen/birch              | 7.4**                                        | 37.1*      | .0                   | .0         | 44.5        | 38                          |
| Total, all groups        | 214.4                                        | 111.3      | 28.1                 | .0         | 353.8       | 2.5                         |
| Sampling error (percent) | 11                                           | 20         | 38                   | -          | 2.5         |                             |
|                          | ----- Green tons per acre <sup>b</sup> ----- |            |                      |            |             |                             |
| White/red pine           | 146.4                                        | 75.5       | .0                   | .0         | 128.7       |                             |
| Spruce/fir               | 130.8                                        | 88.2       | .0                   | .0         | 120.1       |                             |
| Oak/pine                 | .0                                           | .0         | .0                   | .0         | .0          |                             |
| Oak/hickory              | .0                                           | 89.6       | .0                   | .0         | 89.6        |                             |
| Elm/ash/red maple        | 89.9                                         | .0         | 21.7                 | .0         | 57.8        |                             |
| Northern hardwoods       | 95.1                                         | 90.5       | 34.2                 | .0         | 87.5        |                             |
| Aspen/birch              | 98.3                                         | 110.6      | .0                   | .0         | 108.6       |                             |
| All groups               | 107.8                                        | 95.8       | 31.3                 | .0         | 97.9        |                             |

<sup>a</sup>Sampling errors are expressed as a percent of the total and are included only for row and column totals. A single asterisk (\*) by a cell value indicates that the estimate has an associated sampling error between 25 and 50 percent; a double asterisk (\*\*) indicates that the estimate has an associated sampling error greater than 50 percent, and therefore is not significantly different from zero.

<sup>b</sup>Per acre estimates are based on the timberland area in each forest-type group and stand-size class.

Table 29.--Net aboveground tree biomass of all live trees on timberland, by forest-type group and stand-size class, Windham County, Vermont, 1983

| Forest-type group        | Stand-size class                             |            |                      |            | All classes | Sampling error <sup>a</sup> |
|--------------------------|----------------------------------------------|------------|----------------------|------------|-------------|-----------------------------|
|                          | Sawtimber                                    | Poletimber | Sapling and seedling | Nonstocked |             |                             |
|                          | ----- Thousand green tons -----              |            |                      |            |             | Percent                     |
| White/red pine           | 10,510.8*                                    | .0         | .0                   | .0         | 10,510.8    | 28                          |
| Spruce/fir               | 1,970.9**                                    | .0         | 227.9**              | .0         | 2,198.8     | 53                          |
| Oak/pine                 | .0                                           | .0         | .0                   | .0         | .0          | -                           |
| Oak/hickory              | 3,512.4*                                     | 303.5**    | .0                   | .0         | 3,815.9     | 44                          |
| Elm/ash/red maple        | .0                                           | .0         | .0                   | .0         | .0          | -                           |
| Northern hardwoods       | 20,684.2                                     | 2,660.4*   | 770.8**              | .0         | 24,115.4    | 12                          |
| Aspen/birch              | 2,100.0**                                    | .0         | .0                   | .0         | 2,100.0     | 70                          |
| Total, all groups        | 38,778.3                                     | 2,963.9    | 998.7                | .0         | 42,740.9    | 4.6                         |
| Sampling error (percent) | 7                                            | 46         | 58                   | -          | 4.6         |                             |
|                          | ----- Thousand acres -----                   |            |                      |            |             | Percent                     |
| White/red pine           | 85.0*                                        | .0         | .0                   | .0         | 85.0        | 26                          |
| Spruce/fir               | 21.4**                                       | .0         | 7.5**                | .0         | 28.9        | 49                          |
| Oak/pine                 | .0                                           | .0         | .0                   | .0         | .0          | -                           |
| Oak/hickory              | 35.8*                                        | 7.4**      | .0                   | .0         | 43.2        | 40                          |
| Elm/ash/red maple        | .0                                           | .0         | .0                   | .0         | .0          | -                           |
| Northern hardwoods       | 206.6                                        | 28.6**     | 14.3**               | .0         | 249.5       | 11                          |
| Aspen/birch              | 14.4**                                       | .0         | .0                   | .0         | 14.4        | 69                          |
| Total, all groups        | 363.2                                        | 36.0       | 21.8                 | .0         | 421.0       | 1.2                         |
| Sampling error (percent) | 5                                            | 43         | 57                   | -          | 1.2         |                             |
|                          | ----- Green tons per acre <sup>b</sup> ----- |            |                      |            |             |                             |
| White/red pine           | 123.7                                        | .0         | .0                   | .0         | 123.7       |                             |
| Spruce/fir               | 92.1                                         | .0         | 30.4                 | .0         | 76.1        |                             |
| Oak/pine                 | .0                                           | .0         | .0                   | .0         | .0          |                             |
| Oak/hickory              | 98.1                                         | 41.0       | .0                   | .0         | 88.3        |                             |
| Elm/ash/red maple        | .0                                           | .0         | .0                   | .0         | .0          |                             |
| Northern hardwoods       | 100.1                                        | 93.0       | 53.9                 | .0         | 96.7        |                             |
| Aspen/birch              | 145.8                                        | .0         | .0                   | .0         | 145.8       |                             |
| All groups               | 106.8                                        | 82.3       | 45.8                 | .0         | 101.5       |                             |

<sup>a</sup>Sampling errors are expressed as a percent of the total and are included only for row and column totals. A single asterisk (\*) by a cell value indicates that the estimate has an associated sampling error between 25 and 50 percent; a double asterisk (\*\*) indicates that the estimate has an associated sampling error greater than 50 percent, and therefore is not significantly different from zero.

<sup>b</sup>Per acre estimates are based on the timberland area in each forest-type group and stand-size class.

Table 30.--Net aboveground tree biomass of all live trees on timberland, by forest-type group and stand-size class, Windsor County, Vermont, 1983

| Forest-type group        | Stand-size class                             |            |                      |            | All classes | Sampling error <sup>a</sup> |
|--------------------------|----------------------------------------------|------------|----------------------|------------|-------------|-----------------------------|
|                          | Sawtimber                                    | Poletimber | Sapling and seedling | Nonstocked |             |                             |
|                          | ----- Thousand green tons -----              |            |                      |            |             | Percent                     |
| White/red pine           | 9,915.5*                                     | 1,006.0**  | 621.1**              | .0         | 11,542.6    | 23                          |
| Spruce/fir               | 2,581.2**                                    | 557.5**    | .0                   | .0         | 3,138.7     | 45                          |
| Oak/pine                 | .0                                           | 507.3**    | .0                   | .0         | 507.3       | 100                         |
| Oak/hickory              | 683.3**                                      | .0         | .0                   | .0         | 683.3       | 100                         |
| Elm/ash/red maple        | 341.9**                                      | .0         | .0                   | .0         | 341.9       | 100                         |
| Northern hardwoods       | 23,006.4                                     | 4,116.0*   | .0                   | .0         | 27,122.4    | 11                          |
| Aspen/birch              | 709.5**                                      | 2,203.4**  | 128.6**              | .0         | 3,041.5     | 48                          |
| Total, all groups        | 37,237.8                                     | 8,390.2    | 749.7                | .0         | 46,377.7    | 4.0                         |
| Sampling error (percent) | 8                                            | 27         | 61                   | -          | 4.0         |                             |
|                          | ----- Thousand acres -----                   |            |                      |            |             | Percent                     |
| White/red pine           | 100.9*                                       | 7.0**      | 17.6**               | .0         | 125.5       | 19                          |
| Spruce/fir               | 27.6*                                        | 7.0**      | .0                   | .0         | 34.6        | 44                          |
| Oak/pine                 | .0                                           | 6.8**      | .0                   | .0         | 6.8         | 100                         |
| Oak/hickory              | 7.0**                                        | .0         | .0                   | .0         | 7.0         | 100                         |
| Elm/ash/red maple        | 6.8**                                        | .0         | .0                   | .0         | 6.8         | 100                         |
| Northern hardwoods       | 236.7                                        | 48.6*      | .0                   | .0         | 285.3       | 10                          |
| Aspen/birch              | 7.0**                                        | 20.9**     | 6.8**                | .0         | 34.7        | 44                          |
| Total, all groups        | 386.0                                        | 90.3       | 24.4                 | .0         | 500.7       | 2.2                         |
| Sampling error (percent) | 7                                            | 26         | 59                   | -          | 2.2         |                             |
|                          | ----- Green tons per acre <sup>b</sup> ----- |            |                      |            |             |                             |
| White/red pine           | 98.3                                         | 143.7      | 35.3                 | .0         | 92.0        |                             |
| Spruce/fir               | 93.5                                         | 79.6       | .0                   | .0         | 90.7        |                             |
| Oak/pine                 | .0                                           | 74.6       | .0                   | .0         | 74.6        |                             |
| Oak/hickory              | 97.6                                         | .0         | .0                   | .0         | 97.6        |                             |
| Elm/ash/red maple        | 50.3                                         | .0         | .0                   | .0         | 50.3        |                             |
| Northern hardwoods       | 97.2                                         | 84.7       | .0                   | .0         | 95.1        |                             |
| Aspen/birch              | 101.4                                        | 105.4      | 18.9                 | .0         | 87.7        |                             |
| All groups               | 96.5                                         | 92.9       | 30.7                 | .0         | 92.6        |                             |

<sup>a</sup>Sampling errors are expressed as a percent of the total and are included only for row and column totals. A single asterisk (\*) by a cell value indicates that the estimate has an associated sampling error between 25 and 50 percent; a double asterisk (\*\*) indicates that the estimate has an associated sampling error greater than 50 percent, and therefore is not significantly different from zero.

<sup>b</sup>Per acre estimates are based on the timberland area in each forest-type group and stand-size class.

## MAJOR SPECIES BY WEIGHT million tons

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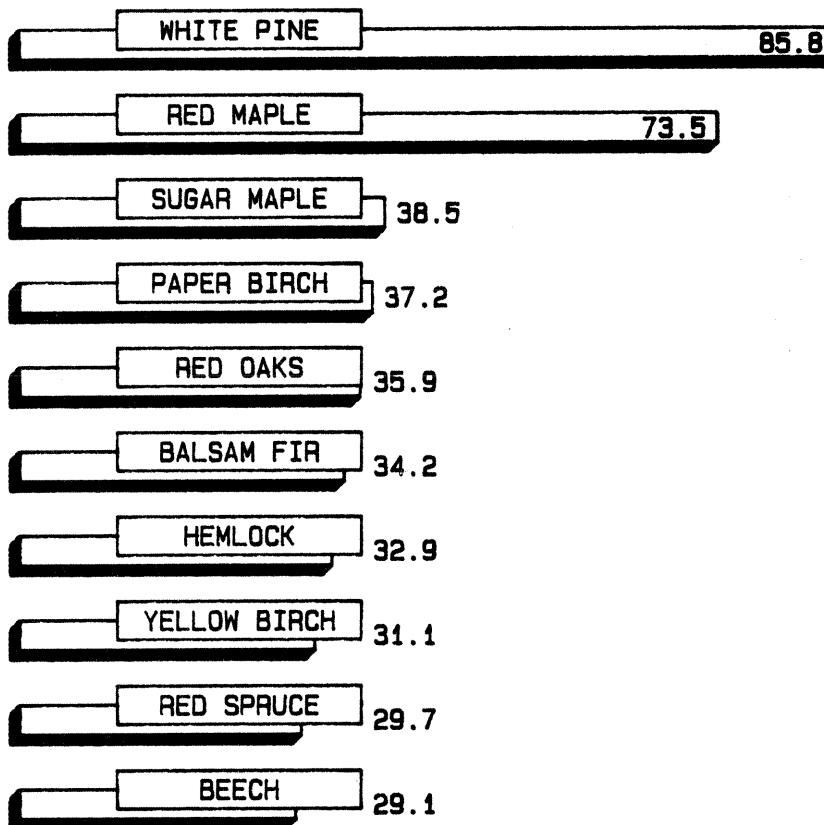


Table 31.--Number of trees and net aboveground tree biomass of all live trees on timberland, by species and diameter group, Vermont, 1983

| Species                    | Diameter group (inches at breast height) |              |               |       | All groups |
|----------------------------|------------------------------------------|--------------|---------------|-------|------------|
|                            | 1.0-<br>4.9                              | 5.0-<br>10.9 | 11.0-<br>20.9 | 21+   |            |
|                            | ----- Thousand trees -----               |              |               |       |            |
| Balsam fir                 | 231,542                                  | 54,000       | 4,350         | 0     | 289,892    |
| Tamarack                   | 0                                        | 1,290        | 187           | 0     | 1,477      |
| White spruce               | 24,704                                   | 8,230        | 1,206         | 0     | 34,140     |
| Black spruce               | 2,785                                    | 612          | 51            | 0     | 3,448      |
| Red spruce                 | 90,912                                   | 53,701       | 8,846         | 163   | 153,622    |
| Red pine                   | 0                                        | 654          | 412           | 17    | 1,083      |
| White pine                 | 35,645                                   | 33,640       | 12,801        | 1,106 | 83,192     |
| Northern white-cedar       | 43,984                                   | 17,346       | 2,244         | 18    | 63,592     |
| Hemlock                    | 114,794                                  | 50,078       | 15,253        | 330   | 180,455    |
| Other softwoods            | 1,426                                    | 686          | 0             | 0     | 2,112      |
| Total softwoods            | 545,792                                  | 220,237      | 45,350        | 1,634 | 813,013    |
| Sugar maple                | 294,380                                  | 116,986      | 36,774        | 3,177 | 451,317    |
| Soft maples                | 129,364                                  | 66,702       | 16,159        | 523   | 212,748    |
| Yellow birch               | 69,937                                   | 45,225       | 13,761        | 1,183 | 130,106    |
| Paper birch                | 39,980                                   | 50,080       | 7,278         | 48    | 97,386     |
| Gray birch                 | 29,648                                   | 6,398        | 0             | 0     | 36,046     |
| Beech                      | 202,299                                  | 39,113       | 12,754        | 666   | 254,832    |
| White ash                  | 35,091                                   | 20,535       | 6,012         | 169   | 61,807     |
| Black ash                  | 5,452                                    | 1,918        | 330           | 0     | 7,700      |
| Aspen                      | 17,797                                   | 11,832       | 4,194         | 99    | 33,922     |
| White oaks                 | 4,236                                    | 1,622        | 489           | 72    | 6,419      |
| Red oaks                   | 6,910                                    | 7,732        | 4,817         | 350   | 19,809     |
| Basswood                   | 4,305                                    | 2,732        | 924           | 27    | 7,988      |
| Elm                        | 24,269                                   | 4,888        | 1,103         | 35    | 30,295     |
| Other commercial hardwoods | 47,078                                   | 23,501       | 4,508         | 132   | 75,219     |
| Noncommercial hardwoods    | 230,334                                  | 27,603       | 623           | 0     | 258,560    |
| Total hardwoods            | 1,141,080                                | 426,867      | 109,726       | 6,481 | 1,684,154  |
| Total, all species         | 1,686,872                                | 647,104      | 155,076       | 8,115 | 2,497,167  |

Table 31.--Continued

| Species                                | Diameter group (inches at breast height) |              |               |          | All groups |
|----------------------------------------|------------------------------------------|--------------|---------------|----------|------------|
|                                        | 1.0-<br>4.9                              | 5.0-<br>10.9 | 11.0-<br>20.9 | 21+      |            |
| ----- <u>Thousand green tons</u> ----- |                                          |              |               |          |            |
| Balsam fir                             | 5,425.2                                  | 11,787.6     | 3,322.4       | .0       | 20,535.2   |
| Tamarack                               | .0                                       | 260.1        | 147.5         | .0       | 407.6      |
| White spruce                           | 755.6                                    | 2,308.6      | 1,077.3       | .0       | 4,141.5    |
| Black spruce                           | 111.7                                    | 195.0        | 38.2          | .0       | 344.9      |
| Red spruce                             | 2,540.7                                  | 13,553.8     | 8,316.6       | 512.7    | 24,923.8   |
| Red pine                               | .0                                       | 182.4        | 659.4         | 103.8    | 945.6      |
| White pine                             | 1,022.0                                  | 8,683.0      | 15,100.4      | 5,205.6  | 30,011.0   |
| Northern white-cedar                   | 739.1                                    | 2,392.2      | 935.4         | 18.6     | 4,085.3    |
| Hemlock                                | 2,602.7                                  | 12,118.2     | 14,472.6      | 1,071.6  | 30,265.1   |
| Other softwoods                        | 45.9                                     | 84.6         | .0            | .0       | 130.5      |
| Total softwoods                        | 13,242.9                                 | 51,565.5     | 44,069.8      | 6,912.3  | 115,790.5  |
| Sugar maple                            | 7,633.3                                  | 33,375.5     | 40,391.7      | 12,417.4 | 93,817.9   |
| Soft maples                            | 3,188.5                                  | 17,866.7     | 15,862.6      | 1,695.0  | 38,612.8   |
| Yellow birch                           | 2,154.0                                  | 13,507.1     | 14,911.1      | 3,976.5  | 34,548.7   |
| Paper birch                            | 1,172.3                                  | 15,994.1     | 8,748.0       | 192.6    | 26,107.0   |
| Gray birch                             | 1,124.6                                  | 1,102.1      | .0            | .0       | 2,226.7    |
| Beech                                  | 5,426.2                                  | 11,467.9     | 14,512.2      | 2,262.6  | 33,668.9   |
| White ash                              | 1,048.9                                  | 5,571.6      | 6,143.8       | 658.8    | 13,423.1   |
| Black ash                              | 190.1                                    | 458.2        | 309.0         | .0       | 957.3      |
| Aspen                                  | 676.6                                    | 3,366.8      | 4,643.2       | 279.6    | 8,966.2    |
| White oaks                             | 30.6                                     | 570.4        | 577.1         | 341.6    | 1,519.7    |
| Red oaks                               | 303.1                                    | 2,395.4      | 5,527.0       | 2,230.4  | 10,455.9   |
| Basswood                               | 159.3                                    | 788.8        | 991.9         | 110.3    | 2,050.3    |
| Elm                                    | 395.8                                    | 1,422.3      | 1,076.0       | 127.6    | 3,021.7    |
| Other commercial hardwoods             | 1,281.1                                  | 5,920.4      | 4,432.6       | 452.5    | 12,086.6   |
| Noncommercial hardwoods                | 4,404.6                                  | 4,784.6      | 655.0         | .0       | 9,844.2    |
| Total hardwoods                        | 29,189.0                                 | 118,591.9    | 118,781.2     | 24,744.9 | 291,307.0  |
| Total, all species                     | 42,431.9                                 | 170,157.4    | 162,851.0     | 31,657.2 | 407,097.5  |

Table 32.--Number of trees and net aboveground tree biomass of all live trees on timberland, by species and diameter group, Addison County, Vermont, 1983

| Species                        | Diameter group (inches at breast height) |               |               |            | All groups     |
|--------------------------------|------------------------------------------|---------------|---------------|------------|----------------|
|                                | 1.0-<br>4.9                              | 5.0-<br>10.9  | 11.0-<br>20.9 | 21+        |                |
|                                | ----- Thousand trees -----               |               |               |            |                |
| Balsam fir                     | 9,395                                    | 560           | 0             | 0          | 9,955          |
| Tamarack                       | 0                                        | 0             | 57            | 0          | 57             |
| White spruce                   | 0                                        | 0             | 0             | 0          | 0              |
| Black spruce                   | 0                                        | 0             | 0             | 0          | 0              |
| Red spruce                     | 7,829                                    | 3,273         | 313           | 0          | 11,415         |
| Red pine                       | 0                                        | 0             | 0             | 0          | 0              |
| White pine                     | 2,425                                    | 2,903         | 429           | 18         | 5,775          |
| Northern white-cedar           | 0                                        | 14            | 0             | 0          | 14             |
| Hemlock                        | 12,017                                   | 2,790         | 629           | 56         | 15,492         |
| Other softwoods                | 0                                        | 107           | 0             | 0          | 107            |
| <b>Total softwoods</b>         | <b>31,666</b>                            | <b>9,647</b>  | <b>1,428</b>  | <b>74</b>  | <b>42,815</b>  |
| Sugar maple                    | 16,564                                   | 5,879         | 2,210         | 84         | 24,737         |
| Soft maples                    | 9,395                                    | 4,701         | 699           | 18         | 14,813         |
| Yellow birch                   | 3,637                                    | 5,112         | 1,072         | 19         | 9,840          |
| Paper birch                    | 1,566                                    | 3,665         | 672           | 0          | 5,903          |
| Gray birch                     | 1,566                                    | 56            | 0             | 0          | 1,622          |
| Beech                          | 32,675                                   | 2,715         | 929           | 32         | 36,351         |
| White ash                      | 1,212                                    | 2,013         | 479           | 0          | 3,704          |
| Black ash                      | 0                                        | 0             | 0             | 0          | 0              |
| Aspen                          | 0                                        | 816           | 460           | 0          | 1,276          |
| White oaks                     | 0                                        | 0             | 71            | 12         | 83             |
| Red oaks                       | 0                                        | 642           | 509           | 34         | 1,185          |
| Basswood                       | 2,778                                    | 602           | 158           | 0          | 3,538          |
| Elm                            | 3,991                                    | 1,401         | 307           | 0          | 5,699          |
| Other commercial hardwoods     | 6,414                                    | 1,264         | 359           | 0          | 8,037          |
| <b>Noncommercial hardwoods</b> | <b>33,713</b>                            | <b>3,725</b>  | <b>0</b>      | <b>0</b>   | <b>37,438</b>  |
| <b>Total hardwoods</b>         | <b>113,511</b>                           | <b>32,591</b> | <b>7,925</b>  | <b>199</b> | <b>154,226</b> |
| <b>Total, all species</b>      | <b>145,177</b>                           | <b>42,238</b> | <b>9,353</b>  | <b>273</b> | <b>197,041</b> |

Table 32.--Continued

| Species                                | Diameter group (inches at breast height) |              |               |       | All groups |
|----------------------------------------|------------------------------------------|--------------|---------------|-------|------------|
|                                        | 1.0-<br>4.9                              | 5.0-<br>10.9 | 11.0-<br>20.9 | 21+   |            |
| ----- <u>Thousand green tons</u> ----- |                                          |              |               |       |            |
| Balsam fir                             | 223.2                                    | 140.4        | .0            | .0    | 363.6      |
| Tamarack                               | .0                                       | .0           | 36.4          | .0    | 36.4       |
| White spruce                           | .0                                       | .0           | .0            | .0    | .0         |
| Black spruce                           | .0                                       | .0           | .0            | .0    | .0         |
| Red spruce                             | 328.2                                    | 760.7        | 226.1         | .0    | 1,315.0    |
| Red pine                               | .0                                       | .0           | .0            | .0    | .0         |
| White pine                             | 39.3                                     | 782.7        | 371.9         | 63.3  | 1,257.2    |
| Northern white-cedar                   | .0                                       | 3.2          | .0            | .0    | 3.2        |
| Hemlock                                | 123.6                                    | 492.5        | 746.7         | 219.3 | 1,582.1    |
| Other softwoods                        | .0                                       | 11.0         | .0            | .0    | 11.0       |
| Total softwoods                        | 714.3                                    | 2,190.5      | 1,381.1       | 282.6 | 4,568.5    |
| Sugar maple                            | 436.2                                    | 1,805.0      | 2,545.9       | 260.1 | 5,047.2    |
| Soft maples                            | 300.5                                    | 1,209.5      | 600.4         | 85.5  | 2,195.9    |
| Yellow birch                           | 104.0                                    | 1,415.3      | 1,190.8       | 52.9  | 2,763.0    |
| Paper birch                            | 92.4                                     | 1,198.0      | 855.1         | .0    | 2,145.5    |
| Gray birch                             | 6.8                                      | 6.4          | .0            | .0    | 13.2       |
| Beech                                  | 824.0                                    | 934.7        | 1,014.3       | 34.8  | 2,807.8    |
| White ash                              | 7.2                                      | 520.5        | 421.7         | .0    | 949.4      |
| Black ash                              | .0                                       | .0           | .0            | .0    | .0         |
| Aspen                                  | .0                                       | 307.3        | 354.7         | .0    | 662.0      |
| White oaks                             | .0                                       | .0           | 118.2         | 28.6  | 146.8      |
| Red oaks                               | .0                                       | 174.1        | 581.7         | 106.8 | 862.6      |
| Basswood                               | 150.2                                    | 110.5        | 205.4         | .0    | 466.1      |
| Elm                                    | 38.5                                     | 507.5        | 301.0         | .0    | 847.0      |
| Other commercial hardwoods             | 122.3                                    | 360.4        | 302.9         | .0    | 785.6      |
| Noncommercial hardwoods                | 644.0                                    | 489.7        | .0            | .0    | 1,133.7    |
| Total hardwoods                        | 2,726.1                                  | 9,038.9      | 8,492.1       | 568.7 | 20,825.8   |
| Total, all species                     | 3,440.4                                  | 11,229.4     | 9,873.2       | 851.3 | 25,394.3   |

Table 33.--Number of trees and net aboveground tree biomass of all live trees on timberland, by species and diameter group, Bennington County, Vermont, 1983

| Species                    | Diameter group (inches at breast height) |              |               |     | All groups |
|----------------------------|------------------------------------------|--------------|---------------|-----|------------|
|                            | 1.0-<br>4.9                              | 5.0-<br>10.9 | 11.0-<br>20.9 | 21+ |            |
|                            | ----- Thousand trees -----               |              |               |     |            |
| Balsam fir                 | 7,225                                    | 872          | 17            | 0   | 8,114      |
| Tamarack                   | 0                                        | 0            | 0             | 0   | 0          |
| White spruce               | 0                                        | 0            | 0             | 0   | 0          |
| Black spruce               | 0                                        | 0            | 0             | 0   | 0          |
| Red spruce                 | 7,300                                    | 2,234        | 428           | 0   | 9,962      |
| Red pine                   | 0                                        | 0            | 0             | 0   | 0          |
| White pine                 | 0                                        | 128          | 373           | 17  | 518        |
| Northern white-cedar       | 0                                        | 0            | 0             | 0   | 0          |
| Hemlock                    | 1,499                                    | 1,385        | 407           | 17  | 3,308      |
| Other softwoods            | 0                                        | 23           | 0             | 0   | 23         |
| Total softwoods            | 16,024                                   | 4,642        | 1,225         | 34  | 21,925     |
| Sugar maple                | 11,842                                   | 7,844        | 4,290         | 422 | 24,398     |
| Soft maples                | 16,758                                   | 5,764        | 2,740         | 160 | 25,422     |
| Yellow birch               | 4,226                                    | 3,526        | 2,013         | 121 | 9,886      |
| Paper birch                | 1,363                                    | 1,705        | 551           | 0   | 3,619      |
| Gray birch                 | 0                                        | 62           | 0             | 0   | 62         |
| Beech                      | 56,564                                   | 8,748        | 2,488         | 103 | 67,903     |
| White ash                  | 2,605                                    | 282          | 188           | 28  | 3,103      |
| Black ash                  | 0                                        | 31           | 0             | 0   | 31         |
| Aspen                      | 1,499                                    | 316          | 172           | 0   | 1,987      |
| White oaks                 | 0                                        | 509          | 200           | 13  | 722        |
| Red oaks                   | 1,363                                    | 555          | 729           | 26  | 2,673      |
| Basswood                   | 0                                        | 0            | 35            | 0   | 35         |
| Elm                        | 0                                        | 0            | 26            | 0   | 26         |
| Other commercial hardwoods | 2,666                                    | 2,389        | 722           | 26  | 5,803      |
| Noncommercial hardwoods    | 31,389                                   | 2,111        | 87            | 0   | 33,587     |
| Total hardwoods            | 130,275                                  | 33,842       | 14,241        | 899 | 179,257    |
| Total, all species         | 146,299                                  | 38,484       | 15,466        | 933 | 201,182    |

Table 33.--Continued

| Species                                | Diameter group (inches at breast height) |              |               |         | All groups |
|----------------------------------------|------------------------------------------|--------------|---------------|---------|------------|
|                                        | 1.0-<br>4.9                              | 5.0-<br>10.9 | 11.0-<br>20.9 | 21+     |            |
| ----- <u>Thousand green tons</u> ----- |                                          |              |               |         |            |
| Balsam fir                             | 111.5                                    | 195.8        | 13.8          | .0      | 321.1      |
| Tamarack                               | .0                                       | .0           | .0            | .0      | .0         |
| White spruce                           | .0                                       | .0           | .0            | .0      | .0         |
| Black spruce                           | .0                                       | .0           | .0            | .0      | .0         |
| Red spruce                             | 175.3                                    | 519.5        | 399.4         | .0      | 1,094.2    |
| Red pine                               | .0                                       | .0           | .0            | .0      | .0         |
| White pine                             | .0                                       | 27.8         | 522.3         | 56.2    | 606.3      |
| Northern white-cedar                   | .0                                       | .0           | .0            | .0      | .0         |
| Hemlock                                | 90.2                                     | 278.9        | 403.8         | 47.8    | 820.7      |
| Other softwoods                        | .0                                       | 1.6          | .0            | .0      | 1.6        |
| Total softwoods                        | 377.0                                    | 1,023.6      | 1,339.3       | 104.0   | 2,843.9    |
| Sugar maple                            | 311.8                                    | 2,450.7      | 4,842.4       | 1,340.3 | 8,945.2    |
| Soft maples                            | 594.9                                    | 1,606.3      | 2,982.7       | 520.2   | 5,704.1    |
| Yellow birch                           | 131.5                                    | 1,094.9      | 2,071.6       | 366.7   | 3,664.7    |
| Paper birch                            | 91.3                                     | 649.2        | 693.3         | .0      | 1,433.8    |
| Gray birch                             | .0                                       | 10.6         | .0            | .0      | 10.6       |
| Beech                                  | 1,734.8                                  | 2,467.1      | 2,764.8       | 412.6   | 7,379.3    |
| White ash                              | 60.1                                     | 120.4        | 257.1         | 76.6    | 514.2      |
| Black ash                              | .0                                       | 7.4          | .0            | .0      | 7.4        |
| Aspen                                  | 21.2                                     | 82.2         | 164.6         | .0      | 268.0      |
| White oaks                             | .0                                       | 185.5        | 240.7         | 40.2    | 466.4      |
| Red oaks                               | 26.9                                     | 245.9        | 899.4         | 92.7    | 1,264.9    |
| Basswood                               | .0                                       | .0           | 35.5          | .0      | 35.5       |
| Elm                                    | .0                                       | .0           | 31.0          | .0      | 31.0       |
| Other commercial hardwoods             | 102.1                                    | 715.3        | 656.6         | 95.6    | 1,569.6    |
| Noncommercial hardwoods                | 765.7                                    | 384.9        | 107.1         | .0      | 1,257.7    |
| Total hardwoods                        | 3,840.3                                  | 10,020.4     | 15,746.8      | 2,944.9 | 32,552.4   |
| Total, all species                     | 4,217.3                                  | 11,044.0     | 17,086.1      | 3,048.9 | 35,396.3   |

Table 34.--Number of trees and net aboveground tree biomass of all live trees on timberland, by species and diameter group, Caledonia County, Vermont, 1983

| Species                    | Diameter group (inches at breast height) |              |               |     | All groups |
|----------------------------|------------------------------------------|--------------|---------------|-----|------------|
|                            | 1.0-<br>4.9                              | 5.0-<br>10.9 | 11.0-<br>20.9 | 21+ |            |
| ----- Thousand trees ----- |                                          |              |               |     |            |
| Balsam fir                 | 47,594                                   | 8,773        | 572           | 0   | 56,939     |
| Tamarack                   | 0                                        | 1,044        | 29            | 0   | 1,073      |
| White spruce               | 8,688                                    | 2,830        | 359           | 0   | 11,877     |
| Black spruce               | 0                                        | 0            | 34            | 0   | 34         |
| Red spruce                 | 5,982                                    | 3,924        | 670           | 33  | 10,609     |
| Red pine                   | 0                                        | 0            | 0             | 0   | 0          |
| White pine                 | 0                                        | 1,749        | 1,211         | 51  | 3,011      |
| Northern white-cedar       | 9,128                                    | 2,080        | 384           | 0   | 11,592     |
| Hemlock                    | 6,048                                    | 4,114        | 491           | 16  | 10,669     |
| Other softwoods            | 0                                        | 15           | 0             | 0   | 15         |
| Total softwoods            | 77,440                                   | 24,529       | 3,750         | 100 | 105,819    |
| Sugar maple                | 31,461                                   | 6,993        | 2,605         | 214 | 41,273     |
| Soft maples                | 9,128                                    | 2,432        | 264           | 13  | 11,837     |
| Yellow birch               | 4,564                                    | 2,913        | 611           | 49  | 8,137      |
| Paper birch                | 3,024                                    | 3,883        | 345           | 0   | 7,252      |
| Gray birch                 | 0                                        | 0            | 0             | 0   | 0          |
| Beech                      | 2,958                                    | 716          | 136           | 28  | 3,838      |
| White ash                  | 3,079                                    | 1,367        | 396           | 27  | 4,869      |
| Black ash                  | 0                                        | 383          | 59            | 0   | 442        |
| Aspen                      | 0                                        | 1,661        | 218           | 0   | 1,879      |
| White oaks                 | 0                                        | 0            | 0             | 0   | 0          |
| Red oaks                   | 0                                        | 0            | 38            | 0   | 38         |
| Basswood                   | 0                                        | 68           | 58            | 0   | 126        |
| Elm                        | 0                                        | 35           | 0             | 0   | 35         |
| Other commercial hardwoods | 0                                        | 586          | 143           | 0   | 729        |
| Noncommercial hardwoods    | 5,927                                    | 832          | 0             | 0   | 6,759      |
| Total hardwoods            | 60,141                                   | 21,869       | 4,873         | 331 | 87,214     |
| Total, all species         | 137,581                                  | 46,398       | 8,623         | 431 | 193,033    |

Table 34.--Continued

| Species                         | Diameter group (inches at breast height) |              |               |         | All groups |
|---------------------------------|------------------------------------------|--------------|---------------|---------|------------|
|                                 | 1.0-<br>4.9                              | 5.0-<br>10.9 | 11.0-<br>20.9 | 21+     |            |
| ----- Thousand green tons ----- |                                          |              |               |         |            |
| Balsam fir                      | 1,305.9                                  | 1,910.5      | 441.1         | .0      | 3,657.5    |
| Tamarack                        | .0                                       | 184.7        | 36.9          | .0      | 221.6      |
| White spruce                    | 393.0                                    | 785.6        | 302.5         | .0      | 1,481.1    |
| Black spruce                    | .0                                       | .0           | 23.8          | .0      | 23.8       |
| Red spruce                      | 105.0                                    | 953.1        | 613.2         | 106.3   | 1,777.6    |
| Red pine                        | .0                                       | .0           | .0            | .0      | .0         |
| White pine                      | .0                                       | 538.6        | 1,587.3       | 191.9   | 2,317.8    |
| Northern white-cedar            | 144.0                                    | 302.5        | 165.9         | .0      | 612.4      |
| Hemlock                         | 197.2                                    | 941.7        | 530.4         | 46.1    | 1,715.4    |
| Other softwoods                 | .0                                       | 7.3          | .0            | .0      | 7.3        |
| Total softwoods                 | 2,145.1                                  | 5,624.0      | 3,701.1       | 344.3   | 11,814.5   |
| Sugar maple                     | 896.0                                    | 2,165.8      | 3,196.4       | 945.3   | 7,203.5    |
| Soft maples                     | 185.8                                    | 678.0        | 261.7         | 35.2    | 1,160.7    |
| Yellow birch                    | 49.9                                     | 889.3        | 769.5         | 194.4   | 1,903.1    |
| Paper birch                     | 81.6                                     | 975.9        | 554.2         | .0      | 1,611.7    |
| Gray birch                      | .0                                       | .0           | .0            | .0      | .0         |
| Beech                           | 25.7                                     | 229.4        | 217.1         | 104.3   | 576.5      |
| White ash                       | 11.9                                     | 421.9        | 474.3         | 104.8   | 1,012.9    |
| Black ash                       | .0                                       | 123.9        | 39.2          | .0      | 163.1      |
| Aspen                           | .0                                       | 468.6        | 310.4         | .0      | 779.0      |
| White oaks                      | .0                                       | .0           | .0            | .0      | .0         |
| Red oaks                        | .0                                       | .0           | 43.8          | .0      | 43.8       |
| Basswood                        | .0                                       | 21.1         | 102.9         | .0      | 124.0      |
| Elm                             | .0                                       | 4.3          | .0            | .0      | 4.3        |
| Other commercial hardwoods      | .0                                       | 161.0        | 143.0         | .0      | 304.0      |
| Noncommercial hardwoods         | 173.8                                    | 178.0        | .0            | .0      | 351.8      |
| Total hardwoods                 | 1,424.7                                  | 6,317.2      | 6,112.5       | 1,384.0 | 15,238.4   |
| Total, all species              | 3,569.8                                  | 11,941.2     | 9,813.6       | 1,728.3 | 27,052.9   |

Table 35.--Number of trees and net aboveground tree biomass of all live trees on timberland, by species and diameter group, Chittenden County, Vermont, 1983

| Species                    | Diameter group (inches at breast height) |              |               |     | All groups |
|----------------------------|------------------------------------------|--------------|---------------|-----|------------|
|                            | 1.0-<br>4.9                              | 5.0-<br>10.9 | 11.0-<br>20.9 | 21+ |            |
|                            | ----- Thousand trees -----               |              |               |     |            |
| Balsam fir                 | 0                                        | 350          | 16            | 0   | 366        |
| Tamarack                   | 0                                        | 31           | 0             | 0   | 31         |
| White spruce               | 0                                        | 0            | 0             | 0   | 0          |
| Black spruce               | 0                                        | 0            | 0             | 0   | 0          |
| Red spruce                 | 0                                        | 47           | 63            | 0   | 110        |
| Red pine                   | 0                                        | 0            | 0             | 0   | 0          |
| White pine                 | 0                                        | 1,193        | 656           | 0   | 1,849      |
| Northern white-cedar       | 0                                        | 94           | 0             | 0   | 94         |
| Hemlock                    | 5,598                                    | 2,219        | 656           | 0   | 8,473      |
| Other softwoods            | 0                                        | 265          | 0             | 0   | 265        |
| Total softwoods            | 5,598                                    | 4,199        | 1,391         | 0   | 11,188     |
| Sugar maple                | 22,555                                   | 7,190        | 2,659         | 106 | 32,510     |
| Soft maples                | 2,832                                    | 1,474        | 332           | 52  | 4,690      |
| Yellow birch               | 4,294                                    | 1,500        | 158           | 14  | 5,966      |
| Paper birch                | 0                                        | 815          | 115           | 0   | 930        |
| Gray birch                 | 16,628                                   | 296          | 0             | 0   | 16,924     |
| Beech                      | 2,819                                    | 1,629        | 746           | 27  | 5,221      |
| White ash                  | 1,410                                    | 3,424        | 833           | 0   | 5,667      |
| Black ash                  | 0                                        | 0            | 0             | 0   | 0          |
| Aspen                      | 0                                        | 1,067        | 125           | 0   | 1,192      |
| White oaks                 | 0                                        | 0            | 0             | 0   | 0          |
| Red oaks                   | 1,370                                    | 216          | 189           | 20  | 1,795      |
| Basswood                   | 0                                        | 302          | 69            | 6   | 377        |
| Elm                        | 7,310                                    | 551          | 115           | 11  | 7,987      |
| Other commercial hardwoods | 2,832                                    | 1,630        | 159           | 11  | 4,632      |
| Noncommercial hardwoods    | 23,700                                   | 1,071        | 0             | 0   | 24,771     |
| Total hardwoods            | 85,750                                   | 21,165       | 5,500         | 247 | 112,662    |
| Total, all species         | 91,348                                   | 25,364       | 6,891         | 247 | 123,850    |

Table 35.--Continued

| Species                                | Diameter group (inches at breast height) |              |               |       | All groups |
|----------------------------------------|------------------------------------------|--------------|---------------|-------|------------|
|                                        | 1.0-<br>4.9                              | 5.0-<br>10.9 | 11.0-<br>20.9 | 21+   |            |
| ----- <u>Thousand green tons</u> ----- |                                          |              |               |       |            |
| Balsam fir                             | .0                                       | 77.3         | 16.4          | .0    | 93.7       |
| Tamarack                               | .0                                       | 7.2          | .0            | .0    | 7.2        |
| White spruce                           | .0                                       | .0           | .0            | .0    | .0         |
| Black spruce                           | .0                                       | .0           | .0            | .0    | .0         |
| Red spruce                             | .0                                       | 21.1         | 50.4          | .0    | 71.5       |
| Red pine                               | .0                                       | .0           | .0            | .0    | .0         |
| White pine                             | .0                                       | 343.6        | 588.9         | .0    | 932.5      |
| Northern white-cedar                   | .0                                       | 8.4          | .0            | .0    | 8.4        |
| Hemlock                                | 99.9                                     | 519.2        | 551.6         | .0    | 1,170.7    |
| Other softwoods                        | .0                                       | 20.3         | .0            | .0    | 20.3       |
| Total softwoods                        | 99.9                                     | 997.1        | 1,207.3       | .0    | 2,304.3    |
| Sugar maple                            | 691.3                                    | 2,111.2      | 3,095.4       | 432.5 | 6,330.4    |
| Soft maples                            | 14.0                                     | 403.8        | 330.1         | 131.2 | 879.1      |
| Yellow birch                           | 170.0                                    | 378.8        | 172.1         | 27.5  | 748.4      |
| Paper birch                            | .0                                       | 311.7        | 110.4         | .0    | 422.1      |
| Gray birch                             | 761.9                                    | 34.1         | .0            | .0    | 796.0      |
| Beech                                  | 59.9                                     | 601.3        | 974.2         | 95.8  | 1,731.2    |
| White ash                              | 12.9                                     | 799.1        | 817.7         | .0    | 1,629.7    |
| Black ash                              | .0                                       | .0           | .0            | .0    | .0         |
| Aspen                                  | .0                                       | 264.4        | 112.6         | .0    | 377.0      |
| White oaks                             | .0                                       | .0           | .0            | .0    | .0         |
| Red oaks                               | 87.2                                     | 39.1         | 242.3         | 75.6  | 444.2      |
| Basswood                               | .0                                       | 98.2         | 64.7          | 47.1  | 210.0      |
| Elm                                    | 104.2                                    | 96.4         | 108.2         | 40.9  | 349.7      |
| Other commercial hardwoods             | 23.1                                     | 382.1        | 130.7         | 21.7  | 557.6      |
| Noncommercial hardwoods                | 508.8                                    | 246.1        | .0            | .0    | 754.9      |
| Total hardwoods                        | 2,433.3                                  | 5,766.3      | 6,158.4       | 872.3 | 15,230.3   |
| Total, all species                     | 2,533.2                                  | 6,763.4      | 7,365.7       | 872.3 | 17,534.6   |

Table 36.--Number of trees and net aboveground tree biomass of all live trees on timberland, by species and diameter group, Essex County, Vermont, 1983

| Species                        | Diameter group (inches at breast height) |               |               |            | All groups     |
|--------------------------------|------------------------------------------|---------------|---------------|------------|----------------|
|                                | 1.0-<br>4.9                              | 5.0-<br>10.9  | 11.0-<br>20.9 | 21+        |                |
|                                | ----- Thousand trees -----               |               |               |            |                |
| Balsam fir                     | 65,675                                   | 15,942        | 1,533         | 0          | 83,150         |
| Tamarack                       | 0                                        | 17            | 17            | 0          | 34             |
| White spruce                   | 8,976                                    | 1,630         | 265           | 0          | 10,871         |
| Black spruce                   | 0                                        | 90            | 0             | 0          | 90             |
| Red spruce                     | 10,448                                   | 4,160         | 907           | 0          | 15,515         |
| Red pine                       | 0                                        | 0             | 0             | 0          | 0              |
| White pine                     | 0                                        | 173           | 99            | 0          | 272            |
| Northern white-cedar           | 0                                        | 137           | 68            | 0          | 205            |
| Hemlock                        | 2,992                                    | 704           | 237           | 23         | 3,956          |
| Other softwoods                | 0                                        | 0             | 0             | 0          | 0              |
| <b>Total softwoods</b>         | <b>88,091</b>                            | <b>22,853</b> | <b>3,126</b>  | <b>23</b>  | <b>114,093</b> |
| Sugar maple                    | 26,873                                   | 10,208        | 2,102         | 84         | 39,267         |
| Soft maples                    | 16,428                                   | 6,969         | 2,102         | 31         | 25,530         |
| Yellow birch                   | 17,914                                   | 6,667         | 2,600         | 319        | 27,500         |
| Paper birch                    | 5,949                                    | 2,799         | 340           | 0          | 9,088          |
| Gray birch                     | 0                                        | 98            | 0             | 0          | 98             |
| Beech                          | 11,944                                   | 1,886         | 267           | 27         | 14,124         |
| White ash                      | 2,992                                    | 1,072         | 237           | 0          | 4,301          |
| Black ash                      | 1,493                                    | 160           | 0             | 0          | 1,653          |
| Aspen                          | 2,985                                    | 1,573         | 149           | 33         | 4,740          |
| White oaks                     | 0                                        | 0             | 0             | 0          | 0              |
| Red oaks                       | 0                                        | 0             | 0             | 0          | 0              |
| Basswood                       | 0                                        | 0             | 0             | 0          | 0              |
| Elm                            | 0                                        | 68            | 38            | 0          | 106            |
| Other commercial hardwoods     | 1,496                                    | 150           | 67            | 0          | 1,713          |
| <b>Noncommercial hardwoods</b> | <b>43,302</b>                            | <b>1,750</b>  | <b>0</b>      | <b>0</b>   | <b>45,052</b>  |
| <b>Total hardwoods</b>         | <b>131,376</b>                           | <b>33,400</b> | <b>7,902</b>  | <b>494</b> | <b>173,172</b> |
| <b>Total, all species</b>      | <b>219,467</b>                           | <b>56,253</b> | <b>11,028</b> | <b>517</b> | <b>287,265</b> |

Table 36.--Continued

| Species                        | Diameter group (inches at breast height) |                 |                 |                | All groups      |
|--------------------------------|------------------------------------------|-----------------|-----------------|----------------|-----------------|
|                                | 1.0-<br>4.9                              | 5.0-<br>10.9    | 11.0-<br>20.9   | 21+            |                 |
|                                | ----- Thousand green tons -----          |                 |                 |                |                 |
| Balsam fir                     | 1,046.1                                  | 3,484.2         | 1,175.4         | .0             | 5,705.7         |
| Tamarack                       | .0                                       | 5.7             | 15.9            | .0             | 21.6            |
| White spruce                   | 223.8                                    | 431.7           | 248.8           | .0             | 904.3           |
| Black spruce                   | .0                                       | 46.1            | .0              | .0             | 46.1            |
| Red spruce                     | 153.6                                    | 1,121.2         | 839.7           | .0             | 2,114.5         |
| Red pine                       | .0                                       | .0              | .0              | .0             | .0              |
| White pine                     | .0                                       | 74.5            | 86.8            | .0             | 161.3           |
| Northern white-cedar           | .0                                       | 28.6            | 29.7            | .0             | 58.3            |
| Hemlock                        | 50.6                                     | 180.7           | 267.0           | 80.2           | 578.5           |
| Other softwoods                | .0                                       | .0              | .0              | .0             | .0              |
| <b>Total softwoods</b>         | <b>1,474.1</b>                           | <b>5,372.7</b>  | <b>2,663.3</b>  | <b>80.2</b>    | <b>9,590.3</b>  |
| Sugar maple                    | 589.3                                    | 2,821.0         | 2,135.8         | 311.3          | 5,857.4         |
| Soft maples                    | 311.5                                    | 2,189.3         | 2,136.9         | 87.5           | 4,725.2         |
| Yellow birch                   | 731.7                                    | 2,138.4         | 3,012.7         | 1,159.6        | 7,042.4         |
| Paper birch                    | 110.7                                    | 745.4           | 426.6           | .0             | 1,282.7         |
| Gray birch                     | .0                                       | 39.2            | .0              | .0             | 39.2            |
| Beech                          | 504.3                                    | 540.3           | 321.3           | 101.1          | 1,467.0         |
| White ash                      | 126.7                                    | 249.6           | 255.3           | .0             | 631.6           |
| Black ash                      | 32.4                                     | 41.0            | .0              | .0             | 73.4            |
| Aspen                          | 92.4                                     | 390.6           | 200.6           | 100.7          | 784.3           |
| White oaks                     | .0                                       | .0              | .0              | .0             | .0              |
| Red oaks                       | .0                                       | .0              | .0              | .0             | .0              |
| Basswood                       | .0                                       | .0              | .0              | .0             | .0              |
| Elm                            | .0                                       | 14.0            | 42.7            | .0             | 56.7            |
| Other commercial hardwoods     | 7.6                                      | 39.4            | 69.8            | .0             | 116.8           |
| <b>Noncommercial hardwoods</b> | <b>357.7</b>                             | <b>194.7</b>    | <b>.0</b>       | <b>.0</b>      | <b>552.4</b>    |
| <b>Total hardwoods</b>         | <b>2,864.3</b>                           | <b>9,402.9</b>  | <b>8,601.7</b>  | <b>1,760.2</b> | <b>22,629.1</b> |
| <b>Total, all species</b>      | <b>4,338.4</b>                           | <b>14,775.6</b> | <b>11,265.0</b> | <b>1,840.4</b> | <b>32,219.4</b> |

Table 37.--Number of trees and net aboveground tree biomass of all live trees on timberland, by species and diameter group, Franklin/Grand Isle Counties, Vermont, 1983

| Species                        | Diameter group (inches at breast height) |               |               |            | All groups     |
|--------------------------------|------------------------------------------|---------------|---------------|------------|----------------|
|                                | 1.0-<br>4.9                              | 5.0-<br>10.9  | 11.0-<br>20.9 | 21+        |                |
|                                | ----- Thousand trees -----               |               |               |            |                |
| Balsam fir                     | 5,291                                    | 2,290         | 30            | 0          | 7,611          |
| Tamarack                       | 0                                        | 0             | 0             | 0          | 0              |
| White spruce                   | 0                                        | 0             | 0             | 0          | 0              |
| Black spruce                   | 0                                        | 0             | 0             | 0          | 0              |
| Red spruce                     | 4,669                                    | 2,435         | 356           | 0          | 7,460          |
| Red pine                       | 0                                        | 0             | 0             | 0          | 0              |
| White pine                     | 0                                        | 1,412         | 960           | 88         | 2,460          |
| Northern white-cedar           | 1,230                                    | 1,688         | 0             | 0          | 2,918          |
| Hemlock                        | 12,129                                   | 4,483         | 2,369         | 42         | 19,023         |
| Other softwoods                | 0                                        | 0             | 0             | 0          | 0              |
| <b>Total softwoods</b>         | <b>23,319</b>                            | <b>12,308</b> | <b>3,715</b>  | <b>130</b> | <b>39,472</b>  |
| Sugar maple                    | 25,339                                   | 6,111         | 1,748         | 197        | 33,395         |
| Soft maples                    | 8,762                                    | 5,008         | 818           | 12         | 14,600         |
| Yellow birch                   | 4,531                                    | 2,240         | 874           | 29         | 7,674          |
| Paper birch                    | 0                                        | 477           | 213           | 0          | 690            |
| Gray birch                     | 4,159                                    | 753           | 0             | 0          | 4,912          |
| Beech                          | 4,531                                    | 497           | 533           | 84         | 5,645          |
| White ash                      | 2,988                                    | 1,300         | 237           | 50         | 4,575          |
| Black ash                      | 2,459                                    | 603           | 0             | 0          | 3,062          |
| Aspen                          | 0                                        | 344           | 47            | 18         | 409            |
| White oaks                     | 0                                        | 117           | 47            | 18         | 182            |
| Red oaks                       | 1,465                                    | 244           | 0             | 0          | 1,709          |
| Basswood                       | 0                                        | 68            | 158           | 0          | 226            |
| Elm                            | 0                                        | 868           | 135           | 0          | 1,003          |
| Other commercial hardwoods     | 2,875                                    | 1,036         | 167           | 0          | 4,078          |
| <b>Noncommercial hardwoods</b> | <b>9,587</b>                             | <b>1,111</b>  | <b>67</b>     | <b>0</b>   | <b>10,765</b>  |
| <b>Total hardwoods</b>         | <b>66,696</b>                            | <b>20,777</b> | <b>5,044</b>  | <b>408</b> | <b>92,925</b>  |
| <b>Total, all species</b>      | <b>90,015</b>                            | <b>33,085</b> | <b>8,759</b>  | <b>538</b> | <b>132,397</b> |

Table 37.--Continued

| Species                         | Diameter group (inches at breast height) |              |               |         | All groups |
|---------------------------------|------------------------------------------|--------------|---------------|---------|------------|
|                                 | 1.0-<br>4.9                              | 5.0-<br>10.9 | 11.0-<br>20.9 | 21+     |            |
| ----- Thousand green tons ----- |                                          |              |               |         |            |
| Balsam fir                      | 186.0                                    | 356.3        | 46.7          | .0      | 589.0      |
| Tamarack                        | .0                                       | .0           | .0            | .0      | .0         |
| White spruce                    | .0                                       | .0           | .0            | .0      | .0         |
| Black spruce                    | .0                                       | .0           | .0            | .0      | .0         |
| Red spruce                      | 229.4                                    | 669.5        | 360.1         | .0      | 1,259.0    |
| Red pine                        | .0                                       | .0           | .0            | .0      | .0         |
| White pine                      | .0                                       | 387.7        | 1,178.6       | 401.9   | 1,968.2    |
| Northern white-cedar            | 9.3                                      | 252.4        | .0            | .0      | 261.7      |
| Hemlock                         | 249.1                                    | 1,173.6      | 2,296.4       | 142.6   | 3,861.7    |
| Other softwoods                 | .0                                       | .0           | .0            | .0      | .0         |
| Total softwoods                 | 673.8                                    | 2,839.5      | 3,881.8       | 544.5   | 7,939.6    |
| Sugar maple                     | 537.7                                    | 1,765.1      | 1,978.8       | 761.2   | 5,042.8    |
| Soft maples                     | 87.1                                     | 1,178.8      | 867.3         | 35.2    | 2,168.4    |
| Yellow birch                    | 156.1                                    | 571.8        | 1,010.6       | 73.6    | 1,812.1    |
| Paper birch                     | .0                                       | 126.7        | 202.7         | .0      | 329.4      |
| Gray birch                      | 89.5                                     | 151.1        | .0            | .0      | 240.6      |
| Beech                           | 55.2                                     | 115.3        | 786.8         | 290.0   | 1,247.3    |
| White ash                       | 112.8                                    | 355.1        | 254.5         | 161.3   | 883.7      |
| Black ash                       | 32.3                                     | 103.1        | .0            | .0      | 135.4      |
| Aspen                           | .0                                       | 64.2         | 44.2          | 62.8    | 171.2      |
| White oaks                      | .0                                       | 36.2         | 68.4          | 64.9    | 169.5      |
| Red oaks                        | 4.2                                      | 63.2         | .0            | .0      | 67.4       |
| Basswood                        | .0                                       | 12.9         | 153.2         | .0      | 166.1      |
| Elm                             | .0                                       | 235.1        | 127.8         | .0      | 362.9      |
| Other commercial hardwoods      | 13.8                                     | 206.8        | 154.2         | .0      | 374.8      |
| Noncommercial hardwoods         | 174.1                                    | 183.0        | 99.7          | .0      | 456.8      |
| Total hardwoods                 | 1,262.8                                  | 5,168.4      | 5,748.2       | 1,449.0 | 13,628.4   |
| Total, all species              | 1,936.6                                  | 8,007.9      | 9,630.0       | 1,993.5 | 21,568.0   |

Table 38.--Number of trees and net aboveground tree biomass of all live trees on timberland, by species and diameter group, Lamoille County, Vermont, 1983

| Species                    | Diameter group (inches at breast height) |          |           |     | All groups |
|----------------------------|------------------------------------------|----------|-----------|-----|------------|
|                            | 1.0-4.9                                  | 5.0-10.9 | 11.0-20.9 | 21+ |            |
|                            | ----- Thousand trees -----               |          |           |     |            |
| Balsam fir                 | 10,541                                   | 2,900    | 137       | 0   | 13,578     |
| Tamarack                   | 0                                        | 0        | 0         | 0   | 0          |
| White spruce               | 0                                        | 0        | 0         | 0   | 0          |
| Black spruce               | 0                                        | 0        | 0         | 0   | 0          |
| Red spruce                 | 1,459                                    | 2,747    | 565       | 34  | 4,805      |
| Red pine                   | 0                                        | 0        | 0         | 0   | 0          |
| White pine                 | 0                                        | 55       | 69        | 0   | 124        |
| Northern white-cedar       | 0                                        | 0        | 62        | 0   | 62         |
| Hemlock                    | 11,755                                   | 5,083    | 835       | 0   | 17,673     |
| Other softwoods            | 0                                        | 0        | 0         | 0   | 0          |
| Total softwoods            | 23,755                                   | 10,785   | 1,668     | 34  | 36,242     |
| Sugar maple                | 20,636                                   | 10,134   | 2,771     | 284 | 33,825     |
| Soft maples                | 11,755                                   | 6,200    | 834       | 10  | 18,799     |
| Yellow birch               | 7,336                                    | 4,251    | 1,003     | 133 | 12,723     |
| Paper birch                | 1,502                                    | 1,744    | 309       | 0   | 3,555      |
| Gray birch                 | 0                                        | 1,759    | 0         | 0   | 1,759      |
| Beech                      | 13,385                                   | 2,734    | 1,280     | 101 | 17,500     |
| White ash                  | 1,459                                    | 585      | 100       | 0   | 2,144      |
| Black ash                  | 0                                        | 0        | 0         | 0   | 0          |
| Aspen                      | 0                                        | 0        | 52        | 0   | 52         |
| White oaks                 | 0                                        | 0        | 0         | 0   | 0          |
| Red oaks                   | 0                                        | 0        | 0         | 0   | 0          |
| Basswood                   | 0                                        | 156      | 17        | 0   | 173        |
| Elm                        | 1,602                                    | 219      | 0         | 0   | 1,821      |
| Other commercial hardwoods | 2,917                                    | 196      | 40        | 0   | 3,153      |
| Noncommercial hardwoods    | 10,541                                   | 932      | 0         | 0   | 11,473     |
| Total hardwoods            | 71,133                                   | 28,910   | 6,406     | 528 | 106,977    |
| Total, all species         | 94,888                                   | 39,695   | 8,074     | 562 | 143,219    |

Table 38.--Continued

| Species                                | Diameter group (inches at breast height) |              |               |         | All groups |
|----------------------------------------|------------------------------------------|--------------|---------------|---------|------------|
|                                        | 1.0-<br>4.9                              | 5.0-<br>10.9 | 11.0-<br>20.9 | 21+     |            |
| ----- <u>Thousand green tons</u> ----- |                                          |              |               |         |            |
| Balsam fir                             | 236.1                                    | 621.3        | 98.8          | .0      | 956.2      |
| Tamarack                               | .0                                       | .0           | .0            | .0      | .0         |
| White spruce                           | .0                                       | .0           | .0            | .0      | .0         |
| Black spruce                           | .0                                       | .0           | .0            | .0      | .0         |
| Red spruce                             | 15.1                                     | 684.5        | 620.5         | 93.9    | 1,414.0    |
| Red pine                               | .0                                       | .0           | .0            | .0      | .0         |
| White pine                             | .0                                       | 16.1         | 79.1          | .0      | 95.2       |
| Northern white-cedar                   | .0                                       | .0           | 19.3          | .0      | 19.3       |
| Hemlock                                | 260.8                                    | 1,219.8      | 684.9         | .0      | 2,165.5    |
| Other softwoods                        | .0                                       | .0           | .0            | .0      | .0         |
| Total softwoods                        | 512.0                                    | 2,541.7      | 1,502.6       | 93.9    | 4,650.2    |
| Sugar maple                            | 677.9                                    | 2,585.0      | 2,802.7       | 1,062.9 | 7,128.5    |
| Soft maples                            | 522.2                                    | 1,381.1      | 975.6         | 54.1    | 2,933.0    |
| Yellow birch                           | 269.4                                    | 1,181.6      | 1,038.8       | 587.2   | 3,077.0    |
| Paper birch                            | 35.0                                     | 611.5        | 356.3         | .0      | 1,002.8    |
| Gray birch                             | .0                                       | 281.8        | .0            | .0      | 281.8      |
| Beech                                  | 381.5                                    | 807.9        | 1,836.6       | 375.2   | 3,401.2    |
| White ash                              | 48.0                                     | 186.0        | 124.1         | .0      | 358.1      |
| Black ash                              | .0                                       | .0           | .0            | .0      | .0         |
| Aspen                                  | .0                                       | .0           | 100.8         | .0      | 100.8      |
| White oaks                             | .0                                       | .0           | .0            | .0      | .0         |
| Red oaks                               | .0                                       | .0           | .0            | .0      | .0         |
| Basswood                               | .0                                       | 34.6         | 11.8          | .0      | 46.4       |
| Elm                                    | 6.9                                      | 52.7         | .0            | .0      | 59.6       |
| Other commercial hardwoods             | 113.5                                    | 52.4         | 37.0          | .0      | 202.9      |
| Noncommercial hardwoods                | 159.9                                    | 123.7        | .0            | .0      | 283.6      |
| Total hardwoods                        | 2,214.3                                  | 7,298.3      | 7,283.7       | 2,079.4 | 18,875.7   |
| Total, all species                     | 2,726.3                                  | 9,840.0      | 8,786.3       | 2,173.3 | 23,525.9   |

Table 39.--Number of trees and net aboveground tree biomass of all live trees on timberland, by species and diameter group, Orange County, Vermont, 1983

| Species                    | Diameter group (inches at breast height) |              |               |     | All groups |
|----------------------------|------------------------------------------|--------------|---------------|-----|------------|
|                            | 1.0-<br>4.9                              | 5.0-<br>10.9 | 11.0-<br>20.9 | 21+ |            |
| ----- Thousand trees ----- |                                          |              |               |     |            |
| Balsam fir                 | 15,412                                   | 3,359        | 189           | 0   | 18,960     |
| Tamarack                   | 0                                        | 0            | 0             | 0   | 0          |
| White spruce               | 2,593                                    | 564          | 91            | 0   | 3,248      |
| Black spruce               | 0                                        | 0            | 0             | 0   | 0          |
| Red spruce                 | 7,584                                    | 6,663        | 1,217         | 0   | 15,464     |
| Red pine                   | 0                                        | 0            | 0             | 0   | 0          |
| White pine                 | 1,527                                    | 3,577        | 1,605         | 130 | 6,839      |
| Northern white-cedar       | 1,297                                    | 1,248        | 122           | 0   | 2,667      |
| Hemlock                    | 21,603                                   | 6,764        | 1,986         | 49  | 30,402     |
| Other softwoods            | 0                                        | 193          | 0             | 0   | 193        |
| Total softwoods            | 50,016                                   | 22,368       | 5,210         | 179 | 77,773     |
| Sugar maple                | 28,985                                   | 12,576       | 3,667         | 330 | 45,558     |
| Soft maples                | 1,527                                    | 2,433        | 944           | 28  | 4,932      |
| Yellow birch               | 1,527                                    | 1,924        | 331           | 13  | 3,795      |
| Paper birch                | 0                                        | 1,360        | 429           | 0   | 1,789      |
| Gray birch                 | 0                                        | 0            | 0             | 0   | 0          |
| Beech                      | 3,054                                    | 1,158        | 579           | 63  | 4,854      |
| White ash                  | 1,527                                    | 1,626        | 162           | 0   | 3,315      |
| Black ash                  | 0                                        | 244          | 58            | 0   | 302        |
| Aspen                      | 6,108                                    | 2,080        | 915           | 0   | 9,103      |
| White oaks                 | 0                                        | 0            | 0             | 0   | 0          |
| Red oaks                   | 0                                        | 985          | 345           | 57  | 1,387      |
| Basswood                   | 1,527                                    | 614          | 138           | 7   | 2,286      |
| Elm                        | 0                                        | 70           | 59            | 0   | 129        |
| Other commercial hardwoods | 0                                        | 719          | 224           | 0   | 943        |
| Noncommercial hardwoods    | 13,798                                   | 3,152        | 53            | 0   | 17,003     |
| Total hardwoods            | 58,053                                   | 28,941       | 7,904         | 498 | 95,396     |
| Total, all species         | 108,069                                  | 51,309       | 13,114        | 677 | 173,169    |

Table 39.--Continued

| Species                    | Diameter group (inches at breast height) |              |               |         | All groups |
|----------------------------|------------------------------------------|--------------|---------------|---------|------------|
|                            | 1.0-<br>4.9                              | 5.0-<br>10.9 | 11.0-<br>20.9 | 21+     |            |
|                            | ----- Thousand green tons -----          |              |               |         |            |
| Balsam fir                 | 683.6                                    | 652.0        | 124.6         | .0      | 1,460.2    |
| Tamarack                   | .0                                       | .0           | .0            | .0      | .0         |
| White spruce               | 22.5                                     | 210.5        | 110.1         | .0      | 343.1      |
| Black spruce               | .0                                       | .0           | .0            | .0      | .0         |
| Red spruce                 | 362.8                                    | 1,707.4      | 1,136.0       | .0      | 3,206.2    |
| Red pine                   | .0                                       | .0           | .0            | .0      | .0         |
| White pine                 | 34.7                                     | 984.2        | 2,098.5       | 575.6   | 3,693.0    |
| Northern white-cedar       | 11.0                                     | 162.7        | 61.4          | .0      | 235.1      |
| Hemlock                    | 521.4                                    | 1,788.6      | 1,998.6       | 187.4   | 4,496.0    |
| Other softwoods            | .0                                       | 27.3         | .0            | .0      | 27.3       |
| Total softwoods            | 1,636.0                                  | 5,532.7      | 5,529.2       | 763.0   | 13,460.9   |
| Sugar maple                | 677.2                                    | 3,648.1      | 4,407.1       | 1,657.5 | 10,389.9   |
| Soft maples                | 39.5                                     | 641.3        | 849.6         | 90.7    | 1,621.1    |
| Yellow birch               | 56.2                                     | 489.1        | 364.3         | 78.2    | 987.8      |
| Paper birch                | .0                                       | 592.4        | 485.8         | .0      | 1,078.2    |
| Gray birch                 | .0                                       | .0           | .0            | .0      | .0         |
| Beech                      | 152.0                                    | 379.7        | 617.3         | 331.1   | 1,480.1    |
| White ash                  | 58.2                                     | 526.2        | 164.0         | .0      | 748.4      |
| Black ash                  | .0                                       | 55.4         | 42.2          | .0      | 97.6       |
| Aspen                      | 193.9                                    | 539.2        | 1,011.7       | .0      | 1,744.8    |
| White oaks                 | .0                                       | .0           | .0            | .0      | .0         |
| Red oaks                   | .0                                       | 271.2        | 332.8         | 1,224.3 | 1,828.3    |
| Basswood                   | 9.1                                      | 173.5        | 162.8         | 40.9    | 386.3      |
| Elm                        | .0                                       | 32.9         | 41.7          | .0      | 74.6       |
| Other commercial hardwoods | .0                                       | 233.4        | 213.8         | .0      | 447.2      |
| Noncommercial hardwoods    | 387.5                                    | 538.1        | 50.9          | .0      | 976.5      |
| Total hardwoods            | 1,573.6                                  | 8,120.5      | 8,744.0       | 3,422.7 | 21,860.8   |
| Total, all species         | 3,209.6                                  | 13,653.2     | 14,273.2      | 4,185.7 | 35,321.7   |

Table 40.--Number of trees and net aboveground tree biomass of all live trees on timberland, by species and diameter group, Orleans County, Vermont, 1983

| Species                    | Diameter group (inches at breast height) |              |               |     | All groups |
|----------------------------|------------------------------------------|--------------|---------------|-----|------------|
|                            | 1.0-<br>4.9                              | 5.0-<br>10.9 | 11.0-<br>20.9 | 21+ |            |
|                            | ----- Thousand trees -----               |              |               |     |            |
| Balsam fir                 | 27,475                                   | 11,542       | 1,006         | 0   | 40,023     |
| Tamarack                   | 0                                        | 0            | 0             | 0   | 0          |
| White spruce               | 1,617                                    | 1,376        | 394           | 0   | 3,387      |
| Black spruce               | 2,785                                    | 522          | 17            | 0   | 3,324      |
| Red spruce                 | 9,190                                    | 5,074        | 447           | 51  | 14,762     |
| Red pine                   | 0                                        | 0            | 0             | 0   | 0          |
| White pine                 | 0                                        | 606          | 298           | 18  | 922        |
| Northern white-cedar       | 20,377                                   | 10,532       | 1,444         | 18  | 32,371     |
| Hemlock                    | 12,310                                   | 1,672        | 440           | 0   | 14,422     |
| Other softwoods            | 0                                        | 0            | 0             | 0   | 0          |
| Total softwoods            | 73,754                                   | 31,324       | 4,046         | 87  | 109,211    |
| Sugar maple                | 15,293                                   | 8,172        | 1,171         | 216 | 24,852     |
| Soft maples                | 13,830                                   | 2,532        | 1,048         | 34  | 17,444     |
| Yellow birch               | 6,146                                    | 4,149        | 1,138         | 30  | 11,463     |
| Paper birch                | 3,036                                    | 5,441        | 275           | 0   | 8,752      |
| Gray birch                 | 0                                        | 2,378        | 0             | 0   | 2,378      |
| Beech                      | 0                                        | 591          | 187           | 0   | 778        |
| White ash                  | 3,036                                    | 643          | 226           | 14  | 3,919      |
| Black ash                  | 1,500                                    | 70           | 17            | 0   | 1,587      |
| Aspen                      | 1,537                                    | 533          | 401           | 0   | 2,471      |
| White oaks                 | 0                                        | 0            | 0             | 0   | 0          |
| Red oaks                   | 0                                        | 0            | 0             | 0   | 0          |
| Basswood                   | 0                                        | 402          | 135           | 0   | 537        |
| Elm                        | 0                                        | 163          | 66            | 0   | 229        |
| Other commercial hardwoods | 0                                        | 399          | 238           | 15  | 652        |
| Noncommercial hardwoods    | 1,537                                    | 1,479        | 0             | 0   | 3,016      |
| Total hardwoods            | 45,915                                   | 26,952       | 4,902         | 309 | 78,078     |
| Total, all species         | 119,669                                  | 58,276       | 8,948         | 396 | 187,289    |

Table 40.--Continued

| Species                                | Diameter group (inches at breast height) |              |               |         | All groups |
|----------------------------------------|------------------------------------------|--------------|---------------|---------|------------|
|                                        | 1.0-<br>4.9                              | 5.0-<br>10.9 | 11.0-<br>20.9 | 21+     |            |
| ----- <u>Thousand green tons</u> ----- |                                          |              |               |         |            |
| Balsam fir                             | 532.0                                    | 2,616.7      | 824.0         | .0      | 3,972.7    |
| Tamarack                               | .0                                       | .0           | .0            | .0      | .0         |
| White spruce                           | 95.0                                     | 336.3        | 324.4         | .0      | 755.7      |
| Black spruce                           | 111.7                                    | 148.9        | 14.4          | .0      | 275.0      |
| Red spruce                             | 435.7                                    | 1,110.1      | 457.8         | 183.7   | 2,187.3    |
| Red pine                               | .0                                       | .0           | .0            | .0      | .0         |
| White pine                             | .0                                       | 221.3        | 375.9         | 104.0   | 701.2      |
| Northern white-cedar                   | 383.9                                    | 1,415.8      | 602.0         | 18.6    | 2,420.3    |
| Hemlock                                | 387.9                                    | 433.0        | 364.5         | .0      | 1,185.4    |
| Other softwoods                        | .0                                       | .0           | .0            | .0      | .0         |
| Total softwoods                        | 1,946.2                                  | 6,282.1      | 2,963.0       | 306.3   | 11,497.6   |
| Sugar maple                            | 424.7                                    | 2,070.3      | 1,271.0       | 841.5   | 4,607.5    |
| Soft maples                            | 101.3                                    | 769.9        | 910.0         | 124.3   | 1,905.5    |
| Yellow birch                           | 80.2                                     | 1,230.2      | 1,180.4       | 79.3    | 2,570.1    |
| Paper birch                            | 130.4                                    | 1,638.1      | 337.7         | .0      | 2,106.2    |
| Gray birch                             | .0                                       | 398.3        | .0            | .0      | 398.3      |
| Beech                                  | .0                                       | 164.2        | 170.7         | .0      | 334.9      |
| White ash                              | 60.9                                     | 149.1        | 179.3         | 53.8    | 443.1      |
| Black ash                              | 125.4                                    | 19.7         | 25.2          | .0      | 170.3      |
| Aspen                                  | 80.2                                     | 158.0        | 349.7         | .0      | 587.9      |
| White oaks                             | .0                                       | .0           | .0            | .0      | .0         |
| Red oaks                               | .0                                       | .0           | .0            | .0      | .0         |
| Basswood                               | .0                                       | 146.0        | 112.9         | .0      | 258.9      |
| Elm                                    | .0                                       | 47.8         | 73.1          | .0      | 120.9      |
| Other commercial hardwoods             | .0                                       | 125.1        | 189.0         | 48.9    | 363.0      |
| Noncommercial hardwoods                | 4.7                                      | 221.2        | .0            | .0      | 225.9      |
| Total hardwoods                        | 1,007.8                                  | 7,137.9      | 4,799.0       | 1,147.8 | 14,092.5   |
| Total, all species                     | 2,954.0                                  | 13,420.0     | 7,762.0       | 1,454.1 | 25,590.1   |

Table 41.--Number of trees and net aboveground tree biomass of all live trees on timberland, by species and diameter group, Rutland County, Vermont, 1983

| Species                    | Diameter group (inches at breast height) |              |               |       | All groups |
|----------------------------|------------------------------------------|--------------|---------------|-------|------------|
|                            | 1.0-<br>4.9                              | 5.0-<br>10.9 | 11.0-<br>20.9 | 21+   |            |
|                            | ----- Thousand trees -----               |              |               |       |            |
| Balsam fir                 | 8,640                                    | 582          | 149           | 0     | 9,371      |
| Tamarack                   | 0                                        | 0            | 0             | 0     | 0          |
| White spruce               | 0                                        | 0            | 0             | 0     | 0          |
| Black spruce               | 0                                        | 0            | 0             | 0     | 0          |
| Red spruce                 | 7,186                                    | 3,275        | 577           | 0     | 11,038     |
| Red pine                   | 0                                        | 294          | 0             | 0     | 294        |
| White pine                 | 13,925                                   | 6,086        | 1,394         | 204   | 21,609     |
| Northern white-cedar       | 1,440                                    | 682          | 69            | 0     | 2,191      |
| Hemlock                    | 12,875                                   | 5,503        | 1,288         | 52    | 19,718     |
| Other softwoods            | 1,426                                    | 66           | 0             | 0     | 1,492      |
| Total softwoods            | 45,492                                   | 16,488       | 3,477         | 256   | 65,713     |
| Sugar maple                | 15,090                                   | 8,330        | 3,169         | 537   | 27,126     |
| Soft maples                | 6,937                                    | 5,597        | 1,641         | 56    | 14,231     |
| Yellow birch               | 5,511                                    | 2,929        | 1,344         | 150   | 9,934      |
| Paper birch                | 0                                        | 3,232        | 787           | 0     | 4,019      |
| Gray birch                 | 2,880                                    | 33           | 0             | 0     | 2,913      |
| Beech                      | 31,174                                   | 4,400        | 1,164         | 30    | 36,768     |
| White ash                  | 9,730                                    | 2,790        | 873           | 16    | 13,409     |
| Black ash                  | 0                                        | 0            | 0             | 0     | 0          |
| Aspen                      | 2,880                                    | 1,001        | 373           | 0     | 4,254      |
| White oaks                 | 4,236                                    | 869          | 102           | 29    | 5,236      |
| Red oaks                   | 2,712                                    | 1,920        | 670           | 23    | 5,325      |
| Basswood                   | 0                                        | 275          | 80            | 0     | 355        |
| Elm                        | 7,172                                    | 1,288        | 188           | 16    | 8,664      |
| Other commercial hardwoods | 16,342                                   | 5,139        | 526           | 16    | 22,023     |
| Noncommercial hardwoods    | 27,962                                   | 4,920        | 306           | 0     | 33,188     |
| Total hardwoods            | 132,626                                  | 42,723       | 11,223        | 873   | 187,445    |
| Total, all species         | 178,118                                  | 59,211       | 14,700        | 1,129 | 253,158    |

Table 41.--Continued

| Species                         | Diameter group (inches at breast height) |              |               |         | All groups |
|---------------------------------|------------------------------------------|--------------|---------------|---------|------------|
|                                 | 1.0-<br>4.9                              | 5.0-<br>10.9 | 11.0-<br>20.9 | 21+     |            |
| ----- Thousand green tons ----- |                                          |              |               |         |            |
| Balsam fir                      | 122.2                                    | 120.2        | 60.1          | .0      | 302.5      |
| Tamarack                        | .0                                       | .0           | .0            | .0      | .0         |
| White spruce                    | .0                                       | .0           | .0            | .0      | .0         |
| Black spruce                    | .0                                       | .0           | .0            | .0      | .0         |
| Red spruce                      | 121.0                                    | 696.9        | 623.4         | .0      | 1,441.3    |
| Red pine                        | .0                                       | 116.5        | .0            | .0      | 116.5      |
| White pine                      | 369.4                                    | 1,408.2      | 1,562.3       | 979.1   | 4,319.0    |
| Northern white-cedar            | 18.4                                     | 82.7         | 26.5          | .0      | 127.6      |
| Hemlock                         | 170.5                                    | 1,343.5      | 1,219.5       | 153.7   | 2,887.2    |
| Other softwoods                 | 45.9                                     | 9.5          | .0            | .0      | 55.4       |
| Total softwoods                 | 847.4                                    | 3,777.5      | 3,491.8       | 1,132.8 | 9,249.5    |
| Sugar maple                     | 349.3                                    | 2,332.1      | 3,752.5       | 2,079.8 | 8,513.7    |
| Soft maples                     | 157.6                                    | 1,556.0      | 1,481.5       | 140.1   | 3,335.2    |
| Yellow birch                    | 115.6                                    | 940.7        | 1,385.7       | 459.3   | 2,901.3    |
| Paper birch                     | .0                                       | 1,214.4      | 988.9         | .0      | 2,203.3    |
| Gray birch                      | 106.9                                    | 6.4          | .0            | .0      | 113.3      |
| Beech                           | 466.5                                    | 1,400.9      | 1,247.7       | 72.1    | 3,187.2    |
| White ash                       | 340.4                                    | 746.9        | 893.5         | 104.8   | 2,085.6    |
| Black ash                       | .0                                       | .0           | .0            | .0      | .0         |
| Aspen                           | 181.3                                    | 357.7        | 406.5         | .0      | 945.5      |
| White oaks                      | 30.6                                     | 315.8        | 100.9         | 207.9   | 655.2      |
| Red oaks                        | 184.8                                    | 542.3        | 669.6         | 97.6    | 1,494.3    |
| Basswood                        | .0                                       | 119.0        | 79.6          | .0      | 198.6      |
| Elm                             | 89.7                                     | 363.5        | 166.0         | 34.5    | 653.7      |
| Other commercial hardwoods      | 569.8                                    | 1,040.2      | 524.6         | 27.9    | 2,162.5    |
| Noncommercial hardwoods         | 581.4                                    | 1,167.3      | 278.4         | .0      | 2,027.1    |
| Total hardwoods                 | 3,173.9                                  | 12,103.2     | 11,975.4      | 3,224.0 | 30,476.5   |
| Total, all species              | 4,021.3                                  | 15,880.7     | 15,467.2      | 4,356.8 | 39,726.0   |

Table 42.--Number of trees and net aboveground tree biomass of all live trees on timberland, by species and diameter group, Washington County, Vermont, 1983

| Species                    | Diameter group (inches at breast height) |              |               |     | All groups |
|----------------------------|------------------------------------------|--------------|---------------|-----|------------|
|                            | 1.0-<br>4.9                              | 5.0-<br>10.9 | 11.0-<br>20.9 | 21+ |            |
|                            | ----- Thousand trees -----               |              |               |     |            |
| Balsam fir                 | 26,972                                   | 5,276        | 543           | 0   | 32,791     |
| Tamarack                   | 0                                        | 198          | 34            | 0   | 232        |
| White spruce               | 2,830                                    | 1,830        | 97            | 0   | 4,757      |
| Black spruce               | 0                                        | 0            | 0             | 0   | 0          |
| Red spruce                 | 13,517                                   | 9,437        | 1,019         | 0   | 23,973     |
| Red pine                   | 0                                        | 0            | 0             | 0   | 0          |
| White pine                 | 1,501                                    | 1,380        | 878           | 0   | 3,759      |
| Northern white-cedar       | 10,512                                   | 871          | 95            | 0   | 11,478     |
| Hemlock                    | 6,027                                    | 2,952        | 717           | 0   | 9,696      |
| Other softwoods            | 0                                        | 17           | 0             | 0   | 17         |
| Total softwoods            | 61,359                                   | 21,961       | 3,383         | 0   | 86,703     |
| Sugar maple                | 25,546                                   | 10,764       | 1,824         | 97  | 38,231     |
| Soft maples                | 13,463                                   | 4,910        | 830           | 4   | 19,207     |
| Yellow birch               | 4,508                                    | 4,092        | 1,068         | 111 | 9,779      |
| Paper birch                | 11,990                                   | 10,844       | 1,048         | 32  | 23,914     |
| Gray birch                 | 1,506                                    | 444          | 0             | 0   | 1,950      |
| Beech                      | 10,468                                   | 2,126        | 619           | 33  | 13,246     |
| White ash                  | 1,501                                    | 1,097        | 420           | 5   | 3,023      |
| Black ash                  | 0                                        | 427          | 180           | 0   | 607        |
| Aspen                      | 0                                        | 493          | 830           | 17  | 1,340      |
| White oaks                 | 0                                        | 0            | 0             | 0   | 0          |
| Red oaks                   | 0                                        | 281          | 69            | 0   | 350        |
| Basswood                   | 0                                        | 0            | 0             | 0   | 0          |
| Elm                        | 0                                        | 68           | 17            | 8   | 93         |
| Other commercial hardwoods | 1,490                                    | 3,371        | 314           | 50  | 5,225      |
| Noncommercial hardwoods    | 10,494                                   | 655          | 0             | 0   | 11,149     |
| Total hardwoods            | 80,966                                   | 39,572       | 7,219         | 357 | 128,114    |
| Total, all species         | 142,325                                  | 61,533       | 10,602        | 357 | 214,817    |

Table 42.--Continued

| Species                    | Diameter group (inches at breast height) |              |               |         | All groups |
|----------------------------|------------------------------------------|--------------|---------------|---------|------------|
|                            | 1.0-<br>4.9                              | 5.0-<br>10.9 | 11.0-<br>20.9 | 21+     |            |
|                            | ----- Thousand green tons -----          |              |               |         |            |
| Balsam fir                 | 776.3                                    | 1,267.0      | 404.7         | .0      | 2,448.0    |
| Tamarack                   | .0                                       | 62.5         | 29.0          | .0      | 91.5       |
| White spruce               | 21.3                                     | 544.5        | 91.5          | .0      | 657.3      |
| Black spruce               | .0                                       | .0           | .0            | .0      | .0         |
| Red spruce                 | 406.9                                    | 2,614.4      | 1,038.3       | .0      | 4,059.6    |
| Red pine                   | .0                                       | .0           | .0            | .0      | .0         |
| White pine                 | 43.7                                     | 428.4        | 1,077.7       | .0      | 1,549.8    |
| Northern white-cedar       | 172.5                                    | 135.9        | 30.6          | .0      | 339.0      |
| Hemlock                    | 224.5                                    | 728.2        | 697.3         | .0      | 1,650.0    |
| Other softwoods            | .0                                       | 7.6          | .0            | .0      | 7.6        |
| Total softwoods            | 1,645.2                                  | 5,788.5      | 3,369.1       | .0      | 10,802.8   |
| Sugar maple                | 523.8                                    | 3,177.8      | 2,143.5       | 615.4   | 6,460.5    |
| Soft maples                | 426.4                                    | 1,536.3      | 784.1         | 61.5    | 2,808.3    |
| Yellow birch               | 165.3                                    | 1,289.8      | 1,129.5       | 415.2   | 2,999.8    |
| Paper birch                | 393.1                                    | 3,149.5      | 1,310.0       | 153.5   | 5,006.1    |
| Gray birch                 | 123.3                                    | 99.7         | .0            | .0      | 223.0      |
| Beech                      | 461.7                                    | 571.9        | 944.3         | 131.8   | 2,109.7    |
| White ash                  | 7.6                                      | 253.6        | 475.1         | 36.9    | 773.2      |
| Black ash                  | .0                                       | 107.7        | 189.6         | .0      | 297.3      |
| Aspen                      | .0                                       | 199.4        | 1,024.4       | 56.9    | 1,280.7    |
| White oaks                 | .0                                       | .0           | .0            | .0      | .0         |
| Red oaks                   | .0                                       | 96.5         | 64.3          | .0      | 160.8      |
| Basswood                   | .0                                       | .0           | .0            | .0      | .0         |
| Elm                        | .0                                       | 7.9          | 21.6          | 52.2    | 81.7       |
| Other commercial hardwoods | 49.0                                     | 707.0        | 359.6         | 238.0   | 1,353.6    |
| Noncommercial hardwoods    | 183.3                                    | 108.9        | .0            | .0      | 292.2      |
| Total hardwoods            | 2,333.5                                  | 11,306.0     | 8,446.0       | 1,761.4 | 23,846.9   |
| Total, all species         | 3,978.7                                  | 17,094.5     | 11,815.1      | 1,761.4 | 34,649.7   |

Table 43.--Number of trees and net aboveground tree biomass of all live trees on timberland, by species and diameter group, Windham County, Vermont, 1983

| Species                    | Diameter group (inches at breast height) |              |               |       | All groups |
|----------------------------|------------------------------------------|--------------|---------------|-------|------------|
|                            | 1.0-<br>4.9                              | 5.0-<br>10.9 | 11.0-<br>20.9 | 21+   |            |
|                            | ----- Thousand trees -----               |              |               |       |            |
| Balsam fir                 | 7,322                                    | 1,186        | 42            | 0     | 8,550      |
| Tamarack                   | 0                                        | 0            | 0             | 0     | 0          |
| White spruce               | 0                                        | 0            | 0             | 0     | 0          |
| Black spruce               | 0                                        | 0            | 0             | 0     | 0          |
| Red spruce                 | 7,259                                    | 4,768        | 903           | 29    | 12,959     |
| Red pine                   | 0                                        | 360          | 412           | 17    | 789        |
| White pine                 | 4,339                                    | 6,086        | 1,865         | 418   | 12,708     |
| Northern white-cedar       | 0                                        | 0            | 0             | 0     | 0          |
| Hemlock                    | 2,896                                    | 8,269        | 2,641         | 50    | 13,856     |
| Other softwoods            | 0                                        | 0            | 0             | 0     | 0          |
| Total softwoods            | 21,816                                   | 20,669       | 5,863         | 514   | 48,862     |
| Sugar maple                | 16,011                                   | 5,750        | 2,395         | 239   | 24,395     |
| Soft maples                | 8,701                                    | 11,680       | 2,873         | 82    | 23,336     |
| Yellow birch               | 4,339                                    | 3,058        | 619           | 97    | 8,113      |
| Paper birch                | 10,180                                   | 4,094        | 848           | 0     | 15,122     |
| Gray birch                 | 2,909                                    | 261          | 0             | 0     | 3,170      |
| Beech                      | 11,586                                   | 4,957        | 1,693         | 30    | 18,266     |
| White ash                  | 0                                        | 1,418        | 631           | 0     | 2,049      |
| Black ash                  | 0                                        | 0            | 0             | 0     | 0          |
| Aspen                      | 0                                        | 802          | 132           | 15    | 949        |
| White oaks                 | 0                                        | 0            | 17            | 0     | 17         |
| Red oaks                   | 0                                        | 1,450        | 1,798         | 125   | 3,373      |
| Basswood                   | 0                                        | 33           | 0             | 0     | 33         |
| Elm                        | 1,454                                    | 0            | 36            | 0     | 1,490      |
| Other commercial hardwoods | 8,629                                    | 4,132        | 1,114         | 0     | 13,875     |
| Noncommercial hardwoods    | 7,087                                    | 1,282        | 94            | 0     | 8,463      |
| Total hardwoods            | 70,896                                   | 38,917       | 12,250        | 588   | 122,651    |
| Total, all species         | 92,712                                   | 59,586       | 18,113        | 1,102 | 171,513    |

Table 43.--Continued

| Species                                | Diameter group (inches at breast height) |              |               |         | All groups |
|----------------------------------------|------------------------------------------|--------------|---------------|---------|------------|
|                                        | 1.0-<br>4.9                              | 5.0-<br>10.9 | 11.0-<br>20.9 | 21+     |            |
| ----- <u>Thousand green tons</u> ----- |                                          |              |               |         |            |
| Balsam fir                             | 202.3                                    | 271.4        | 39.3          | .0      | 513.0      |
| Tamarack                               | .0                                       | .0           | .0            | .0      | .0         |
| White spruce                           | .0                                       | .0           | .0            | .0      | .0         |
| Black spruce                           | .0                                       | .0           | .0            | .0      | .0         |
| Red spruce                             | 95.0                                     | 1,229.4      | 778.1         | 71.3    | 2,173.8    |
| Red pine                               | .0                                       | 65.9         | 659.4         | 103.8   | 829.1      |
| White pine                             | 65.1                                     | 1,447.4      | 2,429.9       | 2,116.1 | 6,058.5    |
| Northern white-cedar                   | .0                                       | .0           | .0            | .0      | .0         |
| Hemlock                                | 82.0                                     | 1,869.2      | 2,405.6       | 137.0   | 4,493.8    |
| Other softwoods                        | .0                                       | .0           | .0            | .0      | .0         |
| Total softwoods                        | 444.4                                    | 4,883.3      | 6,312.3       | 2,428.2 | 14,068.2   |
| Sugar maple                            | 430.6                                    | 1,934.4      | 2,452.3       | 905.2   | 5,722.5    |
| Soft maples                            | 143.9                                    | 3,217.4      | 2,732.3       | 263.1   | 6,356.7    |
| Yellow birch                           | 51.1                                     | 1,039.2      | 697.7         | 259.7   | 2,047.7    |
| Paper birch                            | 140.2                                    | 1,566.7      | 966.0         | .0      | 2,672.9    |
| Gray birch                             | 36.2                                     | 37.4         | .0            | .0      | 73.6       |
| Beech                                  | 290.1                                    | 1,495.2      | 1,776.4       | 73.2    | 3,634.9    |
| White ash                              | .0                                       | 395.6        | 655.5         | .0      | 1,051.1    |
| Black ash                              | .0                                       | .0           | .0            | .0      | .0         |
| Aspen                                  | .0                                       | 265.1        | 208.9         | 49.1    | 523.1      |
| White oaks                             | .0                                       | .0           | 11.9          | .0      | 11.9       |
| Red oaks                               | .0                                       | 503.8        | 2,261.7       | 515.2   | 3,280.7    |
| Basswood                               | .0                                       | 8.5          | .0            | .0      | 8.5        |
| Elm                                    | 138.2                                    | .0           | 45.6          | .0      | 183.8      |
| Other commercial hardwoods             | 181.2                                    | 1,137.8      | 1,262.4       | .0      | 2,581.4    |
| Noncommercial hardwoods                | 210.3                                    | 196.4        | 117.2         | .0      | 523.9      |
| Total hardwoods                        | 1,621.8                                  | 11,797.5     | 13,187.9      | 2,065.5 | 28,672.7   |
| Total, all species                     | 2,066.2                                  | 16,680.8     | 19,500.2      | 4,493.7 | 42,740.9   |

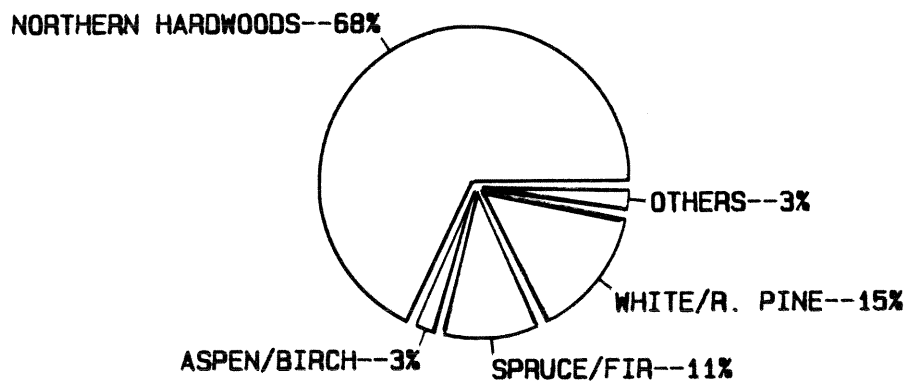
Table 44.--Number of trees and net aboveground tree biomass of all live trees on timberland, by species and diameter group, Windsor County, Vermont, 1983

| Species                           | Diameter group (inches at breast height) |              |               |     | All groups |
|-----------------------------------|------------------------------------------|--------------|---------------|-----|------------|
|                                   | 1.0-<br>4.9                              | 5.0-<br>10.9 | 11.0-<br>20.9 | 21+ |            |
| ----- <u>Thousand trees</u> ----- |                                          |              |               |     |            |
| Balsam fir                        | 0                                        | 368          | 116           | 0   | 484        |
| Tamarack                          | 0                                        | 0            | 50            | 0   | 50         |
| White spruce                      | 0                                        | 0            | 0             | 0   | 0          |
| Black spruce                      | 0                                        | 0            | 0             | 0   | 0          |
| Red spruce                        | 8,489                                    | 5,664        | 1,381         | 16  | 15,550     |
| Red pine                          | 0                                        | 0            | 0             | 0   | 0          |
| White pine                        | 11,928                                   | 8,292        | 2,964         | 162 | 23,346     |
| Northern white-cedar              | 0                                        | 0            | 0             | 0   | 0          |
| Hemlock                           | 7,045                                    | 4,140        | 2,557         | 25  | 13,767     |
| Other softwoods                   | 0                                        | 0            | 0             | 0   | 0          |
| Total softwoods                   | 27,462                                   | 18,464       | 7,068         | 203 | 53,197     |
| Sugar maple                       | 38,185                                   | 17,035       | 6,163         | 367 | 61,750     |
| Soft maples                       | 9,848                                    | 7,002        | 1,034         | 23  | 17,907     |
| Yellow birch                      | 1,404                                    | 2,864        | 930           | 98  | 5,296      |
| Paper birch                       | 1,370                                    | 10,021       | 1,346         | 16  | 12,753     |
| Gray birch                        | 0                                        | 258          | 0             | 0   | 258        |
| Beech                             | 21,141                                   | 6,956        | 2,133         | 108 | 30,338     |
| White ash                         | 3,552                                    | 2,918        | 1,230         | 29  | 7,729      |
| Black ash                         | 0                                        | 0            | 16            | 0   | 16         |
| Aspen                             | 2,788                                    | 1,146        | 320           | 16  | 4,270      |
| White oaks                        | 0                                        | 127          | 52            | 0   | 179        |
| Red oaks                          | 0                                        | 1,439        | 470           | 65  | 1,974      |
| Basswood                          | 0                                        | 212          | 76            | 14  | 302        |
| Elm                               | 2,740                                    | 157          | 116           | 0   | 3,013      |
| Other commercial hardwoods        | 1,417                                    | 2,490        | 435           | 14  | 4,356      |
| Noncommercial hardwoods           | 11,297                                   | 4,583        | 16            | 0   | 15,896     |
| Total hardwoods                   | 93,742                                   | 57,208       | 14,337        | 750 | 166,037    |
| Total, all species                | 121,204                                  | 75,672       | 21,405        | 953 | 219,234    |

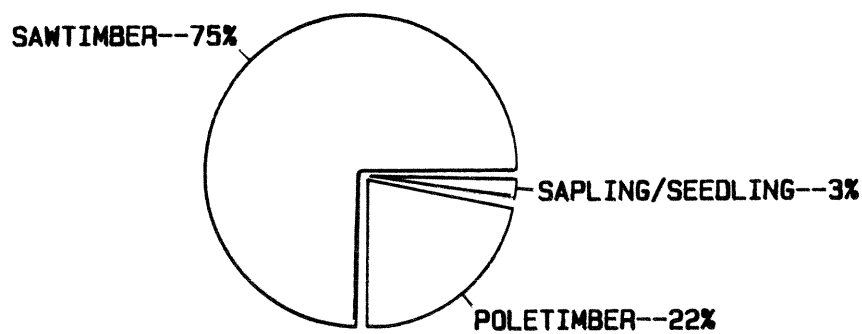
Table 44.--Continued

| Species                    | Diameter group (inches at breast height) |              |               |         | All groups |
|----------------------------|------------------------------------------|--------------|---------------|---------|------------|
|                            | 1.0-<br>4.9                              | 5.0-<br>10.9 | 11.0-<br>20.9 | 21+     |            |
|                            | ----- Thousand green tons -----          |              |               |         |            |
| Balsam fir                 | .0                                       | 74.5         | 77.5          | .0      | 152.0      |
| Tamarack                   | .0                                       | .0           | 29.3          | .0      | 29.3       |
| White spruce               | .0                                       | .0           | .0            | .0      | .0         |
| Black spruce               | .0                                       | .0           | .0            | .0      | .0         |
| Red spruce                 | 112.7                                    | 1,466.0      | 1,173.6       | 57.5    | 2,809.8    |
| Red pine                   | .0                                       | .0           | .0            | .0      | .0         |
| White pine                 | 469.8                                    | 2,022.5      | 3,141.2       | 717.5   | 6,351.0    |
| Northern white-cedar       | .0                                       | .0           | .0            | .0      | .0         |
| Hemlock                    | 145.0                                    | 1,149.3      | 2,306.3       | 57.5    | 3,658.1    |
| Other softwoods            | .0                                       | .0           | .0            | .0      | .0         |
| Total softwoods            | 727.5                                    | 4,712.3      | 6,727.9       | 832.5   | 13,000.2   |
| Sugar maple                | 1,087.5                                  | 4,509.0      | 5,767.9       | 1,204.4 | 12,568.8   |
| Soft maples                | 303.8                                    | 1,499.0      | 950.4         | 66.4    | 2,819.6    |
| Yellow birch               | 73.0                                     | 848.0        | 887.4         | 222.9   | 2,031.3    |
| Paper birch                | 97.6                                     | 3,214.6      | 1,461.0       | 39.1    | 4,812.3    |
| Gray birch                 | .0                                       | 37.1         | .0            | .0      | 37.1       |
| Beech                      | 470.5                                    | 1,760.0      | 1,840.7       | 240.6   | 4,311.8    |
| White ash                  | 202.2                                    | 847.6        | 1,171.7       | 120.6   | 2,342.1    |
| Black ash                  | .0                                       | .0           | 12.8          | .0      | 12.8       |
| Aspen                      | 107.6                                    | 270.1        | 354.1         | 10.1    | 741.9      |
| White oaks                 | .0                                       | 32.9         | 37.0          | .0      | 69.9       |
| Red oaks                   | .0                                       | 459.3        | 431.4         | 118.2   | 1,008.9    |
| Basswood                   | .0                                       | 64.5         | 63.1          | 22.3    | 149.9      |
| Elm                        | 18.3                                     | 60.2         | 117.3         | .0      | 195.8      |
| Other commercial hardwoods | 98.7                                     | 759.5        | 389.0         | 20.4    | 1,267.6    |
| Noncommercial hardwoods    | 253.4                                    | 752.6        | 1.7           | .0      | 1,007.7    |
| Total hardwoods            | 2,712.6                                  | 15,114.4     | 13,485.5      | 2,065.0 | 33,377.5   |
| Total, all species         | 3,440.1                                  | 19,826.7     | 20,213.4      | 2,897.5 | 46,377.7   |

## ABOVEGROUND BIOMASS of CULL and SALVABLE DEAD TREES



### FOREST-TYPE GROUP



### STANDSIZE CLASS

Table 45.--Net aboveground tree biomass of cull and salvable dead trees (5.0+ inches d.b.h.) on timberland, by forest-type group and stand-size class, Vermont, 1983

| Forest-type group        | Stand-size class                             |            |                      |            | All classes | Sampling error <sup>a</sup> |
|--------------------------|----------------------------------------------|------------|----------------------|------------|-------------|-----------------------------|
|                          | Sawtimber                                    | Poletimber | Sapling and seedling | Nonstocked |             |                             |
|                          | ----- Thousand green tons -----              |            |                      |            |             | Percent                     |
| White/red pine           | 10,200.3                                     | 1,223.3*   | 458.8*               | .0         | 11,882.4    | 15                          |
| Spruce/fir               | 6,187.7                                      | 1,907.1    | 590.9*               | .0         | 8,685.7     | 14                          |
| Oak/pine                 | 33.1**                                       | 83.6**     | .0                   | .0         | 116.7       | 77                          |
| Oak/hickory              | 802.4*                                       | 550.6*     | 108.6**              | 23.7**     | 1,485.3     | 29                          |
| Elm/ash/red maple        | 466.9*                                       | 264.7**    | 95.9**               | .0         | 827.5       | 32                          |
| Northern hardwoods       | 41,625.5                                     | 11,560.5   | 1,334.5*             | .0         | 54,520.5    | 5                           |
| Aspen/birch              | 420.8**                                      | 1,890.9*   | .0                   | .0         | 2,311.7     | 26                          |
| Total, all groups        | 59,736.7                                     | 17,480.7   | 2,588.7              | 23.7       | 79,829.8    | 3.1                         |
| Sampling error (percent) | 5                                            | 9          | 17                   | 100        | 3.1         |                             |
|                          | ----- Thousand acres -----                   |            |                      |            |             | Percent                     |
| White/red pine           | 522.0                                        | 65.3*      | 44.0*                | .0         | 631.3       | 10                          |
| Spruce/fir               | 358.4                                        | 153.5      | 121.7                | .0         | 633.6       | 9                           |
| Oak/pine                 | 6.7**                                        | 6.8**      | .0                   | .0         | 13.5        | 71                          |
| Oak/hickory              | 80.7*                                        | 45.4*      | 31.9*                | 6.4**      | 164.4       | 20                          |
| Elm/ash/red maple        | 43.6*                                        | 28.3*      | 27.1*                | .0         | 99.0        | 26                          |
| Northern hardwoods       | 1,832.3                                      | 624.6      | 235.0                | 5.6**      | 2,697.5     | 3                           |
| Aspen/birch              | 44.1*                                        | 124.6      | 14.1**               | .0         | 182.8       | 20                          |
| Total, all groups        | 2,887.8                                      | 1,048.5    | 473.8                | 12.0       | 4,422.1     | .7                          |
| Sampling error (percent) | 3                                            | 7          | 10                   | 71         | .7          |                             |
|                          | ----- Green tons per acre <sup>b</sup> ----- |            |                      |            |             |                             |
| White/red pine           | 19.5                                         | 18.7       | 10.4                 | .0         | 18.8        |                             |
| Spruce/fir               | 17.3                                         | 12.4       | 4.9                  | .0         | 13.7        |                             |
| Oak/pine                 | 4.9                                          | 12.3       | .0                   | .0         | 8.6         |                             |
| Oak/hickory              | 9.9                                          | 12.1       | 3.4                  | 3.7        | 9.0         |                             |
| Elm/ash/red maple        | 10.7                                         | 9.4        | 3.5                  | .0         | 8.4         |                             |
| Northern hardwoods       | 22.7                                         | 18.5       | 5.7                  | .0         | 20.2        |                             |
| Aspen/birch              | 9.5                                          | 15.2       | .0                   | .0         | 12.6        |                             |
| All groups               | 20.7                                         | 16.7       | 5.5                  | 2.0        | 18.1        |                             |

<sup>a</sup>Sampling errors are expressed as a percent of the total and are included only for row and column totals. A single asterisk (\*) by a cell value indicates that the estimate has an associated sampling error between 25 and 50 percent; a double asterisk (\*\*) indicates that the estimate has an associated sampling error greater than 50 percent, and therefore is not significantly different from zero.

<sup>b</sup>Per acre estimates are based on the timberland area in each forest-type group and stand-size class.

Table 46.--Net aboveground tree biomass of cull and salvable dead trees (5.0+ inches d.b.h.) on timberland, by forest-type group and stand-size class, Addison County, Vermont, 1983

| Forest-type group        | Stand-size class                             |            |                      |            | All classes | Sampling error <sup>a</sup> |
|--------------------------|----------------------------------------------|------------|----------------------|------------|-------------|-----------------------------|
|                          | Sawtimber                                    | Poletimber | Sapling and seedling | Nonstocked |             |                             |
|                          | ----- Thousand green tons -----              |            |                      |            |             | Percent                     |
| White/red pine           | 189.5**                                      | 106.7**    | .0                   | .0         | 296.2       | 65                          |
| Spruce/fir               | .0                                           | 31.4**     | .0                   | .0         | 31.4        | 100                         |
| Oak/pine                 | .0                                           | .0         | .0                   | .0         | .0          | -                           |
| Oak/hickory              | 91.7**                                       | .0         | 28.6**               | .0         | 120.3       | 70                          |
| Elm/ash/red maple        | 138.0**                                      | .0         | .0                   | .0         | 138.0       | 100                         |
| Northern hardwoods       | 1,425.9*                                     | 545.3*     | 38.4**               | .0         | 2,009.6     | 20                          |
| Aspen/birch              | 142.9**                                      | 76.2**     | .0                   | .0         | 219.1       | 74                          |
| Total, all groups        | 1,988.0                                      | 759.6      | 67.0                 | .0         | 2,814.6     | 13.0                        |
| Sampling error (percent) | 20                                           | 35         | 60                   | -          | 13.0        |                             |
|                          | ----- Thousand acres -----                   |            |                      |            |             | Percent                     |
| White/red pine           | 22.9**                                       | 7.8**      | .0                   | .0         | 30.7        | 49                          |
| Spruce/fir               | .0                                           | 7.7**      | .0                   | .0         | 7.7         | 100                         |
| Oak/pine                 | .0                                           | .0         | .0                   | .0         | .0          | -                           |
| Oak/hickory              | 16.2**                                       | .0         | 11.6**               | .0         | 27.8        | 51                          |
| Elm/ash/red maple        | 8.5**                                        | .0         | .0                   | .0         | 8.5         | 100                         |
| Northern hardwoods       | 124.1                                        | 51.3*      | 13.7**               | 5.6**      | 194.7       | 12                          |
| Aspen/birch              | 7.7**                                        | 8.5**      | .0                   | .0         | 16.2        | 71                          |
| Total, all groups        | 179.4                                        | 75.3       | 25.3                 | 5.6        | 285.6       | 2.2                         |
| Sampling error (percent) | 12                                           | 27         | 48                   | 100        | 2.2         |                             |
|                          | ----- Green tons per acre <sup>b</sup> ----- |            |                      |            |             |                             |
| White/red pine           | 8.3                                          | 8.7        | .0                   | .0         | 8.4         |                             |
| Spruce/fir               | .0                                           | 3.3        | .0                   | .0         | 3.3         |                             |
| Oak/pine                 | .0                                           | .0         | .0                   | .0         | .0          |                             |
| Oak/hickory              | 5.7                                          | .0         | 2.5                  | .0         | 4.3         |                             |
| Elm/ash/red maple        | 16.2                                         | .0         | .0                   | .0         | 16.2        |                             |
| Northern hardwoods       | 9.3                                          | 10.0       | 2.1                  | .0         | 8.7         |                             |
| Aspen/birch              | 18.6                                         | 9.0        | .0                   | .0         | 13.5        |                             |
| All groups               | 9.6                                          | 9.1        | 2.3                  | .0         | 8.6         |                             |

<sup>a</sup>Sampling errors are expressed as a percent of the total and are included only for row and column totals. A single asterisk (\*) by a cell value indicates that the estimate has an associated sampling error between 25 and 50 percent; a double asterisk (\*\*) indicates that the estimate has an associated sampling error greater than 50 percent, and therefore is not significantly different from zero.

<sup>b</sup>Per acre estimates are based on the timberland area in each forest-type group and stand-size class.

Table 47.--Net aboveground tree biomass of cull and salvable dead trees (5.0+ inches d.b.h.) on timberland, by forest-type group and stand-size class, Bennington County, Vermont, 1983

| Forest-type group        | Stand-size class                             |            |                      |            | All classes | Sampling error <sup>a</sup> |
|--------------------------|----------------------------------------------|------------|----------------------|------------|-------------|-----------------------------|
|                          | Sawtimber                                    | Poletimber | Sapling and seedling | Nonstocked |             |                             |
|                          | ----- Thousand green tons -----              |            |                      |            |             | Percent                     |
| White/red pine           | .0                                           | .0         | 9.3**                | .0         | 9.3         | 100                         |
| Spruce/fir               | .0                                           | .0         | .0                   | .0         | .0          | -                           |
| Oak/pine                 | .0                                           | .0         | .0                   | .0         | .0          | -                           |
| Oak/hickory              | 93.6**                                       | .0         | 27.3**               | .0         | 120.9       | 64                          |
| Elm/ash/red maple        | .0                                           | .0         | .0                   | .0         | .0          | -                           |
| Northern hardwoods       | 4,297.1                                      | 1,155.6*   | 142.7**              | .0         | 5,595.4     | 12                          |
| Aspen/birch              | .0                                           | .0         | .0                   | .0         | .0          | -                           |
| Total, all groups        | 4,390.7                                      | 1,155.6    | 179.3                | .0         | 5,725.6     | 11.2                        |
| Sampling error (percent) | 15                                           | 48         | 53                   | -          | 11.2        |                             |
|                          | ----- Thousand acres -----                   |            |                      |            |             | Percent                     |
| White/red pine           | .0                                           | .0         | 6.5**                | .0         | 6.5         | 100                         |
| Spruce/fir               | .0                                           | .0         | .0                   | .0         | .0          | -                           |
| Oak/pine                 | .0                                           | .0         | .0                   | .0         | .0          | -                           |
| Oak/hickory              | 14.2**                                       | .0         | 6.4**                | .0         | 20.6        | 58                          |
| Elm/ash/red maple        | .0                                           | .0         | .0                   | .0         | .0          | -                           |
| Northern hardwoods       | 251.2                                        | 56.6*      | 19.9**               | .0         | 327.7       | 4                           |
| Aspen/birch              | .0                                           | .0         | .0                   | .0         | .0          | -                           |
| Total, all groups        | 265.4                                        | 56.6       | 32.8                 | .0         | 354.8       | 1.8                         |
| Sampling error (percent) | 8                                            | 33         | 38                   | -          | 1.8         |                             |
|                          | ----- Green tons per acre <sup>b</sup> ----- |            |                      |            |             |                             |
| White/red pine           | .0                                           | .0         | 1.4                  | .0         | 1.4         |                             |
| Spruce/fir               | .0                                           | .0         | .0                   | .0         | .0          |                             |
| Oak/pine                 | .0                                           | .0         | .0                   | .0         | .0          |                             |
| Oak/hickory              | 6.6                                          | .0         | 4.3                  | .0         | 5.9         |                             |
| Elm/ash/red maple        | .0                                           | .0         | .0                   | .0         | .0          |                             |
| Northern hardwoods       | 17.1                                         | 20.4       | 7.2                  | .0         | 17.1        |                             |
| Aspen/birch              | .0                                           | .0         | .0                   | .0         | .0          |                             |
| All groups               | 16.5                                         | 20.4       | 5.5                  | .0         | 16.1        |                             |

<sup>a</sup>Sampling errors are expressed as a percent of the total and are included only for row and column totals. A single asterisk (\*) by a cell value indicates that the estimate has an associated sampling error between 25 and 50 percent; a double asterisk (\*\*) indicates that the estimate has an associated sampling error greater than 50 percent, and therefore is not significantly different from zero.

<sup>b</sup>Per acre estimates are based on the timberland area in each forest-type group and stand-size class.

Table 48.--Net aboveground tree biomass of cull and salvable dead trees (5.0+ inches d.b.h.) on timberland, by forest-type group and stand-size class, Caledonia County, Vermont, 1983

| Forest-type group        | Stand-size class                 |            |                      |            | All classes | Sampling error <sup>a</sup> |
|--------------------------|----------------------------------|------------|----------------------|------------|-------------|-----------------------------|
|                          | Sawtimber                        | Poletimber | Sapling and seedling | Nonstocked |             |                             |
|                          | Thousand green tons              |            |                      |            |             | Percent                     |
| White/red pine           | 393.7**                          | 29.4**     | .0                   | .0         | 423.1       | 48                          |
| Spruce/fir               | 287.8*                           | 259.1*     | 2.0**                | .0         | 548.9       | 32                          |
| Oak/pine                 | .0                               | .0         | .0                   | .0         | .0          | -                           |
| Oak/hickory              | .0                               | .0         | .0                   | .0         | .0          | -                           |
| Elm/ash/red maple        | .0                               | .0         | .0                   | .0         | .0          | -                           |
| Northern hardwoods       | 1,364.8*                         | 820.1*     | 144.0**              | .0         | 2,328.9     | 20                          |
| Aspen/birch              | .0                               | 165.3**    | .0                   | .0         | 165.3       | 100                         |
| Total, all groups        | 2,046.3                          | 1,273.9    | 146.0                | .0         | 3,466.2     | 11.0                        |
| Sampling error (percent) | 21                               | 27         | 96                   | -          | 11.0        |                             |
|                          | Thousand acres                   |            |                      |            |             | Percent                     |
| White/red pine           | 44.2*                            | 7.3**      | .0                   | .0         | 51.5        | 35                          |
| Spruce/fir               | 44.1*                            | 28.2*      | 14.6**               | .0         | 86.9        | 24                          |
| Oak/pine                 | .0                               | .0         | .0                   | .0         | .0          | -                           |
| Oak/hickory              | .0                               | .0         | .0                   | .0         | .0          | -                           |
| Elm/ash/red maple        | .0                               | .0         | .0                   | .0         | .0          | -                           |
| Northern hardwoods       | 66.8*                            | 52.0*      | 20.2**               | .0         | 139.0       | 17                          |
| Aspen/birch              | .0                               | 7.6**      | 7.3**                | .0         | 14.9        | 71                          |
| Total, all groups        | 155.1                            | 95.1       | 42.1                 | .0         | 292.3       | 3.8                         |
| Sampling error (percent) | 15                               | 24         | 39                   | -          | 3.8         |                             |
|                          | Green tons per acre <sup>b</sup> |            |                      |            |             |                             |
| White/red pine           | 8.9                              | 4.0        | .0                   | .0         | 8.2         |                             |
| Spruce/fir               | 6.5                              | 9.2        | .1                   | .0         | 6.3         |                             |
| Oak/pine                 | .0                               | .0         | .0                   | .0         | .0          |                             |
| Oak/hickory              | .0                               | .0         | .0                   | .0         | .0          |                             |
| Elm/ash/red maple        | .0                               | .0         | .0                   | .0         | .0          |                             |
| Northern hardwoods       | 20.4                             | 15.8       | 7.1                  | .0         | 16.8        |                             |
| Aspen/birch              | .0                               | 21.8       | .0                   | .0         | 11.1        |                             |
| All groups               | 13.2                             | 13.4       | 3.5                  | .0         | 11.9        |                             |

<sup>a</sup>Sampling errors are expressed as a percent of the total and are included only for row and column totals. A single asterisk (\*) by a cell value indicates that the estimate has an associated sampling error between 25 and 50 percent; a double asterisk (\*\*) indicates that the estimate has an associated sampling error greater than 50 percent, and therefore is not significantly different from zero.

<sup>b</sup>Per acre estimates are based on the timberland area in each forest-type group and stand-size class.

Table 49.--Net aboveground tree biomass of cull and salvable dead trees (5.0+ inches d.b.h.) on timberland, by forest-type group and stand-size class, Chittenden County, Vermont, 1983

| Forest-type group        | Stand-size class                 |            |                      |            | All classes | Sampling error <sup>a</sup> |
|--------------------------|----------------------------------|------------|----------------------|------------|-------------|-----------------------------|
|                          | Sawtimber                        | Poletimber | Sapling and seedling | Nonstocked |             |                             |
|                          |                                  |            |                      |            |             |                             |
|                          | Thousand green tons              |            |                      |            | Percent     |                             |
| White/red pine           | 403.3**                          | .0         | 57.8**               | .0         | 461.1       | 51                          |
| Spruce/fir               | .0                               | .0         | .0                   | .0         | .0          | -                           |
| Oak/pine                 | .0                               | .0         | .0                   | .0         | .0          | -                           |
| Oak/hickory              | .0                               | .0         | 52.7**               | 23.7**     | 76.4        | 76                          |
| Elm/ash/red maple        | 116.3**                          | .0         | .0                   | .0         | 116.3       | 69                          |
| Northern hardwoods       | 2,075.7                          | 91.4**     | 291.5*               | .0         | 2,458.6     | 16                          |
| Aspen/birch              | .0                               | 67.6**     | .0                   | .0         | 67.6        | 83                          |
| Total, all groups        | 2,595.3                          | 159.0      | 402.0                | 23.7       | 3,180.0     | 10.3                        |
| Sampling error (percent) | 15                               | 67         | 27                   | 100        | 10.3        |                             |
|                          | Thousand acres                   |            |                      |            | Percent     |                             |
| White/red pine           | 20.7**                           | .0         | 7.2**                | .0         | 27.9        | 49                          |
| Spruce/fir               | .0                               | .0         | .0                   | .0         | .0          | -                           |
| Oak/pine                 | .0                               | .0         | .0                   | .0         | .0          | -                           |
| Oak/hickory              | .0                               | .0         | 7.3**                | 6.4**      | 13.7        | 71                          |
| Elm/ash/red maple        | 13.5**                           | .0         | .0                   | .0         | 13.5        | 68                          |
| Northern hardwoods       | 91.1                             | 7.0**      | 48.2*                | .0         | 146.3       | 12                          |
| Aspen/birch              | .0                               | 13.5**     | .0                   | .0         | 13.5        | 68                          |
| Total, all groups        | 125.3                            | 20.5       | 62.7                 | 6.4        | 214.9       | 3.8                         |
| Sampling error (percent) | 12                               | 56         | 20                   | 100        | 3.8         |                             |
|                          | Green tons per acre <sup>b</sup> |            |                      |            |             |                             |
| White/red pine           | 19.5                             | .0         | 8.0                  | .0         | 16.5        |                             |
| Spruce/fir               | .0                               | .0         | .0                   | .0         | .0          |                             |
| Oak/pine                 | .0                               | .0         | .0                   | .0         | .0          |                             |
| Oak/hickory              | .0                               | .0         | 7.2                  | 3.7        | 5.6         |                             |
| Elm/ash/red maple        | 8.6                              | .0         | .0                   | .0         | 8.6         |                             |
| Northern hardwoods       | 22.8                             | 13.1       | 6.0                  | .0         | 16.8        |                             |
| Aspen/birch              | .0                               | 5.0        | .0                   | .0         | 5.0         |                             |
| All groups               | 20.7                             | 7.8        | 6.4                  | 3.7        | 14.8        |                             |

<sup>a</sup>Sampling errors are expressed as a percent of the total and are included only for row and column totals. A single asterisk (\*) by a cell value indicates that the estimate has an associated sampling error between 25 and 50 percent; a double asterisk (\*\*) indicates that the estimate has an associated sampling error greater than 50 percent, and therefore is not significantly different from zero.

<sup>b</sup>Per acre estimates are based on the timberland area in each forest-type group and stand-size class.

Table 50.--Net aboveground tree biomass of cull and salvable dead trees (5.0+ inches d.b.h.) on timberland, by forest-type group and stand-size class, Essex County, Vermont, 1983

| Forest-type group        | Stand-size class                 |            |                      |            | All classes | Sampling error <sup>a</sup> |
|--------------------------|----------------------------------|------------|----------------------|------------|-------------|-----------------------------|
|                          | Sawtimber                        | Poletimber | Sapling and seedling | Nonstocked |             |                             |
|                          | Thousand green tons              |            |                      |            |             | Percent                     |
| White/red pine           | .0                               | .0         | .0                   | .0         | .0          | -                           |
| Spruce/fir               | 1,210.9*                         | 472.9*     | 99.8**               | .0         | 1,783.6     | 32                          |
| Oak/pine                 | .0                               | .0         | .0                   | .0         | .0          | -                           |
| Oak/hickory              | .0                               | .0         | .0                   | .0         | .0          | -                           |
| Elm/ash/red maple        | 50.3**                           | .0         | .0                   | .0         | 50.3        | 100                         |
| Northern hardwoods       | 2,291.9*                         | 1,985.0*   | 264.7*               | .0         | 4,541.6     | 15                          |
| Aspen/birch              | .0                               | .0         | .0                   | .0         | .0          | -                           |
| Total, all groups        | 3,553.1                          | 2,457.9    | 364.5                | .0         | 6,375.5     | 10.2                        |
| Sampling error (percent) | 21                               | 22         | 33                   | -          | 10.2        |                             |
|                          | Thousand acres                   |            |                      |            |             | Percent                     |
| White/red pine           | .0                               | .0         | .0                   | .0         | .0          | -                           |
| Spruce/fir               | 44.2*                            | 51.5*      | 20.0**               | .0         | 115.7       | 22                          |
| Oak/pine                 | .0                               | .0         | .0                   | .0         | .0          | -                           |
| Oak/hickory              | .0                               | .0         | .0                   | .0         | .0          | -                           |
| Elm/ash/red maple        | 7.4**                            | .0         | .0                   | .0         | 7.4         | 100                         |
| Northern hardwoods       | 110.5                            | 110.6      | 49.5**               | .0         | 270.6       | 10                          |
| Aspen/birch              | .0                               | .0         | .0                   | .0         | .0          | -                           |
| Total, all groups        | 162.1                            | 162.1      | 69.5                 | .0         | 393.7       | 2.0                         |
| Sampling error (percent) | 16                               | 16         | 25                   | -          | 2.0         |                             |
|                          | Green tons per acre <sup>b</sup> |            |                      |            |             |                             |
| White/red pine           | .0                               | .0         | .0                   | .0         | .0          |                             |
| Spruce/fir               | 27.4                             | 9.2        | 5.0                  | .0         | 15.4        |                             |
| Oak/pine                 | .0                               | .0         | .0                   | .0         | .0          |                             |
| Oak/hickory              | .0                               | .0         | .0                   | .0         | .0          |                             |
| Elm/ash/red maple        | 6.8                              | .0         | .0                   | .0         | 6.8         |                             |
| Northern hardwoods       | 20.7                             | 17.9       | 5.3                  | .0         | 16.8        |                             |
| Aspen/birch              | .0                               | .0         | .0                   | .0         | .0          |                             |
| All groups               | 21.9                             | 15.2       | 5.2                  | .0         | 16.2        |                             |

<sup>a</sup>Sampling errors are expressed as a percent of the total and are included only for row and column totals. A single asterisk (\*) by a cell value indicates that the estimate has an associated sampling error between 25 and 50 percent; a double asterisk (\*\*) indicates that the estimate has an associated sampling error greater than 50 percent, and therefore is not significantly different from zero.

<sup>b</sup>Per acre estimates are based on the timberland area in each forest-type group and stand-size class.

Table 51.--Net aboveground tree biomass of cull and salvable dead trees (5.0+ inches d.b.h.) on timberland, by forest-type group and stand-size class, Franklin/Grand Isle Counties, Vermont, 1983

| Forest-type group        | Stand-size class                 |            |                      |            | All classes | Sampling error <sup>a</sup> |
|--------------------------|----------------------------------|------------|----------------------|------------|-------------|-----------------------------|
|                          | Sawtimber                        | Poletimber | Sapling and seedling | Nonstocked |             |                             |
|                          | Thousand green tons              |            |                      |            |             | Percent                     |
| White/red pine           | 914.6*                           | .0         | .0                   | .0         | 914.6       | 45                          |
| Spruce/fir               | 407.0**                          | 101.7      | .0                   | .0         | 508.7       | 80                          |
| Oak/pine                 | .0                               | .0         | .0                   | .0         | .0          | -                           |
| Oak/hickory              | .0                               | 9.2**      | .0                   | .0         | 9.2         | 100                         |
| Elm/ash/red maple        | .0                               | 226.8**    | 9.4**                | .0         | 236.2       | 65                          |
| Northern hardwoods       | 2,450.4*                         | 464.4*     | 37.7**               | .0         | 2,952.5     | 24                          |
| Aspen/birch              | .0                               | .0         | .0                   | .0         | .0          | -                           |
| Total, all groups        | 3,772.0                          | 802.1      | 47.1                 | .0         | 4,621.2     | 15.8                        |
| Sampling error (percent) | 21                               | 31         | 79                   | -          | 15.8        |                             |
|                          | Thousand acres                   |            |                      |            |             | Percent                     |
| White/red pine           | 67.7*                            | .0         | .0                   | .0         | 67.7        | 29                          |
| Spruce/fir               | 7.3**                            | 6.0        | 6.9**                | .0         | 20.2        | 50                          |
| Oak/pine                 | .0                               | .0         | .0                   | .0         | .0          | -                           |
| Oak/hickory              | .0                               | 2.9**      | .0                   | .0         | 2.9         | 100                         |
| Elm/ash/red maple        | .0                               | 21.3**     | 13.8**               | .0         | 35.1        | 42                          |
| Northern hardwoods       | 100.2                            | 38.2*      | 13.8**               | .0         | 152.2       | 15                          |
| Aspen/birch              | .0                               | .0         | .0                   | .0         | .0          | -                           |
| Total, all groups        | 175.2                            | 68.4       | 34.5                 | .0         | 278.1       | 3.4                         |
| Sampling error (percent) | 12                               | 29         | 28                   | -          | 3.4         |                             |
|                          | Green tons per acre <sup>b</sup> |            |                      |            |             |                             |
| White/red pine           | 13.5                             | .0         | .0                   | .0         | 13.5        |                             |
| Spruce/fir               | 55.8                             | 17.0       | .0                   | .0         | 25.2        |                             |
| Oak/pine                 | .0                               | .0         | .0                   | .0         | .0          |                             |
| Oak/hickory              | .0                               | 3.2        | .0                   | .0         | 3.2         |                             |
| Elm/ash/red maple        | .0                               | 10.6       | .7                   | .0         | 6.7         |                             |
| Northern hardwoods       | 24.5                             | 12.2       | 2.7                  | .0         | 19.4        |                             |
| Aspen/birch              | .0                               | .0         | .0                   | .0         | .0          |                             |
| All groups               | 21.5                             | 11.7       | 1.4                  | .0         | 16.6        |                             |

<sup>a</sup>Sampling errors are expressed as a percent of the total and are included only for row and column totals. A single asterisk (\*) by a cell value indicates that the estimate has an associated sampling error between 25 and 50 percent; a double asterisk (\*\*) indicates that the estimate has an associated sampling error greater than 50 percent, and therefore is not significantly different from zero.

<sup>b</sup>Per acre estimates are based on the timberland area in each forest-type group and stand-size class.

Table 52.--Net aboveground tree biomass of cull and salvable dead trees (5.0+ inches d.b.h.) on timberland, by forest-type group and stand-size class, Lamoille County, Vermont, 1983

| Forest-type group        | Stand-size class                 |            |                      |            | All classes | Sampling error <sup>a</sup> |
|--------------------------|----------------------------------|------------|----------------------|------------|-------------|-----------------------------|
|                          | Sawtimber                        | Poletimber | Sapling and seedling | Nonstocked |             |                             |
|                          | Thousand green tons              |            |                      |            |             | Percent                     |
| White/red pine           | 159.6**                          | .0         | .0                   | .0         | 159.6       | 100                         |
| Spruce/fir               | 265.4**                          | .0         | 73.3**               | .0         | 338.7       | 61                          |
| Oak/pine                 | .0                               | .0         | .0                   | .0         | .0          | -                           |
| Oak/hickory              | .0                               | .0         | .0                   | .0         | .0          | -                           |
| Elm/ash/red maple        | .0                               | .0         | .0                   | .0         | .0          | -                           |
| Northern hardwoods       | 4,105.3                          | 1,575.1*   | .0                   | .0         | 5,680.4     | 11                          |
| Aspen/birch              | .0                               | .0         | .0                   | .0         | .0          | -                           |
| Total, all groups        | 4,530.3                          | 1,575.1    | 73.3                 | .0         | 6,178.7     | 8.5                         |
| Sampling error (percent) | 15                               | 32         | 75                   | -          | 8.5         |                             |
|                          | Thousand acres                   |            |                      |            |             | Percent                     |
| White/red pine           | 7.2**                            | .0         | .0                   | .0         | 7.2         | 100                         |
| Spruce/fir               | 14.6**                           | .0         | 15.8**               | .0         | 30.4        | 43                          |
| Oak/pine                 | .0                               | .0         | .0                   | .0         | .0          | -                           |
| Oak/hickory              | .0                               | .0         | .0                   | .0         | .0          | -                           |
| Elm/ash/red maple        | .0                               | .0         | .0                   | .0         | .0          | -                           |
| Northern hardwoods       | 124.7                            | 65.3*      | 7.9**                | .0         | 197.9       | 8                           |
| Aspen/birch              | .0                               | .0         | .0                   | .0         | .0          | -                           |
| Total, all groups        | 146.5                            | 65.3       | 23.7                 | .0         | 235.5       | 1.7                         |
| Sampling error (percent) | 12                               | 27         | 12                   | -          | 1.7         |                             |
|                          | Green tons per acre <sup>b</sup> |            |                      |            |             |                             |
| White/red pine           | 22.2                             | .0         | .0                   | .0         | 22.2        |                             |
| Spruce/fir               | 18.2                             | .0         | 4.6                  | .0         | 11.1        |                             |
| Oak/pine                 | .0                               | .0         | .0                   | .0         | .0          |                             |
| Oak/hickory              | .0                               | .0         | .0                   | .0         | .0          |                             |
| Elm/ash/red maple        | .0                               | .0         | .0                   | .0         | .0          |                             |
| Northern hardwoods       | 32.9                             | 24.1       | .0                   | .0         | 28.7        |                             |
| Aspen/birch              | .0                               | .0         | .0                   | .0         | .0          |                             |
| All groups               | 30.9                             | 24.1       | 3.1                  | .0         | 26.2        |                             |

<sup>a</sup>Sampling errors are expressed as a percent of the total and are included only for row and column totals. A single asterisk (\*) by a cell value indicates that the estimate has an associated sampling error between 25 and 50 percent; a double asterisk (\*\*) indicates that the estimate has an associated sampling error greater than 50 percent, and therefore is not significantly different from zero.

<sup>b</sup>Per acre estimates are based on the timberland area in each forest-type group and stand-size class.

Table 53.--Net aboveground tree biomass of cull and salvable dead trees (5.0+ inches d.b.h.) on timberland, by forest-type group and stand-size class, Orange County, Vermont, 1983

| Forest-type group        | Stand-size class                 |            |                      |            | All classes | Sampling error <sup>a</sup> |
|--------------------------|----------------------------------|------------|----------------------|------------|-------------|-----------------------------|
|                          | Sawtimber                        | Poletimber | Sapling and seedling | Nonstocked |             |                             |
|                          | Thousand green tons              |            |                      |            |             | Percent                     |
| White/red pine           | 1,303.9                          | .0         | 143.2                | .0         | 1,447.1     | 33                          |
| Spruce/fir               | 330.4                            | 65.7       | 62.0                 | .0         | 458.1       | 28                          |
| Oak/pine                 | .0                               | .0         | .0                   | .0         | .0          | -                           |
| Oak/hickory              | 168.3                            | .0         | .0                   | .0         | 168.3       | 100                         |
| Elm/ash/red maple        | .0                               | .0         | .0                   | .0         | .0          | -                           |
| Northern hardwoods       | 3,671.1                          | 553.1      | .0                   | .0         | 4,224.2     | 21                          |
| Aspen/birch              | 77.6                             | 122.8      | .0                   | .0         | 200.4       | 71                          |
| Total, all groups        | 5,551.3                          | 741.6      | 205.2                | .0         | 6,498.1     | 12.1                        |
| Sampling error (percent) | 15                               | 50         | 64                   | -          | 12.1        |                             |
|                          | Thousand acres                   |            |                      |            |             | Percent                     |
| White/red pine           | 67.2*                            | .0         | 12.7**               | .0         | 79.9        | 27                          |
| Spruce/fir               | 44.3*                            | 7.7**      | 7.8**                | .0         | 59.8        | 25                          |
| Oak/pine                 | .0                               | .0         | .0                   | .0         | .0          | -                           |
| Oak/hickory              | 7.5**                            | .0         | .0                   | .0         | 7.5         | 100                         |
| Elm/ash/red maple        | .0                               | .0         | .0                   | .0         | .0          | -                           |
| Northern hardwoods       | 135.0                            | 37.8*      | 6.8**                | .0         | 179.6       | 13                          |
| Aspen/birch              | 7.5**                            | 7.6**      | .0                   | .0         | 15.1        | 69                          |
| Total, all groups        | 261.5                            | 53.1       | 27.3                 | .0         | 341.9       | 4.0                         |
| Sampling error (percent) | 9                                | 35         | 50                   | -          | 4.0         |                             |
|                          | Green tons per acre <sup>b</sup> |            |                      |            |             |                             |
| White/red pine           | 19.4                             | .0         | 11.3                 | .0         | 18.1        |                             |
| Spruce/fir               | 7.5                              | 8.5        | 7.9                  | .0         | 7.7         |                             |
| Oak/pine                 | .0                               | .0         | .0                   | .0         | .0          |                             |
| Oak/hickory              | 22.4                             | .0         | .0                   | .0         | 22.4        |                             |
| Elm/ash/red maple        | .0                               | .0         | .0                   | .0         | .0          |                             |
| Northern hardwoods       | 27.2                             | 14.6       | .0                   | .0         | 23.5        |                             |
| Aspen/birch              | 10.3                             | 16.2       | .0                   | .0         | 13.3        |                             |
| All groups               | 21.2                             | 14.0       | 7.5                  | .0         | 19.0        |                             |

<sup>a</sup> Sampling errors are expressed as a percent of the total and are included only for row and column totals. A single asterisk (\*) by a cell value indicates that the estimate has an associated sampling error between 25 and 50 percent; a double asterisk (\*\*) indicates that the estimate has an associated sampling error greater than 50 percent, and therefore is not significantly different from zero.

<sup>b</sup> Per acre estimates are based on the timberland area in each forest-type group and stand-size class.

Table 54.--Net aboveground tree biomass of cull and salvable dead trees (5.0+ inches d.b.h.) on timberland, by forest-type group and stand-size class, Orleans County, Vermont, 1983

| Forest-type group        | Stand-size class                 |            |                      |            | All classes | Sampling error <sup>a</sup> |
|--------------------------|----------------------------------|------------|----------------------|------------|-------------|-----------------------------|
|                          | Sawtimber                        | Poletimber | Sapling and seedling | Nonstocked |             |                             |
|                          | Thousand green tons              |            |                      |            |             | Percent                     |
| White/red pine           | .0                               | 103.3**    | .0                   | .0         | 103.3       | 100                         |
| Spruce/fir               | 1,941.9*                         | 559.5**    | 155.7**              | .0         | 2,657.1     | 23                          |
| Oak/pine                 | .0                               | .0         | .0                   | .0         | .0          | -                           |
| Oak/hickory              | .0                               | .0         | .0                   | .0         | .0          | -                           |
| Elm/ash/red maple        | .0                               | .0         | .0                   | .0         | .0          | -                           |
| Northern hardwoods       | 1,956.9*                         | 1,264.4*   | .0                   | .0         | 3,221.3     | 24                          |
| Aspen/birch              | .0                               | 714.6**    | .0                   | .0         | 714.6       | 58                          |
| Total, all groups        | 3,898.8                          | 2,641.8    | 155.7                | .0         | 6,696.3     | 12.2                        |
| Sampling error (percent) | 23                               | 25         | 71                   | -          | 12.2        |                             |
|                          | Thousand acres                   |            |                      |            |             | Percent                     |
| White/red pine           | .0                               | 7.4**      | .0                   | .0         | 7.4         | 100                         |
| Spruce/fir               | 96.3                             | 30.4*      | 30.0*                | .0         | 156.7       | 16                          |
| Oak/pine                 | .0                               | .0         | .0                   | .0         | .0          | -                           |
| Oak/hickory              | .0                               | .0         | .0                   | .0         | .0          | -                           |
| Elm/ash/red maple        | .0                               | .0         | .0                   | .0         | .0          | -                           |
| Northern hardwoods       | 67.9*                            | 50.7*      | .0                   | .0         | 118.6       | 19                          |
| Aspen/birch              | .0                               | 22.4**     | .0                   | .0         | 22.4        | 56                          |
| Total, all groups        | 164.2                            | 110.9      | 30.0                 | .0         | 305.1       | 3.9                         |
| Sampling error (percent) | 15                               | 22         | 49                   | -          | 3.9         |                             |
|                          | Green tons per acre <sup>b</sup> |            |                      |            |             |                             |
| White/red pine           | .0                               | 14.0       | .0                   | .0         | 14.0        |                             |
| Spruce/fir               | 20.2                             | 18.4       | 5.2                  | .0         | 17.0        |                             |
| Oak/pine                 | .0                               | .0         | .0                   | .0         | .0          |                             |
| Oak/hickory              | .0                               | .0         | .0                   | .0         | .0          |                             |
| Elm/ash/red maple        | .0                               | .0         | .0                   | .0         | .0          |                             |
| Northern hardwoods       | 28.8                             | 24.9       | .0                   | .0         | 27.2        |                             |
| Aspen/birch              | .0                               | 31.9       | .0                   | .0         | 31.9        |                             |
| All groups               | 23.7                             | 23.8       | 5.2                  | .0         | 21.9        |                             |

<sup>a</sup>Sampling errors are expressed as a percent of the total and are included only for row and column totals. A single asterisk (\*) by a cell value indicates that the estimate has an associated sampling error between 25 and 50 percent; a double asterisk (\*\*) indicates that the estimate has an associated sampling error greater than 50 percent, and therefore is not significantly different from zero.

<sup>b</sup>Per acre estimates are based on the timberland area in each forest-type group and stand-size class.

Table 55.--Net aboveground tree biomass of cull and salvable dead trees (5.0+ inches d.b.h.) on timberland, by forest-type group and stand-size class, Rutland County, Vermont, 1983

| Forest-type group        | Stand-size class                 |            |                      |            | All classes | Sampling error <sup>a</sup> |
|--------------------------|----------------------------------|------------|----------------------|------------|-------------|-----------------------------|
|                          | Sawtimber                        | Poletimber | Sapling and seedling | Nonstocked |             |                             |
|                          | Thousand green tons              |            |                      |            |             | Percent                     |
| White/red pine           | 875.2*                           | 366.1**    | .0                   | .0         | 1,241.3     | 28                          |
| Spruce/fir               | 401.2**                          | .0         | 151.0**              | .0         | 552.2       | 60                          |
| Oak/pine                 | 33.1**                           | .0         | .0                   | .0         | 33.1        | 100                         |
| Oak/hickory              | .0                               | 392.8**    | .0                   | .0         | 392.8       | 51                          |
| Elm/ash/red maple        | .0                               | 37.9**     | 18.1**               | .0         | 56.0        | 75                          |
| Northern hardwoods       | 3,950.8                          | 430.4*     | 157.3**              | .0         | 4,538.5     | 16                          |
| Aspen/birch              | .0                               | 62.6**     | .0                   | .0         | 62.6        | 100                         |
| Total, all groups        | 5,260.3                          | 1,289.8    | 326.4                | .0         | 6,876.5     | 10.0                        |
| Sampling error (percent) | 15                               | 27         | 59                   | -          | 10.0        |                             |
|                          | Thousand acres                   |            |                      |            |             | Percent                     |
| White/red pine           | 84.0*                            | 28.4*      | .0                   | .0         | 112.4       | 21                          |
| Spruce/fir               | 14.3**                           | .0         | 19.1**               | .0         | 33.4        | 44                          |
| Oak/pine                 | 6.7**                            | .0         | .0                   | .0         | 6.7         | 100                         |
| Oak/hickory              | .0                               | 27.6*      | 6.7**                | .0         | 34.3        | 43                          |
| Elm/ash/red maple        | .0                               | 7.0**      | 6.7**                | .0         | 13.7        | 71                          |
| Northern hardwoods       | 184.5                            | 33.5*      | 19.1*                | .0         | 237.1       | 11                          |
| Aspen/birch              | .0                               | 7.1 **     | .0                   | .0         | 7.1         | 100                         |
| Total, all groups        | 289.5                            | 103.6      | 51.6                 | .0         | 444.7       | 1.3                         |
| Sampling error (percent) | 9                                | 23         | 31                   | -          | 1.3         |                             |
|                          | Green tons per acre <sup>b</sup> |            |                      |            |             |                             |
| White/red pine           | 10.4                             | 12.9       | .0                   | .0         | 11.0        |                             |
| Spruce/fir               | 28.1                             | .0         | 7.9                  | .0         | 16.5        |                             |
| Oak/pine                 | 4.9                              | .0         | .0                   | .0         | 4.9         |                             |
| Oak/hickory              | .0                               | 14.2       | .0                   | .0         | 11.5        |                             |
| Elm/ash/red maple        | .0                               | 5.4        | 2.7                  | .0         | 4.1         |                             |
| Northern hardwoods       | 21.4                             | 12.8       | 8.2                  | .0         | 19.1        |                             |
| Aspen/birch              | .0                               | 8.8        | .0                   | .0         | 8.8         |                             |
| All groups               | 18.2                             | 12.4       | 6.3                  | .0         | 15.5        |                             |

<sup>a</sup>Sampling errors are expressed as a percent of the total and are included only for row and column totals. A single asterisk (\*) by a cell value indicates that the estimate has an associated sampling error between 25 and 50 percent; a double asterisk (\*\*) indicates that the estimate has an associated sampling error greater than 50 percent, and therefore is not significantly different from zero.

<sup>b</sup>Per acre estimates are based on the timberland area in each forest-type group and stand-size class.

Table 56.--Net aboveground tree biomass of cull and salvable dead trees (5.0+ inches d.b.h.) on timberland, by forest-type group and stand-size class, Washington County, Vermont, 1983

| Forest-type group        | Stand-size class                 |            |                      |            | All classes | Sampling error <sup>a</sup> |
|--------------------------|----------------------------------|------------|----------------------|------------|-------------|-----------------------------|
|                          | Sawtimber                        | Poletimber | Sapling and seedling | Nonstocked |             |                             |
|                          | Thousand green tons              |            |                      |            |             | Percent                     |
| White/red pine           | 218.1**                          | 189.5**    | .0                   | .0         | 407.6       | 57                          |
| Spruce/fir               | 556.9*                           | 62.6**     | .0                   | .0         | 619.5       | 41                          |
| Oak/pine                 | .0                               | .0         | .0                   | .0         | .0          | -                           |
| Oak/hickory              | .0                               | 148.6**    | .0                   | .0         | 148.6       | 100                         |
| Elm/ash/red maple        | 64.0**                           | .0         | 68.4**               | .0         | 132.4       | 71                          |
| Northern hardwoods       | 2,622.1                          | 828.4*     | 37.5**               | .0         | 3,488.0     | 17                          |
| Aspen/birch              | 54.4**                           | 242.8**    | .0                   | .0         | 297.2       | 48                          |
| Total, all groups        | 3,515.5                          | 1,471.9    | 105.9                | .0         | 5,093.3     | 9.2                         |
| Sampling error (percent) | 15                               | 28         | 74                   | -          | 9.2         |                             |
|                          | Thousand acres                   |            |                      |            |             | Percent                     |
| White/red pine           | 22.2**                           | 7.4**      | .0                   | .0         | 29.6        | 49                          |
| Spruce/fir               | 44.4*                            | 14.9**     | .0                   | .0         | 59.3        | 33                          |
| Oak/pine                 | .0                               | .0         | .0                   | .0         | .0          | -                           |
| Oak/hickory              | .0                               | 7.4**      | .0                   | .0         | 7.4         | 100                         |
| Elm/ash/red maple        | 7.4**                            | .0         | 6.6**                | .0         | 14.0        | 71                          |
| Northern hardwoods       | 133.0                            | 44.5*      | 21.5**               | .0         | 199.0       | 14                          |
| Aspen/birch              | 7.4**                            | 37.1*      | .0                   | .0         | 44.5        | 38                          |
| Total, all groups        | 214.4                            | 111.3      | 28.1                 | .0         | 353.8       | 2.5                         |
| Sampling error (percent) | 11                               | 20         | 38                   | -          | 2.5         |                             |
|                          | Green tons per acre <sup>b</sup> |            |                      |            |             |                             |
| White/red pine           | 9.8                              | 25.6       | .0                   | .0         | 13.8        |                             |
| Spruce/fir               | 12.5                             | 4.2        | .0                   | .0         | 10.4        |                             |
| Oak/pine                 | .0                               | .0         | .0                   | .0         | .0          |                             |
| Oak/hickory              | .0                               | 20.1       | .0                   | .0         | 20.1        |                             |
| Elm/ash/red maple        | 8.6                              | .0         | 10.4                 | .0         | 9.5         |                             |
| Northern hardwoods       | 19.7                             | 18.6       | 1.7                  | .0         | 17.5        |                             |
| Aspen/birch              | 7.4                              | 6.5        | .0                   | .0         | 6.7         |                             |
| All groups               | 16.4                             | 13.2       | 3.8                  | .0         | 14.4        |                             |

<sup>a</sup>Sampling errors are expressed as a percent of the total and are included only for row and column totals. A single asterisk (\*) by a cell value indicates that the estimate has an associated sampling error between 25 and 50 percent; a double asterisk (\*\*) indicates that the estimate has an associated sampling error greater than 50 percent, and therefore is not significantly different from zero.

<sup>b</sup>Per acre estimates are based on the timberland area in each forest-type group and stand-size class.

Table 57.--Net aboveground tree biomass of cull and salvable dead trees (5.0+ inches d.b.h.) on timberland, by forest-type group and stand-size class, Windham County, Vermont, 1983

| Forest-type group        | Stand-size class                 |            |                      |            | All classes | Sampling error <sup>a</sup> |
|--------------------------|----------------------------------|------------|----------------------|------------|-------------|-----------------------------|
|                          | Sawtimber                        | Poletimber | Sapling and seedling | Nonstocked |             |                             |
|                          | Thousand green tons              |            |                      |            |             | Percent                     |
| White/red pine           | 1,368.1*                         | .0         | .0                   | .0         | 1,368.1     | 43                          |
| Spruce/fir               | 196.3**                          | .0         | 47.1**               | .0         | 243.4       | 61                          |
| Oak/pine                 | .0                               | .0         | .0                   | .0         | .0          | -                           |
| Oak/hickory              | 211.8**                          | .0         | .0                   | .0         | 211.8       | 51                          |
| Elm/ash/red maple        | .0                               | .0         | .0                   | .0         | .0          | -                           |
| Northern hardwoods       | 3,409.0                          | 360.0**    | 220.7**              | .0         | 3,989.7     | 17                          |
| Aspen/birch              | 22.3**                           | .0         | .0                   | .0         | 22.3        | 81                          |
| Total, all groups        | 5,207.5                          | 360.0      | 267.8                | .0         | 5,835.3     | 13.1                        |
| Sampling error (percent) | 15                               | 57         | 64                   | -          | 13.1        |                             |
|                          | Thousand acres                   |            |                      |            |             | Percent                     |
| White/red pine           | 85.0*                            | .0         | .0                   | .0         | 85.0        | 26                          |
| Spruce/fir               | 21.4**                           | .0         | 7.5**                | .0         | 28.9        | 49                          |
| Oak/pine                 | .0                               | .0         | .0                   | .0         | .0          | -                           |
| Oak/hickory              | 35.8*                            | 7.4**      | .0                   | .0         | 43.2        | 40                          |
| Elm/ash/red maple        | .0                               | .0         | .0                   | .0         | .0          | -                           |
| Northern hardwoods       | 206.6                            | 28.6**     | 14.3**               | .0         | 249.5       | 11                          |
| Aspen/birch              | 14.4**                           | .0         | .0                   | .0         | 14.4        | 69                          |
| Total, all groups        | 363.2                            | 36.0       | 21.8                 | .0         | 421.0       | 1.2                         |
| Sampling error (percent) | 5                                | 43         | 57                   | -          | 1.2         |                             |
|                          | Green tons per acre <sup>b</sup> |            |                      |            |             |                             |
| White/red pine           | 16.1                             | .0         | .0                   | .0         | 16.1        |                             |
| Spruce/fir               | 9.2                              | .0         | 6.3                  | .0         | 8.4         |                             |
| Oak/pine                 | .0                               | .0         | .0                   | .0         | .0          |                             |
| Oak/hickory              | 5.9                              | .0         | .0                   | .0         | 4.9         |                             |
| Elm/ash/red maple        | .0                               | .0         | .0                   | .0         | .0          |                             |
| Northern hardwoods       | 16.5                             | 12.6       | 15.4                 | .0         | 16.0        |                             |
| Aspen/birch              | 1.5                              | .0         | .0                   | .0         | 1.5         |                             |
| All groups               | 14.3                             | 10.0       | 12.3                 | .0         | 13.9        |                             |

<sup>a</sup>Sampling errors are expressed as a percent of the total and are included only for row and column totals. A single asterisk (\*) by a cell value indicates that the estimate has an associated sampling error between 25 and 50 percent; a double asterisk (\*\*) indicates that the estimate has an associated sampling error greater than 50 percent, and therefore is not significantly different from zero.

<sup>b</sup>Per acre estimates are based on the timberland area in each forest-type group and stand-size class.

Table 58.--Net aboveground tree biomass of cull and salvable dead trees (5.0+ inches d.b.h.) on timberland, by forest-type group and stand-size class, Windsor County, Vermont, 1983

| Forest-type group        | Stand-size class                             |            |                      |            | All classes | Sampling error <sup>a</sup> |
|--------------------------|----------------------------------------------|------------|----------------------|------------|-------------|-----------------------------|
|                          | Sawtimber                                    | Poletimber | Sapling and seedling | Nonstocked |             |                             |
|                          | ----- Thousand green tons -----              |            |                      |            |             | Percent                     |
| White/red pine           | 4,374.3*                                     | 428.3**    | 248.5**              | .0         | 5,051.1     | 27                          |
| Spruce/fir               | 589.9**                                      | 354.2**    | .0                   | .0         | 944.1       | 52                          |
| Oak/pine                 | .0                                           | 83.6**     | .0                   | .0         | 83.6        | 100                         |
| Oak/hickory              | 237.0**                                      | .0         | .0                   | .0         | 237.0       | 100                         |
| Elm/ash/red maple        | 98.3**                                       | .0         | .0                   | .0         | 98.3        | 100                         |
| Northern hardwoods       | 8,004.5                                      | 1,487.3*   | .0                   | .0         | 9,491.8     | 13                          |
| Aspen/birch              | 123.6**                                      | 439.0**    | .0                   | .0         | 562.6       | 52                          |
| Total, all groups        | 13,427.6                                     | 2,792.4    | 248.5                | .0         | 16,468.5    | 7.8                         |
| Sampling error (percent) | 11                                           | 28         | 73                   | -          | 7.8         |                             |
|                          | ----- Thousand acres -----                   |            |                      |            |             | Percent                     |
| White/red pine           | 100.9*                                       | 7.0**      | 17.6**               | .0         | 125.5       | 19                          |
| Spruce/fir               | 27.6*                                        | 7.0**      | .0                   | .0         | 34.6        | 44                          |
| Oak/pine                 | .0                                           | 6.8**      | .0                   | .0         | 6.8         | 100                         |
| Oak/hickory              | 7.0**                                        | .0         | .0                   | .0         | 7.0         | 100                         |
| Elm/ash/red maple        | 6.8**                                        | .0         | .0                   | .0         | 6.8         | 100                         |
| Northern hardwoods       | 236.7                                        | 48.6*      | .0                   | .0         | 285.3       | 10                          |
| Aspen/birch              | 7.0**                                        | 20.9**     | 6.8**                | .0         | 34.7        | 44                          |
| Total, all groups        | 386.0                                        | 90.3       | 24.4                 | .0         | 500.7       | 2.2                         |
| Sampling error (percent) | 7                                            | 26         | 59                   | -          | 2.2         |                             |
|                          | ----- Green tons per acre <sup>b</sup> ----- |            |                      |            |             |                             |
| White/red pine           | 43.4                                         | 61.2       | 14.1                 | .0         | 40.2        |                             |
| Spruce/fir               | 21.4                                         | 50.6       | .0                   | .0         | 27.3        |                             |
| Oak/pine                 | .0                                           | 12.3       | .0                   | .0         | 12.3        |                             |
| Oak/hickory              | 33.9                                         | .0         | .0                   | .0         | 33.9        |                             |
| Elm/ash/red maple        | 14.5                                         | .0         | .0                   | .0         | 14.5        |                             |
| Northern hardwoods       | 33.8                                         | 30.6       | .0                   | .0         | 33.3        |                             |
| Aspen/birch              | 17.7                                         | 21.0       | .0                   | .0         | 16.2        |                             |
| All groups               | 34.8                                         | 30.9       | 10.2                 | .0         | 32.9        |                             |

<sup>a</sup>Sampling errors are expressed as a percent of the total and are included only for row and column totals. A single asterisk (\*) by a cell value indicates that the estimate has an associated sampling error between 25 and 50 percent; a double asterisk (\*\*) indicates that the estimate has an associated sampling error greater than 50 percent, and therefore is not significantly different from zero.

<sup>b</sup>Per acre estimates are based on the timberland area in each forest-type group and stand-size class.

Table 59.--Number of trees and net aboveground tree biomass of cull and salvageable dead trees on timberland, by species group and diameter group, Vermont, 1983

| Species<br>group                                              | Diameter group (inches at breast height)<br>of cull trees |               |          |                        | Salvable<br>dead<br>trees | All<br>cull and<br>salvable<br>dead trees |
|---------------------------------------------------------------|-----------------------------------------------------------|---------------|----------|------------------------|---------------------------|-------------------------------------------|
|                                                               | 5.0-<br>10.9                                              | 11.0-<br>20.9 | 21+      | All diameter<br>groups |                           |                                           |
| <hr/> <div>----- <u>Thousand trees</u> -----</div> <hr/>      |                                                           |               |          |                        |                           |                                           |
| Softwoods                                                     | 38,065                                                    | 7,005         | 553      | 45,623                 | 13,854                    | 59,477                                    |
| Hardwoods                                                     | 109,787                                                   | 23,856        | 3,564    | 137,207                | 11,362                    | 148,569                                   |
| Total, all species                                            | 147,852                                                   | 30,861        | 4,117    | 182,830                | 25,216                    | 208,046                                   |
| <hr/> <div>----- <u>Thousand green tons</u> -----</div> <hr/> |                                                           |               |          |                        |                           |                                           |
| Softwoods                                                     | 7,176.8                                                   | 6,273.4       | 2,371.3  | 15,821.5               | 2,805.7                   | 18,627.2                                  |
| Hardwoods                                                     | 23,091.7                                                  | 22,340.8      | 12,178.2 | 57,610.7               | 3,591.9                   | 61,202.6                                  |
| Total, all species                                            | 30,268.5                                                  | 28,614.2      | 14,549.5 | 73,432.2               | 6,397.6                   | 79,829.8                                  |

Table 60.--Number of trees and net aboveground tree biomass of cull and salvable dead trees on timberland, by species group and diameter group, Addison County, Vermont, 1983

| Species group      | Diameter group (inches at breast height)<br>of cull trees |               |       |                        | Salvable<br>dead<br>trees | All<br>cull and<br>salvable<br>dead trees |
|--------------------|-----------------------------------------------------------|---------------|-------|------------------------|---------------------------|-------------------------------------------|
|                    | 5.0-<br>10.9                                              | 11.0-<br>20.9 | 21+   | All diameter<br>groups |                           |                                           |
|                    | <hr/> <u>Thousand trees</u> <hr/>                         |               |       |                        |                           |                                           |
| Softwoods          | 951                                                       | 18            | 0     | 969                    | 321                       | 1,290                                     |
| Hardwoods          | 6,985                                                     | 951           | 105   | 8,041                  | 1,047                     | 9,088                                     |
| Total, all species | 7,936                                                     | 969           | 105   | 9,010                  | 1,368                     | 10,378                                    |
|                    | <hr/> <u>Thousand green tons</u> <hr/>                    |               |       |                        |                           |                                           |
| Softwoods          | 151.4                                                     | 29.6          | .0    | 181.0                  | 44.5                      | 225.5                                     |
| Hardwoods          | 1,267.2                                                   | 806.7         | 280.7 | 2,354.6                | 234.5                     | 2,589.1                                   |
| Total, all species | 1,418.6                                                   | 836.3         | 280.7 | 2,535.6                | 279.0                     | 2,814.6                                   |

Table 61.--Number of trees and net aboveground tree biomass of cull and salvable dead trees on timberland, by species group and diameter group, Bennington County, Vermont, 1983

| Species group                              | Diameter group (inches at breast height)<br>of cull trees |               |       |                        | Salvable<br>dead<br>trees | All<br>cull and<br>salvable<br>dead trees |
|--------------------------------------------|-----------------------------------------------------------|---------------|-------|------------------------|---------------------------|-------------------------------------------|
|                                            | 5.0-<br>10.9                                              | 11.0-<br>20.9 | 21+   | All diameter<br>groups |                           |                                           |
| <hr/> <div>Thousand trees</div> <hr/>      |                                                           |               |       |                        |                           |                                           |
| Softwoods                                  | 1,743                                                     | 140           | 0     | 1,883                  | 33                        | 1,916                                     |
| Hardwoods                                  | 8,277                                                     | 2,776         | 365   | 11,418                 | 585                       | 12,003                                    |
| Total, all species                         | 10,020                                                    | 2,916         | 365   | 13,301                 | 618                       | 13,919                                    |
| <hr/> <div>Thousand green tons</div> <hr/> |                                                           |               |       |                        |                           |                                           |
| Softwoods                                  | 326.0                                                     | 58.2          | .0    | 384.2                  | 4.0                       | 388.2                                     |
| Hardwoods                                  | 1,835.0                                                   | 2,397.7       | 921.0 | 5,153.7                | 183.7                     | 5,337.4                                   |
| Total, all species                         | 2,161.0                                                   | 2,455.9       | 921.0 | 5,537.9                | 187.7                     | 5,725.6                                   |

Table 62.--Number of trees and net aboveground tree biomass of cull and salvable dead trees on timberland, by species group and diameter group, Caledonia County, Vermont, 1983

| Species<br>group   | Diameter group (inches at breast height)<br>of cull trees |               |       |                        | Salvable<br>dead<br>trees | All<br>cull and<br>salvable<br>dead trees |
|--------------------|-----------------------------------------------------------|---------------|-------|------------------------|---------------------------|-------------------------------------------|
|                    | 5.0-<br>10.9                                              | 11.0-<br>20.9 | 21+   | All diameter<br>groups |                           |                                           |
|                    | <u>Thousand trees</u>                                     |               |       |                        |                           |                                           |
| Softwoods          | 1,429                                                     | 245           | 0     | 1,674                  | 2,578                     | 4,252                                     |
| Hardwoods          | 2,163                                                     | 794           | 113   | 3,070                  | 1,456                     | 4,526                                     |
| Total, all species | 3,592                                                     | 1,039         | 113   | 4,744                  | 4,034                     | 8,778                                     |
|                    | <u>Thousand green tons</u>                                |               |       |                        |                           |                                           |
| Softwoods          | 211.0                                                     | 215.8         | .0    | 426.8                  | 520.3                     | 947.1                                     |
| Hardwoods          | 428.3                                                     | 984.2         | 484.2 | 1,896.7                | 622.4                     | 2,519.1                                   |
| Total, all species | 639.3                                                     | 1,200.0       | 484.2 | 2,323.5                | 1,142.7                   | 3,466.2                                   |

Table 63.--Number of trees and net aboveground tree biomass of cull and salvable dead trees on timberland, by species group and diameter group, Chittenden County, Vermont, 1983

| Species group                                                 | Diameter group (inches at breast height)<br>of cull trees |               |       |                        | Salvable<br>dead<br>trees | All<br>cull and<br>salvable<br>dead trees |
|---------------------------------------------------------------|-----------------------------------------------------------|---------------|-------|------------------------|---------------------------|-------------------------------------------|
|                                                               | 5.0-<br>10.9                                              | 11.0-<br>20.9 | 21+   | All diameter<br>groups |                           |                                           |
| <hr/> <div>----- <u>Thousand trees</u> -----</div> <hr/>      |                                                           |               |       |                        |                           |                                           |
| Softwoods                                                     | 1,259                                                     | 266           | 0     | 1,525                  | 32                        | 1,557                                     |
| Hardwoods                                                     | 5,000                                                     | 1,276         | 84    | 6,360                  | 426                       | 6,786                                     |
| Total, all species                                            | 6,259                                                     | 1,542         | 84    | 7,885                  | 458                       | 8,343                                     |
| <hr/> <div>----- <u>Thousand green tons</u> -----</div> <hr/> |                                                           |               |       |                        |                           |                                           |
| Softwoods                                                     | 217.3                                                     | 206.7         | .0    | 424.0                  | 2.9                       | 426.9                                     |
| Hardwoods                                                     | 1,194.8                                                   | 1,169.2       | 283.7 | 2,647.7                | 105.4                     | 2,753.1                                   |
| Total, all species                                            | 1,412.1                                                   | 1,375.9       | 283.7 | 3,071.7                | 108.3                     | 3,180.0                                   |

Table 64.--Number of trees and net aboveground tree biomass of cull and salvable dead trees on timberland, by species group and diameter group, Essex County, Vermont, 1983

| Species group                                                                                               | Diameter group (inches at breast height)<br>of cull trees |               |       |                        | Salvable<br>dead<br>trees | All<br>cull and<br>salvable<br>dead trees |
|-------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|---------------|-------|------------------------|---------------------------|-------------------------------------------|
|                                                                                                             | 5.0-<br>10.9                                              | 11.0-<br>20.9 | 21+   | All diameter<br>groups |                           |                                           |
| <hr style="border-top: 1px dashed black;"/> Thousand trees <hr style="border-top: 1px dashed black;"/>      |                                                           |               |       |                        |                           |                                           |
| Softwoods                                                                                                   | 3,869                                                     | 247           | 13    | 4,129                  | 1,124                     | 5,253                                     |
| Hardwoods                                                                                                   | 10,594                                                    | 1,847         | 282   | 12,723                 | 641                       | 13,364                                    |
| Total, all species                                                                                          | 14,463                                                    | 2,094         | 295   | 16,852                 | 1,765                     | 18,617                                    |
| <hr style="border-top: 1px dashed black;"/> Thousand green tons <hr style="border-top: 1px dashed black;"/> |                                                           |               |       |                        |                           |                                           |
| Softwoods                                                                                                   | 735.3                                                     | 185.2         | 29.8  | 950.3                  | 330.0                     | 1,280.3                                   |
| Hardwoods                                                                                                   | 2,212.3                                                   | 1,783.3       | 921.8 | 4,917.4                | 177.8                     | 5,095.2                                   |
| Total, all species                                                                                          | 2,947.6                                                   | 1,968.5       | 951.6 | 5,867.7                | 507.8                     | 6,375.5                                   |

Table 65.--Number of trees and net aboveground tree biomass of cull and salvable dead trees on timberland, by species group and diameter group, Franklin/Grand Isle Counties, Vermont, 1983

| Species<br>group                                                                                                       | Diameter group (inches at breast height)<br>of cull trees |               |         |                        | Salvable<br>dead<br>trees | All<br>cull and<br>salvable<br>dead trees |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|---------------|---------|------------------------|---------------------------|-------------------------------------------|
|                                                                                                                        | 5.0-<br>10.9                                              | 11.0-<br>20.9 | 21+     | All diameter<br>groups |                           |                                           |
| <hr style="border-top: 1px dashed black;"/> <div>Thousand trees</div> <hr style="border-top: 1px dashed black;"/>      |                                                           |               |         |                        |                           |                                           |
| Softwoods                                                                                                              | 1,734                                                     | 449           | 46      | 2,229                  | 1,136                     | 3,365                                     |
| Hardwoods                                                                                                              | 4,628                                                     | 1,212         | 264     | 6,104                  | 648                       | 6,752                                     |
| Total, all species                                                                                                     | 6,362                                                     | 1,661         | 310     | 8,333                  | 1,784                     | 10,117                                    |
| <hr style="border-top: 1px dashed black;"/> <div>Thousand green tons</div> <hr style="border-top: 1px dashed black;"/> |                                                           |               |         |                        |                           |                                           |
| Softwoods                                                                                                              | 297.3                                                     | 445.1         | 175.2   | 917.6                  | 227.2                     | 1,144.8                                   |
| Hardwoods                                                                                                              | 917.3                                                     | 1,347.7       | 880.7   | 3,145.7                | 330.7                     | 3,476.4                                   |
| Total, all species                                                                                                     | 1,214.6                                                   | 1,792.8       | 1,055.9 | 4,063.3                | 557.9                     | 4,621.2                                   |

Table 66.--Number of trees and net aboveground tree biomass of cull and salvable dead trees on timberland, by species group and diameter group, Lamoille County, Vermont, 1983

| Species<br>group                       | Diameter group (inches at breast height)<br>of cull trees |               |         |                        | Salvable<br>dead<br>trees | All<br>cull and<br>salvable<br>dead trees |
|----------------------------------------|-----------------------------------------------------------|---------------|---------|------------------------|---------------------------|-------------------------------------------|
|                                        | 5.0-<br>10.9                                              | 11.0-<br>20.9 | 21+     | All diameter<br>groups |                           |                                           |
| <hr/> <u>Thousand trees</u> <hr/>      |                                                           |               |         |                        |                           |                                           |
| Softwoods                              | 3,212                                                     | 210           | 17      | 3,439                  | 508                       | 3,947                                     |
| Hardwoods                              | 8,632                                                     | 1,922         | 341     | 10,895                 | 496                       | 11,391                                    |
| Total, all species                     | 11,844                                                    | 2,132         | 358     | 14,334                 | 1,004                     | 15,338                                    |
| <hr/> <u>Thousand green tons</u> <hr/> |                                                           |               |         |                        |                           |                                           |
| Softwoods                              | 592.2                                                     | 162.0         | 45.3    | 799.5                  | 127.8                     | 927.3                                     |
| Hardwoods                              | 1,660.6                                                   | 2,191.5       | 1,210.9 | 5,063.0                | 188.4                     | 5,251.4                                   |
| Total, all species                     | 2,252.8                                                   | 2,353.5       | 1,256.2 | 5,862.5                | 316.2                     | 6,178.7                                   |

Table 67.--Number of trees and net aboveground tree biomass of cull and salvable dead trees on timberland, by species group and diameter group, Orange County, Vermont, 1983

| Species group                          | Diameter group (inches at breast height)<br>of cull trees |               |         |                        | Salvable<br>dead<br>trees | All<br>cull and<br>salvable<br>dead trees |
|----------------------------------------|-----------------------------------------------------------|---------------|---------|------------------------|---------------------------|-------------------------------------------|
|                                        | 5.0-<br>10.9                                              | 11.0-<br>20.9 | 21+     | All diameter<br>groups |                           |                                           |
| <hr/> <u>Thousand trees</u> <hr/>      |                                                           |               |         |                        |                           |                                           |
| Softwoods                              | 3,111                                                     | 394           | 57      | 3,562                  | 767                       | 4,329                                     |
| Hardwoods                              | 7,415                                                     | 1,201         | 338     | 8,954                  | 1,157                     | 10,111                                    |
| Total, all species                     | 10,526                                                    | 1,595         | 395     | 12,516                 | 1,924                     | 14,440                                    |
| <hr/> <u>Thousand green tons</u> <hr/> |                                                           |               |         |                        |                           |                                           |
| Softwoods                              | 575.3                                                     | 457.9         | 271.6   | 1,304.8                | 142.9                     | 1,447.7                                   |
| Hardwoods                              | 1,434.8                                                   | 1,376.4       | 1,865.6 | 4,676.8                | 373.6                     | 5,050.4                                   |
| Total, all species                     | 2,010.1                                                   | 1,834.3       | 2,137.2 | 5,981.6                | 516.5                     | 6,498.1                                   |

Table 68.--Number of trees and net aboveground tree biomass of cull and salvable dead trees on timberland, by species group and diameter group, Orleans County, Vermont, 1983

| Species<br>group                           | Diameter group (inches at breast height)<br>of cull trees |               |       |                        | Salvable<br>dead<br>trees | All<br>cull and<br>salvable<br>dead trees |
|--------------------------------------------|-----------------------------------------------------------|---------------|-------|------------------------|---------------------------|-------------------------------------------|
|                                            | 5.0-<br>10.9                                              | 11.0-<br>20.9 | 21+   | All diameter<br>groups |                           |                                           |
| <hr/> <div>Thousand trees</div> <hr/>      |                                                           |               |       |                        |                           |                                           |
| Softwoods                                  | 6,636                                                     | 791           | 0     | 7,427                  | 2,235                     | 9,662                                     |
| Hardwoods                                  | 9,960                                                     | 1,712         | 226   | 11,898                 | 805                       | 12,703                                    |
| Total, all species                         | 16,596                                                    | 2,503         | 226   | 19,325                 | 3,040                     | 22,365                                    |
| <hr/> <div>Thousand green tons</div> <hr/> |                                                           |               |       |                        |                           |                                           |
| Softwoods                                  | 977.8                                                     | 587.4         | .0    | 1,565.2                | 577.7                     | 2,142.9                                   |
| Hardwoods                                  | 1,963.6                                                   | 1,540.8       | 803.2 | 4,307.6                | 245.8                     | 4,553.4                                   |
| Total, all species                         | 2,941.4                                                   | 2,128.2       | 803.2 | 5,872.8                | 823.5                     | 6,696.3                                   |

Table 69.--Number of trees and net aboveground tree biomass of cull and salvable dead trees on timberland, by species group and diameter group, Rutland County, Vermont, 1983

| Species<br>group                                              | Diameter group (inches at breast height)<br>of cull trees |               |         |                        | Salvable<br>dead<br>trees | All<br>cull and<br>salvable<br>dead trees |
|---------------------------------------------------------------|-----------------------------------------------------------|---------------|---------|------------------------|---------------------------|-------------------------------------------|
|                                                               | 5.0~<br>10.9                                              | 11.0~<br>20.9 | 21+     | All diameter<br>groups |                           |                                           |
| <hr/> <div>----- <u>Thousand trees</u> -----</div> <hr/>      |                                                           |               |         |                        |                           |                                           |
| Softwoods                                                     | 2,009                                                     | 345           | 92      | 2,446                  | 587                       | 3,033                                     |
| Hardwoods                                                     | 10,904                                                    | 2,231         | 404     | 13,539                 | 932                       | 14,471                                    |
| Total, all species                                            | 12,913                                                    | 2,576         | 496     | 15,985                 | 1,519                     | 17,504                                    |
| <hr/> <div>----- <u>Thousand green tons</u> -----</div> <hr/> |                                                           |               |         |                        |                           |                                           |
| Softwoods                                                     | 378.8                                                     | 275.5         | 287.1   | 941.4                  | 62.1                      | 1,003.5                                   |
| Hardwoods                                                     | 2,437.6                                                   | 1,983.7       | 1,242.5 | 5,663.8                | 209.2                     | 5,873.0                                   |
| Total, all species                                            | 2,816.4                                                   | 2,259.2       | 1,529.6 | 6,605.2                | 271.3                     | 6,876.5                                   |

Table 70.--Number of trees and net aboveground tree biomass of cull and salvable dead trees on timberland, by species group and diameter group, Washington County, Vermont, 1983

| Species<br>group           | Diameter group (inches at breast height)<br>of cull trees |               |       |                        | Salvable<br>dead<br>trees | All<br>cull and<br>salvable<br>dead trees |
|----------------------------|-----------------------------------------------------------|---------------|-------|------------------------|---------------------------|-------------------------------------------|
|                            | 5.0~<br>10.9                                              | 11.0~<br>20.9 | 21+   | All diameter<br>groups |                           |                                           |
| <u>Thousand trees</u>      |                                                           |               |       |                        |                           |                                           |
| Softwoods                  | 2,356                                                     | 197           | 0     | 2,553                  | 1,925                     | 4,478                                     |
| Hardwoods                  | 4,776                                                     | 893           | 182   | 5,851                  | 1,285                     | 7,136                                     |
| Total, all species         | 7,132                                                     | 1,090         | 182   | 8,404                  | 3,210                     | 11,614                                    |
| <u>Thousand green tons</u> |                                                           |               |       |                        |                           |                                           |
| Softwoods                  | 437.6                                                     | 154.7         | .0    | 592.3                  | 523.0                     | 1,115.3                                   |
| Hardwoods                  | 1,194.8                                                   | 1,157.1       | 925.2 | 3,277.1                | 700.9                     | 3,978.0                                   |
| Total, all species         | 1,632.4                                                   | 1,311.8       | 925.2 | 3,869.4                | 1,223.9                   | 5,093.3                                   |

Table 71.--Number of trees and net aboveground tree biomass of cull and salvable dead trees on timberland, by species group and diameter group, Windham County, Vermont, 1983

| Species<br>group           | Diameter group (inches at breast height)<br>of cull trees |               |         |                        | Salvable<br>dead<br>trees | All<br>cull and<br>salvable<br>dead trees |
|----------------------------|-----------------------------------------------------------|---------------|---------|------------------------|---------------------------|-------------------------------------------|
|                            | 5.0-<br>10.9                                              | 11.0-<br>20.9 | 21+     | All diameter<br>groups |                           |                                           |
| <u>Thousand trees</u>      |                                                           |               |         |                        |                           |                                           |
| Softwoods                  | 1,284                                                     | 428           | 172     | 1,884                  | 1,944                     | 3,828                                     |
| Hardwoods                  | 5,880                                                     | 2,041         | 313     | 8,234                  | 1,114                     | 9,348                                     |
| Total, all species         | 7,164                                                     | 2,469         | 485     | 10,118                 | 3,058                     | 13,176                                    |
| <u>Thousand green tons</u> |                                                           |               |         |                        |                           |                                           |
| Softwoods                  | 243.9                                                     | 346.7         | 886.4   | 1,477.0                | 176.2                     | 1,653.2                                   |
| Hardwoods                  | 1,251.1                                                   | 1,848.0       | 965.8   | 4,064.9                | 117.2                     | 4,182.1                                   |
| Total, all species         | 1,495.0                                                   | 2,194.7       | 1,852.2 | 5,541.9                | 293.4                     | 5,835.3                                   |

Table 72.--Number of trees and net aboveground tree biomass of cull and salvable dead trees on timberland, by species group and diameter group, Windsor County, Vermont, 1983

| Species group      | Diameter group (inches at breast height)<br>of cull trees |               |         |                        | Salvable<br>dead<br>trees | All<br>cull and<br>salvable<br>dead trees |
|--------------------|-----------------------------------------------------------|---------------|---------|------------------------|---------------------------|-------------------------------------------|
|                    | 5.0-<br>10.9                                              | 11.0-<br>20.9 | 21+     | All diameter<br>groups |                           |                                           |
|                    | <u>Thousand trees</u>                                     |               |         |                        |                           |                                           |
| Softwoods          | 8,472                                                     | 3,275         | 156     | 11,903                 | 664                       | 12,567                                    |
| Hardwoods          | 24,573                                                    | 5,000         | 547     | 30,120                 | 770                       | 30,890                                    |
| Total, all species | 33,045                                                    | 8,275         | 703     | 42,023                 | 1,434                     | 43,457                                    |
|                    | <u>Thousand green tons</u>                                |               |         |                        |                           |                                           |
| Softwoods          | 2,032.9                                                   | 3,148.6       | 675.9   | 5,857.4                | 67.1                      | 5,924.5                                   |
| Hardwoods          | 5,294.3                                                   | 3,754.5       | 1,392.9 | 10,441.7               | 102.3                     | 10,544.0                                  |
| Total, all species | 7,327.2                                                   | 6,903.1       | 2,068.8 | 16,299.1               | 169.4                     | 16,468.5                                  |

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## Appendix

### Definition of Terms

Aboveground tree biomass. The net green weight of wood and bark in trees aboveground.

Biomass. The quantity of material in organic matter measured in terms of its weight.

Board foot. A unit of lumber measurement 1 foot long, 1 foot wide, and 1 inch thick, or its equivalent.

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 or sumac.

Cull trees. Rotten trees, that is, live trees of commercial species that do not contain at least one 12-foot sawlog or two noncontiguous 8-foot sawlogs and more than 50 percent of the cull volume is rotten; rough trees, that is, live trees that (1) do not meet regional specifications for freedom from defect primarily because of roughness or poor form, or (2) noncommercial species.

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

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

Forest type. A classification of forest land based on the species that form a plurality of the stocking (basal area of all live trees).

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 make up the plurality of the stocking, singly or in combination; common associates include sugar maple, red maple, red spruce, balsam fir, and paper birch.

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, 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, red spruce, and sugar maple 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, sugar maple, and red maple.

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, red maple, 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 basswood.

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 ash, and white pine.

Green weight. The weight of wood and bark as it would be if it had been recently cut, usually expressed in pounds or tons. Net green weight equals gross weight less deductions for all unsound (rotten) material.

Growing-stock trees. Live trees of commercial species classified as either sawtimber, poletimber, saplings, or seedlings; all live trees except cull trees. While saplings and seedlings are classified as growing-stock trees, by USDA Forest Service definition, they contain no volume.

Growing-stock volume. Net volume, in cubic feet, of growing-stock trees 5.0 inches d.b.h. and larger from a 1-foot stump height to a minimum 4.0-inch top d.o.b. of the central stem, or to the point where the central stem breaks into limbs if that occurs before it reaches this minimum diameter. Net volume equals gross volume less deduction for cull.

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

International 1/4-inch rule. A log rule or formula for estimating the board-foot volume of logs. For 4-foot sections, the mathematical formula is  $(0.22D^2 - 0.71D)(0.904762)$ ; where D = diameter inside bark at the small end of the log section. This rule is used as the USDA Forest Service standard log rule in the Eastern United States.

Merchantable stem. The main stem of the tree between a 1-foot stump height and a 4-inch top diameter (outside the bark), including the wood and bark.

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.

Nongrowing-stock biomass. The biomass in cull trees (including noncommercial tree species), salvable dead trees, saplings, stumps between ground level and a 1-foot stump height, and the tops of growing-stock trees.

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.

Rotten trees. Live trees of commercial species that do not contain at least one 12-foot sawlog or two noncontiguous 8-foot sawlogs and more than 50 percent of the cull volume is rotten.

Rough trees. Live trees that (1) do not meet regional specifications for freedom from defect primarily because of roughness or poor form, or (2) noncommercial species.

Salvable dead trees. Trees at least 5.0 inches in d.b.h. that have recently died, but still have intact bark. The trees may be standing, fallen, windthrown, knocked down, or broken off.

Sampling error. A measure of the reliability of an estimate, expressed as a percentage of the estimate. The sampling errors given in this report correspond to one standard deviation and are calculated as the square root of the variance, divided by the estimate, and multiplied by 100.

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

Sawlog portion. The part of the bole of a sawtimber tree between the stump and the point on the bole above which a sawlog cannot be produced. The minimum sawlog top is 7.0 inches d.o.b. for softwoods and 9.0 inches d.o.b. for hardwoods.

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.

Sawtimber volume. Net volume in board feet, by the International 1/4-inch rule, of sawlogs in sawtimber trees. Net volume equals gross volume less deductions for rot, sweep, and other defects that affect use for lumber.

Seedlings. Live trees less than 1.0-inch d.b.h. and at least 1 foot in height.

Softwoods. Coniferous trees, usually evergreen, with needles or scalelike leaves.

Stand-size class. A classification of forest land based on the size class of all live trees in the area.

a. Sawtimber stand--stands of timber on forest land where (1) all live trees make up at least 10 percent of the minimum full stocking; (2) half or more of the stocking is made up of poletimber trees, sawtimber trees, or both; and (3) the stocking of sawtimber is at least equal to that of poletimber.

b. Poletimber stand--stands of timber on forest land where (1) all live trees make up at least 10 percent of the minimum full stocking; (2) half or more of the stocking is made up of poletimber trees, sawtimber trees, or both; and (3) the stocking of poletimber exceeds that of sawtimber.

c. Sapling-seedling stand--stands of timber on forest land where (1) all live trees make up at least 10 percent of the minimum full stocking; and (2) half or more of the stocking is made up of saplings, seedlings, or both.

d. Nonstocked area--stands of timber on forest land where all live trees make up less than 10 percent of the minimum full stocking.

Stump. The main stem of a tree from ground level to 1 foot above ground level, including the wood and bark. Excludes the stump-root system below the ground.

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. Formerly known as commercial forest land.

Top and branches. The wood and bark of a tree above the merchantable height (or above the point on the stem 4.0 inches d.o.b. It includes the uppermost stem,

branches, and twigs of the tree but not the foliage.

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

Upper-stem portion. That part of the main stem or fork of a sawtimber tree above the sawlog top to a diameter of 4.0 inches d.o.b., or to the point where the main stem or fork breaks into limbs.

Tree species of Vermont (as encountered on field plots)

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

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

<sup>b</sup>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%).

<sup>c</sup>Noncommercial species.

1 acre = 4,046.86 square meters or 0.404686  
          hectares

1 board foot<sup>a</sup> = 0.00348 cubic meters or 3,480  
          cubic centimeters

1 cubic foot = 0.028317 cubic meters

1 cord (wood, bark, and airspace) = 3.6246 cubic  
          meters

1 cord (solid wood, pulpwood) = 2.4069 cubic  
          meters

1 cord (solid wood, other than pulpwood) =  
          2.2654 cubic meters

1,000 cords (pulpwood) = 2,406.9 cubic meters

1,000 cords (other products) = 2,265.4 cubic  
          meters

1 inch = 2.54 centimeters or 0.0254 meters

1 foot = 30.48 centimeters or 0.3048 meters

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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## List of Available Biomass Tables

The following biomass tables are on microfiche. These tables are available at the state, geographic unit, and county level. Copies of fiche or photocopies of particular tables can be obtained by calling or writing

USDA Forest Service  
Forest Inventory, Analysis, & Economics  
370 Reed Road  
Broomall, PA 19008  
(215)461-3037

| <u>Table Number</u> | <u>Table description</u>                                                                                            |
|---------------------|---------------------------------------------------------------------------------------------------------------------|
| 9000                | Softwood aboveground biomass by diameter class land stand-size class.                                               |
| 9001                | Hardwood aboveground biomass by diameter class and stand-size class.                                                |
| 9010                | Net weight (tons) of cull and salvable dead trees on timberland by component type of tree and softwoods/hardwoods.  |
| 9020                | Net weight (tons) of all live trees on timberland by components and age class.                                      |
| 9030                | Net weight (tons) of merchantable stem of growing stock trees on timberland by species and diameter class.          |
| 9050                | Net weight (tons) of all live trees on timberland by forest type and stand-size class.                              |
| 9051                | Net weight (tons) of all live trees on timberland by forest-type group and stand size class.                        |
| 9060                | Net weight (tons) per acre of all live trees on timberland by forest type and stand-size classes.                   |
| 9090                | Net weight (tons) of cull and salvable dead trees on timberland by forest-type group and stand-size class.          |
| 9100                | Net weight (tons) per acre of cull and salvable dead trees on timberland by forest-type group and stand-size class. |
| 9120                | Net weight (tons) of all live trees on timberland by timber management class and stand area class.                  |

- 9130 Net weight (tons) per acre of all live trees on timberland by timber management and stand area classes.
- 9150 Net weight (tons) of all live trees on timberland by timber management class and forest-type group.
- 9160 Net weight (tons) of all trees on timberland by class of materials and softwoods and hardwoods.
- 9170 Net weight (tons) of all live trees on timberland by species and diameter class.
- 9171 Net weight (tons) of all live trees on timberland by species and diameter group.
- 9172 Net weight (tons) of cull and salvable dead trees 5"+ on timberland by species group and diameter group.
- 9180 Net weight (tons) of growing stock trees on timberland by species and diameter class .
- 9190 Net weight per acre of all live trees on timberland by timber management class and forest-type group.

Frieswyk, Thomas S.; Malley, Anne M. Aboveground tree biomass statistics for Vermont - 1983. Resour. Bull. NE-91. Broomall, PA: U.S. Department of Agriculture, Forest Service, Northeastern Forest Experiment Station; 1986. 105 p.

A statistical report on the fourth forest survey of Vermont (1983). Findings are displayed in 72 tables containing estimates of forest area, numbers of trees, tree biomass, and timber volume. Data is presented by state and county level.

ODC 536 (743)

Keywords: Forest survey, inventory, area, volume, biomass.

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

- Amherst, Massachusetts, in cooperation with the University of Massachusetts.
  - Berea, Kentucky, in cooperation with Berea College.
  - Burlington, Vermont, in cooperation with the University of Vermont.
  - Delaware, Ohio.
  - Durham, New Hampshire, in cooperation with the University of New Hampshire.
  - Hamden, Connecticut, in cooperation with Yale University.
  - Morgantown, West Virginia, in cooperation with West Virginia University, Morgantown.
  - Orono, Maine, in cooperation with the University of Maine, Orono.
  - Parsons, West Virginia.
  - Princeton, West Virginia.
  - Syracuse, New York, in cooperation with the State University of New York College of Environmental Sciences and Forestry at Syracuse University, Syracuse.
  - University Park, Pennsylvania, in cooperation with the Pennsylvania State University.
  - Warren, Pennsylvania.
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