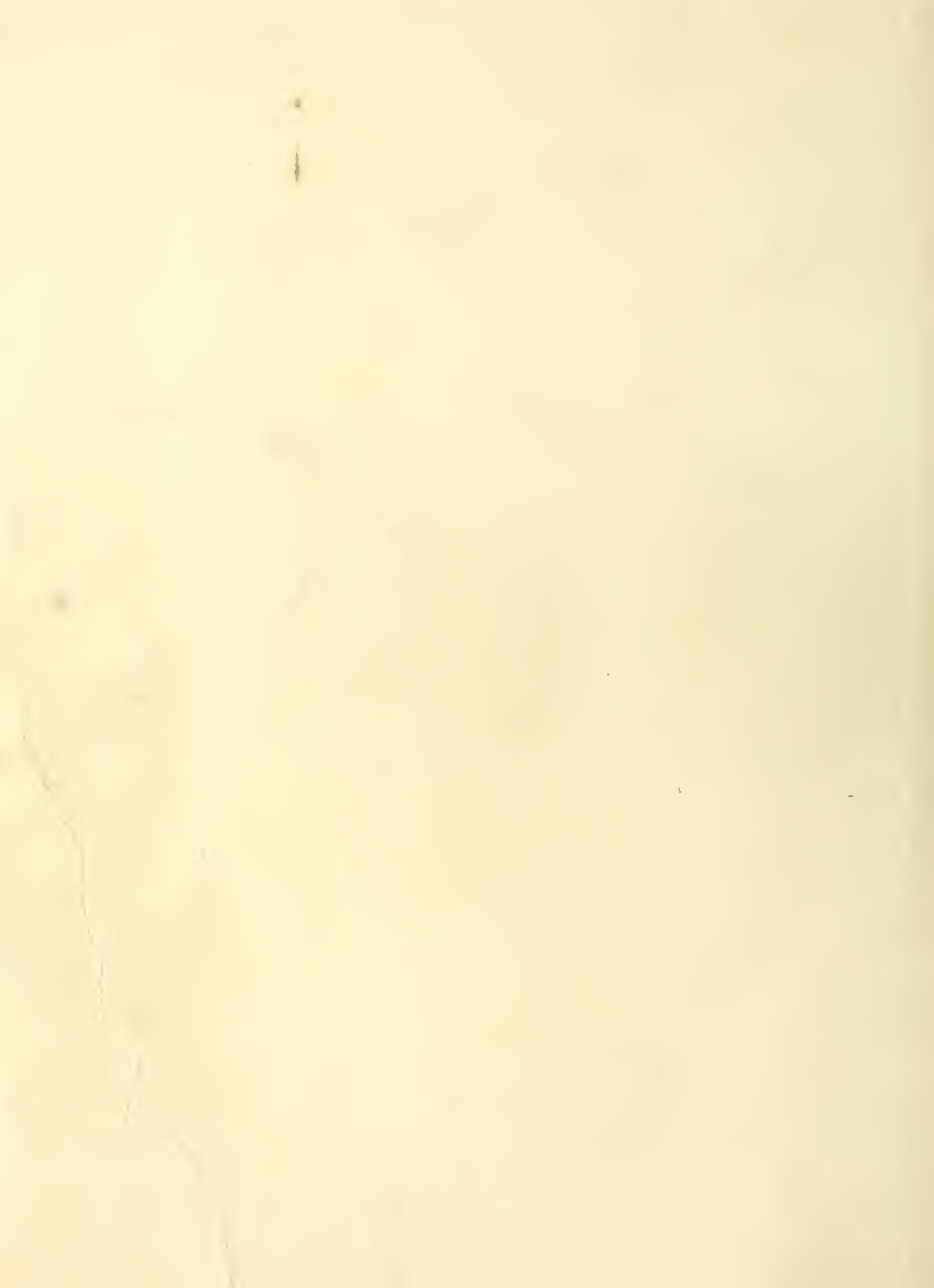


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# Wisconsin Forest Statistics, 1996

Thomas L. Schmidt

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Forest Service — U.S. Department of Agriculture  
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This report includes the most commonly used U.S. Department of Agriculture, Forest Service, Forest Inventory and Analysis (FIA) statistics. Additional forest resource data can be obtained through FIA staff, through the use of an FIA CD-ROM, or through a table generator on the North Central Forest Experiment Station's Internet page. Persons requesting additional information from FIA staff are expected to pay the retrieval costs.

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## FOREWORD

FIA is a continuing endeavor as mandated by the Renewable Resources Research Act of 1978. The objective of FIA is to periodically inventory the Nation's forest land. Up-to-date resource information is essential to frame forest policies and programs. USDA Forest Service regional experiment stations are responsible for conducting these inventories.

Fieldwork for the fifth forest inventory of Wisconsin was begun in August of 1993 and completed in August of 1996. More accurate survey information was obtained during this survey than otherwise would have been feasible because sampling intensity was increased to a double intensity level statewide. Such sampling was made possible through the cooperation, assistance, and additional funding provided by the State of Wisconsin.

The State of Wisconsin funding enabled FIA to measure twice as many field plots as would have been possible solely with Federal funds. As a result, the accuracy of the resulting FIA data was greatly improved.

### **Notice to users of the 1996 inventory of Wisconsin's forest resources results:**

Data from new inventories are often compared with data from earlier inventories to determine trends in forest resources. However, for the comparisons to be valid, the procedures used in the two inventories must be similar. As a result of our ongoing efforts to improve the efficiency and reliability of the inventory, several changes in procedures and definitions have occurred since the last Wisconsin inventory in 1983. Because some of these changes will make it inappropriate to directly compare the 1996 data with those published for 1983, data from the 1983 inventory have been reprocessed using the 1996 procedures. Please refer to the section labeled "Comparing Wisconsin's fifth inventory with the fourth inventory" in the appendix for more details.

Perhaps the most significant change between inventories was the development of new volume tables between the 1983 and 1996 inventories of Wisconsin's forest resources. The new volume tables, developed by USDA Forest Service research scientists and other cooperating researchers, more accurately estimate the true growing-stock and sawtimber volume. In general, the old volume tables used in the previous inventories underestimated the true volume. As a part of the current inventory, we updated the 1983 inventory using the new volume tables. As a result, the volumes that were recalculated for the 1983 inventory show an increase from the previously published volumes (Resource Bulletins NC-94 - Wisconsin Forest Statistics and NC-107 - Wisconsin's Fourth Forest Inventory, 1983). All tables with 1983 data, and comparisons to the 1983 inventory results, in this publication reflect the recalculated volumes.

FIA staff located in St. Paul, Minnesota, involved in the fifth inventory of Wisconsin included Beth Collins, Sheri De Cora, Barb Freund, Tom Gearhart, Dan Goodman, Dale Gormanson, Dan Groen, Ron Hackett, Mark Hansen, David Haugen, Doug Hecker, Jennifer Iole, Mike Johnson, Neal Kingsley, Barb Knight, Earl Leatherberry, Troy Lindgren, Joel Lemberg, Dennis May, Doug Magee, Pat Miles, Jerry Ostrom, Ron Piva, Gerhard Raile, Mary Jo Resendez, Jay Solomakos, Dan Wendt, and Suzanne Willhite.

FIA field staff involved in this inventory were Todd Anderson, John Benaszkeski, Avery Beyer, Elaine Boanshick, Dan Brooks, Kurt Buckler, Jody Buffman, Michael Burns, Paul Castillo, John Crittenden, Brian De Byl, Graig Farrer, Jay Flynn, Duane Fogard, Rodney Fouks, Kristen Goodrich (Weber), Nathan Goodrich, Mark Gossman, William Groth, Dean Halvorson, Cheri Hartless, Patrick Hartless, Doug Hecker, Glenda Hefty, Gary Inhelder, Nicholas Kestle, Marsha Klein, Daniel Klocek, Peter Koehler, Scott Lancaster, Keith Magunsson, Mark Majewsky, Lisa McDonald, Tim Miller, Jeffery Morse, Daniel Nelson, Eric Oliphant, Wilfred Ortiz, Paul Perdew, Lawrence Plucinski, Edward Reiss, Kevin Sheppard, Daniel Sherrill, Trevor Sommers, Gary Stachowicz, Eric Stanton, Richard Steensma, James Stelick, Heidi Troyer (Waymann), Andrew Tuttle, Jerry Van Cleve, James Veiman, Brad Witkin, Erin Witkin, and Christopher Yonkers.

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# Wisconsin Forest Statistics, 1996

Thomas L. Schmidt

Wisconsin, well known for its water quality, outdoor recreation, and dairy products, is also recognized for its forests and the goods and services they provide. For example, Wisconsin is the Nation's leading paper-producing State. The State's forests play an important role in

the lives of Wisconsin citizens, ranging from providing employment and other economic contributions to improving and protecting the State's soil and water resources. Wisconsin is divided into five sampling units (fig. 1).

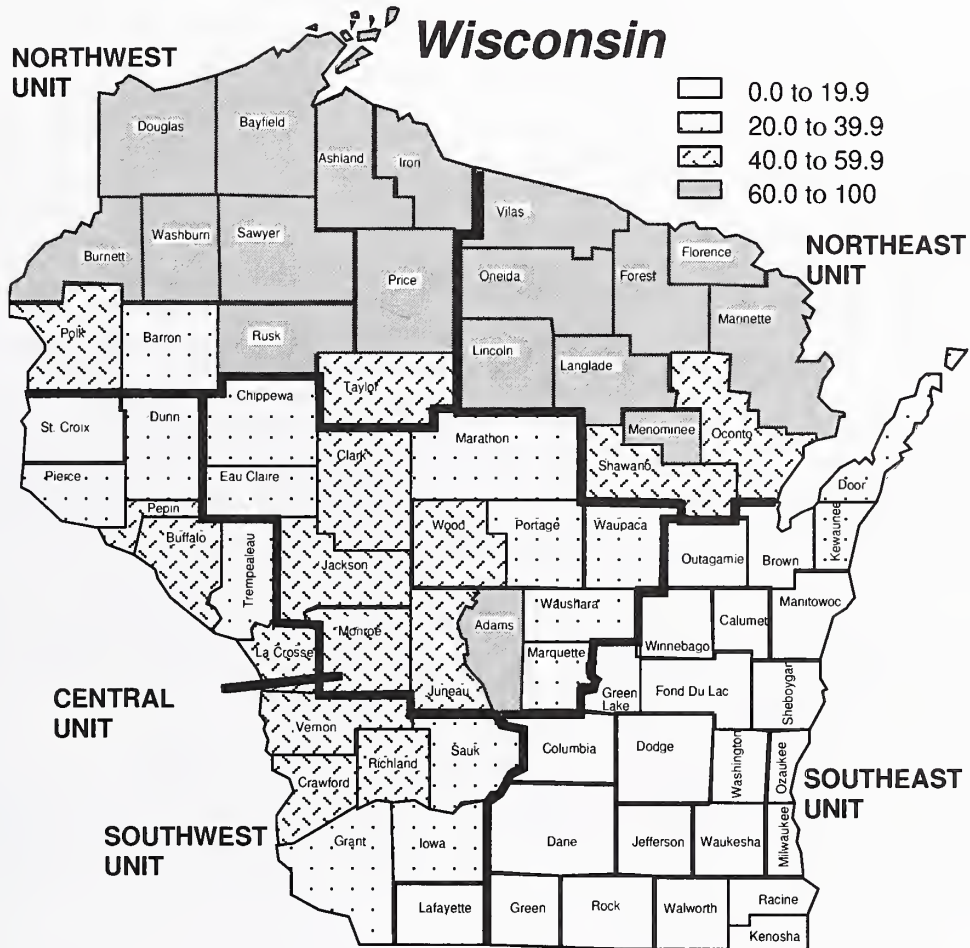


Figure 1.—Forest land as a percent of land area by county, and Forest Survey Units, Wisconsin, 1996.

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## HIGHLIGHTS

- The area of Wisconsin's forests continued to increase between inventories, continuing a trend that began in the 1970's. The primary cause of this increase is the reversion of marginal agricultural land back to forest land.
  - Net growth exceeds harvest in Wisconsin. Sawtimber average annual net growth exceeded harvest by more than 40 percent between 1983 and 1996.
  - As a result of the expanding resource and tree growth greater than trees harvested, the volume of trees growing in Wisconsin continued to increase in the 1996 inventory.
  - The majority of the increase in area of forest land between inventories, occurred in young forests. Since young trees tend to grow faster than older trees (average growth rates tend to slow down as trees age), future growth in Wisconsin's forests is expected to continue to increase.
  - Between inventories, an average of 100 million new growing-stock trees became established each year in Wisconsin. As a result, there were almost 1.4 billion more growing-stock trees in 1996 than in 1983.
  - The future of the forest lies in the hands of individual private landowners, who own almost 60 percent of the total area of timberland in Wisconsin.
  - The extensive State and county ownership of forest land is a distinctive feature of the Lake States region compared to other regions in the Eastern U.S. State and county ownership represents 26 percent of the total area of forest land in the Lake States compared to an average of 6 percent for the Nation (Webster, pers. comm.).
- ### Extent of Wisconsin's Forests
- The area of forest land in Wisconsin has been steadily increasing in recent decades. Forest land increased from 14.9 million acres in 1968 to 15.3 million acres in 1983 to 16.0 million acres in 1996. Currently, the area of forest land in Wisconsin represents 46 percent of the total land area.
  - All five Survey Units increased in area of timberland between inventories. The greatest increase in area of timberland occurred in the Northeast Unit, which rose from 3.8 to 4.2 million acres between 1983 and 1996.
  - Currently, the Northeast Unit is the most heavily forested unit with 7 out of every 10 acres classified as timberland. Conversely, in the Southeast Unit, only slightly more than 1 out of every 10 acres are classified as timberland. The Southeast Unit is the most urbanized and agricultural part of the State. The percent of the total area of land classified as timberland for the five units is: Northeast, 73 percent; Northwest, 68 percent; Central, 43 percent; Southwest, 33 percent; and Southeast, 13 percent.
  - Individual private landowners are the largest group of timberland owners in Wisconsin, owning more than 57 percent of all timberland in 1996. Counties and municipalities are the largest group of public owners, holding 15 percent of the total area of timberland in Wisconsin (fig. 2).
  - Bayfield County continued to be the lead county in terms of total area of timberland (740,000 acres in 1983 and 772,000 acres in 1996).
  - Currently, Bayfield, Marinette, Sawyer, Douglas, Price, Oneida, Forest, and Ashland Counties all have more than a half million acres of timberland.
  - Despite the overall increase in area of timberland, some counties decreased in area of timberland between inventories. The majority of these counties are located in the southern portions of Wisconsin. The primary reason for a decrease in area of timberland was urban and suburban development.

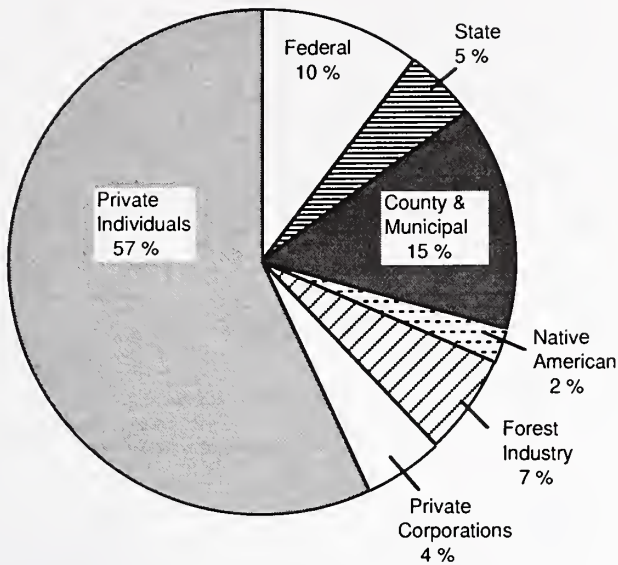


Figure 2.—Distribution of timberland, by owner, Wisconsin, 1996.

### Composition of Wisconsin's Forests

- Wisconsin's forests are predominately hardwoods with 84 percent of the total area of timberland classified as hardwood forest types. Currently, the primary hardwood forest type in Wisconsin is maple-beech-birch with 5.3 million acres (fig. 3).

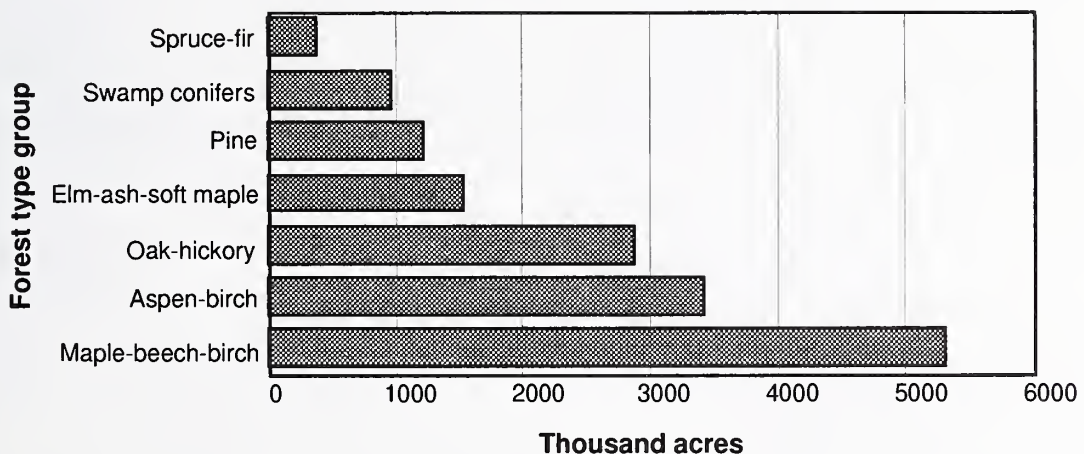


Figure 3.—Area of timberland by forest type group, Wisconsin, 1996.

- Currently, conifer forest types represent 16 percent of the total area of timberland in Wisconsin. Pine forest types account for 8 percent, swamp conifers 6 percent, and spruce-fir 2 percent of the total area of timberland.
- Between 1983 and 1996, the area of jack pine, white pine, balsam fir, northern white-cedar, aspen, and paper birch declined. The decline in area of jack pine, aspen, and paper birch was primarily due to natural succession as these shade-intolerant species aged and were replaced by more shade-tolerant species.
- Mid- to late-successional forest types increased in area between 1983 and 1996. For example, the area of maple-beech-birch increased from 4.1 million acres to 5.3 million acres.
- Between inventories, the area of sawtimber- and poletimber-size stands decreased, by 6 percent and 1 percent, respectively, while sapling-seedling-size stands increased by 37 percent. In 1996, poletimber-size stands accounted for 41 percent, sapling-seedling-size stands 31 percent, and sawtimber-size stands 28 percent of the total area of timberland in Wisconsin (fig. 4).

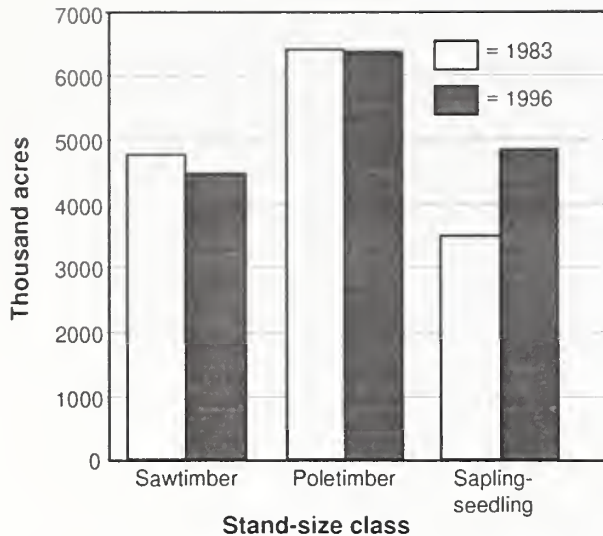


Figure 4.—Area of timberland, by stand-size class, Wisconsin, 1983 and 1996.

- Stocking, a measure of how occupied the land is by trees, improved between 1983 and 1996 in Wisconsin. For example, the percentage of poorly stocked timberland decreased from 24 percent of the total area of timberland in 1983 to only 14 percent in 1996. By 1996, more than 50 percent of the total area of timberland in Wisconsin was fully stocked, compared to 42 percent in 1983.

- The number of growing-stock trees in Wisconsin increased from about 7.3 billion in 1983 to 8.7 billion in 1996. With a statewide population of about 5.1 million people in 1996, Wisconsin had more than 1,700 growing-stock trees for each citizen in 1996.
- Quaking aspen, with almost 1.5 billion growing-stock trees, is currently the most abundant species in Wisconsin. Balsam fir, with more than 750 million growing-stock trees in 1996, is the most abundant conifer.
- Growing-stock volume increased from 16.5 billion cubic feet in 1983 to 18.5 billion cubic feet in 1996, reflecting the increase in both area and stocking during the 13 years between inventories.
- In both 1983 and 1996, hardwoods accounted for three-fourths of all growing-stock volume. The species groups with the most growing-stock volume in 1996 were aspen (quaking aspen and bigtooth aspen), 2.5 billion ft<sup>3</sup>; red oak (select red oak and other red oak), 2.4 billion ft<sup>3</sup>; hard maple, 2.2 billion ft<sup>3</sup>; and soft maple, 1.9 billion ft<sup>3</sup> (fig. 5).

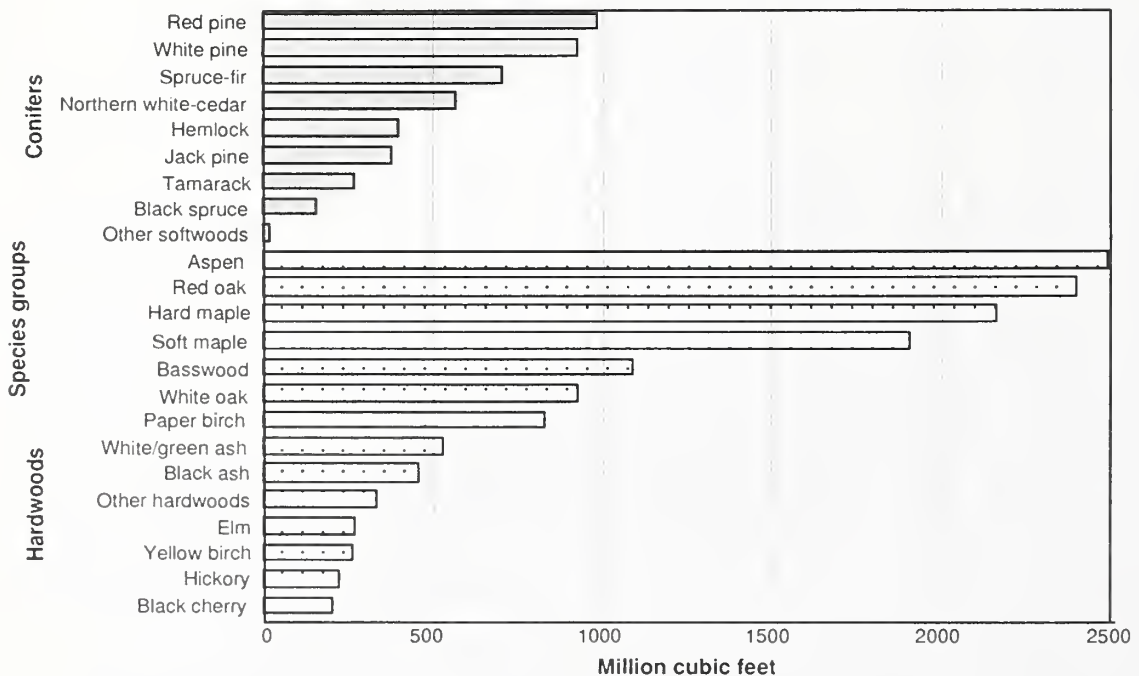


Figure 5.—Growing-stock volume, by species group, Wisconsin, 1996.

- While the total area of timberland typed as oak-hickory remained constant between inventories at about 2.9 million acres, growing-stock volumes for the oak and hickory species groups generally increased. For example, select white oak increased from 759 million ft<sup>3</sup> to 927 million ft<sup>3</sup> between 1983 and 1996, an increase of 22 percent.
- One of the more interesting changes in Wisconsin's forests between 1983 and 1996 is in the distribution of aspen growing stock. In 1983, 67 percent of the aspen growing-stock volume was in the aspen-birch forest type. By 1996, only 57 percent of the aspen growing-stock volume was in the aspen-birch forest type. Aspen is a pioneer species that generally does not reproduce itself in an established stand. Instead, aspen relies on disturbances to create an environment that is suitable for regeneration. Currently almost half of all aspen growing-stock volume is in other forest types, indicating that many of the aspen-birch forest types are in the process of converting to other forest types. As the established aspen matures and begins to die out, more shade-tolerant species become established, resulting in the stands being reclassified from aspen-birch to other forest types.
- While the area of timberland typed as white pine decreased from 224 thousand acres to 192 thousand acres, white pine growing-stock volume increased by almost 50 percent from 1983 (625 million ft<sup>3</sup>) to 1996 (929 million ft<sup>3</sup>). There is a considerable amount of white pine growing-stock volume in forest types other than white pine. More than 20 million ft<sup>3</sup> of white pine growing-stock volume are in the red pine, oak-hickory, elm-ash-soft maple, maple-beech-birch, aspen, and paper birch forest types.
- From 1983 to 1996, total sawtimber volume in Wisconsin increased by 31 percent, rising from 37 billion board feet to 48 billion board feet. In both 1983 and 1996, red oak was the most prevalent hardwood sawtimber species and white pine was the most prevalent conifer sawtimber species.
- The quality of the sawtimber in Wisconsin has improved over recent inventories. As an example, the percentage of sawtimber in the highest quality classifications (grades 1 and 2) increased from 28 percent in 1983 to 41 percent in 1996 (fig. 6). The predominant reason for this improvement in quality is the increase in the overall size (diameters and lengths) of the sawtimber resource.

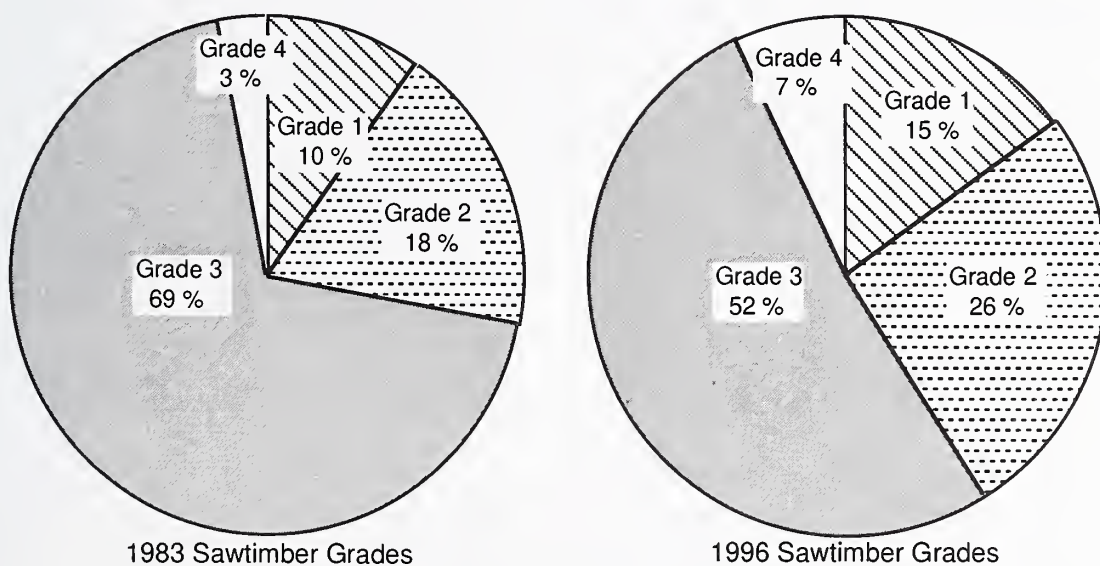


Figure 6.—Percent of sawtimber by grade, Wisconsin, 1983 and 1996.

- In 1996, 87 percent of the total volume on timberland in Wisconsin qualified as growing stock. Other sources of wood fiber volume in Wisconsin include short-log, rough, rotten, and salvable dead trees. Although the vast majority of wood harvested is from growing stock, these other sources of volume also contribute to the overall harvest and availability of wood fiber in Wisconsin.
- Wisconsin's average annual mortality of growing stock was 190 million ft<sup>3</sup> between 1983 and 1996. This equates to an average annual mortality rate of 12 ft<sup>3</sup> of growing stock per acre for each of the 15,702,500 acres of timberland in Wisconsin.

### Causes of Change in Wisconsin's Forests

- The primary causes of change in Wisconsin's forests are natural successional processes, growth, mortality, and other natural disturbances, as well as human-induced changes such as harvesting, other forest management activities, and land-use changes. These change factors often result in reclassifications from one forest type to another. For example, many timberland sites were classified as aspen forest type in 1983. However, when our field crews revisited these same sites in 1996, succession had progressed to where the aspen trees were replaced by more shade-tolerant hardwood species. As a result of these changes, the stand was reclassified as maple-beech-birch.
- Between 1983 and 1996, Wisconsin's average annual net growth of growing stock was 490 million ft<sup>3</sup>. This equates to an average annual net growth rate of 31 ft<sup>3</sup> of growing stock per acre for each of the 15,702,500 acres of timberland in Wisconsin in 1996.
- Conifer species groups with the largest average annual net growth of growing stock between inventories were red and white pine. These two species groups alone accounted for 58 percent of the total average annual net growth of growing stock for all conifers in Wisconsin.
- Hardwood species groups with the largest average annual net growth of growing stock between inventories were aspen (bigtooth and quaking aspen), soft maple (red and silver maple), hard maple (black and sugar maple), and red oak (select and other red oak). All four of these species groups averaged more than 50 million ft<sup>3</sup> of annual net growth of growing stock between 1983 and 1996.
- Of the known causes of growing-stock mortality, stem decay, foliage diseases, and bole borers are the primary causes of mortality in Wisconsin. Other causes of growing-stock mortality include hypoxylon canker, oak wilt, Dutch elm disease, and flooding.
- Aspen mortality accounted for more than one-fourth of the total average annual mortality of growing stock in Wisconsin between 1983 and 1996. In addition, paper birch, red oak, balsam fir, and elm all had average annual mortality of growing stock rates of more than 10 million ft<sup>3</sup> during this time period.
- Between 1983 and 1996, Wisconsin's average annual removals of growing stock were 332 million ft<sup>3</sup>. This equates to an average annual removal rate of 21 ft<sup>3</sup> of growing stock per acre for each of the 15,702,500 acres of timberland in Wisconsin. This removal rate represents 1.8 percent of the total growing-stock volume in Wisconsin.
- The average annual removal rate for hardwood growing stock (280 million ft<sup>3</sup>) was 2.0 percent of the total hardwood growing-stock volume. Average annual removals of softwood growing stock were 53 million ft<sup>3</sup>, 1.2 percent of the total softwood growing-stock volume.
- Between 1983 and 1996, the primary softwood species groups (growing-stock removals) harvested in Wisconsin were jack pine, white pine, red pine, and balsam fir.
- Between 1983 and 1996, the primary hardwood species groups harvested (growing-stock removals) in Wisconsin were aspen (quaking and bigtooth aspen), red oak (select red oak and other red oak), hard maple (black and sugar maple), soft maple (red and silver maple), and paper birch.

## Forest Habitat Types of Wisconsin

- The 1996 inventory of Wisconsin's forest resources included the use of the Wisconsin Forest Habitat Type Classification System (Kotar *et al.* 1988, Kotar and Burger 1996). The habitat type system is a method of site classification that uses floristic composition, particularly understory species, as an indicator of biological site capability. Knowledge of the biological potential of forest sites can lead to improved management. For convenience, the 95 habitat types recognized in Wisconsin were grouped into 15 habitat type groups: 7 northern and 8 southern. The groups represent steps of the moisture-nutrient gradient for each of the two regions.
- In this inventory, the greatest acreages of forest land were classified as the North Mesic (2.3 million acres), North Wet-Mesic (2.2 million acres), and North Wet (2 million acres) habitat type group.
- Of the 95 habitat types identified, the greatest acreages of forest land are classified in the Lowland North, Hydromesic North, Lowland South, ArCi-Ph (*Acer/Circaea-Phryma*), ATM (*Acer-Tsuga/Maianthemum*), AViO (*Acer/Viola-Osmorhiza*), and TMC (*Tsuga/Maianthemum-Coptis*) habitat types. More than 400 thousand acres of forest land are found in each of these habitat types.
- Regarding the major species groups, pine is primarily represented by dry site habitat groups, other softwoods by mesic to wet site habitat groups, soft hardwoods by mesic to wet-mesic site habitat groups, and hard hardwoods by dry-mesic to mesic site habitat groups.

## APPENDIX

### ACCURACY OF THE SURVEY

Forest Inventory and Analysis information is based on a sampling procedure designed to provide reliable statistics at the State and Survey Unit levels. Consequently, the reported figures are estimates only. A measure of reliability of these figures is given by sampling errors. These sampling errors mean that the chances are two out of three that if a 100-percent inventory had been made, using the same methods, the results would have been within the limits indicated.

For example, the estimated growing-stock volume in the State in 1996, 18,473.2 million cubic feet, has a sampling error of  $\pm 0.78$  percent ( $\pm 144.1$  million cubic feet). The growing-stock volume from a 100-percent inventory would be expected to fall between 18,329.1 million cubic feet and 18,617.3 million cubic feet ( $18,473.2 \pm 144.1$ ), there being a one in three chance that this is not the case.

Item	State totals	Sampling error
Growing stock	(Million cubic feet)	(Percent)
Volume (1996)	18,473.2	0.78
Average annual growth (1983-1995)	490.1	1.42
Average annual removals (1983-1995)	332.2	6.35
Sawtimber	(Million board feet)	
Volume (1996)	48,020.4	1.09
Average annual growth (1983-1995)	1,680.6	1.67
Average annual removals (1983-1995)	986.2	6.85
	(Thousand acres)	
Timberland area (1996)	15,702.5	0.28

As survey data are broken down into sections smaller than State totals, the sampling error increases. For example, the sampling error for timberland area in a particular county is higher than that for total timberland area in the State. To estimate sampling error for data smaller than State totals, use the following formula:

$$E = \frac{(SE) \sqrt{(\text{State total volume or area})}}{\sqrt{(\text{Volume or area smaller than State total})}}$$

Where :

E = Sampling error in percent.

SE = State total error for volume or area.

For example, to compute the error on the area of timberland in the maple-beech-birch type for the State, proceed as follows:

- 1) Total statewide area of maple-beech-birch type = 5,299.7 thousand acres.
- 2) Total statewide area of all timberland = 15,702.5 thousand acres.
- 3) The State total error for timberland area = 0.28 percent.

4) Using the above formula:

$$E = \frac{0.0028 \sqrt{15,702.5}}{\sqrt{5,299.7}}$$

E= 0.0048 or 0.48 percent sampling error for the maple-beech-birch forest type in Wisconsin.

### County Data

A standard FIA inventory is designed to provide sampling errors of no more than 3 percent per million acres of timberland or an overall error on Wisconsin's nearly 15.7 million acres of about 0.7 percent. More accurate survey information was obtained during this survey than otherwise would have been feasible because sampling intensity was increased from a single intensity level to a double intensity level. The goal was to provide a sampling error of less than 10 percent for total timberland area by county from the increased sampling intensity. Such sampling was made possible through the cooperation, assistance, and additional funding provided by the State of Wisconsin. In addition, to aid in determining current timber removals, the Wisconsin Department of Natural Resources (WDNR) also surveyed primary wood-using plants in the



State. Sampling errors for area, volume, growth, and removals, for both growing stock and sawtimber, for each county in Wisconsin are shown in Appendix table 56.

The sampling error within a county depends on county size and total area of timberland. Many large, heavily forested counties in the State have sampling errors below 5 percent. However, in counties where timberland area is less than 35,000 acres, the sampling error for the total area in timberland will generally exceed 10 percent. The sampling error for total timber volume in a reporting area containing 35,000 acres of timberland will be about 20 percent.

### COMPARING WISCONSIN'S FIFTH INVENTORY WITH THE FOURTH INVENTORY

A new volume estimation procedure developed for the Lake States was used to compute the 1996 volumes and to recompute the 1983 volume. Although the adjustment will differ by Survey Unit and species, the recomputed 1983 growing-stock and sawtimber volumes will generally be greater than those shown in the 1983 report.

Past surveys used only growing-stock trees to determine stand-size class. Current survey procedures require that stand-size class be determined on the basis of all live trees. Therefore, direct comparisons of current

inventory data to old inventory data by stand-size class may be misleading.

The basic building block for estimating forest area and timber volume has been changed from the Survey Unit to the county. In the past, the statistics were developed at the Unit level and prorated back to the county on the basis of photo-interpretation points. Direct development of county-level data helps users interested in more precise local data, but can make the data comparisons with past estimates misleading.

### SURVEY PROCEDURES

The 1996 Wisconsin survey used a growth model-enhanced, two-phase sample design. Using this sampling scheme and associated estimators is similar to sampling with partial replacement, in that a set of randomly located plots is available for remeasurement and a random set of new plots is established and measured. A feature of the new Wisconsin design is stratification for disturbance on the old sample and use of a growth model to improve regression estimates made on old undisturbed forest plots (fig. 7). Detailed descriptions of the sampling and estimation procedures are presented by Hansen (1990). The growth model used in the Wisconsin survey design was the Lake States Stand and Tree Evaluation and Modeling System (STEMS) (Belcher *et al.* 1982).

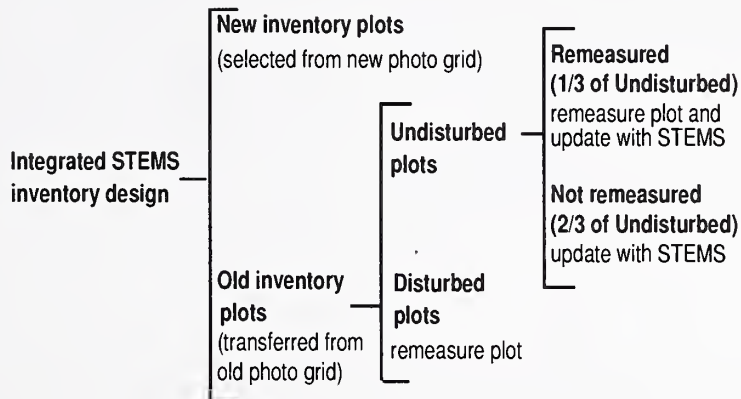


Figure 7.—Overview of the Wisconsin sample design.

## Major Steps in the New Survey Design

### 1. Aerial photography (Phase 1)

In this phase, two sets of random points were located on current aerial photography. The first is a set of new photo plots and the second is a set of relocated old ground plot locations from the 1983 inventory. Aerial photographs, taken from 1991 through 1993, that were used for Phase 1 of the inventory were black and white, infra-red at a scale of 1:15,840 for the Northeast, Northwest, and Central Units and at a scale of 1:24,000 for the Southeast and Southwest Units. The WDNR contracted this photography and loaned the photos to the Forest Service. The locations of plots used in the 1983 inventory were transferred to these new photographs. The photographs were then assembled into township mosaics, and a systematic grid of 121 one-acre photo plots (each plot representing approximately 190.4 acres) was overlaid on each township mosaic. Each of these photo plots was examined by aerial photo interpretation specialists and classified stereoscopically based on land use. If trees were present, forest type and stand-size/density class were recorded. After this examination, all the old "disturbed" sample locations and one-third of the old "undisturbed" forested plots were sent to the field for survey crews to verify the photo classification and to take further measurements. All photo plot locations for the 1996 inventory were examined and were classified as shown in the tabulation below.

A systematic sample of the aerial photo plots were selected to become ground plots in phase 2 of the procedure. Ground plots that definitely were not forest land were given a nonforest ground land use classification and not sent to the field for measurement.

Photo land class	Photo plots
Forest land	90,242
Reserved forest land	1,392
Questionable	1,230
Nonforest with trees	9,826
Nonforest reserved	337
Nonforest without trees	95,712
Water	4,587
All classes	203,326

### 2. Plot measurements (Phase 2)— Overview of 1983 Plot Design

On plots classified as timberland, wooded pasture, or windbreak (at least 120 feet wide), a ground plot was established, remeasured, or modeled. Old plots sent to the field for remeasurement that could not be relocated were replaced with a new plot at the approximate location of the old one. Each ground plot consisted of a cluster of 10 subplots covering approximately 1 acre. At each subplot, trees 5.0 inches or more in d.b.h. were sampled on a 37.5 Basal Area Factor (BAF) variable-radius plot, and trees less than 5.0 inches d.b.h. were sampled on a 1/300-acre fixed-radius plot only at subplots 1, 2, and 3. The arrangement of the 10 subplots within the plot was adjusted if they were located in a land use that was different from subplot 1. Under the estimation procedures used in this inventory, the entire plot measurement represented a single land classification. Thus, if a subplot was located outside of the land classification for the plot, it was rotated into the land classification. For example, if subplots 1 through 9 were located in a forest land classification and subplot 10 fell in a pasture, subplot 10 was rotated back into the forest land classification.

### Plot measurements (Phase 2)— Overview of 1996 Plot Design

On plots classified as forest land (including reserved forest land, unproductive forest land, and timberland), wooded pasture, or windbreaks (at least 120 feet wide), a ground plot was established, remeasured, or modeled. Locating ground plots on all forest lands represented a major change between the 1983 and 1996 inventories.

In 1996, the overall plot layout consisted of 10 subplots arranged in a cluster with 70 feet between clusters. The basic location of plots and subplots was the same as the 1983 plot layout. All trees less than 5 inches in d.b.h. were measured on a 6.8-foot radius (1/300th acre) circular microplot located at the center of each subplot. (In 1983, this microplot was measured only on subplots 1, 2, and 3). This radius was the maximum distance at which a 5-inch tree would be selected using a basal area factor (BAF) of 37.5 prism. Trees with diameters between 5 and 17 inches were

selected at each of the 10 subplots with a BAF of 37.5. Trees greater than 17 inches d.b.h. were selected from a 24-foot fixed radius macro-subplot centered at each of the 10 subplots. The macro subplots were mapped for forest conditions, and subplots were not rotated even if they fell into another condition. Factors that would determine a change in condition from subplot 1 were changes in forest type, stand size class, land use, and density. Each condition that occurred anywhere on one of the subplots was identified, described, and mapped. Each condition was assigned a condition number, and condition information was recorded.

On remeasurement plots, the rotated subplots and all the trees measured on the 1983 plot design were also measured to obtain change data such as growth and mortality. On new plots, subplots were not rotated. Hahn *et al.* (1995) presents further in-depth procedures.

#### a) New inventory plots

A systematic sample of the new photo plots was selected for field measurement. Ground plots were established, and measures of current classification such as land use, forest type, and ownership as well as size and condition of all trees on the plot were recorded. These locations were monumented for future remeasurement.

#### b) Old inventory plots

These plots were established, monumented, and measured as part of the 1983 field inventory. The procedures for these old plots were different from those for the new plots. Old plots were classed as "undisturbed" or "disturbed" in the aerial photo phase of the sampling process. All disturbed plots and a one-third sample of the undisturbed plots were remeasured to obtain estimates of current condition and changes since the last inventory. All trees measured on these plots in 1983 were remeasured or otherwise accounted for, and all new trees were identified and measured.

All sample plots that were timberland at the time of the 1983 inventory and determined to be undisturbed until the 1996 inventory were projected to the current time using STEMS. This procedure gives projected estimates of current volume and growth for these undisturbed plots. The comparison of the projected and observed values on the one-third sample of the undisturbed forest plots that were remeasured provided local calibration data to adjust the projected values of the undisturbed plots that were not remeasured. The adjustment procedure is a modified version of the method described by Smith (1983).

The undisturbed timberland plots that were not remeasured play a crucial role in the new survey design. These plots were determined to be undisturbed and had conditions that could be simulated by STEMS. The STEMS growth model was used to "grow" the old plot and tree data to produce an estimate of current data. Thus, these plots were treated as ground plots, even though they were never visited. The plot record for each modeled plot was sent to the field for verification of current ownership information.

All old plots classified as disturbed were sent to the field for remeasurement to assess and verify changes since the last inventory. Disturbance refers to any change on a plot that can be detected on aerial photos and that the STEMS growth processor cannot predict, such as catastrophic mortality, cutting, regenerating stands, and land use change.

The estimation procedure for computing statistics from this sampling design was more complicated than the simple two-phase estimation procedure used in the past. In fact, this procedure yielded two independent samples, one coming from the new photo points and the other coming from the old photo points that are remeasured or modeled. The tabulation on the next page summarizes the distribution of all ground plots for the new inventory design by type of plot:

<b>Ground land use class</b>	<b>Old plots remeasured</b>	<b>Old plots updated</b>	<b>New plots</b>	<b>Total plots</b>
Timberland	2,589	449	6,127	9,165
Reserved forest land	72	0	73	145
Other forest land	15	0	10	25
Nonforest with trees	276	25	697	998
Nonforest without trees	2,348	205	7,370	9,923
Water	166	41	477	684
Total	5,466	720	14,754	20,940

### 3. Area estimates

Area estimates were made using two-phase estimation methods. In this type of estimation, a preliminary estimate of area by land use is made from the aerial photographs (Phase 1) and corrected by the plot measurements (Phase 2). A complete description of this estimation method is presented by Loetsch and Haller (1964).

### 4. Volume estimates

Estimates of volume per acre were made from the trees measured or modeled on the 10-point plots. Estimates of volume per acre were multiplied by the area estimates to obtain estimates of total volume. Net cubic foot volumes are based on a modification of the method presented by Hahn (1984) for use in the Lake States. For the Wisconsin inventory, the merchantable height equation presented in Hahn (1984) was used in conjunction with Stone's equation (see Appendix I in Hahn 1984) to estimate gross volume. This estimate was then corrected by species for variation in bark and cull volume to yield an estimate of net volume, using the coefficients presented in Hahn (1984).

The Forest Service reports all board foot volume in International 1/4-inch rule. In Wisconsin, the Scribner log rule is commonly used. Scribner log rule conversion factors were derived from full tree measurements taken throughout the Lake States (Michigan, Wisconsin, and Minnesota) and an equation developed by Wiant and Castenaeda (1977). The factors (multipliers) used to convert board foot International volumes to the Scribner rule are shown in the following tabulation:

<b>D.b.h. (inches)</b>	<b>Scribner rule conversion factor</b>	
	<b>Softwoods</b>	<b>Hardwoods</b>
9.0-10.9	0.7830	—
11.0-12.9	.8287	0.8317
13.0-14.9	.8577	.8611
15.0-16.9	.8784	.8827
17.0-18.9	.8945	.8999
19.0-20.9	.9079	.9132
21.0-22.9	.9168	.9239
23.0-24.9	.9240	.9325
25.0-26.9	.9299	.9396
27.0-28.9	.9321	.9454
29.0+	.9357	.9544

### 5. Growth and mortality estimates

On remeasured plots, estimates of growth and mortality per acre come from the remeasured diameters of trees and from observation of trees that died between inventories. These estimates are based on the remeasurement of the 1983 inventory plots using the 1983 plot design. Growth reported as the average net annual growth between the two inventories (1983 and 1996) is computed from data on remeasured plots and modeled plots using methods presented by VanDeusen *et al.* (1986). Mortality is also average net annual for the remeasurement period. On new plots, estimates of growth and mortality were obtained by using STEMS to project the growth and mortality of trees for 1 year. Growth and mortality estimates for old undisturbed plots that were updated were derived in the same manner as remeasured plots. The STEMS growth model was adjusted by Survey Unit to meet local conditions, using data from the undisturbed remeasurement plots. As with volume, total growth and mortality estimates were obtained by multiplying the per acre estimates by area estimates. Current annual growth for 1995 was computed by using the adjusted STEMS model to grow all current inventory plots for 1 year.

## 6. Average annual removals estimates

Average annual growing-stock and sawtimber removals (1983 to 1995) were estimated only from the remeasured plots; (These estimates are based on the remeasurement of the 1983 inventory plots using the 1983 plot design) new plots and STEMS-projected plots were not used to estimate removals. These estimates are obtained from trees measured in the last survey and cut or otherwise removed from the timberland base. Because remeasurement plots make up about one-half of the total ground plots and not all remeasurement plots had cutting, average annual removals estimates have greater sampling errors than volume and growth estimates.

### HABITAT TYPE CLASSIFICATION OF WISCONSIN

The 1996 inventory of Wisconsin's forest resources included the use of the Wisconsin Forest Habitat Type Classification System (Kotar *et al.* 1988, Kotar and Burger 1996). The habitat type groups are described as:

#### Habitat Type Groups - North

##### 1. *North, very dry to dry*

This group represents the driest, least fertile soils of the region. Forests are dominated by pines (primarily jack and red pine) and poor quality oak. Red maple is the most shade tolerant species found on these sites and can replace other species in the absence of natural disturbance or management.

##### 2. *North, dry to dry-mesic*

This group is a step up on the soil moisture-nutrient gradient from the preceding group. In addition to jack and red pines, white pine and red oak thrive on these types. White pine is sufficiently shade tolerant to reproduce naturally in mixed stands of oaks, aspen, red maple, and other pines.

##### 3. *North, dry-mesic to mesic*

Soil moisture and nutrients are adequate to support shade tolerant, mesic species such as sugar maple, basswood, and white ash, but not at their optimal levels. Following natural disturbance or logging, red oak, red maple, or white pine often assume dominance in the stand. However, without natural disturbance or management, stands on these types tend to succeed to mesic hardwoods.

##### 4. *North, mesic*

This group represents the best soil moisture-nutrient condition in the region. Shade tolerant, mesic hardwoods (sugar maple, basswood, white ash, American beech) or hemlock dominate most stands. Less shade tolerant species gain temporary dominance only following a major disturbance, especially by fire. However, fires are not frequent on these habitat types.

##### 5. *North, wet-mesic*

This group represents a transition from upland to lowland forest. Sites with higher nutrient levels are dominated by mesic hardwoods (e.g., sugar maple, basswood, white ash) and sites with lower nutrient levels are dominated by hemlock, white pine, or balsam fir. Aspen or red maple often dominate successional stands on all habitat types of this group.

##### 6. *North, wet*

These are distinctly lowland sites. No specific habitat types were identified. Forests are dominated by swamp conifers (e.g., northern white cedar, black spruce, balsam fir) or by red maple, black ash, or aspen.

##### 7. *North, boreal*

The two habitat types in this group represent a special case where clayey soils and climate, modified by Lake Superior, historically supported upland forests dominated by balsam fir. Most of these sites are currently occupied by quaking aspen, but succession to balsam fir is evident.

#### Habitat Type Groups - South

##### 8. *South, dry*

These types represent the driest, sandy soils primarily in central and western parts of the State. Jack pine, red pine, white pine, oaks, and/or aspen make up most of the stands. Communities are similar to those of northern dry habitat types, but often include white oak, black oak, and bur oak in addition to red and pin oaks. Red oak typically does not attain merchantable size.

##### 9. *South, dry-mesic 1*

These habitat types represent better growth conditions for all species of oak as well as pine. Red maple also competes more strongly on these habitat types compared to those of the preceding group. In the absence of natural

disturbance or management, red maple is capable of replacing most other species. Sugar maple is absent.

**10. South, dry-mesic 2**

The soil moisture and nutrient levels on these habitat types are adequate to support moderate growth of mesic hardwoods such as sugar maple and basswood. Red and white oaks grow well on these types and make up the largest volume in present stands. However, in the absence of management, they tend to be replaced by mesic hardwoods.

**11. South, dry-mesic 3**

These types represent soil conditions similar to those of the preceding group, but they experienced a more intense fire disturbance regime in the presettlement time. As a result, mesic hardwoods have been virtually eliminated from the landscape and are not currently replacing oaks or other intolerant species. For these reasons, oak regeneration is relatively easy to achieve.

**12. South, mesic 1**

This group represents mesic, nutrient-rich sites that experienced relatively little fire disturbance in presettlement time and continue to be dominated by sugar maple, basswood, and white ash. Lack of natural disturbance, or management by light partial cutting, favors sugar maple dominance.

**13. South, mesic 2**

These habitat types occupy soils similar to those of the preceding group, but they experienced a more intense fire disturbance regime in presettlement time. As a result, stands are dominated by various shade-intolerant species, and mesic hardwoods are absent.

**14. South, wet-mesic**

This group represents poorly drained mineral soils. No specific habitat types have been identified. Best adapted species appear to be red maple and black ash, but many other species occur.

**15. South, wet**

This group represents swampy or boggy conditions with either mineral or organic soils. No specific habitat types have been identified. Best adapted species are black ash, red maple, and white pine on mineral soils and tamarack, black spruce, and white cedar on organic soils.

**16. No habitat type group identified**

No habitat type group was identified on the field plot.

In addition to the 16 habitat type groups, 96 specific habitat types were used in the 1996 inventory of Wisconsin's forest resources. A brief list of the species associated with each habitat type follows.

**Index To Habitat Type Names**

**1. N - Very dry to dry**

- QAc *Quercus macrocarpa*/*Arctostaphylos uva-ursi*
- ArQTr *Acer rubrum-Quercus ellipsoidalis*/*Trientalis borealis*
- QArE *Quercus rubra-Acer rubrum*/*Epigaea repens*
- QGcCe *Quercus ellipsoidalis*/*Gaultheria procumbens-Ceanothus americanus*
- ArQV *Acer rubrum-Quercus rubra*/*Vaccinium angustifolium*
- ArQV-Sm *Acer rubrum-Quercus rubra*/*Vaccinium angustifolium*, *Smilacina racemosa* variant
- QV *Quercus ellipsoidalis*/*Vaccinium angustifolium*
- QAp *Quercus alba-Quercus ellipsoidalis*/*Amorpha canescens*

**2. N - Dry to dry-mesic**

- PAm *Pinus strobus*/*Amphicarpa bracteata*
- PAm-At *Pinus strobus*/*Amphicarpa bracteata*, *Athyrium filix-femina* variant
- PMV *Pinus strobus*/*Maianthemum canadense-Vaccinium angustifolium*
- PMV-Q *Pinus strobus*/*Maianthemum canadense-Vaccinium angustifolium*, *Quercus ellipsoidalis* variant
- PMV-Vb *Pinus strobus*/*Maianthemum canadense-Vaccinium angustifolium*, *Viburnum acerifolium* variant
- PMV-Po *Pinus strobus*/*Maianthemum canadense-Vaccinium angustifolium*, *Polygonatum pubescens* variant

**3. N - Dry-mesic to mesic**

- FARaA *Fagus grandifolia-Acer rubrum*/*Aralia nudicaulis*
- AVVb *Acer saccharum*/*Vaccinium*

AVDe	<i>angustifolium-Viburnum acerifolium</i> <i>Acer saccharum/Vaccinium angustifolium-Desmodium glutinosum</i>	AH-Ci	<i>Acer saccharum/Hydrophyllum virginianum, Circaea quadrisulcata variant</i>
ACI-V	<i>Acer saccharum/Clintonia borealis, Vaccinium spp. variant</i>	AH	<i>Acer saccharum/Hydrophyllum virginianum</i>
ACI	<i>Acer saccharum/Clintonia borealis</i>	<b>5. N - Wet-mesic</b>	
AQVb-V	<i>Acer saccharum-Quercus rubra/Viburnum acerifolium, Vaccinium angustifolium variant</i>	ArCo	<i>Acer rubrum/Cornus canadensis</i>
AQVb	<i>Acer saccharum-Quercus rubra/Viburnum acerifolium</i>	TMC-V	<i>Tsuga canadensis/Maianthemum canadense-Coptis groenlandica, Vaccinium spp. variant</i>
AQVb-Ha	<i>Acer saccharum-Quercus rubra/Viburnum acerifolium, Hamamelis virginiana variant</i>	TMC	<i>Tsuga canadensis/Maianthemum canadense-Coptis groenlandica</i>
AAat	<i>Acer saccharum/Athyrium filix-femina</i>	TMC-D	<i>Tsuga canadensis/Maianthemum canadense-Coptis groenlandica, Dryopteris spinulosa variant</i>
AFTPo	<i>Acer saccharum-Fagus grandifolia-Tsuga canadensis/ Polygonatum pubescens</i>	ATM-As	<i>Acer saccharum-Tsuga canadensis/Maianthemum canadense, Arisaema atrorubens variant</i>
AVb	<i>Acer saccharum/Viburnum acerifolium</i>	ATD-I	<i>Acer saccharum-Tsuga canadensis/Dryopteris spinulosa, Impatiens capensis variant</i>
AFVb	<i>Acer saccharum-Fagus grandifolia/Viburnum acerifolium</i>	ACaCi-I	<i>Acer saccharum/Caulophyllum thalictroides-Circaea quadrisulcata, Impatiens capensis variant</i>
<b>4. N - Mesic</b>		AViO-I	<i>Acer saccharum/Viola pubescens-Osmorhiza claytoni, Impatiens capensis variant</i>
ATM	<i>Acer saccharum-Tsuga canadensis/Maianthemum canadense</i>	AH-I	<i>Acer saccharum/Hydrophyllum virginianum, Impatiens capensis variant</i>
AFSt	<i>Acer saccharum-Fagus grandifolia/Streptopus roseus</i>	Hydromesic North	
AAas	<i>Acer saccharum/Arisaema atrorubens</i>	<b>6. N - Wet</b>	
ATFD	<i>Acer saccharum-Tsuga canadensis-Fagus grandifolia/ Dryopteris spinulosa</i>	Lowland North	
ATD	<i>Acer saccharum-Tsuga canadensis/Dryopteris spinulosa</i>	<b>7. N - Boreal</b>	
ATDH	<i>Acer saccharum-Tsuga canadensis/Dryopteris spinulosa-Hydrophyllum virginianum</i>	AbArSn	<i>Abies balsamea-Acer rubrum/Sanicula marilandica</i>
ACaCi	<i>Acer saccharum/Caulophyllum thalictroides-Circaea quadrisulcata</i>	AbASnMi	<i>Abies balsamea-Acer spp./Sanicula marilandica- Mitchella repens</i>
ACaCi-H	<i>Acer saccharum/Caulophyllum thalictroides-Circaea quadrisulcata, Hydrophyllum virginianum variant</i>	<b>8. S - Dry</b>	
AFAl	<i>Acer saccharum-Fagus grandifolia/Allium tricoccum</i>	PVGy	<i>Pinus strobus/Vaccinium angustifolium-Gaylussacia baccata</i>
AFAd	<i>Acer saccharum-Fagus grandifolia/Adiantum pedatum</i>	PEu	<i>Pinus strobus/Euphorbia corollata</i>
AViO	<i>Acer saccharum/Viola pubescens-Osmorhiza claytoni</i>	PVHa	<i>Pinus strobus/Vaccinium angustifolium-Hamamelis virginiana</i>
AViO-Ca	<i>Acer saccharum/Viola pubescens-Osmorhiza claytoni, Caulophyllum thalictroides variant</i>	PVCr	<i>Pinus strobus/Vaccinium angustifolium-Cornus racemosa</i>
AHVb	<i>Acer saccharum/Hydrophyllum virginianum-Viburnum acerifolium</i>	PVG	<i>Pinus strobus/Vaccinium angustifolium-Gaultheria procumbens</i>
		PVRh	<i>Pinus strobus/Vaccinium angustifolium-Rubus hispidus</i>

### 9. S - Dry-mesic 1

ArDe-V	<i>Acer rubrum/Desmodium glutinosum, Vaccinium angustifolium variant</i>
ArDe	<i>Acer rubrum/Desmodium glutinosum</i>
AQVb-Gr	<i>Acer saccharum-Quercus rubra/Viburnum acerifolium, Geranium maculatum variant</i>
ArCi	<i>Acer rubrum/Circaea quadrisulcata</i>
ArCi-Ph	<i>Acer rubrum/Circaea quadrisulcata, Phryma leptostachya variant</i>
AArVb	<i>Acer saccharum-Acer rubrum/Viburnum acerifolium</i>
AArL	<i>Acer saccharum-Acer rubrum/Lysimachia quadrifolia</i>

### 10. S - Dry-mesic 2

ATiDe-Ha	<i>Acer saccharum-Tilia americana/Desmodium glutinosum, Hamamelis virginiana variant</i>
ATiDe-As	<i>Acer saccharum-Tilia americana/Desmodium glutinosum, Arisaema atrorubens variant</i>
ATiDe	<i>Acer saccharum-Tilia americana/Desmodium glutinosum</i>
ATiFrCi	<i>Acer saccharum-Tilia americana-Fraxinus americana/Circaea quadrisulcata</i>
ATiFrVb	<i>Acer saccharum-Tilia americana-Fraxinus americana/Viburnum spp.</i>
AFrDe	<i>Acer saccharum-Fraxinus americana/Desmodium glutinosum</i>
AFrDeO	<i>Acer saccharum-Fraxinus americana/Desmodium glutinosum-Osmorhiza claytoni</i>

### 11. S - Dry-mesic 3

ATiDe(Pr)	<i>Acer saccharum-Tilia americana/Desmodium glutinosum, Prunus serotina phase</i>
ATiCr(O)	<i>Acer saccharum-Tilia americana/Cornus racemosa, Osmorhiza claytoni phase</i>
ATiCr(As)	<i>Acer saccharum-Tilia americana/Cornus racemosa, Arisaema atrorubens phase</i>
ATiFrVb(Cr)	<i>Acer saccharum-Tilia americana-Fraxinus americana/Viburnum spp., Cornus racemosa phase</i>

AFrDe(Vb)	<i>Acer saccharum-Fraxinus americana/Desmodium glutinosum, Viburnum spp. phase</i>
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### 12. S - Mesic 1

ATTr	<i>Acer saccharum-Tsuga canadensis/Trientalis borealis</i>
AFTD	<i>Acer saccharum-Fagus grandifolia-Tsuga canadensis/Dryopteris spinulosa</i>
ATiSa-De	<i>Acer saccharum-Tilia americana/Sanguinaria canadensis, Desmodium glutinosum variant</i>
ATiSa	<i>Acer saccharum-Tilia americana/Sanguinaria canadensis</i>
ATiFrCa	<i>Acer saccharum-Tilia americana-Fraxinus americana/Caulophyllum thalictroides</i>
ATiCa-La	<i>Acer saccharum-Tilia americana/Caulophyllum thalictroides, Laportea canadensis variant</i>
ATiCa	<i>Acer saccharum-Tilia americana/Caulophyllum thalictroides</i>
ATiCa-Al	<i>Acer saccharum-Tilia americana/Caulophyllum thalictroides, Allium tricoccum variant</i>
ATiH	<i>Acer saccharum-Tilia americana/Hydrophyllum virginianum</i>
AFH	<i>Acer saccharum-Fagus grandifolia/Hydrophyllum virginianum</i>
AFAs	<i>Acer saccharum-Fagus grandifolia/Arisaema atrorubens</i>
AFAs-O	<i>Acer saccharum-Fagus grandifolia/Arisaema atrorubens, Osmorhiza claytoni variant</i>

### 13. S - Mesic 2

ATiAs(De)	<i>Acer saccharum-Tilia americana/Arisaema atrorubens, Desmodium glutinosum phase</i>
ATiFrCa(O)	<i>Acer saccharum-Tilia americana-Fraxinus americana/Caulophyllum thalictroides, Osmorhiza claytoni phase</i>

### 14. S - Wet-mesic

Hydromesic South

### 15. S - Wet

Lowland South

### 16. No type identified

No habitat type was identified on the plot location.



## TREE AND LOG GRADES

Log grades and tree grades are based on the classification of external characteristics as indicators of quality. Log grades and/or tree grades were taken on approximately one-third of the sample plots in Wisconsin. All sawtimber softwood sample trees were graded for quality and assigned a butt log grade. All sawtimber hardwood sample trees were graded for quality and assigned a tree grade. The volume yield by log grade or tree grade for this sample was used to distribute the volume of the ungraded sample trees by species group.

Hardwood sawtimber trees were graded according to "Hardwood Tree Grades for Factory Lumber" (Hanks 1976). The best 12-foot

section of the lowest 16-foot hardwood log was used for grading. Hardwood sawtimber trees that did not meet minimum tree grade specifications for grades 1 through 3 were assigned grade 4 according to Forest Service standard specifications for hardwood construction logs described in "A Guide to Hardwood Log Grading" (Rast *et al.* 1973).

Red pine and jack pine sawtimber trees were graded based on specifications described in "Forest Service Log Grades for Southern Pines" (Campbell 1964). White pine and other softwood sawtimber trees were graded according to specifications described by Ostrander and Brisbin (1971). For all softwoods, the first merchantable 16-foot log, or shorter lengths down to 12 feet, was used for grading.

## Hardwood Tree Grade for Factory Lumber <sup>a</sup>

Grade factor	Tree grade 1	Tree grade 2	Tree grade 3
Length of grading zone (feet)	Butt 16	Butt 16	Butt 16
Length of grading section <sup>b</sup> (feet)	Best 12	Best 12	Best 12
D.b.h., minimum (inches)	16 <sup>c</sup>	13	11
D.i.b., minimum at top of grading section (inches)	13 <sup>c</sup> 16 20	11 <sup>d</sup> 12	8
Clear cuttings (on the 3 best faces) <sup>e</sup>			
Length, minimum (feet)	7 5 3	3 3	2
Number on face (maximum)	2	2 3	Unlimited
Yield in face length (minimum)	5/6	4/6	3/6
Cull deduction (including crook and sweep, but excluding shake) maximum within grading section (percent)	9	f	50

<sup>a</sup> Hanks (1976)

<sup>b</sup> Whenever a 14- or 16-foot section of the butt 16-foot log is better than the best 12-foot section, the grade of the longer section will become the grade of the tree. This longer section, when used, is the basis for determining the grading factors such as diameter and cull deduction.

<sup>c</sup> In basswood and ash, d.i.b. at top of grading section must be 12 inches and d.b.h. must be 15 inches.

<sup>d</sup> Grade 2 trees can be 10 inches d.i.b. at top of grading section if they otherwise meet surface requirements for small grade 1's.

<sup>e</sup> A clear cutting is a portion of a face free of defects, extending the width of the face. A face is one-fourth of the surface of the grading section as divided lengthwise.

<sup>f</sup> Fifteen percent crook and sweep or 40 percent total cull deduction are permitted in grade 2 trees, if size and surface of grading section qualify as grade 1. If rot shortens the required clear cuttings to the extent of dropping the butt log to grade 2, do not drop the tree's grade to 3 unless the cull deduction for rot is greater than 40 percent.

## Forest Service Standard Specifications for Hardwood Construction Logs (tie and timber logs) a, b

Position in tree	Butts and uppers
Minimum diameter, small end	8 inches
Minimum length without trim	8 feet
Clear cuttings	No requirements
Sweep allowance	One-fourth of the diameter at the small end for each 8 feet of length.
<b>Sound surface defects:</b>	
Single knots	Any number, if no one knot has an average diameter above the callus in excess of one-third of the log diameter at point of occurrence.
Whorled knots	Any number, if the sum of knot diameters above the callus does not exceed one-third of the log diameter at point of occurrence.
Holes	Any number, provided none has a diameter over one-third of the log diameter at point of occurrence and none extends more than 3 inches into included timber <sup>c</sup> .
<b>Unsound surface defects:</b>	
	Same requirements as for sound defects if they extend into included timber. No limit if they do not.

<sup>a</sup> Rast *et al.* (1973).

<sup>b</sup> These specifications are minimum for the class. If, from a group of logs, factory logs are selected first, thus leaving only nonfactory logs from which to select construction logs, then the quality range of the construction logs so selected is limited, and the class may be considered a grade. If selection for construction logs is given first priority, it may be necessary to subdivide the class into grades.

<sup>c</sup> Included timber is always square, and dimension is judged from small end.

**Eastern White Pine Saw log Grade Specifications <sup>a</sup>**

<b>Grading factor</b>	<b>Log grade 1</b>	<b>Log grade 2</b>	<b>Log grade 3</b>	<b>Log grade 4</b>
1. Minimum scaling diameter (inches)	14 <sup>b</sup>	6	6	6
2. Minimum log length (feet)	10 <sup>c</sup>	8	8	8
3. Maximum weevil injury (number)	None	None	2 injuries <sup>d</sup>	No limit
4. Minimum face requirements	Two full length or four 50% <sup>e</sup> length good faces (in addition, log knots on balance of faces shall not exceed size limit of grade 2 logs).	<p align="center"><b>NO GOOD FACES REQUIRED</b></p> Maximum diameter of log knots on three best faces: <p align="center"><b>SOUND RED KNOTS</b></p> not to exceed 1/6 scaling diameter and 3" maximum      not to exceed 1/3 scaling diameter and 5" maximum <p align="center"><b>OVERGROWN/DEAD/BLACK KNOTS</b></p> not to exceed 1/12 scaling diameter and 1 1/2" max.      not to exceed 1/6 scaling diameter and 2 1/2" max.		Includes all logs not qualifying for No. 3 or better and having at least 1/3 of their gross volume in sound wood suitable for manufacture into standard lumber
5. Maximum sweep or crook (%)	20	30	40	66 2/3
6. Maximum total scaling deduction (%)	50	50	50	66 2/3

After the tentative grade is established from face examination, the grade will be reduced whenever the following defects are evident:

7. Conks, punk knots, and pine borer damage on bark surface. <sup>f</sup>  
 Degrade one grade if present on one face.  
 Degrade two grades if present on two faces.  
 Degrade three grades if present on three or more faces.

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8. Log end defects: red rot, ring shake, heavy stain, and pine borer damage outside the heart center of log. <sup>f</sup> Consider log as having a total of 8 quarters (4 on each end) and degrade as indicated.  
 Degrade one grade if present in 2 quarters of log ends.  
 Degrade two grades if present in 3 or 4 quarters of log ends.  
 Degrade three grades if present in 5 or more quarters of log ends.

- a. Ostrander and Brisbin (1971)
- b. 12- and 13-inch logs with four full-length good faces are acceptable.
- c. 8-foot logs with four full-length good faces are acceptable.
- d. 8-foot Number 3 logs limited to one weevil injury.
- e. Minimum 50% length good face must be at least 6 feet.
- f. Factors 7 and 8 are not cumulative (total degrade based on more serious of the two). No log is to be degraded below grade 4 if net scale is at least one-third of gross scale.

## Log Grades for Jack Pine and Red Pine <sup>a</sup>

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Grade 1: Trees with three or four clear faces on the 16-foot grading section.<sup>b</sup>

Grade 2: Trees with one or two clear faces on the 16-foot grading section.

Grade 3: Trees with no clear faces on the 16-foot grading section.

After the tentative grade is established from above, the tree will be reduced one grade for each of the following, except that no tree can be reduced below grade 3, provided the total scaling deductions for sweep and/or rot do not exceed two-thirds of the gross scale of the tree.

*Sweep.* Degrade any tentative grade 1 or 2 tree one grade if sweep in the lower 12 feet of grading sections amounts to 3 or more inches and equals or exceeds one-fourth of the diameter at breast height.

*Heart rot.* Degrade any tentative grade 1 or 2 tree one grade if conk, punk knots, massed hyphae, or other evidence of advanced heart rot is found anywhere on the main tree stem.

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<sup>a</sup> Campbell (1964)

<sup>b</sup> A face is one-fourth of the circumference in width extending full length of the grading section. Clear faces are those free of: knots measuring more than 1/2-inch in diameter, overgrown knots of any size, and holes more than 1/4-inch in diameter. Faces may be rotated to obtain the maximum number of clear on the grading section.

## Log Grades for All Other Softwood Logs

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Grade 1

1. Trees must be 16 inches in diameter or larger, grading section 12 feet in length or longer, and with deduction for defect not over 30 percent of gross scale.
2. Trees must be at least 75 percent clear on each of three faces.
3. All knots outside clear cutting must be sound and not more than 2-1/2 inches in size.

Grade 2

1. Trees must be 12 inches in diameter or larger, grading section 12 feet in length or longer, and with a net scale after deduction for defect of at least 50 percent of the gross scale deducted for defect.
2. Trees must be at least 50 percent clear on each of three faces or 75 percent clear on two faces.

Grade 3

1. Trees must be 6 inches in diameter or larger, grading section 12 feet in length or longer, and with a net scale after deduction for defect of at least 50 percent of the gross contents of the log.

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Note: Diameters are diameter inside bark (d.i.b.) at small end of grading section. Percent clear refers to percent clear in one continuous section.

## METRIC EQUIVALENTS

1 acre = 4,046.86 square meters or 0.405 hectare.  
 1,000 acres = 405 hectares.  
 1 cubic foot = 0.0283 cubic meter.  
 1 foot = 30.48 centimeters or 0.3048 meter.  
 1 inch = 25.4 millimeters, 2.54 centimeters, or 0.0254 meter.  
 1 pound = 0.454 kilograms.  
 1 ton = 0.907 metric tons.

## TREE SPECIES GROUPS IN WISCONSIN (Little 1981)

### SOFTWOODS<sup>2</sup>

Balsam fir ..... *Abies balsamea*  
 Eastern redcedar ..... *Juniperus virginiana*  
 Tamarack ..... *Larix laricina*  
 White spruce ..... *Picea glauca*  
 Black spruce ..... *P. mariana*  
 Eastern white pine ..... *Pinus strobus*  
 Red pine ..... *P. resinosa*  
 Jack pine ..... *P. banksiana*  
 Northern white-cedar ..... *Thuja occidentalis*  
 Eastern hemlock ..... *Tsuga canadensis*  
 Other softwoods  
   European larch ..... *Larix decidua*  
   Norway spruce ..... *Picea abies*  
   Colorado (blue) spruce ..... *P. pungens*  
   Scotch pine ..... *P. sylvestris*

### HARDWOODS

Hard maples<sup>1</sup>  
   Black maple ..... *Acer nigrum*  
   Sugar maple ..... *A. saccharum*  
 Soft maples<sup>2</sup>  
   Red maple ..... *A. rubrum*  
   Silver maple ..... *A. saccharinum*  
 Birches  
   Yellow birch<sup>1</sup> ..... *Betula alleghaniensis*  
   River birch<sup>2</sup> ..... *B. nigra*  
   Paper birch<sup>2</sup> ..... *B. papyrifera*  
 Select hickories<sup>1</sup>  
   Shagbark hickory ..... *Carya ovata*  
 Other hickories<sup>1</sup>  
   Bitternut hickory ..... *C. cordiformis*  
 Hackberry<sup>2</sup> ..... *Celtis occidentalis*  
 American beech<sup>1</sup> ..... *Fagus grandifolia*  
 Ashes  
   White ash<sup>1</sup> ..... *Fraxinus americana*  
   Black ash<sup>2</sup> ..... *F. nigra*  
   Green ash<sup>1</sup> ..... *F. pennsylvanica*  
 Butternut<sup>2</sup> ..... *Juglans cinerea*  
 Black walnut<sup>1</sup> ..... *Juglans nigra*

Black tupelo<sup>2</sup> ..... *Nyssa sylvatica*  
   var. *sylvatica*  
 Balsam poplar<sup>2</sup> ..... *Populus balsamifera*  
 Eastern cottonwood<sup>2</sup> ..... *P. deltoides*  
 Aspens<sup>2</sup>  
   Bigtooth aspen ..... *P. grandidentata*  
   Quaking aspen ..... *P. tremuloides*  
 Black cherry<sup>2</sup> ..... *Prunus serotina*  
 Select white oaks<sup>1</sup>  
   White oak ..... *Quercus alba*  
   Swamp white oak ..... *Q. bicolor*  
   Bur oak ..... *Q. macrocarpa*  
   Chinkapin oak ..... *Q. muehlenbergii*  
 Select red oak<sup>1</sup>  
   Northern red oak ..... *Q. rubra*  
 Other red oaks<sup>1</sup>  
   Northern pin oak ..... *Q. ellipsoidalis*  
   Black oak ..... *Q. velutina*  
 Black willow<sup>2</sup> ..... *Salix nigra*  
 American basswood<sup>2</sup> ..... *Tilia americana*  
 Elms  
   American elm<sup>2</sup> ..... *Ulmus americana*  
   Siberian elm<sup>2</sup> ..... *U. pumila*  
   Slippery elm<sup>2</sup> ..... *U. rubra*  
   Rock elm<sup>1</sup> ..... *U. thomasii*  
 Other hardwoods  
   Boxelder<sup>2</sup> ..... *Acer negundo*  
   Northern catalpa<sup>2</sup> ..... *Catalpa speciosa*  
   Honeylocust<sup>1</sup> ..... *Gleditsia triacanthos*  
   Red mulberry<sup>2</sup> ..... *Morus rubra*  
   White poplar<sup>2</sup> ..... *Populus alba*  
   Black locust<sup>1</sup> ..... *Robinia pseudoacacia*  
 Noncommercial species  
   Striped maple ..... *Acer pensylvanicum*  
   Mountain maple ..... *A. spicatum*  
   Ailanthus ..... *Ailanthus altissima*  
   American hornbeam ..... *Carpinus caroliniana*  
   Flowering dogwood ..... *Cornus florida*  
   Hawthorn ..... *Crataegus* spp.  
   Osage-orange ..... *Maclura pomifera*  
   Apple ..... *Malus* spp.  
   Eastern hophornbeam ..... *Ostrya virginiana*  
   Pincherry ..... *Prunus pennsylvanica*  
   Wild plum ..... *Prunus* spp.  
   Chokecherry ..... *P. virginiana*  
   Peachleaf willow ..... *Salix amygdaloides*  
   Diamond willow ..... *S. bebbiana*  
   American mountain ash ... *Sorbus americana*

<sup>1</sup> This species or species group is considered a hard hardwood, with an average specific gravity greater than or equal to 0.50.

<sup>2</sup> This species or species group is considered a soft hardwood, with an average specific gravity of less than 0.50.

## DEFINITION OF TERMS

### **Average annual mortality of growing stock.**

—The average cubic foot volume of sound wood in growing-stock trees that died in one year. Average annual mortality is the average for the years between inventories (1983 to 1995 in this report).

### **Average annual mortality of sawtimber.**

—The average board foot volume of sound wood in sawtimber trees that died in one year. Average annual mortality is the average for the years between inventories (1983 to 1995 in this report).

### **Average annual removals from growing stock.**

—The average net growing-stock volume in growing-stock trees removed annually for roundwood forest products, in addition to the volume of logging residues, and the volume of other removals. Average annual removals of growing stock are the average for the years between inventories (1983 to 1995 in this report) and are based on information obtained from remeasurement plots (see Survey Procedures in Appendix).

### **Average annual removals from sawtimber.**

—The average net board foot sawtimber volume of live sawtimber trees removed annually for roundwood forest products, in addition to the volume of logging residues, and the volume of other removals. Average annual removals of sawtimber are the average for the years between inventories (1983 to 1995 in this report) and are based on information obtained from remeasurement plots (see Survey Procedures in Appendix).

### **Average annual net growth of growing stock.**

—The annual change in cubic foot volume of sound wood in live sawtimber and poletimber trees, and the total volume of trees entering these classes through in-growth, less volume losses resulting from natural causes. Average net annual growing stock is the average for the years between inventories (1983 to 1995 in this report).

### **Average annual net growth of sawtimber.**

—The annual change in the board foot volume of live sawtimber trees, and the total volume of trees reaching sawtimber size, less volume losses resulting from natural causes. Average net annual growth of sawtimber is the

average for the years between inventories (1983 to 1995 in this report).

**Basal area.**—Tree area in square feet of the cross section at breast height of a single tree. When the basal areas of all trees in a stand are summed, the result is usually expressed as square feet of basal area per acre.

**Biomass.**—The aboveground volume of all live trees (including bark but excluding foliage) reported in green tons (i.e., green weight). Biomass has four components:

*Bole.*—Biomass of a tree from 1 foot above the ground to a 4-inch top outside bark.

*Tops and limbs.*—Total biomass of tree from a 1-foot stump minus the bole.

*1- to 5-inch trees.*—Total aboveground biomass of a tree from 1 to 5 inches in diameter at breast height.

*Stump.*—Biomass of a tree 5 inches d.b.h. and larger from the ground to a height of 1 foot.

**Bolts.**—Roundwood logs of less than 8 feet in length that are converted into shingles, cooperage stock, dimension stock, blocks, blanks, excelsior, etc. No minimum diameter limits. Does not include logs used for the manufacture of pulp or veneer.

**Commercial species.**—Tree species presently or prospectively suitable for industrial wood products. (Note: Excludes species of typically small size, poor form, or inferior quality such as hophornbeam, Osage-orange, and redbud.)

**Cord.**—One standard cord is 128 cubic feet of stacked wood, including bark and air space. Cubic feet can be converted to solid wood standard cords by dividing by 79.

**Corporate.**—Lands owned by a private corporation not in the business of operating primary wood-using plants.

**County and municipal land.**—Land owned by counties and local public agencies or municipalities, or land leased to these governmental units for 50 years or more.

**Cropland.**—Land under cultivation within the last 24 months; including cropland harvested, crop failures, cultivated summer fallow, idle cropland used only for pasture,

orchards, active Christmas tree plantations indicated by annual shearing, nurseries, and land in soil improvement crops, but excluding land cultivated in developing improved pasture.

**Cull.**—Portions of a tree that are unusable for industrial wood products because of rot, missing or dead material, form, or other defect.

**Current annual net growth of growing stock.**—The annual change in volume of sound wood in live sawtimber and poletimber trees, and the total volume of trees entering these classes through in-growth, less volume losses resulting from natural causes, reported for a single year (1995 in this report). Current growth is based on an estimate of the current annual increment of each growing-stock tree in the inventory.

**Current annual net growth of sawtimber.**—The annual change in the volume of live sawtimber trees, and the total volume of trees reaching sawtimber size, less volume losses resulting from natural causes, reported for a single year (1995 in this report). Current growth is based on an estimate of the current annual increment of each growing-stock tree in the inventory.

**Current annual removals from growing stock.**—The current net growing-stock volume in growing-stock trees removed annually for roundwood forest products, in addition to the volume of logging residues, and the volume of other removals. Current annual removals of growing stock are reported for a single year (1995 in this report); they are based on a survey of primary wood processing mills to determine removals for products and on information from remeasurement plots (see Survey Procedures in Appendix) to determine removals due to land use change.

**Current annual removals from sawtimber.**—The current net board foot sawtimber volume of live sawtimber trees removed annually for roundwood forest products, in addition to the volume of logging residues, and the volume of other removals. Current annual removals of sawtimber are reported for a

single year (1995 in this report); they are based on a survey of primary wood processing mills to determine removals for products and on information from remeasurement plots (see Survey Procedures in Appendix) to determine removals due to land use change.

**Diameter class.**—A classification of trees based on diameter outside bark, measured at breast height 4.5 feet above the ground. (Note d.b.h. is the common abbreviation for diameter at breast height.) Two-inch diameter classes are commonly used in Forest Inventory and Analysis, with the even inch the approximate midpoint for a class. For example, the 6-inch class includes trees 5.0 through 6.9 inches d.b.h.

**Diameter at breast height (d.b.h.).**—The outside bark diameter at 4.5 feet (1.37 m) above the forest floor on the uphill side of the tree. For determining breast height, the forest floor includes the duff layer that may be present, but does not include unincorporated woody debris that may rise above the ground line.

**Forest industry land.**—Land owned by companies or individuals operating primary wood-using plants.

**Forest land.**—Land at least 16.7 percent stocked by forest trees of any size, or formerly having had such tree cover, and not currently developed for nonforest use. (Note: Stocking is measured by comparing specified standards with basal area and/or number of trees, age or size, and spacing.) The minimum area for classification of forest land is 1 acre. Roadside, streamside, and shelterbelt strips of timber must have a crown width of at least 120 feet to qualify as forest land. Unimproved roads and trails, streams, or other bodies of water or clearings in forest areas shall be classed as forest if less than 120 feet wide. (See Tree, Land, Timberland, Reserved forest land, Other forest land, Stocking, and Water.)

**Forest type.**—A classification of forest land based on the species forming a plurality of live tree stocking. The associated species for each forest type are based on net volume of growing stock and all live biomass by species group. Major forest types in the State are:



*Jack pine.*—Forests in which jack pine comprises a plurality of the stocking. Species commonly associated with the jack pine forest type in Wisconsin include red pine, red oaks, aspen, and eastern white pine.

*Red pine.*—Forests in which red pine comprises a plurality of the stocking. Species commonly associated with the red pine forest type in Wisconsin include eastern white pine, jack pine, and aspen.

*Eastern white pine.*—Forests in which eastern white pine comprises a plurality of the stocking. Species commonly associated with the eastern white pine forest type in Wisconsin include red pine, aspen, red maple, paper birch, and red oak.

*Balsam fir.*—Forests in which balsam fir and white spruce comprise a plurality of stocking, with balsam fir the most common. Species commonly associated with the balsam fir forest type in Wisconsin include white spruce, aspen, northern white-cedar, tamarack, paper birch, red maple, black spruce, and eastern white pine.

*White spruce.*—Forests in which white spruce and balsam fir comprise a plurality of the stocking, with white spruce the most common. Species commonly associated with the white spruce forest type in Wisconsin include aspen, paper birch, balsam fir, eastern white pine, red maple, and northern white-cedar.

*Black spruce.*—Forests in which swamp conifers comprise a plurality of the stocking, with black spruce the most common. Species commonly associated with the black spruce forest type in Wisconsin include tamarack, balsam fir, eastern white pine, northern white-cedar, aspen, jack pine, and paper birch.

*Northern white-cedar.*—Forests in which swamp conifers comprise a plurality of the stocking, with northern white-cedar the most common. Species commonly associated with the northern white-cedar forest type in Wisconsin include balsam fir, paper birch, black spruce, tamarack, black ash, red maple, and aspen.

*Tamarack.*—Forests in which swamp conifers comprise a plurality of the stocking, with tamarack the most common. Species commonly associated with the tamarack forest type in Wisconsin include northern white-cedar, black spruce, red maple, white pine, balsam fir, and paper birch.

*Oak-hickory.*—Forests in which northern red oak, white oak, bur oak, or hickories, singly or in combination, comprise a plurality of the stocking. Species commonly associated with the oak-hickory forest type in Wisconsin include red maple, aspen, and black cherry.

*Elm-ash-soft maple.*—Forests in which lowland elm, ash, red maple, silver maple, and cottonwood, singly or in combination, comprise a plurality of the stocking. Species commonly associated with the elm-ash-soft maple forest type in Wisconsin include northern white-cedar, aspen, cottonwood, and balsam fir.

*Maple-beech-birch.*—Forests in which sugar maple, yellow birch, American elm, and red maple, singly or in combination, comprise a plurality of the stocking. Species commonly associated with the maple-beech-birch forest type in Wisconsin include basswood, eastern hemlock, green and white ash, aspen, black cherry, and select red oaks.

*Aspen.*—Forests in which quaking aspen or bigtooth aspen, singly or in combination, comprise a plurality of the stocking. Species commonly associated with the aspen forest type in Wisconsin include red maple, paper birch, balsam fir, and select red oaks.

*Paper birch.*—Forests in which paper birch comprises a plurality of the stocking. Species commonly associated with the paper birch forest type in Wisconsin include aspen, red maple, balsam fir, northern white-cedar, sugar maple, and balsam poplar.

*Balsam poplar.*—Forests in which balsam poplar comprises a plurality of the stocking. Species commonly associated with the balsam poplar forest type in Wisconsin include balsam fir, aspen, northern white-cedar, paper birch, black ash, and white spruce.

**Growing-stock tree.**—A live tree of commercial species that meets specified standards of size, quality, and merchantability. (Note: Excludes rough, rotten, and dead trees.)

**Growing-stock volume.**—Net volume in cubic feet of growing-stock trees 5.0 inches d.b.h. and over, from 1 foot above the ground to a minimum 4.0-inch top diameter outside bark of the central stem or to the point where the central stem breaks into limbs.

**Hard hardwoods.**—Hardwood species with an average specific gravity greater than 0.50 such as oaks, hard maple, hickories, and ash.

**Hardwoods.**—Dicotyledonous trees, usually broad-leaved and deciduous. (See Soft hardwoods and Hard hardwoods.)

**Improved pasture.**—Land currently improved for grazing by cultivating, seeding, irrigating, or clearing trees or brush and less than 16.7 percent stocked with trees.

**Indian land.**—Land held in trust by the United States for tribes or individual Indians.

**Industrial wood.**—All roundwood products except residential fuelwood.

**Land.**—*A. Bureau of the Census.* Dry land and land temporarily or partly covered by water such as marshes, swamps, and river flood plains (omitting tidal flats below mean high tide); streams, sloughs, estuaries, and canals less than one-eighth of a statute mile wide; and lakes, reservoirs, and ponds less than 40 acres in area.

*B. Forest Inventory and Analysis.* The same as the Bureau of the Census, except minimum width of streams, etc., is 120 feet and minimum size of lakes, etc., is 1 acre.

**Live trees.**—Growing-stock, rough, and rotten trees 1.0 inch d.b.h. and larger.

**Log grade.**—A log classification based on external characteristics as indicators of quality or value. Log grade was assigned to a sample of softwood sawtimber trees throughout the State during the 1996 inventory. Also see Tree grade. (See Appendix for specific grading factors used.)

**Logging residue.**—The unused portions of cut trees, plus unused trees killed by logging.

**Marsh.**—Nonforest land that characteristically supports low, generally herbaceous or shrubby vegetation, and that is intermittently covered with water.

**Merchantable.**—Refers to a pulpwood or saw-log section that meets pulpwood or saw-log specifications, respectively.

**Miscellaneous Federal land.**—Federal land other than National Forest and land administered by the Bureau of Land Management or Bureau of Indian Affairs.

**National Forest land.**—Federal land that has been legally designated as National Forest or purchase units, and other land administered by the USDA Forest Service.

**Net volume.**—Gross volume less deductions for rot, sweep, or other defect affecting use for timber products.

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

**Nonforest land.**—Land that has never supported forests, and land formerly forested where use for timber management is precluded by development for other uses. (Note: Includes areas used for crops, active Christmas tree plantations as indicated by annual shearing, orchards, nurseries, improved pasture, residential areas, city parks, improved roads of any width and adjoining clearings, powerline clearings of any width, and 1- to 40-acre areas of water classified by the Bureau of the Census as land.) If intermingled in forest areas, unimproved roads and nonforest strips must be more than 120 feet wide and more than 1 acre in area to qualify as nonforest land.

*a. Nonforest land without trees.*—Nonforest land with no live trees present.

*b. Nonforest land with trees.*—Nonforest land with one or more trees per acre at least 5 inches d.b.h.

**Nonstocked land.**—Timberland less than 16.7 percent stocked with all live trees.

**Other forest land.**—Forest land not capable of producing 20 cubic feet per acre per year of industrial wood crops under natural conditions and not associated with urban or rural development. Many of these sites contain tree species that are not currently utilized for industrial wood production or trees of poor form, small size, or inferior quality that are unfit for most industrial products. Unproductivity may be the result of adverse site conditions such as sterile soil, dry climate,

poor drainage, high elevation, and rockiness. This land is not withdrawn from timber utilization.

**Other removals.**—Growing-stock trees removed but not utilized for products, or trees left standing but “removed” from the timberland classification by land use change. Examples are removals from cultural operations such as timber stand improvement work and land clearing, and the standing volume on land classified originally as timberland but later designated as reserved from timber harvesting (such as a newly established State park).

**Ownership size class.**—The amount of timberland owned by one owner, regardless of the number of parcels.

**Pasture.**—Land presently used for grazing or under cultivation to develop grazing.

**Physiographic class.**—A measure of soil and water conditions that affect tree growth on a site. The physiographic classes are:

*Xeric sites.*—Very dry soils where excessive drainage seriously limits both growth and species occurrence. Example: sandy jack pine plains.

*Xeromesic sites.*—Moderately dry soils where excessive drainage limits growth and species occurrence to some extent. Example: dry oak ridge.

*Mesic sites.*—Deep, well-drained soils. Growth and species occurrence are limited only by climate. Example: well-drained terraces of loamy soil.

*Hydromesic sites.*—Moderately wet soils where insufficient drainage or infrequent flooding limits growth and species occurrence to some extent. Example: moderately drained bottomland hardwood sites.

*Hydric sites.*—Very wet sites where excess water seriously limits both growth and species occurrence. Example: frequently flooded river bottoms and black spruce swamps.

**Plant byproducts.**—Plant residues used for products such as mulch, pulp chips, and fuelwood.

**Plantation.**—An artificially reforested area sufficiently productive to qualify as timberland. The planted species is not necessarily

predominant. Christmas tree plantations, which are considered cropland, are not included.

**Plant residues.**—Wood and bark materials generated at manufacturing plants during production of other products.

**Poletimber stand.**—(See Stand-size class.)

**Poletimber tree.**—A live tree of commercial species at least 5.0 inches d.b.h., but smaller than sawtimber size.

**Potential productivity class.**—A classification of forest land in terms of inherent capacity to grow crops of industrial wood. The class identifies the potential growth in merchantable cubic feet/acre/year at culmination of mean annual increment of fully stocked natural stands.

**Private individual land.**—Privately owned land not owned by forest industry. This class includes the formerly used Farmer and Miscellaneous private classes.

**Reserved forest land.**—Forest land withdrawn from timber utilization through statute, administrative regulation, or designation. Note: historically, Christmas tree plantations were classified as reserved forest land. However, Christmas tree plantations are now classified as cropland.

**Rotten tree.**—Live trees of commercial species that do not contain at least one 12-foot saw log or two saw logs 8 feet or longer, now or prospectively, and/or do not meet regional specifications for freedom from defect primarily because of rot; that is, when more than 50 percent of the cull volume in a tree is rotten.

**Rough tree.**—(a) Live trees of commercial species that do not contain at least one merchantable 12-foot saw log or two saw logs 8 feet or longer, now or prospectively, and/or do not meet regional specifications for freedom from defect primarily because of roughness or poor form, and (b) all live trees of noncommercial species.

**Roundwood products.**—Logs, bolts, or other round sections (including chips from roundwood) cut from trees for industrial or consumer uses. (Note: includes saw logs,

veneer logs, and bolts; cooperage logs and bolts; pulpwood; fuelwood; pilings; poles; posts; hewn ties; mine timbers; and various other round, split, or hewn products.)

**Salvable dead tree.**—A standing or down dead tree considered merchantable by regional standards.

**Sapling.**—A live tree 1.0 to 5.0 inches d.b.h.

**Sapling-seedling stand.**— (See Stand-size class.)

**Saw log.**—A log meeting minimum standards of diameter, length, and defect, including logs at least 8 feet long, sound and straight and with a minimum diameter outside bark (d.o.b.) for softwoods of 7.0 inches (9.0 inches for hardwoods) or other combinations of size and defect specified by regional standards.

**Saw-log portion.**—That part of the bole of sawtimber trees between the stump and the saw-log top.

**Saw-log top.**—The point on the bole of sawtimber trees above which a saw log cannot be produced. The minimum saw-log top is 7.0 inches d.o.b. for softwoods and 9.0 inches d.o.b. for hardwoods.

**Sawtimber stand.**—(See Stand-size class.)

**Sawtimber tree.**—A live tree of commercial species containing at least a 12-foot saw log or two noncontiguous saw logs 8 feet or longer, and meeting regional specifications for freedom from defect. Softwoods must be at least 9.0 inches d.b.h. Hardwoods must be at least 11.0 inches d.b.h.

**Sawtimber volume.**—Net volume of the saw-log portion of live sawtimber in board feet, International 1/4-inch rule (unless specified otherwise), from stump to a minimum 7.0 inches top d.o.b. for softwoods and a minimum 9.0 inches top d.o.b. for hardwoods.

**Seedling.**—A live tree less than 1.0 inch d.b.h. that is expected to survive. Only softwood seedlings more than 6 inches tall and hardwood seedlings more than 1 foot tall are counted.

**Short-log (rough tree).**—A sawtimber-size tree of commercial species that contains at least one merchantable 8- to 11-foot saw log but not a 12-foot saw log.

**Shrub.**—A woody, perennial plant differing from a perennial herb in its persistent and woody stem(s) and less definitely from a tree in its lower stature and/or the general absence of a well-defined main stem. For this report, shrubs were separated somewhat arbitrarily into tall and low shrubs as follows:

*Tall shrubs.*—Normally taller than 1.6 to 3.2 feet (0.5 to 1.0 meter).

*Low shrubs.*—Normally shorter than 1.6 to 3.2 feet (0.5 to 1.0 meter). (Woody perennial vines, such as grape, were included with low shrubs.)

**Shrub and tree seedling biomass.**—The total aboveground weight of trees less than 1.0 inch in diameter and all shrubs.

**Site index.**—An expression of forest site quality based on the height of a free-growing dominant or codominant tree of a representative species in the forest type at age 50.

**Soft hardwoods.**—Hardwood species with an average specific gravity less than 0.50, such as cottonwood, red maple, basswood, and willow.

**Softwoods.**—Coniferous trees, usually evergreen, having needles or scale-like leaves.

**Stand.**—A group of trees on a minimum of 1 acre of forest land that is stocked by forest trees of any size.

**Stand-age class.**—A classification based on age of the main stand. Main stand refers to trees of the dominant forest type and stand-size class.

**Stand-size class.**—A classification of stocked (see Stocking) forest land based on the size class of live trees on the area; that is, sawtimber, poletimber, or seedlings and saplings.

*Sawtimber stands.*—Stands with half or more of live tree stocking in sawtimber or poletimber trees, and with sawtimber stocking at least equal to poletimber stocking.

*Poletimber stands.*—Stands with half or more of live tree stocking in poletimber and/or sawtimber trees, and with poletimber stocking exceeding that of sawtimber.

*Sapling-seedling stands.*—Stands with more than half of the live tree stocking in saplings and/or seedlings.

**State land.**—Land owned by the State of Wisconsin or leased to it for 50 years or more.

**Stocking.**—The degree of occupancy of land by live trees, measured by basal area and/or the number of trees in a stand by size or age and spacing, compared to the basal area and/or number of trees required to fully utilize the growth potential of the land; that is, the stocking standard. A stocking percent of 100 indicates full utilization of the site and is equivalent to 80 square feet of basal area per acre in trees 5.0 inches d.b.h. and larger. In a stand of trees less than 5 inches d.b.h., a stocking percent of 100 would indicate that the present number of trees is sufficient to produce 80 square feet of basal area per acre when the trees reach 5 inches d.b.h.

Stands are grouped into the following stocking classes:

*Overstocked stands.*—Stands in which stocking of live trees is 133.0 percent or more.

*Fully stocked stands.*—Stands in which stocking of live trees is from 100.0 to 132.9 percent.

*Medium stocked stands.*—Stands in which stocking of live trees is from 60.0 to 99.9 percent.

*Poorly stocked stands.*—Stands in which stocking of live trees is from 16.7 to 59.9 percent.

*Nonstocked areas.*—Timberland on which stocking of live trees is less than 16.7 percent.

**Timber products output.**—All timber products cut from roundwood and byproducts of wood manufacturing plants. Roundwood products include logs, bolts, or other round sections cut from growing-stock trees, cull trees, salvable dead trees, trees on nonforest land, noncommercial species, sapling-size trees, and limbwood. Byproducts from

primary manufacturing plants include slabs, edging, trimmings, miscuts, sawdust, shavings, veneer cores and clippings, and screenings of pulpmills that are used as pulpwood chips or other products.

**Timberland.**—Forest land that is producing, or is capable of producing, more than 20 cubic feet per acre per year of industrial wood crops under natural conditions, that is not withdrawn from timber utilization, and that is not associated with urban or rural development. Currently inaccessible and inoperable areas are included. (Timberland was formerly called commercial forest land.)

**Tree.**—A woody plant usually having one or more erect perennial stems, a stem diameter at breast height of at least 3 inches, a more or less definitely formed crown of foliage, and a height of at least 13 feet at maturity.

**Tree biomass.**—The total aboveground weight (including the bark but excluding the foliage) of all trees from 1 to 5 inches in d.b.h., and the total aboveground weight (including the bark but excluding the foliage) from a 1-foot stump for trees more than 5 inches in diameter.

**Tree grade.**—A classification of the lower 16 feet of the bole of standing trees based on external characteristics as indicators of the quality and quantity of lumber that could be produced from the tree. Tree grade was assigned to a sample of hardwood sawtimber trees during the 1996 inventory. Also see Log grade. (See Appendix for specific grading factors used.)

**Tree size class.**—A classification of trees based on diameter at breast height, including sawtimber trees, poletimber trees, saplings, and seedlings.

**Upper stem portion.**—That part of the bole of sawtimber trees above the saw-log top to a minimum top diameter of 4.0 inches d.o.b. or to the point where the central stem breaks into limbs.

**Urban and other areas.**—Areas within the legal boundaries of cities and towns; suburban areas developed for residential, industrial, or recreational purposes; school yards; cemeteries; roads; railroads; airports;

beaches; powerlines and other rights-of-way; or other nonforest land not included in any other specified land use class.

**Urban forest land.**—Land that would otherwise meet the criteria for timberland, but is in an urban-suburban area surrounded by commercial, industrial, or residential development and not likely to be managed for the production of industrial wood products on a continuing basis. Wood removed would be for land clearing, fuelwood, or esthetic purposes. Such forest land may be associated with industrial, commercial, residential subdivision, industrial parks, golf course perimeters, airport buffer strips, and public urban parks that qualify as forest land.

**Water.**—(a) *Bureau of the Census.*—Permanent inland water surfaces, such as lakes, reservoirs, and ponds at least 40 acres in area; and streams, sloughs, estuaries, and canals at least one-eighth of a statute mile wide.

(b) *Noncensus.*—Permanent inland water surfaces, such as lakes, reservoirs, and ponds from 1 to 39.9 acres in area; and streams, sloughs, estuaries, and canals from 120 feet to one-eighth of a statute mile wide.

**Wooded pasture.**—Improved pasture with more than 16.7 percent stocking in live trees, but less than 25 percent stocking in growing-stock trees. Area is currently improved for grazing or there is other evidence of grazing.

**Wooded strip.**—An acre or more of natural continuous forest land that would otherwise meet survey standards for timberland except that it is less than 120 feet wide.

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(In thousand acres)

Forest Survey Unit and county	Total <sup>1</sup> land area	Forest land				Other <sup>2</sup> land
		Total forest	Timberland	Reserved forest land	Other forest land	
<b>Northeastern Unit</b>						
Florence	312.4	273.7	266.3	7.4	--	38.7
Forest	649.1	592.6	560.9	25.8	5.9	56.5
Langlade	558.6	409.4	409.4	--	--	149.2
Lincoln	565.2	399.8	396.6	2.8	0.4	165.4
Menominee	229.1	215.9	215.9	--	--	13.2
Marinette	897.3	660.4	653.6	6.8	--	236.9
Oconto	638.8	382.7	382.7	--	--	256.1
Oneida	719.8	575.0	567.8	1.4	5.8	144.8
Shawano	571.2	276.1	273.2	2.9	--	295.1
Vilas	558.6	466.1	459.1	7.0	--	92.5
<b>Total</b>	<b>5,700.1</b>	<b>4,251.7</b>	<b>4,185.5</b>	<b>54.1</b>	<b>12.1</b>	<b>1,448.4</b>
<b>Northwestern Unit</b>						
Ashland	668.1	538.9	509.9	29.0	--	129.2
Barron	552.3	153.8	153.8	--	--	398.5
Bayfield	944.9	795.2	771.8	12.0	11.4	149.7
Burnett	525.8	320.8	308.3	12.5	--	205.0
Douglas	837.9	649.5	639.8	3.4	6.3	188.4
Iron	484.6	441.3	441.3	--	--	43.3
Polk	587.1	257.5	244.3	7.2	6.0	329.6
Price	801.7	600.8	595.4	--	5.4	200.9
Rusk	584.4	385.6	378.8	6.8	--	198.8
Sawyer	804.2	667.5	641.7	14.4	11.4	136.7
Taylor	623.9	371.7	368.1	3.6	--	252.2
Washburn	518.2	368.2	360.9	3.6	3.7	150.0
<b>Total</b>	<b>7,933.1</b>	<b>5,550.8</b>	<b>5,414.1</b>	<b>92.5</b>	<b>44.2</b>	<b>2,382.3</b>
<b>Central Unit</b>						
Adams	414.6	253.5	253.1	0.4	--	161.1
Chippewa	646.7	232.4	229.4	3.0	--	414.3
Clark	778.0	321.0	321.0	--	--	457.0
Eau Clair	408.1	162.4	162.4	--	--	245.7
Jackson	631.9	367.5	363.1	4.4	--	264.4
Juneau	491.3	271.7	271.7	--	--	219.6
Marathon	988.9	376.1	373.9	2.2	--	612.8
Marquette	291.6	98.3	95.8	2.5	--	193.3
Monroe	576.6	273.4	273.4	--	--	303.2
Portage	516.1	173.8	173.8	--	--	342.3
Waupaca	480.7	186.5	181.4	3.8	1.3	294.2
Waushara	400.7	135.9	127.7	8.2	--	264.8
Wood	507.4	215.4	215.4	--	--	292.0
<b>Total</b>	<b>7,132.6</b>	<b>3,067.9</b>	<b>3,042.1</b>	<b>24.5</b>	<b>1.3</b>	<b>4,064.7</b>

(Table 1 continued on next page)

(Table 1 continued)

Forest Survey Unit and county	Total <sup>1</sup> land area	Forest land			Other <sup>2</sup> land	
		Total forest	Timberland	Reserved forest land		Other forest land
<b>Southwestern Unit</b>						
Buffalo	438.1	189.4	185.3	4.1	--	248.7
Crawford	366.5	184.4	179.4	5.0	--	182.1
Dunn	545.3	190.8	182.2	8.6	--	354.5
Grant	734.7	195.7	193.9	1.8	--	539.0
Iowa	488.1	139.5	137.5	2.0	--	348.6
La Crosse	289.8	136.5	136.5	--	--	153.3
Lafayette	405.6	38.7	38.7	--	--	366.9
Pepin	148.7	61.1	57.8	0.2	3.1	87.6
Pierce	368.9	98.1	96.1	2.0	--	270.8
Richland	375.2	167.0	167.0	--	--	208.2
St. Croix	462.0	78.9	76.8	2.1	--	383.1
Sauk	536.1	204.6	182.3	22.3	--	331.5
Trempealeau	469.8	173.4	170.6	2.8	--	296.4
Vernon	508.8	225.5	223.0	2.5	--	283.3
<b>Total</b>	<b>6,137.6</b>	<b>2,083.6</b>	<b>2,027.1</b>	<b>53.4</b>	<b>3.1</b>	<b>4,054.0</b>
<b>Southeastern Unit</b>						
Brown	338.4	47.2	46.2	1.0	--	291.2
Calumet	204.7	17.7	17.7	--	--	187.0
Columbia	495.3	98.0	98.0	--	--	397.3
Dane	769.4	81.8	79.2	2.6	--	687.6
Dodge	564.7	39.8	39.8	--	--	524.9
Door	309.0	113.9	105.3	8.6	--	195.1
Fond du Lac	462.7	33.3	33.3	--	--	429.4
Green	373.8	40.4	40.4	--	--	333.4
Green Lake	226.8	30.2	30.2	--	--	196.6
Jefferson	356.5	47.3	47.3	--	--	309.2
Kenosha	174.6	23.9	23.9	--	--	150.7
Kewaunee	219.4	45.2	45.2	--	--	174.2
Manitowoc	378.6	67.7	67.0	0.7	--	310.9
Milwaukee	154.6	8.1	8.1	--	--	146.5
Outagamie	409.9	67.2	67.2	--	--	342.7
Ozaukee	148.4	21.8	18.8	3.0	--	126.6
Racine	213.2	18.8	18.8	--	--	194.4
Rock	461.1	35.5	35.5	--	--	425.6
Sheboygan	328.8	62.2	62.2	--	--	266.6
Walworth	355.5	39.1	39.1	--	--	316.4
Washington	275.8	51.8	51.8	--	--	224.0
Waukesha	355.6	40.2	38.6	1.6	--	315.4
Winnebago	280.7	20.1	20.1	--	--	260.6
<b>Total</b>	<b>7,857.5</b>	<b>1,051.2</b>	<b>1,033.7</b>	<b>17.5</b>	<b>--</b>	<b>6,806.3</b>
<b>All counties</b>	<b>34,760.9</b>	<b>16,005.2</b>	<b>15,702.5</b>	<b>242.0</b>	<b>60.7</b>	<b>18,755.7</b>

1 From U.S. Bureau of the Census, 1990.

2 Includes 223.6 thousand acres of water according to FIA standards of area classification, but defined by the Bureau of the Census as land.

Table 2.--Area of timberland by Forest Survey Unit, county, and ownership class, Wisconsin, 1996

(In thousand acres)

Forest Survey Unit and county	All ownerships	National forest	Other federal	State	County and municipal	Indian	Forest industry	Individual	Corporate
<b>Northeastern Unit</b>									
Florence	266.3	71.6	--	--	32.2	--	35.7	40.9	85.9
Forest	560.9	305.1	--	10.0	--	5.3	123.2	--	117.3
Langlade	409.4	29.1	--	20.5	130.4	--	42.2	7.6	179.6
Lincoln	396.6	--	--	3.5	87.9	--	59.7	5.5	240.0
Menominee	215.9	--	--	--	--	214.6	--	1.3	--
Marinette	653.6	--	--	3.3	272.4	--	27.0	37.7	313.2
Oconto	382.7	135.1	--	--	30.0	--	--	16.2	201.4
Oneida	567.8	10.9	--	58.5	74.2	--	207.6	21.3	195.3
Shawano	273.2	--	--	7.1	--	6.5	6.6	10.7	242.3
Vilas	459.1	45.7	--	126.6	38.0	34.7	6.9	27.7	179.5
<b>Total</b>	<b>4,185.5</b>	<b>597.5</b>	<b>--</b>	<b>229.5</b>	<b>665.1</b>	<b>261.1</b>	<b>508.9</b>	<b>168.9</b>	<b>1,754.5</b>
<b>Northwestern Unit</b>									
Ashtand	509.9	168.5	--	13.1	51.5	29.4	22.4	40.7	184.3
Barron	153.8	--	--	4.1	11.9	--	--	4.3	133.5
Bayfield	771.8	249.3	3.0	16.8	161.0	--	63.6	25.4	252.7
Burnett	308.3	--	1.5	32.5	78.9	1.9	1.8	--	191.7
Douglas	639.8	--	--	38.0	221.6	--	89.2	37.4	253.6
Iron	441.3	--	--	41.7	175.7	9.1	76.1	28.3	110.4
Polk	244.3	--	--	7.0	34.6	--	--	14.4	188.3
Price	595.4	128.3	--	21.0	73.2	--	61.0	26.7	285.2
Rusk	378.8	--	--	3.1	92.3	--	45.6	25.1	212.7
Sawyer	641.7	109.4	13.3	39.4	108.0	39.8	88.5	25.0	218.3
Taylor	368.1	110.5	--	3.6	16.0	--	11.6	3.6	222.8
Washburn	360.9	--	--	6.6	132.8	--	17.8	10.8	192.9
<b>Total</b>	<b>5,414.1</b>	<b>766.0</b>	<b>17.8</b>	<b>226.9</b>	<b>1,157.5</b>	<b>80.2</b>	<b>477.6</b>	<b>241.7</b>	<b>2,446.4</b>
<b>Central Unit</b>									
Adams	253.1	--	4.9	5.2	3.1	--	32.5	26.4	181.0
Chippewa	229.4	--	--	3.2	26.6	--	--	--	199.6
Clark	321.0	--	--	--	128.5	--	15.7	0.6	176.2
Eau Clair	162.4	--	--	--	53.6	--	--	--	108.8
Jackson	363.1	--	--	49.1	95.0	--	6.8	28.8	183.4
Juneau	271.7	--	38.4	7.3	22.7	--	2.9	15.9	184.5
Marathon	373.9	--	--	12.7	35.9	--	20.8	14.3	290.2
Marquette	95.8	--	--	3.9	--	--	--	0.5	91.4
Monroe	273.4	--	58.3	--	9.5	--	--	10.5	195.1
Portage	173.8	--	--	11.6	2.4	--	9.9	4.8	145.1
Waupaca	181.4	--	--	8.2	--	--	7.4	6.6	159.2
Waushara	127.7	--	--	9.7	1.9	--	--	5.5	110.6
Wood	215.4	--	1.4	6.7	47.4	--	5.3	26.6	128.0
<b>Total</b>	<b>3,042.1</b>	<b>--</b>	<b>103.0</b>	<b>117.6</b>	<b>426.6</b>	<b>--</b>	<b>101.3</b>	<b>140.5</b>	<b>2,153.1</b>

(Table 2 continued on next page)

(Table 2 continued)

Forest Survey Unit and county	All ownerships	National forest	Other federal	State	County and municipal	Indian	Forest industry	Individual	Corporate
<b>Southwestern Unit</b>									
Buffalo	185.3	--	0.2	5.8	--	--	--	7.3	172.0
Crawford	179.4	--	7.8	--	3.8	--	--	--	167.8
Dunn	182.2	--	--	14.2	--	--	--	--	168.0
Grant	193.9	--	2.4	9.3	2.5	--	--	--	179.7
Iowa	137.5	--	0.3	2.9	--	--	--	8.9	125.4
La Crosse	136.5	--	5.2	11.1	2.6	--	--	2.6	115.0
Lafayette	38.7	--	--	5.7	--	--	--	1.7	31.3
Pepin	57.8	--	--	4.7	--	--	3.1	--	50.0
Pierce	96.1	--	--	--	--	--	--	5.3	90.8
Richland	167.0	--	--	6.6	--	--	--	--	160.4
St. Croix	76.8	--	--	10.4	--	--	--	7.0	59.4
Sauk	182.3	--	2.4	15.4	2.4	--	--	14.2	147.9
Trempealeau	170.6	--	--	1.6	--	--	--	8.2	160.8
Vernon	223.0	--	14.7	6.9	--	--	--	6.8	194.6
<b>Total</b>	<b>2,027.1</b>	<b>--</b>	<b>33.0</b>	<b>94.6</b>	<b>11.3</b>	<b>--</b>	<b>3.1</b>	<b>62.0</b>	<b>1,823.1</b>
<b>Southeastern Unit</b>									
Brown	46.2	--	--	--	4.2	2.2	--	2.1	37.7
Calumet	17.7	--	--	0.8	--	--	2.4	--	14.5
Columbia	98.0	--	--	7.0	--	--	--	9.2	81.8
Dane	79.2	--	--	2.7	--	--	--	4.7	71.8
Dodge	39.8	--	--	--	--	--	--	5.6	34.2
Door	105.3	--	--	3.6	--	--	--	12.5	89.2
Fond du Lac	33.3	--	--	5.5	2.5	--	3.1	7.1	15.1
Green	40.4	--	--	0.4	3.4	--	--	--	36.6
Green Lake	30.2	--	--	0.3	--	--	--	1.4	28.5
Jefferson	47.3	--	--	6.9	--	--	--	--	40.4
Kenosha	23.9	--	--	--	1.8	--	--	7.7	14.4
Kewaunee	45.2	--	3.4	--	--	--	--	3.1	32.9
Manitowoc	67.0	--	--	4.4	--	--	--	--	62.6
Milwaukee	8.1	--	--	--	4.0	--	--	4.1	--
Outagamie	67.2	--	--	3.4	1.5	--	--	7.4	54.9
Ozaukee	18.8	--	--	--	--	--	--	2.5	16.3
Racine	18.8	--	--	4.0	--	--	--	--	14.8
Rock	35.5	--	--	--	1.0	--	--	2.3	32.2
Sheboygan	62.2	--	--	16.9	3.4	--	--	--	41.9
Walworth	39.1	--	--	7.5	--	--	--	5.6	26.0
Washington	51.8	--	--	2.6	--	--	--	--	49.2
Waukesha	38.6	--	--	9.5	--	--	--	3.3	25.8
Winnebago	20.1	--	--	--	--	--	--	--	20.1
<b>Total</b>	<b>1,033.7</b>	<b>--</b>	<b>3.4</b>	<b>75.5</b>	<b>21.8</b>	<b>2.2</b>	<b>11.3</b>	<b>78.6</b>	<b>840.9</b>
<b>All counties</b>	<b>15,702.5</b>	<b>1,363.5</b>	<b>157.2</b>	<b>744.1</b>	<b>2,282.3</b>	<b>343.5</b>	<b>1,102.2</b>	<b>691.7</b>	<b>9,018.0</b>

Table 3.--Area of timberland by Forest Survey Unit, county, and forest type group/local type, Wisconsin, 1996

(in thousand acres)

Forest Survey Unit and county	Forest type group/local type																Non-stocked	
	White-red-jack pine				Spruce-fir				Oak-hickory				Maple-beech-birch					
	All types	Total	Jack pine	Red pine	White pine	Balsam fir	White spruce	Black spruce	Northern white-cedar	Tamarack	Oak-hickory	Elm-ash-cottonwood	Elm-ash-soft maple	Maple-basswood	Maple-beech-birch	Aspen-birch		Paper birch
<b>Northeastern Unit</b>																		
Florence	266.3	13.5	--	10.0	3.5	37.9	4.2	5.6	20.5	4.6	3.0	3.3	2.3	111.3	98.0	92.7	5.1	0.2
Forest	560.9	12.8	--	11.7	1.1	100.4	29.6	9.8	27.1	26.5	7.4	--	22.3	311.7	111.4	97.2	14.2	--
Langlade	409.4	3.5	1.0	2.5	--	74.1	32.5	--	15.3	15.8	10.5	3.3	31.8	205.9	88.2	75.7	12.5	--
Lincoln	396.6	31.1	10.6	16.4	4.1	59.0	15.2	3.4	26.5	3.5	10.4	3.6	20.8	148.9	132.8	123.4	9.4	--
Menominee	215.9	11.3	0.1	3.1	8.1	16.5	0.8	--	5.8	9.9	--	20.5	8.8	138.4	20.4	16.7	3.7	--
Marquette	653.6	49.6	17.6	24.5	7.5	72.4	12.3	--	6.2	44.9	9.0	59.4	44.3	184.5	240.4	213.9	22.0	4.5
Oconto	382.7	33.2	1.7	19.8	11.7	45.9	3.3	--	5.8	34.6	2.2	25.6	50.5	126.0	101.5	79.0	20.0	2.5
Oneida	567.8	81.6	21.5	47.3	12.8	131.1	32.3	3.4	51.8	14.6	29.0	22.3	25.6	110.8	196.4	155.5	40.9	--
Shawano	273.2	10.6	2.4	7.7	0.5	37.2	--	--	3.2	27.8	6.2	20.6	29.3	137.6	37.9	23.6	14.3	--
Vilas	459.1	73.6	28.0	28.2	17.4	78.7	28.1	9.4	18.5	4.7	18.0	8.1	7.4	132.4	158.9	127.0	31.9	--
<b>Total</b>	<b>4,185.5</b>	<b>320.8</b>	<b>82.9</b>	<b>171.2</b>	<b>66.7</b>	<b>653.2</b>	<b>158.3</b>	<b>31.6</b>	<b>180.7</b>	<b>186.9</b>	<b>95.7</b>	<b>166.7</b>	<b>243.1</b>	<b>1,607.5</b>	<b>1,185.9</b>	<b>1,004.7</b>	<b>174.0</b>	<b>7.2</b>
<b>Northwestern Unit</b>																		
Ashland	509.9	3.0	--	3.0	--	105.4	33.6	9.7	17.8	25.5	18.8	--	33.7	224.7	143.1	127.7	12.6	2.8
Barron	153.8	3.7	--	--	3.7	7.7	--	--	--	--	7.7	46.6	22.5	34.3	39.0	37.0	2.0	--
Bayfield	771.8	93.5	28.2	60.7	4.6	47.5	17.0	6.6	13.7	6.4	3.8	61.1	43.8	199.8	326.1	284.8	39.1	2.2
Burnett	308.3	34.2	24.3	9.9	--	20.3	--	--	7.9	--	12.4	121.9	20.4	47.7	63.8	62.0	1.8	--
Douglas	639.8	94.0	34.9	59.1	--	70.1	23.4	8.3	23.1	--	15.3	65.4	41.6	117.0	247.7	189.1	45.3	4.0
Iron	441.3	6.8	--	6.8	--	71.3	19.0	--	10.2	33.6	8.5	3.5	49.3	244.7	65.7	56.5	9.2	--
Poik	244.3	20.1	18.9	1.2	--	2.9	--	--	--	--	2.9	70.9	5.6	79.7	65.1	53.2	11.9	--
Price	595.4	11.5	2.5	9.0	--	104.5	20.7	5.3	24.0	24.7	29.8	--	101.5	213.0	164.9	156.0	8.9	--
Rusk	378.8	9.2	--	8.6	0.6	19.7	3.4	2.7	11.1	--	2.5	37.5	23.2	178.3	105.0	95.0	9.7	0.3
Sawyer	641.7	28.3	4.0	12.8	11.5	65.6	11.8	7.7	25.4	3.3	17.4	38.6	39.3	296.4	169.1	148.9	20.2	4.4
Taylor	368.1	1.1	--	1.1	--	30.0	9.7	1.1	3.4	--	15.8	2.7	55.1	193.1	80.0	70.0	10.0	6.1
Washburn	360.9	45.6	20.8	20.2	4.6	14.2	--	--	--	2.8	11.4	66.0	29.1	82.1	122.8	104.8	15.2	2.8
<b>Total</b>	<b>5,414.1</b>	<b>351.0</b>	<b>133.6</b>	<b>192.4</b>	<b>25.0</b>	<b>559.2</b>	<b>138.6</b>	<b>41.4</b>	<b>136.6</b>	<b>96.3</b>	<b>146.3</b>	<b>514.2</b>	<b>465.1</b>	<b>1,910.8</b>	<b>1,592.3</b>	<b>1,385.0</b>	<b>185.9</b>	<b>21.4</b>
<b>Central Unit</b>																		
Adams	253.1	78.3	39.1	35.3	3.9	--	--	--	--	--	--	137.9	14.6	3.0	19.3	19.3	--	--
Chippewa	229.4	13.0	5.6	6.6	0.8	1.5	--	--	--	--	1.5	30.5	28.0	119.6	36.8	30.5	6.3	--
Clark	321.0	17.6	3.0	2.8	11.8	4.0	--	--	3.4	--	0.6	70.0	44.1	96.8	84.9	76.4	8.5	3.6
Eau Claire	162.4	20.6	5.1	15.5	--	--	--	--	--	--	--	89.2	12.1	28.0	12.5	12.5	--	--
Jackson	363.1	76.9	42.6	20.4	13.9	19.6	--	--	--	--	19.6	139.2	26.8	39.1	61.5	50.2	11.3	--
Juneau	271.7	44.2	29.8	11.8	2.6	--	--	--	--	--	--	134.3	22.4	44.3	24.4	17.7	6.7	2.1
Marathon	373.9	11.9	2.4	9.5	--	19.1	7.2	1.7	2.4	3.2	4.6	20.3	42.2	214.1	60.5	52.7	7.8	5.8
Marquette	95.8	10.8	5.0	4.2	1.6	2.6	--	--	--	--	2.6	57.9	4.8	11.0	8.7	4.8	3.9	--
Monroe	273.4	35.8	21.1	5.3	9.4	--	--	--	--	--	--	144.7	19.9	51.5	20.4	12.9	7.5	1.1
Portage	173.8	33.3	0.9	26.5	5.9	3.3	--	--	3.3	--	--	43.5	38.6	36.3	18.8	18.7	0.1	--
Waupaca	181.4	19.6	0.2	10.4	9.0	11.8	3.5	--	--	2.1	6.2	28.4	52.6	61.3	6.3	6.3	--	1.4
Waushara	127.7	29.4	6.6	20.8	2.0	3.9	--	--	--	--	3.9	47.3	18.3	18.2	10.6	6.2	4.4	--
Wood	215.4	20.4	6.6	7.3	6.5	13.0	--	3.0	4.0	--	6.0	38.7	19.6	49.8	72.9	63.9	9.0	1.0
<b>Total</b>	<b>3,042.1</b>	<b>411.8</b>	<b>168.0</b>	<b>176.4</b>	<b>67.4</b>	<b>78.8</b>	<b>10.7</b>	<b>4.7</b>	<b>13.1</b>	<b>5.3</b>	<b>45.0</b>	<b>981.9</b>	<b>344.0</b>	<b>773.0</b>	<b>437.6</b>	<b>372.1</b>	<b>65.5</b>	<b>--</b>

(Table 3 continued on next page)

(Table 3 continued)

Forest Survey Unit and county	Forest type group/local type																	Non-stocked	
	White-red-jack pine							Spruce-fir			Oak-hickory		Elm-ash-cottonwood		Maple-beech-birch		Aspen-birch		
	Total	Jack pine	Red pine	White pine	Total	Balsam fir	White spruce	Black spruce	Northern white-cedar	Tamarack	Oak-hickory	Elm-ash-elm-ash	soft maple	Maple-basswood	Maple-birch	Aspen	Paper birch		Balsam poplar
<b>Southwestern Unit</b>																			
Buffalo	185.3	--	--	--	--	--	--	--	--	--	120.9	13.7	24.6	26.1	19.1	6.5	0.5	--	
Crawford	179.4	--	--	--	--	--	--	--	--	108.3	18.2	47.9	5.0	4.3	0.7	--	--	--	
Dunn	182.2	13.5	9.9	3.6	--	--	--	--	--	50.8	30.0	69.8	18.1	17.3	0.8	--	--	--	
Grant	193.9	--	--	--	--	--	--	--	--	87.3	27.2	77.1	2.3	0.7	1.6	--	--	--	
Iowa	137.5	5.4	5.4	--	--	--	--	--	--	87.0	9.8	25.6	8.5	5.9	2.6	--	--	1.2	
La Crosse	136.5	10.3	10.2	0.1	--	--	--	--	--	66.4	24.1	25.0	10.7	7.5	3.2	--	--	--	
Lafayette	387	--	--	--	--	--	--	--	--	25.2	2.5	11.0	--	--	--	--	--	--	
Pepin	57.8	1.3	1.3	--	--	--	--	--	--	21.9	7.2	24.9	2.5	0.6	1.9	--	--	--	
Pierce	96.1	2.4	0.6	1.7	--	--	--	--	--	10.0	21.7	53.5	8.5	8.5	--	--	--	--	
Richland	167.0	--	--	--	--	--	--	--	--	67.0	6.9	83.1	10.0	--	10.0	--	--	--	
St. Croix	76.8	4.5	1.0	3.5	1.5	--	--	--	--	29.7	11.2	25.7	4.2	4.2	--	--	--	--	
Sauk	182.3	8.6	6.2	--	--	--	--	--	--	103.7	8.2	58.0	2.9	2.9	--	--	--	0.9	
Trempealeau	170.6	6.2	3.6	2.6	1.7	--	--	--	--	90.0	20.9	32.6	17.1	4.9	12.2	--	--	2.1	
Vernon	223.0	8.4	--	8.4	--	--	--	--	--	97.6	21.1	81.2	13.1	9.7	3.4	--	--	1.6	
<b>Total</b>	<b>2,027.1</b>	<b>60.6</b>	<b>2.5</b>	<b>38.2</b>	<b>19.9</b>	<b>3.2</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>965.8</b>	<b>222.7</b>	<b>640.0</b>	<b>129.0</b>	<b>85.6</b>	<b>42.9</b>	<b>0.5</b>	<b>--</b>	<b>5.8</b>	
<b>Southeastern Unit</b>																			
Brown	46.2	--	--	--	0.7	--	--	0.7	--	4.3	17.8	18.4	5.0	2.8	2.2	--	--	--	
Calumet	17.7	--	--	--	--	--	--	--	--	1.6	6.7	8.6	0.8	0.8	--	--	--	--	
Columbia	98.0	13.4	13.4	--	--	--	--	--	--	66.3	4.0	9.8	4.5	4.5	--	--	--	--	
Dane	79.2	0.1	0.1	--	--	--	--	--	--	44.0	0.1	28.2	6.8	0.9	5.9	--	--	--	
Dodge	39.8	1.1	0.5	0.6	--	--	--	--	--	4.1	17.8	14.1	2.7	2.7	--	--	--	--	
Door	105.3	3.6	--	3.6	18.3	1.8	--	15.2	1.3	--	22.6	47.1	13.7	8.5	5.2	--	--	--	
Fond du Lac	33.3	1.3	1.3	--	0.6	--	--	--	0.6	5.3	12.0	14.1	--	--	--	--	--	--	
Green	40.4	0.4	0.4	--	--	--	--	--	--	14.2	7.2	18.6	--	--	--	--	--	--	
Green Lake	30.2	1.5	--	1.5	5.0	--	--	--	5.0	14.6	4.5	4.6	--	--	--	--	--	--	
Jefferson	47.3	--	--	--	2.3	--	--	--	2.3	6.5	20.3	18.2	--	--	--	--	--	--	
Kenosha	23.9	--	--	--	--	--	--	--	--	20.8	3.1	--	--	--	--	--	--	--	
Kewaunee	45.2	--	--	--	5.7	--	--	5.7	--	--	15.3	16.6	2.4	--	2.4	--	--	5.2	
Manitowoc	67.0	5.5	5.5	--	4.0	--	--	4.0	--	1.9	18.6	30.6	5.8	5.8	--	--	--	0.6	
Milwaukee	8.1	--	--	--	--	--	--	--	--	--	--	8.1	--	--	--	--	--	--	
Outagamie	67.2	1.5	--	1.5	2.9	--	--	2.9	--	6.4	32.8	13.6	10.0	0.3	9.7	--	--	--	
Ozaukee	18.8	--	--	--	2.5	--	--	--	2.5	--	2.7	13.6	--	--	--	--	--	--	
Racine	18.8	--	--	--	--	--	--	--	--	7.7	8.8	2.3	--	--	--	--	--	--	
Rock	35.5	1.6	--	1.6	--	--	--	--	--	16.8	3.3	13.8	--	--	--	--	--	--	
Sheboygan	62.2	3.9	0.2	3.7	4.1	--	--	2.3	1.8	12.2	14.1	27.9	--	--	--	--	--	--	
Walworth	39.1	2.9	--	--	--	--	--	--	--	19.5	1.2	11.0	4.5	4.5	--	--	--	--	
Washington	51.8	0.7	0.7	--	1.4	--	--	--	1.4	--	19.3	22.9	7.5	7.5	--	--	--	--	
Waukesha	38.6	--	--	--	--	--	--	--	--	10.7	16.5	11.4	--	--	--	--	--	--	
Winnebago	20.1	--	--	--	--	--	--	--	--	--	5.2	14.9	--	--	--	--	--	--	
<b>Total</b>	<b>1,033.7</b>	<b>37.5</b>	<b>0.4</b>	<b>24.6</b>	<b>12.5</b>	<b>1.8</b>	<b>--</b>	<b>30.8</b>	<b>14.9</b>	<b>256.9</b>	<b>253.9</b>	<b>368.4</b>	<b>63.7</b>	<b>38.3</b>	<b>25.4</b>	<b>--</b>	<b>--</b>	<b>5.8</b>	
<b>All counties</b>	<b>15,702.5</b>	<b>1,181.7</b>	<b>387.4</b>	<b>602.8</b>	<b>191.5</b>	<b>1,341.9</b>	<b>80.9</b>	<b>330.4</b>	<b>301.9</b>	<b>2,885.5</b>	<b>1,528.8</b>	<b>5,299.7</b>	<b>3,408.5</b>	<b>2,885.7</b>	<b>493.7</b>	<b>29.1</b>	<b>--</b>	<b>56.4</b>	



Table 4.--Area of timberland by Forest Survey Unit, county,  
and stand-size class, Wisconsin, 1996

(In thousand acres)

Forest Survey Unit and county	All stands	Stand-size class			
		Sawtimber	Poletimber	Sapling- seedling	Nonstocked
<b>Northeastern Unit</b>					
Florence	266.3	91.7	91.8	82.8	--
Forest	560.9	155.9	242.9	159.8	2.3
Langlade	409.4	106.6	190.1	110.1	2.6
Lincoln	396.6	52.6	188.5	155.1	0.4
Menominee	215.9	139.0	47.2	29.7	--
Marinette	653.6	103.1	290.9	256.6	3.0
Oconto	382.7	61.2	199.0	122.5	--
Oneida	567.8	109.6	188.1	270.1	--
Shawano	273.2	81.6	152.4	39.2	--
Vilas	459.1	127.0	195.8	136.3	--
<b>Total</b>	<b>4,185.5</b>	<b>1,028.3</b>	<b>1,786.7</b>	<b>1,362.2</b>	<b>8.3</b>
<b>Northwestern Unit</b>					
Ashland	509.9	131.8	242.1	136.0	--
Barron	153.8	50.4	35.9	67.5	--
Bayfield	771.8	158.2	354.6	259.0	--
Burnett	308.3	93.4	121.4	93.5	--
Douglas	639.8	92.6	263.3	279.9	4.0
Iron	441.3	90.9	233.0	117.4	--
Polk	244.3	68.4	92.7	83.2	--
Price	595.4	99.1	259.7	236.6	--
Rusk	378.8	107.7	133.5	131.7	5.9
Sawyer	641.7	163.3	286.7	187.3	4.4
Taylor	368.1	68.5	178.1	115.4	6.1
Washburn	360.9	58.2	203.3	98.3	1.1
<b>Total</b>	<b>5,414.1</b>	<b>1,182.5</b>	<b>2,404.3</b>	<b>1,805.8</b>	<b>21.5</b>
<b>Central Unit</b>					
Adams	253.1	87.6	87.1	78.4	--
Chippewa	229.4	40.4	118.4	70.6	--
Clark	321.0	74.8	133.5	109.1	3.6
Eau Clair	162.4	32.2	80.2	50.0	--
Jackson	363.1	76.6	126.8	159.7	--
Juneau	271.7	85.3	102.3	82.0	2.1
Marathon	373.9	97.8	162.1	108.2	5.8
Marquette	95.8	49.3	24.5	22.0	--
Monroe	273.4	110.5	101.3	60.5	1.1
Portage	173.8	42.9	77.2	53.7	--
Waupaca	181.4	89.3	54.3	36.4	1.4
Waushara	127.7	46.5	49.4	31.8	--
Wood	215.4	44.8	84.1	85.5	1.0
<b>Total</b>	<b>3,042.1</b>	<b>878.0</b>	<b>1,201.2</b>	<b>947.9</b>	<b>15.0</b>

(Table 4 continued on next page)

(Table 4 continued)

Forest Survey Unit and county	All stands	Stand-size class			
		Sawtimber	Poletimber	Sapling- seedling	Nonstocked
<b>Southwestern Unit</b>					
Buffalo	185.3	98.2	73.4	13.7	--
Crawford	179.4	83.1	57.3	39.0	--
Dunn	182.2	60.1	63.1	59.0	--
Grant	193.9	79.6	80.2	34.1	--
Iowa	137.5	74.2	36.4	25.7	1.2
La Crosse	136.5	61.7	47.7	27.1	--
Lafayette	38.7	23.3	15.4	--	--
Pepin	57.8	35.1	10.6	12.1	--
Pierce	96.1	43.4	30.1	22.6	--
Richland	167.0	81.5	53.0	32.5	--
St. Croix	76.8	39.6	16.2	21.0	--
Sauk	182.3	112.6	48.1	20.7	0.9
Trempealeau	170.6	65.6	55.0	47.9	2.1
Vernon	223.0	114.2	61.8	45.4	1.6
<b>Total</b>	<b>2,027.1</b>	<b>972.2</b>	<b>648.3</b>	<b>400.8</b>	<b>5.8</b>
<b>Southeastern Unit</b>					
Brown	46.2	15.7	11.2	19.3	--
Calumet	17.7	12.8	1.6	3.3	--
Columbia	98.0	35.6	35.4	27.0	--
Dane	79.2	47.6	19.5	12.1	--
Dodge	39.8	9.9	17.6	12.3	--
Door	105.3	31.0	38.4	35.9	--
Fond du Lac	33.3	9.7	13.8	9.8	--
Green	40.4	22.3	12.0	6.1	--
Green Lake	30.2	13.7	2.9	13.6	--
Jefferson	47.3	21.4	6.1	19.8	--
Kenosha	23.9	8.9	1.4	13.6	--
Kewaunee	45.2	21.4	18.0	0.6	5.2
Manitowoc	67.0	19.3	31.2	15.9	0.6
Milwaukee	8.1	--	8.1	--	--
Outagamie	67.2	21.1	19.0	27.1	--
Ozaukee	18.8	4.1	6.8	7.9	--
Racine	18.8	12.5	--	6.3	--
Rock	35.5	23.3	6.2	6.0	--
Sheboygan	62.2	15.0	26.4	20.8	--
Walworth	39.1	24.7	1.4	13.0	--
Washington	51.8	20.5	14.9	16.4	--
Waukesha	38.6	13.3	9.2	16.1	--
Winnebago	20.1	4.3	14.4	1.4	--
<b>Total</b>	<b>1,033.7</b>	<b>408.1</b>	<b>315.5</b>	<b>304.3</b>	<b>5.8</b>
<b>All counties</b>	<b>15,702.5</b>	<b>4,469.1</b>	<b>6,356.0</b>	<b>4,821.0</b>	<b>56.4</b>

Table 5.--Area of timberland by Forest Survey Unit, county,  
and potential productivity class, Wisconsin, 1996

(In thousand acres)

Forest Survey Unit and county	All classes	Potential productivity class (cubic feet of growth per acre per year)					
		225+	165-224	120-164	85-119	50-84	20-49
<b>Northeastern Unit</b>							
Florence	266.3	--	3.5	23.7	79.7	115.9	43.5
Forest	560.9	--	5.0	16.6	155.3	222.3	161.7
Langlade	409.4	--	3.3	4.4	107.1	191.8	102.8
Lincoln	396.6	0.9	5.8	20.4	91.9	166.9	110.7
Menominee	215.9	--	3.7	7.0	60.3	106.3	38.6
Marinette	653.6	--	2.7	30.8	161.4	286.5	172.2
Oconto	382.7	--	3.2	26.6	107.9	172.5	72.5
Oneida	567.8	--	--	31.4	156.6	200.9	178.9
Shawano	273.2	--	6.6	12.0	87.4	109.8	57.4
Vilas	459.1	--	5.2	25.1	107.7	201.2	119.9
<b>Total</b>	<b>4,185.5</b>	<b>0.9</b>	<b>39.0</b>	<b>198.0</b>	<b>1,115.3</b>	<b>1,774.1</b>	<b>1,058.2</b>
<b>Northwestern Unit</b>							
Ashland	509.9	--	1.6	19.0	87.5	238.5	163.3
Barron	153.8	--	--	18.3	29.7	82.4	23.4
Bayfield	771.8	0.2	2.2	48.8	219.6	358.9	142.1
Burnett	308.3	--	--	--	52.1	146.2	110.0
Douglas	639.8	3.0	1.3	26.5	135.0	297.1	176.9
Iron	441.3	--	--	10.5	59.7	176.8	194.3
Polk	244.3	--	2.8	8.2	69.4	111.9	52.0
Price	595.4	--	6.7	37.0	128.6	253.9	169.2
Rusk	378.8	--	7.0	8.2	100.3	200.6	62.7
Sawyer	641.7	--	4.0	26.7	182.7	291.5	136.8
Taylor	368.1	--	0.7	10.6	92.6	162.0	102.2
Washburn	360.9	--	--	9.3	121.2	150.1	80.3
<b>Total</b>	<b>5,414.1</b>	<b>3.2</b>	<b>26.3</b>	<b>223.1</b>	<b>1,278.4</b>	<b>2,469.9</b>	<b>1,413.2</b>
<b>Central Unit</b>							
Adams	253.1	--	--	12.8	54.8	129.8	55.7
Chippewa	229.4	--	5.6	6.6	51.2	120.2	45.8
Clark	321.0	--	3.8	17.3	69.1	158.1	72.7
Eau Clair	162.4	--	--	17.1	22.2	87.5	35.6
Jackson	363.1	--	2.1	4.3	94.9	137.5	124.3
Juneau	271.7	--	6.0	12.9	78.1	139.0	35.7
Marathon	373.9	--	1.1	25.3	105.7	154.7	87.1
Marquette	95.8	--	--	1.6	26.1	55.9	12.2
Monroe	273.4	--	13.5	1.0	72.9	111.2	74.8
Portage	173.8	1.8	7.0	27.3	32.9	65.0	39.8
Waupaca	181.4	2.3	1.9	16.4	41.5	79.4	39.9
Waushara	127.7	1.9	--	19.9	18.1	62.3	25.5
Wood	215.4	--	1.5	12.4	50.5	98.1	52.9
<b>Total</b>	<b>3,042.1</b>	<b>6.0</b>	<b>42.5</b>	<b>174.9</b>	<b>718.0</b>	<b>1,398.7</b>	<b>702.0</b>

(Table 5 continued on next page)

(Table 5 continued)

Forest Survey Unit and county	All classes	Potential productivity class (cubic feet of growth per acre per year)					
		225+	165-224	120-164	85-119	50-84	20-49
<b>Southwestern Unit</b>							
Buffalo	185.3	--	11.5	11.5	58.0	69.9	34.4
Crawford	179.4	--	--	9.5	40.3	100.7	28.9
Dunn	182.2	--	1.1	17.7	66.4	75.3	21.7
Grant	193.9	--	6.4	16.7	53.1	86.6	31.1
Iowa	137.5	--	8.7	5.8	40.9	71.8	10.3
La Crosse	136.5	--	7.8	18.2	48.5	47.7	14.3
Lafayette	38.7	--	2.1	--	13.1	22.9	0.6
Pepin	57.8	--	0.6	--	14.9	35.0	7.3
Pierce	96.1	--	6.8	2.8	32.6	32.4	21.5
Richland	167.0	--	8.2	2.4	63.9	88.8	3.7
St. Croix	76.8	--	5.7	4.5	25.0	35.5	6.1
Sauk	182.3	--	9.0	15.7	84.3	57.7	15.6
Trempealeau	170.6	--	16.3	13.0	53.0	65.4	22.9
Vernon	223.0	--	--	10.4	63.7	101.9	47.0
<b>Total</b>	<b>2,027.1</b>	<b>--</b>	<b>84.2</b>	<b>128.2</b>	<b>657.7</b>	<b>891.6</b>	<b>265.4</b>
<b>Southeastern Unit</b>							
Brown	46.2	--	4.1	0.7	14.7	13.3	13.4
Calumet	17.7	--	--	--	4.3	11.4	2.0
Columbia	98.0	7.3	3.0	9.2	25.7	44.5	8.3
Dane	79.2	--	4.9	9.6	19.1	37.0	8.6
Dodge	39.8	--	2.6	3.0	10.0	21.7	2.5
Door	105.3	1.8	--	1.4	23.4	61.8	16.9
Fond du Lac	33.3	--	--	1.3	11.5	12.6	7.9
Green	40.4	--	--	--	2.8	32.4	5.2
Green Lake	30.2	--	--	4.5	5.0	7.9	12.8
Jefferson	47.3	--	--	--	11.7	16.1	19.5
Kenosha	23.9	--	--	--	6.4	13.1	4.4
Kewaunee	45.2	--	0.6	--	13.4	24.9	6.3
Manitowoc	67.0	--	9.8	--	19.4	33.5	4.3
Milwaukee	8.1	--	--	--	4.0	4.1	--
Outagamie	67.2	--	--	5.7	9.3	25.9	26.3
Ozaukee	18.8	--	--	--	4.1	12.2	2.5
Racine	18.8	--	--	--	1.8	12.2	4.8
Rock	35.5	--	--	3.9	17.1	12.9	1.6
Sheboygan	62.2	3.4	--	--	10.1	25.5	23.2
Walworth	39.1	--	--	4.6	9.1	16.6	8.8
Washington	51.8	--	--	0.8	13.3	14.3	23.4
Waukesha	38.6	--	--	5.7	3.7	24.1	5.1
Winnebago	20.1	--	--	--	13.7	1.4	5.0
<b>Total</b>	<b>1,033.7</b>	<b>12.5</b>	<b>25.0</b>	<b>50.4</b>	<b>253.6</b>	<b>479.4</b>	<b>212.8</b>
<b>All counties</b>	<b>15,702.5</b>	<b>22.6</b>	<b>217.0</b>	<b>774.6</b>	<b>4,023.0</b>	<b>7,013.7</b>	<b>3,651.6</b>

Table 6.--Area of timberland by Forest Survey Unit, county, and stocking class of growing-stock trees<sup>1</sup>, Wisconsin, 1996

(In thousand acres)

Forest Survey Unit and county	All classes	Stocking class of growing-stock trees				
		Nonstocked <sup>2</sup>	Poorly stocked	Moderately stocked	Fully stocked	Over-stocked
<b>Northeastern Unit</b>						
Florence	266.3	--	14.2	45.3	170.0	36.8
Forest	560.9	2.7	28.4	111.0	371.8	47.0
Langlade	409.4	2.6	54.8	91.5	220.5	40.0
Lincoln	396.6	0.4	57.2	110.8	204.7	23.5
Menominee	215.9	--	6.3	19.9	167.1	22.6
Marinette	653.6	3.6	53.7	111.3	413.6	71.4
Oconto	382.7	--	27.2	86.5	242.4	26.6
Oneida	567.8	--	36.9	161.6	300.1	69.2
Shawano	273.2	--	35.6	82.2	154.2	1.2
Vilas	459.1	--	19.3	107.3	295.2	37.3
<b>Total</b>	<b>4,185.5</b>	<b>9.3</b>	<b>333.6</b>	<b>927.4</b>	<b>2,539.6</b>	<b>375.6</b>
<b>Northwestern Unit</b>						
Ashland	509.9	3.7	48.6	143.0	285.2	29.4
Barron	153.8	1.3	32.4	46.2	65.7	8.2
Bayfield	771.8	0.4	74.8	174.9	413.8	107.9
Burnett	308.3	6.6	39.4	85.3	158.6	18.4
Douglas	639.8	11.1	105.6	189.0	268.2	65.9
Iron	441.3	--	49.5	100.5	272.2	19.1
Polk	244.3	2.9	61.0	77.2	92.6	10.6
Price	595.4	--	68.7	154.0	342.5	30.2
Rusk	378.8	5.9	55.3	108.1	195.4	14.1
Sawyer	641.7	5.5	79.3	177.6	345.4	33.9
Taylor	368.1	6.5	48.2	70.2	207.0	36.2
Washburn	360.9	1.2	34.3	108.6	195.6	21.2
<b>Total</b>	<b>5,414.1</b>	<b>45.1</b>	<b>697.1</b>	<b>1,434.6</b>	<b>2,842.2</b>	<b>395.1</b>
<b>Central Unit</b>						
Adams	253.1	2.6	49.5	81.1	102.2	17.7
Chippewa	229.4	2.4	31.9	41.1	144.4	9.6
Clark	321.0	6.7	62.3	113.1	121.9	17.0
Eau Clair	162.4	--	33.2	54.5	68.0	6.7
Jackson	363.1	--	57.5	82.8	192.0	30.8
Juneau	271.7	2.5	62.9	79.4	115.5	11.4
Marathon	373.9	8.1	47.2	95.1	190.3	33.2
Marquette	95.8	0.5	34.0	32.6	28.7	--
Monroe	273.4	2.8	55.1	110.3	92.2	13.0
Portage	173.8	0.7	20.7	41.8	95.9	14.7
Waupaca	181.4	4.1	33.7	37.4	105.2	1.0
Waushara	127.7	--	22.3	50.8	46.5	8.1
Wood	215.4	1.0	37.8	82.0	84.3	10.3
<b>Total</b>	<b>3,042.1</b>	<b>31.4</b>	<b>548.1</b>	<b>902.0</b>	<b>1,387.1</b>	<b>173.5</b>

(Table 6 continued on next page)

(Table 6 continued)

Forest Survey Unit and county	All classes	Stocking class of growing-stock trees				
		Nonstocked <sup>2</sup>	Poorly stocked	Moderately stocked	Fully stocked	Over- stocked
<b>Southwestern Unit</b>						
Buffalo	185.3	--	50.8	43.1	87.8	3.6
Crawford	179.4	--	47.1	64.8	67.5	--
Dunn	182.2	1.3	51.3	64.8	62.9	1.9
Grant	193.9	0.2	51.8	74.2	67.7	--
Iowa	137.5	1.3	47.0	53.0	35.9	0.3
La Crosse	136.5	--	32.3	43.1	61.1	--
Lafayette	38.7	--	21.3	8.4	9.0	--
Pepin	57.8	--	16.8	23.1	17.3	0.6
Pierce	96.1	4.9	27.8	36.2	26.9	0.3
Richland	167.0	1.3	27.3	63.3	71.5	3.6
St. Croix	76.8	5.5	24.1	21.9	22.7	2.6
Sauk	182.3	1.5	40.0	49.1	90.4	1.3
Trempealeau	170.6	2.1	20.8	75.0	67.9	4.8
Vernon	223.0	7.3	60.2	76.1	76.6	2.8
<b>Total</b>	<b>2,027.1</b>	<b>25.4</b>	<b>518.6</b>	<b>696.1</b>	<b>765.2</b>	<b>21.8</b>
<b>Southeastern Unit</b>						
Brown	46.2	--	6.2	14.7	25.0	0.3
Calumet	17.7	--	2.3	4.8	9.8	0.8
Columbia	98.0	0.9	13.7	27.2	48.9	7.3
Dane	79.2	1.9	13.2	40.4	23.6	0.1
Dodge	39.8	2.6	13.8	15.0	7.8	0.6
Door	105.3	0.4	5.1	24.4	75.4	--
Fond du Lac	33.3	2.0	5.6	1.9	23.5	0.3
Green	40.4	1.5	8.7	25.4	4.8	--
Green Lake	30.2	1.1	5.0	15.1	9.0	--
Jefferson	47.3	7.2	11.9	11.6	14.4	2.2
Kenosha	23.9	3.1	8.3	3.8	8.7	--
Kewaunee	45.2	5.2	5.9	7.3	23.4	3.4
Manitowoc	67.0	2.5	14.4	11.5	38.6	--
Milwaukee	8.1	--	--	4.0	4.1	--
Outagamie	67.2	0.7	15.7	7.4	43.1	0.3
Ozaukee	18.8	2.6	--	2.8	13.4	--
Racine	18.8	0.9	1.0	6.6	10.3	--
Rock	35.5	--	7.3	20.9	7.3	--
Sheboygan	62.2	--	2.0	12.6	47.6	--
Walworth	39.1	2.9	7.0	10.0	17.0	2.2
Washington	51.8	--	11.5	23.5	16.1	0.7
Waukesha	38.6	5.2	6.7	7.4	19.3	--
Winnebago	20.1	--	5.2	1.4	13.5	--
<b>Total</b>	<b>1,033.7</b>	<b>40.7</b>	<b>170.5</b>	<b>299.7</b>	<b>504.6</b>	<b>18.2</b>
<b>All counties</b>	<b>15,702.5</b>	<b>151.9</b>	<b>2,267.9</b>	<b>4,259.8</b>	<b>8,038.7</b>	<b>984.2</b>

<sup>1</sup> This table is based on the stocking percent of growing-stock trees, rather than that of all live trees. For this table, to use the definition of stocking found in the appendix, replace the term "all live" by "growing-stock."

<sup>2</sup> Area of nonstocked in this table and in Table 8 differs from that in other tables in this report because this table includes land stocked only with growing-stock trees, rather than with all live trees.

Table 7.--Area of timberland by forest type group/local type and ownership class, Wisconsin, 1996

(In thousand acres)

Forest type group/ local type	Ownership class																				
	All ownerships	Public					Private														
		Total public	National forest	Other federal	State	County and municipal	Total private	Indian	Forest industry	Individual	Corporate										
White-red-jack pine																					
Jack pine	387.4	167.6	26.5	11.5	20.5	109.1	219.8	4.0	31.4	21.8	162.6										
Red pine	602.8	249.4	86.7	7.1	47.8	107.8	353.4	6.5	92.8	24.9	229.2										
White pine	191.5	57.0	13.8	10.9	3.7	28.6	134.5	7.6	2.6	17.9	106.4										
Total	1,181.7	474.0	127.0	29.5	72.0	245.5	707.7	18.1	126.8	64.6	498.2										
Spruce-fir																					
Balsam fir	309.4	126.7	47.0	--	37.5	42.2	182.7	4.4	25.7	7.4	145.2										
White spruce	80.9	42.1	27.4	--	6.8	7.9	38.8	--	12.8	--	26.0										
Black spruce	330.4	151.8	59.3	--	22.6	69.9	178.6	5.8	53.6	17.7	101.5										
Northern white-cedar	319.3	120.7	53.6	--	6.1	61.0	198.6	13.6	21.8	13.9	149.3										
Tamarack	301.9	78.2	23.6	--	21.6	33.0	223.7	2.1	14.9	22.3	184.4										
Total	1,341.9	519.5	210.9	--	94.6	214.0	822.4	25.9	128.8	61.3	606.4										
Oak-hickory																					
Oak-hickory	2,885.5	470.2	27.7	48.9	126.4	267.2	2,415.3	23.9	74.7	131.5	2,185.2										
Total	2,885.5	470.2	27.7	48.9	126.4	267.2	2,415.3	23.9	74.7	131.5	2,185.2										
Elm-ash-cottonwood																					
Elm-ash-soft maple	1,528.8	404.2	83.5	34.5	100.0	186.2	1,124.6	13.9	69.4	56.1	985.2										
Total	1,528.8	404.2	83.5	34.5	100.0	186.2	1,124.6	13.9	69.4	56.1	985.2										
Maple-beech-birch																					
Maple-basswood	5,299.7	1,359.3	541.5	29.1	165.6	623.1	3,940.4	188.7	454.1	218.9	3,078.7										
Total	5,299.7	1,359.3	541.5	29.1	165.6	623.1	3,940.4	188.7	454.1	218.9	3,078.7										
Aspen-birch																					
Aspen	2,885.7	1,149.7	318.6	15.2	144.5	671.4	1,736.0	57.1	224.8	130.2	1,323.9										
Paper birch	493.7	141.8	49.6	--	40.8	51.4	351.9	15.9	20.8	21.7	293.5										
Balsam poplar	29.1	16.3	0.2	--	0.2	15.9	12.8	--	--	--	12.8										
Total	3,408.5	1,307.8	368.4	15.2	185.5	738.7	2,100.7	73.0	245.6	151.9	1,630.2										
Nonstocked	56.4	12.1	4.5	--	--	7.6	44.3	--	2.8	7.4	34.1										
All types	15,702.5	4,547.1	1,363.5	157.2	744.1	2,282.3	11,155.4	343.5	1,102.2	691.7	9,018.0										

Table 8.--Area of timberland by ownership class and stocking class of growing-stock trees<sup>1</sup>,  
Wisconsin, 1996

(In thousand acres)

Ownership class	All classes	Stocking class of growing-stock trees					Over-stocked
		Nonstocked <sup>2</sup>	Poorly stocked	Moderately stocked	Fully stocked		
<b>Public</b>							
National forest	1,363.5	5.3	91.5	289.6	838.9	138.2	
Other federal	157.2	0.4	37.3	56.7	52.8	10.0	
State	744.1	7.5	108.7	184.4	378.2	65.3	
County and municipal	2,282.3	13.7	245.0	564.8	1,220.3	238.5	
Total	4,547.1	26.9	482.5	1,095.5	2,490.2	452.0	
<b>Private</b>							
Indian	343.5	--	22.5	42.1	244.9	34.0	
Forest industry	1,102.2	2.8	55.8	246.0	686.4	111.2	
Individual	9,018.0	114.3	1,597.6	2,695.7	4,266.6	343.8	
Corporate	691.7	7.9	109.5	180.5	350.6	43.2	
Total	11,155.4	125.0	1,785.4	3,164.3	5,548.5	532.2	
All ownerships	15,702.5	151.9	2,267.9	4,259.8	8,038.7	984.2	

<sup>1</sup>This table is based on the stocking percent of growing-stock trees, rather than that of all live trees. For this table, to use the definition of stocking found in the appendix, replace the term "all live" with "growing-stock."

<sup>2</sup>Area of nonstocked in this table and in Table 6 differs from that in other tables in this report because this table includes land stocked with only growing-stock trees, rather than with all live trees.



Table 9.--Area of timberland by forest type group/local type and stand-size class,  
Wisconsin, 1996

(In thousand acres)

Forest type group/ local type	All stands	Stand-size class			
		Sawtimber	Poletimber	Sapling- seedling	Nonstocked
White-red-jack pine					
Jack pine	387.4	84.7	169.9	132.8	--
Red pine	602.8	174.0	242.9	185.9	--
White pine	191.5	126.1	28.6	36.8	--
Total	1,181.7	384.8	441.4	355.5	--
Spruce-fir					
Balsam fir	309.4	35.1	102.2	172.1	--
White spruce	80.9	20.3	23.4	37.2	--
Black spruce	330.4	1.8	50.5	278.1	--
Northern white-cedar	319.3	100.3	162.7	56.3	--
Tamarack	301.9	26.8	89.7	185.4	--
Total	1,341.9	184.3	428.5	729.1	--
Oak-hickory					
Oak-hickory	2,885.5	1,386.3	1,026.1	473.1	--
Total	2,885.5	1,386.3	1,026.1	473.1	--
Elm-ash-cottonwood					
Elm-ash-soft maple	1,528.8	299.5	657.2	572.1	--
Total	1,528.8	299.5	657.2	572.1	--
Maple-beech-birch					
Maple-basswood	5,299.7	1,854.6	2,464.3	980.8	--
Total	5,299.7	1,854.6	2,464.3	980.8	--
Aspen-birch					
Aspen	2,885.7	291.6	1,012.3	1,581.8	--
Paper birch	493.7	61.6	318.0	114.1	--
Balsam poplar	29.1	6.4	8.2	14.5	--
Total	3,408.5	359.6	1,338.5	1,710.4	--
Nonstocked	56.4	--	--	--	56.4
All types	15,702.5	4,469.1	6,356.0	4,821.0	56.4

Table 10.--Number of all live trees on timberland by species group and diameter class, Wisconsin, 1996

(In thousand trees)

Species group	Diameter class (inches at breast height)												
	1.0-2.9	3.0-4.9	5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-28.9	29.0+	
<b>Softwoods</b>													
Jack pine	174,862	44,195	35,111	22,118	10,759	4,099	1,041	303	72	13	--	--	
Red pine	219,991	48,460	52,373	38,561	18,803	9,131	4,311	2,107	1,316	732	501	--	
White pine	164,742	29,117	17,035	13,508	7,591	5,256	3,685	2,550	1,878	1,453	2,395	400	
White spruce	75,728	20,225	11,278	7,539	4,103	2,439	1,142	720	353	141	75	--	
Black spruce	279,670	85,168	29,523	7,836	1,885	345	83	60	24	24	9	--	
Balsam fir	759,216	144,420	65,495	26,630	8,701	2,869	939	216	69	4	8	--	
Hemlock	74,820	13,890	9,209	7,291	6,334	4,680	2,871	2,062	1,409	846	947	59	
Tamarack	188,675	46,956	29,331	12,860	4,934	1,678	388	122	84	10	19	--	
Eastern redcedar	16,219	4,206	1,484	389	189	113	12	10	9	--	--	--	
Northern white-cedar	270,363	70,921	57,694	34,098	17,222	9,565	3,625	1,442	570	117	95	7	
Other softwoods	6,688	1,848	1,719	677	264	155	38	19	14	7	--	--	
<b>Total softwoods</b>	<b>2,230,974</b>	<b>509,406</b>	<b>310,252</b>	<b>171,507</b>	<b>80,785</b>	<b>40,330</b>	<b>18,135</b>	<b>9,611</b>	<b>5,798</b>	<b>3,347</b>	<b>4,049</b>	<b>466</b>	
<b>Hardwoods</b>													
Select white oak	194,056	33,549	22,074	20,930	16,103	11,183	7,805	4,876	2,486	1,674	2,392	215	
Select red oak	260,800	30,732	26,472	27,817	22,952	19,306	13,814	8,060	4,280	2,046	2,934	348	
Other red oak	205,842	27,888	23,425	20,470	15,735	11,556	6,163	3,473	1,787	1,062	1,096	55	
Select hickory	73,766	43,692	7,292	4,619	1,732	2,832	855	446	206	83	72	--	
Other hickory	77,893	16,542	8,647	4,769	2,112	1,010	555	139	32	17	--	--	
Basswood	273,816	133,129	43,355	22,951	18,908	13,187	7,492	3,441	1,332	774	712	90	
Beech	17,051	3,246	1,650	752	550	312	288	117	117	49	101	7	
Yellow birch	104,041	46,007	13,844	8,979	6,338	3,913	2,216	1,240	548	296	371	9	
Hard maple	903,799	186,836	103,292	67,430	41,166	20,142	11,563	6,354	3,451	2,198	2,209	104	
Soft maple	1,135,994	245,618	144,544	81,143	43,646	21,163	9,437	4,180	2,288	806	1,147	128	
Elm	328,943	202,358	27,272	14,515	6,062	3,374	1,543	622	378	157	119	10	
Black ash	356,918	190,578	42,011	22,575	9,866	4,102	1,734	593	275	54	67	--	
White & green ash	271,357	167,136	24,463	15,957	9,975	6,141	3,589	1,714	688	388	252	27	
Cottonwood	3,613	1,095	218	271	315	297	186	127	211	109	165	70	
Willow	4,759	3,402	294	363	386	332	243	107	93	35	68	34	
Hackberry	10,835	2,466	191	508	264	74	72	18	15	--	15	--	
Balsam poplar	19,691	3,703	2,320	1,058	819	510	371	189	64	18	40	--	
Bigtooth aspen	420,875	57,025	20,835	15,611	13,615	9,675	5,922	2,350	917	216	213	--	
Quaking aspen	1,518,672	243,187	97,696	59,247	39,270	22,203	10,654	4,589	1,367	413	217	--	
Paper birch	364,856	161,325	72,499	41,813	21,659	11,813	2,545	706	180	35	29	--	
River birch	4,058	1,827	483	550	360	206	79	54	--	8	8	--	
Tupelo	29	--	--	--	29	--	--	--	--	--	--	--	
Black cherry	288,786	204,487	17,510	10,043	5,351	2,315	1,053	470	179	73	49	--	
Black walnut	10,496	4,092	1,851	1,016	764	576	515	293	135	56	65	13	
Butternut	6,290	1,890	882	773	755	423	267	176	104	37	52	--	
Other hardwoods	113,719	67,992	21,993	11,722	6,365	2,761	1,562	309	93	80	53	6	
<b>Total hardwoods</b>	<b>6,971,955</b>	<b>4,487,086</b>	<b>700,801</b>	<b>453,809</b>	<b>283,219</b>	<b>163,417</b>	<b>89,806</b>	<b>44,838</b>	<b>21,234</b>	<b>10,684</b>	<b>12,454</b>	<b>1,125</b>	
<b>Noncommercial species</b>	<b>649,446</b>	<b>545,323</b>	<b>82,026</b>	<b>18,032</b>	<b>626</b>	<b>234</b>	<b>39</b>	<b>24</b>	<b>8</b>	<b>--</b>	<b>8</b>	<b>--</b>	
<b>All species</b>	<b>9,852,375</b>	<b>5,564,374</b>	<b>1,862,334</b>	<b>625,316</b>	<b>364,004</b>	<b>203,747</b>	<b>107,941</b>	<b>54,449</b>	<b>27,032</b>	<b>14,031</b>	<b>16,503</b>	<b>1,591</b>	

Table 11.--Number of growing-stock trees on timberland by species group and diameter class, Wisconsin, 1996

(in thousand trees)

Species group	Diameter class (inches at breast height)												
	All classes	1.0-2.9	3.0-4.9	5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-28.9	29.0+
<b>Softwoods</b>													
Jack pine	167,384	55,903	42,164	33,046	20,793	10,166	3,937	1,022	276	64	13	--	--
Red pine	216,739	43,399	47,479	51,041	38,184	18,642	9,076	4,284	2,085	1,316	732	501	--
White pine	160,144	79,094	28,706	16,311	12,194	7,022	5,029	3,406	2,413	1,836	1,431	2,319	383
White spruce	74,513	27,602	20,135	10,802	7,213	3,964	2,417	1,124	709	331	141	75	--
Black spruce	277,821	154,347	84,061	29,269	7,734	1,865	345	83	60	24	24	9	--
Balsam fir	754,651	508,980	143,097	64,131	26,185	8,349	2,770	872	186	69	4	8	--
Hemlock	70,164	24,736	13,197	8,655	6,420	5,589	4,128	2,582	1,772	1,327	792	907	59
Tamarack	185,794	91,972	45,974	28,695	12,554	4,565	1,496	347	105	67	10	9	--
Eastern redcedar	14,632	9,510	3,687	1,050	209	87	80	--	--	9	--	--	--
Northern white-cedar	245,548	74,263	66,589	49,886	28,975	13,621	7,867	2,936	959	337	72	43	--
Other softwoods	5,927	1,866	1,653	1,386	643	197	113	38	10	14	7	--	--
<b>Total softwoods</b>	<b>2,173,317</b>	<b>1,071,672</b>	<b>496,742</b>	<b>294,272</b>	<b>161,104</b>	<b>74,067</b>	<b>37,258</b>	<b>16,694</b>	<b>8,575</b>	<b>5,394</b>	<b>3,226</b>	<b>3,871</b>	<b>442</b>
<b>Hardwoods</b>													
Select white oak	170,227	67,989	27,891	18,436	17,910	13,584	9,354	6,461	3,947	1,904	1,178	1,510	63
Select red oak	244,506	100,740	27,865	22,791	25,628	21,448	17,641	12,696	7,353	3,946	1,767	2,394	237
Other red oak	180,603	92,127	24,042	17,926	15,146	12,428	8,708	4,761	2,696	1,272	813	665	19
Select hickory	69,518	42,432	10,836	6,682	4,131	2,523	1,462	748	375	181	76	72	--
Other hickory	73,736	42,960	15,264	7,873	4,336	1,896	820	451	104	32	--	--	--
Basswood	260,229	130,864	39,240	25,652	21,597	17,865	12,434	6,997	3,175	1,218	629	522	36
Beech	15,904	9,668	3,246	811	616	550	250	288	263	94	32	79	7
Yellow birch	90,719	44,618	18,039	10,547	6,706	4,686	2,773	1,586	893	399	199	268	5
Hard maple	844,614	444,899	170,747	94,797	60,114	35,945	16,770	9,632	5,170	2,949	1,818	1,729	44
Soft maple	1,053,340	567,504	219,834	128,063	69,869	37,075	17,011	7,518	3,248	1,664	636	847	71
Elm	306,906	198,482	63,953	23,669	11,530	4,824	2,330	1,198	433	271	118	96	2
Black ash	339,610	186,987	78,909	38,111	20,449	9,181	3,587	1,576	495	220	38	57	--
White & green ash	260,573	164,982	38,849	22,169	14,255	8,630	5,421	3,287	1,578	635	328	221	18
Cottonwood	3,482	1,095	549	218	241	315	297	176	127	168	95	165	36
Willow	4,817	3,315	303	239	87	201	228	220	74	52	35	53	10
Hackberry	9,762	7,050	1,761	191	370	204	74	72	18	15	--	7	--
Balsam poplar	19,026	10,410	3,703	2,120	875	791	472	371	180	64	8	32	--
Bigtooth aspen	410,095	291,738	55,063	19,199	14,137	12,541	8,960	5,331	2,069	772	145	140	--
Quaking aspen	1,475,926	1,029,944	234,694	92,145	53,116	34,738	17,721	8,656	3,600	977	269	66	--
Paper birch	346,248	159,117	68,330	51,082	38,246	19,748	6,779	2,126	614	152	25	29	--
River birch	3,799	1,743	483	483	487	360	147	68	28	--	--	--	--
Tupelo	29	--	--	--	--	29	--	--	--	--	--	--	--
Black cherry	258,852	198,625	34,991	11,947	6,535	3,636	1,729	770	414	134	49	22	--
Black walnut	8,956	3,897	1,620	891	747	544	440	418	237	73	55	34	--
Butternut	4,408	1,890	525	501	427	433	268	145	104	78	8	29	--
Other hardwoods	91,577	65,307	13,788	6,613	3,467	1,295	637	304	108	40	8	10	--
<b>Total hardwoods</b>	<b>6,547,462</b>	<b>3,868,383</b>	<b>1,154,525</b>	<b>603,156</b>	<b>391,022</b>	<b>245,670</b>	<b>136,313</b>	<b>75,856</b>	<b>37,303</b>	<b>17,310</b>	<b>8,329</b>	<b>9,047</b>	<b>548</b>
<b>All species</b>	<b>8,720,779</b>	<b>4,940,055</b>	<b>1,651,267</b>	<b>897,428</b>	<b>552,126</b>	<b>319,737</b>	<b>173,571</b>	<b>92,550</b>	<b>45,878</b>	<b>22,704</b>	<b>11,555</b>	<b>12,918</b>	<b>990</b>

Table 12.--Net volume of growing stock on timberland by species group and diameter class, Wisconsin, 1996

(In thousand cubic feet)

Species group	Diameter class (inches at breast height)										
	All classes	5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-28.9	29.0+
<b>Softwoods</b>											
Jack pine	381,915	78,719	109,905	96,669	60,827	23,244	8,962	2,874	715	--	--
Red pine	987,821	138,980	215,764	182,965	141,624	99,753	68,576	58,089	42,735	39,335	--
White pine	928,649	37,844	65,359	68,724	80,348	82,777	82,990	87,869	92,227	243,528	86,983
White spruce	237,701	28,345	41,621	43,481	41,607	28,833	24,898	14,715	8,017	6,184	--
Black spruce	155,986	75,724	45,623	20,881	6,009	2,206	2,173	1,154	1,525	691	--
Balsam fir	470,736	161,669	148,452	85,084	44,499	20,619	6,218	3,021	214	960	--
Hemlock	400,900	13,459	25,999	43,451	52,458	50,992	48,755	49,553	38,534	68,009	9,690
Tamarack	265,005	86,477	82,592	52,898	26,284	9,036	3,357	3,236	525	600	--
Eastern redcedar	7,036	3,077	1,198	1,059	1,320	--	--	382	--	--	--
Northern white-cedar	588,702	114,787	140,856	115,691	102,340	53,798	24,605	11,241	3,150	2,234	--
Other softwoods	13,057	3,408	3,708	1,980	1,812	879	257	564	449	--	--
<b>Total softwoods</b>	<b>4,417,508</b>	<b>742,489</b>	<b>881,077</b>	<b>712,883</b>	<b>559,128</b>	<b>372,137</b>	<b>270,791</b>	<b>232,698</b>	<b>188,091</b>	<b>361,541</b>	<b>96,673</b>
<b>Hardwoods</b>											
Select white oak	926,757	43,568	94,567	127,028	139,749	138,870	119,630	76,265	59,859	117,246	9,975
Select red oak	1,729,526	54,108	140,139	214,711	277,270	294,292	236,840	170,355	100,155	203,077	38,579
Other red oak	659,875	42,433	78,697	111,087	120,550	96,175	75,323	47,250	39,021	46,848	2,491
Select hickory	130,915	14,315	21,607	24,116	23,111	16,536	12,446	8,308	4,477	5,999	--
Other hickory	88,104	17,002	24,010	17,891	13,400	10,698	3,508	1,595	--	--	--
Basswood	1,092,419	73,560	140,720	207,987	225,516	184,925	113,714	57,473	35,985	46,939	5,600
Beech	48,468	2,131	4,185	6,627	4,729	7,606	8,901	4,600	1,908	6,161	1,620
Yellow birch	260,572	27,456	38,679	46,683	41,932	34,494	25,959	15,347	9,914	19,491	617
Hard maple	2,155,013	267,867	383,411	400,131	291,226	245,236	179,598	135,410	104,981	140,398	6,755
Soft maple	1,905,873	339,361	415,682	392,297	283,717	180,643	107,973	72,032	36,169	66,532	11,467
Elm	268,832	54,015	63,146	48,240	36,224	28,069	13,863	11,558	5,846	7,579	292
Black ash	457,099	100,700	122,447	100,504	60,804	39,496	16,737	9,796	2,216	4,399	--
White & green ash	531,927	56,016	83,457	94,724	92,148	80,382	54,691	28,717	18,839	20,126	2,827
Cottonwood	49,615	587	1,190	2,923	4,461	3,785	4,057	6,935	5,023	14,320	6,334
Willow	21,529	382	476	1,671	3,344	4,746	2,132	1,959	1,661	3,820	1,388
Hackberry	9,715	553	2,029	2,350	1,119	1,808	548	728	--	580	--
Balsam poplar	49,676	5,700	6,058	8,459	7,743	9,689	6,501	2,768	518	2,240	--
Bigtooth aspen	757,158	58,010	96,513	151,955	167,912	145,870	77,305	38,479	9,111	12,003	--
Ouaking aspen	1,724,760	253,646	339,441	391,774	316,643	224,884	129,344	47,567	16,055	5,406	--
Paper birch	832,320	152,311	248,889	222,909	121,259	54,748	21,479	7,060	1,480	2,185	--
River birch	12,687	1,289	3,029	3,825	2,321	1,431	792	--	--	--	--
Tupelo	311	--	--	311	--	--	--	--	--	--	--
Black cherry	200,490	35,455	43,413	42,802	32,677	20,534	14,874	5,994	3,024	1,717	--
Black walnut	48,347	2,774	4,841	5,934	7,399	10,708	8,069	3,195	3,036	2,391	--
Bulternut	28,270	1,390	2,805	5,103	5,040	3,942	3,674	3,378	480	2,458	--
Other hardwoods	65,389	14,894	17,380	11,859	9,544	6,579	2,809	1,509	308	507	--
<b>Total hardwoods</b>	<b>14,055,647</b>	<b>1,619,523</b>	<b>2,376,811</b>	<b>2,643,901</b>	<b>2,289,838</b>	<b>1,846,146</b>	<b>1,240,767</b>	<b>758,278</b>	<b>460,066</b>	<b>732,422</b>	<b>87,895</b>
<b>All species</b>	<b>18,473,155</b>	<b>2,362,012</b>	<b>3,257,888</b>	<b>3,356,784</b>	<b>2,848,966</b>	<b>2,218,283</b>	<b>1,511,558</b>	<b>990,976</b>	<b>648,157</b>	<b>1,093,963</b>	<b>184,568</b>

Table 13.--Net volume of growing stock in the saw-log portion of sawtimber trees on timberland by species group and diameter class, Wisconsin, 1996

Species group	(In thousand cubic feet)									
	All classes	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-28.9	29.0+	
Diameter class (inches at breast height)										
<b>Softwoods</b>										
Jack pine	163,396	78,455	52,987	20,678	8,046	2,586	644	--	--	--
Red pine	578,137	160,682	130,778	92,974	63,864	53,943	39,561	36,335	--	--
White pine	710,334	53,378	67,495	71,133	72,010	76,439	80,364	212,913	76,602	--
White spruce	151,287	37,370	37,706	26,522	22,982	13,583	7,410	5,714	--	--
Black spruce	32,057	19,034	5,686	2,098	2,062	1,089	1,436	652	--	--
Balsam fir	134,960	68,740	38,588	18,307	5,551	2,710	192	872	--	--
Hemlock	315,161	34,597	44,830	44,667	43,093	44,054	34,335	60,838	8,747	--
Tamarack	83,948	45,013	23,627	8,223	3,085	2,962	484	554	--	--
Eastern redcedar	2,402	890	1,165	--	--	347	--	--	--	--
Northern white-cedar	267,348	93,749	88,817	47,772	22,033	10,108	2,844	2,025	--	--
Other softwoods	5,128	1,621	1,578	784	232	509	404	--	--	--
<b>Total softwoods</b>	<b>2,444,158</b>	<b>593,529</b>	<b>493,257</b>	<b>333,158</b>	<b>242,958</b>	<b>208,330</b>	<b>167,674</b>	<b>319,903</b>	<b>85,349</b>	<b>--</b>
<b>Hardwoods</b>										
Select white oak	478,146	--	89,567	98,671	88,409	57,466	45,677	90,498	7,858	--
Select red oak	956,610	--	178,052	209,796	175,877	128,925	76,564	157,026	30,370	--
Other red oak	307,721	--	77,317	68,938	56,440	36,127	30,165	36,752	1,982	--
Select hickory	47,089	--	13,379	11,010	8,789	6,032	3,311	4,568	--	--
Other hickory	18,261	--	7,622	7,019	2,461	1,159	--	--	--	--
Basswood	484,544	--	150,082	135,309	86,097	44,144	27,953	36,552	4,407	--
Beech	27,364	--	3,213	5,723	6,926	3,631	1,521	4,986	1,364	--
Yellow birch	111,071	--	28,186	25,878	20,310	12,266	7,989	15,932	510	--
Hard maple	796,838	--	187,035	176,029	134,440	103,301	81,048	109,596	5,389	--
Soft maple	529,948	--	179,535	127,850	79,854	54,482	27,656	51,527	9,044	--
Elm	69,520	--	21,692	19,143	9,923	8,442	4,350	5,747	223	--
Black ash	97,029	--	41,479	29,601	12,987	7,699	1,761	3,502	--	--
White & green ash	215,585	--	61,431	58,576	41,158	21,991	14,531	15,680	2,218	--
Cottonwood	32,323	--	2,556	2,451	2,836	5,004	3,685	10,878	4,913	--
Willow	13,149	--	1,898	3,138	1,501	1,422	1,229	2,912	1,049	--
Hackberry	3,304	--	689	1,242	395	538	--	440	--	--
Balsam poplar	21,473	--	5,196	7,114	4,898	2,106	394	1,765	--	--
Bigtooth aspen	329,649	--	115,009	108,819	59,339	29,929	7,111	9,442	--	--
Quaking aspen	531,934	--	214,182	166,002	98,391	36,674	12,470	4,215	--	--
Paper birch	140,628	--	78,066	38,775	15,757	5,270	1,108	1,652	--	--
River birch	3,302	--	1,583	1,102	617	--	--	--	--	--
Black cherry	54,872	--	20,995	14,620	11,043	4,570	2,318	1,326	--	--
Black walnut	26,147	--	5,002	8,042	6,246	2,520	2,403	1,934	--	--
Butternut	14,244	--	3,455	2,974	2,825	2,646	382	1,962	--	--
Other hardwoods	15,156	--	6,334	4,846	2,148	1,183	245	400	--	--
<b>Total hardwoods</b>	<b>5,325,907</b>	<b>--</b>	<b>1,493,555</b>	<b>1,332,668</b>	<b>929,667</b>	<b>577,527</b>	<b>353,871</b>	<b>569,292</b>	<b>69,327</b>	<b>--</b>
<b>All species</b>	<b>7,770,065</b>	<b>593,529</b>	<b>1,986,812</b>	<b>1,665,826</b>	<b>1,172,625</b>	<b>785,857</b>	<b>521,545</b>	<b>889,195</b>	<b>154,676</b>	<b>--</b>

Table 14.--Net volume of sawtimber on timberland by species group and diameter class, Wisconsin, 1996

(In thousand board feet)<sup>1</sup>

Species group	Diameter class (inches at breast height)									
	All classes	9.0 - 10.9	11.0 - 12.9	13.0 - 14.9	15.0 - 16.9	17.0 - 18.9	19.0 - 20.9	21.0 - 28.9	29.0+	
<b>Softwoods</b>										
Jack pine	945,233	459,932	298,764	118,885	47,761	15,848	4,043	--	--	
Red pine	3,357,335	926,832	729,668	528,265	373,485	324,458	244,181	230,446	--	
White pine	4,399,870	315,058	380,033	406,713	424,303	464,392	501,233	1,385,181	522,957	
White spruce	899,918	221,112	217,280	155,802	138,522	83,561	46,553	37,088	--	
Black spruce	185,159	108,377	32,144	12,231	12,389	6,704	9,100	4,214	--	
Balsam fir	787,496	405,853	219,234	105,899	33,012	16,528	1,192	5,778	--	
Hemlock	1,895,573	208,420	252,620	254,159	252,056	265,507	212,255	391,312	59,244	
Tamarack	489,419	262,433	135,578	48,049	18,521	18,276	3,022	3,540	--	
Eastern redcedar	14,564	5,412	6,975	--	--	2,177	--	--	--	
Northern white-cedar	1,608,145	583,537	520,998	280,305	131,381	61,442	17,703	12,779	--	
Other softwoods	29,792	9,391	8,859	4,523	1,363	3,098	2,558	--	--	
<b>Total softwoods</b>	<b>14,612,504</b>	<b>3,506,357</b>	<b>2,802,153</b>	<b>1,914,831</b>	<b>1,432,793</b>	<b>1,261,991</b>	<b>1,041,840</b>	<b>2,070,338</b>	<b>582,201</b>	
<b>Hardwoods</b>										
Select white oak	2,997,736	--	564,701	602,661	542,210	357,329	288,603	588,819	53,413	
Select red oak	5,995,099	--	1,117,531	1,278,566	1,078,715	803,233	485,606	1,025,310	206,138	
Other red oak	1,930,853	--	494,335	423,009	346,681	224,607	190,429	238,432	13,360	
Select hickory	296,022	--	86,002	67,775	54,039	37,581	20,964	29,661	--	
Other hickory	114,327	--	48,885	43,070	15,123	7,249	--	--	--	
Basswood	3,021,734	--	938,658	828,844	531,606	276,503	177,478	238,879	29,766	
Beech	175,170	--	20,623	35,960	43,606	23,124	9,782	32,670	9,405	
Yellow birch	706,765	--	182,675	161,629	126,785	77,291	50,946	104,015	3,424	
Hard maple	5,051,600	--	1,198,347	1,093,869	837,984	651,461	517,851	715,644	36,444	
Soft maple	3,369,995	--	1,156,657	796,956	498,149	343,602	176,850	336,427	61,354	
Elm	440,171	--	140,452	118,704	61,573	52,923	27,560	37,457	1,502	
Black ash	606,552	--	261,788	182,089	80,400	48,297	11,243	22,735	--	
White & green ash	1,330,690	--	378,203	354,202	251,617	136,881	91,992	102,795	15,000	
Cottonwood	207,272	--	16,372	15,002	17,332	31,004	23,163	71,012	33,387	
Willow	83,020	--	12,224	19,207	9,178	8,791	7,727	18,847	7,046	
Hackberry	20,823	--	4,454	7,664	2,443	3,388	--	2,874	--	
Balsam poplar	133,678	--	32,669	43,604	30,270	13,153	2,517	11,465	--	
Bigtooth aspen	2,038,004	--	711,996	664,633	366,358	188,099	45,355	61,563	--	
Quaking aspen	3,292,105	--	1,332,280	1,015,015	607,443	230,382	79,512	27,473	--	
Paper birch	883,152	--	494,009	239,963	98,090	33,245	7,093	10,752	--	
River birch	20,317	--	9,839	6,719	3,759	--	--	--	--	
Black cherry	345,189	--	133,773	90,743	68,676	28,688	14,766	8,543	--	
Black walnut	164,479	--	32,091	49,932	38,818	15,858	15,282	12,498	--	
Butternut	89,717	--	21,877	18,445	17,567	16,611	2,434	12,783	--	
Other hardwoods	93,433	--	39,410	29,447	13,128	7,366	1,539	2,543	--	
<b>Total hardwoods</b>	<b>33,407,903</b>	<b>--</b>	<b>9,429,851</b>	<b>8,187,708</b>	<b>5,741,550</b>	<b>3,616,666</b>	<b>2,248,692</b>	<b>3,713,197</b>	<b>470,239</b>	
<b>All species</b>	<b>48,020,407</b>	<b>3,506,357</b>	<b>12,232,004</b>	<b>10,102,539</b>	<b>7,174,343</b>	<b>4,878,657</b>	<b>3,290,532</b>	<b>5,783,535</b>	<b>1,052,440</b>	

<sup>1</sup>International 1/4-inch rule.



(Table 15 continued)

Northwestern Unit

Species	Log grade 1				Log grade 2				Log grade 3				Log grade 4								
	Total	9.0-14.9	15.0-18.9	19.0-20.9	21.0+	Total	9.0-14.9	15.0-18.9	19.0-20.9	21.0+	Total	9.0-14.9	15.0-18.9	19.0-20.9	21.0+	Total	9.0-14.9	15.0-18.9	19.0-20.9	21.0+	
<b>Softwoods</b>																					
Jack pine	..	..	..	..	..	12,196	12,196	..	..	..	376,880	362,895	12,088	1,897	..	..	..	..	..	..	
Red pine	97,846	9,527	40,176	31,433	16,710	150,922	43,340	70,631	30,433	6,518	902,670	557,096	211,033	60,344	74,197	..	..	..	..	..	..
White pine	189,859	5,887	53,285	19,493	110,194	325,776	67,160	70,380	40,686	147,550	488,429	139,862	116,169	60,498	171,900	..	..	..	..	..	..
White spruce	..	..	..	..	..	9,206	1,438	2,414	..	5,354	481,692	322,197	122,367	33,358	3,770	..	..	..	..	..	..
Black spruce	..	..	..	..	..	1,631	..	1,631	..	..	101,221	78,668	11,313	7,026	4,214	..	..	..	..	..	..
Balsam fir	..	..	..	..	..	..	..	..	..	..	486,138	454,837	30,109	1,192	..	..	..	..	..	..	..
Hemlock	94,189	..	27,472	19,704	47,013	105,599	31,706	27,945	11,819	34,129	284,801	151,565	88,086	21,808	23,342	..	..	..	..	..	..
Tamarack	..	..	..	..	..	13,283	13,283	..	..	..	244,221	222,307	17,161	1,213	3,540	..	..	..	..	..	..
Eastern redcedar	..	..	..	..	..	..	..	..	..	..	2,006	2,006	..	..	..	..	..	..	..	..	..
Northern white-cedar	17,455	..	17,455	..	..	115,727	80,257	35,470	..	..	571,756	501,472	53,357	13,996	2,931	..	..	..	..	..	..
Other softwoods	..	..	..	..	..	..	..	..	..	..	11,207	7,235	1,414	2,558	..	..	..	..	..	..	..
Total	398,349	15,414	138,388	70,630	173,917	734,340	249,380	208,471	82,938	193,551	3,951,021	2,800,140	663,097	203,890	283,894	..	..	..	..	..	..
<b>Tree grade 1</b>																					
Species	Total	11.0-14.9	15.0-18.9	19.0-20.9	21.0+	Tree grade 2					Tree grade 3					Tree grade 4					
						Total	11.0-14.9	15.0-18.9	19.0-20.9	21.0+	Total	11.0-14.9	15.0-18.9	19.0-20.9	21.0+	Total	11.0-14.9	15.0-18.9	19.0-20.9	21.0+	
<b>Hardwoods</b>																					
Select white oak	23,787	..	13,585	3,732	6,470	92,070	30,505	40,446	6,719	14,400	140,155	94,991	20,516	10,184	14,464	74,394	48,900	20,135	3,348	2,011	
Select red oak	344,684	..	169,840	55,124	119,720	598,214	356,438	181,596	30,396	23,784	612,934	465,010	109,445	19,695	18,784	78,159	47,030	18,850	4,227	8,052	
Other red oak	10,080	..	..	3,692	6,388	17,426	3,334	5,347	7,189	1,556	68,079	35,915	24,003	..	8,161	39,741	28,341	9,816	1,584	..	
Select hickory	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Other hickory	..	..	..	..	..	3,259	3,259	..	..	..	8,364	8,364	..	..	..	5,323	3,856	1,467	..	..	
Basswood	284,888	25,963	204,292	26,118	28,515	360,100	288,601	64,542	5,054	1,903	406,130	358,031	38,640	4,249	5,210	16,274	8,624	4,641	3,008	..	
Beech	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Yellow birch	89,861	..	31,931	15,826	42,104	108,009	66,912	37,577	..	1,520	112,087	95,101	13,248	3,738	..	16,060	9,890	6,170	..	..	
Hard maple	257,824	..	154,870	54,623	48,331	512,972	292,056	161,271	24,232	35,413	660,978	504,597	105,122	29,286	21,973	113,258	57,469	34,482	13,350	7,957	
Soft maple	85,104	..	57,890	14,423	12,791	275,569	187,115	60,847	9,177	19,430	459,624	378,909	55,560	11,595	13,560	76,677	54,478	22,199	..	..	
Elm	16,147	..	11,659	1,987	2,501	17,482	10,857	3,755	1,368	1,502	24,200	18,428	4,015	1,757	..	7,583	6,427	1,156	..	..	
Black ash	32,518	3,485	27,217	1,816	..	109,731	84,100	17,076	5,101	3,454	157,328	148,386	6,215	2,727	..	7,020	4,470	2,550	..	..	
White & green ash	54,045	1,119	44,986	..	7,930	96,577	70,519	22,163	..	..	99,796	82,984	14,694	2,118	..	11,131	7,142	2,051	1,938	..	
Cottonwood	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Willow	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Hackberry	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Balsam poplar	..	..	..	..	..	4,394	2,931	1,463	..	..	25,497	10,271	15,226	..	..	6,989	6,989	..	..	..	
Bightooth aspen	35,689	..	32,988	2,701	..	271,893	164,112	83,398	11,356	13,027	303,172	268,392	32,824	1,956	..	17,407	16,617	790	..	..	
Quaking aspen	128,427	..	101,387	27,040	..	446,498	278,401	154,496	13,601	..	943,735	770,035	155,663	4,236	13,811	176,189	113,445	62,744	..	..	
Paper birch	4,423	..	4,423	..	..	73,590	63,564	10,026	..	..	196,960	188,192	8,768	..	..	12,421	11,422	999	..	..	
River birch	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Black cherry	1,652	..	1,652	..	..	2,168	652	1,516	..	..	5,527	5,527	..	..	..	..	..	..	..	..	
Black walnut	..	..	..	..	..	..	..	..	..	..	2,199	2,199	..	..	..	..	..	..	..	..	
Bulltorn	..	..	..	..	..	7,013	5,566	1,457	..	..	4,242	1,260	2,982	..	..	..	..	..	..	..	
<b>Other hardwoods</b>																					
Total	1,369,129	30,567	856,730	207,082	274,750	2,996,965	1,910,912	846,976	114,193	124,884	4,231,007	3,436,592	606,911	88,814	98,690	658,626	425,100	188,050	27,456	18,020	
All species	1,767,478	45,981	995,118	277,712	448,667	3,731,305	2,160,292	1,055,447	197,131	318,435	8,182,028	6,236,732	1,270,008	292,704	382,584	724,940	434,685	205,726	35,840	48,689	

(Table 15 continued on next page)



Central Unit

Species	Log grade 1				Log grade 2				Log grade 3				Log grade 4																																																																																																																																																																																																															
	Diameter class (inches at breast height)				Diameter class (inches at breast height)				Diameter class (inches at breast height)				Diameter class (inches at breast height)																																																																																																																																																																																																															
	9.0-14.9	15.0-18.9	19.0-20.9	21.0+	9.0-14.9	15.0-18.9	19.0-20.9	21.0+	9.0-14.9	15.0-18.9	19.0-20.9	21.0+	9.0-14.9	15.0-18.9	19.0-20.9	21.0+																																																																																																																																																																																																												
Softwoods																	Jack pine	3,115	1,744	1,371	3,687	9,913	9,913	2,146	270,426	259,427	8,853	2,146	310,882	180,757	72,725	33,225	24,175	Red pine	17,961	2,782	9,357	3,687	21,648	12,446	4,713	486,857	457,420	24,724	4,713	93,473	215,974	73,563	14,137	27,891	White pine	134,778	5,948	28,710	89,033	103,532	76,599	37,147	676,293	246,503	128,036	73,772	337,079	278,260	123,838	22,491	31,941	White spruce								16,688	15,046	1,642							Black spruce								16,451	14,801	1,650							Balsam fir								117,927	84,071	31,120	2,736						Hemlock								57,306	53,644	3,662							Tamarack																	Eastern redcedar								32,165	28,475	3,690							Northern white-cedar								11,152	8,105	3,047							Other softwoods								1,685,265	1,167,492	206,424	83,367	227,982					Total	158,225	10,474	41,809	92,720	416,988	141,266	99,384	37,147	139,191	1,685,265	1,167,492	206,424	83,367	227,982		
Jack pine	3,115	1,744	1,371	3,687	9,913	9,913	2,146	270,426	259,427	8,853	2,146	310,882	180,757	72,725	33,225	24,175																																																																																																																																																																																																												
Red pine	17,961	2,782	9,357	3,687	21,648	12,446	4,713	486,857	457,420	24,724	4,713	93,473	215,974	73,563	14,137	27,891																																																																																																																																																																																																												
White pine	134,778	5,948	28,710	89,033	103,532	76,599	37,147	676,293	246,503	128,036	73,772	337,079	278,260	123,838	22,491	31,941																																																																																																																																																																																																												
White spruce								16,688	15,046	1,642																																																																																																																																																																																																																		
Black spruce								16,451	14,801	1,650																																																																																																																																																																																																																		
Balsam fir								117,927	84,071	31,120	2,736																																																																																																																																																																																																																	
Hemlock								57,306	53,644	3,662																																																																																																																																																																																																																		
Tamarack																																																																																																																																																																																																																												
Eastern redcedar								32,165	28,475	3,690																																																																																																																																																																																																																		
Northern white-cedar								11,152	8,105	3,047																																																																																																																																																																																																																		
Other softwoods								1,685,265	1,167,492	206,424	83,367	227,982																																																																																																																																																																																																																
Total	158,225	10,474	41,809	92,720	416,988	141,266	99,384	37,147	139,191	1,685,265	1,167,492	206,424	83,367	227,982																																																																																																																																																																																																														

Species	Tree grade 1				Tree grade 2				Tree grade 3				Tree and timber																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
	Diameter class (inches at breast height)				Diameter class (inches at breast height)				Diameter class (inches at breast height)				Diameter class (inches at breast height)																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
	11.0-14.9	15.0-18.9	19.0-20.9	21.0+	11.0-14.9	15.0-18.9	19.0-20.9	21.0+	11.0-14.9	15.0-18.9	19.0-20.9	21.0+	11.0-14.9	15.0-18.9	19.0-20.9	21.0+																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
Hardwoods																	Select white oak	59,805	37,767	12,498	9,540	83,067	70,247	17,839	31,518	180,757	72,725	33,225	24,175	180,757	72,725	33,225	24,175	Select red oak	271,144	123,175	27,887	120,082	156,943	108,224	36,939	35,111	215,974	73,563	14,137	27,891	215,974	73,563	14,137	27,891	Other red oak	95,376	37,503	22,779	35,094	75,540	84,688	24,037	25,206	278,260	123,838	22,491	31,941	278,260	123,838	22,491	31,941	Select hickory					1,139	3,509	2,246		8,614	2,730			8,614	2,730			Other hickory					4,646	1,350			10,064				10,064				Basswood	73,066	1,459	49,274	11,810	58,165	12,639	2,417	9,214	81,999	8,742	2,298		81,999	8,742	2,298		Beech																	Yellow birch																	Hard maple	67,432	33,818	15,205	18,409	7,985	2,584			15,602	1,091			15,602	1,091			Soft maple	107,850	63,429	18,922	25,499	59,398	43,075	7,216	7,443	83,378	25,962			83,378	25,962			Elm	2,771	2,771			148,611	66,610	4,263	14,042	380,792	51,071	5,915	26,710	380,792	51,071	5,915	26,710	Black ash	10,270	3,442	6,828		2,451	1,787	1,348		15,345	1,253	1,236		15,345	1,253	1,236		White & green ash	36,583	24,877	1,114	10,602	27,350	5,189			49,118	42,280	6,838		49,118	42,280	6,838		Cottonwood	10,715	82	2,216	7,667	30,748	5,595			61,362	1,737			61,362	1,737			Willow					910				3,178				3,178				Hackberry																	Balsam poplar																	Bigtooth aspen	19,348	14,646		4,702	2,838												Quaking aspen	4,496	2,728	1,768		88,077	32,038	1,982		297,096	1,071			297,096	1,071			Paper birch					39,667	9,632			15,345	1,253			15,345	1,253			River birch					6,787	1,452			29,818	1,403			29,818	1,403			Black cherry					1,968				2,605				2,605				Black walnut					1,968				7,921	1,484			7,921	1,484			Butternut					13,982	1,548			9,405	3,011			9,405	3,011			Other hardwoods																	Total	761,079	4,901	399,861	114,199	803,773	457,616	105,575	122,534	1,664,290	430,669	81,050	142,544	1,664,290	430,669	81,050	142,544	All species	919,304	15,375	441,670	127,421	1,906,486	945,039	557,000	261,725	2,831,782	637,093	164,417	370,526	2,831,782	637,093	164,417	370,526
Select white oak	59,805	37,767	12,498	9,540	83,067	70,247	17,839	31,518	180,757	72,725	33,225	24,175	180,757	72,725	33,225	24,175																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
Select red oak	271,144	123,175	27,887	120,082	156,943	108,224	36,939	35,111	215,974	73,563	14,137	27,891	215,974	73,563	14,137	27,891																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
Other red oak	95,376	37,503	22,779	35,094	75,540	84,688	24,037	25,206	278,260	123,838	22,491	31,941	278,260	123,838	22,491	31,941																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
Select hickory					1,139	3,509	2,246		8,614	2,730			8,614	2,730																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
Other hickory					4,646	1,350			10,064				10,064																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
Basswood	73,066	1,459	49,274	11,810	58,165	12,639	2,417	9,214	81,999	8,742	2,298		81,999	8,742	2,298																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
Beech																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
Yellow birch																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
Hard maple	67,432	33,818	15,205	18,409	7,985	2,584			15,602	1,091			15,602	1,091																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
Soft maple	107,850	63,429	18,922	25,499	59,398	43,075	7,216	7,443	83,378	25,962			83,378	25,962																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
Elm	2,771	2,771			148,611	66,610	4,263	14,042	380,792	51,071	5,915	26,710	380,792	51,071	5,915	26,710																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
Black ash	10,270	3,442	6,828		2,451	1,787	1,348		15,345	1,253	1,236		15,345	1,253	1,236																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
White & green ash	36,583	24,877	1,114	10,602	27,350	5,189			49,118	42,280	6,838		49,118	42,280	6,838																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
Cottonwood	10,715	82	2,216	7,667	30,748	5,595			61,362	1,737			61,362	1,737																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
Willow					910				3,178				3,178																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
Hackberry																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
Balsam poplar																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
Bigtooth aspen	19,348	14,646		4,702	2,838																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
Quaking aspen	4,496	2,728	1,768		88,077	32,038	1,982		297,096	1,071			297,096	1,071																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
Paper birch					39,667	9,632			15,345	1,253			15,345	1,253																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
River birch					6,787	1,452			29,818	1,403			29,818	1,403																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
Black cherry					1,968				2,605				2,605																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
Black walnut					1,968				7,921	1,484			7,921	1,484																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
Butternut					13,982	1,548			9,405	3,011			9,405	3,011																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
Other hardwoods																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
Total	761,079	4,901	399,861	114,199	803,773	457,616	105,575	122,534	1,664,290	430,669	81,050	142,544	1,664,290	430,669	81,050	142,544																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
All species	919,304	15,375	441,670	127,421	1,906,486	945,039	557,000	261,725	2,831,782	637,093	164,417	370,526	2,831,782	637,093	164,417	370,526																																																																																																																																																																																																																																																																																																																																																																																																																																																																											

(Table 15 continued on next page)

(Table 15 continued)

Southwestern Unit

Species	Log grade 1					Log grade 2					Log grade 3					Log grade 4									
	Diameter class (inches at breast height)					Diameter class (inches at breast height)					Diameter class (inches at breast height)					Diameter class (inches at breast height)									
	9.0-14.9	15.0-18.9	19.0-20.9	21.0+	Total	9.0-14.9	15.0-18.9	19.0-20.9	21.0+	Total	9.0-14.9	15.0-18.9	19.0-20.9	21.0+	Total	9.0-14.9	15.0-18.9	19.0-20.9	21.0+	Total					
Softwoods																									
Jack pine																									
Red pine																									
White pine																									
White spruce																									
Black spruce																									
Balsam fir																									
Hemlock																									
Tamarack																									
Eastern redcedar																									
Northern white-cedar																									
Other softwoods																									
Total	11,105	2,383	2,508	6,214	42,741	30,298	5,718	2,338	4,387	327,316	187,581	19,598	15,225	104,912	13,788	6,557	7,231			13,788	6,557	7,231			
Hardwoods																									
Select white oak																									
Select red oak																									
Other red oak																									
Select hickory																									
Other hickory																									
Basswood																									
Beech																									
Yellow birch																									
Hard maple																									
Soft maple																									
Elm																									
Black ash																									
White & green ash																									
Cottonwood																									
Willow																									
Hackberry																									
Balsam poplar																									
Blighted aspen																									
Quaking aspen																									
Paper birch																									
River birch																									
Black cherry																									
Black walnut																									
Bitternut																									
Other hardwoods																									
Total	1,261,357	5,800	580,217	202,223	473,117	2,035,173	953,964	718,720	108,894	253,595	2,386,932	1,519,120	441,880	118,234	307,698	503,242	289,980	158,533	20,931	33,798	517,030	286,537	165,764	20,931	
All species	1,272,462	5,800	582,600	204,731	479,331	2,077,914	984,262	724,438	111,232	257,982	2,714,248	1,706,701	461,478	133,459	412,610	517,030	286,537	165,764	20,931	33,798	517,030	286,537	165,764	20,931	

(Table 15 continued on next page)

(Table 15 continued)

Southeastern Unit

Species	Log grade 1				Log grade 2				Log grade 3				Log grade 4				
	Diameter class (inches at breast height)				Diameter class (inches at breast height)				Diameter class (inches at breast height)				Diameter class (inches at breast height)				
	9.0-14.9	15.0-18.9	19.0-20.9	21.0+	9.0-14.9	15.0-18.9	19.0-20.9	21.0+	9.0-14.9	15.0-18.9	19.0-20.9	21.0+	9.0-14.9	15.0-18.9	19.0-20.9	21.0+	
Softwoods																	
Jack pine	--	--	--	--	--	--	--	--	674	--	--	--	--	--	--	--	
Red pine	--	--	--	--	--	--	--	--	55,914	302	--	--	--	--	--	--	
White pine	7,959	1,104	947	5,908	3,487	4,927	10,763	62,442	35,575	13,240	6,192	7,435	9,649	1,015	3,427	5,207	
White spruce	--	--	--	--	--	--	--	--	9,705	7,062	--	--	--	--	--	--	
Black spruce	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Balsam fir	--	--	--	--	--	--	--	--	1,265	--	--	--	--	--	--	--	
Hemlock	--	--	--	--	--	991	--	--	52,890	45,625	7,285	--	--	--	--	--	
Tamarack	--	--	--	--	1,790	--	--	--	27,513	22,815	4,698	--	--	--	--	--	
Eastern redcedar	--	--	--	--	--	--	--	--	9,688	7,511	2,177	--	--	--	--	--	
Northern white-cedar	--	--	--	--	6,744	--	--	--	160,502	144,152	14,196	2,154	--	--	--	--	
Other softwoods	--	--	--	--	--	--	--	--	1,771	1,771	--	--	--	--	--	--	
<b>Total</b>	<b>7,959</b>	<b>1,104</b>	<b>947</b>	<b>5,908</b>	<b>28,702</b>	<b>12,021</b>	<b>5,918</b>	<b>10,763</b>	<b>382,364</b>	<b>322,062</b>	<b>44,521</b>	<b>6,192</b>	<b>9,589</b>	<b>9,649</b>	<b>1,015</b>	<b>3,427</b>	<b>5,207</b>
Hardwoods																	
Tree grade 1																	
Diameter class (inches at breast height)				Diameter class (inches at breast height)				Diameter class (inches at breast height)				Diameter class (inches at breast height)					
11.0-14.9	15.0-18.9	19.0-20.9	21.0+	11.0-14.9	15.0-18.9	19.0-20.9	21.0+	11.0-14.9	15.0-18.9	19.0-20.9	21.0+	11.0-14.9	15.0-18.9	19.0-20.9	21.0+		
123,469	30,037	17,402	76,030	228,777	30,981	60,705	29,143	181,834	60,935	43,527	15,256	44,327	17,964	15,934	4,669		
165,796	43,572	28,412	93,812	69,713	30,783	24,672	4,129	61,184	28,802	15,785	2,335	17,713	--	5,155	2,420		
36,234	8,669	7,954	19,611	52,026	9,664	16,363	7,211	72,997	20,114	21,089	13,247	27,507	13,140	9,111	2,249		
20,115	9,940	7,255	3,020	20,947	9,290	11,657	--	40,236	28,347	9,454	2,435	7,487	6,851	646	--		
60,705	3,070	31,587	15,449	831	831	--	--	2,677	2,677	--	--	1,503	1,503	--	--		
15,404	6,738	--	8,666	81,873	59,812	12,012	5,692	71,877	50,201	9,094	3,684	8,787	4,705	4,082	--		
102,308	41,919	17,560	42,829	28,128	15,033	5,873	2,949	19,136	6,493	4,812	--	8,013	5,415	1,935	663		
79,053	30,132	10,328	38,593	96,061	53,311	16,435	7,599	78,983	40,189	11,510	8,314	25,214	15,719	6,871	2,624		
22,086	15,718	1,702	4,666	117,130	41,245	38,875	19,260	119,479	82,753	23,946	2,882	10,640	9,210	1,430	--		
6,958	4,833	2,125	1,089	27,125	17,353	7,879	1,893	26,238	21,878	4,360	--	23,869	14,304	5,698	3,867		
124,252	56,217	31,089	36,946	133,847	82,554	40,701	1,566	122,407	88,684	18,890	10,370	3,169	1,984	1,175	--		
--	--	--	--	7,211	897	1,490	4,824	9,644	1,550	1,085	2,194	15,486	7,669	5,610	2,207		
--	--	--	--	7,121	5,943	1,178	--	21,928	6,999	4,695	2,199	--	--	--	--		
--	--	--	--	1,372	1,372	--	--	1,003	1,003	--	--	--	--	--	--		
--	--	--	--	96,061	53,311	16,435	7,599	6,129	6,129	--	--	3,933	3,933	--	--		
--	--	--	--	117,130	41,245	38,875	19,260	78,983	40,189	11,510	8,314	8,013	5,415	1,935	663		
--	--	--	--	27,125	17,353	7,879	1,893	119,479	82,753	23,946	2,882	25,214	15,719	6,871	2,624		
--	--	--	--	14,940	3,767	6,190	4,963	26,238	21,878	4,360	--	10,640	9,210	1,430	--		
--	--	--	--	133,847	82,554	40,701	1,566	10,414	5,779	--	--	23,869	14,304	5,698	3,867		
--	--	--	--	7,211	897	1,490	4,824	122,407	88,684	18,890	10,370	3,169	1,984	1,175	--		
--	--	--	--	7,121	5,943	1,178	--	9,644	1,550	1,085	2,194	15,486	7,669	5,610	2,207		
--	--	--	--	4,927	3,985	942	--	21,928	6,999	4,695	2,199	--	--	--	--		
--	--	--	--	942	942	--	--	1,003	1,003	--	--	--	--	--	--		
--	--	--	--	17,696	7,114	10,582	--	1,833	1,833	--	--	3,933	3,933	--	--		
--	--	--	--	8,987	6,290	2,697	--	1,833	1,833	--	--	8,013	5,415	1,935	663		
--	--	--	--	23,706	12,211	9,471	2,024	22,958	17,727	5,231	--	25,214	15,719	6,871	2,624		
--	--	--	--	1,160	1,160	--	--	26,329	22,220	4,109	--	10,640	9,210	1,430	--		
--	--	--	--	27,223	17,297	9,926	--	22,408	20,866	1,542	--	17,041	10,383	6,658	--		
--	--	--	--	24,237	5,563	11,142	7,532	1,154	--	--	--	23,869	14,304	5,698	3,867		
--	--	--	--	4,927	3,985	942	--	1,154	--	--	--	3,169	1,984	1,175	--		
--	--	--	--	942	942	--	--	28,502	28,502	1,154	--	15,486	7,669	5,610	2,207		
--	--	--	--	942	942	--	--	9,080	8,005	1,075	--	1,200	1,200	--	--		
--	--	--	--	942	942	--	--	9,080	8,005	1,075	--	2,662	--	--	--		
--	--	--	--	942	942	--	--	9,080	8,005	1,075	--	2,662	--	--	--		
<b>Total</b>	<b>787,190</b>	<b>3,070</b>	<b>299,250</b>	<b>142,656</b>	<b>4,927</b>	<b>3,985</b>	<b>942</b>	<b>342,214</b>	<b>966,664</b>	<b>557,226</b>	<b>182,522</b>	<b>64,455</b>	<b>162,461</b>	<b>223,527</b>	<b>118,956</b>	<b>64,305</b>	<b>15,867</b>
<b>All species</b>	<b>795,149</b>	<b>4,174</b>	<b>300,197</b>	<b>142,656</b>	<b>1,023,740</b>	<b>428,477</b>	<b>294,708</b>	<b>88,198</b>	<b>1,345,028</b>	<b>875,288</b>	<b>227,043</b>	<b>70,647</b>	<b>172,050</b>	<b>233,176</b>	<b>119,971</b>	<b>67,732</b>	<b>15,867</b>

(Table 15 continued on next page)

(Table 15 continued)

Species	Log grade 1				Log grade 2				Log grade 3				Log grade 4				
	Diameter class (inches at breast height)				Diameter class (inches at breast height)				Diameter class (inches at breast height)				Diameter class (inches at breast height)				
	9.0-14.9	15.0-18.9	19.0-20.9	21.0+	9.0-14.9	15.0-18.9	19.0-20.9	21.0+	9.0-14.9	15.0-18.9	19.0-20.9	21.0+	9.0-14.9	15.0-18.9	19.0-20.9	21.0+	
<b>Softwoods</b>																	
Jack pine	3,115	1,744	1,371	..	34,205	34,205	..	..	906,781	840,500	62,238	4,043	..	..	..	..	
Red pine	237,637	16,509	97,003	50,871	79,127	138,719	43,070	29,043	2,827,928	2,089,129	460,410	127,857	150,532	..	..	..	
White pine	727,997	16,671	138,407	497,372	307,150	234,541	110,047	447,703	2,212,376	701,763	439,030	264,046	807,537	..	..	..	
White spruce	..	..	..	..	28,789	6,214	11,160	..	871,129	587,990	210,923	46,553	25,673	..	..	..	
Black spruce	2,383	..	2,383	..	1,631	..	..	..	181,145	152,752	15,079	9,100	4,214	..	..	..	
Balsam fir	..	..	..	..	..	..	..	..	787,496	730,986	49,540	1,192	5,778	..	..	..	
Hemlock	336,336	..	75,773	72,844	187,718	..	..	116,779	1,185,941	619,331	315,632	106,603	143,775	..	..	..	
Tamarack	..	..	..	..	18,754	..	..	..	469,716	426,357	36,797	3,022	3,540	..	..	..	
Eastern redcedar	..	..	..	..	..	..	..	..	14,564	12,387	2,177	..	..	..	..	..	
Northern white-cedar	22,630	..	22,630	..	181,539	123,385	54,904	3,250	1,401,923	1,260,365	115,289	16,740	9,529	..	..	..	
Other softwoods	..	..	..	..	..	..	..	..	29,792	22,773	4,461	2,558	..	..	..	..	
<b>Total</b>	<b>1,330,097</b>	<b>34,924</b>	<b>337,567</b>	<b>221,645</b>	<b>2,024,986</b>	<b>664,703</b>	<b>567,113</b>	<b>184,980</b>	<b>10,888,191</b>	<b>7,444,323</b>	<b>1,711,576</b>	<b>581,714</b>	<b>1,150,578</b>	<b>340,326</b>	<b>73,829</b>	<b>73,143</b>	<b>48,846</b>
<b>Hardwoods</b>																	
Select white oak	340,128	..	159,684	56,146	124,298	..	..	..	1,137,809	619,652	246,664	95,989	175,504	..	..	..	
Select red oak	1,617,899	..	678,319	233,133	706,447	..	..	..	1,846,068	1,180,566	369,918	66,231	229,353	..	..	..	
Other red oak	181,703	..	63,014	39,971	78,718	..	..	..	747,529	426,308	203,383	49,508	68,330	..	..	..	
Select hickory	49,030	..	23,865	16,283	8,882	..	..	..	145,969	108,928	26,902	2,435	7,704	..	..	..	
Other hickory	2,752	..	2,752	..	..	..	..	..	49,349	47,317	2,032	..	..	..	..	..	
Basswood	819,259	..	63,897	508,408	102,899	..	..	..	1,074,109	877,713	94,605	23,981	77,810	..	..	..	
Beech	37,639	..	17,673	..	19,966	..	..	..	49,534	20,687	21,016	..	7,831	..	..	..	
Yellow birch	168,981	..	54,698	31,065	83,228	..	..	..	235,393	184,638	35,562	7,865	7,328	..	..	..	
Hard maple	1,110,793	..	491,145	245,785	373,863	..	..	..	1,842,649	1,284,761	308,619	94,217	155,052	..	..	..	
Soft maple	425,293	..	229,749	75,991	119,553	..	..	..	1,472,170	1,139,768	207,473	37,049	87,860	..	..	..	
Elm	75,682	..	47,351	5,705	22,626	..	..	..	167,092	135,025	23,988	8,079	..	..	..	..	
Black ash	68,460	..	6,927	54,319	3,941	..	..	..	283,596	252,896	19,675	..	11,025	..	..	..	
White & green ash	318,706	..	1,119	185,324	61,575	..	..	..	460,920	372,734	64,682	15,801	7,703	..	..	..	
Cottonwood	87,754	..	20,197	7,801	59,756	..	..	..	65,410	13,028	15,990	12,367	24,025	..	..	..	
Willow	1,926	..	1,711	..	215	..	..	..	35,072	10,094	6,647	3,947	14,384	..	..	..	
Hackberry	2,874	..	..	..	2,874	..	..	..	3,580	3,580	..	..	..	..	..	..	
Balsam poplar	6,363	..	..	..	6,363	..	..	..	69,979	31,119	38,860	..	..	..	..	..	
Black cherry	136,365	..	116,509	136,365	..	..	..	..	947,978	793,346	138,115	13,198	3,319	..	..	..	
Quaking aspen	201,336	..	158,163	43,173	..	..	..	..	1,750,161	1,459,115	257,325	9,668	24,053	..	..	..	
Paper birch	32,284	..	21,532	..	10,752	..	..	..	504,909	476,172	28,737	..	..	..	..	..	
River birch	..	..	..	..	8,917	..	..	..	11,400	7,641	3,759	..	..	..	..	..	
Black cherry	36,065	..	27,098	3,380	5,647	..	..	..	132,729	121,385	11,344	..	..	..	..	..	
Black walnut	22,496	..	14,282	..	8,214	..	..	..	59,407	44,689	10,434	..	4,284	..	..	..	
Butternut	6,278	..	6,278	..	..	..	..	..	32,243	13,781	18,462	..	..	..	..	..	
Other hardwoods	..	..	..	..	18,006	..	..	..	51,169	41,230	8,400	1,539	..	..	..	..	
<b>Total</b>	<b>5,750,065</b>	<b>71,943</b>	<b>2,882,011</b>	<b>925,539</b>	<b>1,866,572</b>	<b>10,031,426</b>	<b>5,665,842</b>	<b>3,076,090</b>	<b>13,176,224</b>	<b>9,666,193</b>	<b>2,162,592</b>	<b>441,874</b>	<b>905,565</b>	<b>2,727,421</b>	<b>1,732,205</b>	<b>724,735</b>	<b>126,203</b>
<b>All species</b>	<b>7,080,162</b>	<b>102,726</b>	<b>3,219,578</b>	<b>1,151,184</b>	<b>2,602,533</b>	<b>12,056,412</b>	<b>6,230,545</b>	<b>3,643,203</b>	<b>24,064,415</b>	<b>17,110,516</b>	<b>3,874,168</b>	<b>1,023,588</b>	<b>2,056,143</b>	<b>3,067,747</b>	<b>1,806,034</b>	<b>797,878</b>	<b>175,049</b>

International 1/4-inch rule.

\*Totals in Table 15 might not equal totals in other tables due to rounding.

Table 16.--Net volume of growing stock and sawtimber on timberland by Forest Survey Unit, county, and major species group, Wisconsin, 1996

Forest Survey Unit and County	Growing stock					Sawtimber				
	All species	Major species group				All species	Major species group			
		Pine	Other softwoods	Soft hardwoods	Hard hardwoods		Pine	Other softwoods	Soft hardwoods	Hard hardwoods
<i>(In thousand cubic feet)</i>										
<b>Northeastern Unit</b>	387,096	50,673	84,048	140,500	111,875	1,091,170	223,391	285,854	292,899	289,026
Florence	773,657	22,202	176,882	281,616	292,957	1,939,997	107,515	595,513	596,334	640,635
Forest	524,273	11,518	85,186	221,172	206,397	1,182,265	40,027	154,472	434,056	553,710
Langlade	400,961	69,633	65,752	185,583	79,993	787,272	242,456	146,793	248,511	149,512
Lincoln	522,128	88,855	100,396	109,005	223,875	2,030,477	464,474	445,848	312,283	807,872
Menominee	754,519	131,497	136,329	312,008	174,682	1,734,084	485,824	334,494	515,506	398,260
Marinette	512,659	82,491	97,422	218,036	114,710	1,192,780	346,835	201,340	374,748	289,857
Oconto	585,620	149,769	97,588	242,421	95,842	1,484,202	657,350	232,145	344,164	250,543
Oneida	425,743	31,745	84,812	150,298	159,888	1,018,157	116,395	141,365	265,264	495,133
Shawano	664,374	171,746	93,846	231,006	167,776	1,918,712	748,956	261,891	435,271	472,594
<b>Total</b>	<b>5,551,030</b>	<b>810,129</b>	<b>1,022,261</b>	<b>2,091,645</b>	<b>1,626,995</b>	<b>14,379,116</b>	<b>3,433,223</b>	<b>2,799,715</b>	<b>3,819,036</b>	<b>4,327,142</b>
<b>Northwestern Unit</b>	639,339	25,576	161,649	258,399	193,715	1,541,689	130,829	473,869	510,763	426,228
Ashland	189,705	21,201	3,960	81,140	83,404	546,099	104,490	8,439	165,628	267,542
Barron	925,983	169,397	109,678	416,402	230,506	2,159,495	734,073	322,410	648,258	454,754
Bayfield	325,373	88,692	11,797	96,122	128,762	835,548	271,995	10,035	207,200	346,318
Burnett	552,756	99,902	93,696	269,291	89,867	1,153,301	286,146	213,418	445,905	207,832
Douglas	603,708	33,430	148,363	246,955	174,960	1,478,571	172,614	472,547	488,526	344,884
Iron	252,027	23,336	--	98,264	130,427	638,430	65,093	--	167,011	406,326
Polk	635,033	26,251	159,742	311,308	137,732	1,422,206	117,651	512,570	499,802	292,183
Price	457,987	18,714	19,998	251,789	167,486	1,151,378	91,814	49,988	540,371	469,205
Rusk	811,742	77,301	101,061	367,312	266,068	2,059,776	373,682	287,091	732,422	666,581
Sawyer	445,189	10,628	50,293	277,462	106,806	963,007	49,191	132,542	523,227	258,047
Taylor	421,617	75,387	25,167	193,600	127,463	893,334	227,248	52,559	308,475	305,052
Washburn	6,260,459	669,815	885,404	2,868,044	1,837,196	14,842,834	2,624,826	2,535,468	5,237,588	4,444,952
<b>Total</b>	<b>219,001</b>	<b>79,751</b>	<b>368</b>	<b>29,674</b>	<b>109,208</b>	<b>595,126</b>	<b>212,544</b>	<b>895</b>	<b>62,996</b>	<b>318,691</b>
<b>Central Unit</b>	269,025	17,633	9,128	147,873	94,391	587,837	41,273	37,628	263,150	245,786
Adams	292,013	55,882	302	134,423	101,406	789,216	289,215	1,650	187,491	310,860
Chippewa	129,301	20,631	--	32,761	75,909	288,008	29,181	--	48,051	210,776
Clark	315,574	81,290	4,503	95,084	134,697	804,861	275,414	10,995	146,360	372,152
Eau Clair	237,122	67,824	--	56,815	112,483	599,613	189,913	--	99,842	309,858
Jackson	445,660	23,271	33,305	245,666	143,418	1,038,897	93,885	73,149	509,998	361,865
Juneau	79,077	20,662	4,863	11,603	41,949	218,841	56,593	6,885	13,654	141,709
Marathon	274,728	50,722	453	77,357	146,196	789,756	202,649	--	166,776	420,331
Marquette	214,364	74,573	6,648	70,956	62,187	540,667	218,943	14,022	124,388	183,314
Monroe	282,879	54,088	38,425	100,807	89,559	911,286	243,056	107,115	266,380	294,735
Portage	149,182	53,868	9,938	22,689	62,687	366,023	150,292	16,191	38,336	161,214
Waupaca	203,078	36,981	3,519	85,389	77,189	537,298	121,954	--	170,830	244,614
Waushara	3,111,004	637,176	111,452	1,111,097	1,251,279	8,067,429	2,124,802	268,470	2,098,252	3,575,905
Wood										
<b>Total</b>	<b>3,111,004</b>	<b>637,176</b>	<b>111,452</b>	<b>1,111,097</b>	<b>1,251,279</b>	<b>8,067,429</b>	<b>2,124,802</b>	<b>268,470</b>	<b>2,098,252</b>	<b>3,575,905</b>

(Table 16 continued on next page)

(Table 16 continued)

Forest Survey Unit and County	Growing stock					Sawlumber								
	All species	Major species group			All species	Pine	Other softwoods	Soft hardwoods	Hard hardwoods	Major species group				
		(In thousand cubic feet)	Pine	Other softwoods						Soft hardwoods	Hard hardwoods	Other softwoods	Soft hardwoods	Hard hardwoods
<b>Southwestern Unit</b>														
Buffalo	239,656	2,332	--	110,282	127,042	701,459	4,118	--	262,706	434,635				
Crawford	206,145	--	559	74,568	131,018	655,620	--	1,523	229,061	425,036				
Dunn	192,127	23,013	477	66,911	101,726	541,270	62,597	1,378	179,502	297,793				
Grant	207,378	--	254	82,257	124,867	596,445	--	1,347	178,776	416,322				
Iowa	147,500	9,617	--	54,270	83,613	456,775	34,980	--	124,390	297,405				
La Crosse	158,089	17,987	331	66,916	72,855	429,562	14,935	--	165,919	248,708				
Lafayette	36,519	549	--	15,645	20,325	117,817	1,465	--	36,415	79,937				
Pepin	60,391	2,663	--	24,451	33,277	205,675	11,091	--	81,218	113,366				
Pierce	85,865	--	624	41,631	43,610	267,396	--	--	107,362	160,034				
Richland	208,292	1,578	375	81,786	124,553	648,206	5,038	--	226,560	416,608				
St. Croix	97,491	15,222	2,655	39,987	39,627	340,504	80,332	11,855	101,038	147,279				
Sauk	252,919	7,832	167	107,615	137,305	804,450	21,406	--	271,281	511,763				
Trempealeau	185,714	21,534	--	76,392	87,788	531,823	72,567	--	168,309	290,947				
Vernon	235,841	16,991	--	72,183	146,667	761,323	72,694	--	185,228	503,401				
<b>Total</b>	<b>2,313,927</b>	<b>119,318</b>	<b>5,442</b>	<b>914,894</b>	<b>1,274,273</b>	<b>7,058,325</b>	<b>381,223</b>	<b>16,103</b>	<b>2,317,765</b>	<b>4,343,234</b>				
<b>Southeastern Unit</b>														
Brown	47,247	1,039	1,873	24,942	19,393	132,696	6,062	1,998	57,412	67,224				
Calumet	21,219	--	--	8,527	12,692	73,558	--	--	19,267	54,291				
Columbia	131,400	33,761	1,679	32,264	63,696	315,699	30,688	3,622	75,703	205,686				
Dane	97,363	438	1,818	38,354	56,753	342,810	835	4,509	101,998	235,468				
Dodge	36,735	--	--	21,796	14,939	108,923	--	--	66,892	42,031				
Door	134,453	2,117	27,773	47,776	56,787	359,605	7,012	92,983	102,486	157,124				
Fond du Lac	37,869	1,860	1,287	18,512	16,210	110,200	9,685	4,376	46,170	49,969				
Green	41,865	1,694	--	12,186	27,985	135,423	9,307	--	26,535	99,581				
Green Lake	30,009	2,187	2,134	8,465	17,223	101,500	9,136	6,307	19,398	66,659				
Jefferson	32,637	--	1,892	12,164	18,581	101,318	--	4,625	25,730	70,963				
Kenosha	20,483	--	97	3,689	16,697	75,172	--	--	14,210	60,962				
Kewaunee	73,377	--	21,043	32,148	20,186	209,113	--	72,085	77,675	59,353				
Manitowoc	95,749	11,881	4,413	48,678	30,777	293,264	35,672	14,882	138,133	104,577				
Milwaukee	15,022	--	--	7,919	7,103	29,514	--	--	17,485	12,029				
Outagamie	71,720	2,162	6,153	48,343	15,062	186,043	8,753	8,323	122,079	46,888				
Ozaukee	24,389	--	228	7,459	16,702	74,187	--	--	10,867	63,320				
Racine	27,390	354	--	6,563	20,473	101,019	--	--	13,836	87,183				
Rock	48,049	4,004	175	14,675	29,195	179,317	14,736	--	36,090	128,491				
Sheboygan	86,571	4,381	15,100	17,798	49,292	233,269	10,177	56,692	36,584	129,816				
Walworth	49,617	930	--	15,532	33,155	185,305	3,959	--	44,956	136,390				
Washington	50,666	2,047	1,445	21,399	25,775	145,981	9,793	686	43,415	92,087				
Waukesha	36,083	--	366	8,811	26,906	113,795	--	1,771	7,987	104,037				
Winnebago	26,822	180	--	10,997	15,645	64,992	--	--	33,817	31,175				
<b>Total</b>	<b>1,236,735</b>	<b>69,035</b>	<b>87,476</b>	<b>468,997</b>	<b>611,227</b>	<b>3,672,703</b>	<b>155,815</b>	<b>272,859</b>	<b>1,138,725</b>	<b>2,105,304</b>				
<b>All counties</b>	<b>18,473,155</b>	<b>2,305,473</b>	<b>2,112,035</b>	<b>7,454,677</b>	<b>6,600,970</b>	<b>48,020,407</b>	<b>8,719,889</b>	<b>5,892,615</b>	<b>14,611,366</b>	<b>18,796,537</b>				

<sup>1</sup> International 1/4-inch rule.

Table 17.--Net volume of all live trees and salvageable dead trees on timberland by class of timber and major species group, Wisconsin, 1996

(In thousand cubic feet)

	All species	Major species group			
		Pine	Other softwoods	Soft hardwoods	Hard hardwoods
Live trees					
Growing-stock trees					
Sawtimber					
Saw-log portion	7,770,065	1,454,862	989,296	2,335,586	2,990,321
Upper stem portion	2,439,289	200,414	149,370	942,676	1,146,829
Total	10,209,354	1,655,276	1,138,666	3,278,262	4,137,150
Poletimber	8,263,801	650,197	973,369	4,176,415	2,463,820
All growing-stock trees	18,473,155	2,305,473	2,112,035	7,454,677	6,600,970
Cull trees					
Short-log trees					
Rough trees <sup>1</sup>	543,893	13,872	23,983	185,525	320,513
Sawtimber size	617,849	22,254	40,009	234,341	321,245
Poletimber size	779,871	22,003	37,172	432,795	287,901
Total	1,397,720	44,257	77,181	667,136	609,146
Rotten trees <sup>1</sup>					
Sawtimber size	230,025	2,314	27,505	115,604	84,602
Poletimber size	88,120	516	8,748	56,713	22,143
Total	318,145	2,830	36,253	172,317	106,745
All cull trees	2,259,758	60,959	137,417	1,024,978	1,036,404
All live trees	20,732,913	2,366,432	2,249,452	8,479,655	7,637,374
Salvageable dead trees					
Sawtimber size	257,843	32,596	42,711	129,248	53,288
Poletimber size	288,273	12,985	46,523	186,620	42,145
All salvageable dead trees	546,116	45,581	89,234	315,868	95,433
All classes	21,279,029	2,412,013	2,338,686	8,795,523	7,732,807

<sup>1</sup>Includes all noncommercial species.

Table 18.--Net volume of all live trees and growing-stock trees on timberland by ownership class and major species group, Wisconsin, 1996  
(In thousand cubic feet)

Ownership class	All live trees										Growing-stock trees					
	All species					Major species group					All species			Major species group		
	species	Pine	Other softwoods	Soft hardwoods	Hard hardwoods	species	Pine	Other softwoods	Soft hardwoods	Hard hardwoods	species	Pine	Other softwoods	Soft hardwoods	Hard hardwoods	
National forest	2,048,956	232,644	413,047	797,005	606,260	1,894,364	229,931	387,877	723,801	552,755	1,894,364	229,931	387,877	723,801	552,755	
Other federal	187,686	49,510	10,578	80,376	47,222	153,354	43,826	10,140	64,320	35,068	153,354	43,826	10,140	64,320	35,068	
State	956,124	173,321	104,801	399,447	278,555	854,809	168,946	99,847	348,416	237,600	854,809	168,946	99,847	348,416	237,600	
County and municipal	2,621,499	365,220	334,296	1,166,041	755,942	2,360,754	355,526	310,419	1,041,488	653,321	2,360,754	355,526	310,419	1,041,488	653,321	
Indian	759,778	121,735	132,542	217,599	287,902	731,404	118,460	127,833	206,099	279,012	731,404	118,460	127,833	206,099	279,012	
Forest industry	1,345,194	104,035	208,548	537,135	495,476	1,254,079	101,972	195,631	500,684	455,792	1,254,079	101,972	195,631	500,684	455,792	
Individual	11,899,639	1,199,168	939,699	4,937,386	4,823,386	10,416,354	1,168,103	881,182	4,266,256	4,100,813	10,416,354	1,168,103	881,182	4,266,256	4,100,813	
Corporate	914,037	120,799	105,941	344,666	342,631	808,037	118,709	99,106	303,613	286,609	808,037	118,709	99,106	303,613	286,609	
All ownerships	20,732,913	2,366,432	2,249,452	8,479,655	7,637,374	18,473,155	2,305,473	2,112,035	7,454,677	6,600,970	18,473,155	2,305,473	2,112,035	7,454,677	6,600,970	



Table 19.--Net volume of growing stock on timberland by forest type group/local type and major species group, Wisconsin, 1996

(In thousand cubic feet)

Forest type group/ local type	All species	Major species group			
		Pine	Other softwoods	Soft hardwoods	Hard hardwoods
<b>Softwood type groups</b>					
White-red-jack pine					
Jack pine	308,471	268,257	6,142	21,048	13,024
Red pine	883,511	819,934	15,704	30,607	17,266
White pine	387,589	327,350	12,791	33,850	13,598
Total	1,579,571	1,415,541	34,637	85,505	43,888
Spruce-fir					
Balsam fir	269,391	19,008	182,246	61,300	6,837
White spruce	102,492	1,938	81,047	14,314	5,193
Black spruce	123,111	5,679	110,106	6,406	920
Northern white-cedar	506,747	12,616	434,726	48,124	11,281
Tamarack	209,746	18,826	181,641	8,126	1,153
Total	1,211,487	58,067	989,766	138,270	25,384
All softwood types	2,791,058	1,473,608	1,024,403	223,775	69,272
<b>Hardwood type groups</b>					
Oak-hickory					
Oak-hickory	3,507,736	184,188	10,854	795,653	2,517,041
Total	3,507,736	184,188	10,854	795,653	2,517,041
Elm-ash-cottonwood					
Elm-ash-soft maple	1,351,530	35,462	173,802	916,433	225,833
Total	1,351,530	35,462	173,802	916,433	225,833
Maple-beech-birch					
Maple-birch	7,822,325	351,709	635,630	3,357,050	3,477,936
Total	7,822,325	351,709	635,630	3,357,050	3,477,936
Aspen-birch					
Aspen	2,337,484	197,730	193,659	1,713,220	232,875
Paper birch	642,652	62,059	67,104	435,476	78,013
Balsam poplar	16,277	--	4,596	11,681	--
Total	2,996,413	259,789	265,359	2,160,377	310,888
All hardwood types	15,678,004	831,148	1,085,645	7,229,513	6,531,698
Nonstocked	4,093	717	1,987	1,389	--
All forest types	18,473,155	2,305,473	2,112,035	7,454,677	6,600,970

Table 20.--Average net annual growth of growing stock and sawlumber on timberland by Forest Survey Unit, county, and major species group, Wisconsin, 1983-1995

Forest Survey Unit and county	Growing stock				Sawlumber				
	All species	Species group			All species	Species group			
		Pine	Other softwoods	Hard hardwoods		Pine	Other softwoods	Hard hardwoods	
(In thousand cubic feet)				(In thousand board feet)					
<b>Northeastern Unit</b>									
Florence	9,983	925	1,821	4,281	30,179	4,054	6,426	12,143	7,556
Forest	17,592	815	3,257	5,813	58,902	4,148	12,706	20,607	21,441
Langlade	13,968	541	2,142	5,355	46,223	1,540	4,541	17,358	22,784
Lincoln	14,085	2,897	1,850	6,742	37,076	12,980	5,147	12,074	6,875
Menominee	6,829	1,297	716	744	33,836	4,946	4,326	4,137	20,427
Marquette	18,674	4,134	2,520	7,328	52,598	13,658	7,180	17,634	14,126
Oconto	15,083	3,085	2,747	5,074	54,862	14,451	7,012	18,682	14,717
Oneida	17,712	5,005	1,558	8,166	54,678	23,536	5,314	15,803	10,025
Shawano	10,452	946	2,016	3,364	37,822	6,856	4,338	9,359	17,269
Vilas	14,667	5,112	2,321	3,505	59,890	22,375	8,362	15,697	13,456
<b>Total</b>	<b>139,045</b>	<b>24,757</b>	<b>20,948</b>	<b>50,372</b>	<b>466,066</b>	<b>108,544</b>	<b>65,352</b>	<b>143,494</b>	<b>148,676</b>
<b>Northwestern Unit</b>									
Ashland	12,061	981	2,054	4,752	46,861	4,890	12,223	16,477	13,271
Barron	5,140	658	151	2,614	20,056	3,456	511	8,381	7,708
Bayfield	25,171	4,907	3,574	10,255	90,558	27,540	12,473	29,997	20,548
Burnett	9,117	2,860	224	2,650	30,938	8,173	182	7,808	14,775
Douglas	15,269	5,197	2,962	4,403	41,290	11,373	10,746	12,221	6,950
Iron	10,812	698	1,425	4,404	42,032	3,983	8,688	16,699	12,662
Polk	6,219	529	--	2,547	22,250	2,247	--	6,462	13,541
Price	20,681	776	3,352	12,310	56,577	4,250	9,192	30,486	12,649
Rusk	12,140	924	776	6,129	40,834	399	2,157	20,818	17,460
Sawyer	20,983	2,399	2,340	9,036	82,153	14,445	11,520	29,707	26,481
Taylor	14,219	347	1,385	9,218	39,493	1,209	4,636	23,556	10,092
Washburn	11,802	2,398	528	5,485	37,448	7,405	505	15,440	14,098
<b>Total</b>	<b>163,614</b>	<b>22,674</b>	<b>18,771</b>	<b>73,783</b>	<b>550,490</b>	<b>89,370</b>	<b>72,833</b>	<b>218,052</b>	<b>170,235</b>
<b>Central Unit</b>									
Adams	7,177	4,089	19	924	24,610	10,881	77	3,340	10,312
Chippewa	8,595	1,209	172	4,623	28,393	4,899	1,104	12,900	9,490
Clark	8,796	1,325	11	4,616	27,000	5,971	69	8,024	12,936
Eau Clair	4,346	1,264	--	1,176	13,826	2,343	--	4,202	7,281
Jackson	8,913	3,801	127	2,430	36,688	13,975	228	8,883	13,602
Juneau	8,055	2,819	-13	2,485	29,083	9,038	--	6,464	13,581
Marathon	14,331	1,195	1,508	7,308	35,506	5,170	3,452	13,897	12,987
Marquette	2,208	1,196	14	540	7,782	4,593	138	1,218	1,833
Monroe	6,796	1,676	88	1,835	25,070	7,018	--	5,446	12,606
Portage	7,441	3,156	115	2,408	26,153	12,444	394	6,302	7,013
Waupaca	6,519	1,916	628	2,197	29,772	10,672	2,114	8,763	8,223
Waushara	4,891	3,093	14	785	19,980	13,578	273	1,705	4,424
Wood	6,151	1,676	170	2,136	26,313	7,853	--	8,998	9,462
<b>Total</b>	<b>94,219</b>	<b>28,415</b>	<b>2,853</b>	<b>33,463</b>	<b>330,176</b>	<b>108,435</b>	<b>7,849</b>	<b>90,142</b>	<b>123,750</b>

(Table 20 continued on next page)

(Table 20 continued)

Forest Survey Unit and county	Growing stock				Sawtimber				
	All species	Species group			All species	Species group			
		Pine	Other softwoods	Hard hardwoods		Pine	Other softwoods	Hard hardwoods	
(In thousand cubic feet)				(In thousand board feet) <sup>1</sup>					
<b>Southwestern Unit</b>									
Buffalo	4,833	-43	2,118	2,758	20,145	122	--	7,466	12,557
Crawford	5,683	--	2,488	3,171	22,451	--	127	9,084	13,240
Dunn	5,301	1,042	1,839	2,396	25,388	8,937	43	5,018	11,390
Grant	5,036	--	2,867	2,197	13,330	--	-129	6,343	7,116
Iowa	4,183	488	1,479	2,216	18,616	2,049	--	7,422	9,145
La Crosse	4,275	938	1,846	1,462	15,725	1,505	--	7,505	6,715
Lafayette	1,039	32	537	470	3,355	--	--	1,282	2,073
Pepin	1,345	135	701	509	5,745	--	--	3,218	2,527
Pierce	2,161	--	888	1,239	9,038	--	--	2,665	6,373
Richland	4,999	122	1,584	3,264	19,926	414	--	8,080	11,432
St. Croix	2,334	446	978	757	10,562	2,448	714	3,507	3,893
Sauk	6,229	407	2,892	2,907	24,776	2,249	--	9,015	13,512
Trempealeau	5,823	1,281	2,768	1,774	18,227	4,283	--	5,976	7,968
Vernon	5,634	741	1,537	3,293	20,551	3,465	--	5,398	11,688
Total	58,875	5,589	351	24,522	227,835	25,472	755	81,979	119,629
<b>Southeastern Unit</b>									
Brown	1,348	19	866	376	4,594	123	15	3,113	1,343
Calumet	745	--	470	275	2,080	--	--	800	1,280
Columbia	4,971	1,852	1,353	1,515	10,696	3,578	198	2,467	4,453
Dane	1,925	--	857	956	5,014	--	241	1,421	3,352
Dodge	1,086	30	757	299	1,830	--	--	1,447	383
Door	2,933	98	759	1,533	11,188	241	1,405	2,671	6,871
Fond du Lac	989	54	393	484	2,984	291	383	674	1,636
Green	1,409	5	549	853	5,647	-31	14	1,749	3,915
Green Lake	897	84	373	358	3,724	507	229	1,021	1,967
Jefferson	1,278	--	539	685	3,040	--	57	690	2,293
Kenosha	414	--	74	268	2,390	--	--	485	1,905
Kewaunee	1,082	--	453	451	4,258	--	1,147	1,286	1,825
Manitowoc	3,296	784	1,338	1,032	6,864	980	1,110	1,883	2,891
Milwaukee	590	--	290	300	1,862	--	--	136	1,726
Outagamie	2,146	63	1,718	284	6,872	226	108	6,006	532
Ozaukee	703	--	207	419	566	--	--	120	446
Racine	547	26	132	389	985	--	--	63	922
Rock	1,022	117	430	466	3,951	644	--	1,446	1,861
Sheboygan	2,448	528	414	1,417	10,037	625	1,348	2,083	5,981
Walworth	932	59	441	432	4,220	251	--	1,397	2,572
Washington	1,067	65	294	618	5,050	504	--	1,572	2,974
Waukesha	1,520	--	484	1,014	4,736	--	114	1,456	3,166
Winnebago	989	24	115	850	3,419	--	--	1,257	2,162
Total	34,337	3,808	1,949	13,306	106,007	7,939	6,369	35,243	56,456
All counties	490,090	85,243	44,872	195,446	1,680,574	339,760	153,158	568,910	618,746

<sup>1</sup> International 1/4-inch rule.

Table 21.-Average annual removals of growing stock and sawtimber on timberland by Forest Survey Unit, county, and major species group, Wisconsin, 1983-1995

Forest Survey Unit and county	Growing stock (In thousand cubic feet)				Sawtimber (In thousand board feet)				
	All species	Major species group			All species	Major species group			
		Pine	Other softwoods	Soft hardwoods		Hard hardwoods	Pine softwoods	Other softwoods	Hard hardwoods
<b>Northeastern Unit</b>									
Florence	6,327	--	955	2,604	24,635	--	5,331	6,721	12,583
Forest	12,215	337	1,241	6,799	33,291	1,701	2,817	17,053	11,720
Langlade	10,225	--	179	6,805	25,699	--	--	15,429	10,270
Lincoln	7,878	1,456	273	5,082	16,975	1,733	219	11,928	3,095
Menominee	9,076	2,336	1,406	2,294	37,840	12,167	7,321	5,638	12,714
Marquette	8,956	481	907	6,534	14,971	1,159	2,699	8,962	2,151
Oconto	6,698	1,430	15	4,323	13,755	3,181	--	7,623	2,951
Oneida	14,424	4,250	975	8,202	28,239	11,123	3,598	12,219	1,299
Shawano	7,061	--	10	3,060	28,421	--	--	9,858	18,563
Vilas	8,543	3,165	816	3,477	24,640	11,592	1,999	8,154	2,895
Total	91,403	13,455	6,777	49,280	248,466	42,656	23,984	103,585	78,241
<b>Northwestern Unit</b>									
Ashland	7,345	344	1,635	4,610	16,536	1,874	3,463	8,971	2,228
Barron	2,683	54	--	1,860	7,783	--	--	4,830	2,953
Bayfield	15,115	2,772	822	9,343	31,011	10,379	2,668	16,121	1,843
Burnett	4,272	1,422	--	2,245	11,226	3,563	--	5,702	1,961
Douglas	6,180	1,314	561	3,839	11,452	1,678	1,369	8,251	154
Iron	4,406	--	39	2,902	11,783	--	192	7,885	3,706
Polk	3,781	--	--	2,113	12,243	--	--	4,788	7,455
Price	9,877	681	717	6,360	20,916	2,405	1,351	13,442	3,718
Rusk	12,809	61	--	10,936	26,928	320	--	19,929	6,679
Sawyer	11,931	666	496	7,609	32,065	3,554	872	19,143	8,496
Taylor	6,334	--	692	4,523	12,247	--	2,368	7,980	1,899
Washburn	7,141	157	--	5,934	15,387	670	--	14,450	267
Total	91,874	7,471	4,962	62,274	209,577	24,443	12,283	131,492	41,359
<b>Central Unit</b>									
Adams	3,371	2,195	--	36	7,835	4,485	--	81	3,269
Chippewa	9,250	1,622	243	3,993	29,629	7,927	577	10,279	10,846
Clark	11,249	827	--	5,172	33,752	4,142	--	9,939	19,671
Eau Clair	6,805	1,451	--	2,391	20,396	2,896	--	6,935	10,565
Jackson	10,411	2,985	--	3,401	30,864	7,887	--	10,707	12,470
Juneau	6,488	2,708	--	1,193	16,669	5,170	--	777	10,722
Marathon	6,212	68	--	5,209	18,627	301	--	15,670	2,656
Marquette	3,027	1,263	17	1,176	12,583	5,925	--	4,369	2,289
Monroe	6,354	1,023	--	999	20,170	5,298	--	1,280	13,592
Portage	6,172	387	--	3,098	21,169	1,169	--	7,917	12,083
Waupaca	2,958	347	--	1,912	10,222	--	--	7,049	3,173
Waushara	5,382	2,733	--	1,249	18,187	11,882	--	2,857	3,448
Wood	6,767	1,026	--	1,837	29,190	5,275	--	6,997	16,918
Total	84,446	18,635	260	31,666	269,293	62,157	577	84,857	121,702

(Table 21 continued on next page)

(Table 21 continued)

Forest Survey Unit and county	Growing stock					Sawtimber				
	All species	Major species group				All species	Major species group			
		Pine	Other softwoods	Soft hardwoods	Hard hardwoods		Pine	Other softwoods	Soft hardwoods	Hard hardwoods
		<i>(In thousand cubic feet)</i>					<i>(In thousand board feet)</i> <sup>1</sup>			
<b>Southwestern Unit</b>										
Buffalo	4,741	--	--	2,215	2,526	21,742	--	--	9,724	12,018
Crawford	8,144	--	--	2,237	5,907	27,465	--	--	6,648	20,817
Dunn	4,721	--	--	2,224	2,497	22,434	--	--	10,888	11,546
Grant	3,219	--	--	392	2,827	13,771	--	--	1,176	12,595
Iowa	1,001	--	--	445	556	4,118	--	--	1,356	2,762
La Crosse	6,292	--	--	602	5,690	26,848	--	--	2,475	24,373
Lafayette	--	--	--	--	--	--	--	--	--	--
Pepin	471	--	--	--	471	2,159	--	--	--	2,159
Pierce	728	--	--	--	728	2,847	--	--	--	2,847
Richland	5,707	--	--	2,042	3,665	22,225	--	--	6,758	15,467
St. Croix	357	--	--	97	260	420	--	--	331	89
Sauk	3,976	216	--	236	3,524	17,638	71	--	1,137	16,430
Trempealeau	4,609	193	--	816	3,600	18,327	--	--	2,971	15,356
Vernon	8,734	--	--	1,078	7,656	39,079	--	--	4,568	34,511
<b>Total</b>	<b>52,700</b>	<b>409</b>	<b>--</b>	<b>12,384</b>	<b>39,907</b>	<b>219,073</b>	<b>71</b>	<b>--</b>	<b>48,032</b>	<b>170,970</b>
<b>Southeastern Unit</b>										
Brown	306	--	--	306	--	--	--	--	--	--
Calumet	--	--	--	--	--	--	--	--	--	--
Columbia	2,545	266	--	38	2,241	9,861	1,066	--	--	8,795
Dane	1,492	--	--	560	932	5,251	--	--	1,850	3,401
Dodge	73	--	--	48	25	361	--	--	236	125
Door	1,713	--	109	981	623	4,992	--	512	3,579	1,413
Fond du Lac	31	--	--	--	31	--	--	--	--	--
Green	--	--	--	--	--	--	--	--	--	--
Green Lake	--	--	--	--	--	--	--	--	--	--
Jefferson	1,005	--	--	88	917	4,194	--	--	192	4,002
Kenosha	888	--	--	--	888	3,236	--	--	--	3,236
Kewaunee	282	--	282	--	--	512	--	--	--	--
Manitowoc	--	--	--	--	--	--	--	--	--	--
Milwaukee	--	--	--	--	--	--	--	--	--	--
Outagamie	310	--	--	145	165	987	--	--	192	795
Ozaukee	--	--	--	--	--	--	--	--	--	--
Racine	--	--	--	--	--	--	--	--	--	--
Rock	--	--	--	--	--	--	--	--	--	--
Sheboygan	619	--	--	--	619	3,067	--	--	--	3,067
Walworth	375	--	--	--	375	--	--	--	--	--
Washington	--	--	--	--	--	--	--	--	--	--
Waukesha	629	--	--	240	389	2,535	--	--	595	1,940
Winnebago	1,498	--	--	--	1,498	4,777	--	--	--	4,777
<b>Total</b>	<b>11,766</b>	<b>266</b>	<b>391</b>	<b>2,406</b>	<b>8,703</b>	<b>39,773</b>	<b>1,066</b>	<b>512</b>	<b>6,644</b>	<b>31,551</b>
<b>All counties</b>	<b>332,189</b>	<b>40,236</b>	<b>12,390</b>	<b>158,010</b>	<b>121,553</b>	<b>986,182</b>	<b>130,393</b>	<b>37,356</b>	<b>374,610</b>	<b>443,823</b>

<sup>1</sup> International 1/4-inch rule.

Table 22.--Average net annual growth and average annual removals of growing stock and sawtimber on timberland by species group, Wisconsin, 1983-1995

Species group	Growing stock		Sawtimber	
	Average net annual growth	Average annual removals	Average net annual growth	Average annual removals
	<i>(In thousand cubic feet)</i>		<i>(In thousand board feet) <sup>1</sup></i>	
<b>Softwoods</b>				
Jack pine	10,061	18,036	34,586	42,489
Red pine	45,877	9,101	165,242	23,704
White pine	28,976	13,099	139,224	64,200
White spruce	11,557	2,074	44,972	7,590
Black spruce	2,209	580	4,271	737
Balsam fir	7,691	5,824	25,473	12,366
Hemlock	6,639	2,702	33,245	14,669
Tamarack	5,529	369	10,979	622
Eastern redcedar	716	--	762	--
Northern white-cedar	10,161	841	32,989	1,372
Other softwoods	699	--	1,175	--
<b>Total softwoods</b>	<b>130,115</b>	<b>52,626</b>	<b>492,918</b>	<b>167,749</b>
<b>Hardwoods</b>				
Select white oak	16,698	18,670	74,424	70,644
Select red oak	43,890	53,310	209,689	217,564
Other red oak	12,372	10,443	60,449	33,268
Select hickory	3,196	355	9,741	445
Other hickory	2,980	1,197	4,241	2,596
Basswood	20,364	12,498	83,330	38,061
Beech	988	1,219	3,770	6,436
Yellow birch	1,522	3,275	7,198	12,247
Hard maple	60,360	24,754	180,208	77,840
Soft maple	64,974	22,651	145,773	54,272
Elm	6,233	10,727	3,337	35,261
Black ash	10,893	3,075	19,254	7,795
White & green ash	20,305	7,242	63,759	21,262
Cottonwood	1,315	543	4,934	1,710
Willow	217	81	750	--
Hackberry	403	39	1,362	192
Balsam poplar	729	588	2,456	2,215
Bigtooth aspen	21,440	28,365	96,838	84,373
Quaking aspen	52,728	54,123	161,113	117,912
Paper birch	7,513	21,220	27,397	23,626
River birch	348	96	2,126	--
Tupelo	8	--	--	--
Black cherry	5,924	3,345	16,603	6,768
Black walnut	1,581	186	4,557	942
Butternut	-591	596	-1,018	2,873
Other hardwoods	3,585	623	5,365	131
<b>Total hardwoods</b>	<b>359,975</b>	<b>279,563</b>	<b>1,187,656</b>	<b>818,433</b>
<b>All species</b>	<b>490,090</b>	<b>332,189</b>	<b>1,680,574</b>	<b>986,182</b>

<sup>1</sup>International 1/4-inch rule.

Table 23.--Average annual mortality of growing stock and sawtimber  
on timberland by species group, Wisconsin, 1983-1995

Species group	Growing stock average annual mortality <i>(In thousand cubic feet)</i>	Sawtimber average annual mortality <i>(In thousand board feet) <sup>1</sup></i>
<b>Softwoods</b>		
Jack pine	8,717	23,667
Red pine	1,008	4,306
White pine	3,870	15,922
White spruce	1,355	6,061
Black spruce	3,189	2,761
Balsam fir	17,123	30,966
Hemlock	1,446	7,334
Tamarack	3,135	7,988
Eastern redcedar	13	3
Northern white-cedar	3,207	12,680
Other softwoods	19	94
Total softwoods	43,082	111,782
<b>Hardwoods</b>		
Select white oak	1,961	4,834
Select red oak	10,882	33,794
Other red oak	7,845	19,109
Select hickory	653	1,135
Other hickory	938	1,010
Basswood	8,344	20,785
Beech	179	478
Yellow birch	3,258	7,335
Hard maple	6,101	11,364
Soft maple	8,920	15,699
Elm	13,722	27,514
Black ash	3,710	6,299
White & green ash	2,761	7,540
Cottonwood	353	1,474
Willow	316	1,039
Hackberry	34	68
Balsam poplar	1,384	3,220
Bigtooth aspen	9,886	25,636
Quaking aspen	40,929	64,733
Paper birch	20,358	19,592
River birch	161	436
Tupelo	1	--
Black cherry	2,089	1,845
Black walnut	166	391
Butternut	1,127	3,147
Other hardwoods	710	1,552
Total hardwoods	146,788	280,029
All species	189,870	391,811

<sup>1</sup>International 1/4-inch rule.

Table 24.--Average net annual growth and average annual removals of growing stock and sawtimber on timberland by ownership class and major species group, Wisconsin, 1983-1995

Average net annual growth of growing stock					
Ownership class	All species	Major species group			
		Pine	Other softwoods	Soft hardwoods	Hard hardwoods
<i>(In thousand cubic feet)</i>					
National forest	44,125	7,082	6,982	16,311	13,750
Other federal	4,703	1,831	-52	2,170	754
State	23,307	6,662	3,006	8,176	5,463
County and municipal	65,169	14,574	4,264	28,823	17,508
Indian	10,521	1,962	1,199	1,883	5,477
Forest industry	37,720	5,647	4,021	15,247	12,805
Individual	285,803	43,403	24,388	116,132	101,880
Corporate	18,742	4,082	1,064	6,704	6,892
All ownerships	490,090	85,243	44,872	195,446	164,529

Average net annual removals of growing stock					
Ownership class	All species	Major species group			
		Pine	Other softwoods	Soft hardwoods	Hard hardwoods
<i>(In thousand cubic feet)</i>					
National forest	24,797	4,127	3,540	12,118	5,012
Other federal	2,149	1,283	--	701	165
State	11,062	1,658	362	6,743	2,299
County and municipal	41,074	5,600	1,126	27,128	7,220
Indian	11,180	2,336	1,427	3,942	3,475
Forest industry	28,032	5,268	1,869	13,624	7,271
Individual	203,333	17,036	3,785	89,928	92,584
Corporate	10,562	2,928	281	3,826	3,527
All ownerships	332,189	37,308	12,109	154,184	118,026

Average net annual growth of sawtimber					
Ownership class	All species	Major species group			
		Pine	Other softwoods	Soft hardwoods	Hard hardwoods
<i>(In thousand board feet)<sup>1</sup></i>					
National forest	177,502	38,766	32,881	57,999	47,856
Other federal	17,946	8,174	545	7,346	1,881
State	78,737	24,950	5,780	27,714	20,293
County and municipal	207,079	52,865	22,286	71,962	59,966
Indian	50,418	8,231	6,026	9,855	26,306
Forest industry	113,357	17,567	14,281	39,610	41,899
Individual	962,142	172,327	66,183	329,878	393,754
Corporate	73,393	16,880	5,176	24,546	26,791
All ownerships	1,680,574	339,760	153,158	568,910	618,746

Average net annual removal of sawtimber					
Ownership class	All species	Major species group			
		Pine	Other softwoods	Soft hardwoods	Hard hardwoods
<i>(In thousand board feet)<sup>1</sup></i>					
National forest	53,865	14,449	8,565	24,091	6,760
Other federal	4,811	4,358	--	--	453
State	26,045	6,116	742	12,790	6,397
County and municipal	74,997	10,059	2,478	48,087	14,373
Indian	44,259	12,167	7,431	10,467	14,194
Forest industry	76,610	16,448	8,603	27,263	24,296
Individual	676,947	62,717	7,896	241,906	364,428
Corporate	28,648	4,079	1,641	10,006	12,922
All ownerships	986,182	130,393	37,356	374,610	443,823

<sup>1</sup>International 1/4-inch rule.



Table 25.--Average net annual growth and average annual removals of growing stock and sawtimber on timberland by forest type group/local type and major species group, Wisconsin, 1983-1995

Forest type group/ local type	Average net annual growth of growing stock					Average annual removals of growing stock				
	All species	Major species group				All species	Major species group			
		Pine	Other softwoods	Soft hardwoods	Hard hardwoods		Pine	Other softwoods	Soft hardwoods	Hard hardwoods
	<i>(In thousand cubic feet)</i>					<i>(In thousand cubic feet)</i>				
<b>Softwood type groups</b>										
White-red-jack pine										
Jack pine	11,444	9,722	386	918	418	4,299	3,567	29	569	134
Red pine	42,497	40,331	651	1,152	363	14,815	12,147	193	1,601	874
White pine	9,737	8,645	260	529	303	5,185	2,188	57	1,538	1,402
Total	63,678	58,698	1,297	2,599	1,084	24,299	17,902	279	3,708	2,410
Spruce-fir										
Balsam fir	6,352	640	4,695	897	120	2,613	387	1,120	1,106	--
White spruce	4,318	67	3,635	438	178	1,511	--	827	663	21
Black spruce	2,876	89	2,585	205	-3	390	--	--	390	--
Northern white-cedar	6,024	-79	5,920	16	167	216	--	145	71	--
Tamarack	4,653	637	3,721	278	17	188	19	169	--	--
Total	24,223	1,354	20,556	1,834	479	4,918	406	2,261	2,230	21
All softwood types	87,901	60,052	21,853	4,433	1,563	29,217	18,308	2,540	5,938	2,431
<b>Hardwood type groups</b>										
Oak-hickory										
Oak-hickory	80,407	6,866	890	17,039	55,612	65,603	8,656	--	13,531	43,416
Elm-ash-cottonwood										
Elm-ash-soft maple	34,321	975	2,123	24,574	6,649	20,930	1,525	592	14,750	4,063
Maple-beech-birch										
Maple-basswood	183,085	9,074	9,714	74,687	89,610	132,817	6,390	4,459	60,563	61,405
Aspen-birch										
Aspen	90,155	6,600	8,042	66,399	9,114	76,896	5,211	4,144	60,096	7,445
Paper birch	13,681	1,668	2,058	7,974	1,981	6,433	146	527	2,967	2,793
Balsam poplar	374	--	80	294	--	186	--	80	106	--
Total	104,210	8,268	10,180	74,667	11,095	83,515	5,357	4,751	63,169	10,238
All hardwood types	402,023	25,183	22,907	190,967	162,966	302,865	21,928	9,802	152,013	119,122
Nonstocked	166	8	112	46	--	107	--	48	59	--
All forest types	490,090	85,243	44,872	195,446	164,529	332,189	40,236	12,390	158,010	121,553
<b>Average net annual growth of sawtimber</b>										
Forest type group/ local type	All species	Major species group				All species	Major species group			
		Pine	Other softwoods	Soft hardwoods	Hard hardwoods		Pine	Other softwoods	Soft hardwoods	Hard hardwoods
	<i>(In thousand board feet)<sup>1</sup></i>					<i>(In thousand board feet)<sup>1</sup></i>				
<b>Softwood type groups</b>										
White-red-jack pine										
Jack pine	29,172	25,989	614	1,648	921	10,605	9,268	149	1,188	--
Red pine	142,190	138,054	1,504	1,763	869	29,978	25,326	756	2,652	1,244
White pine	44,573	41,329	1,094	1,214	936	20,288	8,600	282	4,697	6,709
Total	215,935	205,372	3,212	4,625	2,726	60,871	43,194	1,187	8,537	7,953
Spruce-fir										
Balsam fir	15,584	3,093	10,937	1,474	80	6,183	2,092	1,993	2,098	--
White spruce	16,388	440	14,047	1,385	516	3,346	--	1,892	1,454	--
Black spruce	2,794	511	2,022	265	-4	--	--	--	--	--
Northern white-cedar	21,100	-493	21,201	29	363	131	--	131	--	--
Tamarack	12,317	3,653	7,788	561	315	620	92	528	--	--
Total	68,183	7,204	55,995	3,714	1,270	10,280	2,184	4,544	3,552	--
All softwood types	284,118	212,576	59,207	8,339	3,996	71,151	45,378	5,731	12,089	7,953
<b>Hardwood type groups</b>										
Oak-hickory										
Oak-hickory	341,377	31,576	1,342	62,273	246,186	219,894	24,150	--	36,864	158,880
Elm-ash-cottonwood										
Elm-ash-soft maple	102,339	5,296	10,600	65,717	20,726	63,766	6,495	928	42,918	13,425
Maple-beech-birch										
Maple-basswood	648,254	48,444	45,689	238,363	315,758	444,805	31,488	17,644	162,054	233,619
Aspen-birch										
Aspen	256,498	32,709	29,648	169,937	24,204	167,669	22,595	11,432	116,584	17,058
Paper birch	45,818	9,107	5,749	23,086	7,876	18,336	287	1,410	3,751	12,888
Balsam poplar	1,349	--	586	763	--	268	--	211	57	--
Total	303,665	41,816	35,983	193,786	32,080	186,273	22,882	13,053	120,392	29,946
All hardwood types	1,395,635	127,132	93,614	560,139	614,750	914,738	85,015	31,625	362,228	435,870
Nonstocked	821	52	337	432	--	293	--	--	293	--
All forest types	1,680,574	339,760	153,158	568,910	618,746	986,182	130,393	37,356	374,610	443,823

<sup>1</sup>International 1/4-inch rule.

Table 26.--All live aboveground tree biomass on timberland by ownership class, major species group, and tree biomass component, Wisconsin, 1996

(In green tons)

Ownership class and major species group	All components	Tree biomass component						
		All live			Non-growing-stock trees			
		1-5 inch trees	Stumps	Boles	Tops and limbs	Stumps	Boles	Tops and limbs
<b>National forest</b>								
Pine	7,718,584	264,538	396,201	6,254,630	692,546	7,226	92,411	11,032
Other softwoods	17,589,386	2,287,720	1,028,598	10,241,534	2,686,968	109,263	989,619	245,684
Soft hardwoods	40,852,761	5,679,661	1,560,924	22,181,668	6,785,460	225,519	3,440,749	978,780
Hard hardwoods	35,182,828	2,693,115	1,556,953	20,599,542	6,699,201	197,307	2,609,618	827,092
Total	101,343,559	10,925,034	4,542,676	59,277,374	16,864,175	539,315	7,132,397	2,062,588
<b>Other federal</b>								
Pine	1,726,623	95,013	82,927	1,193,616	134,681	16,094	182,207	22,085
Other softwoods	406,022	30,461	26,661	258,151	67,732	2,264	15,795	4,958
Soft hardwoods	3,980,431	304,995	135,062	2,053,896	594,925	40,526	666,822	184,205
Hard hardwoods	2,842,133	199,250	122,320	1,332,510	439,685	49,117	533,768	165,483
Total	8,955,209	629,719	366,970	4,838,173	1,237,023	108,001	1,398,592	376,731
<b>State</b>								
Pine	5,829,314	234,080	302,863	4,596,575	522,660	10,926	144,147	18,063
Other softwoods	5,225,884	1,216,102	284,465	2,669,288	758,568	24,376	218,444	54,641
Soft hardwoods	20,872,919	2,518,254	769,071	10,991,026	3,381,143	161,662	2,374,793	676,970
Hard hardwoods	16,011,126	930,658	691,224	8,870,919	2,728,731	155,694	2,050,164	583,736
Total	47,939,243	4,899,094	2,047,623	27,127,808	7,391,102	352,658	4,787,548	1,333,410
<b>County and municipal</b>								
Pine	12,568,837	667,293	692,401	9,689,567	1,134,028	23,989	323,307	38,252
Other softwoods	14,751,260	2,585,918	849,059	7,940,096	2,168,185	101,324	877,938	228,740
Soft hardwoods	63,762,655	11,367,210	2,394,920	32,214,168	10,091,726	402,828	5,589,485	1,702,318
Hard hardwoods	45,263,315	3,670,406	1,979,592	24,578,453	8,033,880	408,176	4,993,444	1,599,364
Total	136,346,067	18,290,827	5,915,972	74,422,284	21,427,819	936,317	11,784,174	3,568,674

(Table 26 continued on next page)

(Table 26 continued)

	Tree biomass component							
	All live				Non-growing-stock trees			
	components	1-5 inch trees	Stumps	Boles	Tops and limbs	Stumps	Boles	Tops and limbs
Indian								
Pine	3,883,619	62,737	153,274	3,213,335	328,650	6,248	108,069	11,306
Other softwoods	5,592,683	376,649	320,602	3,721,767	895,098	23,696	201,999	52,872
Soft hardwoods	10,509,169	1,145,014	430,760	6,279,283	1,879,803	38,287	578,901	157,121
Hard hardwoods	15,458,806	658,325	701,236	10,453,536	3,004,249	35,696	460,676	145,088
Total	35,444,277	2,242,725	1,605,872	23,667,921	6,107,800	103,927	1,349,645	366,387
Forest industry								
Pine	3,836,785	464,439	187,940	2,776,050	321,340	6,111	71,692	9,213
Other softwoods	9,745,265	1,958,552	525,065	5,238,873	1,362,451	55,706	478,600	126,018
Soft hardwoods	27,222,207	3,766,793	1,123,515	15,198,865	4,851,314	116,140	1,671,441	494,139
Hard hardwoods	28,451,105	2,171,356	1,259,233	16,931,351	5,413,196	149,782	1,920,481	605,706
Total	69,255,362	8,361,140	3,095,753	40,145,139	11,948,301	327,739	4,142,214	1,235,076
Individual								
Pine	41,122,763	2,274,370	2,152,293	31,772,967	3,654,143	5,689	67,552	8,473
Other softwoods	44,056,731	8,851,335	2,523,294	23,476,225	6,220,395	27,239	265,101	65,835
Soft hardwoods	254,594,898	33,371,353	9,650,633	132,328,004	41,130,871	126,075	1,774,427	528,415
Hard hardwoods	272,284,260	16,053,430	11,813,199	152,244,346	46,556,226	196,005	2,541,496	741,277
Total	612,058,652	60,550,488	26,139,419	339,821,542	97,561,635	355,008	4,648,576	1,344,000
Corporate								
Pine	4,109,429	221,583	214,211	3,228,388	363,533	75,503	1,063,514	129,973
Other softwoods	4,877,521	761,807	256,708	2,843,960	656,871	249,006	2,160,973	575,503
Soft hardwoods	17,704,343	2,283,177	679,734	9,397,668	2,914,847	2,061,683	27,674,628	8,377,726
Hard hardwoods	19,692,059	1,242,671	852,727	10,766,968	3,350,915	2,551,885	33,458,963	9,606,211
Total	46,383,352	4,509,238	2,003,380	26,236,984	7,286,166	4,938,077	64,358,078	18,689,413
All ownerships								
Pine	80,795,954	4,284,053	4,182,110	62,725,128	7,151,581	151,786	2,052,899	248,397
Other softwoods	102,244,752	18,068,544	5,814,452	56,389,894	14,816,268	592,874	5,208,469	1,354,251
Soft hardwoods	439,499,383	60,436,457	16,744,619	230,644,578	71,630,089	3,172,720	43,771,246	13,099,674
Hard hardwoods	435,185,632	27,619,211	18,976,484	245,777,625	76,226,083	3,743,662	48,568,610	14,273,957
Total	1,057,725,721	110,408,265	45,717,665	595,537,225	169,824,021	7,661,042	99,601,224	28,976,279

Table 27.--Area of land by land class, forest type, and Forest Survey Unit, Wisconsin, 1983 and 1996

(In thousand acres)

Land class and forest type	All Units		Northeastern Unit		Northwestern Unit		Central Unit		Southwestern Unit		Southeastern Unit	
	1983	1996	1983	1996	1983	1996	1983	1996	1983	1996	1983	1996
<b>Forest land</b>												
Timberland												
Jack pine	535.2	387.4	83.5	82.9	240.2	133.6	200.9	168.0	7.9	2.5	2.7	0.4
Red pine	480.0	602.8	156.0	171.2	138.5	192.4	135.6	176.4	37.7	38.2	12.2	24.6
White pine	223.7	191.5	73.9	66.7	43.6	25.0	73.1	67.4	16.7	19.9	16.4	12.5
Balsam fir	427.7	309.4	193.3	158.3	219.8	138.6	11.9	10.7	--	--	2.7	1.8
White spruce	67.1	80.9	23.4	31.6	34.0	41.4	2.2	4.7	2.5	3.2	5.0	--
Black spruce	274.9	330.4	151.2	180.7	109.4	136.6	11.6	13.1	--	--	2.7	--
Northern white-cedar	398.1	319.3	202.8	186.9	114.3	96.3	25.5	5.3	--	--	55.5	30.8
Tamarack	216.7	301.9	59.5	95.7	113.3	146.3	36.8	45.0	--	--	7.1	14.9
Oak-hickory	2,853.4	2,885.5	140.5	166.7	426.0	514.2	928.2	981.9	1,068.1	965.8	290.6	256.9
Elm-ash-soft maple	1,281.6	1,528.8	230.2	243.1	439.2	465.1	285.3	344.0	132.3	222.7	194.6	253.9
Maple-basswood	4,097.3	5,299.7	1,309.2	1,607.5	1,499.6	1,910.8	538.9	773.0	509.9	640.0	239.7	368.4
Aspen	3,150.8	2,885.7	970.8	1,004.7	1,450.3	1,385.0	580.4	372.1	88.5	85.6	60.8	38.3
Paper birch	661.4	493.7	217.9	174.0	274.8	185.9	106.6	65.5	51.1	42.9	11.0	25.4
Balsam poplar	22.3	29.1	9.2	7.2	13.1	21.4	--	--	--	0.5	--	--
Nonstocked	69.2	56.4	7.1	8.3	37.2	21.5	11.4	15.0	5.3	5.8	8.2	5.8
Subtotal	14,759.4	15,702.5	3,828.5	4,185.5	5,153.3	5,414.1	2,948.4	3,042.1	1,920.0	2,027.1	909.2	1,033.7
Reserved forest land	260.9	242.0	54.1	54.1	114.6	92.5	30.1	24.5	38.8	53.4	25.4	17.5
Other forest land	331.0	60.7	140.8	12.1	165.8	44.2	21.5	1.3	--	3.1	2.9	--
All forest land	15,351.3	16,005.2	4,021.3	4,251.7	5,433.7	5,550.8	3,000.0	3,067.9	1,958.8	2,083.6	937.5	1,051.2
<b>Nonforest land</b>												
Nonforest with trees												
Cropland with trees	54.1	34.9	3.9	5.8	12.6	6.2	9.9	5.1	7.4	14.7	20.3	3.1
Improved pasture with trees	318.0	276.0	34.7	22.9	55.8	44.7	99.4	54.2	115.9	109.9	12.2	44.3
Wooded strips	45.0	96.9	5.8	9.4	8.1	7.5	20.9	11.4	10.2	40.4	--	28.2
Idle farmland with trees	110.6	117.3	21.6	27.8	16.0	17.2	60.5	19.4	12.5	21.3	--	31.6
Marsh with trees	312.6	422.3	40.1	46.7	90.6	163.4	149.4	118.7	12.7	23.6	19.8	69.9
Urban and other with trees	244.3	890.9	56.4	80.7	56.9	132.2	69.1	189.7	8.7	115.1	53.2	373.2
Windbreaks	40.8	122.1	5.0	14.9	10.6	6.3	2.6	25.7	12.2	13.8	10.4	61.4
Wooded pasture	112.1	67.1	--	2.9	30.3	2.8	32.0	21.3	47.4	34.8	2.4	5.3
Total	1,237.5	2,027.5	167.5	211.1	280.9	380.3	443.8	445.5	227.0	373.6	118.3	617.0
Nonforest without trees												
Cropland	12,656.2	11,190.4	742.6	705.0	1,259.7	959.2	2,431.1	2,286.0	2,895.2	2,698.0	5,327.6	4,542.2
Improved pasture	1,694.3	1,472.2	174.6	93.5	255.0	235.4	407.3	376.0	549.2	498.5	308.2	268.8
Idle farmland	195.2	824.8	55.8	63.1	14.6	158.1	60.3	231.1	20.5	150.1	44.0	222.4
Marsh	1,206.0	1,242.0	215.2	152.4	374.2	403.0	259.6	332.1	55.1	50.6	301.9	303.9
Other farm-farmstead	364.2	436.0	36.4	25.1	23.2	35.0	88.8	101.3	66.0	80.2	149.8	194.4
Urban and other	2,030.7	1,297.0	244.9	134.2	269.2	144.3	449.4	227.5	372.1	180.2	695.1	610.8
Noncensus water	93.1	218.5	39.9	61.3	13.1	53.1	27.4	49.8	6.6	14.1	6.1	40.2
Total	18,239.7	16,680.9	1,509.4	1,234.6	2,209.0	1,988.1	3,723.9	3,603.8	3,964.7	3,671.7	6,832.7	6,182.7
All nonforest land	19,477.2	18,708.4	1,676.9	1,445.7	2,489.9	2,368.4	4,167.7	4,049.3	4,191.7	4,045.3	6,951.0	6,799.7
Total land	34,828.5	34,713.6	5,698.2	5,697.4	7,923.6	7,919.2	7,167.7	7,117.2	6,150.5	6,123.9	7,888.5	7,850.9

The 1983 and 1996 totals for all units include 93.1 thousand acres and 223.6 thousand acres, respectively, of water according to FIA standards of area classification, but defined by the Bureau of the Census as land.

Table 28.--Area of timberland by Forest Survey Unit  
and county, Wisconsin, 1983 and 1996

(In thousand acres)

Forest Survey Unit and county	1983	1996
<b>Northeastern Unit</b>		
Florence	244.0	266.3
Forest	492.7	560.9
Langlade	374.5	409.4
Lincoln	393.8	396.6
Menominee	213.1	215.9
Marinette	639.7	653.6
Oconto	347.1	382.7
Oneida	497.1	567.8
Shawano	255.2	273.2
Vilas	371.3	459.1
<b>Total</b>	<b>3,828.5</b>	<b>4,185.5</b>
<b>Northwestern Unit</b>		
Ashland	503.8	509.9
Barron	158.7	153.8
Bayfield	740.5	771.8
Burnett	317.1	308.3
Douglas	627.9	639.8
Iron	377.9	441.3
Polk	220.8	244.3
Price	550.8	595.4
Rusk	365.6	378.8
Sawyer	607.7	641.7
Taylor	354.4	368.1
Washburn	328.1	360.9
<b>Total</b>	<b>5,153.3</b>	<b>5,414.1</b>
<b>Central Unit</b>		
Adams	234.3	253.1
Chippewa	223.2	229.4
Clark	316.1	321.0
Eau Clair	154.5	162.4
Jackson	371.4	363.1
Juneau	252.1	271.7
Marathon	358.5	373.9
Marquette	94.3	95.8
Monroe	245.0	273.4
Portage	174.3	173.8
Waupaca	172.6	181.4
Waushara	145.6	127.7
Wood	206.5	215.4
<b>Total</b>	<b>2,948.4</b>	<b>3,042.1</b>

(Table 28 continued on next page)

(Table 28 continued)

Forest Survey Unit and county	1983	1996
<b>Southwestern Unit</b>		
Buffalo	187.9	185.3
Crawford	167.8	179.4
Dunn	170.0	182.2
Grant	184.5	193.9
Iowa	136.0	137.5
La Crosse	121.6	136.5
Lafayette	37.6	38.7
Pepin	53.4	57.8
Pierce	100.6	96.1
Richland	158.7	167.0
St. Croix	72.9	76.8
Sauk	181.7	182.3
Trempealeau	147.0	170.6
Vernon	200.3	223.0
Total	1,920.0	2,027.1
<b>Southeastern Unit</b>		
Brown	47.4	46.2
Calumet	24.7	17.7
Columbia	84.2	98.0
Dane	90.2	79.2
Dodge	27.6	39.8
Door	106.3	105.3
Fond du Lac	33.9	33.3
Green	30.9	40.4
Green Lake	21.0	30.2
Jefferson	29.0	47.3
Kenosha	10.8	23.9
Kewaunee	36.8	45.2
Manitowoc	56.5	67.0
Milwaukee	- -	8.1
Outagamie	70.7	67.2
Ozaukee	16.3	18.8
Racine	16.9	18.8
Rock	26.9	35.5
Sheboygan	51.5	62.2
Walworth	35.6	39.1
Washington	45.7	51.8
Waukesha	32.1	38.6
Winnebago	14.2	20.1
Total	909.2	1,033.7
All counties	14,759.4	15,702.5

<sup>1</sup> International 1/4-inch rule.

Table 29.--Area of timberland by Forest Survey Unit and stand-size class, Wisconsin, 1983 and 1996

(In thousand acres)

Forest Survey Unit and stand-size class	1983	1996
<b>Northeastern Unit</b>		
Sawtimber	1,025.7	901.3
Poletimber	1,909.1	1,590.9
Sapling & seedling	886.6	1,225.9
Nonstocked	7.1	8.3
<b>Total</b>	<b>3,828.5</b>	<b>3,726.4</b>
<b>Northwestern Unit</b>		
Sawtimber	1,107.6	1,309.5
Poletimber	2,705.7	2,600.1
Sapling & seedling	1,302.8	1,942.1
Nonstocked	37.2	21.5
<b>Total</b>	<b>5,153.3</b>	<b>5,873.2</b>
<b>Central Unit</b>		
Sawtimber	939.8	878.0
Poletimber	1,165.0	1,201.2
Sapling & seedling	832.2	947.9
Nonstocked	11.4	15.0
<b>Total</b>	<b>2,948.4</b>	<b>3,042.1</b>
<b>Southwestern Unit</b>		
Sawtimber	1,180.2	972.2
Poletimber	389.4	648.3
Sapling & seedling	345.1	400.8
Nonstocked	5.3	5.8
<b>Total</b>	<b>1,920.0</b>	<b>2,027.1</b>
<b>Southeastern Unit</b>		
Sawtimber	501.9	408.1
Poletimber	253.1	315.5
Sapling & seedling	146.0	304.3
Nonstocked	8.2	5.8
<b>Total</b>	<b>909.2</b>	<b>1,033.7</b>
<b>All Units</b>		
Sawtimber	4,755.2	4,469.1
Poletimber	6,422.3	6,356.0
Sapling & seedling	3,512.7	4,821.0
Nonstocked	69.2	56.4
<b>Total</b>	<b>14,759.4</b>	<b>15,702.5</b>

Table 30.--Area of timberland by forest type, stand-size class, ownership class, and Forest Survey Unit, Wisconsin, 1996

(In thousand acres)

Forest type and stand-size class	(Ownership class)								
	All owners	National forest	Other federal	State	County and municipal	Indian	Forest industry	Corporate	Individual
<b>Northeastern Unit</b>									
Sawtimber	1,028.3	173.3	--	50.5	69.1	146.2	120.4	56.4	412.4
Poletimber	1,786.7	266.6	--	88.5	282.2	77.1	191.5	52.5	828.3
Sapling & seedling	1,362.2	155.3	--	90.5	308.3	37.8	197.0	60.0	513.3
Nonstocked	8.3	2.3	--	--	5.5	--	--	--	0.5
All stands	4,185.5	597.5	--	229.5	665.1	261.1	508.9	168.9	1,754.5
<b>Northwestern Unit</b>									
Sawtimber	1,182.5	228.8	5.9	37.4	241.2	32.9	77.5	51.3	507.5
Poletimber	2,404.3	301.0	--	110.8	549.9	37.5	190.8	107.4	1,106.9
Sapling & seedling	1,805.8	234.0	11.9	78.7	365.3	9.8	209.1	79.2	817.8
Nonstocked	21.5	2.2	--	--	1.1	--	0.2	3.8	14.2
All stands	5,414.1	766.0	17.8	226.9	1,157.5	80.2	477.6	241.7	2,446.4
<b>Central Unit</b>									
Sawtimber	878.0	--	16.4	14.4	47.8	--	36.8	32.1	730.5
Poletimber	1,201.2	--	43.0	43.1	168.0	--	28.2	49.3	869.6
Sapling & seedling	947.9	--	43.6	60.1	209.8	--	33.7	58.0	542.7
Nonstocked	15.0	--	--	--	1.0	--	2.6	1.1	10.3
All stands	3,042.1	--	103.0	117.6	426.6	--	101.3	140.5	2,153.1
<b>Southwestern Unit</b>									
Sawtimber	972.2	--	24.6	61.6	8.7	--	3.1	44.9	829.3
Poletimber	648.3	--	6.4	18.4	2.6	--	--	13.4	607.5
Sapling & seedling	400.8	--	2.0	14.6	--	--	--	3.7	380.5
Nonstocked	5.8	--	--	--	--	--	--	--	5.8
All stands	2,027.1	--	33.0	94.6	11.3	--	3.1	62.0	1,823.1
<b>Southeastern Unit</b>									
Sawtimber	408.1	--	--	34.4	5.1	--	8.2	20.7	339.7
Poletimber	315.5	--	3.4	20.8	9.7	2.2	3.1	21.8	254.5
Sapling & seedling	304.3	--	--	20.3	7.0	--	--	33.6	243.4
Nonstocked	5.8	--	--	--	--	--	--	2.5	3.3
All stands	1,033.7	--	3.4	75.5	21.8	2.2	11.3	78.6	840.9
<b>All Units</b>									
Sawtimber	4,469.1	402.1	46.9	198.3	371.9	179.1	246.0	205.4	2,819.4
Poletimber	6,356.0	567.6	52.8	281.6	1,012.4	116.8	413.6	244.4	3,666.8
Sapling & seedling	4,821.0	389.3	57.5	264.2	890.4	47.6	439.8	234.5	2,497.7
Nonstocked	56.4	4.5	--	--	7.6	--	2.8	7.4	34.1
All stands	15,702.5	1,363.5	157.2	744.1	2,282.3	343.5	1,102.2	691.7	9,018.0

(Table 30 continued on next page)



(Table 30 continued)

Forest type and stand-size class	(Ownership class)								
	All owners	National forest	Other federal	State	County and municipal	Indian	Forest industry	Corporate	Individual
Northeastern Unit									
Jack pine									
Sawtimber	24.4	0.3	--	2.5	4.5	4.0	--	--	13.1
Poletimber	39.3	3.9	--	6.4	8.1	--	3.3	2.7	14.9
Sapling & seedling	19.2	3.3	--	2.2	4.9	--	6.9	--	1.9
All stands	82.9	7.5	--	11.1	17.5	4.0	10.2	2.7	29.9
Red pine									
Sawtimber	75.4	30.1	--	2.5	4.9	--	7.2	--	30.7
Poletimber	46.7	1.9	--	9.2	14.8	3.1	2.2	1.5	14.0
Sapling & seedling	49.1	6.7	--	11.2	6.7	--	20.5	--	4.0
All stands	171.2	38.7	--	22.9	26.4	3.1	29.9	1.5	48.7
White pine									
Sawtimber	53.1	4.4	--	--	10.1	7.1	--	4.4	27.1
Poletimber	11.4	--	--	3.4	--	--	--	8.0	--
Sapling & seedling	2.2	--	--	--	--	0.5	--	--	1.7
All stands	66.7	4.4	--	3.4	10.1	7.6	--	12.4	28.8
Balsam fir									
Sawtimber	16.1	2.2	--	3.9	3.7	--	--	--	6.3
Poletimber	49.2	4.4	--	11.5	2.5	--	1.6	--	29.2
Sapling & seedling	93.0	19.0	--	10.4	16.6	0.8	16.4	--	29.8
All stands	158.3	25.6	--	25.8	22.8	0.8	18.0	--	65.3
White spruce									
Sawtimber	8.9	2.6	--	2.9	--	--	3.4	--	--
Poletimber	8.6	5.8	--	2.8	--	--	--	--	--
Sapling & seedling	14.1	7.0	--	--	3.4	--	--	--	3.7
All stands	31.6	15.4	--	5.7	3.4	--	3.4	--	3.7
Black spruce									
Sawtimber	1.4	--	--	0.6	--	--	--	0.8	--
Poletimber	33.6	11.8	--	--	0.7	3.1	--	3.0	15.0
Sapling & seedling	145.7	17.0	--	14.0	30.1	2.7	38.1	5.5	38.3
All stands	180.7	28.8	--	14.6	30.8	5.8	38.1	9.3	53.3
Northern white-cedar									
Sawtimber	30.7	4.6	--	1.8	7.3	3.7	4.7	2.6	6.0
Poletimber	119.2	17.7	--	--	24.0	9.9	8.0	1.5	58.1
Sapling & seedling	37.0	6.9	--	--	--	--	--	--	30.1
All stands	186.9	29.2	--	1.8	31.3	13.6	12.7	4.1	94.2
Tamarack									
Sawtimber	7.6	--	--	--	--	--	1.8	--	5.8
Poletimber	35.8	1.0	--	3.4	8.0	--	--	3.1	20.3
Sapling & seedling	52.3	5.3	--	2.5	7.3	2.1	10.0	--	25.1
All stands	95.7	6.3	--	5.9	15.3	2.1	11.8	3.1	51.2
Oak-hickory									
Sawtimber	69.4	1.8	--	--	12.5	19.4	--	6.6	29.1
Poletimber	75.6	8.0	--	3.9	16.2	--	--	6.4	41.1
Sapling & seedling	21.7	--	--	--	6.6	1.1	1.1	1.6	11.3
All stands	166.7	9.8	--	3.9	35.3	20.5	1.1	14.6	81.5
Elm-ash-soft maple									
Sawtimber	25.2	2.1	--	--	6.3	--	2.1	2.3	12.4
Poletimber	113.1	12.5	--	3.7	25.1	3.6	1.9	--	66.3
Sapling & seedling	104.8	9.7	--	--	6.2	4.4	5.8	3.1	75.6
All stands	243.1	24.3	--	3.7	37.6	8.0	9.8	5.4	154.3
Maple-basswood									
Sawtimber	610.5	101.2	--	25.2	19.8	108.3	97.2	34.2	224.6
Poletimber	806.3	142.2	--	18.3	105.6	33.0	135.2	14.6	357.4
Sapling & seedling	190.7	13.5	--	17.2	33.4	10.1	14.8	10.6	91.1
All stands	1,607.5	256.9	--	60.7	158.8	151.4	247.2	59.4	673.1
Aspen									
Sawtimber	85.1	21.9	--	9.9	--	3.7	4.0	4.5	41.1
Poletimber	313.5	43.0	--	7.7	70.8	15.3	30.4	4.2	142.1
Sapling & seedling	606.1	63.0	--	28.7	185.5	15.4	83.4	39.2	190.9
All stands	1,004.7	127.9	--	46.3	256.3	34.4	117.8	47.9	374.1
Paper birch									
Sawtimber	20.5	2.1	--	1.2	--	--	--	1.0	16.2
Poletimber	132.8	14.4	--	18.2	6.4	9.1	8.9	7.5	68.3
Sapling & seedling	20.7	3.7	--	4.3	7.6	0.7	--	--	4.4
All stands	174.0	20.2	--	23.7	14.0	9.8	8.9	8.5	88.9
Balsam poplar									
Sawtimber	--	--	--	--	--	--	--	--	--
Poletimber	1.6	--	--	--	--	--	--	--	1.6
Sapling & seedling	5.6	0.2	--	--	--	--	--	--	5.4
All stands	7.2	0.2	--	--	--	--	--	--	7.0
Nonstocked									
All stands	8.3	2.3	--	--	5.5	--	--	--	0.5
All types									
Sawtimber	1,028.3	173.3	--	50.5	69.1	146.2	120.4	56.4	412.4
Poletimber	1,786.7	266.6	--	88.5	282.2	77.1	191.5	52.5	828.3
Sapling & seedling	1,362.2	155.3	--	90.5	308.3	37.8	197.0	60.0	513.3
Nonstocked	8.3	2.3	--	--	5.5	--	--	--	0.5
All stands	4,185.5	597.5	--	229.5	665.1	261.1	508.9	168.9	1,754.5

(Table 30 continued on next page)

Forest type and stand-size class	(Ownership class)								
	All owners	National forest	Other federal	State	County and municipal	Indian	Forest industry	Corporate	Individual
Northwestern Unit									
Jack pine									
Sawtimber	38.8	6.9	--	--	5.9	--	3.4	3.6	19.0
Poletimber	61.4	3.2	--	3.6	36.5	--	3.6	--	14.5
Sapling & seedling	33.4	8.9	--	--	21.5	--	3.0	--	--
All stands	133.6	19.0	--	3.6	63.9	--	10.0	3.6	33.5
Red pine									
Sawtimber	58.1	21.9	--	3.4	19.9	3.4	--	--	9.5
Poletimber	54.8	12.2	--	9.6	13.0	--	8.2	1.1	10.7
Sapling & seedling	79.5	13.9	--	--	9.3	--	36.6	3.3	16.4
All stands	192.4	48.0	--	13.0	42.2	3.4	44.8	4.4	36.6
White pine									
Sawtimber	23.8	8.2	2.5	--	3.5	--	--	0.6	9.0
Poletimber	1.2	1.2	--	--	--	--	--	--	--
Sapling & seedling	--	--	--	--	--	--	--	--	--
All stands	25.0	9.4	2.5	--	3.5	--	--	0.6	9.0
Balsam fir									
Sawtimber	19.0	7.4	--	--	--	--	1.8	--	9.8
Poletimber	48.4	4.9	--	10.3	11.1	3.6	2.5	3.6	12.4
Sapling & seedling	71.2	9.1	--	--	8.3	--	3.4	3.8	46.6
All stands	138.6	21.4	--	10.3	19.4	3.6	7.7	7.4	68.8
White spruce									
Sawtimber	9.9	3.3	--	1.1	--	--	--	--	5.5
Poletimber	13.1	5.5	--	--	2.9	--	0.1	--	4.6
Sapling & seedling	18.4	3.2	--	--	--	--	9.3	--	5.9
All stands	41.4	12.0	--	1.1	2.9	--	9.4	--	16.0
Black spruce									
Sawtimber	0.4	--	--	--	0.4	--	--	--	--
Poletimber	16.9	6.3	--	0.3	3.6	--	--	--	6.7
Sapling & seedling	119.3	24.2	--	1.5	31.7	--	15.5	8.4	38.0
All stands	136.6	30.5	--	1.8	35.7	--	15.5	8.4	44.7
Northern white-cedar									
Sawtimber	57.8	16.2	--	--	24.7	--	9.1	0.7	7.1
Poletimber	34.3	8.2	--	4.3	5.0	--	--	4.3	12.5
Sapling & seedling	4.2	--	--	--	--	--	--	--	4.2
All stands	96.3	24.4	--	4.3	29.7	--	9.1	5.0	23.8
Tamarack									
Sawtimber	17.0	2.0	--	--	3.1	--	0.4	5.3	6.2
Poletimber	41.4	2.2	--	0.7	3.0	--	--	--	35.5
Sapling & seedling	87.9	13.1	--	2.8	10.2	--	2.7	2.8	56.3
All stands	146.3	17.3	--	3.5	16.3	--	3.1	8.1	98.0
Oak-hickory									
Sawtimber	161.8	1.6	--	5.1	30.0	3.4	6.0	9.2	106.5
Poletimber	231.8	12.8	--	4.4	62.6	--	5.1	2.6	144.3
Sapling & seedling	120.6	3.5	--	18.5	21.4	--	35.6	3.0	38.6
All stands	514.2	17.9	--	28.0	114.0	3.4	46.7	14.8	289.4
Eim-ash-soft maple									
Sawtimber	41.5	7.2	--	6.1	16.7	--	--	--	11.5
Poletimber	247.7	30.3	--	12.6	60.7	4.0	23.6	11.8	104.7
Sapling & seedling	175.9	21.7	3.0	6.4	25.9	1.9	10.0	3.9	103.1
All stands	465.1	59.2	3.0	25.1	103.3	5.9	33.6	15.7	219.3
Maple-basswood									
Sawtimber	573.9	124.9	3.4	18.1	104.4	19.0	53.9	18.7	231.5
Poletimber	1,003.2	135.7	--	24.1	226.2	18.3	108.8	53.3	436.8
Sapling & seedling	333.7	24.0	5.5	13.4	52.9	--	21.7	25.9	190.3
All stands	1,910.8	284.6	8.9	55.6	383.5	37.3	184.4	97.9	858.6
Aspen									
Sawtimber	159.9	26.0	--	3.6	26.2	7.1	2.9	13.2	80.9
Poletimber	514.9	58.2	--	31.2	93.2	7.7	29.2	24.8	270.6
Sapling & seedling	710.2	106.5	3.4	32.6	175.4	7.9	71.3	28.1	285.0
All stands	1,385.0	190.7	3.4	67.4	294.8	22.7	103.4	66.1	636.5
Paper birch									
Sawtimber	14.2	3.2	--	--	--	--	--	--	11.0
Poletimber	129.1	20.3	--	9.7	26.3	3.9	9.7	5.9	53.3
Sapling & seedling	42.6	5.9	--	3.3	5.0	--	--	--	28.4
All stands	185.9	29.4	--	13.0	31.3	3.9	9.7	5.9	92.7
Balsam poplar									
Sawtimber	6.4	--	--	--	6.4	--	--	--	--
Poletimber	6.1	--	--	--	5.8	--	--	--	0.3
Sapling & seedling	8.9	--	--	0.2	3.7	--	--	--	5.0
All stands	21.4	--	--	0.2	15.9	--	--	--	5.3
Nonstocked	21.5	2.2	--	--	1.1	--	0.2	3.8	14.2
All types									
Sawtimber	1,182.5	228.8	5.9	37.4	241.2	32.9	77.5	51.3	507.5
Poletimber	2,404.3	301.0	--	110.8	549.9	37.5	190.8	107.4	1,106.9
Sapling & seedling	1,805.8	234.0	11.9	78.7	365.3	9.8	209.1	79.2	817.8
Nonstocked	21.5	2.2	--	--	1.1	--	0.2	3.8	14.2
All stands	5,414.1	766.0	17.8	226.9	1,157.5	80.2	477.6	241.7	2,446.4

(Table 30 continued)

Forest type and stand-size class	(Ownership class)								
	All owners	National forest	Other federal	State	County and municipal	Indian	Forest industry	Corporate	Individual
Central Unit									
Jack pine									
Sawtimber	21.5	--	--	--	--	--	--	7.5	14.0
Poletimber	66.3	--	7.5	--	2.9	--	3.2	4.5	48.2
Sapling & seedling	80.2	--	4.0	3.4	24.8	--	8.0	3.5	36.5
All stands	168.0	--	11.5	3.4	27.7	--	11.2	15.5	98.7
Red pine									
Sawtimber	28.3	--	0.4	--	5.3	--	--	--	22.6
Poletimber	96.2	--	--	5.1	24.1	--	6.0	15.6	45.4
Sapling & seedling	51.9	--	5.3	2.4	7.4	--	12.1	3.4	21.3
All stands	176.4	--	5.7	7.5	36.8	--	18.1	19.0	89.3
White pine									
Sawtimber	36.2	--	--	--	2.6	--	2.6	2.4	28.6
Poletimber	9.5	--	--	--	2.6	--	--	--	6.9
Sapling & seedling	21.7	--	--	--	8.3	--	--	2.5	10.9
All stands	67.4	--	--	--	13.5	--	2.6	4.9	46.4
Balsam fir									
Sawtimber	--	--	--	--	--	--	--	--	--
Poletimber	3.2	--	--	--	--	--	--	--	3.2
Sapling & seedling	7.5	--	--	--	--	--	--	--	7.5
All stands	10.7	--	--	--	--	--	--	--	10.7
White spruce									
Sawtimber	--	--	--	--	--	--	--	--	--
Poletimber	1.7	--	--	--	1.6	--	--	--	0.1
Sapling & seedling	3.0	--	--	--	--	--	--	--	3.0
All stands	4.7	--	--	--	1.6	--	--	--	3.1
Black spruce									
Sawtimber	--	--	--	--	--	--	--	--	--
Poletimber	--	--	--	--	--	--	--	--	--
Sapling & seedling	13.1	--	--	6.2	3.4	--	--	--	3.5
All stands	13.1	--	--	6.2	3.4	--	--	--	3.5
Northern white-cedar									
Sawtimber	2.1	--	--	--	--	--	--	--	2.1
Poletimber	--	--	--	--	--	--	--	--	--
Sapling & seedling	3.2	--	--	--	--	--	--	--	3.2
All stands	5.3	--	--	--	--	--	--	--	5.3
Tamarack									
Sawtimber	--	--	--	--	--	--	--	--	--
Poletimber	10.9	--	--	--	--	--	--	--	10.9
Sapling & seedling	34.1	--	--	11.6	0.6	--	--	8.6	13.3
All stands	45.0	--	--	11.6	0.6	--	--	8.6	24.2
Oak-hickory									
Sawtimber	430.1	--	9.7	6.2	24.1	--	15.2	7.3	367.6
Poletimber	370.7	--	25.4	17.5	47.5	--	8.6	17.9	253.8
Sapling & seedling	181.1	--	12.9	3.1	40.7	--	--	15.3	109.1
All stands	981.9	--	48.0	26.8	112.3	--	23.8	40.5	730.5
Elm-ash-soft maple									
Sawtimber	73.1	--	--	--	3.1	--	6.5	7.0	56.5
Poletimber	144.6	--	2.7	3.3	5.3	--	3.7	3.6	126.0
Sapling & seedling	126.3	--	9.5	12.7	27.8	--	10.0	6.4	59.9
All stands	344.0	--	12.2	16.0	36.2	--	20.2	17.0	242.4
Maple-basswood									
Sawtimber	254.9	--	6.3	8.2	9.4	--	12.5	4.5	214.0
Poletimber	336.8	--	4.7	11.4	32.6	--	4.5	6.2	277.4
Sapling & seedling	181.3	--	2.8	3.8	27.2	--	--	6.9	140.6
All stands	773.0	--	13.8	23.4	69.2	--	17.0	17.6	632.0
Aspen									
Sawtimber	22.0	--	--	--	3.3	--	--	3.4	15.3
Poletimber	135.8	--	2.7	5.8	51.4	--	--	1.4	74.5
Sapling & seedling	214.3	--	9.1	16.9	63.5	--	3.6	11.4	109.8
All stands	372.1	--	11.8	22.7	118.2	--	3.6	16.2	199.6
Paper birch									
Sawtimber	9.8	--	--	--	--	--	--	--	9.8
Poletimber	25.5	--	--	--	--	--	2.2	0.1	23.2
Sapling & seedling	30.2	--	--	--	6.1	--	--	--	24.1
All stands	65.5	--	--	--	6.1	--	2.2	0.1	57.1
Nonstocked									
All types	15.0	--	--	--	1.0	--	2.6	1.1	10.3
All types									
Sawtimber	878.0	--	16.4	14.4	47.8	--	36.8	32.1	730.5
Poletimber	1,201.2	--	43.0	43.1	168.0	--	28.2	49.3	869.6
Sapling & seedling	947.9	--	43.6	60.1	209.8	--	33.7	58.0	542.7
Nonstocked	15.0	--	--	--	1.0	--	2.6	1.1	10.3
All stands	3,042.1	--	103.0	117.6	426.6	--	101.3	140.5	2,153.1

(Table 30 continued on next page)

(Table 30 continued)

Forest type and stand-size class	(Ownership class)								
	All owners	National forest	Other federal	State	County and municipal	Indian	Forest industry	Corporate	Individual
Southwestern Unit									
Jack pine									
Sawtimber	--	--	--	--	--	--	--	--	--
Poletimber	2.5	--	--	2.4	--	--	--	--	0.1
Sapling & seedling	--	--	--	--	--	--	--	--	--
All stands	2.5	--	--	2.4	--	--	--	--	0.1
Red pine									
Sawtimber	7.1	--	1.4	--	2.4	--	--	--	3.3
Poletimber	26.2	--	--	--	--	--	--	--	26.2
Sapling & seedling	4.9	--	--	--	--	--	--	--	4.9
All stands	38.2	--	1.4	--	2.4	--	--	--	34.4
White pine									
Sawtimber	9.6	--	4.6	--	--	--	--	--	5.0
Poletimber	5.0	--	3.7	--	--	--	--	--	1.3
Sapling & seedling	5.3	--	0.1	--	--	--	--	--	5.2
All stands	19.9	--	8.4	--	--	--	--	--	11.5
White spruce									
Sawtimber	1.5	--	--	--	--	--	--	--	1.5
Poletimber	--	--	--	--	--	--	--	--	--
Sapling & seedling	1.7	--	--	--	--	--	--	--	1.7
All stands	3.2	--	--	--	--	--	--	--	3.2
Oak-hickory									
Sawtimber	567.4	--	--	27.6	3.8	--	--	36.2	499.8
Poletimber	307.4	--	--	9.9	--	--	--	4.1	293.4
Sapling & seedling	91.0	--	0.9	0.4	--	--	--	--	89.7
All stands	965.8	--	0.9	37.9	3.8	--	--	40.3	882.9
Elm-ash-soft maple									
Sawtimber	70.9	--	16.5	17.8	--	--	--	2.4	34.2
Poletimber	77.8	--	2.7	6.1	2.6	--	--	--	66.4
Sapling & seedling	74.0	--	0.1	6.0	--	--	--	--	67.9
All stands	222.7	--	19.3	29.9	2.6	--	--	2.4	168.5
Maple-basswood									
Sawtimber	283.0	--	2.1	12.2	2.5	--	3.1	6.3	256.8
Poletimber	183.4	--	--	--	--	--	--	9.3	174.1
Sapling & seedling	173.6	--	0.9	3.3	--	--	--	3.7	165.7
All stands	640.0	--	3.0	15.5	2.5	--	3.1	19.3	596.6
Aspen									
Sawtimber	21.0	--	--	4.0	--	--	--	--	17.0
Poletimber	29.2	--	--	--	--	--	--	--	29.2
Sapling & seedling	35.4	--	--	3.3	--	--	--	--	32.1
All stands	85.6	--	--	7.3	--	--	--	--	78.3
Paper birch									
Sawtimber	11.7	--	--	--	--	--	--	--	11.7
Poletimber	16.3	--	--	--	--	--	--	--	16.3
Sapling & seedling	14.9	--	--	1.6	--	--	--	--	13.3
All stands	42.9	--	--	1.6	--	--	--	--	41.3
Balsam poplar									
Sawtimber	--	--	--	--	--	--	--	--	--
Poletimber	0.5	--	--	--	--	--	--	--	0.5
Sapling & seedling	--	--	--	--	--	--	--	--	--
All stands	0.5	--	--	--	--	--	--	--	0.5
Nonstocked	5.8	--	--	--	--	--	--	--	5.8
All types									
Sawtimber	972.2	--	24.6	61.6	8.7	--	3.1	44.9	829.3
Poletimber	648.3	--	6.4	18.4	2.6	--	--	13.4	607.5
Sapling & seedling	400.8	--	2.0	14.6	--	--	--	3.7	380.5
Nonstocked	5.8	--	--	--	--	--	--	--	5.8
All stands	2,027.1	--	33.0	94.6	11.3	--	3.1	62.0	1,823.1

(Table 30 continued on next page)

(Table 30 continued)

Forest type and stand-size class	(Ownership class)								
	All owners	National forest	Other federal	State	County and municipal	Indian	Forest industry	Corporate	Individual
<b>Southeastern Unit</b>									
<b>Jack pine</b>									
Sawtimber	--	--	--	--	--	--	--	--	--
Poletimber	0.4	--	--	--	--	--	--	--	0.4
Sapling & seedling	--	--	--	--	--	--	--	--	--
All stands	0.4	--	--	--	--	--	--	--	0.4
<b>Red pine</b>									
Sawtimber	5.1	--	--	4.4	--	--	--	--	0.7
Poletimber	19.0	--	--	--	--	--	--	--	19.0
Sapling & seedling	0.5	--	--	--	--	--	--	--	0.5
All stands	24.6	--	--	4.4	--	--	--	--	20.2
<b>White pine</b>									
Sawtimber	3.4	--	--	0.3	--	--	--	--	3.1
Poletimber	1.5	--	--	--	1.5	--	--	--	--
Sapling & seedling	7.6	--	--	--	--	--	--	--	7.6
All stands	12.5	--	--	0.3	1.5	--	--	--	10.7
<b>Balsam fir</b>									
Sawtimber	--	--	--	--	--	--	--	--	--
Poletimber	1.4	--	--	1.4	--	--	--	--	--
Sapling & seedling	0.4	--	--	--	--	--	--	--	0.4
All stands	1.8	--	--	1.4	--	--	--	--	0.4
<b>Northern white-cedar</b>									
Sawtimber	9.7	--	--	--	--	--	--	2.1	7.6
Poletimber	9.2	--	--	--	--	--	--	2.1	7.1
Sapling & seedling	11.9	--	--	--	--	--	--	0.6	11.3
All stands	30.8	--	--	--	--	--	--	4.8	26.0
<b>Tamarack</b>									
Sawtimber	2.2	--	--	--	0.8	--	--	--	1.4
Poletimber	1.6	--	--	0.6	--	--	--	--	1.0
Sapling & seedling	11.1	--	--	--	--	--	--	2.5	8.6
All stands	14.9	--	--	0.6	0.8	--	--	2.5	11.0
<b>Oak-hickory</b>									
Sawtimber	157.6	--	--	19.8	1.8	--	--	4.2	131.8
Poletimber	40.6	--	--	5.1	--	--	3.1	6.3	26.1
Sapling & seedling	58.7	--	--	4.9	--	--	--	10.8	43.0
All stands	256.9	--	--	29.8	1.8	--	3.1	21.3	200.9
<b>Elm-ash-soft maple</b>									
Sawtimber	88.8	--	--	9.9	--	--	5.8	5.5	67.6
Poletimber	74.0	--	--	5.1	2.1	--	--	5.1	61.7
Sapling & seedling	91.1	--	--	10.3	4.4	--	--	5.0	71.4
All stands	253.9	--	--	25.3	6.5	--	5.8	15.6	200.7
<b>Maple-basswood</b>									
Sawtimber	132.3	--	--	--	2.5	--	2.4	5.9	121.5
Poletimber	134.6	--	3.4	7.8	4.0	--	--	4.1	115.3
Sapling & seedling	101.5	--	--	2.6	2.6	--	--	14.7	81.6
All stands	368.4	--	3.4	10.4	9.1	--	2.4	24.7	318.4
<b>Aspen</b>									
Sawtimber	3.6	--	--	--	--	--	--	--	3.6
Poletimber	18.9	--	--	0.8	2.1	--	--	--	16.0
Sapling & seedling	15.8	--	--	--	--	--	--	--	15.8
All stands	38.3	--	--	0.8	2.1	--	--	--	35.4
<b>Paper birch</b>									
Sawtimber	5.4	--	--	--	--	--	--	3.0	2.4
Poletimber	14.3	--	--	--	--	2.2	--	4.2	7.9
Sapling & seedling	5.7	--	--	2.5	--	--	--	--	3.2
All stands	25.4	--	--	2.5	--	2.2	--	7.2	13.5
<b>Nonstocked</b>									
All stands	5.8	--	--	--	--	--	--	2.5	3.3
<b>All types</b>									
Sawtimber	408.1	--	--	34.4	5.1	--	8.2	20.7	339.7
Poletimber	315.5	--	3.4	20.8	9.7	2.2	3.1	21.8	254.5
Sapling & seedling	304.3	--	--	20.3	7.0	--	--	33.6	243.4
Nonstocked	5.8	--	--	--	--	--	--	2.5	3.3
All stands	1,033.7	--	3.4	75.5	21.8	2.2	11.3	78.6	840.9

Table 31.--Area of timberland by forest type, stand-size class,  
and potential productivity class, Wisconsin, 1996

(In thousand acres)

Forest type and stand-size class	All classes	Potential productivity class (cubic feet of growth per year per acre)					
		225+	165-224	120-164	85-119	50-84	20-49
<b>Jack pine</b>							
Sawtimber	84.7	--	--	1.3	28.8	51.6	3.0
Poletimber	169.9	--	2.4	4.0	12.0	110.2	41.3
Sapling & seedling	132.8	--	--	1.8	9.9	58.4	62.7
All stands	387.4	--	2.4	7.1	50.7	220.2	107.0
<b>Red pine</b>							
Sawtimber	174.0	4.1	3.0	60.5	87.1	15.3	4.0
Poletimber	242.9	11.0	2.2	134.4	79.0	15.2	1.1
Sapling & seedling	185.9	--	--	31.2	77.7	41.1	35.9
All stands	602.8	15.1	5.2	226.1	243.8	71.6	41.0
<b>White pine</b>							
Sawtimber	126.1	2.3	0.1	39.5	53.8	20.6	9.8
Poletimber	28.6	--	--	17.1	4.6	6.9	--
Sapling & seedling	36.8	5.2	--	7.2	16.1	5.8	2.5
All stands	191.5	7.5	0.1	63.8	74.5	33.3	12.3
<b>Balsam fir</b>							
Sawtimber	35.1	--	--	14.5	18.1	2.4	0.1
Poletimber	102.2	--	1.3	37.2	48.4	14.7	0.6
Sapling & seedling	172.1	--	3.6	61.1	40.2	33.2	34.0
All stands	309.4	--	4.9	112.8	106.7	50.3	34.7
<b>White spruce</b>							
Sawtimber	20.3	--	--	--	13.5	6.8	--
Poletimber	23.4	--	2.6	2.0	5.4	13.4	--
Sapling & seedling	37.2	--	3.7	2.4	12.5	13.7	4.9
All stands	80.9	--	6.3	4.4	31.4	33.9	4.9
<b>Black spruce</b>							
Sawtimber	1.8	--	--	--	1.2	0.6	--
Poletimber	50.5	--	--	--	4.2	21.3	25.0
Sapling & seedling	278.1	--	--	--	7.5	28.3	242.3
All stands	330.4	--	--	--	12.9	50.2	267.3
<b>Northern white-cedar</b>							
Sawtimber	100.3	--	--	--	3.1	43.7	53.5
Poletimber	162.7	--	--	--	8.2	51.8	102.7
Sapling & seedling	56.3	--	0.6	--	3.2	19.4	33.1
All stands	319.3	--	0.6	--	14.5	114.9	189.3
<b>Tamarack</b>							
Sawtimber	26.8	--	--	--	--	18.9	7.9
Poletimber	89.7	--	--	--	4.9	32.4	52.4
Sapling & seedling	185.4	--	--	0.3	6.8	49.4	128.9
All stands	301.9	--	--	0.3	11.7	100.7	189.2

(Table 31 continued on next page)

(Table 31 continued)

Forest type and stand-size class	All classes	Potential productivity class (cubic feet of growth per acre pre year)					
		225+	165-224	120-164	85-119	50-84	20-49
<b>Oak-hickory</b>							
Sawtimber	1,386.3	--	30.0	35.9	395.1	728.5	196.8
Poletimber	1,026.1	--	21.0	9.9	194.5	604.0	196.7
Sapling & seedling	473.1	--	2.1	10.7	68.5	251.1	140.7
All stands	2,885.5	--	53.1	56.5	658.1	1,583.6	534.2
<b>Elm-ash-soft maple</b>							
Sawtimber	299.5	--	--	12.7	76.6	89.7	120.5
Poletimber	657.2	--	--	11.1	63.7	175.5	406.9
Sapling & seedling	572.1	--	--	14.8	65.5	177.8	314.0
All stands	1,528.8	--	--	38.6	205.8	443.0	841.4
<b>Maple-basswood</b>							
Sawtimber	1,854.6	--	37.0	29.9	529.2	951.2	307.3
Poletimber	2,464.3	--	42.2	41.0	550.4	1,340.9	489.8
Sapling & seedling	980.8	--	27.9	28.4	210.9	476.5	237.1
All stands	5,299.7	--	107.1	99.3	1,290.5	2,768.6	1,034.2
<b>Aspen</b>							
Sawtimber	291.6	--	--	10.9	154.5	120.0	6.2
Poletimber	1,012.3	--	11.0	55.4	448.7	447.8	49.4
Sapling & seedling	1,581.8	--	21.2	89.9	616.4	705.5	148.8
All stands	2,885.7	--	32.2	156.2	1,219.6	1,273.3	204.4
<b>Paper birch</b>							
Sawtimber	61.6	--	--	3.3	7.2	38.0	13.1
Poletimber	318.0	--	2.3	4.4	51.7	154.1	105.5
Sapling & seedling	114.1	--	1.4	1.1	15.3	51.2	45.1
All stands	493.7	--	3.7	8.8	74.2	243.3	163.7
<b>Balsam poplar</b>							
Sawtimber	6.4	--	--	--	3.4	3.0	--
Poletimber	8.2	--	--	--	7.9	0.3	--
Sapling & seedling	14.5	--	--	--	2.7	8.7	3.1
All stands	29.1	--	--	--	14.0	12.0	3.1
Nonstocked	56.4	--	1.4	0.7	14.6	14.8	24.9
<b>All forest types</b>							
Sawtimber	4,469.1	6.4	70.1	208.5	1,371.6	2,090.3	722.2
Poletimber	6,356.0	11	85.0	316.5	1,483.6	2,988.5	1,471.4
Sapling & seedling	4,821.0	5.2	60.5	248.9	1,153.2	1,920.1	1,433.1
Nonstocked	56.4	--	1.4	0.7	14.6	14.8	24.9
All stands	15,702.5	22.6	217.0	774.6	4,023.0	7,013.7	3,651.6

Table 32.--Area of timberland by forest type, basal-area class, and stand-size class, Wisconsin, 1996

(In thousand acres)

Forest type and stand-size class	Basal-area class (square feet per acre)														
	All classes	0-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100	101-120	121-150	151-180	181+
<b>Jack pine</b>															
Sawtimber	84.7	0.1	--	0.6	--	--	9.9	2.8	13.3	13.8	22.2	16.7	5.3	--	--
Poletimber	169.9	1.9	1.8	3.0	10.9	21.1	21.6	18.7	37.1	7.0	15.9	12.3	14.7	2.0	1.9
Sapling and seedling	132.8	44.7	11.1	13.8	17.7	8.9	22.3	9.9	2.8	--	1.6	--	--	--	--
All stands	387.4	46.7	12.9	17.4	28.6	30.0	53.8	31.4	53.2	20.8	39.7	29.0	20.0	2.0	1.9
<b>Red pine</b>															
Sawtimber	174.0	1.2	1.2	7.5	2.4	6.6	8.6	6.6	10.5	6.3	17.9	24.5	46.7	22.4	11.6
Poletimber	242.9	2.5	2.5	0.8	3.2	5.6	17.3	22.3	15.1	13.2	15.8	42.1	58.2	15.8	28.5
Sapling and seedling	185.9	123.6	17.3	7.8	--	8.5	8.1	12.9	4.9	0.6	2.2	--	--	--	--
All stands	602.8	127.3	21.0	16.1	5.6	20.7	34.0	41.8	30.5	20.1	35.9	66.6	104.9	38.2	40.1
<b>White pine</b>															
Sawtimber	126.1	1.5	--	0.3	2.3	2.5	1.6	4.2	14.6	3.9	8.3	26.5	20.6	26.3	13.5
Poletimber	28.6	--	--	--	--	--	10.5	6.1	--	1.5	--	3.4	4.6	2.5	--
Sapling and seedling	36.8	13.3	5.4	5.5	6.1	3.1	--	--	3.4	--	--	--	--	--	--
All stands	191.5	14.8	5.4	5.8	8.4	5.6	12.1	10.3	18.0	5.4	8.3	29.9	25.2	28.8	13.5
<b>Balsam fir</b>															
Sawtimber	35.1	0.2	0.9	--	0.9	4.0	--	14.5	--	1.2	3.9	5.6	3.9	--	--
Poletimber	102.2	--	0.9	0.3	--	2.0	16.4	3.6	5.9	10.3	3.5	16.8	20.7	13.8	8.0
Sapling and seedling	172.1	33.0	1.9	19.1	30.6	7.8	19.7	19.1	14.2	10.9	6.4	5.9	--	3.5	--
All stands	309.4	33.2	3.7	19.4	31.5	13.8	36.1	37.2	20.1	22.4	13.8	28.3	24.6	17.3	8.0
<b>White spruce</b>															
Sawtimber	20.3	--	0.5	--	2.0	4.5	--	--	--	--	3.4	3.0	4.0	--	2.9
Poletimber	23.4	0.2	--	2.6	2.0	4.0	2.0	1.4	--	2.9	--	--	1.4	3.4	3.5
Sapling and seedling	37.2	18.5	1.0	0.8	3.2	2.1	1.3	4.5	--	--	--	3.0	2.8	--	--
All stands	80.9	18.7	1.5	3.4	7.2	10.6	3.3	5.9	--	2.9	3.4	6.0	8.2	3.4	6.4
<b>Black spruce</b>															
Sawtimber	1.8	--	1.0	--	0.8	--	--	--	--	--	--	--	--	--	--
Poletimber	50.5	0.8	1.3	--	7.7	3.4	0.5	5.2	3.1	5.0	14.9	3.0	4.0	1.6	--
Sapling and seedling	278.1	27.3	32.6	45.4	31.8	40.2	19.5	20.6	18.5	20.4	10.9	10.9	--	--	--
All stands	330.4	28.1	34.9	45.4	40.3	43.6	20.0	25.8	21.6	25.4	25.8	13.9	4.0	1.6	--
<b>Northern white-cedar</b>															
Sawtimber	100.3	0.4	0.8	0.9	--	1.3	5.2	3.6	6.5	6.7	5.9	7.9	16.4	23.5	21.2
Poletimber	162.7	--	--	0.7	--	2.1	3.0	4.0	5.0	2.5	5.3	5.3	46.3	27.6	60.9
Sapling and seedling	56.3	0.6	3.3	1.7	1.4	1.6	1.6	3.8	--	8.0	3.2	--	15.7	15.4	--
All stands	319.3	1.0	4.1	3.3	1.4	5.0	9.8	11.4	11.5	17.2	14.4	13.2	80.8	66.5	82.1
<b>Tamarack</b>															
Sawtimber	26.8	--	1.8	3.7	4.3	2.5	--	3.1	1.9	1.8	2.4	--	--	5.3	--
Poletimber	89.7	0.3	1.6	1.0	2.0	5.0	11.5	4.7	18.6	5.8	3.1	21.1	15.0	--	--
Sapling and seedling	185.4	21.8	40.4	14.8	32.4	18.7	16.0	18.0	7.2	2.6	6.1	5.1	2.3	--	--
All stands	301.9	22.1	43.8	19.5	38.7	26.2	27.5	25.8	27.7	10.2	11.6	26.2	22.6	--	--

(Table 32 continued on next page)



(Table 32 continued)

Forest type and stand-size class	Basal-area class (square feet per acre)														
	All classes	0-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100	101-120	121-150	151-180	181+
<b>Oak-hickory</b>															
Sawtimber	1,386.3	6.4	10.1	28.4	51.2	60.0	79.8	91.0	150.9	152.0	152.7	281.6	251.4	57.9	12.9
Poletimber	1,026.1	5.6	9.9	5.6	19.5	40.3	79.1	104.4	181.6	115.0	142.5	161.4	128.0	33.2	--
Sapling and seedling	473.1	107.7	66.0	68.6	82.5	39.4	42.0	31.4	3.9	15.9	2.6	7.1	2.7	--	3.3
All stands	2,885.5	119.7	86.0	102.6	153.2	139.7	200.9	226.8	336.4	282.9	297.8	450.1	382.1	91.1	16.2
<b>Elm-ash-soft maple</b>															
Sawtimber	299.5	3.4	6.8	12.5	19.0	23.2	26.5	18.4	30.6	32.6	22.1	43.6	37.8	15.8	7.2
Poletimber	657.2	6.4	23.3	25.1	40.3	51.8	43.2	56.5	55.6	67.4	66.7	106.6	95.7	18.6	--
Sapling and seedling	572.1	80.2	105.9	75.1	82.0	73.7	38.0	42.8	18.1	12.8	13.9	23.2	--	2.3	4.1
All stands	1,528.8	90.0	136.0	112.7	141.3	148.7	107.7	117.7	104.3	112.8	102.7	173.4	133.5	36.7	11.3
<b>Maple-basswood</b>															
Sawtimber	1,854.6	5.5	20.0	21.3	16.3	45.1	81.6	82.2	135.6	164.2	172.2	380.5	453.2	199.3	77.6
Poletimber	2,464.3	4.6	14.2	38.6	44.1	69.6	127.3	182.3	243.2	286.7	270.7	549.5	485.4	134.0	14.1
Sapling and seedling	980.8	168.6	112.6	110.9	176.5	103.5	66.3	89.1	64.7	29.9	21.6	27.7	7.2	--	2.2
All stands	5,299.7	178.7	146.8	170.8	236.9	218.2	275.2	353.6	443.5	480.8	464.5	957.7	945.8	333.3	93.9
<b>Aspen</b>															
Sawtimber	291.6	0.4	3.0	2.9	11.2	23.7	18.6	10.1	35.3	46.0	21.4	55.5	51.7	9.6	2.2
Poletimber	1,012.3	5.0	18.1	24.3	34.4	59.6	90.9	68.0	142.4	111.1	92.0	189.7	144.7	28.4	3.7
Sapling and seedling	1,581.8	255.9	190.5	212.0	190.8	171.4	135.4	145.4	110.6	69.3	65.8	27.7	7.0	--	--
All stands	2,885.7	261.3	211.6	239.2	236.4	254.7	244.9	223.5	288.3	226.4	179.2	272.9	203.4	38.0	5.9
<b>Paper birch</b>															
Sawtimber	61.6	--	0.3	2.6	2.5	4.1	2.1	10.8	5.6	2.9	6.5	12.7	11.5	--	--
Poletimber	318.0	1.8	2.9	8.4	7.9	10.8	27.7	27.2	22.6	25.8	38.1	50.3	59.6	23.0	11.9
Sapling and seedling	114.1	30.8	23.5	13.8	8.7	10.9	7.5	7.7	--	2.7	--	3.3	5.2	--	--
All stands	493.7	32.6	26.7	24.8	19.1	25.8	37.3	45.7	28.2	31.4	44.6	66.3	76.3	23.0	11.9
<b>Balsam poplar</b>															
Sawtimber	6.4	--	--	--	6.4	--	--	--	--	--	--	--	--	--	--
Poletimber	8.2	--	0.8	--	4.6	--	--	2.8	--	--	--	--	--	--	--
Sapling and seedling	14.5	2.6	6.2	--	2.8	--	2.9	--	--	--	--	--	--	--	--
All stands	29.1	2.6	7.0	--	13.8	--	2.9	--	2.8	--	--	--	--	--	--
Nonstocked	56.4	45.6	6.1	4.7	--	--	--	--	--	--	--	--	--	--	--
<b>All forest types</b>															
Sawtimber	4,469.1	19.1	46.4	80.7	119.3	177.5	233.9	247.3	404.8	431.4	438.9	858.1	907.8	354.8	149.1
Poletimber	6,356.0	29.1	77.3	110.4	176.6	275.3	451.0	504.4	733.0	654.2	668.5	1,161.5	1,078.3	303.9	132.5
Sapling and seedling	4,821.0	928.6	617.7	589.3	666.5	489.8	380.6	405.2	248.3	173.1	134.3	113.9	42.9	21.2	9.6
Nonstocked	56.4	45.6	6.1	4.7	--	--	--	--	--	--	--	--	--	--	--
All stands	15,702.5	1,022.4	747.5	785.1	962.4	942.6	1,065.5	1,156.9	1,386.1	1,258.7	1,241.7	2,133.5	2,029.0	679.9	291.2

Table 33.--Net volume of growing stock on timberland by species group and Forest Survey Unit, Wisconsin, 1983 and 1996

(In thousand cubic feet)

Species group	Forest Survey Unit											
	All Units		Northeastern Unit		Northwestern Unit		Central Unit		Southwestern Unit		Southeastern Unit	
	1983	1996	1983	1996	1983	1996	1983	1996	1983	1996	1983	1996
<b>Softwoods</b>												
Jack pine	528,396	381,915	97,688	86,867	228,211	160,028	192,430	124,936	7,584	9,949	2,483	135
Red pine	725,227	987,821	273,170	384,968	173,828	295,719	201,578	218,079	59,642	44,911	17,009	44,144
White pine	625,167	928,649	236,176	337,881	168,875	212,463	185,184	289,153	16,277	64,458	18,655	24,694
White spruce	216,052	237,701	80,051	97,951	129,397	125,916	1,311	9,324	363	2,186	4,930	2,324
Black spruce	138,115	155,986	83,789	84,644	47,531	66,590	4,809	3,442	972	415	1,014	895
Balsam fir	625,407	470,736	263,909	189,389	341,068	268,656	17,568	11,079	186	--	2,676	1,612
Hemlock	299,931	400,900	202,283	253,568	68,635	100,118	26,226	34,973	--	--	2,787	12,241
Tamarack	151,981	265,005	43,931	88,035	67,151	130,703	27,665	35,295	--	--	13,234	10,972
Eastern redcedar	4,717	7,036	--	--	--	379	694	177	2,427	2,561	1,596	3,919
Northern white-cedar	484,777	568,702	253,154	305,656	124,962	192,362	31,499	16,452	--	--	75,162	54,232
Other softwoods	4,618	13,057	838	3,431	354	2,285	2,849	5,718	--	280	577	1,343
<b>Total softwoods</b>	<b>3,804,388</b>	<b>4,417,508</b>	<b>1,534,989</b>	<b>1,832,390</b>	<b>1,350,012</b>	<b>1,555,219</b>	<b>691,813</b>	<b>748,628</b>	<b>87,451</b>	<b>124,760</b>	<b>140,123</b>	<b>156,511</b>
<b>Hardwoods</b>												
Select white oak	758,588	926,757	12,845	17,045	91,216	135,822	186,254	257,746	333,153	368,082	135,120	148,062
Select red oak	1,503,521	1,729,526	222,767	322,915	396,424	556,909	344,090	321,079	450,000	447,587	90,240	81,036
Other red oak	662,270	659,875	43,279	65,719	42,378	54,323	334,627	407,527	188,468	78,677	53,518	53,629
Select hickory	115,196	130,915	--	--	--	--	5,826	13,819	71,704	84,867	37,666	32,229
Other hickory	61,417	88,104	8,361	8,397	8,325	17,645	11,449	15,139	27,064	41,414	6,218	5,509
Basswood	937,740	1,092,419	306,531	362,323	388,005	401,985	79,922	95,902	131,531	155,421	31,751	76,788
Beech	32,073	48,468	16,594	28,560	--	--	1,245	--	--	--	14,234	19,908
Yellow birch	233,388	260,572	101,844	107,205	94,420	121,410	27,991	22,532	1,313	2,434	7,820	6,991
Hard maple	1,614,835	2,155,013	709,562	955,762	587,023	835,629	120,494	127,447	125,914	145,899	71,842	90,276
Soft maple	1,221,228	1,905,873	310,673	471,160	466,039	710,886	288,694	438,853	98,013	157,588	57,809	127,386
Elm	516,779	268,832	146,823	26,190	169,497	31,026	51,247	28,679	100,704	129,055	48,508	53,862
Black ash	428,929	457,099	83,505	91,602	231,683	264,797	61,474	61,765	14,877	16,387	37,390	22,548
White and green ash	345,246	531,927	78,824	119,522	94,611	113,973	43,519	77,313	47,601	65,368	80,691	155,751
Cottonwood	30,668	49,615	4,046	2,731	--	701	2,542	7,711	19,153	33,023	4,927	5,449
Willow	23,024	21,529	2,328	258	165	--	2,655	1,986	7,333	6,607	10,543	12,678
Hackberry	2,605	9,715	--	--	--	--	--	163	1,817	8,607	788	945
Balsam poplar	46,215	49,676	30,232	27,615	11,043	14,988	--	1,277	1,308	2,113	3,632	3,683
Bigtooth aspen	754,270	757,158	179,096	172,891	299,341	251,854	159,067	151,514	96,712	151,027	20,054	29,872
Quaking aspen	2,072,174	1,724,760	662,047	549,455	952,259	871,192	335,648	212,056	77,574	56,554	44,646	35,503
Paper birch	1,090,037	832,320	389,422	338,138	464,572	302,669	115,929	75,728	95,761	78,251	24,353	37,534
River birch	9,643	12,687	--	--	--	--	3,091	2,790	6,552	9,267	--	630
Tupelo	--	311	--	--	--	--	--	--	--	--	--	311
Black cherry	174,435	200,490	46,678	44,266	20,757	12,650	16,970	22,929	47,928	71,398	42,102	49,247
Black walnut	26,029	48,347	--	774	422	1,272	283	879	19,077	34,311	6,247	11,111
Butternut	44,352	28,270	5,967	6,112	4,757	4,164	5,650	5,008	24,772	12,016	3,206	970
Other hardwoods	26,142	65,389	149	--	259	1,345	4,491	12,534	11,315	33,214	9,928	18,296
<b>Total hardwoods</b>	<b>12,730,804</b>	<b>14,055,647</b>	<b>3,361,573</b>	<b>3,718,640</b>	<b>4,323,196</b>	<b>4,705,240</b>	<b>2,203,158</b>	<b>2,362,376</b>	<b>1,999,644</b>	<b>2,189,167</b>	<b>843,233</b>	<b>1,080,224</b>
<b>All species</b>	<b>16,535,192</b>	<b>18,473,155</b>	<b>4,896,562</b>	<b>5,551,030</b>	<b>5,673,208</b>	<b>6,260,459</b>	<b>2,894,971</b>	<b>3,111,004</b>	<b>2,087,095</b>	<b>2,313,927</b>	<b>983,356</b>	<b>1,236,735</b>

Table 34.--Net volume of sawtimber on timberland by species group and Forest Survey Unit, Wisconsin, 1983 and 1996  
(In thousand board feet)<sup>1</sup>

Species group	Forest Survey Unit																	
	All Units			Northeastern Unit			Northwestern Unit			Central Unit			Southwestern Unit			Southeastern Unit		
	1983	1996	1983	1996	1983	1996	1983	1996	1983	1996	1983	1996	1983	1996	1983	1996		
<b>Softwoods</b>																		
Jack pine	1,078,755	945,233	233,762	255,830	399,404	390,208	421,980	283,454	19,911	15,067	3,698	674						
Red pine	1,963,581	3,357,335	919,587	1,511,479	628,060	1,153,249	308,445	538,912	69,558	97,781	55,931	55,914						
White pine	2,790,591	4,399,870	1,113,671	1,665,914	789,166	1,073,707	775,304	1,292,647	56,848	268,375	55,602	99,227						
White spruce	696,565	899,918	252,559	373,155	428,414	490,898	3,318	16,688	--	9,472	12,274	9,705						
Black spruce	118,354	185,159	76,642	79,924	38,128	102,852	3,584	--	--	2,383	--	--						
Balsam fir	1,154,321	787,496	455,739	283,642	675,324	486,138	20,910	16,451	--	--	2,348	1,265						
Hemlock	1,393,897	1,895,573	965,592	1,215,107	318,291	485,534	104,033	141,051	--	--	5,981	53,881						
Tamarack	214,766	489,419	49,030	144,420	97,546	257,504	36,493	58,192	--	--	31,697	29,303						
Eastern redcedar	5,392	14,564	5,392	--	--	2,006	1,587	--	2,438	2,870	1,367	9,688						
Northern white-cedar	1,160,326	1,608,145	531,817	699,183	399,865	706,991	44,841	34,725	--	--	183,803	167,246						
Other softwoods	7,642	29,792	--	4,284	1,274	11,207	6,368	11,152	--	1,378	--	--						
<b>Total softwoods</b>	<b>10,584,190</b>	<b>14,612,504</b>	<b>4,598,399</b>	<b>6,232,938</b>	<b>3,775,472</b>	<b>5,160,294</b>	<b>1,726,863</b>	<b>2,393,272</b>	<b>148,755</b>	<b>397,326</b>	<b>334,701</b>	<b>428,674</b>						
<b>Hardwoods</b>																		
Select white oak	2,405,792	2,997,736	30,825	46,943	211,657	345,489	475,527	729,686	1,112,312	1,259,584	575,471	616,034						
Select red oak	4,737,096	5,995,099	593,480	1,136,298	836,933	1,687,779	1,101,639	1,094,016	1,820,413	1,744,142	384,631	332,854						
Other red oak	1,867,068	1,930,853	105,526	155,918	104,713	139,779	772,849	1,165,547	689,939	268,126	194,041	201,483						
Select hickory	249,139	296,022	--	--	--	--	12,938	19,517	143,053	186,317	93,148	90,188						
Other hickory	69,598	114,327	12,713	19,440	7,765	16,946	16,914	19,116	22,478	52,076	9,728	6,749						
Basswood	2,117,803	3,021,734	601,062	935,849	797,422	1,093,064	218,606	269,117	395,271	492,606	105,442	231,098						
Beech	125,225	175,170	66,258	100,231	--	--	4,886	--	--	--	54,981	74,939						
Yellow birch	595,753	706,765	295,660	313,373	230,209	346,795	56,156	33,250	3,947	3,109	9,781	10,238						
Hard maple	3,540,391	5,051,600	1,580,163	2,271,634	930,273	1,622,231	350,601	353,925	437,508	501,755	241,846	302,055						
Soft maple	1,798,117	3,369,995	342,292	642,098	463,338	972,340	525,373	847,540	282,327	481,558	184,787	426,459						
Elm	1,321,979	440,171	386,779	43,463	458,855	66,677	117,594	33,186	238,030	202,606	120,721	94,239						
Black ash	544,894	606,552	106,101	114,372	267,723	311,810	88,522	98,837	36,047	47,020	46,501	34,513						
White and green ash	784,299	1,330,690	170,529	280,507	185,021	280,008	93,099	150,618	123,643	197,339	212,007	422,218						
Cottonwood	126,674	207,272	13,658	11,053	--	--	11,934	32,137	82,556	144,058	18,526	20,024						
Willow	78,355	83,020	8,600	1,061	656	--	9,633	7,945	19,195	27,437	40,271	46,577						
Hackberry	6,453	20,823	--	--	--	--	--	--	2,911	19,820	3,542	1,003						
Balsam poplar	116,363	133,678	76,707	81,338	20,497	36,880	--	4,681	6,091	5,013	13,068	5,766						
Bigtooth aspen	1,488,460	2,038,004	311,849	475,887	563,251	649,862	277,758	394,455	277,499	469,738	58,103	48,062						
Quaking aspen	2,925,937	3,292,105	981,900	1,059,209	1,406,677	1,776,227	330,439	296,443	142,963	102,560	63,958	57,666						
Paper birch	850,707	883,152	327,547	375,218	321,234	305,036	51,239	55,995	121,328	95,877	28,359	51,026						
River birch	21,730	20,317	--	--	--	--	6,085	4,573	15,645	13,430	--	--						
Black cherry	255,977	345,189	58,033	68,360	12,217	12,830	11,017	27,071	63,014	125,623	111,696	111,305						
Black walnut	82,257	164,479	--	923	--	5,915	1,324	3,011	58,805	114,668	22,128	39,962						
Butternut	127,447	89,717	20,134	13,003	15,060	12,862	20,659	19,880	65,415	42,437	6,179	1,535						
Other hardwoods	39,895	93,433	656	--	--	--	5,127	13,611	23,827	64,100	10,285	15,722						
<b>Total hardwoods</b>	<b>26,277,409</b>	<b>33,407,903</b>	<b>6,090,472</b>	<b>8,146,178</b>	<b>6,833,501</b>	<b>9,682,540</b>	<b>4,559,919</b>	<b>5,674,157</b>	<b>6,184,217</b>	<b>6,660,999</b>	<b>2,609,300</b>	<b>3,244,029</b>						
<b>All species</b>	<b>36,861,599</b>	<b>48,020,407</b>	<b>26,277,409</b>	<b>14,379,116</b>	<b>10,608,973</b>	<b>14,842,834</b>	<b>6,286,782</b>	<b>8,067,429</b>	<b>6,332,972</b>	<b>7,058,325</b>	<b>2,944,001</b>	<b>3,672,703</b>						

<sup>1</sup>International 1/4-inch rule.

Table 35.--Net volume of all live trees' greater than 5 inches in diameter at breast height on timberland by species group and diameter class, Wisconsin, 1996

Species group	All classes	Diameter class (inches at breast height)										29.0+
		5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-28.9		
<b>Softwoods</b>												
Jack pine	399,654	83,038	115,789	100,835	62,763	23,644	9,712	3,158	715	...	...	...
Red pine	995,779	142,280	217,425	184,406	142,324	100,253	68,932	58,089	42,735	39,335	...	...
White pine	962,067	39,210	70,819	73,021	82,896	88,276	86,588	88,926	93,223	249,421	89,687	...
White spruce	243,659	29,497	43,241	44,779	41,889	29,265	25,218	15,569	8,017	6,184	...	...
Black spruce	157,608	76,491	46,240	21,119	6,009	2,206	2,173	1,154	1,525	691	...	...
Balsam fir	481,473	164,254	150,473	87,787	45,849	22,032	6,883	3,021	214	960	...	...
Hemlock	424,585	14,221	28,771	47,371	56,904	53,748	52,936	51,205	39,868	69,871	9,690	...
Tamarack	275,513	87,773	84,297	55,935	28,437	9,660	3,826	3,911	525	1,149	...	...
Eastern redcedar	10,549	3,858	2,139	1,984	1,788	133	265	382	...	...	...	...
Northern white-cedar	649,820	127,695	156,573	134,207	114,945	60,816	31,719	15,348	4,001	4,241	275	...
Other softwoods	15,177	4,032	3,889	2,540	2,355	879	469	564	449	...	...	...
<b>Total softwoods</b>	<b>4,615,884</b>	<b>772,349</b>	<b>919,656</b>	<b>753,984</b>	<b>586,159</b>	<b>390,912</b>	<b>288,721</b>	<b>241,327</b>	<b>191,272</b>	<b>371,852</b>	<b>99,652</b>	<b>...</b>
<b>Hardwoods</b>												
Select white oak	1,158,096	51,573	108,377	147,327	162,654	163,904	143,591	95,894	81,023	174,824	28,929	...
Select red oak	1,888,981	61,406	149,500	227,405	299,223	315,167	254,112	181,228	110,545	237,243	53,152	...
Other red oak	852,945	54,412	103,086	136,992	154,768	120,544	93,647	62,777	48,140	71,386	7,193	...
Select hickory	144,661	15,418	23,352	26,191	26,720	18,732	14,466	8,942	4,841	5,959	...	...
Other hickory	99,638	18,426	25,721	19,756	16,190	12,532	4,425	1,595	993	...	...	...
Basswood	1,161,860	79,922	147,213	217,151	236,191	193,112	119,861	61,001	40,304	54,635	12,470	...
Beech	54,679	3,607	4,832	6,627	5,546	8,136	9,501	5,174	2,439	7,197	1,620	...
Yellow birch	328,471	33,472	49,049	57,895	54,467	45,308	32,421	18,953	12,462	23,605	839	...
Hard maple	2,431,551	287,654	419,038	445,354	335,314	281,841	209,954	152,117	119,486	166,933	13,860	...
Soft maple	2,206,310	375,654	467,224	445,306	336,042	215,473	130,201	89,419	42,011	85,769	19,211	...
Elm	336,458	61,687	77,755	58,932	51,021	35,035	18,698	15,251	7,579	8,920	1,580	...
Black ash	493,440	108,074	132,512	106,102	67,299	41,974	18,763	11,185	2,524	5,007	...	...
White and green ash	580,770	60,670	91,568	104,172	101,468	85,971	57,869	30,199	21,400	23,162	4,291	...
Cottonwood	56,315	587	1,352	2,923	4,461	3,993	4,057	8,457	5,698	14,320	10,467	...
Willow	48,823	512	1,509	2,781	4,362	5,172	2,695	2,942	1,661	4,552	22,637	...
Hackberry	11,650	553	2,755	3,007	1,119	1,808	548	798	1,132	1,132	...	...
Balsam poplar	52,195	6,010	6,791	8,699	7,976	9,689	6,734	2,768	1,020	2,508	...	...
Bigtooth aspen	810,624	61,428	103,573	160,802	176,389	155,057	83,831	42,214	11,266	16,064	...	...
Quaking aspen	1,916,478	264,249	364,268	423,038	366,798	256,141	149,093	58,045	21,199	12,931	716	...
Paper birch	909,847	164,523	288,574	240,646	136,552	63,239	24,035	8,009	2,084	2,185	...	...
River birch	15,059	1,289	3,351	3,825	3,132	1,524	1,356	...	242	340	...	...
Tupelo	311	...	...	311	...	...	...	...	...	...	...	...
Black cherry	270,739	49,492	62,936	58,409	41,839	26,236	16,698	7,744	3,856	3,529	...	...
Black walnut	62,940	3,209	6,273	8,085	9,027	12,810	9,631	5,606	3,087	3,703	1,509	...
Butternut	41,724	2,222	5,041	7,380	6,896	6,110	4,975	4,072	1,533	3,495	...	...
Other hardwoods	124,245	24,576	29,422	21,359	19,315	14,176	7,050	2,813	2,369	2,820	345	...
<b>Total hardwoods</b>	<b>16,058,810</b>	<b>1,790,625</b>	<b>2,655,072</b>	<b>2,940,475</b>	<b>2,624,769</b>	<b>2,093,684</b>	<b>1,418,212</b>	<b>877,133</b>	<b>547,762</b>	<b>932,259</b>	<b>178,819</b>	<b>...</b>
Noncommercial species	58,219	34,734	14,219	4,662	2,646	780	519	267	392	...	...	...
<b>All species</b>	<b>20,732,913</b>	<b>2,597,708</b>	<b>3,588,947</b>	<b>3,699,121</b>	<b>3,213,574</b>	<b>2,485,376</b>	<b>1,707,452</b>	<b>1,118,727</b>	<b>739,034</b>	<b>1,304,503</b>	<b>278,471</b>	<b>...</b>

<sup>1</sup>Net volume of all live trees 5 inches d.b.h. and larger from a 1-foot stump to a 4-inch top diameter outside bark.

Table 36.--Net volume of tree species on timberland by major tree class and individual species, Wisconsin, 1996

Individual species	Major tree class							
	Total all live	All live trees				Saw-log size trees		
		Growing stock	Short-log	Rough	Rotten	Total saw-log size trees	Sawtimber	Short-log
<i>(In thousand cubic feet)</i>				<i>(In thousand board feet) <sup>1</sup></i>				
<b>Softwoods</b>								
Jack pine	399,654	381,915	1,508	15,652	579	950,073	945,233	4,840
Red pine	995,779	987,821	1,005	6,844	109	3,361,018	3,357,335	3,683
White pine	962,067	928,649	11,075	20,201	2,142	4,437,767	4,399,870	37,897
White spruce	243,659	237,701	1,538	4,420	--	907,531	899,918	7,613
Black spruce	157,608	155,986	--	1,622	--	185,159	185,159	--
Balsam fir	481,473	470,736	1,210	8,505	1,022	790,970	787,496	3,474
Hemlock	424,585	400,900	6,486	12,453	4,746	1,914,104	1,895,573	18,531
Tamarack	275,513	265,005	1,323	7,556	1,629	494,921	489,419	5,502
Eastern redcedar	10,549	7,036	503	2,877	133	16,871	14,564	2,307
Northern white-cedar	649,820	568,702	12,923	39,472	28,723	1,654,039	1,608,145	45,894
European larch	453	453	--	--	--	--	--	--
Norway spruce	5,792	5,516	--	276	--	12,341	12,341	--
Scotch pine	8,932	7,088	284	1,560	--	18,658	17,451	1,207
<b>Total softwoods</b>	<b>4,615,884</b>	<b>4,417,508</b>	<b>37,855</b>	<b>121,438</b>	<b>39,083</b>	<b>14,743,452</b>	<b>14,612,504</b>	<b>130,948</b>
<b>Hardwoods</b>								
White oak	779,577	645,016	60,051	67,207	7,303	2,197,015	2,048,722	148,293
Swamp white oak	39,706	35,775	973	2,777	181	124,828	122,512	2,316
Bur oak	337,840	245,324	32,704	57,201	2,611	905,468	824,395	81,073
Chinkapin oak	973	642	331	--	--	2,872	2,107	765
Northern red oak	1,888,981	1,729,526	62,936	77,815	18,704	6,130,596	5,995,099	135,497
Northern pin oak	308,489	239,046	16,522	47,591	5,330	660,268	625,373	34,895
Pin oak	1,157	1,157	--	--	--	2,097	2,097	--
Black oak	543,299	419,672	43,536	71,276	8,815	1,399,647	1,303,383	96,264
Shellbark hickory	432	232	--	200	--	--	--	--
Shagbark hickory	143,512	129,966	4,215	8,459	872	302,026	293,143	8,883
Mockernut hickory	717	717	--	--	--	2,879	2,879	--
Bitternut hickory	98,326	86,952	2,221	8,349	804	115,428	110,742	4,686
Pignut hickory	1,312	1,152	160	--	--	3,874	3,585	289
American basswood	1,161,860	1,092,419	19,005	33,830	16,606	3,062,017	3,021,734	40,283
Beech	54,679	48,468	849	3,288	2,074	177,326	175,170	2,156
Yellow birch	328,471	260,572	18,012	36,791	13,096	748,830	706,765	42,065
Sugar maple	2,431,551	2,155,013	59,690	178,232	38,616	5,185,823	5,051,600	134,223
Red maple	2,051,558	1,778,738	46,195	189,010	37,615	3,015,681	2,901,705	113,976
Silver maple	154,752	127,135	12,487	11,775	3,355	500,978	468,290	32,688
American elm	269,790	212,957	15,617	40,153	1,063	374,843	337,080	37,763
Slippery elm	64,313	54,242	2,626	6,880	565	107,523	101,216	6,307
Rock elm	2,355	1,633	--	722	--	1,875	1,875	--
Black ash	493,440	457,099	5,281	27,005	4,055	618,293	606,552	11,741
White ash	312,321	289,991	5,187	14,948	2,195	782,379	770,909	11,470
Green ash	268,449	241,936	6,560	17,698	2,255	573,222	559,781	13,441
Eastern cottonwood	56,315	49,615	4,724	1,976	--	224,258	207,272	16,986
Black willow	48,823	21,529	15,910	10,440	944	149,973	83,020	66,953
Hackberry	11,650	9,715	--	1,935	--	20,823	20,823	--
Balsam poplar	52,195	49,676	233	1,416	870	134,245	133,678	567
Bigtooth aspen	810,624	757,158	4,682	29,504	19,280	2,045,583	2,038,004	7,579
Quaking aspen	1,916,478	1,724,760	31,256	93,495	66,967	3,355,571	3,292,105	63,466
Paper birch	909,847	832,320	12,541	59,202	5,784	911,603	883,152	28,451
River birch	15,059	12,687	408	1,794	170	21,743	20,317	1,426
Black tupelo	311	311	--	--	--	--	--	--
Black cherry	270,739	200,490	8,028	57,225	4,996	362,745	345,189	17,556
Black walnut	62,940	48,347	6,190	6,999	1,404	179,153	164,479	14,674
Butternut	41,724	28,270	689	7,481	5,284	91,331	89,717	1,614
Boxelder	95,974	45,556	5,843	40,816	3,759	78,134	61,512	16,622
Honeylocust	621	430	--	191	--	1,217	1,217	--
Red mulberry	4,037	750	--	2,494	793	--	--	--
Black locust	23,613	18,653	376	2,964	1,620	31,719	30,704	1,015
Noncommercial species	58,219	--	--	57,143	1,076	--	--	--
<b>Total hardwoods</b>	<b>16,117,029</b>	<b>14,055,647</b>	<b>506,038</b>	<b>1,276,282</b>	<b>279,062</b>	<b>34,603,886</b>	<b>33,407,903</b>	<b>1,195,983</b>
<b>All commercial species</b>	<b>20,732,913</b>	<b>18,473,155</b>	<b>543,893</b>	<b>1,397,720</b>	<b>318,145</b>	<b>49,347,338</b>	<b>48,020,407</b>	<b>1,326,931</b>

<sup>1</sup> International 1/4-inch rule.

Table 37.--Net volume of noncommercial tree species  
on timberland by individual species, Wisconsin, 1996

(In thousand cubic feet)

Noncommercial tree species	Non-growing-stock volume
Striped maple	211
Mountain maple	343
American hornbeam	205
Hawthorn	3,811
Apple	7,489
Eastern hophornbeam	42,595
Pincherry	1,374
Chokecherry	1,855
Wild plum	336
All noncommercial species	58,219

Table 38.--Net volume of growing stock on timberland by species group and forest type, Wisconsin, 1996

(In thousand cubic feet)

Species group	All types	Forest type												Paper birch	Balsam poplar	Nonstocked		
		Jack pine	Red pine	White pine	Balsam fir	White spruce	Black spruce	Northern white-cedar	Tamarack	Oak-hickory	Elm-ash-soft maple	Maple-basswood	Aspen					
<b>Softwoods</b>																		
Jack pine	381,915	218,414	32,917	9,706	--	491	197	--	62,962	1,471	12,414	36,013	7,330	--	--	--	--	
Red pine	987,821	33,897	719,106	43,590	538	703	284	909	46,553	1,230	37,027	68,193	28,968	--	--	--	--	
White pine	928,649	12,947	66,134	273,526	1,400	4,485	12,135	17,917	74,673	32,609	301,713	92,447	25,761	--	--	--	717	
White spruce	237,701	1,211	7,535	3,087	71,904	287	10,578	1,480	546	8,142	51,993	50,186	7,240	285	--	--	114	
Black spruce	155,986	1,455	628	611	13,767	1,717	21,663	21,788	166	5,416	6,351	13,813	839	--	--	--	381	
Balsam fir	470,736	2,606	5,294	4,055	97,261	5,019	29,209	1,769	720	49,497	124,897	107,569	34,678	2,961	--	--	592	
Hemlock	400,900	417	--	3,228	4,747	335	9,346	219	1,353	11,123	362,028	2,752	5,165	--	--	--	--	
Tamarack	265,005	--	--	778	12,335	1,182	33,239	152,516	2,456	23,282	9,573	6,574	4,405	1,140	--	--	900	
Eastern redcedar	7,036	--	--	--	--	--	--	--	4,753	--	1,773	361	149	--	--	--	--	
Northern white-cedar	568,702	--	1,350	1,032	31,023	890	347,305	3,869	180	76,062	77,929	12,194	12,265	210	--	--	--	
Other softwoods	13,057	3,452	2,674	528	--	--	--	--	680	432	1,641	1,287	2,363	--	--	--	--	
<b>Total softwoods</b>	<b>4,417,508</b>	<b>274,399</b>	<b>835,638</b>	<b>340,141</b>	<b>201,254</b>	<b>82,985</b>	<b>447,342</b>	<b>200,467</b>	<b>195,042</b>	<b>209,264</b>	<b>987,339</b>	<b>391,389</b>	<b>129,163</b>	<b>4,596</b>	<b>2,704</b>	<b>2,704</b>	<b>2,704</b>	
<b>Hardwoods</b>																		
Select white oak	926,757	293	--	1,966	--	--	--	--	659,894	23,999	191,843	38,328	10,434	--	--	--	--	
Select red oak	1,729,526	3,043	6,302	3,510	3,187	--	1,768	--	1,027,534	17,595	513,810	105,460	47,317	--	--	--	--	
Other red oak	659,875	9,555	7,832	6,055	--	275	685	223	540,890	8,056	58,020	26,209	2,075	--	--	--	--	
Select hickory	130,915	--	--	416	--	--	--	--	105,087	517	20,846	2,388	1,661	--	--	--	--	
Other hickory	88,104	--	--	--	--	--	--	--	36,523	1,807	48,435	668	671	--	--	--	--	
Basswood	1,092,419	100	578	804	400	--	--	--	81,526	23,243	959,785	24,082	1,901	--	--	--	--	
Beech	48,468	--	--	--	--	--	--	--	1,269	--	47,050	149	--	--	--	--	--	
Yellow birch	260,572	--	--	1,945	--	645	7,461	930	188	26,688	219,302	3,248	165	--	--	--	--	
Hard maple	2,155,013	133	2,773	861	1,622	--	--	--	59,776	16,178	2,016,493	40,837	11,688	--	--	--	--	
Soft maple	1,905,873	710	5,483	9,235	7,014	1,267	8,341	4,144	166,454	354,215	1,129,669	157,246	61,364	--	--	--	--	
Elm	268,832	--	469	785	384	--	913	526	58,847	43,007	143,959	17,669	1,533	--	--	230	--	
Black ash	457,099	--	--	7,075	--	--	10,947	529	8,545	258,792	149,105	14,696	6,734	175	--	--	501	
White and green ash	531,927	--	214	790	240	--	1,367	--	43,098	122,415	345,321	14,891	3,591	--	--	--	--	
Cottonwood	49,615	261	--	198	--	--	--	--	6,481	27,864	10,265	1,394	3,152	--	--	--	--	
Willow	21,529	--	--	--	--	--	--	--	190	18,581	2,458	--	--	--	--	--	300	
Hackberry	9,715	--	--	--	--	--	--	--	2,952	2,062	4,701	--	--	--	--	--	--	
Balsam poplar	49,676	--	--	354	1,055	--	4,890	695	1,218	11,841	8,322	8,205	2,939	10,157	--	--	--	
Bigtooth aspen	757,158	1,593	3,005	2,238	2,511	1,678	450	272	199,777	6,690	173,503	339,231	26,210	--	--	--	--	
Quaking aspen	1,724,760	16,669	14,807	11,596	30,884	6,134	7,713	1,102	86,353	82,712	400,623	1,001,776	58,582	1,349	--	--	358	
Paper birch	832,320	1,567	4,650	7,461	11,821	4,954	14,345	858	87,162	35,784	257,976	134,222	270,627	--	--	--	--	
River birch	12,687	--	--	--	--	--	--	--	3,328	8,818	541	--	--	--	--	--	--	
Tupelo	311	--	--	--	--	--	--	--	--	--	--	311	--	--	--	--	--	
Black cherry	200,490	148	1,482	843	430	417	525	--	73,929	11,725	96,174	12,781	1,892	--	--	--	--	
Black walnut	48,347	--	--	--	--	--	--	--	34,785	3,177	9,632	342	411	--	--	--	--	
Butternut	28,270	--	--	--	--	--	--	--	11,810	766	14,067	1,085	542	--	--	--	--	
Other hardwoods	65,389	--	278	336	--	--	--	--	15,078	35,734	13,086	877	--	--	--	--	--	
<b>Total hardwoods</b>	<b>14,055,647</b>	<b>34,072</b>	<b>47,873</b>	<b>47,448</b>	<b>68,137</b>	<b>19,507</b>	<b>59,405</b>	<b>9,279</b>	<b>3,312,694</b>	<b>1,142,266</b>	<b>6,834,986</b>	<b>1,946,095</b>	<b>513,489</b>	<b>11,681</b>	<b>1,389</b>	<b>1,389</b>	<b>1,389</b>	
<b>All species</b>	<b>18,473,155</b>	<b>308,471</b>	<b>883,511</b>	<b>387,589</b>	<b>269,391</b>	<b>102,492</b>	<b>506,747</b>	<b>209,746</b>	<b>3,507,736</b>	<b>1,351,530</b>	<b>7,822,325</b>	<b>2,337,484</b>	<b>642,652</b>	<b>16,277</b>	<b>4,093</b>	<b>4,093</b>	<b>4,093</b>	

Table 39.--Net volume of sawtimber on timberland by species group and forest type, Wisconsin, 1996

(In thousand board feet)<sup>1</sup>

Species group	Forest type												Maple-basswood	Aspen	Paper birch	Balsam poplar	Nonstocked
	All types	Jack pine	Red pine	White pine	Balsam fir	White spruce	Black spruce	Northern white-cedar	Tamarack	Oak-hickory	Elm-ash-soft maple	Maple-basswood					
<b>Softwoods</b>	945,233	471,050	68,503	36,955	--	--	2,434	--	--	172,173	2,786	43,938	116,815	30,579	--	--	--
Jack pine	139,897	139,897	2,096,099	216,707	31,636	2,807	3,073	783	5,229	201,947	5,787	187,350	327,332	138,688	--	--	--
Red pine	4,399,870	60,195	256,262	1,283,377	55,635	6,581	18,759	60,835	88,350	319,973	163,362	1,523,490	430,635	128,119	--	--	4,297
White pine	899,918	5,828	27,772	13,662	85,129	216,619	766	46,563	--	1,814	30,405	227,701	212,851	30,808	--	--	--
Black spruce	185,159	2,829	--	2,285	37,085	--	18,902	48,986	13,112	--	6,455	24,757	29,805	943	--	--	--
Balsam fir	787,496	3,074	7,922	7,882	135,087	19,930	7,206	22,193	--	2,966	64,991	253,585	202,755	47,959	--	--	2,931
Hemlock	1,895,573	2,510	--	11,949	23,549	1,974	943	36,356	1,125	7,125	45,299	1,728,491	13,259	22,993	--	--	--
Tamarack	489,419	--	--	1,035	36,078	3,689	27,903	32,556	241,877	3,416	74,065	30,910	9,594	17,307	--	--	4,899
Eastern redcedar	14,564	--	--	--	88,748	3,518	10,846	939,799	11,158	--	--	5,202	--	--	--	--	--
Northern white-cedar	1,608,145	--	3,803	4,600	--	--	--	--	--	--	228,087	252,398	41,093	23,015	--	--	1,080
Other softwoods	29,792	2,991	4,350	2,067	--	--	--	--	--	3,545	1,378	6,130	6,610	2,721	--	--	--
<b>Total softwoods</b>	<b>14,612,504</b>	<b>688,374</b>	<b>2,464,711</b>	<b>1,580,519</b>	<b>492,947</b>	<b>255,118</b>	<b>90,832</b>	<b>1,188,071</b>	<b>360,851</b>	<b>722,321</b>	<b>622,615</b>	<b>4,283,952</b>	<b>1,390,749</b>	<b>443,132</b>	<b>16,185</b>	<b>12,127</b>	<b>--</b>
<b>Hardwoods</b>	2,997,736	--	--	5,143	--	--	--	--	--	2,070,835	90,057	693,337	96,927	41,437	--	--	--
Select white oak	5,995,099	2,175	18,880	8,420	--	9,607	--	9,458	--	3,458,233	72,566	1,932,564	293,275	189,921	--	--	--
Other red oak	1,930,853	28,806	14,289	24,423	--	--	1,015	3,443	1,016	1,541,248	26,528	205,084	82,056	3,960	--	--	--
Select hickory	296,022	--	--	--	--	--	--	--	--	223,179	1,195	58,850	7,315	5,483	--	--	--
Other hickory	114,327	--	--	--	--	--	--	--	--	41,165	3,742	67,457	--	1,963	--	--	--
Basswood	3,021,734	--	668	--	--	623	--	--	--	231,201	53,713	2,678,416	50,098	7,015	--	--	--
Beech	175,170	--	--	--	--	--	--	--	--	2,189	--	172,981	--	--	--	--	--
Yellow birch	706,765	--	--	--	5,955	--	2,092	25,000	2,527	61,130	--	603,842	6,219	--	--	--	--
Hard maple	5,051,600	--	5,272	--	12,017	6,812	--	--	--	136,136	37,399	4,800,291	41,505	12,168	--	--	--
Soft maple	3,369,995	--	6,584	13,502	9,423	618	1,015	10,891	2,284	267,908	897,998	1,986,417	102,127	71,846	--	--	--
Elm	440,171	--	733	592	--	--	--	688	892	112,882	39,943	249,865	31,135	2,823	--	--	--
Black ash	606,552	--	--	--	8,702	--	--	3,005	--	11,437	331,899	235,119	7,723	7,700	--	--	967
White and green ash	1,330,690	--	949	1,803	994	--	--	5,005	--	118,869	307,025	871,297	21,671	3,077	--	--	--
Cottonwood	207,272	1,185	--	--	--	--	--	--	--	25,964	113,008	48,142	4,350	14,623	--	--	--
Willow	83,020	--	--	--	--	--	--	--	--	--	73,372	8,530	--	--	--	--	1,118
Hackberry	20,823	--	--	--	--	--	--	--	--	6,879	2,171	11,773	--	--	--	--	--
Balsam poplar	133,678	--	--	1,572	2,514	--	--	13,604	1,449	3,673	42,575	24,610	8,444	6,123	--	--	29,114
Bigtooth aspen	2,038,004	750	828	6,024	4,736	4,730	--	1,090	1,313	588,655	13,045	533,011	790,906	92,916	--	--	--
Quaking aspen	3,292,105	25,869	16,743	25,336	65,665	9,226	2,740	14,461	3,013	153,940	162,870	1,009,804	1,631,192	165,361	--	--	1,627
Paper birch	883,152	4,879	9,107	13,122	8,620	9,787	--	17,518	1,059	93,382	27,659	351,259	112,316	234,444	--	--	--
River birch	20,317	--	--	--	--	--	--	--	--	7,389	12,998	--	--	--	--	--	--
Black cherry	345,189	--	--	1,955	--	579	--	--	--	163,240	20,472	146,736	12,207	--	--	--	--
Black walnut	164,479	--	--	--	--	--	--	--	--	120,496	7,168	33,258	1,598	1,959	--	--	--
Butternut	89,717	--	--	--	--	--	--	--	--	33,288	1,938	49,336	3,919	1,236	--	--	--
Other hardwoods	93,433	--	--	1,028	--	--	--	--	--	12,792	55,435	24,178	--	--	--	--	--
<b>Total hardwoods</b>	<b>33,407,903</b>	<b>63,664</b>	<b>74,053</b>	<b>102,920</b>	<b>118,626</b>	<b>41,982</b>	<b>5,847</b>	<b>104,163</b>	<b>13,553</b>	<b>9,424,980</b>	<b>2,455,836</b>	<b>16,796,157</b>	<b>3,304,983</b>	<b>864,055</b>	<b>33,372</b>	<b>3,712</b>	<b>--</b>
<b>All species</b>	<b>48,020,407</b>	<b>752,038</b>	<b>2,538,764</b>	<b>1,683,439</b>	<b>611,573</b>	<b>297,100</b>	<b>96,679</b>	<b>1,292,234</b>	<b>374,404</b>	<b>10,147,301</b>	<b>3,078,451</b>	<b>21,080,109</b>	<b>4,695,732</b>	<b>1,307,187</b>	<b>49,557</b>	<b>15,839</b>	<b>--</b>

<sup>1</sup>International 1/4-inch rule.



Table 40.--Net volume of short-log trees (cull volume) in cubic feet on timberland by species group and diameter class, Wisconsin, 1996

(In thousand cubic feet)

Species group	Total	Diameter class (inches at breast height)								
		9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-28.9	29.0+	
<b>Softwoods</b>										
Jack pine	1,508	1,004	504	--	--	--	--	--	--	--
Red pine	1,005	251	512	242	--	--	--	--	--	--
White pine	11,075	2,010	653	2,996	1,813	--	--	1,033	--	2,570
White spruce	1,538	479	--	432	--	627	--	--	--	--
Balsam fir	1,210	704	--	506	--	--	--	--	--	--
Hemlock	6,486	648	1,904	780	1,133	152	750	1,119	--	--
Tamarack	1,323	305	701	149	--	168	--	--	--	--
Eastern redcedar	503	503	--	--	--	--	--	--	--	--
Northern white-cedar	12,923	4,230	2,500	1,979	1,742	1,287	184	1,001	--	--
Other softwoods	284	284	--	--	--	--	--	--	--	--
<b>Total softwoods</b>	<b>37,855</b>	<b>10,418</b>	<b>6,774</b>	<b>7,084</b>	<b>4,688</b>	<b>2,234</b>	<b>934</b>	<b>3,153</b>	<b>2,570</b>	<b>2,570</b>
<b>Hardwoods</b>										
Select white oak	94,059	--	11,328	13,412	12,803	9,547	8,605	27,295	--	11,069
Select red oak	62,936	--	8,956	10,839	7,694	6,138	5,144	13,113	--	11,052
Other red oak	60,058	--	17,352	9,802	7,262	5,817	4,290	12,250	--	3,285
Select hickory	4,215	--	2,414	538	777	122	364	--	--	--
Other hickory	2,381	--	989	1,161	231	--	--	--	--	--
Basswood	19,005	--	3,821	2,951	2,362	1,668	1,250	2,478	--	4,475
Beech	849	--	--	--	530	--	--	319	--	--
Yellow birch	18,012	--	5,118	5,060	2,815	1,944	1,005	2,070	--	--
Hard maple	59,690	--	10,470	14,775	10,827	6,991	4,495	7,692	--	4,440
Soft maple	58,682	--	14,433	13,711	8,378	5,438	2,731	10,259	--	3,732
Elm	18,243	--	7,945	4,615	2,052	465	1,018	860	--	1,288
Black ash	5,281	--	2,267	1,548	537	929	--	--	--	--
White & green ash	11,747	--	3,026	3,162	1,041	832	983	2,703	--	--
Cottonwood	4,724	--	--	208	--	1,062	--	--	--	3,454
Willow	15,910	--	532	--	--	291	--	572	--	14,515
Balsam poplar	233	--	--	--	233	--	--	--	--	--
Bigtooth aspen	4,682	--	481	1,799	1,697	332	--	373	--	--
Quaking aspen	31,256	--	11,073	9,071	5,509	3,387	1,363	907	--	--
Paper birch	12,541	--	6,217	3,871	2,252	201	--	--	--	--
River birch	408	--	166	--	--	--	242	--	--	--
Black cherry	8,028	--	3,161	2,155	1,417	--	--	1,295	--	--
Black walnut	6,190	--	536	1,354	1,192	1,810	51	505	--	742
Butternut	689	--	--	328	--	361	--	--	--	--
Other hardwoods	6,219	--	1,803	2,601	1,396	205	214	--	--	--
<b>Total hardwoods</b>	<b>506,038</b>	<b>--</b>	<b>112,088</b>	<b>102,961</b>	<b>71,005</b>	<b>47,540</b>	<b>31,755</b>	<b>82,691</b>	<b>58,052</b>	<b>58,052</b>
<b>All species</b>	<b>543,893</b>	<b>10,418</b>	<b>118,862</b>	<b>110,045</b>	<b>75,693</b>	<b>49,774</b>	<b>32,689</b>	<b>85,844</b>	<b>60,622</b>	<b>60,622</b>

Table 41.--Net volume of short-log trees (cull volume) in board feet<sup>1</sup> on timberland by species group and diameter class, Wisconsin, 1996

(In thousand board feet)<sup>1</sup>

Species group	Total	Diameter class (inches at breast height)										
		9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-28.9	29.0+			
<b>Softwoods</b>												
Jack pine	4,840	3,191	1,649	--	--	--	--	--	--	--	--	--
Red pine	3,683	916	1,862	905	--	--	--	--	--	--	--	--
White pine	37,897	6,088	2,042	9,708	6,061	--	--	3,798	--	--	--	10,200
White spruce	7,613	2,212	--	2,140	--	3,261	--	--	--	--	--	--
Balsam fir	3,474	1,967	--	1,507	--	--	--	--	--	--	--	--
Hemlock	18,531	1,737	5,064	2,165	3,268	454	2,285	3,558	--	--	--	--
Tamarack	5,502	1,236	2,881	636	--	749	--	--	--	--	--	--
Eastern redcedar	2,307	2,307	--	--	--	--	--	--	--	--	--	--
Northern white-cedar	45,894	14,518	8,644	7,021	6,345	4,781	696	3,889	--	--	--	--
Other softwoods	1,207	1,207	--	--	--	--	--	--	--	--	--	--
<b>Total softwoods</b>	<b>130,948</b>	<b>35,379</b>	<b>22,142</b>	<b>24,082</b>	<b>15,674</b>	<b>9,245</b>	<b>2,981</b>	<b>11,245</b>	<b>11,245</b>	<b>2,981</b>	<b>11,245</b>	<b>10,200</b>
<b>Hardwoods</b>												
Select white oak	232,447	--	23,923	30,266	30,293	23,264	21,631	72,204	30,866	--	--	--
Select red oak	135,497	--	16,629	21,451	15,881	13,142	11,354	30,007	27,033	--	--	--
Other red oak	131,159	--	33,694	20,572	15,851	13,071	9,946	29,690	8,335	--	--	--
Select hickory	8,883	--	4,687	1,179	1,787	299	931	--	--	--	--	--
Other hickory	4,975	--	1,903	2,542	530	--	--	--	--	--	--	--
Basswood	40,283	--	7,031	5,831	4,814	3,511	2,708	5,553	10,835	--	--	--
Beech	2,156	--	--	1,283	--	--	--	873	--	--	--	--
Yellow birch	42,065	--	10,975	11,648	6,769	4,804	2,521	5,348	--	--	--	--
Hard maple	134,223	--	20,848	31,816	24,370	16,183	10,706	18,789	11,511	--	--	--
Soft maple	146,664	--	31,791	33,017	21,082	14,115	7,195	28,537	10,927	--	--	--
Elm	44,070	--	17,721	11,049	5,069	1,220	2,721	2,335	3,935	--	--	--
Black ash	11,741	--	4,711	3,502	1,278	2,250	--	--	--	--	--	--
White & green ash	24,911	--	5,740	6,412	2,219	1,822	2,192	6,526	--	--	--	--
Coitwood	16,986	--	--	604	--	3,424	--	--	12,958	--	--	--
Willow	66,953	--	1,427	--	--	950	--	2,064	62,512	--	--	--
Balsam poplar	567	--	--	--	567	--	--	--	--	--	--	--
Bigtooth aspen	7,579	--	715	2,828	2,806	571	--	659	--	--	--	--
Quaking aspen	63,466	--	20,893	18,402	11,659	7,365	3,059	2,088	--	--	--	--
Paper birch	28,451	--	13,490	8,984	5,469	508	--	--	--	--	--	--
River birch	1,426	--	537	--	--	--	889	--	--	--	--	--
Black cherry	17,556	--	6,379	4,680	3,237	--	--	3,260	--	--	--	--
Black walnut	14,674	--	1,095	3,073	2,796	4,357	125	1,268	1,960	--	--	--
Butternut	1,614	--	--	742	--	872	--	--	--	--	--	--
Other hardwoods	17,637	--	4,768	7,430	4,127	638	674	--	--	--	--	--
<b>Total hardwoods</b>	<b>1,195,983</b>	<b>--</b>	<b>228,957</b>	<b>227,311</b>	<b>160,624</b>	<b>112,366</b>	<b>76,652</b>	<b>209,201</b>	<b>180,872</b>	<b>76,652</b>	<b>209,201</b>	<b>180,872</b>
<b>All species</b>	<b>1,326,931</b>	<b>35,379</b>	<b>251,099</b>	<b>251,393</b>	<b>176,298</b>	<b>121,611</b>	<b>79,633</b>	<b>220,446</b>	<b>191,072</b>	<b>79,633</b>	<b>220,446</b>	<b>191,072</b>

<sup>1</sup>International 1/4-inch rule.

Table 42.--Current annual growth of growing stock and sawtimber on timberland, 1982 and 1995, and average net annual growth of growing stock and sawtimber, 1983-1995, by softwoods and hardwoods and Forest Survey Unit, Wisconsin

Forest Survey Unit and softwoods and hardwoods	Growing stock			Sawtimber		
	Current annual growth	Average net annual growth	Current annual growth	Current annual growth	Average net annual growth	Current annual growth
	1982	1983-1995	1995	1982	1983-1995	1995
	(In thousand cubic feet)					
	(In thousand board feet) <sup>1</sup>					
<b>Northeastern Unit</b>						
Softwoods	28,026	45,705	47,106	141,856	173,896	200,243
Hardwoods	67,078	93,340	104,044	255,383	292,170	310,956
Total	95,104	139,045	151,150	397,239	466,066	511,199
<b>Northwestern Unit</b>						
Softwoods	29,153	41,445	45,260	145,237	162,203	188,923
Hardwoods	100,813	122,169	139,036	375,602	388,287	432,144
Total	129,966	163,614	184,296	520,839	550,490	621,067
<b>Central Unit</b>						
Softwoods	4,702	31,268	34,005	19,285	166,284	125,999
Hardwoods	13,278	62,951	69,741	51,779	213,892	211,071
Total	17,980	94,219	103,746	71,064	330,176	337,016
<b>Southwestern Unit</b>						
Softwoods	223	5,940	5,875	861	26,227	27,904
Hardwoods	10,269	52,935	57,038	43,340	201,608	204,594
Total	10,492	58,875	62,913	44,201	227,835	232,498
<b>Southeastern Unit</b>						
Softwoods	725	5,757	6,258	3,099	14,308	19,205
Hardwoods	4,025	28,580	303,056	18,485	91,699	93,089
Total	4,750	34,337	36,314	21,584	106,007	112,294
<b>All Units</b>						
Softwoods	64,195	130,115	138,504	322,185	492,918	562,274
Hardwoods	196,685	359,975	399,915	747,925	1,187,656	1,251,800
Total	260,880	490,090	538,419	1,070,110	1,680,574	1,814,074

<sup>1</sup> International 1/4-inch rule.

Table 43.--Average net annual growth of growing stock on timberland by species group and forest type, Wisconsin, 1983-1995

(In thousand cubic feet)

Species group	Forest type													Paper birch	Balsam poplar	Non-stocked		
	All types	Jack pine	Red pine	White pine	Balsam fir	White spruce	Black spruce	Northern white-cedar	Tamarack	Oak-hickory	Elm-ash-soft maple	Maple-basswood	Aspen					
<b>Softwoods</b>																		
Jack pine	10,061	7,269	940	-111	--	-18	9	21	-8	1,868	99	-82	181	-107	--	--	--	
Red pine	45,877	1,509	36,839	1,161	205	11	10	18	3	1,726	38	973	2,605	779	--	--	--	
White pine	28,976	741	2,481	7,585	435	74	70	-118	642	3,272	827	8,168	3,795	996	--	--	8	
White spruce	11,557	73	399	138	1,321	3,605	23	81	52	35	199	2,118	3,122	326	21	44	44	
Black spruce	2,209	60	-28	16	147	14	1,343	-69	250	--	109	-49	382	24	--	10	10	
Balsam fir	7,691	156	230	39	2,506	-3	118	-761	-13	88	291	11	3,923	1,047	47	12	12	
Hemlock	6,639	8	--	80	58	4	-1	85	11	34	141	6,106	-3	116	--	--	--	
Tamarack	5,529	--	--	16	180	7	994	147	3,297	120	165	148	280	120	9	46	46	
Eastern redcedar	716	--	--	--	--	--	--	--	--	572	--	104	24	16	--	--	--	
Northern white-cedar	10,161	1	23	-29	483	8	108	6,437	124	17	1,210	1,164	301	311	3	--	--	
Other softwoods	699	291	98	10	--	--	--	--	--	24	19	127	32	98	--	--	--	
<b>Total softwoods</b>	<b>130,115</b>	<b>10,108</b>	<b>40,982</b>	<b>8,905</b>	<b>5,335</b>	<b>3,702</b>	<b>2,674</b>	<b>5,841</b>	<b>4,358</b>	<b>7,756</b>	<b>3,098</b>	<b>18,788</b>	<b>14,642</b>	<b>3,726</b>	<b>80</b>	<b>120</b>	<b>120</b>	
<b>Hardwoods</b>																		
Select white oak	16,698	9	-11	18	--	--	--	--	--	11,751	404	3,352	935	240	--	--	--	
Select red oak	43,890	133	151	106	--	116	--	24	--	24,828	498	13,162	3,731	1,141	--	--	--	
Other red oak	12,372	267	83	46	--	--	15	12	5	9,957	272	942	742	31	--	--	--	
Select hickory	3,196	--	--	6	--	--	--	--	--	2,580	12	482	120	-4	--	--	--	
Other hickory	2,980	--	--	--	--	--	--	--	--	1,420	54	1,647	-161	20	--	--	--	
Basswood	20,364	7	47	33	-45	26	--	--	--	1,658	700	16,984	928	26	--	--	--	
Beech	988	--	--	--	--	--	--	--	--	-7	--	881	114	--	--	--	--	
Yellow birch	1,522	--	7	--	-2	13	-18	80	12	29	113	1,209	116	-37	--	--	--	
Hard maple	60,360	9	130	98	114	28	--	5	--	1,870	551	54,599	2,511	445	--	--	--	
Soft maple	64,974	56	270	318	285	51	16	103	148	6,611	11,294	35,495	8,120	2,207	--	--	--	
Elm	6,233	--	-39	162	-33	-7	--	77	78	1,605	1,293	2,489	579	10	--	19	19	
Black ash	10,893	--	--	39	51	19	--	215	31	196	6,869	2,687	535	203	13	35	35	
White & green ash	20,305	--	1	29	8	--	--	46	--	1,568	4,351	13,230	932	140	--	--	--	
Cottonwood	1,315	3	--	34	--	--	--	--	--	136	717	333	54	38	--	--	--	
Willow	217	--	--	--	--	--	--	--	--	11	145	70	--	-24	--	--	15	
Hackberry	403	--	--	--	--	--	--	--	--	100	149	154	--	--	--	--	--	
Balsam poplar	729	--	--	31	16	--	--	-255	25	57	-67	158	420	59	285	--	--	
Bigtooth aspen	21,440	68	105	24	83	45	--	11	5	4,144	330	4,244	11,728	639	--	14	14	
Quaking aspen	52,728	712	579	38	345	222	154	-277	-10	567	1,151	8,272	40,295	729	-12	-37	-37	
Paper birch	7,513	60	76	-134	181	85	34	120	1	-118	-290	634	2,949	3,907	8	--	--	
River birch	348	--	--	--	--	--	--	--	--	74	231	43	--	--	--	--	--	
Tupelo	8	--	--	--	--	--	--	--	--	--	--	--	8	--	--	--	--	
Black cherry	5,924	12	108	-22	14	18	1	22	--	1,821	234	2,801	758	157	--	--	--	
Black walnut	1,581	--	--	--	--	--	--	--	--	1,111	191	255	6	18	--	--	--	
Butternut	-591	--	--	3	--	--	--	--	--	-294	-45	-265	--	10	--	--	--	
Other hardwoods	3,585	--	8	3	--	--	--	--	--	976	2,066	439	93	--	--	--	--	
<b>Total hardwoods</b>	<b>359,975</b>	<b>1,336</b>	<b>1,515</b>	<b>832</b>	<b>1,017</b>	<b>616</b>	<b>202</b>	<b>183</b>	<b>295</b>	<b>72,651</b>	<b>31,223</b>	<b>164,297</b>	<b>75,513</b>	<b>9,955</b>	<b>294</b>	<b>46</b>	<b>46</b>	
<b>All species</b>	<b>490,090</b>	<b>11,444</b>	<b>42,497</b>	<b>9,737</b>	<b>6,352</b>	<b>4,318</b>	<b>2,876</b>	<b>6,024</b>	<b>4,653</b>	<b>80,407</b>	<b>34,321</b>	<b>183,085</b>	<b>90,155</b>	<b>13,681</b>	<b>374</b>	<b>166</b>	<b>166</b>	

Table 44.--Average net annual growth of sawtimber on timberland by species group and forest type, Wisconsin, 1983-1995  
(In thousand board feet)<sup>1</sup>

Species group	Forest type													Non-stocked		
	All types	Jack pine	Red pine	White pine	Balsam fir	White spruce	Black spruce	Northern white-cedar	Tamarack	Oak-hickory	Elm-soft maple	Maple-basswood	Aspen		Paper birch	Balsam poplar
<b>Softwoods</b>																
Jack pine	34,586	16,221	4,432	-39	--	44	--	--	--	10,518	588	1,575	1,015	321	--	--
Red pine	165,242	6,979	119,954	5,005	1,274	53	80	80	17	9,110	149	4,938	13,352	4,171	--	--
White pine	139,224	2,533	13,416	36,348	1,819	414	-573	-573	3,636	11,948	4,559	41,842	18,246	4,615	--	52
White spruce	44,972	318	1,308	475	3,651	55	547	547	--	156	500	8,487	13,865	1,924	--	--
Black spruce	4,271	109	--	-46	1,057	24	378	378	519	--	695	142	1,362	31	--	--
Balsam fir	25,473	135	89	456	3,922	611	43	43	1	236	3,145	2,041	11,662	2,107	440	244
Hemlock	33,245	48	--	400	469	12	285	285	91	232	517	30,600	-32	597	--	--
Tamarack	10,979	--	--	-3	613	816	122	122	7,043	295	661	-35	861	455	64	93
Eastern redcedar	762	--	--	--	--	--	--	--	--	423	--	339	--	--	--	--
Northern white-cedar	32,989	4	58	-188	1,225	504	19,826	19,826	134	--	5,039	3,946	1,930	429	82	--
Other softwoods	1,175	256	301	15	--	--	--	--	--	--	43	258	96	206	--	--
<b>Total softwoods</b>	<b>492,918</b>	<b>26,603</b>	<b>139,558</b>	<b>42,423</b>	<b>14,030</b>	<b>2,533</b>	<b>20,708</b>	<b>20,708</b>	<b>11,441</b>	<b>32,918</b>	<b>15,896</b>	<b>94,133</b>	<b>62,357</b>	<b>14,856</b>	<b>586</b>	<b>389</b>
<b>Hardwoods</b>																
Select white oak	74,424	--	--	179	--	--	--	--	--	50,611	1,599	17,840	3,338	857	--	--
Select red oak	209,689	73	391	374	--	--	135	135	--	123,188	2,467	64,993	12,099	5,609	--	--
Other red oak	60,449	848	281	62	--	--	64	64	25	49,270	1,339	5,479	3,040	41	--	--
Select hickory	9,741	--	--	--	--	--	--	--	--	7,963	7	1,423	406	-58	--	--
Other hickory	4,241	--	--	--	--	--	--	--	--	1,682	74	2,945	-503	43	--	--
Basswood	83,330	--	362	--	--	--	--	--	--	4,850	2,315	73,023	2,701	22	--	--
Beech	3,770	--	--	--	--	--	--	--	--	-25	--	3,795	--	--	--	--
Yellow birch	7,198	--	--	--	-110	-4	21	21	290	--	45	6,847	109	--	--	--
Hard maple	180,208	--	188	245	146	--	26	26	--	4,266	1,386	168,744	3,880	1,183	--	--
Soft maple	145,773	144	219	595	318	13	439	439	126	10,715	33,733	88,506	8,022	2,943	--	--
Elm	3,337	--	16	-37	-175	-24	-79	-79	32	2,315	-950	754	1,535	-50	--	--
Black ash	19,254	--	--	209	348	44	-21	-21	--	1,271	11,145	5,843	161	43	--	211
White & green ash	63,759	--	9	76	44	--	117	117	--	5,682	12,418	43,617	1,689	107	--	--
Cottonwood	4,934	11	--	29	--	--	--	--	--	381	3,203	986	153	171	--	--
Willow	750	--	--	--	--	--	--	--	--	--	451	338	--	-111	--	72
Hackberry	1,362	--	--	--	--	--	--	--	--	571	484	307	--	--	--	--
Balsam poplar	2,456	--	--	140	10	--	-361	-361	128	200	587	743	189	193	627	--
Bigtooth aspen	96,838	83	50	370	486	--	28	28	27	24,738	486	18,122	45,962	6,050	--	76
Quaking aspen	161,113	1,282	763	370	451	252	-207	-207	161	6,556	8,249	33,828	103,717	4,869	136	73
Paper birch	27,397	128	353	-523	36	--	230	230	87	3,529	284	6,969	7,054	8,910	--	--
River birch	2,126	--	--	--	--	--	--	--	--	227	1,487	412	--	--	--	--
Black cherry	16,603	--	--	30	--	--	--	--	--	6,830	682	8,436	618	--	--	--
Black walnut	4,557	--	--	--	--	--	--	--	--	3,190	538	703	32	94	--	--
Butternut	-1,018	--	--	14	--	--	--	--	--	-559	-4	-454	-61	46	--	--
Other hardwoods	5,365	--	--	17	--	--	--	--	--	1,008	4,418	-78	--	--	--	--
<b>Total hardwoods</b>	<b>1,187,656</b>	<b>2,569</b>	<b>2,632</b>	<b>2,150</b>	<b>1,554</b>	<b>261</b>	<b>392</b>	<b>392</b>	<b>876</b>	<b>308,459</b>	<b>86,443</b>	<b>554,121</b>	<b>194,141</b>	<b>30,962</b>	<b>763</b>	<b>432</b>
<b>All species</b>	<b>1,680,574</b>	<b>29,172</b>	<b>142,190</b>	<b>44,573</b>	<b>15,584</b>	<b>2,794</b>	<b>21,100</b>	<b>21,100</b>	<b>12,317</b>	<b>341,377</b>	<b>102,339</b>	<b>648,254</b>	<b>256,498</b>	<b>45,818</b>	<b>1,349</b>	<b>821</b>

<sup>1</sup>International 1/4-inch rule.

Table 45.--Current net annual growth of growing stock on timberland by species group and forest type, Wisconsin, 1995

(in thousand cubic feet)

Species group	Forest type														Total softwoods	Total hardwoods	All species
	All types	Jack pine	Red pine	White pine	Balsam fir	White spruce	Black spruce	Northern white-cedar	Tamarack	Oak-hickory	Elm-ash-soft maple	Maple-basswood	Aspen	Paper birch			
<b>Softwoods</b>																	
Jack pine	9,461	7,296	105	-180	--	--	9	21	--	1,535	60	277	345	-7	--	--	--
Red pine	47,599	1,598	37,853	1,215	248	25	20	9	10	2,183	47	949	2,656	786	--	--	--
White pine	29,253	912	2,368	7,390	386	75	162	97	522	3,455	984	8,074	3,783	1,037	--	--	8
White spruce	17,177	154	413	151	1,609	5,025	20	-87	85	68	478	3,686	4,973	509	48	45	45
Black spruce	2,153	48	23	31	88	20	1,304	-657	516	3	53	96	613	13	--	2	2
Balsam fir	12,986	71	165	113	2,468	15	89	-1,195	25	59	1,115	3,118	5,534	1,264	123	22	22
Hemlock	6,328	7	--	41	54	3	2	129	7	13	258	5,669	41	104	--	--	--
Tamarack	3,387	--	--	17	59	7	746	-375	2,396	42	229	22	123	83	13	25	25
Eastern redcedar	890	--	--	--	--	--	--	--	--	675	--	175	24	16	--	--	--
Northern white-cedar	8,633	--	19	-36	627	8	90	4,333	265	5	1,897	771	258	389	7	--	--
Other softwoods	637	264	67	12	--	--	--	--	--	24	19	128	32	91	--	--	--
<b>Total softwoods</b>	<b>138,504</b>	<b>10,350</b>	<b>41,013</b>	<b>8,754</b>	<b>5,539</b>	<b>5,178</b>	<b>2,442</b>	<b>2,275</b>	<b>3,826</b>	<b>8,062</b>	<b>5,140</b>	<b>22,965</b>	<b>18,382</b>	<b>4,285</b>	<b>191</b>	<b>102</b>	<b>102</b>
<b>Hardwoods</b>																	
Select white oak	18,227	62	--	41	--	--	--	--	--	12,971	516	3,421	1,032	184	--	--	--
Select red oak	40,243	132	145	64	--	40	--	5	--	23,233	269	11,566	3,792	997	--	--	--
Other red oak	14,013	454	5	30	--	15	--	-5	4	10,665	244	1,414	1,101	86	--	--	--
Select hickory	3,284	--	--	12	--	--	--	--	--	2,660	13	531	65	3	--	--	--
Other hickory	3,542	--	--	--	--	--	--	--	--	1,553	49	1,828	92	20	--	--	--
Basswood	21,860	2	10	12	--	6	--	--	--	2,138	776	17,932	958	26	--	--	--
Beech	1,277	--	--	--	--	--	--	--	--	31	--	1,125	121	--	--	--	--
Yellow birch	1,753	--	--	--	-4	1	--	-86	10	61	260	1,272	238	1	--	--	--
Hard maple	62,990	4	61	13	112	13	--	--	--	2,105	631	57,252	2,289	510	--	--	--
Soft maple	71,372	95	234	252	305	49	35	96	205	7,524	11,820	37,524	11,130	2,103	--	--	--
Elm	14,354	--	-1	136	74	28	--	175	79	2,569	3,138	6,923	1,105	118	--	10	10
Black ash	12,708	--	--	--	226	--	--	-37	21	105	8,852	2,700	706	97	25	13	13
White & green ash	23,165	--	6	31	8	--	--	41	--	1,701	5,719	14,465	1,039	155	--	--	--
Cottonwood	1,160	4	--	9	--	--	--	--	--	126	717	212	42	50	--	--	--
Willow	515	--	--	--	--	--	--	--	--	11	426	63	--	--	--	15	15
Hackberry	420	--	--	--	--	--	--	--	--	133	160	127	--	--	--	--	--
Balsam poplar	894	--	--	-1	16	41	--	-171	19	44	41	186	387	97	276	--	--
Bigtooth aspen	20,941	110	72	40	100	48	--	7	--	4,281	216	4,232	11,219	616	--	--	--
Quaking aspen	63,849	824	495	188	439	133	91	-192	10	1,648	2,611	8,851	47,331	1,301	105	14	14
Paper birch	9,301	19	-10	-5	261	-9	30	-319	2	602	478	1,650	3,196	3,406	--	--	--
River birch	421	--	--	--	--	--	--	--	--	104	271	46	--	--	--	--	--
Tupelo	8	--	--	--	--	--	--	--	--	--	--	--	8	--	--	--	--
Black cherry	7,920	85	441	7	180	145	1	21	--	2,074	306	3,146	1,184	330	--	--	--
Black walnut	1,589	--	--	--	--	--	--	--	--	1,079	213	273	6	18	--	--	--
Butternut	96	--	--	--	--	--	--	--	--	124	9	-34	-13	10	--	--	--
Other hardwoods	4,013	--	12	3	--	--	--	--	--	129	221	455	93	--	--	--	--
<b>Total hardwoods</b>	<b>399,915</b>	<b>1,791</b>	<b>1,470</b>	<b>832</b>	<b>1,717</b>	<b>453</b>	<b>173</b>	<b>-465</b>	<b>350</b>	<b>78,771</b>	<b>39,956</b>	<b>177,160</b>	<b>87,121</b>	<b>10,128</b>	<b>406</b>	<b>52</b>	<b>52</b>
<b>All species</b>	<b>538,419</b>	<b>12,141</b>	<b>42,483</b>	<b>9,586</b>	<b>7,256</b>	<b>5,631</b>	<b>2,615</b>	<b>1,810</b>	<b>4,176</b>	<b>86,833</b>	<b>45,096</b>	<b>200,125</b>	<b>105,503</b>	<b>14,413</b>	<b>597</b>	<b>154</b>	<b>154</b>

Table 46.--Current net annual growth of sawtimber on timberland by species group and forest type, Wisconsin, 1995

(In thousand board feet)<sup>1</sup>

Species group	Forest type													Non-stocked		
	All types	Jack pine	Red pine	White pine	Balsam fir	White spruce	Black spruce	Northern white-cedar	Tamarack	Oak-hickory	Elim-ash-soft maple	Maple-basswood	Aspen		Paper birch	Balsam poplar
<b>Softwoods</b>																
Jack pine	35,598	22,411	438	-297	--	44	--	--	8,793	530	2,545	995	139	--	--	--
Red pine	197,363	9,580	147,315	6,269	1,244	71	19	59	10,137	192	4,266	14,402	3,672	--	--	--
White pine	149,787	2,965	14,234	37,376	2,033	585	496	2,987	13,969	5,805	43,019	20,822	4,988	--	--	52
White spruce	57,891	304	1,365	999	5,025	13,064	-796	--	247	3,034	13,279	18,178	3,143	--	--	--
Black spruce	2,874	392	--	-78	287	-145	-326	1,328	--	347	-147	1,185	31	--	--	--
Balsam fir	49,895	887	373	603	5,973	108	-962	--	78	7,269	13,011	19,122	2,182	648	124	--
Hemlock	34,082	46	--	429	275	22	388	27	78	1,579	30,643	195	388	--	--	--
Tamarack	7,175	--	--	566	-220	-6	-1,216	6,267	55	284	-374	594	373	88	152	--
Eastern redcedar	908	--	--	--	--	--	--	--	567	--	341	--	--	--	--	--
Northern white-cedar	25,245	--	43	-213	1,785	158	8,785	138	--	8,037	2,666	1,470	1,729	32	--	--
Other softwoods	1,456	311	401	43	--	--	--	--	138	43	258	160	102	--	--	--
<b>Total softwoods</b>	<b>562,274</b>	<b>36,896</b>	<b>164,169</b>	<b>45,697</b>	<b>16,402</b>	<b>13,939</b>	<b>6,388</b>	<b>10,806</b>	<b>34,062</b>	<b>27,120</b>	<b>109,507</b>	<b>77,123</b>	<b>16,747</b>	<b>768</b>	<b>328</b>	<b>328</b>
<b>Hardwoods</b>																
Select white oak	81,046	--	--	105	--	--	--	--	57,223	1,987	17,283	3,747	701	--	--	--
Select red oak	202,218	104	368	161	--	162	36	--	122,807	1,425	58,430	12,749	5,976	--	--	--
Other red oak	58,723	1,257	291	5	--	--	-18	23	46,475	1,475	5,517	3,530	168	--	--	--
Select hickory	10,079	--	--	--	--	--	--	--	8,402	25	1,520	183	-51	--	--	--
Other hickory	4,160	--	--	--	--	--	--	--	1,137	58	2,922	--	43	--	--	--
Basswood	85,303	--	325	--	--	202	--	--	6,077	2,405	73,849	2,379	66	--	--	--
Beech	-4,766	--	--	--	--	--	--	--	74	--	4,692	--	--	--	--	--
Yellow birch	5,510	--	--	--	-49	--	-298	290	--	894	4,617	57	--	--	--	--
Hard maple	197,279	--	97	--	186	60	--	--	4,901	1,203	185,605	3,737	1,490	--	--	--
Soft maple	152,255	--	237	846	512	--	13	58	10,963	32,920	92,318	9,611	3,807	--	--	--
Elm	15,809	--	16	830	299	-8	-150	-7	3,358	2,719	6,657	1,813	-65	--	--	347
Black ash	18,792	--	--	--	545	--	-26	--	852	12,258	4,034	245	437	--	--	447
White & green ash	76,983	--	31	278	44	--	371	--	5,482	17,515	50,818	2,333	111	--	--	--
Cottonwood	4,937	24	--	--	--	--	--	--	421	3,179	917	153	243	--	--	--
Willow	2,266	--	--	--	--	--	--	--	--	1,949	245	--	--	--	--	72
Hackberry	1,825	--	--	--	--	--	--	--	480	490	855	--	--	--	--	--
Balsam poplar	2,473	--	--	--	10	--	-674	594	123	402	759	109	4	1,146	--	--
Bigtooth aspen	97,197	665	22	83	173	423	16	3	28,624	829	19,932	42,371	4,056	--	--	--
Quaking aspen	169,132	1,128	241	870	989	335	-415	8	7,031	8,615	30,129	116,504	3,047	189	75	--
Paper birch	29,857	97	257	399	-1	173	-557	3	2,871	1,722	8,388	6,547	9,958	--	--	--
River birch	2,533	--	--	--	--	--	--	--	151	1,970	412	--	--	--	--	--
Black cherry	16,790	--	--	30	--	4	--	--	7,356	635	8,410	355	--	--	--	--
Black walnut	5,048	--	--	--	--	--	--	--	3,894	538	490	32	94	--	--	--
Butternut	557	--	--	--	--	--	--	--	171	-4	414	-70	46	--	--	--
Other hardwoods	6,262	--	--	17	--	--	--	--	989	4,280	580	396	--	--	--	--
<b>Total hardwoods</b>	<b>1,251,800</b>	<b>3,275</b>	<b>1,885</b>	<b>3,624</b>	<b>2,708</b>	<b>1,351</b>	<b>-745</b>	<b>972</b>	<b>319,862</b>	<b>99,489</b>	<b>579,793</b>	<b>206,781</b>	<b>30,131</b>	<b>1,335</b>	<b>941</b>	<b>1,289</b>
<b>All species</b>	<b>1,814,074</b>	<b>40,171</b>	<b>166,054</b>	<b>49,321</b>	<b>19,110</b>	<b>15,290</b>	<b>5,643</b>	<b>11,778</b>	<b>353,924</b>	<b>126,609</b>	<b>689,300</b>	<b>283,904</b>	<b>46,878</b>	<b>2,103</b>	<b>941</b>	<b>1,289</b>

<sup>1</sup>International 1/4-inch rule.

Table 47.--Current net annual growth, current annual mortality, and current annual removals of growing stock and sawtimber on timberland by species group, Wisconsin, 1995

Species group	Growing stock			Sawtimber		
	Current net annual growth <sup>1</sup>	Current annual mortality	Current annual removals <sup>2</sup>	Current net annual growth <sup>1</sup>	Current annual mortality	Current annual removals <sup>2</sup>
	1995	1995	1995	1995	1995	1995
	<i>(In thousand cubic feet)</i>			<i>(In thousand board feet)<sup>3</sup></i>		
<b>Softwoods</b>						
Jack pine	9,461	8,043	28,249	35,598	26,005	44,712
Red pine	47,599	112	29,460	197,363	1,291	93,753
White pine	29,253	2,976	8,637	149,787	12,286	36,594
White spruce	17,177	1,725	1,895	57,891	7,254	3,772
Black spruce	2,153	3,891	1,478	2,874	4,975	2,792
Balsam fir	12,986	14,922	5,667	49,895	24,671	9,227
Hemlock	6,328	1,625	2,824	34,082	8,379	8,264
Tamarack	3,387	4,319	794	7,175	10,471	1,386
Eastern redcedar	890	--	5	908	4	21
Northern white-cedar	8,633	4,757	843	25,245	19,811	2,697
Other softwoods	637	3	--	1,456	16	--
<b>Total softwoods</b>	<b>138,504</b>	<b>42,373</b>	<b>79,852</b>	<b>562,274</b>	<b>115,163</b>	<b>203,218</b>
<b>Hardwoods</b>						
Select white oak	18,227	1,027	13,966	81,046	3,483	61,031
Select red oak	40,243	13,633	38,725	202,218	45,763	158,689
Other red oak	14,013	7,686	12,009	58,723	20,830	48,488
Select hickory	3,284	705	301	10,079	1,185	1,151
Other hickory	3,542	782	352	4,160	662	1,647
Basswood	21,860	9,308	11,078	85,303	27,583	42,775
Beech	1,277	146	319	4,766	468	1,366
Yellow birch	1,753	4,048	2,399	5,510	12,142	7,141
Hard maple	62,990	8,203	29,053	197,279	16,386	99,357
Soft maple	71,372	11,838	21,592	152,255	23,404	60,132
Elm	14,354	8,264	2,734	15,809	17,341	7,018
Black ash	12,708	4,551	3,802	18,792	8,667	10,952
White & green ash	23,165	2,107	4,047	76,983	6,202	12,732
Cottonwood	1,160	204	372	4,937	839	1,477
Willow	515	99	115	2,266	385	92
Hackberry	420	45	36	1,825	99	171
Balsam poplar	894	1,154	269	2,473	3,787	466
Bigtooth aspen	20,941	11,790	35,202	97,197	37,353	103,432
Quaking aspen	63,849	44,860	88,442	169,132	89,181	243,569
Paper birch	9,301	18,399	26,517	29,857	22,625	38,382
River birch	421	73	122	2,533	188	50
Tupelo	8	1	--	--	--	--
Black cherry	7,920	1,906	1,319	16,790	2,212	5,022
Black walnut	1,589	158	232	5,048	499	953
Butternut	96	640	48	557	2,321	230
Other hardwoods	4,013	776	584	6,262	1,468	1,013
<b>Total hardwoods</b>	<b>399,915</b>	<b>152,403</b>	<b>293,634</b>	<b>1,251,800</b>	<b>345,073</b>	<b>907,336</b>
<b>All species</b>	<b>538,419</b>	<b>194,776</b>	<b>373,487</b>	<b>1,814,074</b>	<b>460,236</b>	<b>1,110,554</b>

<sup>1</sup> An estimate of current gross growth may be computed by adding current mortality to current net growth.

<sup>2</sup> Based on data from a 1988 mill survey, a 1989-1990 logging utilization study, and land-use change estimates from the new inventory.

<sup>3</sup> International 1/4-inch rule.



Table 48.--Current annual removals for 1982 and 1995 and average annual removals for 1983-1995 from growing stock and sawtimber on timberland by softwoods and hardwoods, and Forest Survey Unit, Wisconsin

	Growing stock			Sawtimber		
	Current	Average	Current	Current	Average	Current
	annual	annual	annual	annual	annual	annual
	removals	removals	removals	removals	removals	removals
	1982 <sup>1</sup>	1983-1995 <sup>2</sup>	1995 <sup>1</sup>	1982 <sup>1</sup>	1983-1995 <sup>2</sup>	1995 <sup>1</sup>
	<i>(In thousand cubic feet)</i>			<i>(In thousand board feet) <sup>3</sup></i>		
<b>Forest Survey Unit</b>						
Softwoods	24,760	20,232	22,570	58,711	66,640	66,178
Hardwoods	77,936	71,171	90,333	217,882	181,826	259,207
Total	102,696	91,403	112,903	276,593	248,466	325,385
<b>Northwestern Unit</b>						
Softwoods	18,586	12,433	29,102	43,758	36,726	76,331
Hardwoods	76,817	79,441	107,963	205,810	172,851	288,892
Total	95,403	91,874	137,065	249,568	209,577	365,223
<b>Central Unit</b>						
Softwoods	12,991	18,895	22,581	26,899	62,734	46,448
Hardwoods	35,164	65,551	55,630	121,487	206,559	184,342
Total	48,155	84,446	78,211	148,386	269,293	230,790
<b>Southwestern Unit</b>						
Softwoods	2,193	409	3,476	2,672	71	8,775
Hardwoods	28,429	52,291	31,084	121,239	219,002	140,924
Total	30,622	52,700	34,560	123,911	219,073	149,699
<b>Southeastern Unit</b>						
Softwoods	858	657	2,123	1,612	1,578	5,486
Hardwoods	7,224	11,109	8,624	26,257	38,195	33,970
Total	8,082	11,766	10,747	27,869	39,773	39,457
<b>All Units</b>						
Softwoods	59,388	52,626	79,852	133,652	167,749	203,218
Hardwoods	225,570	279,563	293,634	692,675	818,433	907,336
Total	284,958	332,189	373,487	826,327	986,182	1,110,554

Based on data from a mill survey and a logging utilization study for given years, and land use change estimates

from the plot inventory.

Average of field plot level removals between the study periods.

International 1/4-inch rule.

Table 49.--Current annual mortality for 1982 and 1995 and average annual mortality for 1983-1995 of growing stock and sawtimber on timberland by softwoods and hardwoods, and Forest Survey Unit, and Forest Survey Unit, Wisconsin

Forest Survey Unit and softwoods and hardwoods	Growing stock			Sawtimber		
	Current annual mortality	Average annual mortality	Current annual mortality	Current annual mortality	Average annual mortality	Current annual mortality
	1982	1983-1995	1995	1982	1983-1995	1995
	<i>(In thousand cubic feet)</i>			<i>(In thousand board feet)</i> <sup>1</sup>		
<b>Northeastern Unit</b>						
Softwoods	17,013	17,869	19,252	39,688	47,545	51,687
Hardwoods	44,780	39,499	41,013	89,141	66,386	84,477
<b>Total</b>	<b>61,793</b>	<b>57,368</b>	<b>60,265</b>	<b>128,829</b>	<b>113,931</b>	<b>136,164</b>
<b>Northwestern Unit</b>						
Softwoods	19,249	18,443	18,255	142,380	145,237	162,203
Hardwoods	61,345	48,954	52,617	117,024	375,602	388,287
<b>Total</b>	<b>80,594</b>	<b>67,397</b>	<b>70,872</b>	<b>259,404</b>	<b>520,839</b>	<b>550,490</b>
<b>Central Unit</b>						
Softwoods	1,075	5,387	3,802	3,046	14,860	10,796
Hardwoods	6,259	25,638	25,962	13,372	50,301	59,747
<b>Total</b>	<b>7,334</b>	<b>31,025</b>	<b>29,764</b>	<b>16,418</b>	<b>65,161</b>	<b>70,543</b>
<b>Southwestern Unit</b>						
Softwoods	--	529	349	--	609	758
Hardwoods	4,175	22,243	22,277	13,005	58,085	64,822
<b>Total</b>	<b>4,175</b>	<b>22,772</b>	<b>22,626</b>	<b>13,005</b>	<b>58,694</b>	<b>65,580</b>
<b>Southeastern Unit</b>						
Softwoods	187	854	745	340	2,364	2,114
Hardwoods	1,499	10,454	10,534	4,312	25,618	29,129
<b>All species</b>	<b>1,686</b>	<b>11,308</b>	<b>11,279</b>	<b>4,652</b>	<b>27,982</b>	<b>31,243</b>
<b>All Units</b>						
Softwoods	38,370	43,082	42,373	87,159	111,782	115,163
Hardwoods	118,623	146,788	152,403	237,278	280,029	345,073
<b>All species</b>	<b>156,993</b>	<b>189,870</b>	<b>194,776</b>	<b>324,437</b>	<b>391,811</b>	<b>460,236</b>

<sup>1</sup>International 1/4-inch rule.

Table 50.--Current annual timber removals of growing stock and sawtimber on timberland by species group, product, logging residue, and other removals, Wisconsin, 1995

Species group	Growing stock										
	Removals for products (items)							Nonproduct removals			
	All removals	All product removals	Saw logs	Veneer logs	Pulpwood	Composite products <sup>1</sup> (in thousand cubic feet)	Fuelwood	Posts, poles & pilings	Miscellaneous	Logging residue	Other removals
<b>Softwoods</b>											
Jack pine	28,249	27,440	2,963	--	24,121	164	163	28	1	702	107
Red pine	29,460	28,081	8,781	49	18,148	196	287	119	501	737	642
White pine	8,637	8,073	4,757	82	2,584	81	298	--	270	315	250
White spruce	1,895	1,832	154	74	1,593	4	6	--	2	62	--
Black spruce	1,478	1,370	98	34	1,233	2	3	--	--	42	66
Balsam fir	5,667	5,346	122	--	4,986	231	--	5	2	134	188
Hemlock	2,824	2,718	781	--	1,936	--	--	--	1	65	41
Tamarack	794	618	9	19	590	--	--	--	--	18	158
Eastern redcedar	5	5	5	--	--	--	--	--	--	--	--
Northern white-cedar	843	567	179	1	16	--	5	281	85	55	221
<b>Total softwoods</b>	<b>79,852</b>	<b>76,049</b>	<b>17,849</b>	<b>260</b>	<b>55,206</b>	<b>678</b>	<b>761</b>	<b>433</b>	<b>862</b>	<b>2,131</b>	<b>1,672</b>
<b>Hardwoods</b>											
Select white oak	13,966	11,873	8,454	452	1,597	--	1,313	8	50	1,303	790
Select red oak	38,725	34,089	21,364	1,366	5,353	--	5,955	42	10	3,382	1,253
Other red oak	12,009	10,552	6,602	416	1,854	--	1,669	10	1	1,059	398
Select hickory	301	104	92	--	--	--	11	--	--	13	185
Other hickory	352	291	281	--	--	--	11	--	--	38	22
Basswood	11,078	9,400	5,910	416	2,628	79	68	--	299	1,078	600
Beech	319	284	222	9	42	--	11	--	--	35	--
Yellow birch	2,399	2,105	756	100	1,029	1	200	--	20	188	106
Hard maple	29,053	26,368	11,181	952	11,588	110	2,538	--	--	1,816	869
Soft maple	21,592	18,958	5,805	99	10,557	869	1,590	--	40	1,386	1,248
Elm	2,734	2,336	730	--	1,174	1	431	--	--	169	229
Black ash	3,802	3,419	1,343	22	1,884	43	127	--	--	296	86
White & green ash	4,047	3,611	1,616	16	1,694	29	257	--	--	320	116
Cottonwood	372	336	220	23	85	--	7	--	--	37	--
Willow	115	34	8	--	--	--	26	--	--	1	81
Hackberry	36	31	31	--	--	--	--	--	--	4	--
Balsam poplar	269	255	15	--	90	150	--	--	--	14	--
Bigtooth aspen	35,202	32,495	5,953	678	14,317	8,770	838	8	1,930	2,353	354
Quaking aspen	88,442	82,474	13,885	1,639	41,165	22,084	2,469	7	1,223	5,070	898
Paper birch	26,517	24,685	3,411	1,111	18,894	342	907	--	20	1,591	242
River birch	122	25	--	--	--	--	25	--	--	--	97
Black cherry	1,319	914	721	69	76	1	47	--	--	116	289
Black walnut	232	211	107	34	--	--	70	--	--	21	--
Butternut	48	42	42	--	--	--	--	--	--	6	--
Other hardwoods	584	522	4	--	439	--	78	--	--	21	42
<b>Total hardwoods</b>	<b>293,634</b>	<b>265,413</b>	<b>88,751</b>	<b>7,402</b>	<b>114,465</b>	<b>32,479</b>	<b>18,648</b>	<b>75</b>	<b>3,592</b>	<b>20,316</b>	<b>7,905</b>
<b>All species</b>	<b>373,487</b>	<b>341,463</b>	<b>106,600</b>	<b>7,663</b>	<b>169,671</b>	<b>33,158</b>	<b>19,409</b>	<b>508</b>	<b>4,454</b>	<b>22,447</b>	<b>9,577</b>

(Table 50 continued on next page)

Species group	Sawtimber																				
	Removals for products (items)									Nonproduct removals											
	All product removals	Saw logs	Veneer logs	Pulpwood	Composite products <sup>1</sup>	Fuelwood	Posts, poles & pilings	Miscel- laneous	Logging residue	Other removals	All product removals	Saw logs	Veneer logs	Pulpwood	Composite products <sup>1</sup>	Fuelwood	Posts, poles & pilings	Miscel- laneous	Logging residue	Other removals	
(In thousand board feet) <sup>2</sup>																					
<b>Softwoods</b>																					
Jack pine	44,712	43,971	12,543	3	30,875	205	311	29	4	480	261										
Red pine	93,753	88,313	49,579	314	34,481	372	566	170	2,830	1,906	3,534										
White pine	36,594	34,337	26,861	533	4,909	154	552	--	1,329	801	1,456										
White spruce	3,772	3,694	650	477	2,541	7	12	--	7	78	--										
Black spruce	2,792	2,610	414	221	1,967	4	5	--	--	51	130										
Balsam fir	9,227	8,850	518	--	7,952	368	--	5	7	139	238										
Hemlock	8,264	8,097	4,411	--	3,678	--	--	--	7	168	--										
Tamarack	1,386	1,103	36	126	941	--	--	--	--	19	264										
Eastern redcedar	21	20	20	--	--	--	--	--	--	1	--										
Northern white-cedar	2,697	1,448	759	7	26	--	9	289	358	147	1,102										
<b>Total softwoods</b>	<b>203,218</b>	<b>192,443</b>	<b>95,791</b>	<b>1,682</b>	<b>87,370</b>	<b>1,110</b>	<b>1,457</b>	<b>493</b>	<b>4,541</b>	<b>3,790</b>	<b>6,985</b>										
<b>Hardwoods</b>																					
Select white oak	61,031	54,674	45,060	2,919	3,739	--	2,567	16	373	3,411	2,946										
Select red oak	158,689	146,462	113,873	8,823	11,969	--	11,635	90	71	8,620	3,606										
Other red oak	48,488	45,361	35,188	2,684	4,193	--	3,263	22	10	2,674	453										
Select hickory	1,151	489	467	--	--	--	22	--	--	39	624										
Other hickory	1,647	1,438	1,417	--	--	--	21	--	--	117	92										
Basswood	42,775	38,067	29,845	2,687	3,707	134	134	--	1,560	2,879	1,829										
Beech	1,366	1,270	1,119	59	71	--	21	--	--	96	--										
Yellow birch	7,141	6,679	3,820	643	1,726	1	386	--	103	385	77										
Hard maple	99,357	93,629	63,193	6,148	19,153	185	4,949	--	185	2,968	2,761										
Soft maple	60,132	56,035	29,315	642	20,974	1,799	3,099	--	206	2,550	1,548										
Elm	7,018	6,490	3,688	--	1,969	1	832	--	--	336	191										
Black ash	10,952	10,336	6,784	141	3,094	73	244	--	--	616	--										
White & green ash	12,732	11,576	8,160	105	2,763	48	499	--	--	722	434										
Cottonwood	1,477	1,379	1,111	148	105	--	15	--	--	98	--										
Willow	92	89	38	--	--	--	51	--	--	3	--										
Hackberry	171	158	158	--	--	--	--	--	--	13	--										
Balsam poplar	466	454	74	--	125	254	--	--	--	12	--										
Bigtooth aspen	103,432	99,420	30,026	4,376	32,941	20,350	1,653	17	10,057	3,251	761										
Quaking aspen	243,569	237,687	70,027	10,588	94,713	51,097	4,872	16	6,374	5,036	846										
Paper birch	38,382	35,951	17,228	7,173	9,524	167	1,755	--	103	2,147	284										
River birch	50	50	--	--	--	--	50	--	--	--	--										
Black cherry	5,022	4,310	3,640	449	128	1	91	--	--	319	393										
Black walnut	953	900	540	221	--	--	139	--	--	53	--										
Butternut	230	212	212	--	--	--	--	--	--	18	--										
Other hardwoods	1,013	837	20	--	664	1	151	--	--	11	165										
<b>Total hardwoods</b>	<b>907,336</b>	<b>853,951</b>	<b>465,004</b>	<b>47,806</b>	<b>211,561</b>	<b>74,113</b>	<b>36,448</b>	<b>162</b>	<b>18,857</b>	<b>36,373</b>	<b>17,011</b>										
<b>All species</b>	<b>1,110,554</b>	<b>1,046,394</b>	<b>560,795</b>	<b>49,488</b>	<b>298,931</b>	<b>75,222</b>	<b>37,905</b>	<b>655</b>	<b>23,398</b>	<b>40,164</b>	<b>23,996</b>										

<sup>1</sup> Includes chip board, oriented strand board, particleboard, engineered lumber, etc.

<sup>2</sup> International 1/4-inch rule.

Table 51.-- Total volume of wood fiber used for each primary product by softwoods and hardwoods, and source of material, Wisconsin, 1995

Product by softwoods and hardwoods	Standard units	Total		Roundwood products				Plant byproducts <sup>1</sup>	
		Number of units	Thousand cubic feet <sup>2</sup>	Growing stock		Nongrowing stock		Number of units	Thousand cubic feet
				Number of units	Thousand cubic feet	Number of units	Thousand cubic feet		
<b>Saw logs</b>									
Softwoods	Thousand	102,829	18,180	101,266	17,849	1,563	331	--	--
Hardwoods	board feet <sup>3</sup>	542,432	94,835	511,159	88,751	31,273	6,083	--	--
Total		645,262	113,014	612,426	106,600	32,836	6,414	--	--
<b>Veneer logs</b>									
Softwoods	Thousand	1,776	289	1,683	260	93	29	--	--
Hardwoods	board feet <sup>3</sup>	50,493	8,220	47,837	7,402	2,656	818	--	--
Total		52,269	8,509	49,520	7,663	2,749	847	--	--
<b>Pulpwood<sup>4</sup></b>									
Softwoods	Standard	876,053	69,146	699,464	55,206	135,077	10,661	41,512	3,279
Hardwoods	Cords <sup>5</sup>	2,038,978	161,136	1,448,343	114,465	360,904	28,522	229,731	18,149
Total		2,915,030	230,282	2,147,806	169,671	495,981	39,183	271,243	21,428
<b>Composite products<sup>6</sup></b>									
Softwoods	Standard	13,566	1,071	8,597	678	1,389	110	3,580	283
Hardwoods	Cords <sup>5</sup>	480,986	37,999	411,110	32,479	50,062	3,955	19,814	1,565
Total		494,551	39,071	419,707	33,158	51,450	4,065	23,394	1,848
<b>Fuelwood</b>									
Softwoods	Standard	347,083	24,296	10,871	761	38,824	2,718	297,388	20,817
Hardwoods	Cords <sup>5</sup>	1,998,873	139,921	266,404	18,648	773,302	54,131	959,167	67,142
Total		2,345,956	164,217	277,275	19,409	812,126	56,849	1,256,555	87,959
<b>Posts, poles and pilings</b>									
Softwoods	Thousand	559	559	433	433	126	126	--	--
Hardwoods	cubic feet	185	185	75	75	110	110	--	--
Total		744	744	508	508	236	236	--	--
<b>Miscellaneous products</b>									
Softwoods	Thousand	2,797	2,797	862	862	15	15	1,920	1,920
Hardwoods	cubic feet	22,851	22,851	3,592	3,592	10	10	19,249	19,249
Total		25,647	25,647	4,454	4,454	24	24	21,169	21,169
<b>All products</b>									
Softwoods	Thousand				76,049		13,988		26,299
Hardwoods	cubic feet				265,413		93,630		106,105
Total					341,463		107,618		132,404

<sup>1</sup> Includes coarse and fine wood residues.

<sup>2</sup> Column should not be added to avoid double counting volume.

<sup>3</sup> International 1/4-inch rule.

<sup>4</sup> Includes roundwood and plant byproducts for wood pulp.

<sup>5</sup> 128 cubic feet including bark and air space.

<sup>6</sup> Includes roundwood and plant byproducts for composite products.

Table 52.--Output of roundwood products by product, softwoods and hardwoods, and source of material, Wisconsin, 1995

(In thousand cubic feet)

Product by softwoods and hardwoods	All sources	Growing stock			Non-growing stock
		Total	Sawtimber	Poletimber	
<b>Saw logs</b>					
Softwoods	18,180	17,849	16,739	1,110	331
Hardwoods	94,835	88,751	80,430	8,322	6,083
Total	113,014	106,600	97,169	9,431	6,414
<b>Veneer logs</b>					
Softwoods	289	260	260	--	29
Hardwoods	8,220	7,402	7,402	--	818
Total	8,509	7,663	7,663	--	847
<b>Pulpwood</b>					
Softwoods	65,867	55,206	24,050	31,156	10,661
Hardwoods	142,987	114,465	57,033	57,432	28,522
Total	208,854	169,671	81,083	88,588	39,183
<b>Composite products <sup>1</sup></b>					
Softwoods	788	678	319	359	110
Hardwoods	36,435	32,479	19,875	12,604	3,955
Total	37,222	33,158	20,194	12,963	4,065
<b>Fuelwood</b>					
Softwoods	3,479	761	390	371	2,718
Hardwoods	72,779	18,648	8,649	10,000	54,131
Total	76,258	19,409	9,039	10,370	56,849
<b>Posts, poles and pilings</b>					
Softwoods	559	433	132	300	126
Hardwoods	185	75	31	44	110
Total	744	508	164	344	236
<b>Miscellaneous products</b>					
Softwoods	877	862	781	81	15
Hardwoods	3,602	3,592	2,630	963	10
Total	4,478	4,454	3,411	1,044	24
<b>All products</b>					
Softwoods	90,038	76,049	42,673	33,376	13,988
Hardwoods	359,043	265,413	176,049	89,364	93,630
Total	449,081	341,463	218,722	122,741	107,618

<sup>1</sup> Includes chip board, oriented strand board, particleboard, engineered lumber, etc.

Table 53.--Timber products from roundwood by species group and product, Wisconsin, 1995

Species group	All products		Saw logs		Veneer logs		Pulpwood		Composite products <sup>1</sup>		Fuelwood		Posts, poles, and pilings		Misc. products
	Thousand cubic feet	Thousand cubic feet	Thousand cubic feet	board feet <sup>2</sup>	Thousand cubic feet	board feet <sup>2</sup>	Thousand cubic feet	Standard cords <sup>3</sup>	Thousand cubic feet	Standard cords <sup>3</sup>	Thousand cubic feet	Standard cords <sup>3</sup>	Thousand cubic feet	Standard cords <sup>3</sup>	
<b>Softwoods</b>	34,913	3,010	14,341	3	1	3	30,584	387,628	208	2,636	1,078	15,406	31	1	
Jack pine	31,368	8,949	52,582	332	54	332	20,778	263,015	224	2,839	722	10,317	129	511	
Red pine	9,647	4,849	28,488	563	92	563	2,958	37,443	93	1,172	1,382	19,740	--	274	
White pine	2,021	156	743	504	82	504	1,766	22,405	5	59	11	156	--	2	
White spruce	1,511	99	473	233	38	233	1,367	17,343	3	34	5	66	--	--	
Black spruce	5,922	124	592	--	--	--	5,526	70,123	256	3,247	9	129	5	2	
Balsam fir	3,014	796	4,678	--	--	--	2,217	28,058	--	--	--	--	--	1	
Hemlock	684	9	42	133	22	133	654	8,295	--	--	--	--	--	--	
Tamarack	5	5	23	--	--	--	--	--	--	--	--	--	--	--	
Eastern redcedar	953	182	867	8	1	8	18	230	--	--	272	3,881	394	86	
Northern white-cedar															
<b>Total softwoods</b>	<b>90,038</b>	<b>18,180</b>	<b>102,829</b>	<b>1,776</b>	<b>289</b>	<b>1,776</b>	<b>65,867</b>	<b>834,541</b>	<b>788</b>	<b>9,986</b>	<b>3,479</b>	<b>49,694</b>	<b>559</b>	<b>877</b>	
<b>Hardwoods</b>															
Select white oak	17,704	8,869	50,652	3,083	502	3,083	2,054	25,965	--	--	6,210	88,708	12	57	
Select red oak	53,723	22,414	128,005	1,517	9,319	1,517	6,871	86,867	--	--	22,779	325,409	132	11	
Other red oak	17,053	6,926	39,555	462	2,835	462	2,381	30,104	--	--	7,266	103,805	16	2	
Select hickory	201	108	604	--	--	--	--	--	--	--	93	1,335	--	--	
Other hickory	506	327	1,831	--	--	--	--	--	--	--	179	2,561	--	--	
Basswood	12,066	6,885	38,574	462	2,838	462	4,027	50,969	133	1,682	260	3,715	--	299	
Beech	375	258	1,446	62	10	62	70	891	--	6	36	508	--	--	
Yellow birch	3,494	881	4,937	679	111	679	1,722	21,797	1	16	760	10,851	--	20	
Hard maple	40,304	11,713	70,098	6,494	1,057	6,494	19,240	243,545	184	2,332	8,110	115,851	--	--	
Soft maple	27,028	6,763	37,889	678	110	678	13,654	172,635	1,127	14,242	5,335	76,208	--	40	
Elm	6,671	851	4,766	--	--	--	1,965	24,872	1	11	3,854	55,060	--	--	
Black ash	5,698	1,565	8,769	149	24	149	3,118	39,464	73	923	919	13,123	--	--	
White & green ash	6,821	1,883	10,547	111	18	111	2,793	35,354	48	609	2,079	29,699	--	--	
Cottonwood	416	256	1,437	156	25	156	123	1,555	--	--	12	167	--	--	
Willow	226	9	49	--	--	--	--	--	--	--	217	3,102	--	--	
Hackberry	37	37	205	--	--	--	--	--	--	--	--	--	--	--	
Balsam poplar	407	17	96	--	--	--	137	1,730	253	3,200	--	--	--	--	
Bigtooth aspen	36,709	6,026	34,512	4,622	752	4,622	15,925	201,585	9,714	122,961	2,348	33,542	13	1,930	
Quaking aspen	93,750	14,054	80,491	11,183	1,821	11,183	45,789	579,611	24,496	310,079	6,355	90,785	12	1,223	
Paper birch	32,092	3,975	22,267	7,576	1,233	7,576	22,291	281,828	403	5,091	4,170	59,570	--	20	
River birch	149	--	--	--	--	--	--	--	--	--	149	2,134	--	--	
Black cherry	1,307	840	4,705	474	77	474	127	1,614	1	14	261	3,734	--	--	
Black walnut	516	124	697	234	38	234	--	--	--	--	353	5,046	--	--	
Butternut	49	49	274	--	--	--	--	--	--	--	--	--	--	--	
Other hardwoods	1,512	5	26	--	--	--	696	8,808	1	7	811	11,589	--	--	
Noncommercial species	228	--	--	--	--	--	4	54	--	--	224	3,202	--	--	
<b>Total hardwoods</b>	<b>359,043</b>	<b>94,835</b>	<b>542,432</b>	<b>50,493</b>	<b>8,220</b>	<b>50,493</b>	<b>142,987</b>	<b>1,809,246</b>	<b>36,435</b>	<b>461,172</b>	<b>72,779</b>	<b>1,039,706</b>	<b>185</b>	<b>3,602</b>	
<b>All species</b>	<b>449,081</b>	<b>113,014</b>	<b>645,262</b>	<b>52,269</b>	<b>8,509</b>	<b>52,269</b>	<b>208,854</b>	<b>2,643,787</b>	<b>37,222</b>	<b>471,158</b>	<b>76,258</b>	<b>1,089,400</b>	<b>744</b>	<b>4,478</b>	

<sup>1</sup> Includes chip board, oriented strand board, particleboard, engineered lumber, etc.<sup>2</sup> International 1/4-inch rule.<sup>3</sup> 128 cubic feet including bark and air space.

Table 54...All live tree biomass on timberland by species group and forest type, Wisconsin, 1996

(In green tons)

Species group	Forest type													Balsam poplar	Non-stocked
	All types	Northern													
		Jack pine	Red pine	White pine	Balsam fir	White spruce	Black spruce	White-cedar	Tamarack	Oak-hickory	Elm-ash-soft maple	Maple-basswood	Aspen		
Softwoods	14,857,349	1,290,325	340,578	...	19,909	7,534	1,270	2,384,216	60,246	436,902	1,353,540	242,352	...	...	...
Jack pine	8,720,477	1,290,325	340,578	...	19,909	7,534	1,270	2,384,216	60,246	436,902	1,353,540	242,352	...	...	...
Red pine	1,149,945	24,901,924	1,413,726	...	22,844	18,290	29,543	1,594,503	39,561	1,240,394	2,243,562	986,772	...	...	445
White pine	497,697	2,263,361	9,389,409	...	156,717	401,481	608,202	2,791,398	1,036,083	9,982,107	3,228,107	879,404	...	...	31,170
White spruce	9,288,964	330,851	1,111,250	...	11,165	376,380	70,202	24,895	311,153	1,929,048	1,982,398	255,395	...	...	7,923
Black spruce	10,017,322	34,838	83,617	...	5,692,899	913,264	1,396,917	13,130	234,512	266,251	672,866	34,727	...	...	14,377
Balsam fir	26,705,716	185,875	349,607	...	326,548	2,116,031	1,71,891	37,944	2,582,318	6,807,625	5,747,616	1,900,685	...	...	23,892
Hemlock	19,238,813	16,489	1,363	...	10,203	528,964	33,297	77,119	672,632	17,087,168	195,376	242,177	...	...	...
Tamarack	12,763,371	560	28,794	...	56,859	1,914,474	7,465,362	108,371	1,021,916	436,306	296,468	170,984	...	...	38,551
Eastern redcedar	587,540	684	...	...	...	...	...	459,075	716	73,164	26,947	60,645	...	...	...
Northern white-cedar	23,374,075	40,391	50,585	...	34,401	196,453	284,451	5,667	3,317,219	3,191,488	453,578	508,258	...	...	...
Other softwoods	636,211	121,174	24,525	...	...	...	...	22,606	16,844	74,980	93,559	102,217	...	...	...
Total softwoods	183,040,706	29,334,143	11,750,055	...	8,351,212	19,101,921	10,061,135	7,518,924	9,293,200	41,495,433	16,274,017	5,331,616	...	...	212,736
Hardwoods	61,859,106	110,874	154,891	...	22,508	...	...	44,450,903	1,517,251	11,962,732	2,693,087	748,192	...	...	...
Select white oak	345,593	596,013	288,447	...	28,790	89,095	...	61,677,922	1,014,140	30,487,077	6,839,968	2,702,962	...	...	11,198
Other red oak	1,136,991	975,317	505,329	...	16,948	36,303	12,308	40,709,502	647,619	4,176,072	2,277,197	161,578	...	...	9,127
Select hickory	8,565,123	168	22,778	...	...	...	...	6,959,829	35,927	1,269,996	165,851	106,940	...	...	...
Other hickory	6,043,794	168	8,899	...	...	127	...	2,669,519	138,878	3,059,008	58,745	106,940	...	...	...
Basswood	44,747,872	8,566	22,000	...	...	...	...	3,687,101	1,156,007	38,490,189	1,208,122	90,567	...	...	...
Beech	2,962,395	674	...	...	...	...	...	78,009	3,011	2,806,098	74,410	193	...	...	...
Yellow birch	20,278,191	...	4,432	...	...	...	...	81,820	2,324,017	16,322,722	433,193	72,664	...	...	703
Hard maple	145,682,660	10,997	214,656	...	90,928	6,636	...	4,863,040	1,311,081	134,069,036	3,737,940	946,070	...	...	1,341
Soft maple	122,064,661	93,117	406,517	...	54,143	92,870	...	4,600,240	3,580,199	10,750,737	1,323,094	230,071	...	...	19,751
Elm	20,886,585	151	60,732	...	32,935	...	...	4,385,501	15,928,646	7,837,778	990,607	413,739	...	...	21,675
Black ash	27,238,671	158	...	...	184	1,067,404	42,048	2,340,839	6,720,593	18,082,158	914,471	187,832	...	...	823
White & green ash	28,412,220	...	13,925	...	5,981	71,834	2,194	274,239	1,270,333	621,164	65,651	128,033	...	...	...
Cottonwood	2,408,403	10,884	29,116	...	...	...	...	8,141	1,190,476	924,869	1,287	162	...	...	12,515
Willow	2,127,943	...	...	...	...	65	428	8,141	1,190,476	924,869	1,287	162	...	...	...
Hackberry	687,168	...	...	...	...	...	...	256,360	127,803	303,005	...	...	...	...	...
Balsam poplar	2,659,258	...	...	...	...	248,297	31,218	55,902	605,672	422,376	510,748	174,542	...	...	540,740
Bigtooth aspen	37,838,634	100,481	164,394	...	93,683	17,963	8,892,795	374,427	8,236,722	18,300,883	1,272,376	3,160,876	...	...	14,342
Quaking aspen	99,565,296	921,939	917,831	...	356,661	259,042	55,974	4,787,781	4,646,618	20,728,965	60,909,854	3,160,876	...	...	126,487
Paper birch	48,881,474	121,604	357,822	...	428,178	73,913	125,836	5,298,724	2,207,442	14,058,984	9,009,814	15,088,868	...	...	8,733
River birch	780,919	...	...	...	...	...	...	212,721	536,568	31,630	...	...	...	...	...
Tupelo	15,550	...	...	...	...	...	...	...	...	...	15,550	...	...	...	...
Black cherry	15,058,014	58,862	272,174	...	50,681	14,102	5,357	5,043,760	866,071	6,657,506	1,588,487	284,362	...	...	...
Black walnut	3,131,704	...	...	...	...	...	...	2,306,845	1,70,246	620,835	15,308	18,470	...	...	...
Butternut	1,947,774	...	...	...	...	...	...	862,472	63,495	862,472	58,263	43,465	...	...	...
Other hardwoods	7,047,597	843	26,910	...	...	...	...	1,627,444	3,651,819	1,471,387	157,987	61,955	...	...	2,648
Total hardwoods	865,809,015	3,007,946	4,176,914	...	592,314	4,316,782	808,477	219,894,002	72,029,542	403,040,383	124,585,234	29,659,469	...	...	721,861
Noncommercial spp.	8,876,000	5,416	11,735	...	43,654	1,133	936	5,014,666	918,224	161,929	9,036	...	...	...	9,036
All species	1,057,725,721	13,885,362	33,522,792	...	14,935,789	23,418,703	10,869,612	221,412,926	81,757,848	444,535,816	140,839,251	35,153,014	...	...	943,633



Table 55.--All live tree biomass on timberland by species group and tree biomass component, Wisconsin, 1996

(In green tons)

Species group	Biomass component						
	All components	All live 1-5-inch trees		Growing-stock trees		Non-growing-stock trees	
		Stumps	Boles	Stumps	Boles	Stumps	Boles
<b>Softwoods</b>							
Jack pine	14,857,349	1,475,572	809,812	10,547,326	1,298,091	603,851	75,042
Red pine	33,866,977	1,723,096	1,854,604	26,842,153	3,146,816	248,461	31,830
White pine	31,704,968	1,050,174	1,501,335	25,154,044	2,653,632	1,142,100	124,905
White spruce	9,288,364	863,548	566,353	5,990,991	1,634,028	167,302	48,746
Black spruce	10,017,322	4,134,135	387,302	4,068,628	1,359,895	47,471	15,511
Balsam fir	26,705,716	7,691,584	1,404,506	12,970,150	4,121,189	37,889	110,215
Hemlock	19,238,813	462,085	1,072,428	12,952,312	3,036,752	1,286,692	316,594
Tamarack	12,763,371	2,449,757	666,778	8,092,230	1,037,305	33,063	50,839
Eastern redcedar	587,540	190,068	15,864	174,101	54,585	110,245	32,989
Northern white-cedar	23,374,075	2,235,943	1,686,365	11,988,509	3,525,234	2,784,421	776,121
Other softwoods	636,211	76,635	31,215	334,578	100,322	67,243	19,856
<b>Total softwoods</b>	<b>183,040,706</b>	<b>22,352,597</b>	<b>9,996,562</b>	<b>119,115,022</b>	<b>21,967,849</b>	<b>7,261,368</b>	<b>1,602,648</b>
<b>Hardwoods</b>							
Select white oak	61,859,106	2,066,275	2,899,930	33,608,312	10,001,092	9,822,291	2,668,210
Select red oak	104,253,712	2,175,312	4,863,309	66,991,016	19,586,237	7,916,009	2,163,000
Other red oak	50,664,291	1,904,714	2,245,595	26,036,380	8,047,460	8,987,505	2,682,470
Select hickory	8,565,123	733,885	418,641	4,922,848	1,596,980	635,209	204,070
Other hickory	6,043,794	881,595	285,638	3,081,824	1,090,036	41,341	163,362
Basswood	44,747,872	2,291,915	2,093,908	27,973,896	8,830,340	191,209	754,811
Beech	2,962,395	252,200	119,667	1,666,753	488,112	313,871	97,732
Yellow birch	20,278,191	1,444,916	867,195	9,805,478	3,128,105	3,587,299	1,127,334
Hard maple	145,682,660	13,868,712	5,864,477	80,864,468	26,238,096	13,709,059	4,182,612
Soft maple	122,064,661	14,995,597	4,814,951	62,681,934	21,405,907	13,028,383	4,183,334
Elm	20,886,585	4,233,875	927,510	9,003,106	3,111,186	2,528,314	833,000
Black ash	27,238,671	4,990,055	1,408,978	13,756,425	4,904,449	1,505,461	521,983
White & green ash	28,412,220	2,532,967	1,244,741	16,570,588	5,341,047	1,955,357	621,174
Cottonwood	2,408,403	21,918	128,106	1,544,806	395,238	245,535	54,984
Willow	2,127,943	27,447	59,441	631,581	174,602	998,449	175,635
Hackberry	687,168	154,581	27,052	310,775	100,553	66,821	21,073
Balsam poplar	2,659,258	238,917	88,663	1,618,686	518,567	141,165	45,552
Bigtooth aspen	37,838,634	4,125,365	1,172,634	23,427,481	5,670,420	2,690,384	621,780
Quaking aspen	99,565,296	15,757,462	3,355,890	53,816,028	13,833,490	563,637	2,333,698
Paper birch	48,881,474	4,931,951	2,036,584	27,575,287	9,840,123	3,170,292	1,097,782
River birch	780,919	35,453	33,486	424,605	144,465	105,058	30,339
Tupelo	15,550	--	823	10,966	3,761	--	--
Black cherry	15,058,014	3,330,679	422,564	5,818,895	2,003,404	185,442	860,038
Black walnut	3,131,704	129,906	109,800	1,599,191	487,305	592,688	172,137
Butternut	1,947,774	52,276	51,556	781,132	238,529	599,724	185,393
Other hardwoods	7,047,597	1,123,065	179,964	1,899,742	676,668	2,226,230	739,982
<b>Total hardwoods</b>	<b>865,809,015</b>	<b>82,301,038</b>	<b>35,721,103</b>	<b>476,422,203</b>	<b>147,856,172</b>	<b>6,688,036</b>	<b>26,541,485</b>
<b>Noncommercial spp.</b>	<b>8,876,000</b>	<b>5,754,630</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>2,060,878</b>	<b>832,146</b>
<b>All species</b>	<b>1,057,725,721</b>	<b>110,408,265</b>	<b>45,717,665</b>	<b>595,537,225</b>	<b>169,824,021</b>	<b>7,661,042</b>	<b>28,976,279</b>

Table 56.--Sampling errors<sup>1</sup> for Forest Survey Unit and county totals of area of timberland, volume, average net annual growth, and average annual removals on timberland, Wisconsin, 1996

(Sampling error in percent)

Forest Survey Unit and county	Area	Growing stock			Sawtimber		
		Volume	Average net annual growth	Average annual removals	Volume	Average net annual growth	Average annual removals
<b>Northeastern Unit</b>							
Florence	2.47	5.62	9.96	30.59	7.56	12.17	27.30
Forest	1.70	3.94	7.30	19.85	5.67	8.63	20.79
Langlade	2.00	4.87	8.38	20.42	7.32	10.07	21.84
Lincoln	2.02	5.55	8.40	27.44	8.88	11.16	32.18
Menominee	2.74	4.86	12.06	25.57	5.53	11.68	21.55
Marinette	1.58	4.04	7.30	25.74	5.99	9.37	34.26
Oconto	2.06	4.94	8.09	28.42	7.20	8.99	35.29
Oneida	1.69	4.58	7.47	18.45	6.45	9.17	22.02
Shawano	2.44	5.38	9.75	28.99	7.81	11.05	24.87
Vilas	1.89	4.31	8.08	28.31	5.70	8.63	29.16
Total	0.62	1.49	2.65	7.67	2.08	3.12	8.06
<b>Northwestern Unit</b>							
Ashland	1.74	4.20	8.84	19.75	5.78	9.58	20.56
Barron	3.19	7.78	13.64	32.92	9.89	14.94	30.86
Bayfield	1.42	3.49	6.14	14.09	4.92	7.01	15.20
Burnett	2.25	5.94	10.27	26.40	8.00	12.03	25.70
Douglas	1.56	4.56	7.92	21.69	6.81	10.41	25.44
Iron	1.88	4.36	9.41	25.69	6.01	10.32	25.08
Polk	2.53	6.75	12.40	27.73	9.15	14.18	24.61
Price	1.61	4.21	6.77	16.80	6.03	8.73	18.18
Rusk	2.03	5.01	8.88	15.07	6.81	10.47	16.59
Sawyer	1.56	3.77	6.74	13.54	5.12	7.43	13.41
Taylor	2.02	4.92	7.96	22.07	7.12	10.06	26.94
Washburn	2.08	5.22	9.00	20.18	7.73	10.93	21.95
Total	0.54	1.35	2.41	5.52	1.88	2.83	5.80
<b>Central Unit</b>							
Adams	1.89	6.56	11.57	33.18	8.96	13.83	40.89
Chippewa	1.99	5.89	10.59	20.16	8.96	12.77	21.03
Clark	1.68	5.65	10.43	18.16	7.74	13.1	19.7
Eau Claire	2.36	8.49	14.83	23.35	12.81	18.31	25.34
Jackson	1.58	5.44	10.36	18.88	7.66	11.24	20.6
Juneau	1.83	6.27	10.89	23.92	8.88	12.62	28.03
Marathon	1.56	4.58	8.17	24.44	6.74	11.42	26.52
Marquette	3.08	10.86	20.81	35.01	14.69	24.4	32.26
Monroe	1.82	5.83	11.86	24.17	7.73	13.6	25.48
Portage	2.28	6.61	11.33	24.67	9.38	13.31	24.87
Waupaca	2.24	5.74	12.11	35.42	7.2	12.48	35.8
Wausara	2.66	7.91	13.98	26.26	11.36	15.23	26.84
Wood	2.05	6.78	12.47	23.42	9.38	13.27	21.18
Total	0.55	1.73	3.19	6.64	2.42	3.75	6.97

(Table 56 continued on next page)

(Table 56 continued)

(Sampling error in percent)

Forest Survey Unit and county	Area	Growing stock			Sawtimber		
		Volume	Average net annual growth	Average annual removals	Volume	Average net annual growth	Average annual removals
<b>Southwestern Unit</b>							
Buffalo	1.8	6.73	14.73	48.65	9.6	16.71	49.02
Crawford	1.83	7.26	13.7	38.93	9.93	15.83	43.61
Dunn	1.81	7.52	14.07	48.75	10.93	14.88	48.25
Grant	1.76	7.23	14.43	59.04	10.41	20.54	61.59
Iowa	2.09	8.58	15.83	105.87	11.9	17.38	112.63
La Crosse	2.1	8.29	15.66	42.23	12.27	18.91	44.11
Lafayette	3.94	17.24	31.77	--	23.43	40.94	--
Pepin	3.22	13.41	27.92	154.34	17.73	31.29	155.55
Pierce	2.5	11.24	22.03	124.15	15.55	24.94	135.46
Richland	1.89	7.22	14.48	44.34	9.99	16.8	48.48
St. Croix	2.79	10.55	21.2	177.28	13.78	23.07	352.67
Sauk	1.81	6.55	12.98	53.12	8.96	15.07	54.42
Trempealeau	1.87	7.64	13.42	49.34	11.03	17.56	53.39
Vernon	1.64	6.78	13.64	35.84	9.22	16.54	36.56
Total	0.54	2.17	4.22	14.69	3.03	4.97	15.44
<b>Southeastern Unit</b>							
Brown	1.68	16.05	29.68	88.25	23.06	33.21	--
Calumet	2.71	23.95	39.92	--	30.97	49.35	--
Columbia	1.15	9.62	15.45	30.6	14.95	21.76	30.53
Dane	1.28	11.18	24.84	39.97	14.35	31.79	41.83
Dodge	1.81	18.2	33.06	180.69	25.45	52.62	159.55
Door	1.11	9.51	20.12	37.3	14.01	21.28	42.9
Fond du Lac	1.98	17.93	34.65	277.27	25.31	41.2	--
Green	1.79	17.05	29.03	--	22.83	29.95	--
Green Lake	2.08	20.14	36.38	--	26.37	36.88	--
Jefferson	1.66	19.31	30.48	48.7	26.39	40.82	46.81
Kenosha	2.33	24.37	53.55	51.81	30.64	46.04	53.29
Kewaunee	1.7	12.88	33.13	91.93	18.37	34.49	133.97
Manitowoc	1.39	11.27	18.98	--	15.51	27.17	--
Milwaukee	4.01	28.46	44.86	--	48.9	52.16	--
Outagamie	1.39	13.03	23.52	87.68	19.48	27.15	96.49
Ozaukee	2.63	22.34	41.1	--	30.84	94.61	--
Racine	2.63	21.08	46.59	--	26.43	71.72	--
Rock	1.91	15.91	34.08	--	19.84	35.81	--
Sheboygan	1.45	11.86	22.02	62.05	17.39	22.47	54.74
Walworth	1.82	15.66	35.43	--	19.52	34.65	--
Washington	1.58	15.5	33.22	--	21.99	31.67	--
Waukesha	1.84	18.36	27.95	61.55	24.9	32.71	60.21
Winnebago	2.54	21.3	34.65	39.89	32.95	38.49	43.86
Total	0.35	3.14	5.88	14.46	4.38	6.91	15.2
All counties	0.28	0.78	1.42	3.54	1.09	1.67	3.72

<sup>1</sup>Sampling error is not calculated when the estimated removals is equal to 0.

Table 57.--Area of timberland by forest type, stand-age class, and Forest Survey Unit, Wisconsin, 1996

(In thousand acres)

Forest Survey Unit and forest type	Stand-age class (years)								
	All classes	1 - 20	21 - 40	41 - 60	61 - 80	81 - 100	101 - 120	121 - 140	141+
<b>Northeastern Unit</b>									
Jack pine	82.9	14.6	35.1	25.1	4.6	3.5	--	--	--
Red pine	171.2	42.5	46.1	69.7	3.5	8.8	0.6	--	--
White pine	66.7	0.9	9.3	11.5	12.9	19.0	10.6	--	2.5
Balsam fir	158.3	34.7	29.8	45.4	37.2	4.4	2.1	4.7	--
White spruce	31.6	0.8	10.3	17.1	3.4	--	--	--	--
Black spruce	180.7	14.3	38.5	82.8	35.1	8.8	1.2	--	--
Northern white-cedar	186.9	2.5	1.6	51.9	60.8	31.0	21.3	11.1	6.7
Tamarack	95.7	2.7	10.6	43.3	25.8	13.3	--	--	--
Oak-hickory	166.7	12.8	24.2	59.8	42.1	13.6	10.5	3.7	--
Elm-ash-soft maple	243.1	46.7	41.1	81.5	48.7	23.3	1.8	--	--
Maple-beech-birch	1,607.5	109.0	149.9	582.1	454.8	167.1	86.2	34.9	23.5
Aspen	1,004.7	370.9	288.8	244.4	77.9	19.1	3.6	--	--
Paper birch	174.0	12.0	36.2	63.3	52.1	7.0	3.4	--	--
Balsam poplar	7.2	5.6	--	1.6	--	--	--	--	--
Nonstocked	8.3	0.8	--	--	0.1	3.0	--	2.5	1.9
All forest types	4,185.5	670.8	721.5	1,379.5	859.0	321.9	141.3	56.9	34.6
<b>Northwestern Unit</b>									
Jack pine	133.6	10.7	47.8	54.9	11.3	8.9	--	--	--
Red pine	192.4	83.6	48.8	44.2	12.7	3.1	--	--	--
White pine	25.0	--	--	14.7	2.1	8.2	--	--	--
Balsam fir	138.6	35.2	36.3	43.2	18.9	3.7	--	1.3	--
White spruce	41.4	15.7	9.3	13.5	2.9	--	--	--	--
Black spruce	136.6	1.5	25.1	78.6	26.8	4.6	--	--	--
Northern white-cedar	96.3	--	1.5	15.2	19.3	26.8	13.0	13.5	7.0
Tamarack	146.3	2.4	33.3	46.5	39.5	19.6	5.0	--	--
Oak-hickory	514.2	67.7	59.2	177.2	147.0	51.2	11.9	--	--
Elm-ash-soft maple	465.1	37.1	71.6	197.9	93.2	40.7	16.8	7.8	--
Maple-beech-birch	1,910.8	148.0	248.1	724.7	553.4	159.0	51.2	23.0	3.4
Aspen	1,385.0	482.0	398.5	370.0	114.1	20.4	--	--	--
Paper birch	185.9	28.5	26.8	96.4	20.9	13.3	--	--	--
Balsam poplar	21.4	9.3	5.8	6.3	--	--	--	--	--
Nonstocked	21.5	10.5	3.4	4.3	3.3	--	--	--	--
All forest types	5,414.1	932.2	1,015.5	1,887.6	1,065.4	359.5	97.9	45.6	10.4
<b>Central Unit</b>									
Jack pine	168.0	32.4	94.7	31.6	9.3	--	--	--	--
Red pine	176.4	57.3	97.5	20.1	1.5	--	--	--	--
White pine	67.4	9.1	14.0	14.3	21.7	4.8	3.5	--	--
Balsam fir	10.7	3.5	7.2	--	--	--	--	--	--
White spruce	4.7	--	4.7	--	--	--	--	--	--
Black spruce	13.1	--	5.1	--	2.4	2.2	3.4	--	--
Northern white-cedar	5.3	--	--	5.3	--	--	--	--	--
Tamarack	45.0	--	20.1	16.6	8.3	--	--	--	--
Oak-hickory	981.9	73.9	123.6	303.1	300.7	133.6	26.4	20.6	--
Elm-ash-soft maple	344.0	64.1	81.4	125.3	43.9	26.7	--	2.6	--
Maple-beech-birch	773.0	88.9	164.6	277.7	140.2	80.8	12.8	2.6	5.4
Aspen	372.1	122.2	136.2	90.7	22.2	0.8	--	--	--
Paper birch	65.5	18.2	12.2	30.5	3.7	--	--	--	0.9
Nonstocked	15.0	12.9	2.1	--	--	--	--	--	--
All forest types	3,042.1	482.5	763.4	915.2	553.9	248.9	46.1	25.8	6.3

(Table 57 continued on next page)

(Table 57 continued)

Forest Survey Unit and forest type	Stand-age class (years)								
	All classes	1 - 20	21 - 40	41 - 60	61 - 80	81 - 100	101 - 120	121 - 140	141+
<b>Southwestern Unit</b>									
Jack pine	2.5	2.4	0.1	--	--	--	--	--	--
Red pine	38.2	5.7	32.5	--	--	--	--	--	--
White pine	19.9	5.3	11.0	--	--	3.6	--	--	--
White spruce	3.2	1.7	1.5	--	--	--	--	--	--
Oak-hickory	965.8	35.7	149.9	299.2	293.1	131.9	25.5	27.6	2.9
Elm-ash-soft maple	222.7	30.5	90.9	71.7	17.0	12.6	--	--	--
Maple-beech-birch	640.0	109.3	184.6	165.5	121.5	44.4	12.9	1.2	0.6
Aspen	85.6	16.3	20.8	44.0	3.6	0.9	--	--	--
Paper birch	42.9	5.0	10.8	13.6	9.3	4.2	--	--	--
Balsam poplar	0.5	--	0.5	--	--	--	--	--	--
Nonstocked	5.8	4.9	--	0.9	--	--	--	--	--
All forest types	2,027.1	216.8	502.6	594.9	444.5	197.6	38.4	28.8	3.5
<b>Southeastern Unit</b>									
Jack pine	0.4	--	0.4	--	--	--	--	--	--
Red pine	24.6	0.5	22.0	2.1	--	--	--	--	--
White pine	12.5	7.0	1.9	3.6	--	--	--	--	--
Balsam fir	1.8	--	--	1.4	0.4	--	--	--	--
Northern white-cedar	30.8	--	8.8	8.5	4.2	9.3	--	--	--
Tamarack	14.9	4.7	3.6	2.5	4.1	--	--	--	--
Oak-hickory	256.9	21.9	39.3	30.2	56.8	60.1	32.8	12.4	3.4
Elm-ash-soft maple	253.9	48.0	88.0	62.8	39.2	9.0	2.7	--	4.2
Maple-beech-birch	368.4	51.2	94.8	69.4	61.7	64.9	15.6	5.3	5.5
Aspen	38.3	5.2	13.1	14.9	3.1	2.0	--	--	--
Paper birch	25.4	3.2	9.9	4.9	3.0	2.0	--	--	2.4
Nonstocked	5.8	3.1	2.7	--	--	--	--	--	--
All forest types	1,033.7	144.8	284.5	200.3	172.5	147.3	51.1	17.7	15.5
<b>All Units</b>									
Jack pine	387.4	60.1	178.1	111.6	25.2	12.4	--	--	--
Red pine	602.8	189.6	246.9	136.1	17.7	11.9	0.6	--	--
White pine	191.5	22.3	36.2	44.1	36.7	35.6	14.1	--	2.5
Balsam fir	309.4	73.4	73.3	90.0	56.5	8.1	2.1	6.0	--
White spruce	80.9	18.2	25.8	30.6	6.3	--	--	--	--
Black spruce	330.4	15.8	68.7	161.4	64.3	15.6	4.6	--	--
Northern white-cedar	319.3	2.5	11.9	80.9	84.3	67.1	34.3	24.6	13.7
Tamarack	301.9	9.8	67.6	108.9	77.7	32.9	5.0	--	--
Oak-hickory	2885.5	212.0	396.2	869.5	839.7	390.4	107.1	64.3	6.3
Elm-ash-soft maple	1528.8	226.4	373.0	539.2	242.0	112.3	21.3	10.4	4.2
Maple-beech-birch	5299.7	506.4	842.0	1,819.4	1,331.6	516.2	178.7	67.0	38.4
Aspen	2885.7	996.6	857.4	764.0	220.9	43.2	3.6	--	--
Paper birch	493.7	66.9	95.9	208.7	89.0	26.5	3.4	--	3.3
Balsam poplar	29.1	14.9	6.3	7.9	--	--	--	--	--
Nonstocked	56.4	32.2	8.2	5.2	3.4	3.0	--	2.5	1.9
All forest types	15,702.50	2,447.1	3,287.5	4,977.5	3,095.3	1,275.2	374.8	174.8	70.3

Table 58.--Area of timberland by forest type, site-index class, and Forest Survey Unit, Wisconsin, 1996

(In thousand acres)

Forest Survey Unit and forest type	Site-index class (height in feet of dominant and codominant site trees at 50 years of age)									
	All classes	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91+
<b>Northeastern Unit</b>										
Jack pine	82.9	--	--	3.6	8.3	9.0	33.9	16.5	9.6	2.0
Red pine	171.2	--	--	7.0	4.4	23.3	51.1	29.4	48.3	7.7
White pine	66.7	--	--	--	6.5	12.7	16.3	13.7	9.5	8.0
Balsam fir	158.3	--	2.8	26.9	38.2	53.1	17.8	15.1	0.8	3.6
White spruce	31.6	--	--	--	8.7	2.5	9.9	4.4	--	6.1
Black spruce	180.7	4.0	41.8	58.0	51.6	23.8	1.5	--	--	--
Northern white-cedar	186.9	3.3	41.1	47.6	45.4	25.1	16.6	4.6	3.2	--
Tamarack	95.7	--	4.2	39.1	23.6	15.8	10.3	--	2.4	0.3
Oak-hickory	166.7	--	--	--	6.6	36.6	51.2	49.0	23.3	--
Elm-ash-soft maple	243.1	--	--	25.5	57.6	71.1	49.0	21.6	18.3	--
Maple-beech-birch	1,607.5	--	--	7.6	64.6	289.5	545.0	465.5	184.2	51.1
Aspen	1,004.7	--	3.3	5.4	38.9	151.8	247.3	392.6	131.1	34.3
Paper birch	174.0	--	1.0	0.7	8.1	49.2	50.4	41.4	16.6	6.6
Balsam poplar	7.2	--	--	--	2.9	--	--	2.5	1.8	--
Nonstocked	8.3	--	--	0.1	2.5	1.9	0.8	--	--	--
All forest types	4,185.5	10.3	94.2	221.5	367.9	765.4	1,101.1	1,056.3	449.1	119.7
<b>Northwestern Unit</b>										
Jack pine	133.6	--	--	--	12.0	26.6	80.9	14.1	--	--
Red pine	192.4	--	3.4	13.2	15.1	25.9	73.7	49.8	7.9	3.4
White pine	25.0	--	--	0.3	--	5.7	5.1	13.9	--	--
Balsam fir	138.6	--	1.3	9.4	24.7	40.3	41.1	11.4	10.4	--
White spruce	41.4	--	--	--	10.0	7.4	11.6	7.8	--	4.6
Black spruce	136.6	0.8	29.5	48.0	29.7	22.3	3.9	2.4	--	--
Northern white-cedar	96.3	5.2	5.3	24.6	29.0	16.0	16.2	--	--	--
Tamarack	146.3	--	19.8	30.0	40.5	23.7	25.3	7.0	--	--
Oak-hickory	514.2	--	--	7.2	75.9	133.3	137.4	105.0	45.3	10.1
Elm-ash-soft maple	465.1	1.9	5.9	52.1	110.2	115.7	88.6	64.5	26.2	--
Maple-beech-birch	1,910.8	--	--	9.7	92.0	446.7	663.5	476.5	174.7	47.7
Aspen	1,385.0	--	--	5.6	33.2	216.0	413.8	403.1	229.4	83.9
Paper birch	185.9	--	--	5.4	12.7	50.2	51.1	50.3	15.1	1.1
Balsam poplar	21.4	--	--	--	0.2	2.2	9.8	6.2	3.0	--
Nonstocked	21.5	--	--	6.0	--	7.2	3.1	3.8	--	1.4
All forest types	5,414.1	7.9	65.2	211.5	485.2	1,139.2	1,625.1	1,215.8	512.0	152.2
<b>Central Unit</b>										
Jack pine	168.0	--	--	0.6	18.2	53.8	49.6	26.6	17.9	1.3
Red pine	176.4	--	--	0.8	4.2	20.7	53.6	37.6	53.3	6.2
White pine	67.4	--	--	--	12.1	3.8	25.0	7.3	14.5	4.7
Balsam fir	10.7	--	--	--	--	--	10.7	--	--	--
White spruce	4.7	--	--	--	--	1.6	3.0	0.1	--	--
Black spruce	13.1	--	3.4	8.6	--	1.1	--	--	--	--
Northern white-cedar	5.3	--	3.2	--	--	2.1	--	--	--	--
Tamarack	45.0	--	--	4.2	29.0	9.8	2.0	--	--	--
Oak-hickory	981.9	--	--	13.4	99.4	275.7	296.9	192.8	71.9	31.8
Elm-ash-soft maple	344.0	--	--	3.0	39.1	85.9	100.1	69.2	35.1	11.6
Maple-beech-birch	773.0	--	--	0.8	22.4	123.7	211.1	237.0	117.5	60.5
Aspen	372.1	--	--	--	9.8	57.6	136.4	110.3	44.7	13.3
Paper birch	65.5	--	--	--	2.8	4.0	32.7	18.9	7.0	0.1
Nonstocked	15.0	--	--	3.2	2.3	2.1	4.0	1.3	2.1	--
All forest types	3,042.1	--	6.6	34.6	239.3	641.9	925.1	701.1	364.0	129.5

(Table 58 continued on next page)

(Table 58 continued )

Forest Survey Unit and forest type	All classes	Site-index class (height in feet of dominant and codominant site trees at 50 years of age)								
		11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91+
<b>Southwestern Unit</b>										
Jack pine	2.5	--	--	--	--	--	--	0.1	--	2.4
Red pine	38.2	--	--	--	--	2.4	4.2	30.4	1.2	--
White pine	19.9	--	--	--	4.6	--	4.9	3.9	5.1	1.4
White spruce	3.2	--	--	1.7	--	--	--	1.5	--	--
Oak-hickory	965.8	--	--	12.7	71.0	135.2	305.0	245.2	130.3	66.4
Elm-ash-soft maple	222.7	--	--	2.3	16.2	34.8	29.8	60.5	38.2	40.9
Maple-beech-birch	640.0	--	--	1.5	17.9	58.4	130.2	196.1	138.0	97.9
Aspen	85.6	--	--	--	3.6	2.9	21.4	28.2	18.8	10.7
Paper birch	42.9	--	--	--	5.3	3.2	3.8	15.5	13.7	1.4
Balsam poplar	0.5	--	--	--	--	--	--	--	0.5	--
Nonstocked	5.8	--	--	--	--	2.1	0.9	1.2	1.6	--
All forest types	2,027.1	--	--	18.2	118.6	239.0	500.2	582.6	347.4	221.1
<b>Southeastern Unit</b>										
Jack pine	0.4	--	--	0.4	--	--	--	--	--	--
Red pine	24.6	--	--	--	--	3.9	6.0	7.3	--	7.4
White pine	12.5	--	--	--	0.6	1.8	0.2	3.2	1.5	5.2
Balsam fir	1.8	--	--	--	0.4	--	1.4	--	--	--
Northern white-cedar	30.8	--	6.1	2.1	11.9	3.8	5.1	1.2	--	0.6
Tamarack	14.9	--	1.3	3.9	1.6	4.4	1.4	2.3	--	--
Oak-hickory	256.9	--	4.8	2.2	28.4	34.8	81.7	62.4	21.6	21.0
Elm-ash-soft maple	253.9	--	--	1.2	20.8	64.1	52.3	59.2	37.9	18.4
Maple-beech-birch	368.4	--	--	6.3	12.0	31.6	89.6	112.4	67.9	48.6
Aspen	38.3	--	--	--	0.9	3.8	12.4	11.8	5.3	4.1
Paper birch	25.4	--	--	2.2	--	5.9	6.5	8.6	2.2	--
Nonstocked	5.8	--	--	--	--	0.6	2.7	--	2.5	--
All forest types	1,033.7	--	12.2	18.3	76.6	154.7	259.3	268.4	138.9	105.3
<b>All Units</b>										
Jack pine	387.4	--	--	4.6	38.5	89.4	164.4	57.3	27.5	5.7
Red pine	602.8	--	3.4	21.0	23.7	76.2	188.6	154.5	110.7	24.7
White pine	191.5	--	--	0.3	23.8	24.0	51.5	42.0	30.6	19.3
Balsam fir	309.4	--	4.1	36.3	63.3	93.4	71.0	26.5	11.2	3.6
White spruce	80.9	--	--	1.7	18.7	11.5	24.5	13.8	--	10.7
Black spruce	330.4	4.8	74.7	114.6	81.3	47.2	5.4	2.4	--	--
Northern white-cedar	319.3	8.5	55.7	74.3	86.3	47.0	37.9	5.8	3.2	0.6
Tamarack	301.9	--	25.3	77.2	94.7	53.7	39.0	9.3	2.4	0.3
Oak-hickory	2,885.5	--	4.8	35.5	281.3	615.6	872.2	654.4	292.4	129.3
Elm-ash-soft maple	1,528.8	1.9	5.9	84.1	243.9	371.6	319.8	275.0	155.7	70.9
Maple-beech-birch	5,299.7	--	--	25.9	208.9	949.9	1,639.4	1,487.5	682.3	305.8
Aspen	2,885.7	--	3.3	11.0	86.4	432.1	831.3	946.0	429.3	146.3
Paper birch	493.7	--	1.0	8.3	28.9	112.5	144.5	134.7	54.6	9.2
Balsam poplar	29.1	--	--	--	3.1	2.2	9.8	8.7	5.3	--
Nonstocked	56.4	3.0	--	9.3	4.8	13.9	11.5	6.3	6.2	1.4
All forest types	15,702.5	18.2	178.2	504.1	1,287.6	2,940.2	4,410.8	3,824.2	1,811.4	727.8

Table 59.---Area of timberland in plantations by forest type, stand-age class, and Forest Survey Unit, Wisconsin, 1996

(In thousand acres)

Forest Survey Unit and forest type	Stand-age class (years)									
	All classes	1-10	11-20	21-30	31-40	41-50	51-60	61-70	71+	
<b>Northeastern Unit</b>										
Jack pine	26.9	13.3	1.3	5.9	--	3.6	2.8	--	--	
Red pine	141.6	36.8	5.7	18.7	27.4	39.3	13.7	--	--	
White pine	12.3	0.5	0.4	--	8.0	--	--	3.4	--	
White spruce	19.1	--	0.8	5.2	0.4	2.8	7.9	2.0	--	
All types	199.9	50.6	8.2	29.8	35.8	45.7	24.4	5.4	--	
<b>Northwestern Unit</b>										
Jack pine	25.7	2.0	--	--	6.8	11.6	5.3	--	--	
Red pine	156.8	45.6	38.0	24.7	18.1	20.4	7.0	3.0	--	
White pine	4.1	--	--	--	--	--	4.1	--	--	
White spruce	28.3	9.3	2.6	4.2	1.7	8.1	2.4	--	--	
All types	214.9	56.9	40.6	28.9	26.6	40.1	18.8	3.0	--	
<b>Central Unit</b>										
Jack pine	17.5	3.8	5.6	2.9	2.2	0.8	2.2	--	--	
Red pine	167.9	27.7	25.7	52.7	43.8	10.1	7.9	--	--	
White pine	8.5	--	0.6	0.6	1.6	2.0	--	1.4	2.3	
White spruce	4.7	--	--	3.1	1.6	--	--	--	--	
Elm-ash-soft maple	2.3	--	2.3	--	--	--	--	--	--	
Nonstocked	2.6	2.6	--	--	--	--	--	--	--	
All types	203.5	34.1	34.2	59.3	49.2	12.9	10.1	1.4	2.3	
<b>Southwestern Unit</b>										
Red pine	37.3	3.0	1.9	12.5	19.9	--	--	--	--	
White pine	16.3	5.3	--	10.9	0.1	--	--	--	--	
White spruce	3.2	1.7	--	1.5	--	--	--	--	--	
Elm-ash-soft maple	0.1	0.1	--	--	--	--	--	--	--	
All types	56.9	10.1	1.9	24.9	20.0	--	--	--	--	
<b>Southeastern Unit</b>										
Jack pine	0.4	--	--	0.4	--	--	--	--	--	
Red pine	24.6	--	0.5	18.4	3.6	0.8	1.3	--	--	
White pine	10.8	1.6	5.2	0.3	1.6	2.1	--	--	--	
All types	35.8	1.6	5.7	19.1	5.2	2.9	1.3	--	--	
<b>All Units</b>										
Jack pine	70.5	19.1	6.9	9.2	9.0	16.0	10.3	--	--	
Red pine	528.2	113.1	71.8	127.0	112.8	70.6	29.9	3.0	--	
White pine	52.0	7.4	6.2	11.8	11.3	4.1	4.1	4.8	2.3	
White spruce	55.3	11.0	3.4	14.0	3.7	10.9	10.3	2.0	--	
Elm-ash-soft maple	2.4	0.1	2.3	--	--	--	--	--	--	
Nonstocked	2.6	2.6	--	--	--	--	--	--	--	
All types	711.0	153.3	90.6	162.0	136.8	101.6	54.6	9.8	2.3	



Table 60.--Area of reserved forest land by ownership class and Forest Survey Unit, Wisconsin, 1996

(In thousand acres)

Ownership class	Forest Survey Unit					
	All Units	Northeastern Unit	Northwestern Unit	Central Unit	Southwestern Unit	Southeastern Unit
National forest	44.0	37.0	7.0	--	--	--
Other federal	65.0	--	60.0	--	5.0	--
State	79.0	4.0	22.0	7.0	33.0	13.0
County and municipal	11.0	3.0	--	2.0	1.0	5.0
Indian	3.0	3.0	--	--	--	--
Individual	29.0	7.0	4.0	9.0	9.0	--
Corporate	11.0	--	--	6.0	5.0	--
All ownerships	242.0	54.0	93.0	24.0	53.0	18.0

Table 61.--Net volume of growing stock on timberland by species group and ownership class, Wisconsin, 1996

(In thousand cubic feet)

Species group	Total	Ownership class							Corporate	
		National forest	Other federal	State	County & municipal	Indian	Forest industry	Individual		
<b>Softwoods</b>										
Jack pine	381,915	25,695	10,191	26,660	83,170	6,246	20,426	190,037	19,490	
Red pine	987,821	145,812	13,124	74,984	183,552	17,001	38,197	477,236	37,915	
White pine	928,649	58,424	20,511	67,041	88,804	95,213	43,349	494,452	60,855	
White spruce	237,701	70,709	255	16,004	43,838	1,867	21,237	79,700	4,091	
Black spruce	155,986	31,111	--	7,742	23,381	9,091	13,652	62,731	8,278	
Balsam fir	470,736	67,840	3,791	37,444	89,711	8,499	41,602	207,575	14,274	
Hemlock	400,900	80,657	217	10,098	23,010	80,096	46,533	123,228	37,061	
Tamarack	265,005	28,902	1,736	9,711	27,207	2,054	17,678	158,026	19,691	
Eastern redcedar	7,036	--	--	54	--	--	--	6,504	478	
Northern white-cedar	568,702	108,658	4,141	16,151	102,819	26,226	54,929	240,545	15,233	
Other softwoods	13,057	--	--	2,904	453	--	--	9,251	449	
<b>Total softwoods</b>	<b>4,417,508</b>	<b>617,808</b>	<b>53,966</b>	<b>268,793</b>	<b>665,945</b>	<b>246,293</b>	<b>297,603</b>	<b>2,049,285</b>	<b>217,815</b>	
<b>Hardwoods</b>										
Select white oak	926,757	1,704	3,990	39,486	40,204	4,979	13,217	785,881	37,296	
Select red oak	1,729,526	82,938	5,396	61,332	221,706	85,330	63,426	1,135,738	73,660	
Other red oak	659,875	1,827	19,915	28,490	60,613	2,213	9,158	496,361	41,298	
Select hickory	130,915	--	--	4,450	--	--	--	123,302	3,163	
Other hickory	88,104	677	706	4,562	6,040	3,027	6,397	65,105	1,590	
Basswood	1,092,419	138,507	2,202	26,797	146,430	49,482	130,389	553,655	44,957	
Beech	48,468	1,157	--	1,620	486	17,697	1,247	22,435	3,826	
Yellow birch	260,572	46,136	1,715	8,984	29,986	29,232	33,762	90,190	20,567	
Hard maple	2,155,013	379,567	--	71,324	253,216	127,552	291,837	941,412	90,105	
Soft maple	1,905,873	157,286	34,929	93,766	256,288	44,453	160,235	1,088,346	70,570	
Elm	268,832	6,344	1,999	7,131	12,039	1,426	5,410	223,821	10,662	
Black ash	457,099	46,109	2,890	17,208	81,180	12,215	23,177	255,842	18,478	
White & green ash	531,927	37,466	2,538	16,486	39,414	8,982	36,356	377,618	13,067	
Cottonwood	49,615	--	5,930	4,240	4,136	--	--	31,397	3,912	
Willow	21,529	--	1,375	1,830	448	--	--	15,495	2,381	
Hackberry	9,715	--	905	371	561	--	--	7,643	235	
Balsam poplar	49,676	5,662	--	1,851	11,717	761	2,405	26,673	607	
Bigtooth aspen	757,158	70,295	5,630	34,205	89,243	14,523	17,574	498,094	27,594	
Quaking aspen	1,724,760	192,370	6,830	80,534	316,618	48,217	109,285	907,013	63,893	
Paper birch	832,320	95,445	1,001	65,562	108,180	33,991	40,823	440,616	46,702	
River birch	12,687	--	496	6,850	--	--	203	3,531	1,607	
Tupelo	311	--	--	--	--	--	--	311	--	
Black cherry	200,490	12,315	--	7,173	12,359	1,031	8,465	152,254	6,893	
Black walnut	48,347	366	285	866	1,656	--	--	44,128	1,046	
Butternut	28,270	385	--	282	817	--	2,245	21,611	2,930	
Other hardwoods	65,389	--	656	616	1,472	--	865	58,597	3,183	
<b>Total hardwoods</b>	<b>14,055,647</b>	<b>1,276,556</b>	<b>99,388</b>	<b>586,016</b>	<b>1,694,809</b>	<b>485,111</b>	<b>956,476</b>	<b>8,367,069</b>	<b>590,222</b>	
<b>All species</b>	<b>18,473,155</b>	<b>1,894,364</b>	<b>153,354</b>	<b>854,809</b>	<b>2,360,754</b>	<b>731,404</b>	<b>1,254,079</b>	<b>10,416,354</b>	<b>808,037</b>	

Table 62.--Net volume of sawtimber on timberland by species group and ownership class, Wisconsin, 1996

(In thousand board feet)<sup>1</sup>

Species group	Ownership class							Corporate	
	Total	National forest	Other federal	State	County & municipal	Indian	Forest industry		Individual
<b>Softwoods</b>									
Jack pine	945,233	84,517	15,112	62,634	155,452	16,095	41,552	505,965	63,906
Red pine	3,357,335	633,367	61,883	218,991	636,067	65,412	97,818	1,543,182	100,615
White pine	4,399,870	298,421	94,468	341,024	379,484	526,782	220,815	2,243,424	295,452
White spruce	899,918	252,612	1,428	57,467	168,828	7,477	94,354	298,222	19,530
Black spruce	185,159	45,655	--	8,984	35,729	18,489	7,254	58,575	10,473
Balsam fir	787,496	133,302	6,225	41,696	169,508	14,916	75,691	315,700	30,458
Hemlock	1,895,573	406,266	1,037	49,604	100,774	403,667	235,770	513,930	184,525
Tamarack	489,419	64,925	8,066	12,350	64,789	7,350	31,619	252,225	48,095
Eastern redcedar	14,564	--	--	--	--	--	--	12,387	2,177
Northern white-cedar	1,608,145	365,383	7,273	47,056	360,656	71,955	187,049	505,645	63,128
Other softwoods	29,792	--	--	4,099	--	--	--	23,135	2,558
<b>Total softwoods</b>	<b>14,612,504</b>	<b>2,284,448</b>	<b>195,492</b>	<b>843,905</b>	<b>2,071,287</b>	<b>1,132,143</b>	<b>991,922</b>	<b>6,272,390</b>	<b>820,917</b>
<b>Hardwoods</b>									
Select white oak	2,997,736	644	10,543	133,790	92,506	14,234	37,436	2,598,621	109,962
Select red oak	5,995,099	244,887	12,357	199,186	607,967	355,540	226,065	4,102,326	246,771
Other red oak	1,930,853	1,781	42,944	106,138	134,310	7,588	16,683	1,513,968	107,441
Select hickory	296,022	--	--	12,408	--	--	--	276,904	6,710
Other hickory	114,327	1,746	2,577	9,428	8,523	7,785	7,231	76,050	987
Basswood	3,021,734	377,430	3,697	61,808	404,749	170,713	320,284	1,569,005	114,048
Beech	175,170	2,913	--	9,405	1,586	62,103	2,658	80,149	16,356
Yellow birch	706,765	147,398	2,137	31,367	88,337	83,299	108,400	183,240	62,587
Hard maple	5,051,600	761,405	--	159,814	414,388	432,662	651,050	2,388,632	243,649
Soft maple	3,369,995	282,884	115,993	218,001	307,688	61,481	300,697	1,962,987	120,264
Elm	440,171	16,169	2,344	18,288	23,353	3,022	8,103	350,013	18,879
Black ash	606,552	50,832	6,630	19,332	115,919	29,010	23,022	344,140	17,667
White & green ash	1,330,690	117,087	10,939	48,237	97,102	21,710	113,464	900,949	21,202
Cottonwood	207,272	--	27,199	15,560	15,339	--	--	135,049	14,125
Willow	83,020	--	5,541	6,970	1,302	--	--	59,032	10,175
Hackberry	20,823	--	--	1,273	--	--	--	18,608	942
Balsam poplar	133,678	15,716	--	5,005	36,207	1,572	7,746	67,432	--
Bigtooth aspen	2,038,004	211,139	14,204	95,642	174,086	53,543	39,364	1,374,408	75,618
Quaking aspen	3,292,105	389,922	10,118	141,547	551,421	134,685	189,165	1,721,515	153,732
Paper birch	883,152	121,325	--	75,318	86,997	45,635	32,134	452,935	68,808
River birch	20,317	--	--	8,553	--	--	--	10,573	1,191
Black cherry	345,189	22,606	--	21,129	23,936	2,067	15,485	250,484	9,482
Black walnut	164,479	1,671	1,249	1,547	8,440	--	--	147,852	3,720
Butternut	89,717	818	--	516	1,451	--	5,556	69,033	12,343
Other hardwoods	93,433	--	--	--	1,594	--	--	89,167	2,672
<b>Total hardwoods</b>	<b>33,407,903</b>	<b>2,768,373</b>	<b>268,472</b>	<b>1,400,262</b>	<b>3,197,201</b>	<b>1,486,649</b>	<b>2,104,543</b>	<b>20,743,072</b>	<b>1,439,331</b>
<b>All species</b>	<b>48,020,407</b>	<b>5,052,821</b>	<b>463,964</b>	<b>2,244,167</b>	<b>5,268,488</b>	<b>2,618,792</b>	<b>3,096,465</b>	<b>27,015,462</b>	<b>2,260,248</b>

<sup>1</sup>International 1/4-inch rule.

Table 63.--Net volume of growing stock on timberland by forest type, stand-age class, and Forest Survey Unit, Wisconsin, 1996

(In thousand cubic feet)

Forest Survey Unit and forest type	Stand-age class (years)													
	All classes	1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100	101-120	121-140	141+
<b>Northeastern Unit</b>														
Jack pine	86,062	187	--	22,422	8,154	27,819	11,621	1,568	7,004	--	7,287	--	--	--
Red pine	321,018	4,178	--	34,361	74,632	122,230	45,992	3,240	5,816	22,849	5,263	2,457	--	--
White pine	185,843	--	185	--	8,385	12,560	10,450	21,169	13,143	34,605	36,031	36,356	--	12,959
Balsam fir	131,270	2,505	14,227	10,150	7,407	20,593	23,910	38,317	2,541	426	6,556	1,492	3,146	--
White spruce	45,453	--	177	5,263	797	5,252	24,063	9,901	--	--	--	--	--	--
Black spruce	73,018	--	6,861	--	6,703	13,269	21,295	11,371	5,879	4,644	3,036	--	--	--
Northern white-cedar	299,965	315	--	122	--	27,114	51,983	23,826	67,352	19,631	40,056	46,298	9,867	13,401
Tamarack	62,490	--	--	--	4,535	9,702	10,686	21,072	5,472	8,193	2,830	--	--	--
Oak-hickory	256,093	3,582	4,769	3,779	17,267	21,909	60,776	41,235	33,686	1,157	28,788	26,826	12,319	--
Elm-ash-soft maple	227,105	8,142	17,170	4,151	30,291	37,232	35,582	23,345	38,326	26,823	4,530	1,513	--	--
Maple-basswood	2,784,567	18,326	43,493	63,591	100,481	420,363	557,357	511,591	299,525	164,844	207,298	239,195	88,565	69,938
Aspen	781,538	35,970	54,495	80,530	97,661	168,875	166,025	80,526	49,168	15,461	25,575	7,252	--	--
Paper birch	290,703	3,011	8,568	9,610	22,589	31,552	85,998	47,640	57,821	16,324	--	7,590	--	--
Balsam poplar	4,949	--	2,185	--	--	2,764	--	--	--	--	--	--	--	--
Nonstocked	956	--	--	--	--	--	--	--	--	--	--	--	956	--
All types	5,551,030	76,216	152,130	233,979	378,902	921,234	1,105,698	834,801	585,733	314,957	367,250	368,979	114,853	96,298
<b>Northwestern Unit</b>														
Jack pine	135,034	--	484	9,795	24,360	41,744	24,773	16,035	--	9,154	8,689	--	--	--
Red pine	240,995	993	13,618	38,643	42,695	53,487	37,318	17,926	25,906	--	10,409	--	--	--
White pine	72,262	--	--	--	--	14,018	21,561	4,732	4,587	9,675	17,689	--	--	--
Balsam fir	127,196	1,908	9,353	22,416	7,313	32,789	25,325	13,101	10,869	3,540	--	--	582	--
White spruce	51,243	--	1,390	7,586	3,908	26,841	8,516	--	3,002	--	--	--	--	--
Black spruce	46,925	695	--	1,006	3,663	23,893	10,301	5,250	1,405	187	525	--	--	--
Northern white-cedar	168,245	--	--	--	1,930	10,527	10,764	16,720	14,821	16,622	45,647	19,678	21,174	10,362
Tamarack	113,573	--	--	3,335	11,729	20,608	4,385	28,578	19,148	8,214	12,848	4,728	--	--
Oak-hickory	655,993	4,328	4,151	10,721	29,306	62,376	166,976	154,881	107,466	78,066	14,186	23,536	--	--
Elm-ash-soft maple	410,894	3,156	5,460	13,651	18,478	74,797	119,063	66,731	33,685	27,622	19,540	21,779	6,932	--
Maple-basswood	2,823,126	24,524	28,521	53,251	166,247	411,970	698,219	565,734	379,807	207,080	123,431	97,668	54,210	12,454
Aspen	1,186,739	40,576	49,021	98,447	223,504	275,549	264,821	159,043	33,065	32,501	10,212	--	--	--
Paper birch	215,387	1,210	8,668	2,999	11,938	66,486	71,123	28,817	11,398	5,141	7,607	--	--	--
Balsam poplar	10,239	--	2,426	--	4,243	3,570	--	--	--	--	--	--	--	--
Nonstocked	2,608	--	--	1,222	--	555	--	831	--	--	--	--	--	--
All types	6,260,459	77,390	123,092	263,082	549,314	1,119,210	1,463,145	1,078,379	645,159	397,802	270,783	167,389	82,898	22,816

(Table 63 continued on next page)

(Table 63 continued)

Forest Survey Unit and forest type	All classes	Stand-age class (years)												
		1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100	101-120	121-140	141+
<b>Central Unit</b>														
Jack pine	85,752	1,545	2,121	12,756	37,829	15,082	7,763	744	7,912	--	--	--	--	--
Red pine	223,933	518	17,430	77,391	91,870	19,333	15,777	1,614	--	--	--	--	--	--
White pine	95,715	--	1,801	1,046	7,352	11,147	4,124	6,299	42,826	5,145	7,577	8,398	--	--
Balsam fir	8,682	--	5,086	1,763	1,833	--	--	--	--	--	--	--	--	--
White spruce	3,610	--	--	2,167	1,443	--	--	--	--	--	--	--	--	--
Black spruce	3,168	--	--	--	417	--	--	1,408	--	--	1,343	--	--	--
Northern white-cedar	5,639	--	--	--	--	3,631	2,008	--	--	--	--	--	--	--
Tamarack	26,560	--	--	3,879	1,607	4,962	1,884	14,228	--	--	--	--	--	--
Oak-hickory	1,083,284	6,317	7,320	14,394	55,449	124,523	221,283	206,685	200,487	136,049	54,305	40,619	15,853	--
Elm-ash-soft maple	283,454	3,668	6,438	19,308	36,200	76,439	32,897	35,008	30,421	37,241	3,746	--	2,088	--
Maple-basswood	994,049	10,162	18,145	47,899	85,796	214,240	171,893	148,526	74,465	137,276	35,821	30,686	3,237	15,903
Aspen	231,594	11,700	10,550	41,976	28,803	45,924	64,068	16,981	10,061	1,531	--	--	--	--
Paper birch	65,335	--	4,260	652	4,973	32,621	13,159	--	9,670	--	--	--	--	--
Nonstocked	229	--	--	--	--	--	--	--	--	--	--	--	--	--
All types	3,111,004	34,139	73,151	223,231	353,572	547,902	534,856	431,493	375,842	317,242	102,792	79,703	21,178	15,903
<b>Southwestern Unit</b>														
Jack pine	1,487	--	1,487	--	--	--	--	--	--	--	--	--	--	--
Red pine	54,204	--	466	20,880	32,858	--	--	--	--	--	--	--	--	--
White pine	18,565	--	--	14,039	--	--	--	--	--	--	4,526	--	--	--
White spruce	2,186	--	--	2,186	--	--	--	--	--	--	--	--	--	--
Oak-hickory	1,195,966	3,535	19,058	15,176	97,923	164,327	209,505	222,451	192,194	71,864	110,461	40,883	47,412	1,177
Elm-ash-soft maple	195,493	2,285	5,244	26,052	38,112	41,079	42,981	6,142	21,534	12,064	--	--	--	--
Maple-basswood	700,067	10,713	35,947	53,059	96,988	90,989	125,383	120,696	76,013	31,190	42,823	15,599	--	667
Aspen	100,524	513	2,835	6,484	9,873	41,188	34,402	--	4,569	660	--	--	--	--
Paper birch	44,346	--	1,503	2,380	4,467	16,784	1,469	6,643	6,491	--	4,609	--	--	--
Balsam poplar	1,089	--	--	1,089	--	--	--	--	--	--	--	--	--	--
All types	2,313,927	17,046	66,540	141,345	280,221	354,367	413,740	355,932	300,801	115,778	162,419	56,482	47,412	1,844

(Table 63 continued on next page)

(Table 63 continued)

Forest Survey Unit and forest type	Stand-age class (years)													
	All classes	1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100	101-120	121-140	141+
<b>Southeastern Unit</b>														
Jack pine	136	--	--	136	--	--	--	--	--	--	--	--	--	--
Red pine	43,361	--	--	36,655	3,328	856	2,522	--	--	--	--	--	--	--
White pine	15,204	--	2,674	411	4,955	7,164	--	--	--	--	--	--	--	--
Balsam fir	2,243	--	--	--	--	1,967	--	276	--	--	--	--	--	--
Northern white-cedar	32,898	--	--	--	6,039	3,588	3,781	2,648	6,936	6,712	3,194	--	--	--
Tamarack	7,123	--	2,710	--	739	228	--	1,150	2,296	--	--	--	--	--
Oak-hickory	316,400	3,023	--	6,283	13,705	11,857	32,619	38,326	47,038	24,301	67,630	47,353	17,730	6,535
Elm-ash-soft maple	234,584	2,996	15,644	28,087	22,586	57,501	16,401	15,093	52,761	11,792	--	3,436	--	8,287
Maple-basswood	520,516	3,848	19,645	28,134	70,999	56,175	43,884	54,099	64,267	76,010	52,438	24,712	8,959	17,346
Aspen	37,089	--	1,773	5,618	1,670	20,754	--	3,355	--	161	3,758	--	--	--
Paper birch	26,881	--	169	2,194	8,275	849	4,813	--	6,272	2,264	--	--	--	2,045
Nonstocked	300	--	--	300	--	--	--	--	--	--	--	--	--	--
All types	1,236,735	9,867	42,615	107,818	132,296	160,939	104,020	114,947	179,570	121,240	127,020	75,501	26,689	34,213
<b>All Units</b>														
Jack pine	308,471	1,732	4,092	45,109	70,343	84,645	44,157	18,347	14,916	9,154	15,976	--	--	--
Red pine	883,511	5,689	31,514	207,930	245,383	195,906	101,609	22,780	31,722	22,849	15,672	2,457	--	--
White pine	387,589	--	4,660	15,496	20,692	44,889	36,135	32,200	60,556	49,425	65,823	44,754	--	12,959
Balsam fir	269,391	4,413	28,666	34,329	16,553	55,349	49,235	51,694	13,410	3,966	6,556	1,492	3,728	--
White spruce	102,492	--	1,567	17,202	6,148	32,093	32,579	9,901	3,002	--	--	--	--	--
Black spruce	123,111	695	6,861	1,006	10,783	37,162	31,556	18,029	7,284	4,831	4,904	--	--	--
Northern white-cedar	506,747	315	--	122	7,969	44,860	68,536	43,194	89,109	42,965	88,897	65,976	31,041	23,763
Tamarack	209,746	--	2,710	7,214	18,610	35,500	16,955	65,028	26,916	16,407	15,678	4,728	--	--
Oak-hickory	3,507,736	20,785	35,298	50,353	213,650	384,992	691,159	663,578	580,871	311,437	275,370	179,217	93,314	7,712
Elm-ash-soft maple	1,351,530	20,247	49,956	91,249	145,667	287,048	246,924	146,319	176,727	115,542	27,816	26,728	9,020	8,287
Maple-basswood	7,822,325	67,573	145,751	245,944	520,511	1,193,737	1,596,736	1,400,646	894,077	616,400	461,811	407,860	154,971	116,308
Aspen	2,337,484	88,759	118,674	233,055	361,511	552,290	529,316	259,905	96,863	50,314	39,545	7,252	--	--
Paper birch	642,652	4,221	23,168	17,835	52,242	148,292	176,562	83,100	91,652	23,729	12,216	7,590	--	2,045
Balsam poplar	16,277	--	4,611	1,089	4,243	6,334	--	--	--	--	--	--	--	--
Nonstocked	4,093	229	--	1,522	--	555	--	831	--	--	--	--	956	--
All types	18,473,155	214,658	457,528	969,455	1,694,305	3,103,652	3,621,459	2,815,552	2,087,105	1,267,019	1,030,264	748,054	293,030	171,074

Table 64.--Net volume of sawtimber on timberland by forest type, stand-age class, and Forest Survey Unit, Wisconsin, 1996

(In thousand board feet)

Forest Survey Unit and forest type	Stand-age class (years)													
	All classes	1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100	101-120	121-140	141+
<b>Northeastern Unit</b>														
Jack pine	233,717	--	--	54,399	6,544	75,867	46,168	7,927	12,887	--	29,925	--	--	--
Red pine	1,092,602	7,477	--	33,309	200,367	463,315	194,874	12,602	27,681	112,982	26,827	13,168	--	--
White pine	839,199	--	--	--	27,440	44,721	42,982	93,582	62,288	161,029	167,670	170,660	--	68,827
Balsam fir	301,897	2,501	31,008	26,168	18,097	42,797	70,076	64,708	--	1,375	31,189	5,521	8,457	--
White spruce	131,687	--	--	8,067	1,410	13,669	79,034	29,507	--	--	--	--	--	--
Black spruce	58,269	--	1,219	--	3,187	9,626	15,044	2,943	8,390	13,589	4,271	--	--	--
Northern white-cedar	627,111	--	--	--	--	71,760	77,355	38,843	102,081	30,562	112,651	139,873	4,703	49,283
Tamarack	100,416	--	--	--	--	2,933	6,800	40,603	12,489	15,881	2,427	--	--	--
Oak-hickory	664,625	11,094	12,458	14,732	21,373	57,341	141,798	93,637	72,584	3,897	102,708	93,449	39,554	--
Elm-ash-soft maple	441,143	13,001	22,630	2,057	52,499	73,966	61,986	34,124	92,814	70,517	14,687	2,862	--	--
Maple-basswood	7,683,122	54,421	96,824	122,424	196,556	814,190	1,190,287	1,175,937	959,371	582,446	805,692	990,315	376,324	318,335
Aspen	1,608,436	87,820	141,534	97,597	145,582	295,837	364,437	175,015	135,340	48,453	92,526	24,295	--	--
Paper birch	579,586	3,412	13,824	11,875	23,217	70,643	169,844	108,133	104,837	46,691	--	27,110	--	--
Balsam poplar	14,185	--	5,972	--	--	8,213	--	--	--	--	--	--	--	--
Nonstocked	3,121	--	--	--	--	--	--	--	--	--	--	--	3,121	--
<b>All types</b>	<b>14,379,116</b>	<b>179,726</b>	<b>325,469</b>	<b>370,628</b>	<b>699,205</b>	<b>2,061,228</b>	<b>2,460,685</b>	<b>1,877,561</b>	<b>1,590,762</b>	<b>1,087,422</b>	<b>1,390,573</b>	<b>1,467,253</b>	<b>432,159</b>	<b>436,445</b>
<b>Northwestern Unit</b>														
Jack pine	344,953	--	--	16,797	28,172	76,948	81,323	58,181	--	42,000	41,532	--	--	--
Red pine	801,680	5,314	4,001	51,134	97,660	219,883	165,203	88,164	128,070	--	42,251	--	--	--
White pine	329,643	--	--	--	--	54,506	96,853	22,973	25,328	40,104	89,879	--	--	--
Balsam fir	284,134	1,250	19,963	38,648	16,047	74,996	53,195	22,457	41,489	13,029	--	--	3,060	--
White spruce	153,618	--	4,796	20,367	3,655	77,997	39,384	--	7,419	--	--	--	--	--
Black spruce	38,410	1,564	--	1,531	2,975	15,531	11,296	5,513	--	--	--	--	--	--
Northern white-cedar	571,989	--	--	--	1,516	34,362	33,462	31,346	45,616	48,339	205,997	59,860	76,389	35,102
Tamarack	222,004	--	--	5,305	7,028	22,015	9,485	79,894	27,274	25,044	37,680	8,279	--	--
Oak-hickory	1,612,964	16,553	9,193	14,709	80,719	154,332	355,340	312,966	301,321	228,932	54,513	84,386	--	--
Elm-ash-soft maple	719,865	4,892	7,033	25,029	33,763	94,937	208,883	132,658	52,494	43,310	34,914	52,697	29,255	--
Maple-basswood	6,902,675	54,142	56,818	70,046	275,344	770,491	1,444,419	1,355,722	1,144,787	673,382	417,541	356,286	218,899	64,798
Aspen	2,414,763	81,058	108,356	107,512	319,692	520,284	608,687	421,134	94,323	113,876	39,841	--	--	--
Paper birch	401,471	5,894	14,774	3,626	17,586	129,853	104,829	54,808	35,897	12,030	22,174	--	--	--
Balsam poplar	34,032	--	11,318	--	11,262	--	--	--	--	--	--	--	--	--
Nonstocked	10,633	--	--	4,558	--	1,778	--	4,297	--	--	--	--	--	--
<b>All types</b>	<b>14,842,834</b>	<b>170,667</b>	<b>236,252</b>	<b>359,262</b>	<b>895,419</b>	<b>2,259,365</b>	<b>3,212,359</b>	<b>2,590,113</b>	<b>1,904,018</b>	<b>1,240,046</b>	<b>986,322</b>	<b>561,508</b>	<b>327,603</b>	<b>99,900</b>

(Table 64 continued on next page)

(Table 64 continued)

Forest Survey Unit and forest type	Stand-age class (years)													
	All classes	1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100	101-120	121-140	141+
<b>Central Unit</b>														
Jack pine	169,651	899	862	8,154	64,638	44,081	22,516	3,793	24,708	--	--	--	--	--
Red pine	487,566	833	13,740	97,429	245,477	56,398	67,314	6,375	--	--	--	--	--	--
White pine	410,325	--	5,585	3,958	34,153	29,089	9,254	20,474	207,228	26,001	35,016	39,567	--	--
Balsam fir	22,200	--	14,768	1,059	6,373	--	--	--	--	--	--	--	--	--
White spruce	2,323	--	--	--	2,323	--	--	--	--	--	--	--	--	--
Northern white-cedar	8,639	--	--	--	--	999	7,640	--	--	--	--	--	--	--
Tamarack	35,347	--	--	11,848	1,695	3,250	--	18,554	--	--	--	--	--	--
Oak-hickory	2,989,943	20,164	25,471	37,250	99,365	263,494	534,999	535,674	613,779	463,222	198,466	135,304	62,755	--
Elm-ash-soft maple	676,380	4,951	11,273	39,674	59,732	137,913	69,126	105,051	93,633	136,791	10,177	--	8,059	--
Maple-basswood	2,712,437	22,988	33,400	92,526	163,970	508,175	398,313	443,102	232,043	477,070	134,601	118,113	9,092	79,044
Aspen	388,629	31,817	20,853	52,346	32,004	67,982	118,649	27,070	34,138	3,770	--	--	--	--
Paper birch	163,022	--	10,275	2,181	11,430	82,603	29,950	--	26,583	--	--	--	--	--
Nonstocked	967	--	--	--	--	--	--	--	--	--	--	--	--	--
<b>All types</b>	<b>8,067,429</b>	<b>82,619</b>	<b>136,227</b>	<b>346,425</b>	<b>721,160</b>	<b>1,193,984</b>	<b>1,257,761</b>	<b>1,160,093</b>	<b>1,232,112</b>	<b>1,106,854</b>	<b>378,260</b>	<b>292,984</b>	<b>79,906</b>	<b>79,044</b>
<b>Southwestern Unit</b>														
Jack pine	3,364	--	3,364	--	--	--	--	--	--	--	--	--	--	--
Red pine	99,296	--	--	18,992	80,304	--	--	--	--	--	--	--	--	--
White pine	62,153	--	--	42,846	--	--	--	--	--	--	19,307	--	--	--
White spruce	9,472	--	--	9,472	--	--	--	--	--	--	--	--	--	--
Oak-hickory	3,762,434	11,221	57,127	36,807	247,427	466,138	570,715	744,093	657,243	230,332	388,873	159,983	187,290	5,185
Elm-ash-soft maple	587,741	10,529	5,372	52,942	120,005	98,043	151,618	20,969	83,313	44,950	--	--	--	--
Maple-basswood	2,180,384	34,004	108,286	110,102	248,255	233,887	419,233	420,414	257,690	122,142	163,635	59,510	--	3,226
Aspen	236,833	1,412	871	5,492	21,361	84,221	113,190	--	9,010	1,276	--	--	--	--
Paper birch	115,308	--	1,959	4,578	5,403	39,585	3,747	22,314	28,400	--	9,322	--	--	--
Balsam poplar	1,340	--	--	1,340	--	--	--	--	--	--	--	--	--	--
<b>All types</b>	<b>7,058,325</b>	<b>57,166</b>	<b>176,979</b>	<b>282,571</b>	<b>722,755</b>	<b>921,874</b>	<b>1,258,503</b>	<b>1,207,790</b>	<b>1,035,656</b>	<b>398,700</b>	<b>581,137</b>	<b>219,493</b>	<b>187,290</b>	<b>8,411</b>

(Table 64 continued on next page)



(Table 64 continued)

Forest Survey Unit and forest type	Stand-age class (years)													141+
	All classes	1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100	101-120	121-140	
<b>Southeastern Unit</b>														
Jack pine	353	--	--	353	--	--	--	--	--	--	--	--	--	--
Red pine	57,620	--	--	29,158	13,214	1,958	13,290	--	--	--	--	--	--	--
White pine	42,119	--	1,193	2,135	18,311	20,480	--	--	--	--	--	--	--	--
Balsam fir	3,342	--	--	--	--	2,466	--	876	--	--	--	--	--	--
Northern white-cedar	84,495	--	--	--	2,191	10,032	3,465	6,470	22,050	30,030	10,257	--	--	--
Tamarack	16,637	--	6,268	--	--	--	--	771	9,598	--	--	--	--	--
Oak-hickory	1,117,335	12,108	--	12,456	32,482	21,975	122,074	121,404	181,256	57,285	272,279	191,203	65,604	27,209
Elm-ash-soft maple	653,322	11,312	35,251	53,705	38,287	142,816	33,853	51,773	199,943	39,969	--	12,846	--	33,567
Maple-basswood	1,601,491	5,772	54,028	71,204	146,652	139,305	115,790	189,232	226,189	270,840	180,970	95,608	33,828	72,073
Aspen	47,071	--	3,196	2,883	1,001	26,080	--	2,183	--	--	11,728	--	--	--
Paper birch	47,800	--	--	2,787	4,373	997	8,176	--	19,181	5,862	--	--	--	6,424
Nonstocked	1,118	--	--	1,118	--	--	--	--	--	--	--	--	--	--
<b>All types</b>	<b>3,672,703</b>	<b>29,192</b>	<b>99,936</b>	<b>175,799</b>	<b>256,511</b>	<b>366,109</b>	<b>296,648</b>	<b>372,709</b>	<b>658,217</b>	<b>403,986</b>	<b>475,234</b>	<b>299,657</b>	<b>99,432</b>	<b>139,273</b>
<b>All Units</b>														
Jack pine	752,038	899	4,226	79,703	99,354	196,896	150,007	69,901	37,595	42,000	71,457	--	--	--
Red pine	2,538,764	13,624	17,741	230,022	637,022	741,554	440,681	107,141	155,751	112,982	69,078	13,168	--	--
White pine	1,683,439	--	6,778	48,939	79,904	148,796	149,089	137,029	294,844	227,134	311,872	210,227	--	68,827
Balsam fir	611,573	3,751	65,739	65,875	40,517	120,259	123,271	88,041	41,489	14,404	31,189	5,521	11,517	--
White spruce	297,100	--	4,796	37,906	7,388	91,666	118,418	29,507	7,419	--	--	--	--	--
Black spruce	96,679	1,564	1,219	1,531	6,162	25,157	26,340	8,456	8,390	13,589	4,271	--	--	--
Northern white-cedar	1,292,234	--	--	--	3,707	117,153	121,922	76,659	169,747	108,931	328,905	199,733	81,092	84,385
Tamarack	374,404	--	6,268	17,153	11,656	44,548	16,285	139,822	49,361	40,925	40,107	8,279	--	--
Oak-hickory	10,147,301	71,140	104,249	115,954	481,366	963,280	1,724,926	1,807,774	1,826,183	983,668	1,016,839	664,325	355,203	32,394
Elm-ash-soft maple	3,078,451	44,685	81,559	173,407	304,286	547,675	525,466	344,575	522,197	335,537	59,778	68,405	37,314	33,567
Maple-basswood	21,080,109	171,327	349,356	466,302	1,030,777	2,466,048	3,568,042	3,584,407	2,820,080	2,125,880	1,702,439	1,619,832	638,143	537,476
Aspen	4,695,732	202,107	274,810	265,830	519,640	994,404	1,204,963	625,402	272,811	167,375	144,095	24,295	--	--
Paper birch	1,307,187	9,306	40,832	25,047	62,009	323,681	316,546	185,255	214,898	64,583	31,496	27,110	--	6,424
Balsam poplar	49,557	--	17,290	1,340	11,262	19,665	--	--	--	--	--	--	--	--
Nonstocked	15,839	967	--	5,676	--	1,778	--	4,297	--	--	--	--	3,121	--
<b>All types</b>	<b>48,020,407</b>	<b>519,370</b>	<b>974,863</b>	<b>1,534,685</b>	<b>3,295,050</b>	<b>6,802,560</b>	<b>8,485,956</b>	<b>7,208,266</b>	<b>6,420,765</b>	<b>4,237,008</b>	<b>3,811,526</b>	<b>2,840,895</b>	<b>1,126,390</b>	<b>763,073</b>

<sup>1</sup> International 1/4-inch rule.

Table 65.--Net volume of sawtimber on timberland by species group, grade, and Forest Survey Unit, Wisconsin, 1996

(In thousand board feet)<sup>1</sup>

Species	Log grade				Total	Log grade				Total
	1	2	3	4		1	2	3	4	
<b>Northeastern Unit</b>										
Softwoods										
Jack pine	255,830	--	12,096	243,734	255,830	--	12,196	378,012	390,208	--
Red pine	1,511,479	121,830	104,943	1,284,706	1,511,479	121,830	104,943	904,481	1,153,249	150,922
White pine	1,665,914	387,679	360,681	784,464	1,665,914	387,679	360,681	492,758	1,073,707	325,776
White spruce	373,155	--	19,583	353,572	373,155	--	19,583	481,692	490,898	9,206
Black spruce	79,924	--	79,924	79,924	79,924	--	79,924	101,221	102,852	1,631
Balsam fir	283,642	--	283,642	283,642	283,642	--	283,642	486,138	486,138	--
Hemlock	1,215,107	239,775	245,609	729,723	1,215,107	239,775	245,609	285,746	485,534	105,599
Tamarack	144,420	--	2,795	141,625	144,420	--	2,795	244,221	257,504	13,283
Eastern redcedar	--	--	--	--	--	--	--	2,006	2,006	--
Northern white-cedar	699,183	5,175	56,508	637,500	699,183	5,175	56,508	573,809	706,991	115,727
Other softwoods	4,284	--	--	4,284	4,284	--	--	11,207	11,207	--
<b>Total</b>	<b>6,232,938</b>	<b>754,459</b>	<b>802,215</b>	<b>4,543,174</b>	<b>6,232,938</b>	<b>754,459</b>	<b>802,215</b>	<b>3,961,291</b>	<b>5,160,294</b>	<b>734,340</b>
<b>Northwestern Unit</b>										
Softwoods										
Jack pine	390,208	--	12,196	378,012	390,208	--	12,196	378,012	390,208	--
Red pine	1,153,249	97,846	150,922	904,481	1,153,249	97,846	150,922	904,481	1,153,249	150,922
White pine	1,073,707	188,859	325,776	492,758	1,073,707	188,859	325,776	492,758	1,073,707	325,776
White spruce	490,898	--	9,206	481,692	490,898	--	9,206	481,692	490,898	9,206
Black spruce	102,852	--	1,631	101,221	102,852	--	1,631	101,221	102,852	1,631
Balsam fir	486,138	--	486,138	486,138	486,138	--	486,138	486,138	486,138	--
Hemlock	485,534	94,189	105,599	285,746	485,534	94,189	105,599	285,746	485,534	105,599
Tamarack	257,504	--	13,283	244,221	257,504	--	13,283	244,221	257,504	13,283
Eastern redcedar	2,006	--	--	2,006	2,006	--	--	2,006	2,006	--
Northern white-cedar	706,991	17,455	115,727	573,809	706,991	17,455	115,727	573,809	706,991	17,455
Other softwoods	11,207	--	--	11,207	11,207	--	--	11,207	11,207	--
<b>Total</b>	<b>5,160,294</b>	<b>398,349</b>	<b>734,340</b>	<b>3,961,291</b>	<b>5,160,294</b>	<b>398,349</b>	<b>734,340</b>	<b>3,961,291</b>	<b>5,160,294</b>	<b>734,340</b>
<b>Hardwoods</b>										
Select white oak	46,943	1,176	15,563	24,861	46,943	1,176	15,563	155,238	345,489	23,787
Select red oak	1,136,298	351,312	411,060	324,376	1,136,298	351,312	411,060	666,732	1,687,789	344,684
Other red oak	155,918	13,003	21,551	61,156	155,918	13,003	21,551	72,532	139,779	10,080
Other hickory	19,440	--	6,618	7,798	19,440	--	6,618	8,364	16,946	--
Basswood	935,849	268,244	294,199	365,094	935,849	268,244	294,199	431,802	1,093,064	284,888
Beech	100,231	22,235	29,566	30,398	100,231	22,235	29,566	360,100	346,795	--
Yellow birch	313,373	79,120	97,912	122,648	313,373	79,120	97,912	132,865	346,795	89,861
Hard maple	2,271,634	568,956	679,714	880,655	2,271,634	568,956	679,714	738,177	1,622,231	257,824
Soft maple	642,098	68,934	178,631	353,967	642,098	68,934	178,631	534,990	972,340	85,104
Elm	43,463	7,099	12,030	20,476	43,463	7,099	12,030	25,465	66,677	16,147
Black ash	114,372	5,870	44,362	56,168	114,372	5,870	44,362	7,583	311,810	32,518
White & green ash	280,507	64,944	89,220	115,313	280,507	64,944	89,220	162,541	311,810	32,518
Cottonwood	11,053	--	2,909	4,725	11,053	--	2,909	118,255	280,008	54,045
Willow	1,061	--	1,061	--	1,061	--	1,061	--	--	--
Balsam poplar	81,338	6,363	20,260	35,793	81,338	6,363	20,260	25,497	36,880	--
Bigtooth aspen	475,887	31,279	195,795	237,756	475,887	31,279	195,795	324,873	649,862	35,689
Quaking aspen	1,059,209	54,535	262,561	596,790	1,059,209	54,535	262,561	1,025,113	1,776,227	128,427
Paper birch	375,218	22,291	121,593	208,857	375,218	22,291	121,593	214,602	305,036	4,423
Black cherry	68,360	5,131	25,548	35,266	68,360	5,131	25,548	9,010	12,830	1,652
Black walnut	923	--	--	923	923	--	--	5,915	5,915	--
Butternut	13,003	818	4,599	7,586	13,003	818	4,599	5,849	12,862	--
<b>Total</b>	<b>8,146,178</b>	<b>1,571,310</b>	<b>2,514,752</b>	<b>3,490,606</b>	<b>8,146,178</b>	<b>1,571,310</b>	<b>2,514,752</b>	<b>4,657,820</b>	<b>9,682,540</b>	<b>1,369,129</b>
<b>All species</b>	<b>14,379,116</b>	<b>2,325,769</b>	<b>3,316,967</b>	<b>8,033,780</b>	<b>14,379,116</b>	<b>2,325,769</b>	<b>3,316,967</b>	<b>8,619,111</b>	<b>14,842,834</b>	<b>1,767,478</b>

(Table 65 continued on the next page)

## Central Unit

Species	Log grade			
	1	2	3	4
<b>Softwoods</b>				
Jack pine	3,115	9,913	270,426	--
Red pine	17,961	34,094	486,857	--
White pine	134,778	351,066	689,318	117,485
White spruce	--	--	16,688	--
Black spruce	--	--	--	--
Balsam fir	--	--	16,451	--
Hemlock	2,371	18,469	120,211	--
Tamarack	--	886	57,306	--
Eastern redcedar	--	--	--	--
Northern white-cedar	--	2,560	32,165	--
Other softwoods	--	--	11,152	--
<b>Total</b>	<b>158,225</b>	<b>416,988</b>	<b>1,700,574</b>	<b>117,485</b>

Species	Tree grade				Tie & timber
	1	2	3	4	
<b>Hardwoods</b>					
Select white oak	59,805	202,671	341,989	125,221	
Select red oak	271,144	337,217	392,182	93,473	
Other red oak	95,376	209,471	523,621	337,079	
Select hickory	19,517	6,894	11,344	1,279	
Other hickory	19,116	5,956	10,064	3,056	
Basswood	269,117	82,435	105,304	8,312	
Yellow birch	33,250	10,569	18,240	4,441	
Hard maple	353,925	117,132	145,716	23,645	
Soft maple	847,540	233,526	449,592	56,572	
Elm	33,186	2,771	17,834	6,995	
Black ash	98,837	10,270	52,512	3,516	
White & green ash	150,618	36,593	67,340	10,342	
Cottonwood	32,137	910	18,048	2,464	
Willow	7,945	--	5,491	2,454	
Hackberry	--	--	--	--	
Balsam poplar	4,681	2,838	1,843	--	
Bigtooth aspen	394,455	122,097	221,702	31,308	
Quaking aspen	296,443	4,496	193,394	49,254	
Paper birch	55,995	--	38,935	8,821	
River birch	4,573	1,968	2,605	--	
Black cherry	27,071	13,992	10,482	2,597	
Black walnut	3,011	--	3,011	--	
Butternut	19,880	2,213	7,891	--	
Other hardwoods	13,611	--	11,924	1,687	
<b>Total</b>	<b>5,674,157</b>	<b>1,489,498</b>	<b>2,651,064</b>	<b>772,516</b>	
<b>All species</b>	<b>8,067,429</b>	<b>1,906,486</b>	<b>4,351,638</b>	<b>890,001</b>	

## Southwestern Unit

Species	Log grade			
	1	2	3	4
<b>Softwoods</b>				
Jack pine	15,067	--	--	15,067
Red pine	97,781	--	--	97,781
White pine	268,375	8,722	42,741	203,124
White spruce	9,472	--	--	9,472
Black spruce	2,383	--	--	--
Balsam fir	--	--	--	--
Hemlock	--	--	--	--
Tamarack	--	--	--	--
Eastern redcedar	2,870	--	--	2,870
Northern white-cedar	--	--	--	--
Other softwoods	1,378	--	--	1,378
<b>Total</b>	<b>397,326</b>	<b>11,105</b>	<b>42,741</b>	<b>329,692</b>

Species	Tree grade				Tie & timber
	1	2	3	4	
<b>Hardwoods</b>					
Select white oak	1,259,584	389,854	564,146	173,693	
Select red oak	1,744,142	552,985	630,020	76,174	
Other red oak	268,126	63,790	116,150	61,176	
Select hickory	186,317	34,603	101,105	21,694	
Other hickory	52,076	21,921	20,446	6,957	
Basswood	492,606	172,559	182,667	5,025	
Yellow birch	3,109	1,554	1,555	--	
Hard maple	501,755	142,040	210,008	35,434	
Soft maple	481,558	112,661	242,441	42,104	
Elm	202,606	46,494	100,419	28,114	
Black ash	47,020	16,033	13,974	4,169	
White & green ash	197,339	70,450	82,553	5,464	
Cottonwood	144,058	20,577	38,650	7,792	
Willow	27,437	12,014	7,652	5,845	
Hackberry	19,820	13,495	2,577	874	
Balsam poplar	5,013	--	5,013	--	
Bigtooth aspen	469,738	50,049	190,689	5,897	
Quaking aspen	102,560	12,167	30,001	6,321	
Paper birch	95,877	4,086	24,979	7,147	
River birch	13,430	--	5,789	--	
Black cherry	125,623	5,650	43,075	1,321	
Black walnut	114,668	18,513	44,303	1,959	
Butternut	42,437	3,247	12,228	--	
Other hardwoods	64,100	--	13,079	6,082	
<b>Total</b>	<b>6,660,999</b>	<b>1,261,357</b>	<b>2,035,173</b>	<b>503,242</b>	
<b>All species</b>	<b>7,058,325</b>	<b>1,272,462</b>	<b>2,077,914</b>	<b>517,030</b>	

(Table 65 continued on the next page)

(Table 65 continued)

**Southeastern Unit**

Species	Log grade			
	1	2	3	4
<b>Softwoods</b>				
Jack pine	674	--	674	--
Red pine	55,914	--	55,914	--
White pine	99,227	7,959	62,442	9,649
White spruce	9,705	--	9,705	--
Black spruce	--	--	--	--
Balsam fir	1,265	--	1,265	--
Hemlock	53,881	991	52,890	--
Tamarack	29,303	1,790	27,513	--
Eastern redcedar	9,688	--	9,688	--
Northern white-cedar	167,246	6,744	160,502	--
Other softwoods	1,771	--	1,771	--
<b>Total</b>	<b>428,674</b>	<b>7,959</b>	<b>382,364</b>	<b>9,649</b>

Species	Tree grade				Tie & timber
	1	2	3	4	
<b>Hardwoods</b>					
Select white oak	123,469	228,777	219,461	44,327	
Select red oak	165,796	69,713	79,632	17,713	
Other red oak	36,234	52,026	85,716	27,507	
Select hickory	90,188	20,947	41,629	7,497	
Other hickory	6,749	831	4,415	1,503	
Basswood	231,098	81,873	88,520	--	
Beech	74,939	15,404	22,620	8,787	
Yellow birch	10,238	1,372	8,866	--	
Hard maple	302,055	96,061	95,673	8,013	
Soft maple	426,459	79,053	205,062	25,214	
Elm	94,239	22,086	34,388	10,640	
Black ash	34,513	6,958	12,615	--	
White & green ash	422,218	124,252	140,250	23,869	
Cottonwood	20,024	--	9,644	3,169	
Willow	46,577	7,121	23,970	15,486	
Hackberry	1,003	--	1,003	--	
Balsam poplar	5,766	--	1,833	3,933	
Bigtooth aspen	48,062	--	27,548	2,818	
Quaking aspen	57,666	1,711	29,927	17,041	
Paper birch	51,026	1,484	25,836	--	
River birch	2,314	--	1,154	--	
Black cherry	111,305	23,632	59,250	1,200	
Black walnut	39,962	3,983	24,237	2,662	
Butternut	1,535	--	1,535	--	
Other hardwoods	15,722	4,927	8,647	2,148	
<b>Total</b>	<b>3,244,029</b>	<b>787,190</b>	<b>1,238,274</b>	<b>223,527</b>	

All species	3,672,703	795,149	1,620,638	233,176	
International 1/4-inch rule.					

**All Units**

Species	Log grade			
	1	2	3	4
<b>Softwoods</b>				
Jack pine	945,233	34,205	907,913	--
Red pine	3,357,335	289,959	2,829,739	--
White pine	4,399,870	1,099,441	2,232,106	340,326
White spruce	899,918	28,789	871,129	--
Black spruce	185,159	1,631	181,145	--
Balsam fir	787,496	--	787,496	--
Hemlock	1,895,573	370,668	1,188,570	--
Tamarack	489,419	18,754	470,665	--
Eastern redcedar	14,564	--	14,564	--
Northern white-cedar	1,608,145	181,539	1,403,976	--
Other softwoods	29,792	--	29,792	--
<b>Total</b>	<b>14,612,504</b>	<b>2,024,986</b>	<b>10,917,095</b>	<b>340,326</b>

Species	Tree grade				Tie & timber
	1	2	3	4	
<b>Hardwoods</b>					
Select white oak	2,997,736	928,935	1,305,695	422,978	
Select red oak	5,995,099	1,969,189	2,092,942	315,069	
Other red oak	1,930,853	364,264	859,175	525,711	
Select hickory	296,022	62,444	154,078	30,470	
Other hickory	114,327	2,752	51,087	21,863	
Basswood	3,021,734	819,258	1,173,387	37,923	
Beech	175,170	57,694	53,018	26,819	
Yellow birch	706,765	168,981	284,174	34,194	
Hard maple	5,051,600	1,547,919	2,070,229	322,659	
Soft maple	3,369,995	425,293	1,786,052	241,133	
Elm	440,171	75,682	198,582	57,190	
Black ash	606,552	68,460	297,810	22,677	
White & green ash	1,330,690	318,706	523,711	61,836	
Cottonwood	207,272	87,754	31,607	16,844	
Willow	83,020	1,926	37,113	23,785	
Hackberry	20,823	2,874	3,580	874	
Balsam poplar	133,678	27,492	69,979	29,844	
Bigtooth aspen	2,038,004	136,365	798,170	1,034,982	
Quaking aspen	3,292,105	201,336	797,346	394,128	
Paper birch	883,152	32,284	547,895	50,866	
River birch	20,317	--	11,400	--	
Black cherry	345,189	112,006	189,585	7,533	
Black walnut	164,479	22,496	68,822	4,621	
Butternut	89,717	6,278	49,823	--	
Other hardwoods	93,433	--	65,510	9,917	
<b>Total</b>	<b>33,407,903</b>	<b>5,750,065</b>	<b>14,898,991</b>	<b>2,727,421</b>	

All species	48,020,407	7,080,162	25,816,086	3,067,747	
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Table 66.--Average net annual growth of growing stock on timberland by species group and ownership class, Wisconsin, 1983-1995

(In thousand cubic feet)

Species group	Total	Ownership class							Corporate
		National forest	Other federal	State	County and municipal	Indian	Forest industry	Individual	
<b>Softwoods</b>									
Jack pine	10,061	237	465	449	2,858	155	1,583	3,816	498
Red pine	45,877	5,463	543	3,829	8,455	572	2,964	21,969	2,082
White pine	28,976	1,382	823	2,371	3,261	1,235	1,100	17,300	1,504
White spruce	11,557	3,598	10	935	1,931	85	1,129	3,870	-1
Black spruce	2,209	158	--	27	343	-95	265	1,426	85
Balsam fir	7,691	578	75	1,230	-281	-57	679	5,558	-91
Hemlock	6,639	907	2	175	280	1,267	804	2,600	604
Tamarack	5,529	384	-97	347	682	68	131	3,724	290
Eastern redcedar	716	--	--	6	--	--	--	604	106
Northern white-cedar	10,161	1,357	-42	180	1,221	-69	1,013	6,430	71
Other softwoods	699	--	--	119	88	--	--	494	-2
<b>Total softwoods</b>	<b>130,115</b>	<b>14,064</b>	<b>1,779</b>	<b>9,668</b>	<b>18,838</b>	<b>3,161</b>	<b>9,668</b>	<b>67,791</b>	<b>5,146</b>
<b>Hardwoods</b>									
Select white oak	16,698	42	71	681	808	94	221	14,046	735
Select red oak	43,890	2,040	212	1,838	6,125	1,770	1,799	28,440	1,666
Other red oak	12,372	50	521	533	1,319	-54	188	8,960	855
Select hickory	3,196	--	--	66	--	--	--	3,040	90
Other hickory	2,980	16	36	201	156	64	211	2,262	34
Basswood	20,364	2,083	67	498	2,191	280	2,652	11,641	952
Beech	988	29	--	10	20	353	-41	541	76
Yellow birch	1,522	175	-2	-58	30	212	149	698	318
Hard maple	60,360	10,277	36	1,774	7,533	2,800	9,123	26,307	2,510
Soft maple	64,974	4,664	1,324	2,572	9,690	958	5,803	38,275	1,688
Elm	6,233	-511	79	-410	-994	-33	-287	7,931	458
Black ash	10,893	1,077	48	545	1,111	-132	533	7,187	524
White & green ash	20,305	1,232	-136	456	1,517	236	1,120	15,291	589
Cottonwood	1,315	--	171	109	98	--	--	856	81
Willow	217	--	-20	58	17	--	--	138	24
Hackberry	403	--	46	-27	14	--	55	313	2
Balsam poplar	729	146	--	-24	136	48	38	360	25
Bigtooth aspen	21,440	1,704	183	1,038	3,718	416	824	12,804	753
Quaking aspen	52,728	6,015	273	2,396	11,420	63	5,093	25,728	1,740
Paper birch	7,513	789	12	885	1,101	252	521	3,764	189
River birch	348	--	-19	219	--	--	16	137	-5
Tupelo	8	--	--	--	--	--	--	8	--
Black cherry	5,924	291	--	208	255	70	-43	4,888	255
Black walnut	1,581	1	6	29	13	--	--	1,542	-10
Butternut	-591	-59	--	15	4	-37	27	-509	-32
Other hardwoods	3,585	--	16	27	49	--	50	3,364	79
<b>Total hardwoods</b>	<b>359,975</b>	<b>30,061</b>	<b>2,924</b>	<b>13,639</b>	<b>46,331</b>	<b>7,360</b>	<b>28,052</b>	<b>218,012</b>	<b>13,596</b>
<b>All species</b>	<b>490,090</b>	<b>44,125</b>	<b>4,703</b>	<b>23,307</b>	<b>65,169</b>	<b>10,521</b>	<b>37,720</b>	<b>285,803</b>	<b>18,742</b>

Table 67.--Average net annual growth of sawtimber on timberland by species group and ownership class, Wisconsin, 1983-1995

(In thousand board feet)<sup>1</sup>

Species group	Total	Ownership class							
		National forest	Other federal	State	County and municipal	Indian	Forest industry	Individual	Corporate
<b>Softwoods</b>									
Jack pine	34,586	3,054	1,258	1,778	6,909	519	4,328	15,338	1,402
Red pine	165,242	27,789	3,118	11,368	29,398	1,287	6,945	77,027	8,310
White pine	139,224	7,923	3,798	11,804	16,558	6,425	6,294	79,241	7,181
White spruce	44,972	14,726	61	2,053	9,022	458	4,049	14,421	182
Black spruce	4,271	-230	--	746	1,092	390	-117	2,315	75
Balsam fir	25,473	3,952	1,045	1,678	4,954	-359	1,551	12,878	-226
Hemlock	33,245	5,599	12	952	859	7,015	4,272	11,137	3,399
Tamarack	10,979	1,683	-475	448	980	-5	217	7,163	968
Eastern redcedar	762	--	--	--	--	--	--	733	29
Northern white-cedar	32,989	7,151	-98	-346	5,379	-1,473	4,309	17,318	749
Other softwoods	1,175	--	--	249	--	--	--	939	-13
<b>Total softwoods</b>	<b>492,918</b>	<b>71,647</b>	<b>8,719</b>	<b>30,730</b>	<b>75,151</b>	<b>14,257</b>	<b>31,848</b>	<b>238,510</b>	<b>22,056</b>
<b>Hardwoods</b>									
Select white oak	74,424	47	131	3,219	2,164	321	1,186	65,000	2,356
Select red oak	209,689	10,073	724	7,456	26,374	10,036	7,673	138,573	8,780
Other red oak	60,449	57	1,273	2,704	4,890	94	1,268	46,649	3,514
Select hickory	9,741	--	--	90	--	--	--	9,448	203
Other hickory	4,241	223	78	385	744	123	425	2,330	-67
Basswood	83,330	12,383	156	1,240	11,388	2,199	10,425	41,833	3,706
Beech	3,770	67	--	--	40	1,664	-225	1,489	735
Yellow birch	7,198	1,007	214	-784	802	1,174	1,208	2,171	1,406
Hard maple	180,208	31,179	56	5,932	17,961	11,827	24,459	79,706	9,088
Soft maple	145,773	10,556	5,047	5,248	17,061	2,353	13,229	87,302	4,977
Elm	3,337	-908	111	-1,216	-2,971	-284	-505	7,683	1,427
Black ash	19,254	1,548	77	2,008	1,566	-210	951	12,336	978
White & green ash	63,759	5,347	-629	1,291	6,931	1,055	5,900	43,258	606
Cottonwood	4,934	--	935	479	263	--	--	3,064	193
Willow	750	--	93	236	33	--	--	192	196
Hackberry	1,362	--	308	135	--	--	--	909	10
Balsam poplar	2,456	451	--	46	666	140	91	1,156	-94
Bigtooth aspen	96,838	9,590	542	7,364	9,432	2,162	1,844	61,801	4,103
Quaking aspen	161,113	19,877	363	6,424	30,559	2,569	11,342	82,309	7,670
Paper birch	27,397	3,551	-85	3,559	3,623	905	1,053	14,328	463
River birch	2,126	--	-201	1,550	--	--	--	549	228
Black cherry	16,603	927	--	637	378	33	1,123	12,863	642
Black walnut	4,557	60	34	--	60	--	--	4,257	146
Butternut	-1,080	-180	--	4	-89	--	62	-513	-302
Other hardwoods	5,365	--	--	--	53	--	--	4,939	373
<b>Total hardwoods</b>	<b>1,187,656</b>	<b>105,855</b>	<b>9,227</b>	<b>48,007</b>	<b>131,928</b>	<b>36,161</b>	<b>81,509</b>	<b>723,632</b>	<b>51,337</b>
<b>All species</b>	<b>1,680,574</b>	<b>177,502</b>	<b>17,946</b>	<b>78,737</b>	<b>207,079</b>	<b>50,418</b>	<b>113,357</b>	<b>962,142</b>	<b>73,393</b>

<sup>1</sup>International 1/4-inch rule.

Table 68.--Current net annual growth of growing stock on timberland by species group and ownership class, Wisconsin, 1995

(In thousand cubic feet)

Species group	Ownership class								
	All owners	National forest	Other federal	State	County and municipal	Indian	Forest industry	Individual	Corporate
<b>Softwoods</b>									
Jack pine	9,461	90	608	493	2,669	103	1,148	3,912	438
Red pine	47,599	5,553	525	3,718	8,780	586	3,666	22,739	2,032
White pine	29,253	1,551	647	1,995	3,418	1,128	902	18,080	1,532
White spruce	17,177	4,011	10	1,335	3,920	70	1,452	6,223	156
Black spruce	2,153	-74	--	169	388	-349	445	1,227	347
Balsam fir	12,986	1,136	57	480	1,981	49	1,520	7,663	100
Hemlock	6,328	971	2	156	365	1,187	579	2,486	582
Tamarack	3,387	492	-92	226	368	31	105	2,126	131
Eastern redcedar	890	--	--	6	--	--	--	773	111
Northern white-cedar	8,633	506	9	268	870	-122	566	6,203	333
Other softwoods	637	--	--	112	90	--	--	437	-2
<b>Total softwoods</b>	<b>138,504</b>	<b>14,236</b>	<b>1,766</b>	<b>8,958</b>	<b>22,849</b>	<b>2,683</b>	<b>10,383</b>	<b>71,869</b>	<b>5,760</b>
<b>Hardwoods</b>									
Select white oak	18,227	43	68	746	1,045	126	301	15,186	712
Select red oak	40,243	2,238	232	1,453	6,346	1,334	1,397	25,671	1,572
Other red oak	14,013	84	518	596	1,570	44	260	10,103	838
Select hickory	3,284	--	--	82	--	--	--	3,110	92
Other hickory	3,542	8	37	188	112	53	129	2,884	131
Basswood	21,860	2,240	56	604	2,577	388	2,169	12,843	983
Beech	1,277	28	--	10	18	404	35	706	76
Yellow birch	1,753	55	-33	51	117	-23	35	1,235	316
Hard maple	62,990	10,719	36	2,071	7,324	2,611	8,885	28,512	2,832
Soft maple	71,372	4,651	929	2,959	11,410	1,207	5,114	42,608	2,494
Elm	14,354	86	-31	158	8	-15	-71	13,472	747
Black ash	12,708	1,192	22	611	1,436	-252	784	8,352	563
White & green ash	23,165	1,255	30	641	1,702	256	1,152	17,481	648
Cottonwood	1,160	--	106	109	86	--	--	801	58
Willow	515	--	40	58	17	--	--	353	47
Hackberry	420	--	46	4	14	--	58	296	2
Balsam poplar	894	141	--	18	68	13	47	515	92
Bigtooth aspen	20,941	1,617	190	910	3,377	291	797	13,078	681
Quaking aspen	63,849	7,103	249	2,894	14,723	906	5,825	29,998	2,151
Paper birch	9,301	900	40	325	1,183	451	572	5,623	207
River birch	421	--	19	175	--	--	5	159	63
Tupelo	8	--	--	--	--	--	--	8	--
Black cherry	7,920	410	--	143	438	29	95	6,582	223
Black walnut	1,589	3	6	29	-2	--	--	1,526	27
Butternut	96	5	--	5	14	--	27	93	-48
Other hardwoods	4,013	--	16	27	49	--	56	3,786	79
<b>Total hardwoods</b>	<b>399,915</b>	<b>32,778</b>	<b>2,576</b>	<b>14,867</b>	<b>53,632</b>	<b>7,823</b>	<b>27,672</b>	<b>244,981</b>	<b>15,586</b>
<b>All species</b>	<b>538,419</b>	<b>47,014</b>	<b>4,342</b>	<b>23,825</b>	<b>76,481</b>	<b>10,506</b>	<b>38,055</b>	<b>316,850</b>	<b>21,346</b>

Table 69. --Current net annual growth of sawtimber on timberland by species group and ownership class, Wisconsin, 1995

(In thousand board feet)<sup>1</sup>

Species group	Ownership class								
	Total	National forest	Other federal	State	County and municipal	Indian	Forest industry	Individual	Corporate
<b>Softwoods</b>									
Jack pine	35,598	1,288	2,078	1,288	8,842	892	1,232	18,599	1,379
Red pine	197,363	28,956	3,624	14,625	42,956	2,806	5,816	88,139	10,441
White pine	149,787	8,728	2,866	9,971	18,782	6,585	5,591	89,059	8,205
White spruce	57,891	14,432	61	4,187	14,006	313	4,448	18,694	1,750
Black spruce	2,874	-285	--	39	968	539	160	1,122	331
Balsam fir	49,895	5,928	1,045	1,453	10,707	-288	4,835	26,370	-155
Hemlock	34,082	5,898	13	775	1,547	6,231	3,643	11,977	3,998
Tamarack	7,175	722	-430	770	1,036	-149	-474	5,927	-227
Eastern redcedar	908	--	--	--	--	--	--	864	44
Northern white-cedar	25,245	3,108	61	911	3,573	-1,171	3,957	13,727	1,079
Other softwoods	1,456	--	--	145	--	--	--	1,324	-13
<b>Total softwoods</b>	<b>562,274</b>	<b>68,775</b>	<b>9,318</b>	<b>34,164</b>	<b>102,417</b>	<b>15,758</b>	<b>29,208</b>	<b>275,802</b>	<b>26,832</b>
<b>Hardwoods</b>									
Select white oak	81,046	17	446	3,756	1,732	943	1,023	70,302	2,827
Select red oak	202,218	11,087	701	8,674	29,127	10,018	6,788	127,685	8,138
Other red oak	58,723	57	1,084	2,544	4,329	423	1,260	45,557	3,469
Select hickory	10,079	--	--	136	--	--	--	9,805	138
Other hickory	4,160	184	78	207	515	137	217	2,796	26
Basswood	85,303	15,585	33	1,698	11,011	3,205	9,578	40,986	3,207
Beech	4,766	67	--	65	40	1,823	58	1,978	735
Yellow birch	5,510	16	-53	-90	38	-18	443	4,422	752
Hard maple	197,279	35,063	--	5,826	20,630	10,797	26,840	90,095	8,028
Soft maple	152,255	11,865	3,497	6,525	20,569	4,191	10,389	87,936	7,283
Elm	15,809	-53	-16	315	-905	-34	-413	15,337	1,578
Black ash	18,792	915	77	3,251	1,539	-900	212	12,378	1,320
White & green ash	76,983	5,316	226	1,947	7,952	1,445	6,063	53,228	806
Cottonwood	4,937	--	563	479	250	--	--	3,448	197
Willow	2,266	--	203	236	33	--	--	1,548	246
Hackberry	1,825	--	308	135	--	--	--	1,372	10
Balsam poplar	2,473	346	--	15	542	--	515	1,055	--
Bigtooth aspen	97,197	8,181	542	6,884	8,686	977	901	67,456	3,570
Quaking aspen	169,132	17,189	513	8,221	31,221	4,382	10,916	89,741	6,949
Paper birch	29,857	4,459	--	2,041	4,477	2,769	772	14,240	1,099
River birch	2,533	--	--	1,346	--	--	--	834	353
Black cherry	16,790	540	--	356	1,938	23	894	12,426	613
Black walnut	5,048	20	34	472	-9	--	--	4,396	135
Butternut	557	311	--	4	395	--	62	-362	147
Other hardwoods	6,262	--	--	--	53	--	--	5,836	373
<b>Total hardwoods</b>	<b>1,251,800</b>	<b>111,165</b>	<b>8,236</b>	<b>55,043</b>	<b>144,163</b>	<b>40,181</b>	<b>76,518</b>	<b>764,495</b>	<b>51,999</b>
<b>All species</b>	<b>1,814,074</b>	<b>179,940</b>	<b>17,554</b>	<b>89,207</b>	<b>246,580</b>	<b>55,939</b>	<b>105,726</b>	<b>1,040,297</b>	<b>78,831</b>

<sup>1</sup>International 1/4-inch rule.



Table 70.--Average annual mortality of growing stock on timberland by species group and cause of death, Wisconsin, 1983-1995

Species group	All causes	Cause of death										Other and unknown
		Insects	Disease	Weather	Animals	Fire	Suppression	Vine damage	Human caused			
<b>Softwoods</b>												
Jack pine	8,717	3,266	457	100	3	33	--	--	--	--	56	4,802
Red pine	1,008	85	81	--	--	--	--	--	--	--	9	833
White pine	3,870	1,471	92	165	3	--	31	--	--	54	54	2,054
White spruce	1,355	444	101	96	1	13	--	--	--	10	10	690
Black spruce	3,189	1,483	194	25	--	22	14	--	--	13	13	1,438
Balsam fir	17,123	5,823	515	131	22	98	77	--	--	250	250	10,207
Hemlock	1,446	390	92	14	59	--	--	--	--	8	8	883
Tamarack	3,135	1,573	240	9	5	--	--	--	--	35	35	1,273
Eastern redcedar	13	--	--	--	--	--	--	--	--	--	--	13
Northern white-cedar	3,207	1,153	390	34	12	58	--	--	--	22	22	1,538
Other softwoods	19	3	--	--	--	--	--	--	--	--	--	16
<b>Total softwoods</b>	<b>43,082</b>	<b>15,691</b>	<b>2,162</b>	<b>574</b>	<b>105</b>	<b>224</b>	<b>122</b>	<b>105</b>	<b>122</b>	<b>457</b>	<b>457</b>	<b>23,747</b>
<b>Hardwoods</b>												
Select white oak	1,961	382	244	19	20	--	--	--	--	1	61	1,234
Select red oak	10,882	4,323	1,866	106	9	25	36	--	--	12	254	4,251
Other red oak	7,845	2,473	883	--	14	53	--	--	--	45	195	4,182
Select hickory	653	335	48	3	3	--	--	--	--	2	8	254
Other hickory	938	261	63	--	13	--	--	--	--	6	21	574
Basswood	8,344	3,476	810	65	76	29	22	--	--	8	208	3,650
Beech	179	44	25	--	--	--	--	--	--	--	6	104
Yellow birch	3,258	864	376	21	9	22	--	--	--	23	23	1,943
Hard maple	6,101	2,111	677	86	32	--	--	--	--	244	244	2,951
Soft maple	8,920	3,458	832	488	49	--	--	--	--	3	377	3,713
Elm	13,722	3,439	4,299	44	65	46	--	--	--	77	255	5,497
Black ash	3,710	1,156	221	199	13	23	--	--	--	3	14	2,081
White & green ash	2,761	813	247	125	46	--	--	--	--	7	261	1,262
Cottonwood	353	88	9	29	--	--	--	--	--	3	6	218
Willow	316	34	4	36	--	--	--	--	--	1	2	239
Hackberry	34	27	2	1	--	--	--	--	--	--	--	4
Balsam poplar	1,384	631	90	--	--	--	--	--	--	3	9	651
Bigtooth aspen	9,886	4,239	1,557	73	7	--	--	--	--	10	138	3,862
Quaking aspen	40,929	13,309	6,807	123	68	230	16	--	--	29	236	20,111
Paper birch	20,358	6,098	1,999	124	2	33	20	--	--	39	178	11,865
River birch	161	30	8	--	1	--	--	--	--	--	2	120
Tupelo	1	--	--	--	1	--	--	--	--	--	--	--
Black cherry	2,089	496	186	1	--	--	--	--	--	79	77	1,250
Black walnut	166	84	6	--	--	--	--	--	--	4	2	70
Butternut	1,127	102	107	55	--	--	--	--	--	10	--	853
Other hardwoods	710	256	136	11	--	--	--	--	--	11	34	262
<b>Total hardwoods</b>	<b>146,788</b>	<b>48,529</b>	<b>21,502</b>	<b>1,609</b>	<b>428</b>	<b>461</b>	<b>94</b>	<b>461</b>	<b>353</b>	<b>2,611</b>	<b>2,611</b>	<b>71,201</b>
<b>All species</b>	<b>189,870</b>	<b>64,220</b>	<b>23,664</b>	<b>2,183</b>	<b>533</b>	<b>685</b>	<b>216</b>	<b>685</b>	<b>353</b>	<b>3,068</b>	<b>3,068</b>	<b>94,948</b>

Table 71.--Average annual mortality of sawtimber on timberland by species group and cause of death, Wisconsin, 1963-1995

(In thousand board feet)<sup>1</sup>

Species group	Cause of death									
	All causes	Insects	Disease	Weather	Animals	Fire	Suppression	Vine damage	Human caused	Other and unknown
<b>Softwoods</b>										
Jack pine	23,667	9,795	1,800	159	--	146	--	--	31	11,736
Red pine	4,306	449	64	--	--	--	--	--	9	3,784
White pine	15,922	6,673	339	316	6	--	139	--	265	8,184
White spruce	6,061	2,300	484	518	7	--	--	--	28	2,724
Black spruce	2,761	1,556	74	--	--	--	--	--	26	1,105
Balsam fir	30,966	9,017	1,124	248	--	333	--	--	289	19,955
Hemlock	7,334	2,062	477	--	319	--	--	--	36	4,440
Tamarack	7,988	3,792	962	48	--	--	--	--	32	3,154
Eastern redcedar	3	2	1	--	--	--	--	--	--	--
Northern white-cedar	12,680	4,669	2,013	98	47	304	--	--	32	5,517
Other softwoods	94	15	--	--	--	--	--	--	--	79
Total softwoods	111,782	40,330	7,338	1,387	379	783	139	--	748	60,678
<b>Hardwoods</b>										
Select white oak	4,834	1,290	569	79	99	--	--	4	164	2,629
Select red oak	33,794	13,419	6,957	426	34	--	--	49	456	12,453
Other red oak	19,109	5,630	3,309	--	33	161	--	222	350	9,404
Select hickory	1,135	448	127	--	5	--	--	--	9	546
Other hickory	1,010	203	132	--	12	--	--	--	27	636
Basswood	20,785	9,377	3,141	94	296	114	--	20	126	7,617
Beech	478	101	24	--	--	--	--	--	12	341
Yellow birch	7,335	2,236	1,049	110	32	--	--	--	47	3,861
Hard maple	11,364	3,550	1,394	116	96	--	--	--	187	6,021
Soft maple	15,699	5,819	2,004	1,087	209	--	--	7	662	5,911
Elm	27,514	6,316	9,447	115	216	201	--	--	592	10,627
Black ash	6,299	1,522	558	213	--	--	--	13	6	3,987
White & green ash	7,540	2,139	921	558	183	--	--	13	759	2,967
Cottonwood	1,474	245	36	111	--	--	--	10	32	1,040
Willow	1,039	102	13	96	--	--	--	2	8	818
Hackberry	68	59	5	--	--	--	--	1	--	3
Balsam poplar	3,220	1,352	317	--	--	--	--	--	18	1,533
Bigtooth aspen	25,636	11,795	4,814	114	32	--	--	45	305	8,531
Quaking aspen	64,733	22,358	11,173	104	224	402	--	75	364	30,033
Paper birch	19,592	5,840	1,911	166	--	--	--	--	180	11,495
River birch	436	62	31	--	--	--	--	--	11	332
Black cherry	1,845	575	318	6	--	--	--	48	42	856
Black walnut	391	286	14	--	2	--	--	13	--	76
Butternut	3,147	241	350	142	--	--	--	47	--	2,367
Other hardwoods	1,552	305	335	20	--	--	--	--	151	741
Total hardwoods	280,029	95,270	48,949	3,557	1,473	878	--	569	4,508	124,825
All species	391,811	135,600	56,287	4,944	1,852	1,661	139	569	5,256	185,503

<sup>1</sup>International 1/4-inch rule.

Table 72.--All live tree biomass on timberland by species group and tree biomass component, Wisconsin, 1996

(In thousand cubic feet)

Species group	All components	Tree biomass component																	
		All live		Growing-stock trees			Non-growing-stock trees												
		1-5-inch trees	Stumps	Boles	Tops and limbs	Stumps	Boles	Tops and limbs											
<b>Softwoods</b>																			
Jack pine	646,196	64,171	35,237	458,724	56,466	2,065	26,264	3,269											
Red pine	1,464,803	74,506	80,223	1,160,976	136,104	870	10,750	1,374											
White pine	1,402,676	46,468	66,385	1,112,854	117,427	3,489	50,529	5,524											
White spruce	411,991	38,306	25,133	265,722	72,478	770	7,421	2,161											
Black spruce	444,011	183,240	17,186	180,331	60,269	193	2,103	689											
Balsam fir	1,138,485	327,880	59,889	552,934	175,686	1,616	15,780	4,700											
Hemlock	761,609	18,288	42,439	512,759	120,224	4,429	50,938	12,532											
Tamarack	485,499	93,196	25,392	307,787	39,448	1,262	16,484	1,930											
Eastern redcedar	27,540	8,912	748	8,156	2,557	453	5,166	1,548											
Northern white-cedar	1,290,890	123,492	93,167	662,088	194,661	20,859	153,771	42,852											
Other softwoods	29,047	3,498	1,429	15,274	4,579	290	3,071	906											
<b>Total softwoods</b>	<b>8,102,747</b>	<b>981,957</b>	<b>447,228</b>	<b>5,237,605</b>	<b>979,899</b>	<b>36,296</b>	<b>342,277</b>	<b>77,485</b>											
<b>Hardwoods</b>																			
Select white oak	2,129,950	71,142	99,810	1,157,242	344,372	27,333	338,190	91,861											
Select red oak	3,240,126	67,619	151,135	2,082,034	608,726	17,343	246,036	67,233											
Other red oak	1,572,532	59,131	69,670	808,138	249,777	23,608	278,952	83,256											
Select hickory	270,078	23,138	13,179	155,255	50,358	1,680	20,036	6,432											
Other hickory	204,872	29,882	9,674	104,472	36,953	1,407	16,945	5,539											
Basswood	2,120,417	108,616	99,197	1,325,550	418,461	9,061	123,760	35,772											
Beech	100,298	8,534	4,047	56,442	16,525	809	10,630	3,311											
Yellow birch	662,515	47,213	28,328	320,359	102,198	10,386	117,204	36,827											
Hard maple	4,640,689	441,822	186,839	2,575,858	835,799	30,465	436,686	133,220											
Soft maple	4,412,942	542,133	174,140	2,266,062	773,847	34,533	471,002	151,225											
Elm	758,774	153,801	33,659	327,077	113,055	9,056	91,858	30,268											
Black ash	1,089,535	199,588	56,349	550,280	196,167	6,047	60,225	20,879											
White & green ash	1,108,923	98,857	48,552	646,784	208,459	5,707	76,319	24,245											
Cottonwood	94,123	856	5,008	60,372	15,446	696	9,596	2,149											
Willow	89,053	1,150	2,485	26,428	7,310	2,546	41,783	7,351											
Hackberry	26,368	5,935	1,039	11,922	3,857	244	2,564	807											
Balsam poplar	100,828	9,058	3,358	61,377	19,665	288	5,354	1,728											
Bigtooth aspen	1,509,475	164,566	46,781	934,563	226,227	5,206	107,325	24,807											
Quaking aspen	3,971,930	628,659	133,916	2,146,808	551,825	22,500	395,129	93,093											
Paper birch	1,792,106	180,786	74,690	1,010,986	360,754	8,410	116,229	40,251											
River birch	28,634	1,299	1,231	15,569	5,295	276	3,852	1,112											
Tupelo	536	--	28	378	130	--	--	--											
Black cherry	612,304	135,405	17,197	236,618	81,472	7,530	99,101	34,981											
Black walnut	116,841	4,853	4,100	59,656	18,180	1,519	22,114	6,419											
Butternut	86,985	2,333	2,305	34,884	10,648	1,748	26,787	8,280											
Other hardwoods	305,538	48,689	7,791	82,367	29,338	8,762	96,517	32,074											
<b>Total hardwoods</b>	<b>31,046,372</b>	<b>3,035,065</b>	<b>1,274,508</b>	<b>17,057,481</b>	<b>5,284,844</b>	<b>237,160</b>	<b>3,214,194</b>	<b>943,120</b>											
Noncommercial spp.	355,040	230,189	--	--	--	9,122	82,437	33,292											
<b>All species</b>	<b>39,504,159</b>	<b>4,247,211</b>	<b>1,721,736</b>	<b>22,295,086</b>	<b>6,264,743</b>	<b>282,578</b>	<b>3,638,908</b>	<b>1,053,897</b>											

Table 73 --All live shrub' and tree seedling biomass yields on timberland by species group and forest type, Wisconsin, 1996

(In pounds per acre green weight)

Species group	Forest type													Paper birch	Nonstocked		
	Mean for all types	Jack pine	Red pine	White pine	Balsam fir	White spruce	Black spruce	White-cedar	Tamarack	Oak-hickory	Elm-ash-soft maple	Maple-basswood	Aspen				
Commercial tree species																	
Jack pine	10	119	40			1		236					2				
Red pine	3		32									2	2				
White pine	18		12	86	23	30				7		22	20		21		
White spruce	8				1	42					1	15	9				
Black spruce	76				18	1,980		377		23		2	1		5		
Balsam fir	483	422	37	377	1,443	215	797	283		64	514	451	439	2,014			
Hemlock	28						63					64		63			
Tamarack	20					127		434				9	7				
Eastern redcedar	3									23		3					
Northern white-cedar	1				5	2	23				1	1					
Select white oak	12	37	29							123	3		5				
Select red oak	223	13	141	86	6	2				30	2	41	725	24			
Other red oak	24		430			1	1			61							
Other hickory	3									16		4					
Basswood	37									52	1	68	28	1			
Yellow birch	12		1				82				5	26		2			
Hard maple	257		10	39	46	2	66			417	15	462	141	339			
Soft maple	324	5	171	143	35	26	38	120		193	152	239	705	139			
Elm	54									306	63	73	4				
Black ash	84						195			101	310	94	57	34			161
White & green ash	87		1		5	2				186	16	114	88	158			
Willow	8												30				
Balsam poplar	1							3				1	2				
Bigtooth aspen	204	29				52				2		4	737				
Ouaking aspen	559	18	17		124	400	16			31		65	1,905	6			
Paper birch	48		6	243	2	13				2		17	141	12			
Black cherry	68	2	3	23	19	3	1	10		74	12	67	129	37			
Other hardwoods	1,431	27	117	126	1,800	857	6,157	2,759		151	6,617	924	1,020	2,214	3,715		
Mountain maple	43				100		5				95	63	39	4			
American hornbeam	59					13				46	1	149					
Apple	3											8					
Eastern hophornbeam	176		3			6				127	13	244	249	193			
Total	4,367	672	1,050	958	3,627	3,717	7,444	4,222	2,037	7,821	3,233	6,485	5,266	3,876			

(Table 73 continued on next page)

(Table 73 continued)

Species group	Forest type													Paper birch	Nonstocked
	Mean for all types	Jack pine	Red pine	White pine	Balsam fir	White spruce	Black spruce	Northern white-cedar	Tamarack	Oak-hickory	Elm-ash-soft maple	Maple-basswood	Aspen		
<b>Noncommercial tree species</b>															
Mountain maple	43	--	--	--	100	--	--	5	--	--	95	63	39	4	--
American hornbeam	59	--	--	--	--	13	--	--	--	46	1	149	--	--	--
Apple	3	--	--	--	--	--	--	--	--	--	--	8	--	--	--
Eastern hophornbeam	176	--	3	--	--	6	--	--	--	127	13	244	249	193	--
Pincherry	11	8	5	--	35	--	--	--	20	--	--	24	1	--	--
Crokecherry	47	7	2	10	--	--	--	--	--	89	13	49	78	--	--
Wild plum	4	--	--	--	--	--	--	--	--	--	1	10	1	--	--
<b>Total</b>	<b>343</b>	<b>15</b>	<b>10</b>	<b>10</b>	<b>135</b>	<b>19</b>	<b>5</b>	<b>20</b>	<b>262</b>	<b>123</b>	<b>547</b>	<b>368</b>	<b>197</b>	<b>--</b>	<b>--</b>
<b>Tall shrub species</b>															
Dogwood	88	35	2	--	54	--	4	206	82	164	34	179	61	1,746	--
Black alder	89	--	--	--	--	6	--	140	36	395	2	202	--	--	--
Witch hazel	11	5	--	--	--	--	--	--	1	--	28	--	--	--	--
Juneberry	91	185	262	24	8	25	--	1	108	274	13	147	75	--	--
Hazel	702	864	729	2,239	371	11	--	44	419	315	561	1,228	685	--	--
Prickly ash	113	--	--	--	--	--	--	--	208	208	203	28	11	--	--
Alder buckthorn	14	--	--	--	--	--	--	--	54	9	20	9	--	--	--
Leatherwood	4	--	--	--	--	85	--	--	1	1	1	1	--	--	--
Viburnum	17	--	--	--	10	--	--	--	13	20	30	14	--	--	--
Elder	4	--	--	--	--	1	--	--	10	--	--	12	--	--	--
Sumac	1	54	--	--	--	--	--	--	--	--	--	--	--	--	--
Shrubby willows	6	33	65	--	--	--	--	--	--	--	--	--	8	3	--
Misc. tall shrubs	61	5	1	--	51	--	22	664	49	85	16	77	197	--	--
<b>Total</b>	<b>1,201</b>	<b>1,181</b>	<b>1,059</b>	<b>2,263</b>	<b>494</b>	<b>116</b>	<b>26</b>	<b>1,055</b>	<b>981</b>	<b>1,470</b>	<b>908</b>	<b>1,905</b>	<b>1,032</b>	<b>1,746</b>	<b>--</b>
<b>Low shrub species</b>															
Virginia creeper	4	--	--	--	--	--	--	--	12	6	5	2	1	13	--
Labrador tea	18	42	--	--	15	271	23	163	1	--	--	8	31	--	--
Leatherleaf	5	--	--	--	3	82	--	43	1	--	2	1	2	--	--
Bog laurel	2	3	--	--	--	22	--	31	--	--	--	--	2	--	--
Sweetfern	3	6	16	--	--	--	--	--	14	--	2	2	--	--	--
Gooseberry-current	7	--	--	--	--	--	5	5	8	13	10	4	2	31	--
Raspberry-blackberry	43	84	42	33	32	11	49	7	22	83	28	68	19	--	--
Bilberry-blueberry	22	41	106	18	15	2	10	77	25	3	4	31	7	--	--
Bush honeysuckle	4	12	5	--	11	--	--	--	--	3	--	9	5	--	--
Honeysuckle	4	1	2	--	5	8	13	--	5	1	5	6	3	--	--
Poison ivy	4	5	--	--	--	--	--	--	35	1	3	1	--	--	--
Greenbriar	1	--	--	--	--	--	--	--	1	1	--	1	--	--	--
Strawberry	9	25	24	--	5	1	8	--	2	17	5	14	6	--	--
Misc. low shrubs	4	8	3	61	--	2	--	13	2	--	3	6	6	--	--
<b>Total</b>	<b>130</b>	<b>226</b>	<b>199</b>	<b>116</b>	<b>86</b>	<b>31</b>	<b>108</b>	<b>349</b>	<b>129</b>	<b>130</b>	<b>70</b>	<b>155</b>	<b>83</b>	<b>44</b>	<b>--</b>
<b>All species</b>	<b>6,041</b>	<b>2,094</b>	<b>2,318</b>	<b>3,947</b>	<b>4,942</b>	<b>4,292</b>	<b>7,583</b>	<b>5,646</b>	<b>3,409</b>	<b>9,544</b>	<b>4,758</b>	<b>8,913</b>	<b>6,578</b>	<b>5,666</b>	<b>--</b>

<sup>1</sup> Includes trees less than 1.0 inch d.b.h.

Table 74. --Area of forest land by habitat type group/habitat type and forest type, Wisconsin, 1996

Habitat type group/ Habitat type	Forest Type													
	Total	Jack pine	Red pine	White pine	White spruce	Black spruce	Northern white- cedar	Tama- rack	Oak- hickory	Elm-ash- soft maple	Maple- beech- birch	Paper birch	Balsam poplar	Non- stocked
QAc	97.5	23.0	32.5	*	*	*	*	*	*	*	*	*	*	0.2
ArOTr	46.4	12.3	14.9	*	*	*	*	*	40.6	*	*	1.2	*	*
QArE	3.3	3.3	*	*	*	*	*	*	15.0	3.1	*	1.1	*	*
OGCe	152.3	38.5	23.3	*	*	*	*	*	*	*	*	*	*	*
ArOV	164.2	31.3	27.4	9.5	*	*	*	*	58.6	*	*	31.9	*	*
ArOV-Sm	156.9	12.4	28.9	1.2	1.1	*	*	*	6.5	2.6	76.7	10.2	*	*
OV	129.0	19.0	16.3	2.8	*	*	*	*	34.0	8.2	59.4	11.7	*	*
QAP	42.5	9.5	*	*	*	*	*	*	37.0	10.3	43.6	*	*	*
1. North very dry to dry	792.1	149.3	143.3	13.5	1.1	*	*	*	218.1	30.8	213.9	21.9	*	0.2
PAm	163.5	11.5	4.1	3.4	*	*	*	*	52.1	21.5	69.1	1.8	*	*
PAm-At	6.4	*	*	*	*	*	*	*	*	1.5	4.9	*	*	*
PMV	301.9	7.0	31.1	16.0	4.9	5.9	*	*	20.3	40.0	141.5	35.2	*	*
PMV-O	28.6	4.8	3.1	0.5	*	*	*	*	9.3	3.0	7.1	0.8	*	*
PMV-Vb	147.5	*	12.6	3.4	*	*	*	*	15.1	3.3	84.2	3.3	*	*
PMV-Po	67.5	3.1	5.2	3.4	*	*	*	*	9.3	24.4	22.1	*	*	*
2. North dry to dry-mesic	715.4	26.4	56.1	26.7	4.9	5.9	*	*	106.1	3.3	328.9	41.1	*	*
FArAa	8.6	*	*	*	0.4	0.8	*	*	*	*	7.4	*	*	*
AVVb	203.3	*	4.0	3.8	6.0	1.4	*	*	17.0	3.3	61.2	19.2	*	*
AVDe	155.1	*	*	6.0	*	*	*	*	54.0	*	58.3	4.0	*	*
ACI-V	45.8	*	3.0	*	*	*	*	*	*	*	15.6	15.7	*	*
ACI	27.3	*	*	*	1.2	*	*	*	4.9	*	15.0	2.8	*	*
AQVb-V	75.1	*	5.7	*	*	*	*	*	25.9	*	23.4	13.8	*	*
AQVb	185.0	*	6.8	0.5	*	*	*	*	29.4	*	69.3	62.4	*	*
AQVb-Ha	60.2	*	3.1	*	*	*	*	*	14.8	*	20.8	19.9	*	*
AAI	211.0	*	3.7	1.1	*	*	*	*	57.6	3.1	107.8	35.9	*	*
AFTPo	7.3	*	*	1.8	*	*	*	*	*	*	4.4	1.1	*	*
AVb	27.6	*	*	*	*	*	*	*	11.4	*	3.1	13.1	*	*
AFVb	84.9	*	*	3.1	*	*	*	*	13.8	*	51.5	16.5	*	*
3. North dry-mesic to mesic	1,091.2	*	26.3	16.3	7.6	2.2	*	*	228.8	6.4	437.8	301.4	64.4	*

(Table 74 continued on next page)

(Table 74 continued)

Habitat type group/ Habitat type	Forest Type																													
	Total	Jack pine				White pine			Balsam fir		White spruce		Black spruce		Northern white-cedar		Tama-rack (Thousand acres)	Oak-hickory		Elm-ash-soft maple		Maple-beech-birch		Paper birch		Balsam poplar		Non-stocked		
		Red pine	White pine	Balsam fir	White spruce	Black spruce	White spruce	Black spruce	White-cedar	White-cedar	White-cedar	Oak-hickory	Oak-hickory	Elm-ash-soft maple	Elm-ash-soft maple	Maple-beech-birch		Maple-beech-birch	Paper birch	Paper birch	Balsam poplar	Balsam poplar	Non-stocked	Non-stocked						
ATM	792.1	1.0	11.9	8.8	3.1	4.2	*	*	*	*	*	*	26.3	7.5	516.0	193.8	19.1	*	*	*	0.4	*	*	*	*	*	*	*	*	
AFSt	10.0	*	*	*	*	*	*	*	*	*	*	*	*	*	4.3	2.7	3.0	*	*	*	*	*	*	*	*	*	*	*	*	
AAAs	31.4	*	*	*	*	*	*	*	*	*	*	*	3.0	3.0	9.5	12.7	3.2	*	*	*	*	*	*	*	*	*	*	*	*	
ATFD	48.5	*	*	*	*	*	*	*	*	*	*	*	0.5	*	39.7	8.3	*	*	*	*	*	*	*	*	*	*	*	*	*	
ATD	192.9	*	*	*	*	*	*	*	*	*	*	*	*	*	181.9	11.0	*	*	*	*	*	*	*	*	*	*	*	*	*	
ATDH	60.5	*	1.9	*	*	*	*	*	*	*	*	*	*	*	45.2	9.1	4.3	*	*	*	*	*	*	*	*	*	*	*	*	
ACaCi	145.5	*	5.6	3.7	*	*	*	*	*	*	*	*	46.2	*	70.1	17.9	7.6	*	*	*	*	*	*	*	*	*	*	*	*	
ACaCi-H	72.3	*	*	*	*	*	*	*	*	*	*	*	9.6	*	46.3	5.0	2.0	*	*	*	*	3.8	*	*	*	*	*	*	*	
AFAl	22.6	*	*	*	*	*	*	*	*	*	*	*	3.6	*	21.0	1.6	*	*	*	*	*	*	*	*	*	*	*	*	*	
AFAd	40.2	*	*	*	*	*	*	*	*	*	*	*	*	*	36.6	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
AViO	483.7	*	5.0	*	8.4	*	*	*	*	*	*	*	3.3	3.3	399.9	66.6	0.5	*	*	*	*	*	*	*	*	*	*	*	*	
AViO-Ca	27.6	*	*	*	*	*	*	*	*	*	*	*	*	*	27.6	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
AHVb	17.8	*	*	*	*	*	*	*	*	*	*	*	2.9	*	13.7	1.2	*	*	*	*	*	*	*	*	*	*	*	*	*	
AH-Ci	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
AH	342.1	*	*	*	*	*	*	*	*	*	*	*	9.8	2.4	312.7	15.6	*	*	*	*	*	*	*	*	*	*	1.6	*	*	
4. North mesic	2,287.2	1.0	24.4	12.5	3.1	12.6	*	*	*	*	*	*	101.9	16.2	1,724.5	345.5	39.7	1.6	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	
ArCo	50.1	*	3.0	*	6.4	3.8	*	*	*	*	*	*	2.1	2.8	1.5	30.5	*	*	*	*	*	*	*	*	*	*	*	*	*	*
TMC-V	242.0	2.8	9.3	9.6	26.4	3.7	3.6	2.2	2.2	2.2	2.2	2.2	*	10.3	37.6	121.8	14.7	*	*	*	*	*	*	*	*	*	*	*	*	*
TMC	406.1	6.0	8.9	10.2	38.6	2.1	0.2	1.0	3.7	3.7	3.7	3.7	2.8	34.5	186.1	84.5	29.0	*	*	*	*	2.2	*	*	*	*	*	*	*	*
TMC-D	63.9	*	*	*	*	3.2	*	*	*	*	*	*	0.8	6.2	44.0	4.0	2.8	*	*	*	*	*	*	*	*	*	*	*	*	*
ATM-As	106.1	*	*	*	3.2	*	*	*	*	*	*	*	*	11.7	76.0	11.6	2.8	*	*	*	*	*	*	*	*	*	*	*	*	*
ATD-I	49.2	*	*	*	*	*	*	*	*	*	*	*	*	*	47.8	1.4	*	*	*	*	*	*	*	*	*	*	*	*	*	*
ACaCi	90.8	*	*	*	*	*	*	*	*	*	*	*	19.7	7.0	34.5	29.6	*	*	*	*	*	*	*	*	*	*	*	*	*	*
AViO-I	129.9	*	*	*	*	*	*	*	*	*	*	*	*	*	120.8	9.1	*	*	*	*	*	*	*	*	*	*	*	*	*	*
AH-I	138.5	*	*	7.9	*	*	*	*	*	*	*	*	3.0	11.8	96.0	17.6	2.2	*	*	*	*	*	*	*	*	*	*	*	*	*
Hydromesic north	936.8	2.5	7.4	2.0	13.0	4.9	3.9	3.9	3.9	3.9	3.9	3.9	29.1	114.7	367.3	344.9	37.5	2.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8
5. North wet-mesic	2,213.4	11.3	28.6	29.7	87.6	17.7	3.8	10.8	10.8	10.8	10.8	10.8	55.4	199.0	1,011.6	655.0	89.0	2.8	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0
Lowland north	2,040.1	9.4	0.3	6.0	144.5	9.9	318.1	287.8	287.8	287.8	287.8	287.8	13.9	574.4	168.7	176.7	37.4	14.7	31.0	31.0	31.0	31.0	31.0	31.0	31.0	31.0	31.0	31.0	31.0	31.0
6. North wet	2,040.1	9.4	0.3	6.0	144.5	9.9	318.1	287.8	287.8	287.8	287.8	287.8	13.9	574.4	168.7	176.7	37.4	14.7	31.0	31.0	31.0	31.0	31.0	31.0	31.0	31.0	31.0	31.0	31.0	31.0
AbArSn	222.1	*	4.2	*	15.0	7.1	*	*	*	*	*	*	*	7.0	11.3	148.6	18.5	6.6	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
AbASnMI	117.0	*	3.1	*	3.7	*	*	*	*	*	*	*	*	14.1	41.5	41.4	13.2	*	*	*	*	*	*	*	*	*	*	*	*	*
7. North boreal	339.1	*	7.3	*	18.7	7.1	*	*	*	*	*	*	*	21.1	52.8	190.0	31.7	6.6	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8

(Table 74 continued on next page)

(Table 74 continued)

Habitat type group/ Habitat type	Forest Type														
	Total	Jack pine	Red pine	White pine	Balsam fir	White spruce	Black spruce	Northern white- cedar	Tama- rack	Oak- hickory	Elm-ash- soft maple	Maple- beech- birch	Aspen	Paper birch	Balsam poplar
PVGy	197.2	25.7	24.7	8.4	.	.	.	.	101.1	4.3	11.9	21.1	.	.	.
PEu	235.0	47.3	50.2	1.4	.	.	.	.	133.1	.	.	3.0	.	.	.
PVHa	108.1	2.1	0.5	0.6	.	.	.	.	38.7	12.0	26.6	24.9	2.7	.	.
PVCr	101.7	26.7	15.5	.	.	.	.	.	49.1	.	8.8	1.6	.	.	.
PVG	190.7	14.6	13.7	3.8	.	.	.	.	86.3	12.6	26.0	28.4	3.9	.	1.4
PVRh	334.8	19.3	6.7	12.0	.	.	.	.	88.8	32.8	77.5	90.2	6.4	.	1.1
8. South dry	1,167.5	135.7	111.3	26.2	.	.	.	.	497.1	61.7	150.8	169.2	13.0	.	2.5
ArDe-V	139.7	.	1.5	3.6	.	.	.	.	102.9	0.2	16.4	6.7	6.7	.	1.7
ArDe	177.6	4.8	18.2	6.8	.	.	.	.	119.5	3.1	15.0	10.2	.	.	.
AQVb-Gr	56.1	.	.	3.5	.	.	.	.	19.1	2.9	29.4	1.2	.	.	.
ArCi	71.6	.	3.2	.	1.5	.	.	.	38.3	0.2	17.5	8.5	2.4	.	.
ArCi-Ph	542.5	.	4.1	11.0	.	.	.	.	306.7	32.8	137.6	23.1	25.1	.	2.1
AArVb	44.0	.	.	.	.	.	.	.	25.0	.	7.5	11.5	.	.	.
AArL	4.8	.	.	.	.	.	.	.	4.8	.	.	.	.	.	.
9. South dry-mesic 1	1,036.3	4.8	27.0	24.9	.	1.5	.	.	616.3	39.2	223.4	61.2	34.2	.	3.8
ATiDe-Ha	17.1	.	.	.	.	.	.	.	13.4	.	3.7	.	.	.	.
ATiDe-As	17.2	.	.	.	.	.	.	.	12.1	.	4.2	0.9	.	.	.
ATiDe	181.8	.	.	.	.	.	.	.	98.1	3.0	70.4	6.2	4.1	.	.
ATiFCi	22.4	.	.	0.6	.	.	.	.	13.3	0.4	8.1	.	.	.	.
ATiFrVb	89.8	.	.	0.6	.	.	.	.	40.9	5.3	38.5	4.5	.	.	.
AFrDe	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
AFrDeO	15.8	.	0.2	0.3	.	.	.	.	10.2	.	5.1	.	.	.	.
10. South dry-mesic 2	344.1	.	0.2	1.5	.	.	.	.	188.0	8.7	130.0	11.6	4.1	.	.
ATiDe(Pt)	92.4	.	.	.	.	.	.	.	58.3	8.8	11.5	8.5	5.3	.	.
ATiCr(O)	207.8	.	.	.	.	.	.	.	135.3	9.5	54.0	6.6	2.4	.	.
ATiCr(As)	43.7	.	.	.	.	.	.	.	21.2	.	16.4	.	6.1	.	.
ATiFrVb (Cr)	85.6	.	5.3	.	.	.	.	.	37.9	3.5	27.8	11.1	.	.	.
AFrDe(Vb)	7.4	.	.	3.4	.	.	.	.	2.0	.	2.0	.	.	.	.
11. South dry-mesic 3	436.9	.	5.3	3.4	.	.	.	.	254.7	21.8	111.7	26.2	13.8	.	.

(Table 74 continued on next page)



(Table 74 continued)

Habitat type group/ Habitat type	Forest Type															
	Total	Jack pine	Red pine	White pine	Balsam fir	White spruce	Black spruce	Northern white- cedar	Tama- rack	Oak- hickory	Elm-ash- soft maple	Maple- beech- birch	Aspen	Paper birch	Balsam poplar	Non- stocked
ATTr	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
AFTD	5.2	*	*	*	*	*	*	*	*	*	5.2	*	*	*	*	*
ATiSa-De	319.5	*	0.1	*	*	*	*	*	128.9	23.0	128.0	28.0	10.7	*	*	0.8
ATiSa	45.6	*	*	*	*	*	*	*	29.5	*	16.1	*	*	*	*	*
ATiFrCa	24.4	*	*	*	*	*	*	*	5.9	0.2	18.3	*	*	*	*	*
ATiCa-La	61.3	*	*	*	*	*	*	*	6.6	9.1	41.4	3.4	0.8	*	*	*
ATiCa	183.9	3.5	*	5.1	*	*	*	*	49.4	2.7	119.8	*	3.4	*	*	*
ATiCa-AI	7.7	*	*	*	*	*	*	*	2.4	*	5.3	*	*	*	*	*
ATiH	79.4	*	*	*	*	*	*	*	40.3	*	39.1	*	*	*	*	*
AFH	49.2	*	*	*	*	*	*	*	1.6	5.6	36.0	6.0	*	*	*	*
AFAs	44.4	*	*	*	*	*	*	*	4.2	*	40.2	*	*	*	*	*
AFAs-O	10.6	*	*	*	*	*	*	*	*	*	10.6	*	*	*	*	*
12. South mesic 1	831.2	3.5	0.1	5.1	*	*	*	*	268.8	40.6	460.0	37.4	14.9	*	*	0.8
ATIAs(De)	17.3	*	*	*	*	*	*	*	5.8	*	11.5	*	*	*	*	*
ATiFrCa (O)	57.6	*	8.1	*	*	*	*	*	32.9	2.5	14.1	*	*	*	*	*
13. South mesic 2	74.9	*	8.1	*	*	*	*	*	38.7	2.5	25.6	*	*	*	*	*
Hydromesic south	120.2	*	*	*	*	*	*	*	12.1	42.1	57.6	5.0	*	3.4	*	*
14. South Wet-Mesic	120.2	*	*	*	*	*	*	*	12.1	42.1	57.6	5.0	*	3.4	*	*
Lowland south	629.4	2.8	*	9.9	*	1.0	3.1	14.8	48.8	69.9	395.9	50.8	17.8	*	*	5.8
15. South wet	629.4	2.8	*	9.9	*	1.0	3.1	14.8	48.8	69.9	395.9	50.8	17.8	*	*	5.8
16. No type identified	1,845.8	47.7	167.0	26.9	46.9	25.4	7.3	22.3	3.7	258.4	126.5	378.8	79.8	*	*	58.5
Total	15,964.8	391.9	605.3	202.6	313.3	84.4	332.3	335.7	301.9	2,928.2	1,559.4	2,909.6	502.8	29.1	119.6	

Table 75.--Net growing-stock volume on timberland by habitat type group/habitat type and species group, Wisconsin, 1996

Habitat type group/ Habitat type	Species Group											Bass-wood				
	Total	Jack pine	Red pine	White pine	White spruce	Black spruce	Balsam fir	Hemlock	Tamarack	Northern white-cedar	Other softwoods		Select red oak	Other red oak	Select hickory	Other hickory
QAc	39,876	22,950	15,126	.	.	.	.	.	.	.	.	558	392	.	.	
ArQTr	25,074	8,353	10,307	62	.	.	.	.	.	.	.	1,355	3,292	.	.	
QAE	2,502	2,502	.	.	.	.	.	.	.	.	.	.	.	.	.	
QGe	120,950	38,434	26,687	1,235	.	.	.	.	.	.	2,828	21,950	12,660	.	.	
ArQV	174,887	29,296	53,193	20,377	1,614	890	471	.	.	261	.	11,713	3,057	.	.	
ArQV-Sm	165,043	11,866	59,418	6,413	2,917	601	758	.	.	.	.	31,555	453	.	.	
QV	104,295	17,111	28,412	5,620	.	484	.	.	.	.	896	1,894	37,279	.	.	
QAp	42,038	26,384	.	.	.	.	.	.	.	.	2,243	2,140	10,904	.	.	
1. North very dry to dry	674,665	156,896	193,143	33,707	4,531	890	1,556	.	758	261	5,967	71,165	68,037	.	.	
PAm	193,446	13,715	27,430	15,142	245	.	1,337	.	168	.	14,770	34,213	9,429	.	586	
PAm-AI	3,501	.	264	563	.	.	.	.	.	.	520	251	.	.	.	
PMV	438,055	13,905	78,477	60,605	9,947	884	9,003	394	.	.	237	41,733	1,642	.	.	
PMV-Q	38,334	9,759	6,410	4,171	.	.	.	.	.	.	194	465	9,171	.	.	
PMV-Vb	160,084	1,220	37,092	16,179	1,426	.	3,742	962	.	1,632	.	10,172	6,645	.	273	
PMV-Po	100,618	5,969	16,091	12,402	333	.	1,193	.	.	.	.	19,877	1,952	.	.	
2. North dry to dry-mesic	934,038	44,568	165,764	109,062	11,951	884	15,275	1,356	168	1,632	16,980	106,711	28,839	.	859	
FARa	6,032	.	90	129	.	.	.	.	.	57	.	252	984	.	.	
AVVb	275,834	.	13,165	22,050	1,175	221	10,145	.	.	.	2,363	60,752	770	.	3,696	
ADe	212,590	1,038	6,980	13,759	255	.	1,584	.	.	.	21,623	66,723	.	449	7,558	
ACI-V	61,163	.	4,717	1,687	2,361	.	3,021	.	.	.	.	1,769	301	.	2,225	
ACI	37,518	.	.	373	.	308	2,650	.	.	.	188	7,362	.	.	1,105	
ACVb-V	93,358	.	5,171	1,970	.	.	466	.	.	.	9,320	26,306	.	1,256	7,843	
ACVb	213,368	2,252	15,813	10,453	1,341	.	3,081	613	.	976	.	3,310	47,065	2,629	6,350	
ACVb-Ha	117,466	.	6,163	11,928	1,080	.	2,174	456	.	208	.	2,715	30,721	.	7,970	
AAI	328,496	296	10,459	13,020	.	.	434	.	339	.	1,836	29,460	91,436	3,883	20,664	
AFTPo	9,738	.	.	369	.	.	.	.	.	2,111	.	.	.	.	319	
AVb	29,756	.	.	262	.	.	.	.	.	.	3,009	8,685	.	.	1,102	
AFVb	157,662	.	2,099	20,887	381	.	2,173	1,524	.	.	2,158	31,401	.	922	13,273	
3. North dry-mesic to mesic	1,542,981	3,586	64,657	96,887	6,593	529	25,728	2,593	339	3,352	4,199	72,296	373,204	8,740	5,451	72,105
ATM	1,176,563	811	29,059	63,437	24,891	439	33,069	51,499	418	3,674	445	4,794	91,386	.	636	93,905
AFSI	11,512	.	.	.	.	.	.	1,986	.	.	.	.	1,488	.	.	.
AAAs	29,036	.	.	628	.	.	2,601	.	.	.	.	490	5,519	.	2,599	.
ATFD	125,723	.	.	6,145	.	.	357	19,984	1,158	.	.	.	4,259	.	11,891	.
ATD	375,242	.	985	586	1,264	.	3,273	29,824	.	2,014	.	.	11,083	.	46,238	.
ATDH	114,561	.	4,976	4,325	.	.	1,074	15,392	.	76	.	.	9,893	.	21,970	.
ACaCi	230,501	.	4,651	9,395	.	.	.	.	.	449	22,232	52,539	4,269	.	3,189	25,457
ACaCi-H	113,806	.	1,145	3,692	.	1,211	.	.	.	.	3,975	12,692	.	.	6,920	17,716
AFAI	32,672	.	.	344	.	.	339	.	.	.	.	.	.	.	1,574	2,823
AFAd	85,455	.	.	880	.	.	.	10,352	.	1,162	.	11,292	.	2,577	12,662	.

(Table 75 continued on next page)

4. North mesic - continued on next page

(Table 75 continued)

Habitat type group/ Habitat type	Species Group															
	Total	Jack pine	Red pine	White pine	White spruce	Black spruce	Balsam fir	Hemlock	Tanna- rack white-cedar	Northern softwoods	Other white oak	Select red oak	Other red oak	Select hickory	Other hickory	Bass- wood
4. North mesic - continued from previous page																
AVIO	785,959	*	7,867	1,548	10,495	167	8,089	29,503	*	1,709	*	407	18,089	*	*	172,690
AVIO-Ca	49,063	*	*	*	*	*	206	1,238	*	123	*	*	170	*	*	10,177
AHVb	27,441	736	*	*	*	*	*	*	*	*	966	8,621	*	180	2,170	
AH-Ci	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
AH	617,964	*	*	133	2,131	*	2,260	21,630	194	277	*	6,953	40,550	*	7,269	138,742
4. North mesic	3,775,498	1,547	48,683	91,113	38,781	606	52,140	181,747	1,770	9,035	894	39,817	269,155	4,269	20,771	559,040
ArCo	34,445	*	4,114	213	789	1,315	5,895	*	673	*	*	799	*	*	*	
TMC-V	266,665	1,335	23,299	44,913	24,334	11,040	26,494	5,264	870	3,948	*	3,431	890	*	*	
TMC	558,740	4,645	28,007	55,163	19,932	4,796	58,778	60,203	1,539	24,300	*	1,577	888	*	2,005	
TMC-D	108,986	*	*	2,793	9,825	*	5,128	12,672	*	8,189	*	841	118	*	734	
ATM-As	140,608	*	204	5,773	1,488	*	2,099	5,506	*	*	880	7,179	355	*	14,990	
ATD-I	79,036	*	*	*	*	*	1,121	8,216	*	113	*	1,319	*	*	12,431	
ACaC-H	107,273	*	*	2,751	*	*	253	*	*	*	16,831	24,659	743	*	306	9,938
AVIO-I	219,821	*	526	677	2,493	*	1,722	10,232	*	1,914	*	198	1,884	*	30,910	
AH-I	192,529	*	455	39,107	*	*	2,244	627	*	*	5,994	7,574	*	2,933	18,242	
Hydromesic North	1,036,642	6,163	12,255	25,036	27,486	2,644	50,507	20,847	5,588	22,950	*	16,392	29,957	1,523	3,692	46,157
5. North wet-mesic	2,744,745	12,143	68,860	176,426	86,347	19,795	154,241	123,567	8,670	61,414	*	41,872	83,157	4,517	6,931	135,407
Lowland North	1,717,354	6,209	4,340	51,693	28,596	119,601	120,153	39,116	210,524	422,878	964	10,408	8,371	3,697	191	15,366
6. North wet	1,717,354	6,209	4,340	51,693	28,596	119,601	120,153	39,116	210,524	422,878	964	10,408	8,371	3,697	191	15,366
AbArSn	203,397	*	6,822	10,858	10,079	2,218	27,567	*	*	1,625	*	1,367	543	*	*	1,710
AbASnMi	167,750	*	7,245	8,001	5,011	*	19,175	*	*	1,688	*	389	8,754	2,258	*	4,107
7. North boreal	371,147	*	14,067	18,859	15,090	2,218	46,742	*	*	3,313	*	1,756	9,297	2,258	*	5,817
PVGy	141,097	23,535	17,099	16,143	*	*	*	*	*	*	5,474	26,520	32,199	*	*	
PEu	179,483	28,592	57,692	14,539	*	*	*	*	*	135	7,984	3,080	63,206	*	*	
PVHa	114,803	677	3,637	11,515	*	*	*	*	*	*	17,289	14,209	18,656	*	*	
PVCr	89,168	13,769	24,448	1,704	*	*	*	*	*	*	7,972	9,881	23,363	175	*	
PVG	191,000	17,476	12,567	29,186	*	*	*	*	1,032	*	177	19,371	8,264	65,856	*	
PVRh	293,063	21,103	13,822	47,387	*	*	*	*	*	*	10,997	20,359	53,673	*	*	
8. South dry	1,008,614	105,152	129,265	120,474	*	*	*	*	1,032	*	312	69,087	82,313	256,953	175	*
ArDe-V	167,877	1,006	2,874	5,630	*	*	*	*	*	182	28,842	35,450	38,012	975	*	358
ArDe	209,311	6,266	20,385	21,948	449	*	*	191	*	2,541	34,711	19,089	64,799	587	*	*
AQVb-Gr	107,919	*	2,281	23,457	*	*	1,594	*	180	*	20,398	19,916	1,540	*	257	
ArCi	85,356	*	10,652	3,054	2,186	*	*	*	*	179	13,511	22,709	13,090	699	*	
ArCi-Ph	641,552	1,524	2,421	28,739	246	415	177	*	*	*	96,175	150,820	41,451	26,754	5,983	24,338
AArVb	46,376	*	*	*	*	*	*	*	*	*	12,198	18,180	3,475	*	163	260
AArL	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
9. South dry-mesic 1	1,258,391	8,796	38,613	82,828	2,881	415	1,771	191	180	2,902	205,635	266,164	162,367	29,015	6,146	25,213

(Table 75 continued on next page)

(Table 75 continued)

Habitat type group/ Habitat type	Species Group																
	Total	Jack pine	Red pine	White pine	White spruce	Black spruce	Balsam fir	Hemlock	Tama- rack white-cedar (Thousand cubic feet)	Northern softwoods	Other white oak	Select red oak	Other red oak	Select hickory	Other hickory	Bass- wood	
ATiDe-Ha	36,517	.	.	.	.	.	.	.	.	.	9,733	10,544	293	.	1,093	789	
ATiDe-As	22,727	.	.	.	.	.	.	.	.	.	254	7,871	.	1,496	343	543	
ATiDe	188,477	.	.	.	.	.	.	.	.	559	39,152	44,888	6,781	11,624	5,319	12,225	
ATiFrCi	27,400	.	.	.	.	.	.	.	.	294	6,178	1,723	2,377	.	.	4,693	
ATiFrVb	127,091	.	.	354	.	.	.	.	.	.	32,531	13,085	7,532	9,372	1,441	8,885	
AFrDe	27,568	.	604	.	.	.	.	.	.	.	1,934	7,404	304	.	.	437	
AFrDeO	429,780	.	604	354	.	.	.	.	.	853	89,782	85,515	17,287	25,965	8,196	27,572	
10. South dry-mesic 2																	
ATiDe(Pr)	87,178	201	.	523	.	.	.	.	.	691	25,996	19,082	2,777	7,762	1,985	1,346	
ATiCr(O)	218,227	.	.	2,968	.	.	.	.	.	470	43,278	40,099	13,349	11,642	2,926	4,076	
ATiCr(As)	66,502	.	.	.	.	.	.	.	.	.	18,872	7,393	6,550	286	447	10,993	
ATiFrVb(Cr)	69,171	.	8,821	.	.	.	.	.	.	1,776	17,355	3,374	10,653	5,871	477	1,316	
AFrDe(Vb)	4,595	.	1,659	1,652	.	.	.	.	.	.	.	493	.	.	.	.	
11. South dry-mesic 3	445,673	201	10,480	5,143	.	.	.	.	.	2,937	105,501	70,441	33,329	25,561	5,835	17,731	
ATTr	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
AFTD	12,114	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
ATiSa-De	374,703	.	.	5,247	.	.	643	.	1,937	445	49,639	75,625	11,791	10,423	5,532	43,892	
ATiSa	69,518	.	.	.	.	.	.	.	.	.	8,497	16,974	.	3,832	1,871	3,870	
ATiFrCa	45,401	.	.	.	.	.	.	.	.	.	3,495	8,618	567	2,622	758	12,463	
ATiCa-La	83,450	.	.	13,186	.	.	.	.	.	.	4,701	11,270	1,152	.	655	9,960	
ATiCa	242,505	.	.	5,588	.	.	.	.	.	453	22,840	42,810	.	7,948	12,430	34,317	
ATiCa-Al	4,832	.	.	.	.	.	.	.	.	.	.	544	.	272	151	1,228	
ATiH	96,768	.	.	4,320	.	.	.	.	.	254	16,726	18,635	1,567	1,103	2,021	13,195	
AFH	86,594	.	.	8,663	.	.	.	.	.	.	6,153	6,219	.	330	.	6,214	
AFAs	83,128	.	.	791	.	.	.	.	.	.	3,441	8,508	.	962	628	8,246	
AFAs-O	16,040	.	.	.	.	.	278	.	.	.	.	.	.	.	708	1,801	
12. South mesic 1	1,115,053	.	.	37,795	.	.	921	.	1,937	1,152	115,492	189,203	15,077	27,492	24,754	135,186	
ATiAs(De)	11,919	.	.	222	.	.	.	.	.	.	4,947	1,451	869	876	.	164	
ATiFrCa(O)	80,850	.	24,375	.	.	.	.	.	.	734	13,489	13,423	5,800	3,475	.	1,057	
13. South mesic 2	92,769	.	24,375	222	.	.	.	.	.	734	18,436	14,874	6,669	4,351	.	1,221	
Hydromesic South	123,224	236	180	2,886	.	.	857	.	1,432	2,206	10,598	206	8,172	189	186	12,752	
14. South wet-mesic	123,224	236	180	2,886	.	.	857	.	1,432	2,206	10,598	206	8,172	189	186	12,752	
Lowland South	568,250	4,165	407	23,070	.	3,587	1,071	644	32,896	33,481	280	37,204	5,641	10,645	1,775	4,950	
15. South wet	568,250	4,165	407	23,070	.	3,587	1,071	644	32,896	33,481	280	37,204	5,641	10,645	1,775	4,950	
16. No type identified	1,670,973	38,416	224,383	78,130	42,931	7,461	51,202	50,765	7,416	29,274	4,605	85,726	94,109	29,019	16,392	4,693	
Total	18,473,155	381,915	987,821	928,649	237,701	155,986	470,736	400,900	265,005	568,702	20,093	926,757	1,729,526	659,875	130,915	88,104	1,092,419

(Table 75 continued)

Habitat type group/ Habitat type	Species Group																
	Beech	Yellow birch	Hard maple	Soft maple	Elm	Black ash	White & green ash	Cotton- wood	Willow	Balsam poplar	Bigtooth aspens	Quaking aspens	Paper birch	Black cherry	Black Walnut	Butter- nut	Other hardwoods
1. North very dry to dry				11,440					411	57,591	49,514	18,378		420			
PAm			2,419	13,158					249	22,649	33,396	4,540					
PAm-At				263							1,012	628					
PMW		669	9,870	45,253		664				38,990	59,928	65,854					
PMW-Q				1,800							674	5,690					
PMW-Vb	248	155	261	23,936		599	190		872	14,099	28,227	10,410		485			
PMW-Po			5,047	5,946						13,284	10,703	7,821					
2. North dry to dry-mesic	248	824	17,597	90,356		599	854		1,121	89,696	138,956	89,253		485			
FArAa				1,584							681	917	181				
AVVb	149		25,701	27,724		697	726			30,145	35,626	40,216		252			
AVDe		201	7,221	33,056	151	1,783	1,976	128		25,540	12,058	10,247			260		
ACI-V			2,851	11,781		419					226	9,626	20,179				
ACI		950	14,523	4,800		305					1,381	229	3,344				
AQVb-V		268	3,439	14,275	300		2,564				10,276	5,215	4,689				
AQVb	169	450	11,171	46,226	215		5,445				21,461	12,088	20,278			1,229	
AQVb-Ha	453	245	4,895	13,488	255		1,788		274	7,449	18,787	6,195	222				
AAI		1,310	29,651	35,350	700	1,222	8,007				25,545	38,323	12,914	906		536	134
AFTPo	266		3,781									124	2,768				
AVb			3,319	3,860	143	892	1,989				648	4,777	1,070				
AFVb	1,790		25,485	19,604		2,800			489	11,861	13,844	5,755					
3. North dry-mesic to mesic	2,827	3,424	132,037	211,748	1,764	5,318	25,295	128		763	135,213	151,614	127,836	1,380	260	2,981	134
ATM	236	30,975	286,793	154,087	1,665	13,111	23,603		2,242	46,579	131,510	80,459	6,840				
AFSt				353						2,662		5,023					
AAS		722	6,574	1,875	321	2,278	207				3,272	1,950					
ATFD	13,209	6,765	21,429	12,879	179		778			10,563	8,470	7,441	216				
ATD	337	27,546	183,482	26,924	2,842	919	6,332			752	11,475	11,572	7,615	179			
ATDH	1,034	5,595	31,045	704	423	169	6,118		407	381	6,519	4,113	347				
ACaCi		1,090	24,861	14,527	1,827	5,280	8,866			17,277	15,138	16,833	1,535			1,086	
ACaCi-H		936	29,911	7,403	734	2,699	7,736			309	10,792	3,640		505		1,790	
AFAl	2,598		16,972				1,753		227	1,738	583	3,475	246				
AFAd	7,199	557	28,824	646	387		3,060				3,838	949					
4. North mesic - continued on next page																	

(Table 75 continued on next page)

(Table 75 continued)

Habitat type group/ Habitat type	Species Group																
	Beech	Yellow birch	Hard maple	Soft maple	Elm	Black ash green ash	White & green ash	Colton- wood	Willow poplar	Balsam poplar	Bigtooth aspens	Quaking aspens	Paper birch	Black cherry	Black Walnut	Butter- nut	Other hardwoods
4. North mesic - continued from previous page																	
AVIO	1,011	18,370	344,561	34,330	4,112	5,688	24,240	.	.	2,877	2,415	64,027	19,020	14,359	.	385	.
AVIO-Ca	.	683	30,658	1,980	423	790	186	.	.	.	.	1,615	814	.	.	.	.
AHVb	.	.	3,275	4,624	.	.	2,805	.	.	.	2,979	903	.	.	.	182	.
AH-Ci	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
AH	.	16,533	269,452	23,240	8,813	3,334	31,912	.	.	1,863	5,807	22,742	5,325	8,189	.	615	.
4. North mesic	25,624	109,772	1,277,837	283,572	21,726	34,268	117,596	.	.	7,616	91,462	280,884	160,614	39,347	684	5,128	.
ArCo	.	.	.	2,179	.	183	.	.	.	.	242	16,184	1,708	151	.	.	.
TMC-V	.	409	3,016	30,570	168	143	.	.	.	110	6,279	50,666	29,404	82	.	.	.
TMC	535	19,457	29,957	97,549	987	13,079	404	.	.	245	12,944	64,845	50,097	1,294	.	.	.
TMC-D	.	8,637	10,538	32,342	.	1,930	1,094	.	.	.	1,454	8,925	3,250	516	.	.	.
ATM-As	.	6,232	8,417	52,660	2,556	2,380	4,318	.	.	.	1,238	22,967	1,054	.	312	.	.
ATD-J	.	2,995	33,067	10,728	.	2,264	3,645	.	.	.	2,876	261	.	.	.	.	.
ACaCh-I	.	258	6,103	6,183	1,953	6,102	7,582	.	.	.	5,904	15,372	1,424	684	.	227	.
AVIO-I	.	9,936	104,094	21,277	1,736	7,392	11,080	.	.	.	.	10,965	2,201	584	.	.	.
AH-I	.	1,926	45,588	22,220	3,710	6,034	8,846	.	.	.	.	25,095	.	650	.	1,284	.
Hydromesic North	.	32,323	76,268	244,857	8,523	53,210	36,065	.	.	3,616	21,901	250,316	33,639	4,491	.	176	.
5. North wet-mesic	535	82,173	317,048	520,565	19,633	92,717	73,034	.	.	3,971	49,962	468,211	123,098	8,452	312	1,511	176
Lowland North	.	30,288	7,219	124,949	22,697	217,774	62,121	3,298	1,003	17,696	2,739	131,477	49,403	3,182	328	903	170
6. North wet	.	30,288	7,219	124,949	22,697	217,774	62,121	3,298	1,003	17,696	2,739	131,477	49,403	3,182	328	903	170
AbArSn	.	.	2,471	8,450	1,257	4,203	1,459	.	.	4,096	7,469	89,975	21,228	.	.	.	.
AbASnMi	.	.	11,632	20,950	213	6,670	4,877	.	.	3,420	4,212	48,200	10,083	.	.	.	865
7. North boreal	.	.	14,103	29,400	1,470	10,873	6,336	.	.	7,516	11,681	138,175	31,311	.	.	.	865
PVGy	.	.	.	4,011	.	.	.	.	.	.	10,840	3,889	1,387	.	.	.	.
PEu	.	.	.	353	.	.	.	.	.	.	1,911	827	.	1,164	.	.	.
PVHa	.	.	287	20,384	.	200	.	.	.	.	13,513	11,559	2,877	.	.	.	.
PVCr	.	.	.	2,017	235	.	2,010	190	.	.	2,585	494	.	180	.	.	145
PVG	.	.	.	13,414	410	.	953	.	190	.	4,479	13,735	2,074	1,532	.	.	284
PVRh	.	.	.	57,861	286	.	.	.	.	.	20,105	39,254	7,180	818	.	.	218
8. South dry	.	.	287	98,040	931	200	2,963	190	190	.	53,433	69,758	13,518	3,694	.	.	647
ArDe-V	.	199	984	17,390	547	300	.	.	.	.	25,372	3,640	3,637	2,271	.	.	208
ArDe	.	.	176	8,359	95	.	.	3,867	.	.	9,221	7,545	836	4,084	317	.	3,845
AGVb-Gr	.	.	579	24,713	.	.	578	.	.	.	8,334	2,472	1,405	215	.	.	.
ArCi	.	.	.	6,610	353	.	1,041	.	.	.	2,933	2,433	3,358	1,571	.	.	977
ArCi-Ph	.	264	2,288	44,347	21,071	872	4,403	4,988	.	220	62,633	15,268	51,322	27,904	5,685	3,443	17,801
AArVb	.	.	636	5,843	585	.	1,348	.	.	.	732	532	1,404	295	.	.	725
AArL	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
9. South dry-mesic 1	463	4,663	107,262	22,651	1,172	7,370	8,855	.	220	109,225	31,890	61,962	36,340	6,002	3,443	23,556	.

(Table 75 continued on next page)

(Table 75 continued)

Habitat type group/ Habitat type	Species Group (Thousand cubic feet)																
	Beech	Yellow birch	Hard maple	Soft maple	Elm	Black ash	White & green ash	Cotton- wood	Willow	Balsam poplar	Bigtooth aspens	Quaking aspens	Paper birch	Black cherry	Black Walnut	Butter- nut	Other hardwoods
ATiDe-Ha	*	*	3,004	4,159	156	*	1,167	*	*	3,326	*	*	1,089	1,164	*	*	*
ATiDe-As	*	*	290	3,060	868	*	1,568	*	*	2,749	*	*	*	3,685	*	*	*
ATiDe	*	*	12,063	4,371	10,660	*	3,639	1,553	*	18,194	4,548	3,420	3,343	3,098	1,705	1,335	1,335
ATiFtCi	*	*	3,432	3,117	*	*	813	*	*	994	*	*	*	1,402	*	321	182
ATiFtVb	*	*	2,580	6,427	5,640	583	10,594	*	3,251	6,297	1,842	741	13,821	669	*	*	1,446
AFtDe	*	*	6,075	3,104	*	*	1,688	*	*	1,328	928	2,163	*	*	*	*	*
AFtDeO	*	*	27,444	24,238	17,324	583	19,469	1,553	3,251	32,888	7,318	7,413	23,415	3,767	2,026	2,963	2,963
10. South dry-mesic 2																	
ATiDe(Pr)	*	*	4,467	3,405	4,298	*	982	2,615	*	4,183	2,172	4,775	3,199	*	*	*	1,186
ATiCr(O)	*	*	3,644	4,126	28,136	*	3,341	2,378	*	20,225	6,170	3,192	10,261	13,391	*	*	3,732
ATiCr(As)	*	697	3,644	826	5,767	*	941	*	*	3,085	811	1,946	1,722	*	*	*	2,522
ATiFtVb(C1)	*	*	1,026	1,720	*	*	3,585	294	*	487	2,559	*	7,494	199	*	*	2,164
AFtDe(Vb)	*	*	8,111	9,383	39,921	*	8,699	6,228	*	27,980	11,712	9,913	22,676	13,590	*	*	9,604
11. South dry-mesic 3																	
ATtR	*	*	246	737	*	*	4,256	*	*	987	1,314	1,561	433	*	*	*	*
AfTD	*	1,492	24,796	10,911	15,175	1,859	12,457	1,676	*	804	27,010	25,713	18,614	17,146	581	4,912	8,963
ATiSa-De	*	*	18,731	4,289	*	*	5,010	*	*	4,150	*	*	2,294	*	*	*	*
ATiSa	*	*	5,999	1,849	*	*	3,496	*	*	1,574	*	*	1,915	349	*	*	*
ATiFtCa	*	743	15,893	1,838	4,577	4,376	3,393	2,378	*	1,226	2,777	1,024	1,252	*	984	2,065	2,065
ATiCa-La	*	*	50,584	9,315	12,183	251	12,209	287	810	12,871	1,760	6,899	5,153	401	2,184	1,212	1,212
ATiCa	*	*	1,134	594	*	*	909	*	*	982	431	394	1,797	5,812	249	*	*
ATiCa-Al	*	*	12,931	10,713	268	5,370	*	*	*	488	5,090	495	970	*	*	*	*
ATiH	*	893	8,351	20,900	738	887	11,046	*	*	488	5,090	495	970	*	*	*	*
AFH	*	11,396	24,943	2,047	3,763	216	15,758	*	*	486	717	*	2,271	*	*	158	158
AFAs	*	13,047	171,384	52,387	50,074	7,857	75,837	4,341	810	1,292	54,376	40,218	31,281	31,172	7,143	9,299	12,398
12. South mesic 1																	
ATiAs(De)	*	*	2,468	*	*	*	*	*	*	448	*	*	*	*	*	*	474
ATiFtCa(O)	*	*	842	4,566	*	956	*	*	*	395	804	*	8,949	1,072	*	*	913
13. South mesic 2																	
Hydromesic South	*	554	1,982	25,312	8,052	8,371	11,711	3,786	*	3,788	1,499	9,161	1,318	2,058	1,251	*	4,481
14. South wet-mesic																	
Lowland South	*	5,294	1,982	25,312	8,052	8,371	11,711	3,786	*	3,788	1,499	9,161	1,318	2,058	1,251	*	4,481
15. South wet																	
16. No type identified																	
Total	48,468	260,572	2,155,013	1,905,873	268,832	457,099	531,927	49,615	21,529	49,676	757,158	1,724,760	832,320	200,490	48,347	28,270	88,102





Schmidt, Thomas L.

1997. **Wisconsin forest statistics, 1996.** Resour. Bull. NC-183. St. Paul, MN: U.S. Department of Agriculture, Forest Service, North Central Forest Experiment Station. 151 p.

The fifth inventory of Wisconsin's forests reports 34.8 million acres of land, of which 16.0 million acres are forested. This bulletin contains detailed tables of area, volume, growth, removals, mortality, and ownership.

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**KEY WORDS:** Forest area, timber volume, growth, removals, mortality.

Our job at the North Central Forest Experiment Station is discovering and creating new knowledge and technology in the field of natural resources and conveying this information to the people who can use it. As a new generation of forests emerges in our region, managers are confronted with two unique challenges: (1) Dealing with the great diversity in composition, quality, and ownership of the forests, and (2) Reconciling the conflicting demands of the people who use them. Helping the forest manager meet these challenges while protecting the environment is what research at North Central is all about.

