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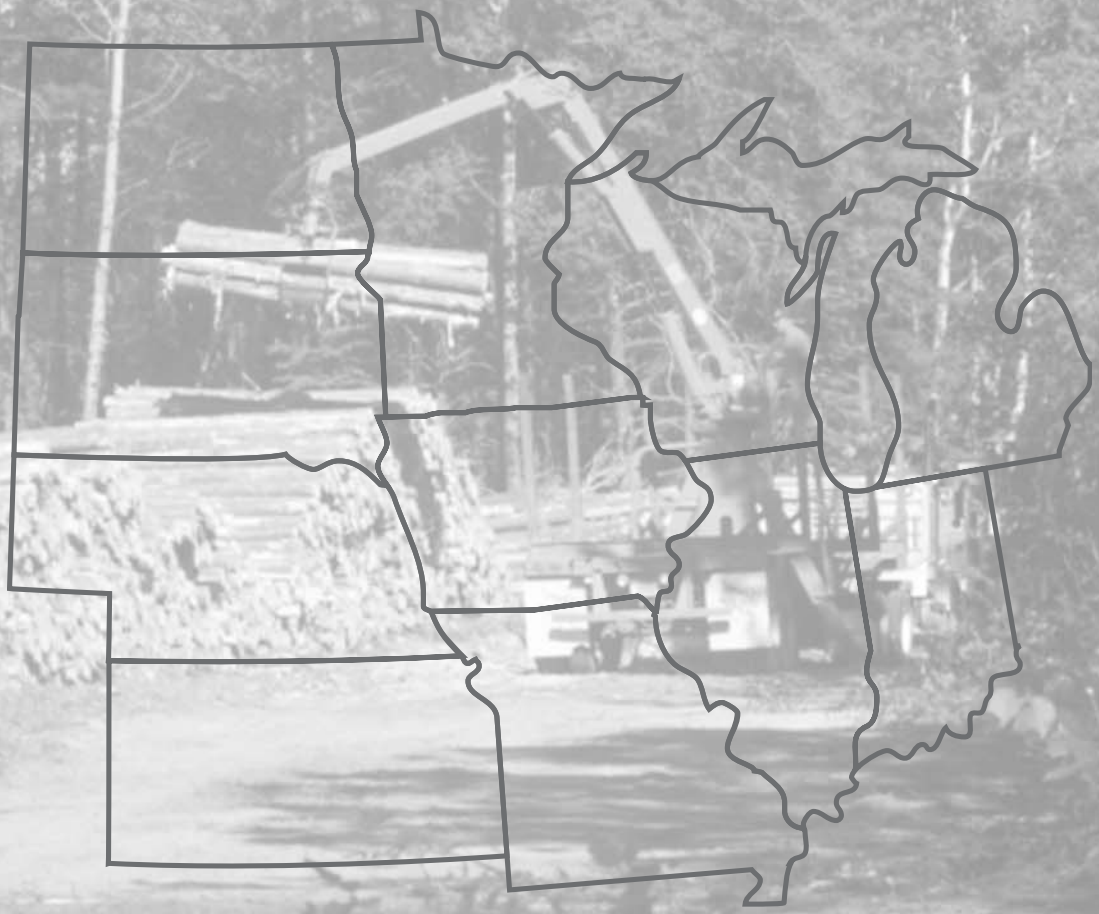
# Pulpwood Production in the North-Central Region, 2002

Ronald J. Piva



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## CONTENTS

Page

**Lake States** ..... **3**

Production ..... 3

Receipts ..... 14

Industry Trends and Analysis ..... 16

**Central States** ..... **21**

Production ..... 21

Receipts ..... 24

Industry Trends and Analysis ..... 24

**Plains States** ..... **25**

Production ..... 25

**Appendix** ..... **27**

Conversion Factors Used in the North-Central Region ..... 27

**Table Titles** ..... **28**

**Tables** ..... **29**

# Pulpwood Production in the North-Central Region, 2002

**Ronald J. Piva**

*NOTE: This report includes all primary products made from reconstituted wood fiber. In addition to wood pulp, this includes particleboard and engineered lumber products made from chips, shavings, wafers, flakes, strands, and sawdust. This report presents the production of the raw fiber material delivered to mills. Thus, these data report only that portion of the timber harvest used as raw material and do not necessarily reflect the volume of growing stock harvested.*

Pulpwood constitutes more than half the industrial timber products harvested annually in the Lake States (Michigan, Minnesota, and Wisconsin) and is an important product in the Central States (Illinois, Indiana, Iowa, and Missouri) and the Plains States (Kansas, Nebraska, North Dakota, and South Dakota).

Current detailed information about pulpwood production[1] is necessary for intelligent planning and decisionmaking in wood procurement, forest resource management, forest industry development, and scientific studies.

Since 1979, logs, bolts, and wood residue used in manufacturing flakeboard, waferboard, oriented strandboard, and medium-density fiberboard have been included in this annual report. Engineered lumber was first included in this report in 1992. Together, these products are called particleboard, and all mills manufacturing these boards are called particleboard mills in this report. Wood used at particleboard mills is identical or nearly identical to wood used at pulp mills; therefore, including this wood in our study provides a more accurate estimate of demand for pulpwood-like material.

Particleboard mills were in their infancy before 1979 and used primarily aspen and wood residue. Therefore, data for these mills do not distort roundwood use trends for other species or preclude comparing 2002 survey results with those of 1978 and previous years.

Pulp and particleboard mills using timber from the North Central States in 2002 reported their pulpwood receipts[2] by species group and county of origin. This report presents the results of the survey, analyzes the data, compares results with those of 2001 and earlier years, and discusses trends in pulpwood production and use.

The Lake States, Central States, and Plains States are discussed separately because the timber types in each area are different, the flow of wood between the areas is nominal, and more detailed data on pulpwood production and receipts in the Central and Plains States might reveal the operations of individual mills. This is the 44th annual report of the pulpwood harvest in Lake States counties, the 43rd annual report of the Central States harvest, and the 10th report of the pulpwood harvest in the Plains States.

**About the Author:**

**Ronald J. Piva**, Forester, received a B.S. in forest management from the University of Missouri-Columbia. He joined the Forest Service in 1987 and has been working with the North Central Station's Forest Inventory and Analysis unit since.

[1] *Pulpwood production, determined from mill receipts, is the annual volume of pulpwood cut, plus the annual wood residue volume produced by sawmills, veneer mills, etc. used for pulp, particleboard, waferboard, oriented strandboard, medium-density fiberboard, or engineered lumber.*

[2] *Pulpwood receipts are the volumes of wood received by mills in a specific State or region, regardless of the geographic source.*

Several mills purchase their pulpwood based on weight rather than volume. Factors used to convert green tons of pulpwood to standard cord equivalents are shown in the appendix.

When new surveys are completed, errors and omissions from previous surveys are corrected. As a result of our ongoing efforts to improve the survey's efficiency and reliability, changes may have been made to the previous survey's data. All comparisons and analysis in this report are based on the reprocessed data from earlier surveys, which may not match earlier published data.

# LAKE STATES

## PRODUCTION

- Pulpwood production in the Lake States rose from 9.0 million cords[3] in 2001 to 9.4 million cords in 2002, an increase of 4 percent. Overall, 90 percent came from roundwood (including chips from roundwood) and 10 percent came from the residue[4] of wood-using plants (fig. 1).

- Hardwood material—both roundwood and residues—constituted 78 percent of the total pulpwood production.

- Aspen remained the dominant species harvested for pulpwood in the Lake States in 2002, with 3.8 million cords, or 40 percent of the total roundwood. Other important species harvested for pulpwood in 2002 were soft maple (879 thousand cords), hard maple (796 thousand cords), white birch (488 thousand cords), jack pine (460 thousand cords), and red pine (337 thousand cords) (table 1).

- Softwood roundwood production decreased by 10 percent, falling from 1.8 million cords in 2001 to 1.6 million cords in 2002. Pulpwood production from softwood residues increased by 22 percent to 429 thousand cords in 2002 (fig. 2).

[3] *All references to cords are in standard cords. A standard cord is 128 cubic feet of wood, bark, and air space.*

[4] *Residue is the byproduct from sawmills, veneer mills, cooperage mills, and other wood-using mills that is used for pulping and particleboard. Residue includes slabs, edgings, veneer cores, sawdust, fines, woodflour, and chips manufactured from slabs, edgings, and veneer cores.*

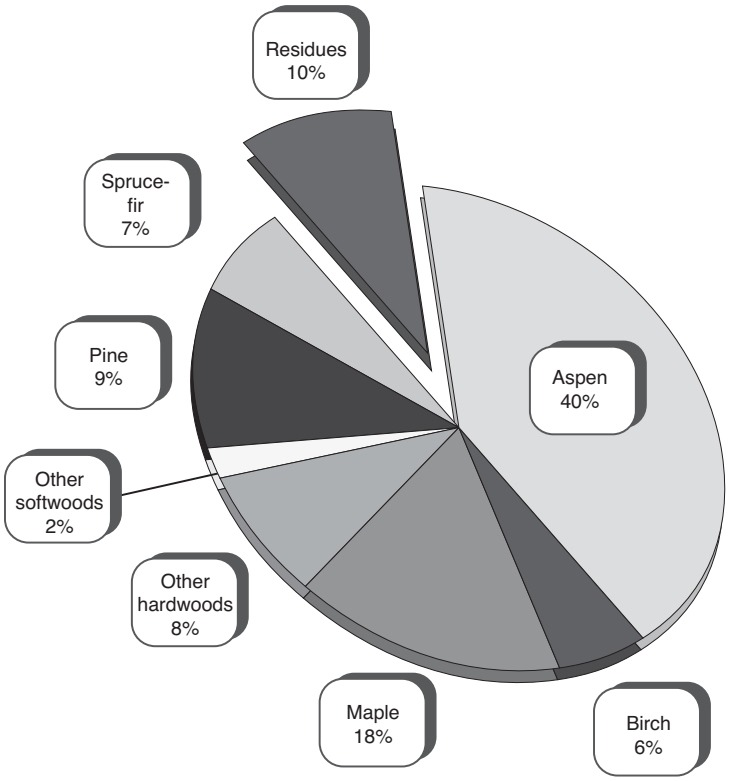



Figure 1.—*Lake States pulpwood production by species group and residues, 2002.*

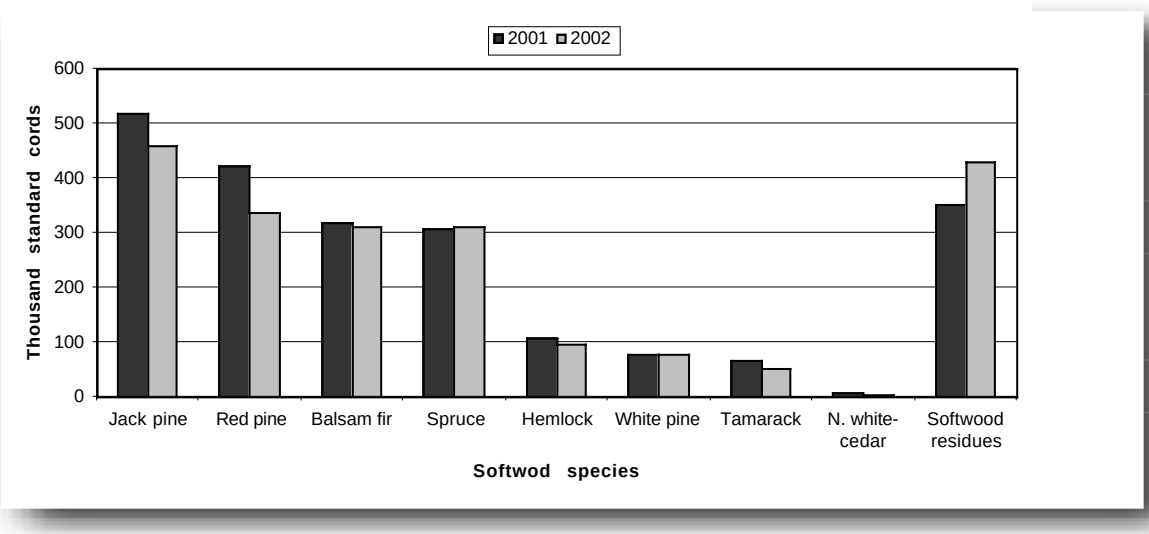



Figure 2.—*Softwood pulpwood production in the Lake States, 2001-2002.*

- Hardwood roundwood production increased by 8 percent, from 6.3 million cords in 2001 to 6.8 million cords in 2002. Pulpwood production from hardwood residue decreased by 6 percent during the same period (fig. 3).

- Whole-tree chip[5] (WTC) production, at 678 thousand cords, made up 7 percent of the total pulpwood production in the Lake States in 2002. Compared to 2001 production levels, hardwood WTC production in 2002 increased by almost 8 percent while softwood WTC production decreased by 10 percent (fig. 4).

- Aspen was the predominant species used in WTC in 2002 with 285 thousand cords or 42 percent of the total WTC production. Jack pine, at 61 thousand cords, was the predominant softwood species used in WTC in 2002 and accounted for 9 percent of the total WTC production.

- Michigan was the major producer of WTC in the Lake States in 2002 with 344 thousand cords (51 percent of the WTC production) (fig. 5).

[5] *Pulpwood produced from chipping entire trees (all portions of the trees above ground, except the stumps).*

## Michigan

- Michigan's total output of wood material for pulpwood production in 2002 remained at the 2001 level of 2.9 million cords (fig. 6, table 2).

- Roundwood production for pulpwood rose to almost 2.5 million cords in 2002, an increase of 5 thousand cords from 2001 (table 3).

- The Western Upper Peninsula remained the top-producing pulpwood region in the State in 2002 with 38 percent of the total roundwood harvested (fig. 7, tables 4 and 5).

- From 2001 to 2002, roundwood pulpwood production increased by 15 percent in the Southern Lower Peninsula, increased by 5 percent in the Northern Lower Peninsula, and decreased by nearly 3 percent in both the Eastern Upper Peninsula and the Western Upper Peninsula.

- The production of pulpwood from residues produced in Michigan decreased by less than 1 percent, falling from 452 thousand cords in 2001 to 448 thousand cords in 2002.

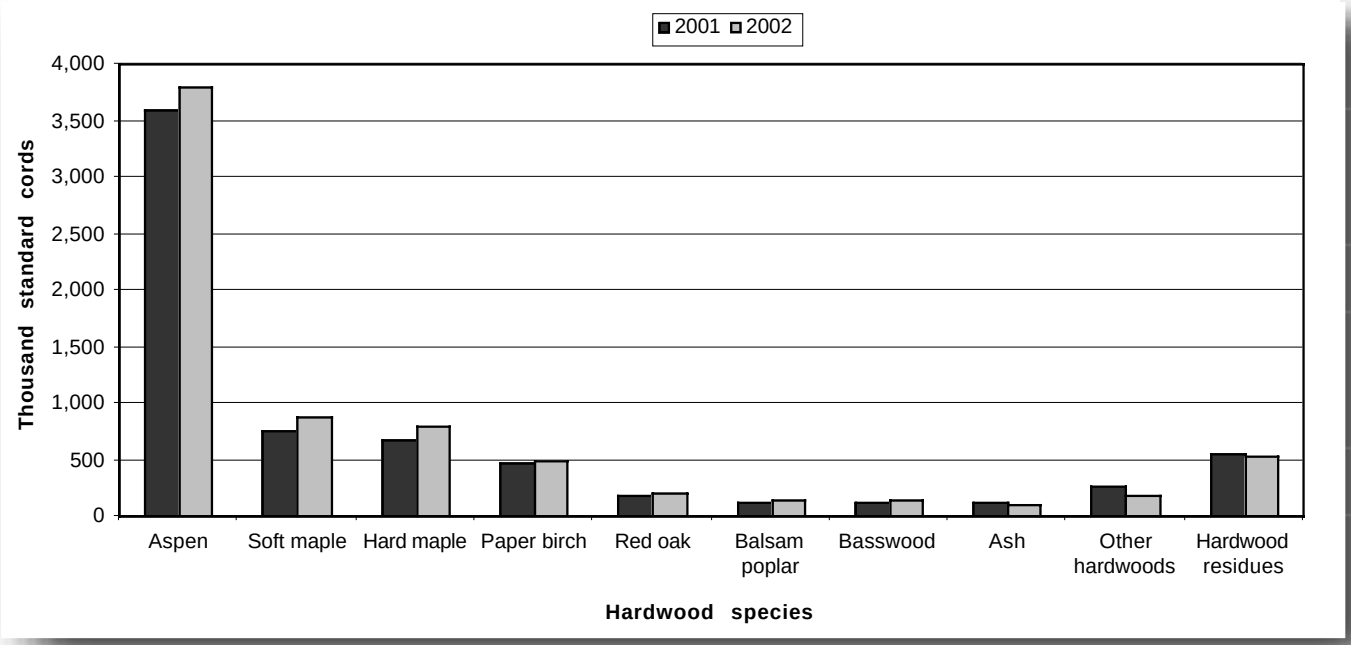



Figure 3.—*Hardwood pulpwood production in the Lake States, 2001-2002.*

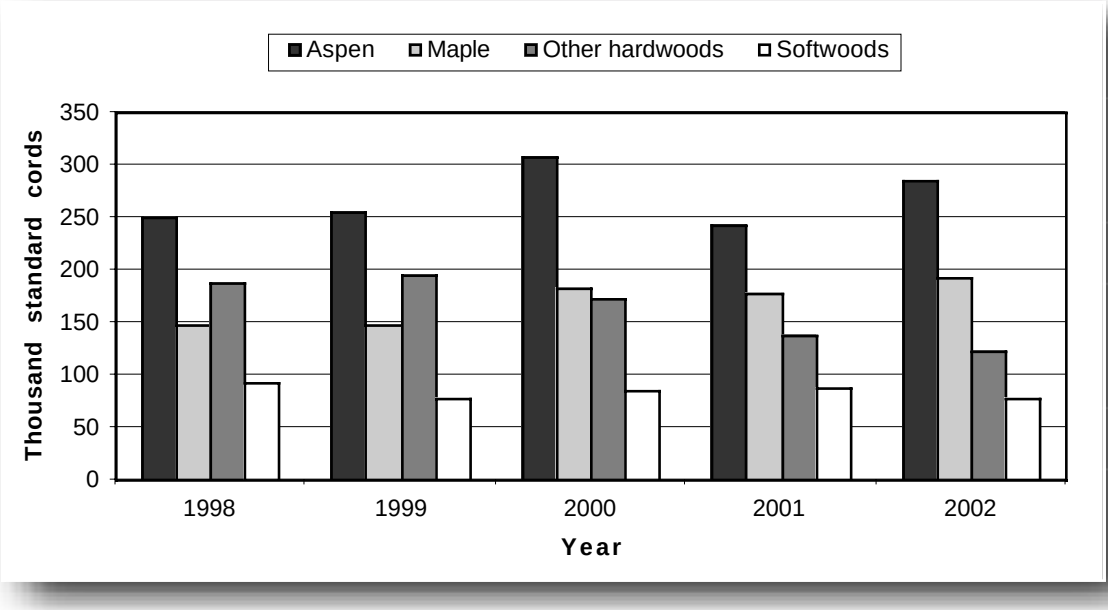



Figure 4.—*Whole-tree chip production in the Lake States, 1998-2002.*

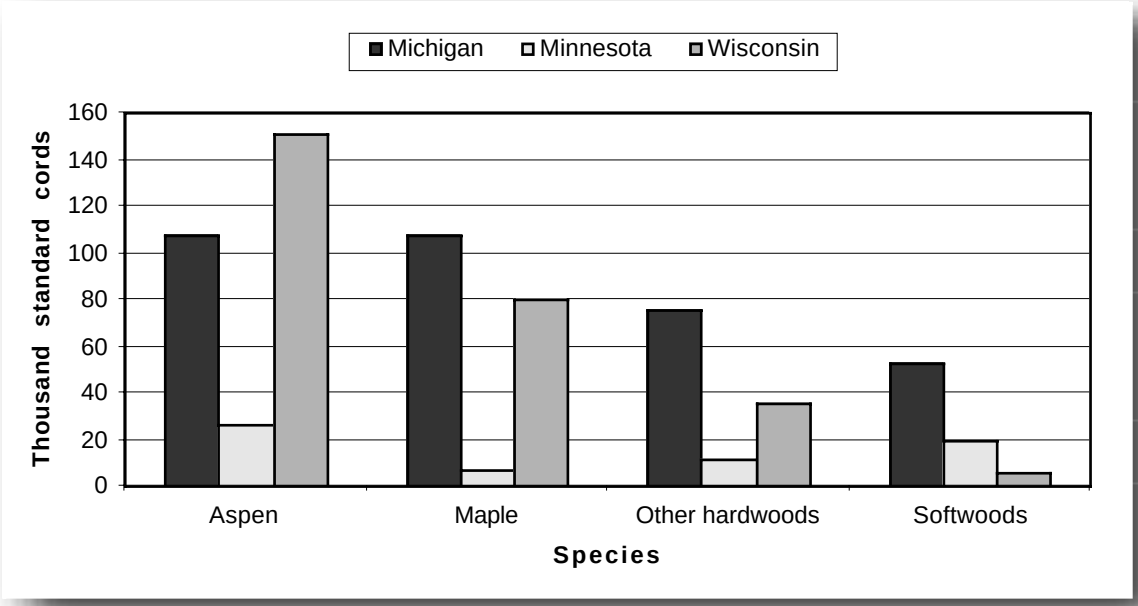



Figure 5.—*Whole-tree chip production by State in the Lake States, 2002.*

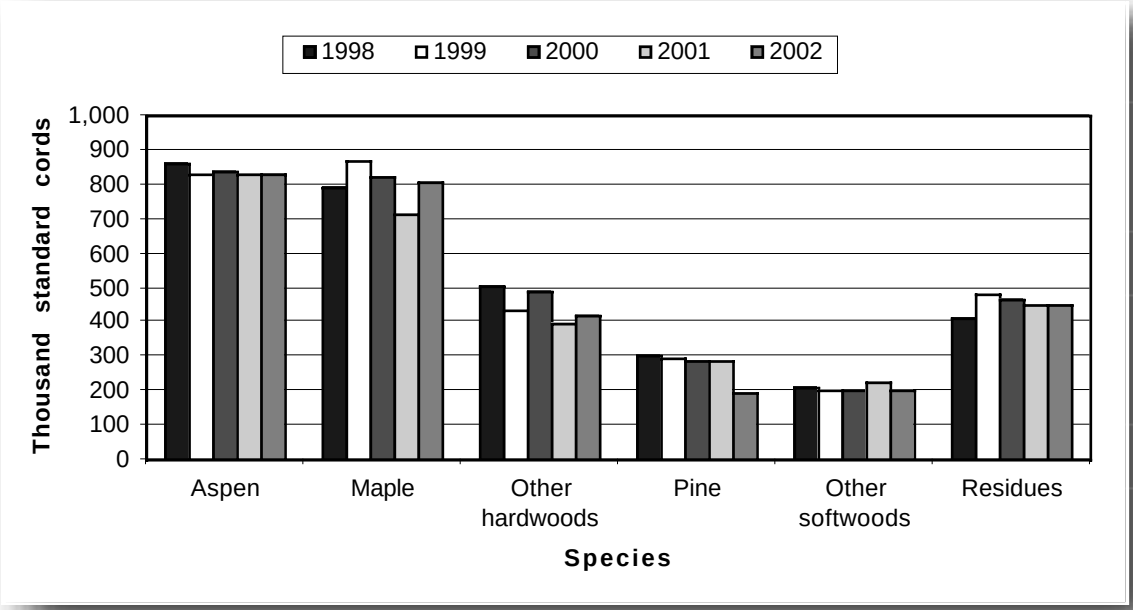



Figure 6.—*Michigan pulpwood production by species group and residues, 1998-2002.*

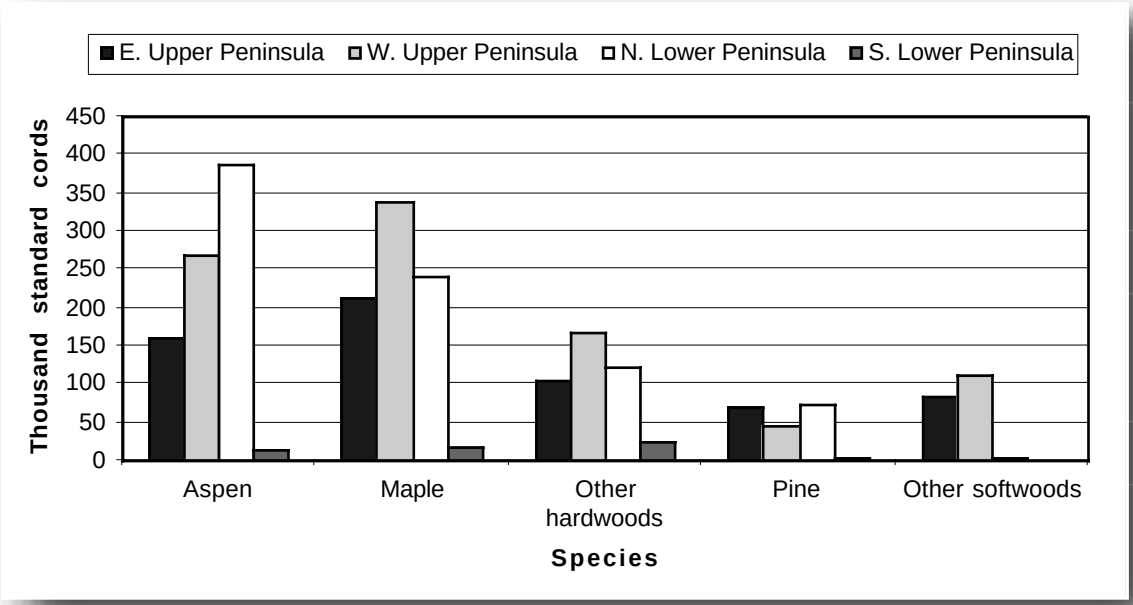



Figure 7.—*Michigan roundwood pulpwood production by Forest Survey Unit and species groups, 2002.*

## Minnesota

- Pulpwood production increased by 6 percent between 2001 and 2002, from 2.8 million cords in 2001 to 3.0 million cords in 2002 (fig. 8).

- Hardwoods accounted for 79 percent of the total pulpwood produced in 2002.

- Ninety-six percent of the pulpwood produced in Minnesota in 2002 came from roundwood sources.

- The Northern Pine and the Aspen-Birch Forest Survey Units were the top pulpwood-producing roundwood regions in the State in 2002 with almost 1.4 million cords and 1.2 million cords, respectively (fig. 9, table 6).

- Aspen accounted for 68 percent of all the roundwood harvested for pulpwood in Minnesota in 2002.

- From 2001 to 2002, softwood residues produced in Minnesota and used for pulpwood production increased by 37 percent and hardwood residue production increased by 21 percent.

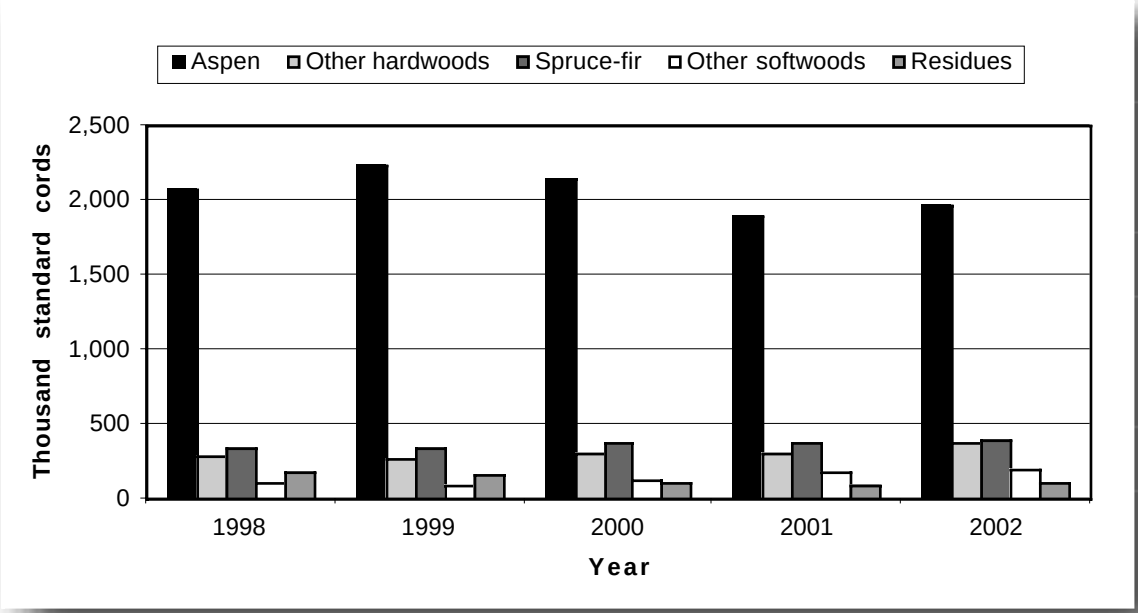



Figure 8.—*Minnesota pulpwood production by species group and residues, 1998-2002.*

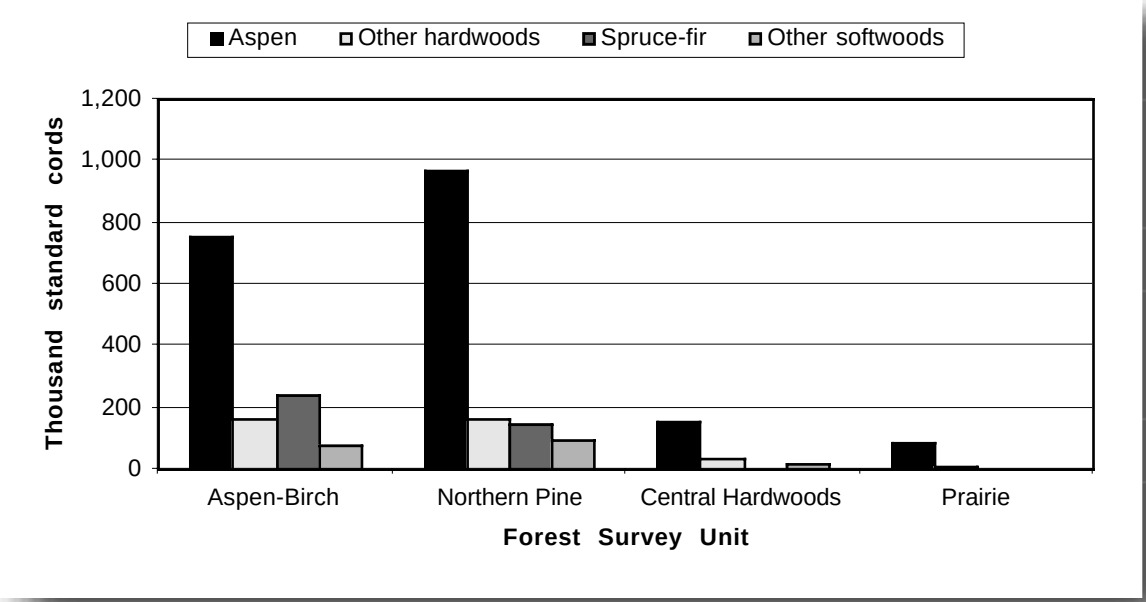



Figure 9.—*Minnesota roundwood pulpwood production by Forest Survey Unit and species group, 2002.*

## Wisconsin

- Pulpwood production in Wisconsin increased by 5 percent between 2001 and 2002, from 3.3 million cords to almost 3.5 million cords (fig. 10).

- Hardwood material accounted for 77 percent of the total pulpwood production in 2002.

- Roundwood harvested for pulpwood accounted for almost 89 percent of the pulpwood produced in 2002.

- The Northwestern Forest Survey Unit remained the top producer of roundwood for pulping in the State with 1.3 million cords (fig. 11, table 7).

- In 2002, softwood residues produced in Wisconsin and used for pulpwood production increased by 35 percent while hardwood residues decreased by 2 percent from the previous year.

## Harvesting Intensity

- In the following figures, the distribution of the harvest is shown in two ways: first, the amount of pulpwood cut relative to the growing-stock volume in each of five major pulpwood species (fig. 12); second, the amount of pulpwood relative to commercial timberland area (fig. 13).

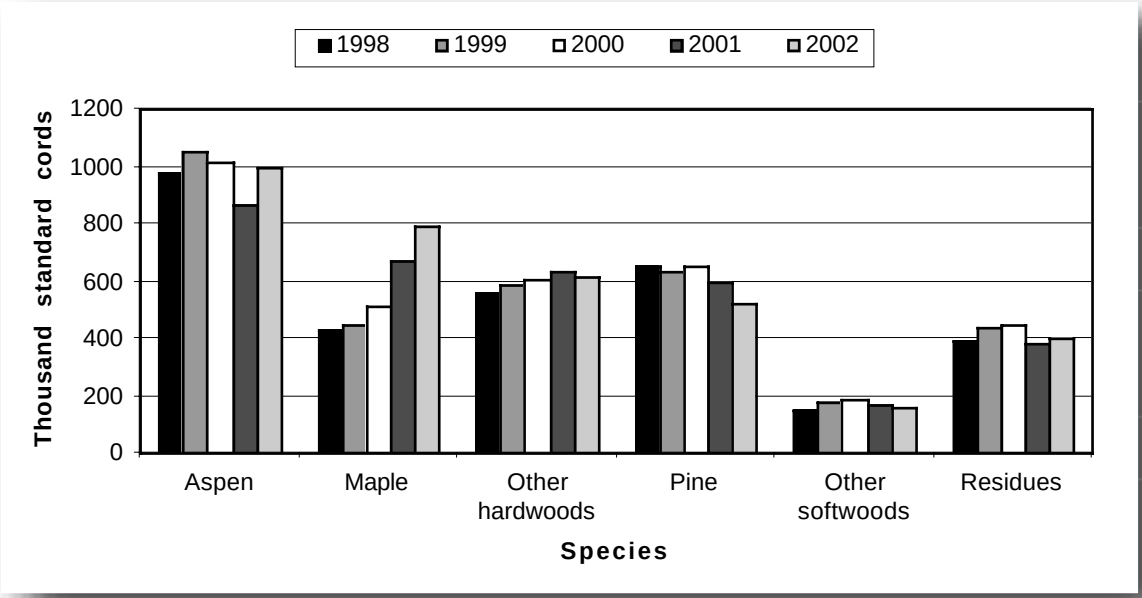



Figure 10.—*Wisconsin pulpwood production by species group and residues, 1998-2002.*

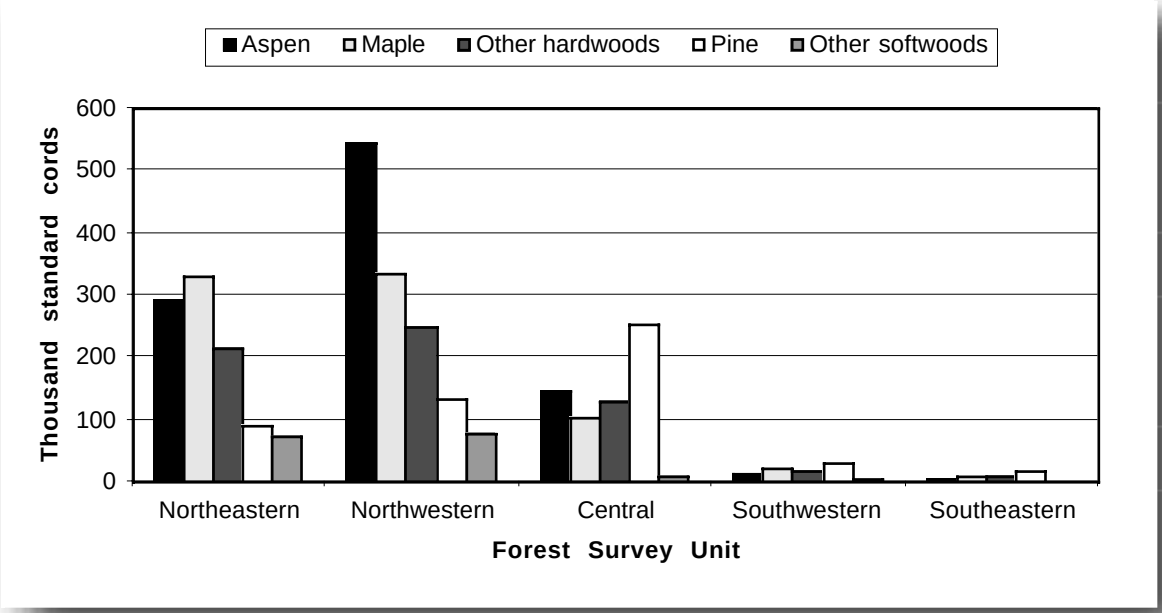



Figure 11.—*Wisconsin roundwood pulpwood production by Forest Survey Unit and species group, 2002.*

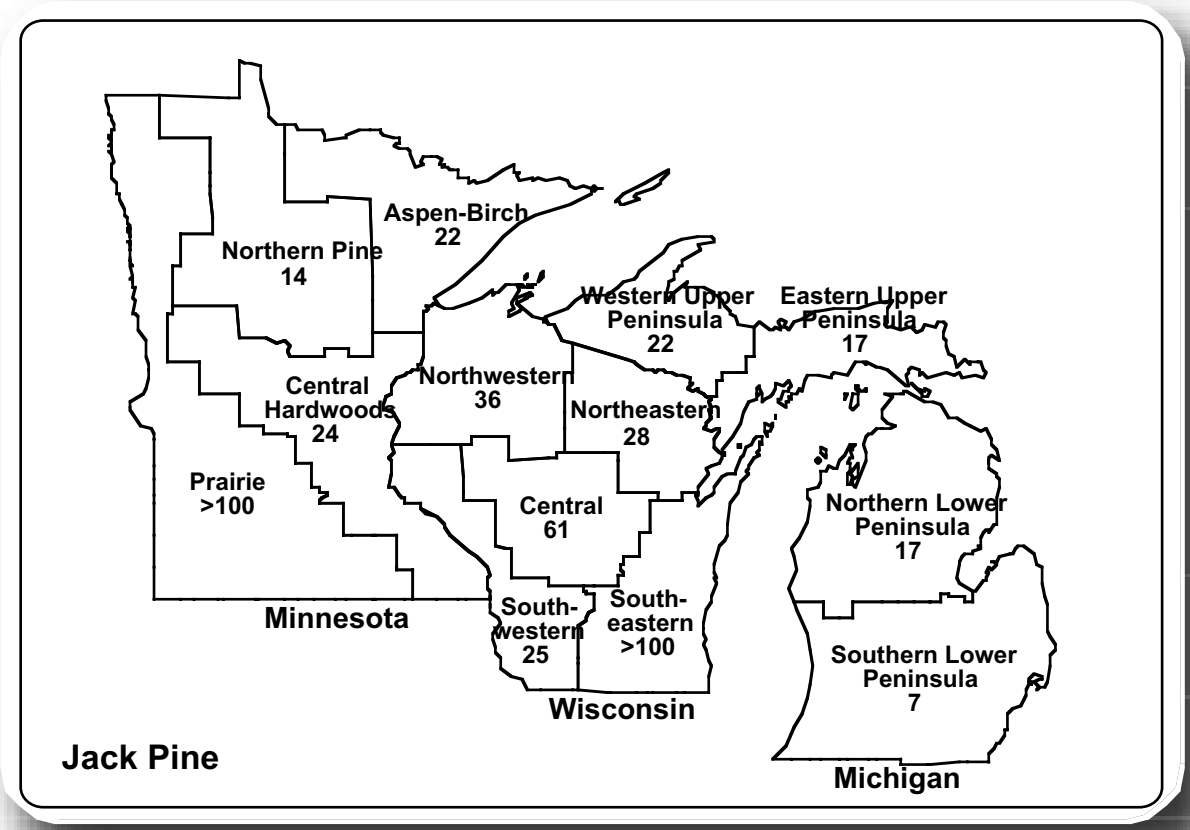
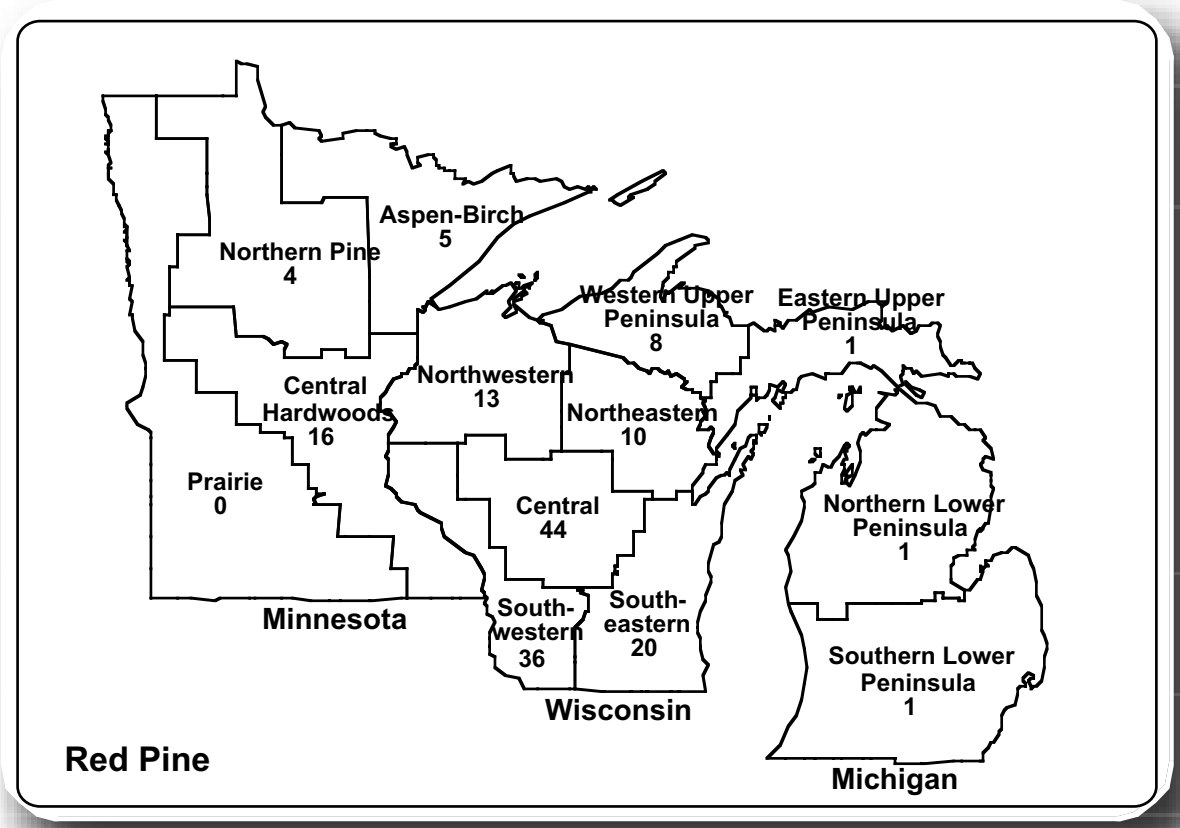
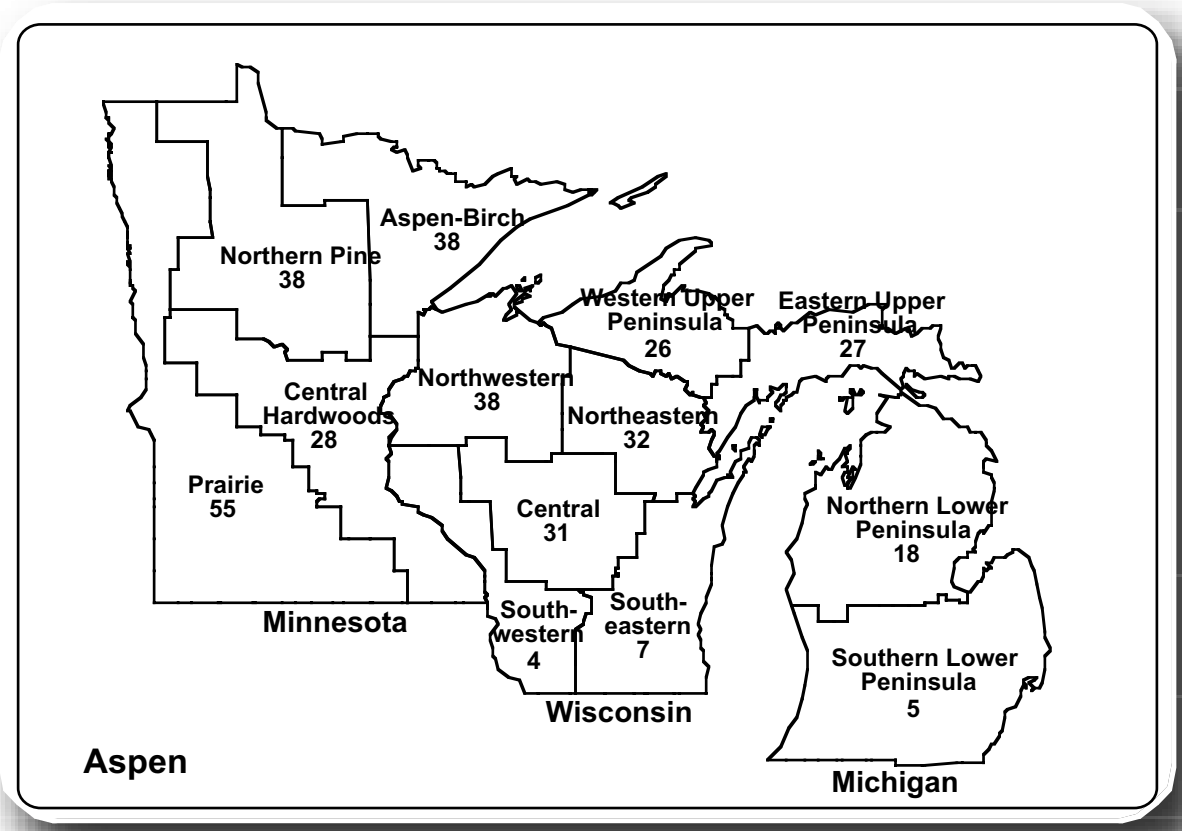
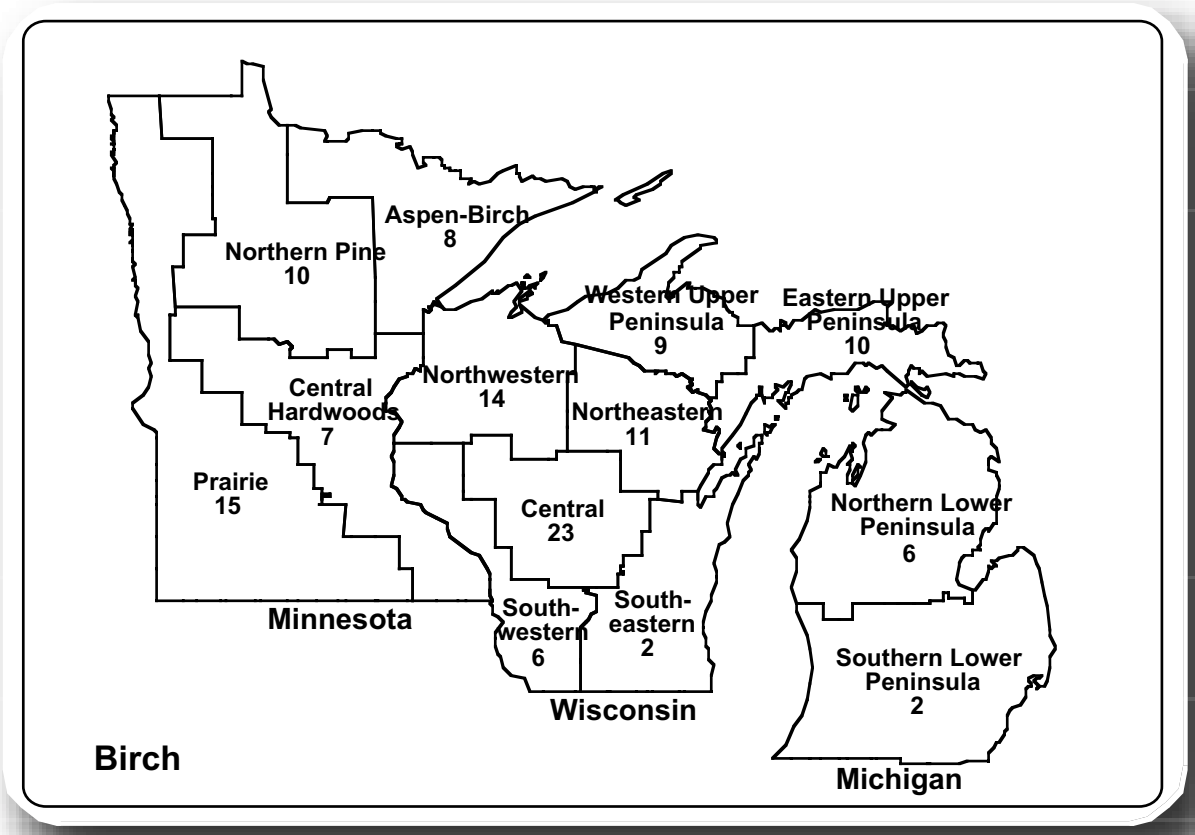



Figure 12.—*Cords of roundwood pulpwood (including chips from roundwood) harvested per 1,000 cords of growing-stock volume for each of five principal pulpwood species by Forest Survey Unit, 2002. Growing-stock volume was determined during the last forest inventory for each State.*


Aspen-Birch
5
Northern Pine
4
Western Upper
Peninsula
8
Eastern Upper
Peninsula
1
Central
Hardwoods
16
Northwestern
13
Northeastern
10
Prairie
0
Central
44
Northern Lower
Peninsula
1
Minnesota
South-
western
36
South-
eastern
20
Southern Lower
Peninsula
1
Wisconsin
Red Pine
Michigan


Aspen-Birch
38
Northern Pine
38
Western Upper
Peninsula
26
Eastern Upper
Peninsula
27
Central
Hardwoods
28
Northwestern
38
Northeastern
32
Prairie
55
Central
31
Northern Lower
Peninsula
18
Minnesota
South-
western
4
South-
eastern
7
Southern Lower
Peninsula
5
Wisconsin
Aspen
Michigan


Aspen-Birch
8
Northern Pine
10
Western Upper
Peninsula
9
Eastern Upper
Peninsula
10
Northwestern
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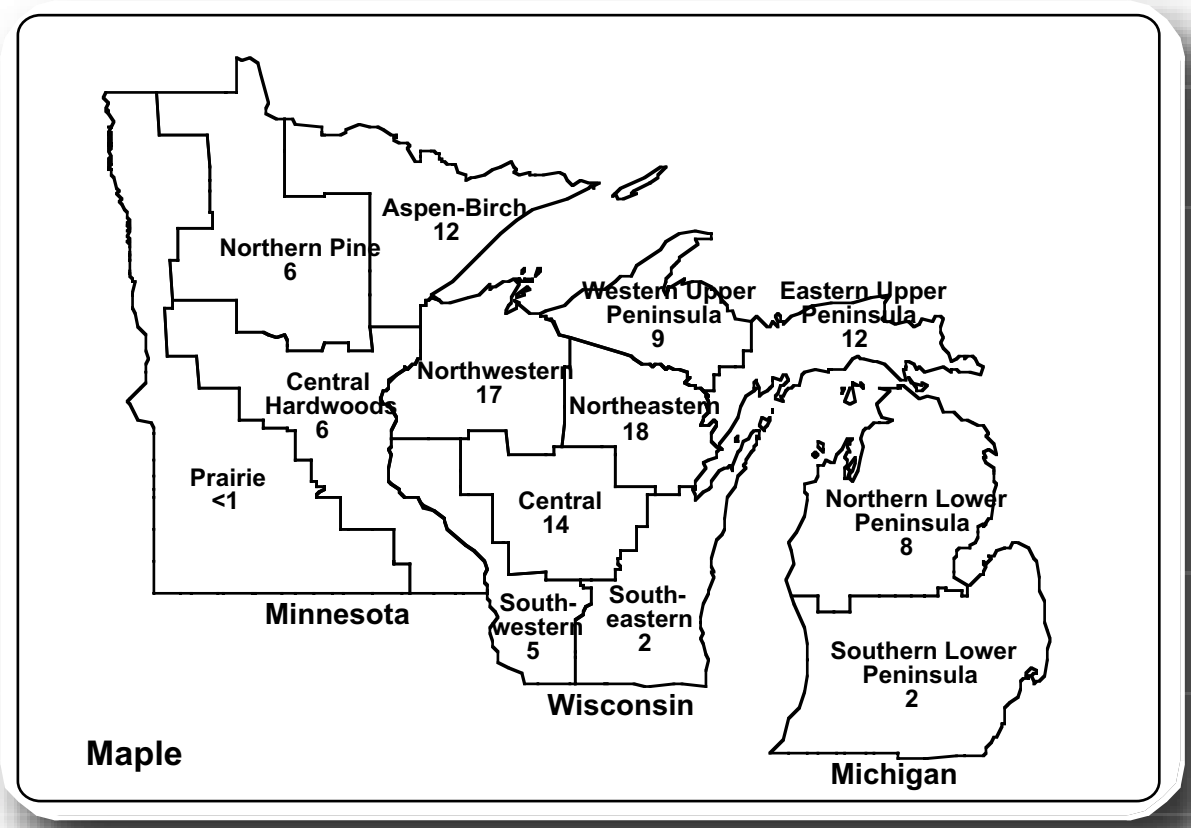
Central
Hardwoods
7
Northeastern
11
Prairie
15
Central
23
Northern Lower
Peninsula
6
Minnesota
South-
western
6
South-
eastern
2
Southern Lower
Peninsula
2
Wisconsin
Birch
Michigan


Aspen-Birch
12
Northern Pine
6
Western Upper
Peninsula
9
Eastern Upper
Peninsula
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Northwestern
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Central
Hardwoods
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Prairie
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Central
14
Northern Lower
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Southern Lower
Peninsula
2
Wisconsin
Maple
Michigan

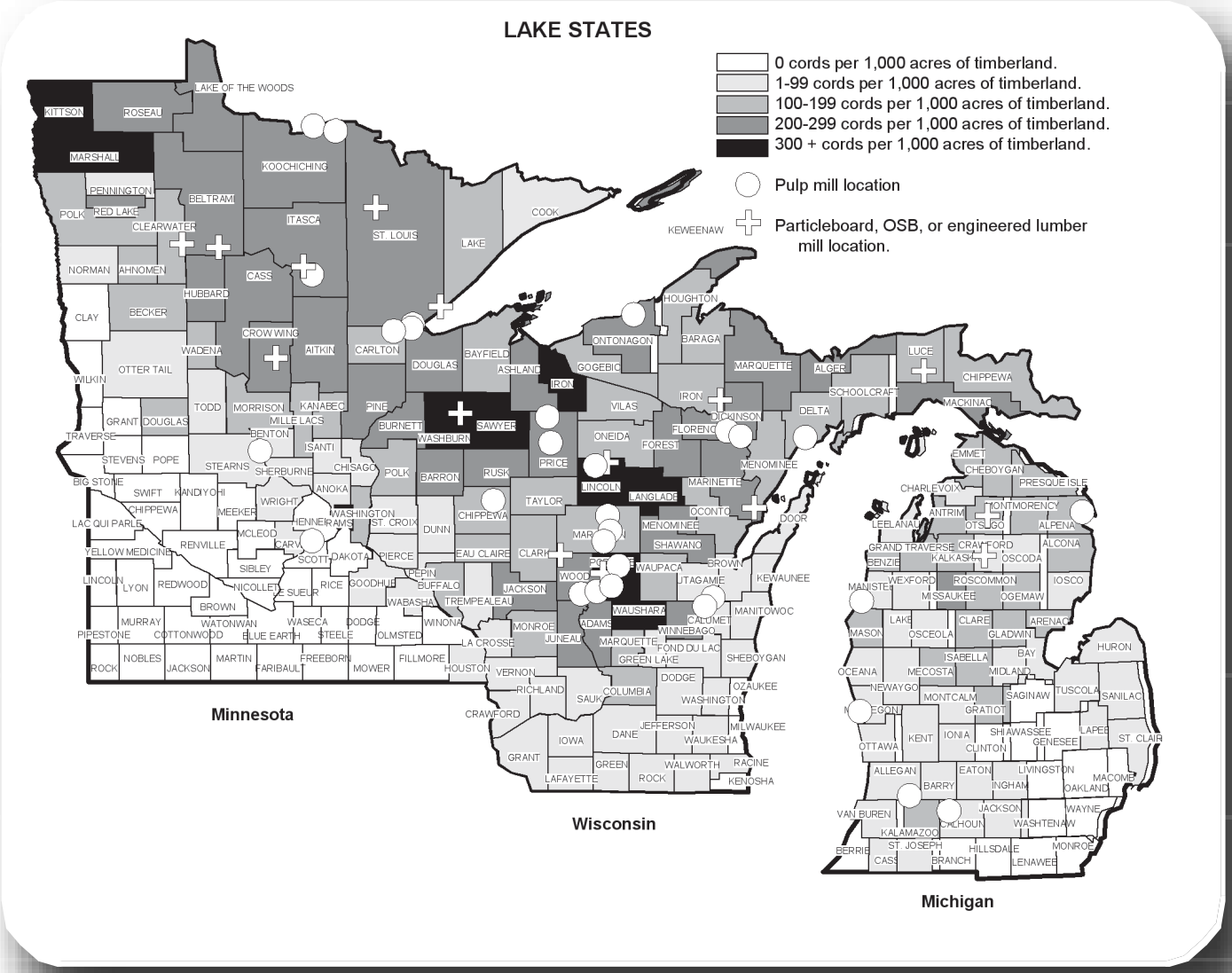


Figure 13.—*Cords of pulpwood cut per 1,000 acres of timberland by county, 2002. Acres of timberland (stocking of trees greater than 10 percent) were determined during the last inventory in each State. Locations of active pulp and particleboard mills are shown.*

Pulpwood harvesting was most intensive (100,000 cords or more) in the following Forest Survey Units by species:

| Species | State | Forest Survey Unit |
|---|---|---|
| Red pine | Wisconsin | Central |
| Spruce | Minnesota | Aspen-Birch |
| Aspen | Michigan | N. Lower Peninsula, W. Upper Peninsula, E. Upper Peninsula |
| | Minnesota | Northern Pine, Aspen-Birch, Central Hardwoods |
| | Wisconsin | Northwestern, Northeastern, Central |
| White birch | Wisconsin | Northwestern |
| Hard maple | Michigan | W. Upper Peninsula, E. Upper Peninsula |
| | Wisconsin | Northeastern, Northwestern |
| Soft maple | Michigan | N. Lower Peninsula, W. Upper Peninsula, E. Upper Peninsula |
| | Wisconsin | Northwestern, Northeastern |

## RECEIPTS

- In 2002, 30 wood pulp and 14 particleboard mills in the Lake States acquired 9.9 million cords of pulpwood, an increase of almost 3 percent from 2001.

- Aspen roundwood was processed at 35 of the 44 pulp and particleboard plants in the Lake States in 2002 (fig. 14, table 8).

- In 2002, Wisconsin supplied wood to 34 mills, Michigan supplied 32 mills, and Minnesota supplied 25 mills.

- Total imports from outside the Lake States of all wood material in 2002 were 577 thousand cords, a decrease of 16 percent from 2001. Canada contributed almost 85 percent of the total import receipts.

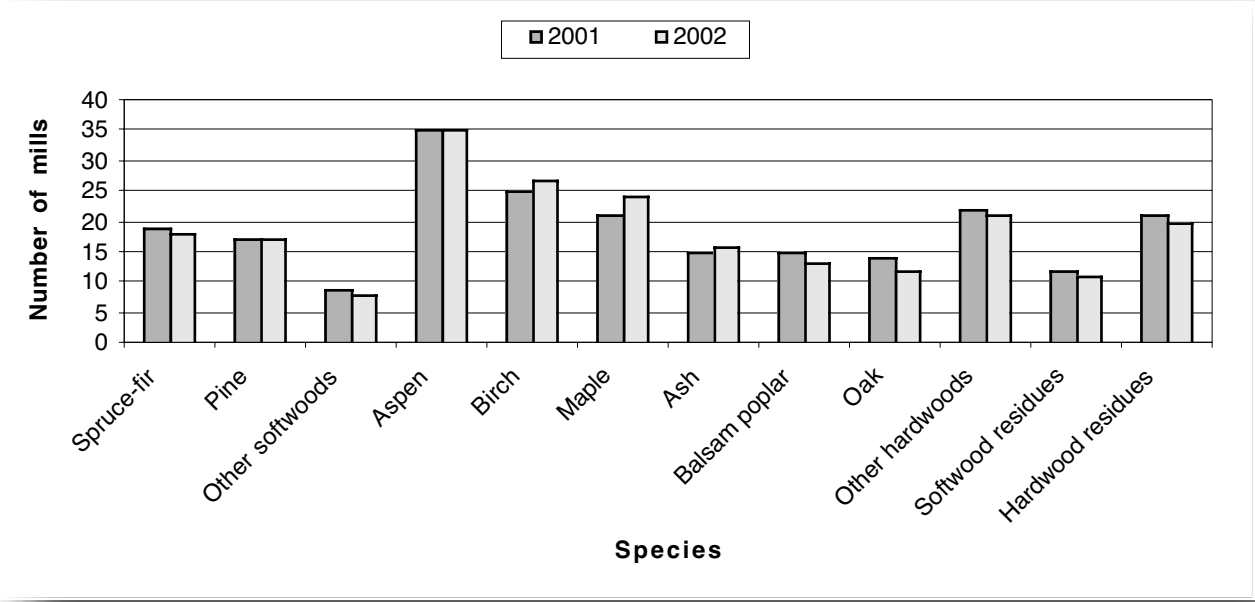


Figure 14.—*Numbers of industrial plants in the Lake States using a particular species or residue for pulping and particleboard, 2001-2002.*

- Imports of aspen roundwood from Canada to Lake States pulp and particleboard mills decreased by 28 percent in 2002, going from 402 thousand cords in 2001 to 290 thousand cords in 2002.

- Imports of residues decreased by almost 19 percent between 2001 and 2002. The Plains States and Canada supplied 82 percent of the total residues imported by mills in the Lake States.

**Michigan**

- The seven Michigan pulp mills, three OSB mills, and one particleboard mill consumed almost 3.0 million cords in 2002, almost 2 percent more than the previous year. Eleven percent of the total wood material consumed was imported from out of State, with Wisconsin supplying 75 percent of the imported wood material.

**Minnesota**

- The eight pulp mills, five OSB mills, and one laminated structural lumber mill in Minnesota reported consuming almost 3.6 million cords in 2002, an increase of 10 percent from 2001. Minnesota's pulp and particleboard mills acquired 19 percent of their raw material from out-of-State sources. Wisconsin supplied over 50 percent of the imported wood material.

**Wisconsin**

- The 15 pulp mills, 2 OSB mills, and 2 particleboard mills in Wisconsin consumed 3.4 million cords in 2002, a decline of almost 4 percent from 2001. Almost 17 percent of the total receipts were imported from out of State, with 45 percent of the total wood material imported from Michigan.

## INDUSTRY TRENDS AND ANALYSIS

### Pulp Mills

*For this section, pulp mill products include wood fiber products such as paper, paperboard, hardboard, insulation board, and medium-density fiberboard. All of these products are manufactured from wood that has been reduced to individual fibers, small fiber bundles, or fiber parts that are subsequently formed into a mat. Wood material from the Lake States sent to mills in other States and Canada is included.*

- Of the 9.0 million cords of pulpwood produced in the Lake States in 2002, almost 6.8 million cords (72 percent) were used for wood pulp products. Overall, 88 percent came from roundwood and 12 percent came from mill residues.

- Principal species harvested for pulp in the Lake States in 2002 were aspen (1.9 million cords), soft maple (780 thousand cords), hard maple (760 thousand cords), and jack pine (253 thousand cords) (fig. 15).

- Hardwoods were still the mainstays of the pulp mills in the region in 2002 with hardwood roundwood contributing almost 65 percent of total raw material needs and hardwood residues supplying another 7 percent.

- Lake States softwood roundwood production for pulp mills increased by 10 percent between 2001 and 2002. Softwood residues from the Lake States primary wood processors used by pulp mills decreased by almost 14 percent from the previous year.

- Average daily wood pulp production in 2002 rose to 14.6 thousand tons of pulp per day, up from 14.3 thousand tons per day in 2001 (table 9).

- Lake States pulpwood production for pulp mills during the period 1998-2002 is shown in table A.

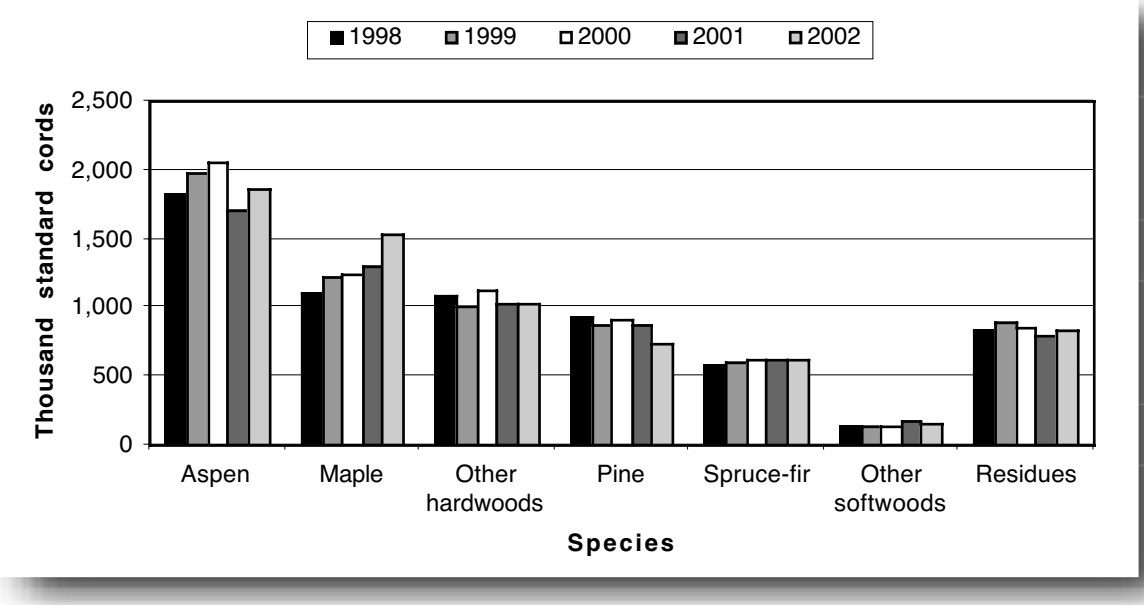


Figure 15.—*Pulpwood production in the Lake States for pulp by species group and residues, 1998-2002.*

Table A.—*Lake States pulpwood production for pulp mills, 1998-2002*

| Product form and species group | Production | | | | |
|---|---|---|---|---|---|
| | 1998 | 1999 | 2000 | 2001 | 2002 |
| | (Thousand cords) | | | | |
| Roundwood | | | | | |
| Softwoods | 1,627 | 1,599 | 1,674 | 1,658 | 1,500 |
| Aspen | 1,825 | 1,981 | 2,045 | 1,707 | 1,854 |
| Other hardwoods | 2,198 | 2,232 | 2,354 | 2,320 | 2,573 |
| Residue | 813 | 867 | 852 | 804 | 825 |
| Total | 6,463 | 6,680 | 6,925 | 6,488 | 6,753 |

### Michigan

- Pulpwood production for wood pulp was 2.1 million cords in 2002, an increase of 1 percent from 2001. Michigan had the smallest increase of wood pulp production of the three Lakes States in 2002.

- Soft maple, hard maple, and aspen were the major pulpwood species groups harvested in the State in 2002. All together, these three species groups accounted for over 60 percent of the total roundwood harvested.

- Michigan mills imported 239 thousand cords of pulpwood, or 12 percent of the wood material used for the production of wood pulp by Michigan wood pulp mills. Michigan exported almost 263 thousand cords to wood pulp mills in Minnesota, Wisconsin, and Canada.

- Michigan mills used almost 1.7 million cords of hardwood material in 2002, an increase of almost 9 percent from 2001. The use of softwood material decreased by 20 percent to 388 thousand cords during the same period.

### Minnesota

- Pulpwood production for wood pulp totaled 1.7 million cords in 2002, an increase of 6 percent from 2001.

- In 2001, aspen remained the predominant species harvested in the State with almost 892 thousand cords, or 56 percent of the total roundwood produced. Other major species harvested were spruce with 215 thousand cords and balsam fir with 166 thousand cords.

- Mills in Minnesota imported 553 thousand cords of wood material for pulp products (359 thousand cords from Wisconsin, 184 thousand cords from Canada, and 10 thousand cords from Michigan). Minnesota exported 112 thousand cords to pulp mills in Wisconsin and 11 thousand cords to pulp mills in Canada.

- Minnesota mills had a 10-percent increase in the use of hardwood material, from 1.4 million cords in 2001 to 1.6 million cords in 2002. The use of softwood material increased by 19 percent to 560 thousand cords in 2002.

### Wisconsin

- Pulpwood production for wood pulp products increased by 5 percent, from 2.9 million cords in 2001 to 3.0 million cords in 2002.

- Aspen was the main species harvested with 622 thousand cords. Other major species harvested were hard maple (407 thousand cords), soft maple (368 thousand cords), red pine (243 thousand cords), white birch (211 thousand cords), and jack pine (199 thousand cords).

- Wisconsin mills imported 483 thousand cords of pulpwood: 231 thousand cords from Michigan, 112 thousand cords from Minnesota,

76 thousand cords from other States, and 64 thousand cords from Canada. Wisconsin exported 359 thousand cords to Minnesota, 217 thousand cords to Michigan, and 6 thousand cords to other States and Canada combined.

- Wisconsin pulp mills decreased the use of hardwood material by less than 2 percent between 2001 and 2002 and decreased the use of softwood material by 11 percent.

## Particleboard Mills

*Particleboard is a generic term for a panel manufactured from lignocellulosic material—commonly wood—essentially in the form of particles (as distinct from fibers). These materials are bonded together with synthetic resin or other suitable binder under heat and pressure by a process wherein the inter-particle bonds are created wholly by the added binder. Other materials may have been added during manufacture to improve certain properties. The many types of particleboard differ greatly in regard to size and geometry of the particle, the amount of resin (adhesive) used, and the density to which the panel is pressed. Products included in the particleboard group include particleboard, waferboard. oriented strandboard (OSB), and engineered lumber. The major types of particles used for particleboard are shavings, flakes, wafers, chips, sawdust, strands, slivers, and wood wool (excelsior). Much of the particleboard in the U.S. is made from residues (shavings, sawdust, or chips). Waferboard, OSB, and engineered lumber are examples of products requiring that the particles be cut from solid wood (saw logs or pulpwood). Wood material from the Lake States sent to mills in other States and Canada is included.*

- The Lake States produced 2.6 million cords of pulpwood in 2002 for particleboard products, up 2 percent from 2001. For every cord of pulpwood used in particleboard manufacture, 95 percent came from roundwood and 5 percent came from the residues of other wood-using plants.

- Principal species harvested for particleboard products were aspen (1.9 million cords), white birch (169 thousand cords), jack pine (108 thousand cords), and soft maple (99 thousand cords) (fig. 16).

- In 2002, the Lake States produced 149 thousand cords of softwood roundwood and 2.4 million cords of hardwood roundwood for processing at particleboard plants. Roundwood production for the manufacture of particle-board products rose by almost 3 percent between 2001 and 2002. All the roundwood that was harvested in the Lake States for particleboard production stayed in the region.

- The Lake States in 2002 produced 51 thousand cords of softwood residues and 78 thousand cords of hardwood residues for use in particle-board production. Between 2001 and 2002, the use of residues for particleboard production increased by 19 percent.

- Annual production at Lake States particleboard plants rose from 1,987 million square feet 3/4-inch basis in 2001 to 2,015 million square feet 3/4-inch basis in 2002 (table 10).

- Lake States pulpwood production for particle-board mills during 1998-2002 is shown in table B.

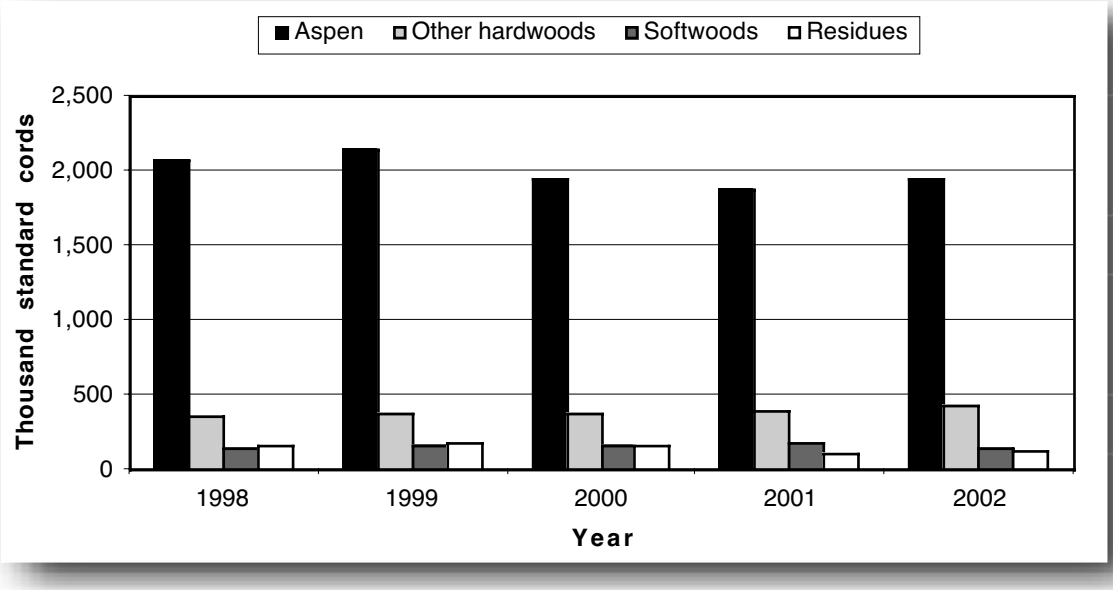


Figure 16.—*Pulpwood production for particleboard in the Lake States, 1998-2002.*

**Michigan**

- Michigan's production of wood material for particleboard production decreased by almost 3 percent from 2001 to 2002, falling from 856 thousand cords in 2001 to 832 thousand cords in 2002.

- In 2002, the harvest of roundwood from Michigan forest land provided 766 thousand cords of wood for particleboard products, of which 81 thousand cords were softwoods and 684 thousand cords were hardwoods. Residues from Michigan's primary wood-using mills provided another 66 thousand cords of wood material that were used for particleboard products.

- The particleboard mills in Michigan imported 60 thousand cords from Canada and 39 thousand cords from Wisconsin. Exports of all wood material for particleboard production amounted to 22 thousand cords, all of which went to Wisconsin.

**Minnesota**

- The production of wood material for particleboard production in Minnesota increased by almost 6 percent from 2001 to 2002, rising from 1.2 million cords in 2001 to 1.3 million cords in 2002.

- Minnesota accounted for almost half of all the wood material produced in the Lake States for

Table B.—*Lake States pulpwood production for particleboard mills, 1998-2002*

| Product form and species | Production | | | | |
|---|---|---|---|---|---|
| | 1998 | 1999 | 2000 | 2001 | 2002 |
| | (Thousand cords) | | | | |
| Roundwood | | | | | |
| Softwoods | 135 | 152 | 159 | 174 | 149 |
| Aspen | 2,078 | 2,139 | 1,939 | 1,880 | 1,938 |
| Other hardwoods | 362 | 380 | 374 | 396 | 431 |
| Residue | 172 | 205 | 156 | 108 | 129 |
| Total | 2,748 | 2,876 | 2,628 | 2,558 | 2,647 |

particleboard plants in 2002. Roundwood logged for particleboard products totaled 1.3 million cords, and aspen was the predominant species cut (1.1 million cords). Minnesota supplied less than 1 thousand cords of mill residues for particleboard production.

- The particleboard mills in Minnesota imported 129 thousand cords from Canada and 6 thousand cords from Wisconsin and North Dakota combined. In 2002, raw materials exported from the State for particleboard manufacturing totaled 27 thousand cords, all of which went to Wisconsin.

### Wisconsin

- The production of wood material for particleboard production in Wisconsin increased by 8 percent from 2001 to 2002, rising from 457 thousand cords in 2001 to 495 thousand cords in 2002.

- In 2002, Wisconsin forest land produced 431 thousand cords of roundwood for particleboard manufacturing, of which 17 thousand cords were softwood and 414 thousand cords were hardwood. Wisconsin's primary wood processing mills provided an additional 63 thousand cords of plant byproducts to the particleboard industry.

- The mills in Wisconsin imported almost 85 thousand cords of wood for particleboard manufacturing: 36 thousand cords from Canada, 27 thousand cords from Minnesota, and 22 thousand cords from Michigan. Wisconsin exported 39 thousand cords to Michigan particleboard mills and 1 thousand cords to Minnesota particleboard mills in 2002.

## Industry News

Major mill expansion, new construction, consolidations, name changes, and closures are as follows:

- Johnson Controls medium-density fiberboard mill at Battle Creek, MI, switched from processing peeled roundwood to market pulp in May 2001.

- Domtar Inc. purchased the Georgia-Pacific Corp.'s pulp mills in Nekoosa and Port Edwards, WI, in August 2001. The two mills' names were changed to Domtar Industries, Inc.

- Appleton Coated LLC's pulp mill at Combined Locks, WI, was closed in December 2001.

- Georgia-Pacific Corp.'s hardboard pulp mill at Superior, WI, was closed in December 2001.

- Cornell Felt Acquisition of Beloit bought the Globe Building Materials plant at Cornell, WI, in January 2001. Mule-Hide Dry Felt Manufacturing, a subsidiary of ABC Supply Co. in Beloit, leased and began operating the plant in March 2002.

# CENTRAL STATES

## PRODUCTION

- Pulpwood production in the Central States (Illinois, Indiana, Iowa, and Missouri) decreased by 9 percent—from 469 thousand cords in 2001 to 427 thousand cords in 2002.

- The Central States' pulpwood production from both roundwood and residues from primary wood processing mills decreased by 9 percent from 2001 to 2002.

- Wood residues accounted for 65 percent of the total wood material produced in the Central States for the pulp and particleboard industry in 2002 (table 11).

- Pulpwood production from soft hardwood[6] roundwood fell from 51 thousand cords in 2001 to 26 thousand cords in 2002 while hard hardwood[7] production rose from 113 thousand cords to 122 thousand cords (fig. 17, table 12).

- Exports of roundwood and residues from the Central States in 2002 accounted for 75 percent of all wood material produced in the region for pulpwood production. Roundwood exports totaled 126 thousand cords, and the export of residues from other wood-using mills totaled 194 thousand cords.

[6] *Hardwood species with an average specific gravity of 0.50 or less.*

[7] *Hardwood species with an average specific gravity greater than 0.50.*

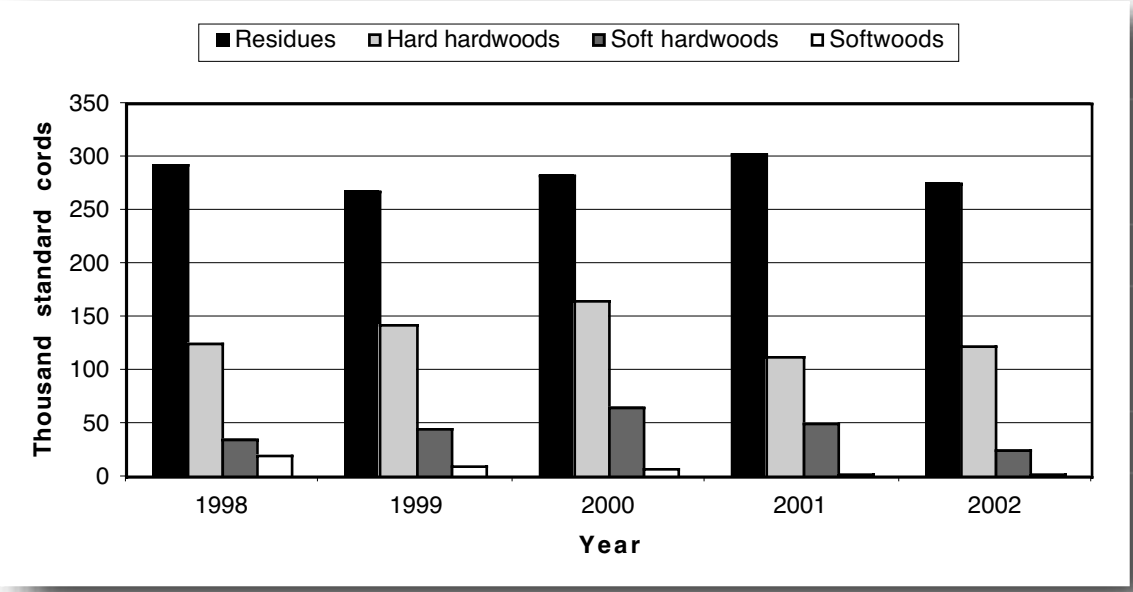


Figure 17.—*Pulpwood production in the Central States, 1998-2002.*

- Loggers harvested pulpwood in 20 counties in Illinois, 12 counties in Indiana, 5 counties in Iowa, and 14 counties in Missouri (fig. 18).

- Pulpwood production from whole-tree chips decreased by 55 percent between 2001 and 2002. The 24 thousand cords of whole-tree chips made up 16 percent of the total roundwood produced in the Central States in 2002.

### Illinois

- Illinois does not have any primary wood pulp or particleboard mills; consequently, all pulpwood harvested and residues produced by primary wood-processing mills, which are utilized by pulp or particleboard mills, are shipped to plants outside the State.

- Illinois produced 59 thousand cords of pulpwood in 2002, a decrease of 21 percent from the previous year (table 13).

- Illinois produced the second largest volume of pulpwood roundwood in the Central States in 2002, supplying 39 percent of the Central States' total roundwood production. Pulpwood production from residues accounted for only 3 percent of the region's total residue production. Overall, Illinois contributed 16 percent of the total pulpwood produced in the Central States in 2002 (fig. 19).

### Indiana

- Pulpwood production in Indiana accounted for 32 percent of the total pulpwood produced in the Central States region in 2002. The 135 thousand cords of wood material produced in Indiana in 2002 was a 16-percent decrease from the 2001 level of 160 thousand cords.

- Roundwood production decreased by over 30 percent, falling from 23 thousand cords in 2001 to 16 thousand cords in 2002. Residue production decreased by 13 percent, falling from 137 thousand cords in 2001 to 119 thousand cords in 2002.

### Iowa

- Iowa's total pulpwood production in 2002 was 30 thousand cords, a decrease of almost 32 percent from 2001. The State contributed 7 percent of the region's total pulpwood produced.

- Roundwood from Iowa decreased by over 90 percent between 2001 and 2002.

- Residues accounted for over 95 percent of Iowa's pulpwood production in 2002.

### Missouri

- Missouri replaced Illinois as the largest producer of pulpwood in the Central States in 2002, with 47 percent of the region's total, or 202 thousand cords. The production of pulpwood in Missouri increased by over 6 percent between 2001 and 2002.

- Missouri was the Central States' largest producer of roundwood for pulpwood and second largest producer of residues from primary wood-processing plants used for pulpwood production in 2002. The State produced 84 thousand cords of roundwood and 119 thousand cords of residues.

- Missouri exported over 90 percent (188 thousand cords) of the State's pulpwood production to mills in the Southern States.

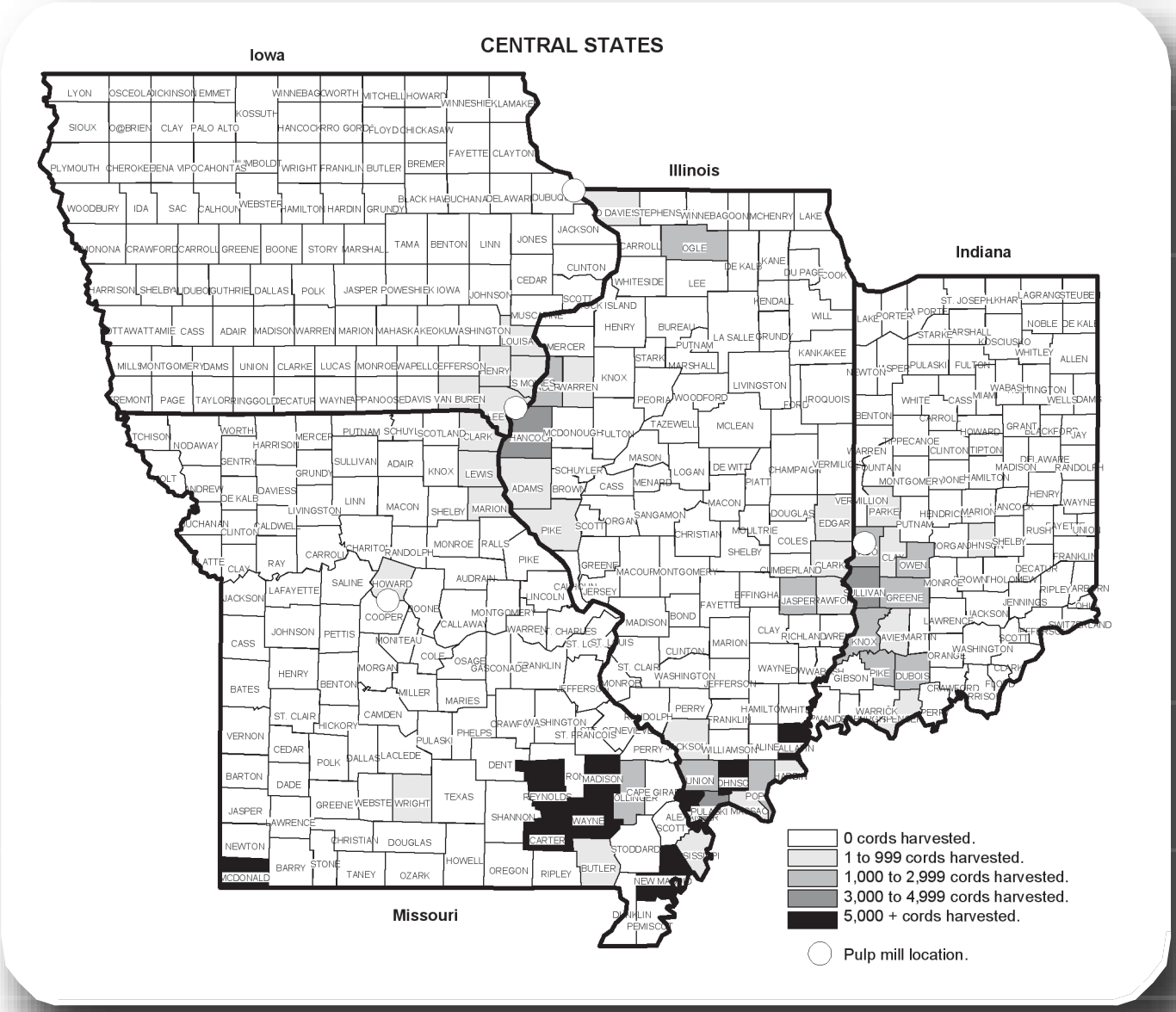


Figure 18.—*Production of pulpwood from roundwood (including chips from roundwood) in the Central States by county, in standard cords, 2002. Locations of active Central States pulp mills are shown.*

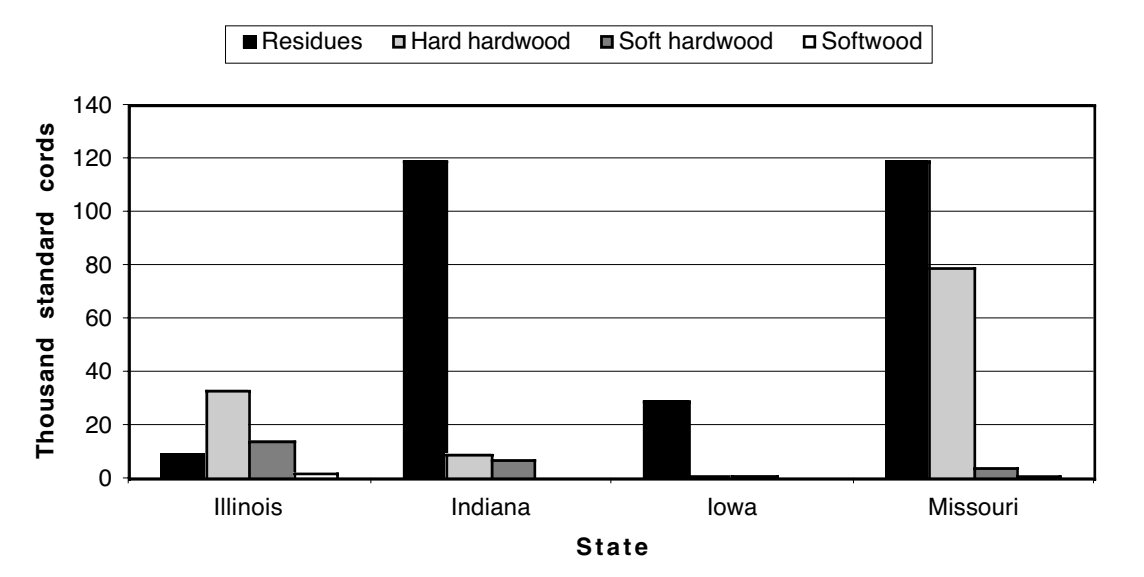


Figure 19.—*Central States pulpwood production by species group and residues, 2002.*

## RECEIPTS

*Due to the limited number of pulp mills in the Central States, individual State receipts are not reported to avoid disclosure of individual mill's receipts.*

- Pulp mills in the Central States received 137 thousand cords in 2002, a decrease of almost 22 percent from 2001.

- Roundwood receipts decreased by 60 percent—from 60 thousand cords in 2001 to 24 thousand cords in 2002. Residue receipts decreased by 1 percent—from 115 thousand cords in 2001 to 113 thousand cords in 2002.

- Softwood roundwood was not used for pulpwood by the Central States pulp mills.

## INDUSTRY TRENDS AND ANALYSIS

- Average daily wood pulp production decreased from 490 tons in 2001 to 473 tons in 2002 (table 14).

- In 2002, only 16 percent of the roundwood and 30 percent of the residues produced for pulpwood in the Central States went to pulp mills located in the Central States.

- Hardwood residue from sawmills and other wood-using mills accounted for 65 percent of all the wood material used by the Central States pulp mills. It continues to be the dominant form of wood material procured.

# PLAINS STATES

## PRODUCTION

- In 2002, the Plains States produced 123 thousand cords of roundwood and mill residues for pulpwood production, an increase of 8 percent from 2001 (fig. 20). Pulpwood came from Kansas, North Dakota, and South Dakota.

- Softwood residues accounted for 86 percent of the pulpwood production for the Plains States in 2002 (fig. 21), all of which came from South Dakota.

- The Plains States exported 5 thousand cords, or 30 percent of the total roundwood production, to Minnesota in 2002. Over half of the residues produced in the Plains States and used for pulpwood production, went to pulp or particle-board mills in Wisconsin.

- The only mill in the Plains States in 2002 was Merillat Industries, Inc. (particleboard), in Rapid City, SD, which has an annual production capacity of 95 million square feet 3/4-inch basis.

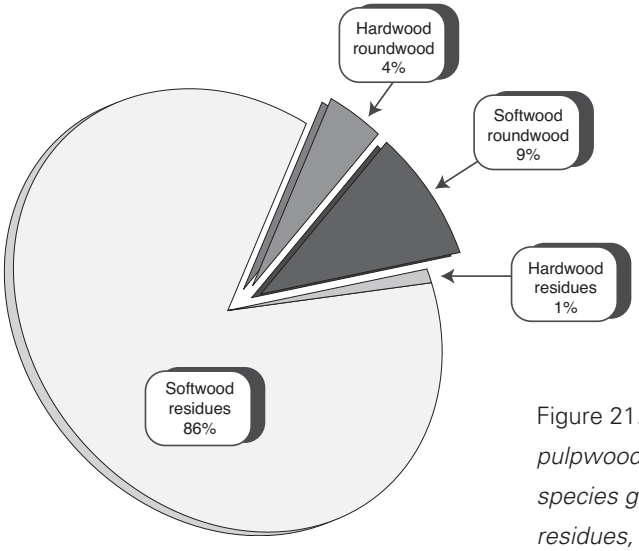


Figure 21.—*Plains States pulpwood production by species group and residues, 2002.*

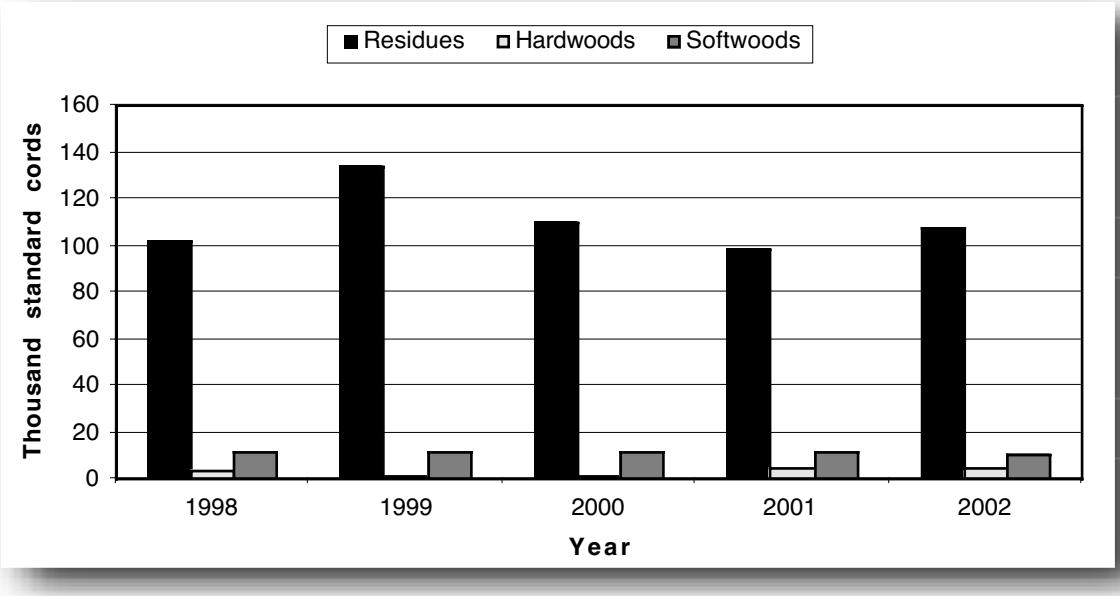


Figure 20.—*Pulpwood production in the Plains States, 1998-2002.*

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# APPENDIX

## Conversion Factors Used In The North-Central Region

Standard cords of green roundwood per green ton:

| Species | Factor | Species | Factor |
|---|---|---|---|
| Softwoods | 0.4688 | Hardwoods (continued) | |
| Northern white-cedar | .6329 | White birch | 0.4018 |
| Balsam fir | .4688 | Yellow birch | .3723 |
| Hemlock | .4150 | River birch | .3871 |
| Jack pine | .4688 | Sweetgum | .3669 |
| Red pine | .4688 | Yellow-poplar | .4219 |
| White pine | .4777 | Blackgum | .3779 |
| Shortleaf pine | .3956 | Sycamore | .4083 |
| Spruce | .5014 | Cottonwood | .4291 |
| Tamarack | .4291 | Elm | .4018 |
| Hardwoods | .3939 | Hickory | .3701 |
| Soft hardwoods | .4171 | Hard maple | .3617 |
| Hard hardwoods | .3708 | Soft maple | .4083 |
| Ash | .4330 | Black cherry | .4688 |
| Aspen | .4291 | Red oak | .3444 |
| Balsam poplar | .4083 | White oak | .3723 |
| Basswood | .5167 | Black oak | .3444 |
| Beech | .3956 | Other hardwoods | .4777 |

## TABLE TITLES

Table 1.—*Production and imports of pulpwood, Lake States, 2002*

Table 2.—*Lake States pulpwood production by State of origin, year, and destination, 1998-2002*

Table 3.—*Lake States pulpwood production from roundwood by State, Forest Survey Unit, and species group, 1998-2002*

Table 4.—*Lake States pulpwood production by State of origin, product form, Forest Survey Unit, and destination, 2002*

Table 5.—*Pulpwood production from roundwood by Forest Survey Unit, county, and species group, Michigan, 2002*

Table 6.—*Pulpwood production from roundwood by Forest Survey Unit, county, and species group, Minnesota, 2002*

Table 7.—*Pulpwood production from roundwood by Forest Survey Unit, county, and species group, Wisconsin, 2002*

Table 8.—*Number of industrial pulp or particleboard plants in the Lake States by product form, species group used, and State, 2002*

Table 9.—*Average daily production of active wood pulp mills in the Lake States by State, company, location, and type of pulp produced, 2002*

Table 10.—*Annual production of active particleboard and panel mills in the Lake States by State, company, location, and product produced, 2002*

Table 11.—*Production and imports of pulpwood, Central States, 2002*

Table 12.—*Central States pulpwood production by product form and species group, 1998-2002*

Table 13.—*Central States pulpwood production by State and destination, 1998-2002*

Table 14.—*Average daily production of active wood pulp mills in the Central States by company, location, and type of pulp produced, 2002*

# TABLES

Table 1.--Production and imports of pulpwood, Lake States, 2002

(In standard cords, unpeeled)

| Product form, species group, and destination | Production by State [1] | | | Regional Total | Imports | | | | Total imports | Total receipts |
|---|---|---|---|---|---|---|---|---|---|---|
| | Michigan | Minnesota | Wisconsin | | Central States | Plains States | Other U.S. [2] | Canada | | |
| Softwood roundwood | | | | | | | | | | |
| Northern white-cedar | | | | | | | | | | |
| Michigan | 4,362 | – | 49 | 4,411 | – | – | – | – | – | 4,411 |
| Total | 4,362 | – | 49 | 4,411 | – | – | – | – | – | 4,411 |
| Balsam fir | | | | | | | | | | |
| Canada | 6,705 | – | – | 6,705 | – | – | – | – | – | – |
| Michigan | 46,702 | – | 524 | 47,225 | – | – | – | – | – | 47,225 |
| Minnesota | 2,380 | 169,282 | 16,330 | 187,991 | – | – | – | 586 | 586 | 188,577 |
| Wisconsin | 14,580 | 197 | 54,510 | 69,287 | – | – | – | 57 | 57 | 69,344 |
| Total | 70,366 | 169,479 | 71,363 | 311,209 | – | – | – | 643 | 643 | 305,146 |
| Hemlock | | | | | | | | | | |
| Michigan | 70,982 | – | 5,193 | 76,175 | – | – | – | – | – | 76,175 |
| Wisconsin | 1,111 | – | 18,892 | 20,003 | – | – | – | – | – | 20,003 |
| Total | 72,094 | – | 24,085 | 96,178 | – | – | – | – | – | 96,178 |
| Jack pine | | | | | | | | | | |
| Michigan | 132,484 | – | 554 | 133,038 | – | – | – | – | – | 133,038 |
| Minnesota | – | 113,047 | 3,728 | 116,774 | – | – | – | 13,019 | 13,019 | 129,794 |
| Wisconsin | 2,327 | 6,974 | 200,489 | 209,790 | 7 | – | – | – | 7 | 209,797 |
| Total | 134,810 | 120,021 | 204,771 | 459,602 | 7 | – | – | 13,019 | 13,026 | 472,629 |
| Red pine | | | | | | | | | | |
| Michigan | 45,366 | – | 917 | 46,282 | – | – | – | – | – | 46,282 |
| Minnesota | – | 38,752 | 5,463 | 44,215 | – | – | – | 3 | 3 | 44,218 |
| Wisconsin | 3,127 | 2,227 | 241,576 | 246,930 | 657 | – | – | – | 657 | 247,587 |
| Total | 48,493 | 40,979 | 247,955 | 337,427 | 657 | – | – | 3 | 660 | 338,087 |
| White pine | | | | | | | | | | |
| Michigan | 7,757 | – | 76 | 7,833 | – | – | – | – | – | 7,833 |
| Minnesota | – | 1,189 | 58 | 1,247 | – | – | – | – | – | 1,247 |
| Wisconsin | 874 | 530 | 67,837 | 69,241 | 503 | – | – | 38 | 541 | 69,782 |
| Total | 8,631 | 1,718 | 67,972 | 78,321 | 503 | – | – | 38 | 541 | 78,862 |
| Spruce | | | | | | | | | | |
| Canada | 4,470 | – | – | 4,470 | – | – | – | – | – | – |
| Michigan | 25,634 | – | 251 | 25,885 | – | – | – | – | – | 25,885 |
| Minnesota | 2,132 | 158,572 | 6,238 | 166,943 | – | – | – | 14,384 | 14,384 | 181,326 |
| Wisconsin | 14,818 | 56,209 | 42,447 | 113,474 | – | – | – | 8,332 | 8,332 | 121,806 |
| Total | 47,054 | 214,781 | 48,937 | 310,772 | – | – | – | 22,715 | 22,715 | 329,017 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Tamarack | | | | | | | | | | |
| Michigan | 6,714 | – | 81 | 6,795 | – | – | – | – | – | 6,795 |
| Minnesota | – | 14,554 | 381 | 14,935 | – | – | – | – | – | 14,935 |
| Wisconsin | 555 | 12,956 | 15,866 | 29,377 | – | – | – | 1,303 | 1,303 | 30,680 |
| Total | 7,269 | 27,509 | 16,328 | 51,107 | – | – | – | 1,303 | 1,303 | 52,410 |
| Total softwood roundwood | | | | | | | | | | |
| Canada | 11,175 | – | – | 11,175 | – | – | – | – | – | – |
| Michigan | 340,000 | – | 7,645 | 347,645 | – | – | – | – | – | 347,645 |
| Minnesota | 4,512 | 495,395 | 32,198 | 532,105 | – | – | – | 27,991 | 27,991 | 560,096 |
| Wisconsin | 37,392 | 79,092 | 641,617 | 758,101 | 1,168 | – | – | 9,729 | 10,897 | 768,999 |
| Total | 393,079 | 574,487 | 681,460 | 1,649,026 | 1,168 | – | – | 37,721 | 38,888 | 1,676,739 |
| Softwood residues | | | | | | | | | | |
| Canada | 9,907 | 8,633 | 586 | 19,126 | – | – | – | – | – | – |
| Michigan | 163,406 | – | 195 | 163,601 | – | – | – | – | – | 163,601 |
| Minnesota | – | 47,302 | 1,921 | 49,224 | – | – | – | 252 | 252 | 49,476 |
| Wisconsin | 96,141 | – | 100,778 | 196,919 | – | 57,778 | 15,754 | 1,151 | 74,683 | 271,601 |
| Total | 269,454 | 55,935 | 103,481 | 428,870 | – | 57,778 | 15,754 | 1,403 | 74,935 | 484,678 |
| Total softwood material | | | | | | | | | | |
| Canada | 21,083 | 8,633 | 586 | 30,302 | – | – | – | – | – | – |
| Michigan | 503,406 | – | 7,840 | 511,246 | – | – | – | – | – | 511,246 |
| Minnesota | 4,512 | 542,697 | 34,119 | 581,329 | – | – | – | 28,243 | 28,243 | 609,572 |
| Wisconsin | 133,533 | 79,092 | 742,395 | 955,020 | 1,168 | 57,778 | 15,754 | 10,881 | 85,580 | 1,040,600 |
| Total | 662,534 | 630,422 | 784,941 | 2,077,896 | 1,168 | 57,778 | 15,754 | 39,124 | 113,823 | 2,161,418 |

(Table 1 continued on next page)

(Table 1 continued)

| Product form, species group, and destination | Production by State [1] | | | Regional Total | Imports | | | | Total imports | Total receipts |
|---|---|---|---|---|---|---|---|---|---|---|
| | Michigan | Minnesota | Wisconsin | | Central States | Plains States | Other U.S. [2] | Canada | | |
| Hardwood roundwood | | | | | | | | | | |
| Ash | | | | | | | | | | |
| Michigan | 23,286 | – | 4,380 | 27,666 | – | – | – | 312 | 312 | 27,978 |
| Minnesota | 72 | 3,688 | 4,795 | 8,555 | – | – | – | 1,435 | 1,435 | 9,990 |
| Wisconsin | 4,471 | 46 | 71,198 | 75,715 | – | – | – | 1,649 | 1,649 | 77,364 |
| Total | 27,829 | 3,734 | 80,373 | 111,936 | – | – | – | 3,396 | 3,396 | 115,332 |
| Aspen | | | | | | | | | | |
| Michigan | 775,045 | – | 30,903 | 805,948 | – | – | – | 59,689 | 59,689 | 865,638 |
| Minnesota | 1,276 | 1,940,288 | 174,289 | 2,115,852 | – | 3,094 | – | 197,572 | 200,666 | 2,316,518 |
| Wisconsin | 55,540 | 24,357 | 791,141 | 871,039 | – | – | – | 33,179 | 33,179 | 904,217 |
| Total | 831,861 | 1,964,645 | 996,333 | 3,792,839 | – | 3,094 | – | 290,440 | 293,534 | 4,086,373 |
| Balsam poplar | | | | | | | | | | |
| Michigan | 34,266 | – | 1,640 | 35,905 | – | – | – | 950 | 950 | 36,856 |
| Minnesota | 17 | 100,328 | 2,773 | 103,118 | – | 118 | – | 22,831 | 22,949 | 126,067 |
| Wisconsin | – | 1,878 | 82 | 1,960 | – | – | – | 2,531 | 2,531 | 4,491 |
| Total | 34,283 | 102,206 | 4,494 | 140,983 | – | 118 | – | 26,312 | 26,430 | 167,413 |
| Basswood | | | | | | | | | | |
| Michigan | 56,496 | – | 13,754 | 70,250 | – | – | – | 558 | 558 | 70,808 |
| Minnesota | 448 | 21,460 | 9,917 | 31,825 | – | – | – | 1,713 | 1,713 | 33,537 |
| Wisconsin | 1,716 | 119 | 34,124 | 35,958 | – | – | – | 421 | 421 | 36,379 |
| Total | 58,659 | 21,578 | 57,795 | 138,033 | – | – | – | 2,692 | 2,692 | 140,725 |
| Beech | | | | | | | | | | |
| Michigan | 43,904 | – | 11,962 | 55,866 | – | – | – | 854 | 854 | 56,721 |
| Wisconsin | 184 | – | 2,873 | 3,057 | – | – | – | – | – | 3,057 |
| Total | 44,088 | – | 14,836 | 58,923 | – | – | – | 854 | 854 | 59,778 |
| White birch | | | | | | | | | | |
| Michigan | 93,756 | – | 12,465 | 106,221 | – | – | – | 868 | 868 | 107,089 |
| Minnesota | 67 | 144,732 | 11,021 | 155,820 | – | – | – | 2,418 | 2,418 | 158,238 |
| Wisconsin | 10,037 | 21,160 | 194,336 | 225,532 | – | – | – | 28,031 | 28,031 | 253,563 |
| Total | 103,859 | 165,891 | 217,822 | 487,573 | – | – | – | 31,317 | 31,317 | 518,890 |
| Yellow birch | | | | | | | | | | |
| Michigan | 37,722 | – | 9,421 | 47,143 | – | – | – | 670 | 670 | 47,813 |
| Wisconsin | 2,537 | – | 23,559 | 26,096 | – | – | – | 336 | 336 | 26,433 |
| Total | 40,259 | – | 32,980 | 73,239 | – | – | – | 1,007 | 1,007 | 74,246 |
| Cottonwood | | | | | | | | | | |
| Minnesota | – | 419 | – | 419 | – | 1,743 | – | – | 1,743 | 2,161 |
| Wisconsin | – | – | 658 | 658 | – | – | – | – | – | 658 |
| Total | – | 419 | 658 | 1,077 | – | 1,743 | – | – | 1,743 | 2,820 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Elm | | | | | | | | | | |
| Michigan | 2,104 | – | – | 2,104 | – | – | – | – | – | 2,104 |
| Minnesota | 50 | 650 | 1,781 | 2,481 | – | – | – | 63 | 63 | 2,544 |
| Wisconsin | 993 | – | 13,391 | 14,383 | – | – | – | 252 | 252 | 14,635 |
| Total | 3,147 | 650 | 15,172 | 18,968 | – | – | – | 315 | 315 | 19,283 |
| Hickory | | | | | | | | | | |
| Michigan | 3,288 | – | – | 3,288 | – | – | – | – | – | 3,288 |
| Total | 3,288 | – | – | 3,288 | – | – | – | – | – | 3,288 |
| Hard maple | | | | | | | | | | |
| Michigan | 353,761 | – | 67,877 | 421,638 | – | – | – | 4,818 | 4,818 | 426,456 |
| Minnesota | 1,717 | 9,836 | 28,532 | 40,085 | – | – | – | 253 | 253 | 40,338 |
| Wisconsin | 18,864 | 277 | 315,072 | 334,213 | – | – | – | 8,382 | 8,382 | 342,594 |
| Total | 374,341 | 10,113 | 411,481 | 795,935 | – | – | – | 13,453 | 13,453 | 809,388 |
| Soft maple | | | | | | | | | | |
| Michigan | 421,393 | – | 74,231 | 495,625 | – | – | – | 5,292 | 5,292 | 500,916 |
| Minnesota | 1,938 | 58,225 | 86,235 | 146,398 | – | – | – | 2,571 | 2,571 | 148,969 |
| Wisconsin | 12,745 | 3,902 | 220,755 | 237,402 | – | – | – | 6,733 | 6,733 | 244,134 |
| Total | 436,076 | 62,127 | 381,222 | 879,424 | – | – | – | 14,596 | 14,596 | 894,020 |
| Red oak | | | | | | | | | | |
| Michigan | 55,183 | – | 5,228 | 60,411 | – | – | – | 372 | 372 | 60,783 |
| Wisconsin | 2,498 | 243 | 135,491 | 138,232 | 10 | – | – | 5,050 | 5,061 | 143,292 |
| Total | 57,681 | 243 | 140,719 | 198,642 | 10 | – | – | 5,422 | 5,433 | 204,075 |
| White oak | | | | | | | | | | |
| Michigan | 22,313 | – | – | 22,313 | – | – | – | – | – | 22,313 |
| Wisconsin | 995 | 101 | 42,498 | 43,594 | 5 | – | – | 1,953 | 1,958 | 45,553 |
| Total | 23,308 | 101 | 42,498 | 65,907 | 5 | – | – | 1,953 | 1,958 | 67,866 |
| Other hardwoods | | | | | | | | | | |
| Michigan | 19,217 | – | 4,822 | 24,039 | – | – | – | 344 | 344 | 24,383 |
| Minnesota | 59 | 758 | 2,078 | 2,895 | – | – | – | 73 | 73 | 2,968 |
| Wisconsin | 367 | – | 2,629 | 2,996 | – | – | – | – | – | 2,996 |
| Total | 19,642 | 758 | 9,530 | 29,930 | – | – | – | 417 | 417 | 30,347 |

(Table 1 continued on next page)

(Table 1 continued)

| Product form, species group, and destination | Production by State [1] | | | | Imports | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Michigan | Minnesota | Wisconsin | Regional Total | Central States | Plains States | Other U.S. [2] | Canada | Total imports | Total receipts |
| Total hardwood roundwood | | | | | | | | | | |
| Michigan | 1,941,733 | – | 236,685 | 2,178,418 | – | – | – | 74,727 | 74,727 | 2,253,145 |
| Minnesota | 5,643 | 2,280,382 | 321,422 | 2,607,447 | – | 4,954 | – | 228,929 | 233,883 | 2,841,330 |
| Wisconsin | 110,945 | 52,083 | 1,847,806 | 2,010,834 | 16 | – | – | 88,517 | 88,533 | 2,099,367 |
| Total | 2,058,322 | 2,332,464 | 2,405,913 | 6,796,699 | 16 | 4,954 | – | 392,173 | 397,143 | 7,193,842 |
| Hardwood residues | | | | | | | | | | |
| Canada | – | 2,614 | – | 2,614 | – | – | – | – | – | – |
| Michigan | 169,529 | – | 11,246 | 180,775 | 8,570 | – | – | – | 8,570 | 189,346 |
| Minnesota | – | 41,909 | 4,475 | 46,384 | – | – | – | 56,322 | 56,322 | 102,706 |
| Other[3] | – | – | 5,371 | 5,371 | – | – | – | – | – | – |
| Wisconsin | 9,198 | 7,795 | 273,309 | 290,302 | 1,457 | – | – | – | 1,457 | 291,759 |
| Total | 178,727 | 52,318 | 294,401 | 525,446 | 10,027 | – | – | 56,322 | 66,349 | 583,811 |
| Total hardwood material | | | | | | | | | | |
| Canada | – | 2,614 | – | 2,614 | – | – | – | – | – | – |
| Michigan | 2,111,262 | – | 247,931 | 2,359,194 | 8,570 | – | – | 74,727 | 83,297 | 2,442,491 |
| Minnesota | 5,643 | 2,322,291 | 325,897 | 2,653,831 | – | 4,954 | – | 285,251 | 290,205 | 2,944,036 |
| Other[3] | – | – | 5,371 | 5,371 | – | – | – | – | – | – |
| Wisconsin | 120,143 | 59,878 | 2,121,115 | 2,301,136 | 1,473 | – | – | 88,517 | 89,990 | 2,391,126 |
| Total | 2,237,049 | 2,384,782 | 2,700,314 | 7,322,146 | 10,043 | 4,954 | – | 448,495 | 463,492 | 7,777,653 |
| Total all roundwood | | | | | | | | | | |
| Canada | 11,175 | – | – | 11,175 | – | – | – | – | – | – |
| Michigan | 2,281,733 | – | 244,330 | 2,526,063 | – | – | – | 74,727 | 74,727 | 2,600,790 |
| Minnesota | 10,156 | 2,775,777 | 353,620 | 3,139,552 | – | 4,954 | – | 256,920 | 261,875 | 3,401,427 |
| Wisconsin | 148,337 | 131,174 | 2,489,424 | 2,768,935 | 1,183 | – | – | 98,247 | 99,430 | 2,868,365 |
| Total | 2,451,401 | 2,906,951 | 3,087,373 | 8,445,725 | 1,183 | 4,954 | – | 429,894 | 436,032 | 8,870,582 |
| Total all residues | | | | | | | | | | |
| Canada | 9,907 | 11,247 | 586 | 21,740 | – | – | – | – | – | – |
| Michigan | 332,935 | – | 11,441 | 344,377 | 8,570 | – | – | – | 8,570 | 352,947 |
| Minnesota | – | 89,212 | 6,396 | 95,608 | – | – | – | 56,574 | 56,574 | 152,182 |
| Other[3] | – | – | 5,371 | 5,371 | – | – | – | – | – | – |
| Wisconsin | 105,339 | 7,795 | 374,087 | 487,221 | 1,457 | 57,778 | 15,754 | 1,151 | 76,140 | 563,361 |
| Total | 448,181 | 108,253 | 397,882 | 954,317 | 10,027 | 57,778 | 15,754 | 57,725 | 141,284 | 1,068,489 |
| Total all wood material | | | | | | | | | | |
| Canada | 21,083 | 11,247 | 586 | 32,916 | – | – | – | – | – | – |
| Michigan | 2,614,668 | – | 255,771 | 2,870,439 | 8,570 | – | – | 74,727 | 83,297 | 2,953,737 |
| Minnesota | 10,156 | 2,864,988 | 360,016 | 3,235,160 | – | 4,954 | – | 313,494 | 318,448 | 3,553,608 |
| Other[3] | – | – | 5,371 | 5,371 | – | – | – | – | – | – |
| Wisconsin | 253,676 | 138,969 | 2,863,511 | 3,256,156 | 2,640 | 57,778 | 15,754 | 99,398 | 175,570 | 3,431,726 |
| Total | 2,899,583 | 3,015,204 | 3,485,255 | 9,400,042 | 11,211 | 62,732 | 15,754 | 487,619 | 577,315 | 9,939,071 |

[1] *Vertical columns of figures under the box heading "Production by State" present the amount of roundwood cut or residue generated in each State.*

[2] *Mostly Western States.*

[3] *Pulpwood shipped to mills outside of region.*

Table may not add due to rounding.

Table 2.--Lake States pulpwood production by State of origin, year, and destination, 1998-2002

(In thousand standard cords, unpeeled) [1]

**MICHIGAN**

| Year | Total production | Destination of pulpwood | | | |
|---|---|---|---|---|---|
| | | Michigan | Minnesota | Wisconsin | Other [2] |
| 1998 | 3,076 | 2,773 | 1 | 272 | 30 |
| 1999 | 3,115 | 2,753 | 5 | 306 | 50 |
| 2000 | 3,097 | 2,791 | 7 | 272 | 27 |
| 2001 | 2,898 | 2,570 | 9 | 299 | 20 |
| 2002 | 2,900 | 2,615 | 10 | 254 | 21 |
| 5-year average | 3,017 | 2,700 | 6 | 281 | 30 |

**MINNESOTA**

| Year | Total production | Destination of pulpwood | | | |
|---|---|---|---|---|---|
| | | Michigan | Minnesota | Wisconsin | Other [2] |
| 1998 | 2,975 | – | 2,685 | 251 | 39 |
| 1999 | 3,104 | – | 2,851 | 216 | 39 |
| 2000 | 3,036 | – | 2,803 | 211 | 21 |
| 2001 | 2,839 | – | 2,630 | 187 | 22 |
| 2002 | 3,015 | – | 2,865 | 139 | 11 |
| 5-year average | 2,994 | – | 2,767 | 201 | 26 |

**WISCONSIN**

| Year | Total production | Destination of pulpwood | | | |
|---|---|---|---|---|---|
| | | Michigan | Minnesota | Wisconsin | Other [2] |
| 1998 | 3,160 | 204 | 50 | 2,905 | 2 |
| 1999 | 3,336 | 206 | 63 | 3,064 | 2 |
| 2000 | 3,420 | 195 | 151 | 3,068 | 6 |
| 2001 | 3,309 | 274 | 133 | 2,898 | 4 |
| 2002 | 3,485 | 256 | 360 | 2,864 | 6 |
| 5-year average | 3,342 | 227 | 151 | 2,960 | 4 |

[1] *Includes mill residues used for pulp.*

[2] *Includes Canada.*

Table may not add due to rounding.

Table 3.--Lake States pulpwood production from roundwood by State, Forest Survey Unit, and species group, 1998-2002

(In thousand standard cords, unpeeled)

| Forest Survey Unit | All species 1998 | All species 1999 | All species 2000 | All species 2001 | All species 2002 | Pine 1998 | Pine 1999 | Pine 2000 | Pine 2001 | Pine 2002 | Spruce 1998 | Spruce 1999 | Spruce 2000 | Spruce 2001 | Spruce 2002 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **MICHIGAN** | | | | | | | | | | | | | | | |
| Eastern Upper Peninsula | 590 | 627 | 575 | 646 | 629 | 106 | 110 | 110 | 118 | 69 | 25 | 24 | 19 | 26 | 19 |
| Western Upper Peninsula | 1,131 | 1,120 | 1,141 | 959 | 933 | 75 | 72 | 66 | 59 | 46 | 31 | 23 | 30 | 32 | 27 |
| Northern Lower Peninsula | 852 | 797 | 841 | 789 | 829 | 120 | 108 | 106 | 106 | 74 | 1 | 2 | 3 | 2 | 1 |
| Southern Lower Peninsula | 89 | 87 | 76 | 53 | 61 | 1 | 1 | 1 | 1 | 2 | * | * | * | – | – |
| Total | 2,662 | 2,632 | 2,633 | 2,446 | 2,451 | 302 | 291 | 283 | 284 | 192 | 57 | 50 | 51 | 61 | 47 |
| **MINNESOTA** | | | | | | | | | | | | | | | |
| Aspen-Birch | 1,119 | 1,171 | 1,210 | 1,171 | 1,233 | 33 | 27 | 44 | 59 | 60 | 110 | 102 | 125 | 148 | 145 |
| Northern Pine | 1,357 | 1,449 | 1,428 | 1,318 | 1,373 | 43 | 45 | 62 | 63 | 88 | 41 | 45 | 56 | 51 | 69 |
| Central Hardwoods | 253 | 237 | 228 | 180 | 210 | 20 | 12 | 10 | 15 | 14 | 4 | 1 | 1 | 1 | 1 |
| Prairie | 72 | 94 | 71 | 86 | 91 | * | * | * | * | * | * | * | * | * | * |
| Total | 2,800 | 2,951 | 2,937 | 2,755 | 2,907 | 97 | 84 | 116 | 138 | 163 | 156 | 149 | 182 | 200 | 215 |
| **WISCONSIN** | | | | | | | | | | | | | | | |
| Northeastern | 874 | 899 | 1,002 | 1,001 | 994 | 149 | 117 | 146 | 115 | 88 | 18 | 21 | 31 | 24 | 19 |
| Northwestern | 1,119 | 1,209 | 1,211 | 1,159 | 1,340 | 151 | 164 | 190 | 168 | 134 | 16 | 21 | 28 | 15 | 25 |
| Central | 652 | 695 | 650 | 645 | 634 | 278 | 290 | 262 | 270 | 251 | 3 | 5 | 4 | 6 | 3 |
| Southwestern | 87 | 79 | 87 | 78 | 80 | 51 | 51 | 44 | 31 | 29 | 2 | 2 | 2 | 2 | 1 |
| Southeastern | 33 | 18 | 25 | 50 | 39 | 19 | 13 | 13 | 15 | 19 | 2 | 1 | 2 | 2 | 1 |
| Total | 2,765 | 2,900 | 2,974 | 2,932 | 3,087 | 649 | 635 | 655 | 600 | 521 | 40 | 50 | 66 | 49 | 49 |
| Total Lake States | 8,227 | 8,483 | 8,545 | 8,133 | 8,446 | 1,048 | 1,010 | 1,054 | 1,021 | 875 | 253 | 249 | 300 | 309 | 311 |

(Table 3 continued on next page)

(Table 3 continued)

| Forest Survey Unit | Balsam fir 1998 | 1999 | 2000 | 2001 | 2002 | Other softwoods 1998 | 1999 | 2000 | 2001 | 2002 | Aspen 1998 | 1999 | 2000 | 2001 | 2002 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **MICHIGAN** | | | | | | | | | | | | | | | |
| Eastern Upper Peninsula | 28 | 31 | 23 | 26 | 33 | 22 | 25 | 24 | 40 | 32 | 148 | 165 | 144 | 153 | 160 |
| Western Upper Peninsula | 41 | 37 | 36 | 33 | 33 | 55 | 57 | 65 | 62 | 51 | 309 | 287 | 308 | 292 | 269 |
| Northern Lower Peninsula | 3 | 5 | 6 | 4 | 4 | * | 1 | * | 1 | * | 375 | 354 | 367 | 366 | 388 |
| Southern Lower Peninsula | – | * | – | * | * | * | * | * | * | -- | 25 | 26 | 19 | 15 | 15 |
| Total | 72 | 73 | 64 | 64 | 70 | 77 | 82 | 90 | 103 | 84 | 857 | 832 | 838 | 826 | 832 |
| **MINNESOTA** | | | | | | | | | | | | | | | |
| Aspen-Birch | 101 | 108 | 110 | 101 | 94 | 9 | 10 | 12 | 25 | 20 | 736 | 804 | 780 | 699 | 754 |
| Northern Pine | 80 | 85 | 72 | 68 | 74 | 6 | 3 | 6 | 21 | 7 | 1,057 | 1,142 | 1,091 | 968 | 970 |
| Central Hardwoods | 6 | 1 | 2 | 1 | 1 | 1 | * | * | * | * | 206 | 204 | 194 | 147 | 156 |
| Prairie | * | * | – | | * | * | * | * | * | * | 68 | 92 | 69 | 82 | 84 |
| Total | 188 | 194 | 184 | 171 | 169 | 16 | 12 | 18 | 46 | 28 | 2,067 | 2,241 | 2,134 | 1,895 | 1,965 |
| **WISCONSIN** | | | | | | | | | | | | | | | |
| Northeastern | 36 | 40 | 40 | 35 | 31 | 22 | 24 | 25 | 24 | 22 | 313 | 300 | 343 | 291 | 290 |
| Northwestern | 42 | 50 | 42 | 48 | 39 | 10 | 13 | 10 | 7 | 13 | 469 | 529 | 507 | 415 | 546 |
| Central | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 4 | 171 | 203 | 147 | 137 | 145 |
| Southwestern | * | * | 4 | * | -- | * | * | * | * | 2 | 18 | 14 | 12 | 12 | 11 |
| Southeastern | * | * | – | * | * | * | * | * | * | * | 4 | 1 | 3 | 10 | 5 |
| Total | 79 | 92 | 87 | 84 | 71 | 34 | 39 | 37 | 33 | 40 | 975 | 1,047 | 1,012 | 865 | 996 |
| Total Lake States | 339 | 359 | 335 | 319 | 311 | 127 | 133 | 144 | 182 | 152 | 3,899 | 4,120 | 3,984 | 3,586 | 3,793 |

(Table 3 continued on next page)

(Table 3 continued)

| Forest Survey Unit | Birch 1998 | Birch 1999 | Birch 2000 | Birch 2001 | Birch 2002 | Maple 1998 | Maple 1999 | Maple 2000 | Maple 2001 | Maple 2002 | Other hardwoods 1998 | Other hardwoods 1999 | Other hardwoods 2000 | Other hardwoods 2001 | Other hardwoods 2002 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **MICHIGAN** | | | | | | | | | | | | | | | |
| Eastern Upper Peninsula | 37 | 27 | 47 | 43 | 45 | 183 | 209 | 170 | 194 | 212 | 41 | 36 | 40 | 46 | 58 |
| Western Upper Peninsula | 71 | 63 | 110 | 68 | 71 | 414 | 460 | 415 | 308 | 340 | 136 | 121 | 112 | 104 | 95 |
| Northern Lower Peninsula | 33 | 30 | 42 | 31 | 28 | 172 | 170 | 209 | 196 | 239 | 148 | 127 | 109 | 83 | 95 |
| Southern Lower Peninsula | * | 1 | 1 | * | 1 | 23 | 28 | 26 | 16 | 19 | 38 | 31 | 28 | 20 | 23 |
| Total | 141 | 122 | 199 | 142 | 144 | 792 | 867 | 820 | 714 | 810 | 362 | 315 | 289 | 253 | 272 |
| **MINNESOTA** | | | | | | | | | | | | | | | |
| Aspen-Birch | 60 | 61 | 72 | 70 | 77 | 11 | 8 | 19 | 24 | 33 | 58 | 52 | 48 | 45 | 51 |
| Northern Pine | 69 | 74 | 73 | 71 | 77 | 1 | 1 | 16 | 18 | 25 | 59 | 53 | 51 | 58 | 62 |
| Central Hardwoods | 6 | 8 | 9 | 7 | 11 | 7 | 6 | 10 | 8 | 14 | 3 | 4 | 3 | 2 | 11 |
| Prairie | * | * | * | * | 1 | – | 1 | * | – | * | 4 | 2 | 2 | 4 | 6 |
| Total | 135 | 144 | 154 | 148 | 166 | 19 | 15 | 45 | 50 | 72 | 123 | 111 | 104 | 109 | 130 |
| **WISCONSIN** | | | | | | | | | | | | | | | |
| Northeastern | 85 | 89 | 89 | 91 | 95 | 158 | 188 | 212 | 287 | 332 | 93 | 120 | 117 | 132 | 118 |
| Northwestern | 131 | 128 | 133 | 110 | 119 | 195 | 194 | 207 | 258 | 333 | 105 | 110 | 94 | 138 | 131 |
| Central | 28 | 27 | 30 | 28 | 27 | 65 | 64 | 75 | 90 | 101 | 105 | 102 | 128 | 111 | 102 |
| Southwestern | 3 | 2 | 3 | 3 | 8 | 5 | 3 | 11 | 20 | 20 | 7 | 6 | 11 | 10 | 10 |
| Southeastern | 1 | 1 | 1 | 3 | 2 | 2 | 1 | 4 | 12 | 7 | 4 | 2 | 3 | 8 | 5 |
| Total | 248 | 247 | 257 | 235 | 252 | 426 | 451 | 509 | 666 | 793 | 314 | 339 | 351 | 400 | 366 |
| Total Lake States | 524 | 513 | 610 | 525 | 561 | 1,237 | 1,334 | 1,374 | 1,430 | 1,673 | 799 | 765 | 744 | 761 | 768 |

* *Less than 500 standard cords.*

Table may not add due to rounding.

Table 4.--Lake States pulpwood production by State of origin, product form, Forest Survey Unit, and destination, 2002

(In thousand standard cords, unpeeled)

**MICHIGAN**

| Product form and Forest Survey Unit | Total production | Destination of pulpwood | | | |
|---|---|---|---|---|---|
| | | Michigan | Minnesota | Wisconsin | Other [1] |
| Roundwood | | | | | |
| Eastern Upper Peninsula | 629 | 585 | 1 | 37 | 7 |
| Western Upper Peninsula | 933 | 811 | 10 | 111 | 1 |
| Northern Lower Peninsula | 829 | 826 | – | – | 3 |
| Southern Lower Peninsula | 61 | 60 | – | – | * |
| Total | 2,451 | 2,282 | 10 | 148 | 11 |
| Residues | 448 | 333 | – | 105 | 10 |
| Total pulpwood | 2,900 | 2,615 | 10 | 254 | 21 |

**MINNESOTA**

| Product form and Forest Survey Unit | Total production | Destination of pulpwood | | | |
|---|---|---|---|---|---|
| | | Michigan | Minnesota | Wisconsin | Other [1] |
| Roundwood | | | | | |
| Aspen-Birch | 1,233 | – | 1,146 | 87 | – |
| Northern Pine | 1,373 | – | 1,362 | 11 | – |
| Central Hardwoods | 210 | – | 178 | 32 | – |
| Prairie | 91 | – | 91 | * | – |
| Total | 2,907 | – | 2,776 | 131 | – |
| Residues | 108 | – | 89 | 8 | 11 |
| Total pulpwood | 3,015 | – | 2,865 | 139 | 11 |

**WISCONSIN**

| Product form and Forest Survey Unit | Total production | Destination of pulpwood | | | |
|---|---|---|---|---|---|
| | | Michigan | Minnesota | Wisconsin | Other [1] |
| Roundwood | | | | | |
| Northeastern | 994 | 238 | 5 | 751 | – |
| Northwestern | 1,340 | 7 | 348 | 985 | – |
| Central | 634 | * | * | 634 | – |
| Southwestern | 80 | – | * | 80 | – |
| Southeastern | 39 | * | – | 39 | – |
| Total | 3,087 | 244 | 354 | 2,489 | – |
| Residues | 398 | 11 | 6 | 374 | 6 |
| Total pulpwood | 3,485 | 256 | 360 | 2,864 | 6 |

* *Less than 500 standard cords, unpeeled.*

[1] *Includes Canada.*

Table may not add due to rounding.

Table 5.--Pulpwood production from roundwood by Forest Survey Unit, county, and species group, Michigan, 2002

(In standard cords, unpeeled)

| Forest Survey Unit and county [1] | All species | Species group: Northern white-cedar | Balsam fir | Hemlock | Jack pine | Red pine | White pine | Spruce | Tamarack | Ash | Aspen | Balsam poplar |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Eastern Upper Peninsula** | | | | | | | | | | | | |
| Alger | 95,715 | 308 | 5,671 | 7,631 | 10,444 | 6,973 | 990 | 2,368 | 618 | 872 | 11,121 | 1,338 |
| Chippewa | 89,637 | 243 | 3,730 | 1,011 | 4,793 | 2,595 | 162 | 2,727 | 128 | 628 | 39,299 | 671 |
| Delta | 75,123 | 427 | 4,816 | 3,541 | 4,831 | 2,817 | 683 | 2,716 | 726 | 657 | 19,268 | 976 |
| Luce | 74,980 | 159 | 1,824 | 5,386 | 7,214 | 2,159 | 334 | 888 | 271 | 1,082 | 7,298 | 562 |
| Mackinac | 107,547 | 279 | 4,218 | 2,126 | 4,185 | 4,476 | 355 | 3,351 | 377 | 776 | 41,774 | 669 |
| Menominee | 95,670 | 525 | 9,763 | 4,223 | 3,482 | 2,928 | 969 | 4,575 | 961 | 764 | 32,710 | 1,433 |
| Schoolcraft | 90,160 | 278 | 3,050 | 2,679 | 5,080 | 3,350 | 445 | 2,000 | 473 | 1,462 | 8,589 | 855 |
| Total | 628,832 | 2,218 | 33,072 | 26,597 | 40,030 | 25,299 | 3,939 | 18,624 | 3,555 | 6,240 | 160,059 | 6,503 |
| **Western Upper Peninsula** | | | | | | | | | | | | |
| Baraga | 89,688 | 254 | 3,203 | 9,097 | 1,837 | 1,075 | 407 | 1,887 | 432 | 897 | 20,405 | 1,782 |
| Dickinson | 107,225 | 361 | 4,758 | 1,891 | 2,956 | 2,728 | 582 | 2,859 | 619 | 777 | 48,634 | 2,050 |
| Gogebic | 102,056 | 74 | 2,636 | 6,353 | 554 | 606 | 132 | 2,281 | 466 | 2,834 | 19,079 | 364 |
| Houghton | 81,842 | 50 | 905 | 5,125 | 864 | 1,119 | 119 | 791 | 86 | 1,395 | 26,670 | 1,136 |
| Iron | 118,881 | 359 | 10,880 | 2,235 | 3,524 | 3,749 | 631 | 10,782 | 636 | 1,358 | 38,229 | 1,861 |
| Keweenaw | 46,867 | 39 | 428 | 1,243 | 287 | 235 | 63 | 168 | 67 | 950 | 6,035 | 259 |
| Marquette | 210,151 | 755 | 8,695 | 13,590 | 18,221 | 4,569 | 1,209 | 6,445 | 1,286 | 1,665 | 67,915 | 3,949 |
| Ontonagon | 176,324 | 57 | 1,890 | 5,834 | 537 | 399 | 91 | 1,830 | 97 | 4,581 | 41,664 | 1,141 |
| Total | 933,035 | 1,950 | 33,396 | 45,369 | 28,780 | 14,482 | 3,234 | 27,043 | 3,688 | 14,457 | 268,630 | 12,542 |
| **Northern Lower Peninsula** | | | | | | | | | | | | |
| Alcona | 50,550 | -- | -- | -- | 1,066 | 579 | -- | -- | -- | 378 | 36,175 | 2,297 |
| Alpena | 27,999 | -- | 226 | -- | 417 | 101 | 1 | 74 | -- | 184 | 21,295 | 789 |
| Antrim | 32,726 | 9 | 74 | 7 | 1,683 | 418 | 16 | 20 | 2 | 638 | 8,646 | 639 |
| Arenac | 13,548 | -- | -- | -- | 2,590 | 133 | 26 | -- | -- | 98 | 6,085 | 175 |
| Bay | 1,104 | 7 | 58 | -- | -- | -- | -- | 14 | -- | 22 | 492 | 32 |
| Benzie | 26,649 | -- | -- | -- | 594 | 427 | 191 | -- | -- | 296 | 10,841 | 698 |
| Charlevoix | 10,359 | -- | -- | -- | 23 | -- | -- | -- | -- | 228 | 3,541 | 354 |
| Cheboygan | 45,224 | 30 | 585 | 3 | 4,018 | 388 | 131 | 217 | 1 | 453 | 23,183 | 392 |
| Clare | 30,462 | -- | -- | -- | 224 | 1 | 2 | -- | -- | 109 | 16,779 | 252 |
| Crawford | 26,659 | -- | -- | -- | 7,698 | 345 | 65 | -- | -- | 128 | 10,421 | 273 |
| Emmet | 36,045 | 13 | 208 | -- | 2,442 | 26 | 23 | 87 | -- | 512 | 12,579 | 537 |
| Gladwin | 19,378 | -- | -- | -- | 407 | 23 | -- | -- | -- | 171 | 12,190 | 383 |
| Grand Traverse | 18,167 | -- | -- | -- | 6,831 | 55 | 68 | -- | -- | 65 | 6,262 | 142 |
| Iosco | 13,840 | -- | -- | -- | 1,148 | 152 | 4 | -- | -- | 50 | 8,478 | 161 |
| Isabella | 12,519 | -- | -- | -- | 511 | 23 | -- | -- | -- | 174 | 6,336 | 410 |
| Kalkaska | 33,438 | 2 | 18 | 9 | 1,196 | 797 | 13 | 7 | 3 | 293 | 15,277 | 804 |
| Lake | 18,634 | -- | -- | -- | 781 | 262 | 143 | -- | -- | 105 | 6,178 | 248 |
| Leelanau | 2,176 | -- | -- | -- | -- | 8 | -- | -- | -- | 22 | 907 | 51 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Manistee | 22,134 | 2 | 18 | 8 | 250 | 238 | 3 | 7 | 3 | 93 | 7,959 | 220 |
| Mason | 18,061 | -- | -- | -- | 423 | 427 | -- | -- | -- | 89 | 6,683 | 209 |
| Mecosta | 27,405 | -- | -- | -- | 1,288 | 669 | -- | -- | -- | 265 | 11,475 | 625 |
| Midland | 5,012 | -- | -- | -- | 90 | 72 | -- | -- | -- | 15 | 3,122 | 36 |
| Missaukee | 47,590 | -- | -- | -- | 655 | 266 | -- | -- | -- | 417 | 24,925 | 985 |
| Montmorency | 41,175 | -- | 262 | -- | 2,181 | 120 | 19 | 157 | -- | 453 | 24,031 | 1,015 |
| Newaygo | 17,473 | -- | -- | -- | 586 | 188 | -- | -- | -- | 133 | 6,016 | 314 |
| Oceana | 10,604 | -- | -- | -- | 90 | 46 | -- | -- | -- | 60 | 2,608 | 141 |
| Ogemaw | 42,445 | -- | -- | -- | 9,916 | 109 | 98 | -- | -- | 63 | 16,793 | 483 |
| Osceola | 16,752 | -- | -- | -- | -- | 23 | -- | -- | -- | 228 | 6,338 | 538 |
| Oscoda | 14,124 | 2 | 54 | 8 | 1,462 | 357 | 61 | 29 | 3 | 98 | 6,047 | 199 |
| Otsego | 41,086 | 65 | 616 | 33 | 1,170 | 403 | 109 | 183 | 11 | 484 | 12,710 | 217 |
| Presque Isle | 43,050 | 64 | 1,520 | 59 | 2,220 | 73 | 20 | 366 | 3 | 312 | 26,033 | 577 |
| Roscommon | 36,780 | -- | -- | -- | 10,262 | 250 | 89 | -- | -- | 23 | 16,557 | 87 |
| Wexford | 25,503 | -- | -- | -- | 2,608 | 1,079 | -- | -- | -- | 149 | 10,732 | 352 |
| Total | 828,671 | 194 | 3,639 | 127 | 64,829 | 8,058 | 1,084 | 1,159 | 26 | 6,808 | 387,695 | 14,633 |
| **Southern Lower Peninsula** | | | | | | | | | | | | |
| Allegan | 8,041 | -- | -- | -- | -- | -- | -- | -- | -- | 10 | 911 | 25 |
| Barry | 1,660 | -- | -- | -- | -- | -- | -- | -- | -- | -- | 168 | -- |
| Calhoun | 3,787 | -- | -- | -- | -- | -- | -- | -- | -- | -- | 382 | -- |
| Cass | 1,149 | -- | -- | -- | -- | -- | -- | -- | -- | -- | 116 | -- |
| Clinton | 24 | -- | -- | -- | -- | -- | -- | -- | -- | 0 | 10 | 1 |
| Eaton | 52 | -- | -- | -- | -- | -- | -- | -- | -- | 1 | 21 | 2 |
| Genesee | 16 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Gratiot | 5,039 | -- | -- | -- | 26 | -- | -- | -- | -- | 54 | 2,286 | 77 |
| Huron | 2,092 | -- | -- | -- | 70 | 146 | -- | -- | -- | -- | 1,025 | -- |
| Ingham | 200 | -- | -- | -- | -- | -- | -- | -- | -- | 4 | 83 | 10 |
| Ionia | 944 | -- | -- | -- | 188 | -- | 374 | -- | -- | -- | 121 | -- |
| Jackson | 820 | -- | -- | -- | -- | -- | -- | -- | -- | -- | 83 | -- |
| Kalamazoo | 9,351 | -- | -- | -- | -- | -- | -- | -- | -- | 24 | 1,366 | 34 |
| Kent | 4,191 | -- | -- | -- | -- | -- | -- | -- | -- | 60 | 1,490 | 85 |
| Lapeer | 198 | -- | -- | -- | -- | -- | -- | -- | -- | -- | 164 | -- |
| Montcalm | 8,898 | -- | -- | -- | 362 | 23 | -- | -- | -- | 129 | 4,176 | 303 |
| Muskegon | 5,199 | -- | -- | -- | -- | -- | -- | -- | -- | 16 | 738 | 37 |
| Ottawa | 886 | -- | -- | -- | -- | -- | -- | -- | -- | 8 | 215 | 19 |
| Sanilac | 1,200 | -- | 260 | -- | 90 | 179 | -- | 227 | -- | -- | 422 | -- |
| St. Clair | 306 | -- | -- | -- | -- | -- | -- | -- | -- | -- | 32 | -- |
| St. Joseph | 370 | -- | -- | -- | -- | -- | -- | -- | -- | -- | 37 | -- |
| Tuscola | 2,732 | -- | -- | -- | 435 | 306 | -- | -- | -- | 17 | 1,256 | 11 |
| Van Buren | 3,707 | -- | -- | -- | -- | -- | -- | -- | -- | -- | 374 | -- |
| Total | 60,863 | -- | 260 | -- | 1,171 | 654 | 374 | 227 | -- | 324 | 15,477 | 604 |
| **State total** | 2,451,401 | 4,362 | 70,366 | 72,094 | 134,810 | 48,493 | 8,631 | 47,054 | 7,269 | 27,829 | 831,861 | 34,283 |

(Table 5 continued on next page)

(Table 5 continued)

| Forest Survey Unit and county [1] | Species group | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Basswood | Beech | White birch | Yellow birch | Elm | Hickory | Hard maple | Soft maple | Red oak | White oak | Other hardwoods |
| **Eastern Upper Peninsula** | | | | | | | | | | | |
| Alger | 1,630 | 3,044 | 4,767 | 2,325 | 13 | -- | 17,812 | 15,899 | 687 | -- | 1,203 |
| Chippewa | 1,155 | 1,929 | 3,361 | 1,440 | 10 | 9 | 11,204 | 12,358 | 549 | -- | 1,633 |
| Delta | 1,271 | 2,115 | 3,308 | 1,637 | 18 | -- | 12,474 | 11,461 | 541 | -- | 840 |
| Luce | 1,589 | 2,680 | 3,854 | 2,076 | 6 | -- | 16,508 | 17,752 | 1,881 | 389 | 1,069 |
| Mackinac | 1,394 | 2,269 | 7,375 | 1,741 | 22 | -- | 13,645 | 16,929 | 695 | -- | 891 |
| Menominee | 2,715 | 1,893 | 3,443 | 1,550 | 81 | -- | 11,716 | 10,698 | 491 | -- | 750 |
| Schoolcraft | 2,057 | 3,548 | 4,891 | 2,753 | 15 | -- | 22,150 | 21,870 | 2,619 | 583 | 1,413 |
| Total | 11,812 | 17,477 | 30,999 | 13,522 | 165 | 9 | 105,509 | 106,967 | 7,463 | 972 | 7,799 |
| **Western Upper Peninsula** | | | | | | | | | | | |
| Baraga | 1,628 | 2,756 | 6,081 | 2,330 | 16 | -- | 18,480 | 15,237 | 769 | -- | 1,113 |
| Dickinson | 3,400 | 2,193 | 3,474 | 1,734 | 18 | -- | 13,253 | 13,269 | 778 | -- | 890 |
| Gogebic | 3,499 | 2,837 | 5,857 | 3,537 | 325 | -- | 24,828 | 22,967 | 1,412 | 21 | 1,395 |
| Houghton | 2,360 | 1,903 | 4,043 | 2,567 | 50 | -- | 16,912 | 13,258 | 1,708 | 1 | 781 |
| Iron | 2,225 | 2,151 | 6,327 | 2,021 | 257 | -- | 15,876 | 14,279 | 622 | 1 | 878 |
| Keweenaw | 1,592 | 2,130 | 2,405 | 1,963 | * | -- | 13,479 | 13,470 | 1,195 | -- | 859 |
| Marquette | 3,743 | 4,803 | 10,043 | 3,932 | 126 | -- | 30,802 | 25,528 | 955 | -- | 1,919 |
| Ontonagon | 6,308 | 2,094 | 7,432 | 7,200 | 195 | -- | 68,758 | 19,693 | 5,602 | -- | 920 |
| Total | 24,756 | 20,868 | 45,662 | 25,284 | 988 | -- | 202,387 | 137,701 | 13,041 | 23 | 8,754 |
| **Northern Lower Peninsula** | | | | | | | | | | | |
| Alcona | 256 | 372 | 1,931 | -- | -- | -- | 1,466 | 5,877 | 6 | -- | 147 |
| Alpena | 352 | 234 | 913 | 1 | 1 | 3 | 686 | 2,587 | 135 | -- | -- |
| Antrim | 1,826 | 562 | 2,257 | 83 | 89 | 164 | 5,143 | 9,788 | 340 | 92 | 229 |
| Arenac | 135 | 88 | 747 | 6 | 7 | 13 | 402 | 3,043 | -- | -- | -- |
| Bay | 24 | 17 | 68 | 3 | 4 | 7 | 103 | 253 | -- | -- | -- |
| Benzie | 470 | 135 | 275 | 127 | 137 | 253 | 2,563 | 7,734 | 1,138 | 769 | -- |
| Charlevoix | 1,218 | 162 | 135 | 52 | 56 | 103 | 1,742 | 2,515 | 77 | 155 | -- |
| Cheboygan | 1,798 | 481 | 2,815 | -- | -- | -- | 3,220 | 7,454 | -- | -- | 55 |
| Clare | 134 | 52 | 375 | 46 | 49 | 91 | 2,450 | 7,297 | 2,009 | 575 | 19 |
| Crawford | 169 | 89 | 520 | 41 | 44 | 82 | 996 | 3,785 | 1,978 | 26 | -- |
| Emmet | 3,005 | 481 | 2,616 | 28 | 30 | 56 | 5,593 | 7,809 | -- | -- | -- |
| Gladwin | 245 | 89 | 551 | 64 | 69 | 126 | 967 | 3,946 | 49 | 99 | -- |
| Grand Traverse | 207 | 36 | 167 | 26 | 28 | 52 | 667 | 2,026 | 1,053 | 165 | 316 |
| Iosco | 25 | 51 | 817 | -- | -- | -- | 129 | 2,100 | -- | -- | 725 |
| Isabella | 207 | 80 | 179 | 75 | 81 | 148 | 1,016 | 3,257 | 8 | 16 | -- |
| Kalkaska | 1,273 | 185 | 723 | 83 | 90 | 165 | 2,511 | 7,236 | 1,689 | 1,065 | -- |
| Lake | 126 | 48 | 98 | 45 | 49 | 90 | 2,214 | 5,824 | 1,803 | 621 | -- |
| Leelanau | 26 | 10 | 20 | 9 | 10 | 19 | 248 | 679 | 132 | 36 | -- |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Manistee | 111 | 43 | 89 | 40 | 43 | 80 | 2,604 | 7,371 | 2,267 | 684 | -- |
| Mason | 106 | 41 | 99 | 38 | 41 | 76 | 1,979 | 5,824 | 1,585 | 440 | -- |
| Mecosta | 416 | 121 | 300 | 114 | 186 | 285 | 1,751 | 6,177 | 1,754 | 1,903 | 75 |
| Midland | 18 | 7 | 52 | 7 | 7 | 13 | 89 | 1,449 | 12 | 24 | -- |
| Missaukee | 756 | 192 | 1,045 | 178 | 192 | 354 | 4,294 | 12,627 | 297 | 406 | -- |
| Montmorency | 2,701 | 454 | 1,217 | -- | -- | -- | 2,412 | 4,557 | 568 | 15 | 1,014 |
| Newaygo | 185 | 61 | 123 | 57 | 83 | 133 | 1,633 | 4,627 | 1,794 | 1,516 | 25 |
| Oceana | 148 | 27 | 55 | 26 | 88 | 106 | 576 | 3,151 | 1,733 | 1,676 | 71 |
| Ogemaw | 95 | 71 | 820 | -- | -- | -- | 2,308 | 7,854 | 3,266 | 567 | -- |
| Osceola | 272 | 104 | 212 | 98 | 106 | 195 | 2,192 | 5,271 | 925 | 250 | -- |
| Oscoda | 292 | 126 | 1,015 | -- | -- | -- | 866 | 3,285 | 174 | 47 | -- |
| Otsego | 3,158 | 746 | 3,186 | * | * | * | 7,295 | 10,446 | 231 | 23 | -- |
| Presque Isle | 1,208 | 340 | 2,547 | -- | -- | -- | 1,896 | 5,325 | 487 | -- | -- |
| Roscommon | 56 | 12 | 365 | 9 | 10 | 18 | 487 | 6,659 | 1,603 | 293 | -- |
| Wexford | 239 | 68 | 235 | 64 | 69 | 127 | 1,907 | 6,632 | 874 | 369 | -- |
| Total | 21,259 | 5,583 | 26,568 | 1,321 | 1,570 | 2,758 | 64,401 | 174,465 | 27,985 | 11,831 | 2,678 |
| **Southern Lower Peninsula** | | | | | | | | | | | |
| Allegan | 106 | 5 | 10 | 4 | 78 | 76 | 61 | 2,304 | 2,011 | 2,351 | 87 |
| Barry | 22 | -- | -- | -- | 17 | 16 | -- | 514 | 434 | 469 | 21 |
| Calhoun | 51 | -- | -- | -- | 40 | 37 | -- | 1,172 | 989 | 1,069 | 47 |
| Cass | 16 | -- | -- | -- | 12 | 11 | -- | 356 | 300 | 324 | 14 |
| Clinton | 1 | * | * | * | * | * | 3 | 7 | -- | -- | -- |
| Eaton | 2 | * | 1 | * | * | 1 | 7 | 16 | -- | -- | -- |
| Genesee | 9 | -- | 8 | -- | -- | -- | -- | -- | -- | -- | -- |
| Gratiot | 65 | 25 | 25 | 23 | -- | 23 | 317 | 2,026 | 30 | 61 | -- |
| Huron | 13 | -- | 297 | -- | -- | -- | 161 | 381 | -- | -- | -- |
| Ingham | 5 | 2 | 4 | 2 | 2 | 4 | 25 | 60 | -- | -- | -- |
| Ionia | 4 | -- | -- | -- | 3 | 3 | -- | 90 | 76 | 82 | 4 |
| Jackson | 11 | -- | -- | -- | 8 | 8 | -- | 254 | 214 | 232 | 10 |
| Kalamazoo | 139 | 11 | 11 | 10 | 86 | 89 | 142 | 2,870 | 2,141 | 2,325 | 102 |
| Kent | 80 | 28 | 28 | 26 | 6 | 31 | 353 | 1,098 | 346 | 552 | 7 |
| Lapeer | -- | -- | 27 | -- | -- | -- | -- | 8 | -- | -- | -- |
| Montcalm | 166 | 60 | 121 | 56 | 69 | 118 | 754 | 1,985 | 261 | 304 | 12 |
| Muskegon | 73 | 7 | 14 | 7 | 49 | 52 | 94 | 1,458 | 1,190 | 1,413 | 50 |
| Ottawa | 16 | 4 | 7 | 3 | 9 | 11 | 46 | 258 | 135 | 150 | 6 |
| Sanilac | -- | -- | -- | -- | -- | -- | -- | 22 | -- | -- | -- |
| St. Clair | -- | -- | -- | -- | -- | -- | 43 | 231 | -- | -- | -- |
| St. Joseph | 5 | -- | -- | -- | 4 | 4 | -- | 114 | 96 | 104 | 5 |
| Tuscola | 1 | 17 | 78 | -- | -- | -- | 36 | 574 | -- | -- | -- |
| Van Buren | 50 | -- | -- | -- | 39 | 36 | -- | 1,147 | 968 | 1,046 | 46 |
| Total | 834 | 159 | 631 | 133 | 423 | 521 | 2,043 | 16,943 | 9,191 | 10,482 | 411 |
| **State total** | 58,659 | 44,088 | 103,859 | 40,259 | 3,147 | 3,288 | 374,341 | 436,076 | 57,681 | 23,308 | 19,642 |

***** *Less than 1/2 cord.*

[1] *Includes only those counties that supplied pulpwood in 2002.*

Table may not add due to rounding.

Table 6.--Pulpwood production from roundwood by Forest Survey Unit, county, and species group, Minnesota, 2002

(In standard cords, unpeeled)

| Forest Survey Unit and county [1] | All species | Species group | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Balsam fir | Jack pine | Red pine | White pine | Spruce | Tamarack | Ash | Aspen | Balsam poplar | Bass-wood | White birch | Cotton-wood[2] | Elm | Hard maple | Soft maple | Red oak | White oak | Other hardwoods |
| **Aspen-Birch** | | | | | | | | | | | | | | | | | | | |
| Carlton | 47,698 | 2,218 | 978 | 2,466 | 8 | 1,240 | 535 | 218 | 33,503 | 932 | 806 | 2,817 | – | 13 | 264 | 1,679 | 3 | 3 | 15 |
| Cook | 43,674 | 974 | 1,333 | 950 | 48 | 14,756 | 1,566 | 36 | 20,130 | 150 | 43 | 3,539 | – | * | 7 | 142 | – | – | * |
| Koochiching | 420,517 | 32,220 | 17,148 | 782 | 82 | 60,240 | 10,232 | 16 | 266,532 | 24,970 | 360 | 6,603 | – | 13 | 102 | 1,201 | – | – | 15 |
| Lake | 85,634 | 5,955 | 3,753 | 3,074 | 70 | 10,253 | 307 | 248 | 38,924 | 984 | 1,458 | 12,540 | – | 120 | 653 | 7,157 | – | – | 140 |
| St. Louis | 635,542 | 52,688 | 23,918 | 4,650 | 481 | 58,524 | 7,007 | 1,276 | 394,960 | 15,680 | 2,900 | 51,396 | – | 138 | 4,387 | 17,264 | 80 | 31 | 161 |
| Total | 1,233,063 | 94,055 | 47,129 | 11,922 | 689 | 145,013 | 19,647 | 1,794 | 754,049 | 42,717 | 5,567 | 76,894 | – | 284 | 5,413 | 27,443 | 83 | 34 | 331 |
| **Northern Pine** | | | | | | | | | | | | | | | | | | | |
| Aitkin | 160,614 | 22,755 | 2,094 | 2,376 | 48 | 11,283 | 2,080 | 434 | 99,241 | 2,982 | 2,388 | 6,458 | – | 68 | 718 | 7,609 | – | – | 80 |
| Becker | 61,211 | 683 | 2,037 | 565 | – | 159 | 44 | 7 | 52,944 | 1,127 | 312 | 3,118 | – | 4 | 17 | 188 | – | – | 5 |
| Beltrami | 204,653 | 6,828 | 16,748 | 1,668 | – | 3,376 | 1,682 | 25 | 144,324 | 18,390 | 1,080 | 9,677 | – | 8 | 54 | 782 | – | – | 10 |
| Cass | 184,169 | 3,660 | 8,635 | 5,585 | 2 | 3,617 | 239 | 61 | 131,655 | 2,980 | 1,591 | 20,246 | – | 34 | 473 | 5,351 | – | – | 39 |
| Clearwater | 55,185 | 1,106 | 1,137 | 172 | – | 323 | 44 | 4 | 47,850 | 1,170 | 477 | 2,891 | – | – | – | 11 | – | – | – |
| Crow Wing | 87,672 | 1,024 | 6,301 | 1,033 | 13 | 307 | – | 119 | 71,204 | 243 | 419 | 5,071 | – | 31 | 164 | 1,709 | – | – | 36 |
| Hubbard | 104,176 | 517 | 8,930 | 2,057 | – | 710 | 30 | 14 | 82,983 | 656 | 235 | 7,621 | – | 4 | 21 | 393 | – | – | 5 |
| Itasca | 335,715 | 32,957 | 8,093 | 4,807 | 67 | 35,418 | 1,916 | 192 | 207,063 | 13,390 | 3,419 | 20,578 | – | 90 | 679 | 6,940 | – | – | 105 |
| Lake of the Woods | 84,154 | 3,256 | 4,907 | 557 | – | 9,437 | 738 | – | 60,775 | 4,029 | – | 456 | – | – | – | – | – | – | – |
| Mahnomen | 16,650 | 4 | 496 | 21 | – | 54 | 30 | * | 15,258 | 259 | 1 | 528 | – | – | – | – | – | – | – |
| Roseau | 55,634 | 1,142 | 3,850 | 528 | – | 4,095 | 493 | – | 39,884 | 5,361 | – | 282 | – | – | – | – | – | – | – |
| Wadena | 23,087 | 287 | 4,876 | 473 | – | 26 | – | 5 | 17,053 | 156 | 6 | 94 | 93 | – | 1 | 16 | – | – | – |
| Total | 1,372,920 | 74,219 | 68,106 | 19,842 | 130 | 68,804 | 7,296 | 862 | 970,233 | 50,743 | 9,927 | 77,020 | 93 | 239 | 2,128 | 22,999 | – | – | 279 |
| **Central Hardwoods** | | | | | | | | | | | | | | | | | | | |
| Anoka | 1,666 | – | – | 36 | – | – | – | – | 723 | – | – | 393 | – | – | 362 | 151 | – | – | – |
| Benton | 1,738 | – | 23 | 1,064 | 16 | – | – | – | 576 | 9 | – | 50 | – | – | – | – | – | – | – |
| Carver | 24 | – | – | – | – | – | – | – | 24 | – | – | – | – | – | – | – | – | – | – |
| Chisago | 784 | 8 | 17 | 150 | – | 25 | – | 10 | 454 | 8 | 12 | 9 | – | 2 | 7 | 73 | 4 | 3 | 2 |
| Douglas | 4,852 | – | 110 | – | – | – | 35 | – | 3,950 | 53 | 2 | – | – | – | 63 | 639 | – | – | – |
| Goodhue | 93 | 8 | – | – | – | – | – | 4 | – | – | – | 4 | – | – | 26 | 21 | 21 | 8 | – |
| Houston | 578 | – | – | 2 | 259 | – | – | 10 | – | – | – | 99 | – | – | 59 | 79 | 50 | 20 | – |
| Isanti | 1,475 | 8 | 52 | 820 | – | – | – | 1 | 590 | 1 | 2 | 1 | – | – | – | – | – | – | – |
| Kanabec | 16,044 | 8 | 12 | 10 | – | – | – | 64 | 14,691 | 63 | 663 | 220 | – | 2 | 26 | 282 | – | – | 2 |
| Mille Lacs | 15,763 | – | – | 60 | 469 | 10 | – | 28 | 12,700 | 58 | 1,612 | 111 | – | – | 64 | 650 | – | – | – |
| Morrison | 25,403 | – | 1,422 | 818 | – | 51 | – | 41 | 19,108 | 148 | 1,647 | 1,070 | – | 12 | 58 | 1,013 | – | – | 14 |
| Otter Tail | 15,152 | – | 80 | 7 | – | – | – | – | 14,704 | 331 | – | 18 | – | – | 1 | 10 | – | – | – |
| Pine | 110,475 | 200 | 1,385 | 5,202 | 8 | 182 | 459 | 912 | 77,754 | 2,606 | 1,726 | 9,346 | – | 110 | 1,882 | 8,457 | 84 | 35 | 128 |
| Ramsey | 235 | – | – | 208 | – | 27 | – | – | – | – | – | – | – | – | – | – | – | – | – |
| Sherburne | 592 | – | 40 | 479 | 12 | 30 | – | – | 21 | – | – | 10 | – | – | – | – | – | – | – |
| Stearns | 767 | – | 9 | 8 | – | – | – | – | 730 | 10 | – | 8 | – | – | * | 2 | – | – | – |
| Todd | 8,802 | – | 827 | – | – | – | – | 6 | 7,135 | 127 | 368 | 105 | – | 1 | 21 | 209 | – | – | 1 |
| Wabasha | 515 | – | 263 | 236 | 17 | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| Washington | 4,000 | 712 | 53 | 110 | 119 | 502 | – | * | 2,482 | 10 | 1 | 8 | – | – | * | 2 | – | – | – |
| Wright | 818 | – | 4 | 4 | – | – | – | 1 | 776 | 11 | 2 | 9 | – | – | 1 | 10 | – | – | – |
| Total | 209,775 | 945 | 4,297 | 9,215 | 899 | 828 | 494 | 1,078 | 156,419 | 3,436 | 6,033 | 11,463 | – | 126 | 2,570 | 11,599 | 159 | 67 | 147 |
| **Prairie** | | | | | | | | | | | | | | | | | | | |
| Kittson | 24,022 | 8 | 381 | – | – | 109 | 58 | – | 22,771 | 624 | – | 71 | – | – | – | – | – | – | – |
| Marshall | 42,532 | 2 | 108 | – | – | 27 | 14 | – | 37,885 | 4,438 | – | 58 | – | – | – | – | – | – | – |
| Norman | 2,535 | – | – | – | – | – | – | – | 2,495 | – | 14 | – | 26 | – | – | – | – | – | – |
| Pennington | 3,223 | – | – | – | – | – | – | – | 3,131 | 92 | – | – | – | – | – | – | – | – | – |
| Polk | 10,811 | – | – | – | – | – | – | – | 10,231 | 107 | – | 385 | – | – | 2 | 86 | – | – | – |
| Red Lake | 8,070 | 249 | – | – | – | – | – | – | 7,434 | 50 | 37 | – | 300 | – | – | – | – | – | – |
| Total | 91,193 | 260 | 489 | – | – | 136 | 73 | – | 83,945 | 5,310 | 51 | 515 | 326 | – | 2 | 86 | – | – | – |
| **State total** | 2,906,951 | 169,479 | 120,021 | 40,979 | 1,718 | 214,781 | 27,509 | 3,734 | 1,964,645 | 102,206 | 21,578 | 165,891 | 419 | 650 | 10,113 | 62,127 | 243 | 101 | 758 |

* *Less than 1/2 cord.*

[1] *Includes only those counties that supplied pulpwood in 2002.*

[2] *Includes hybid poplar.*

Table may not add due to rounding.

Tables continued on next page.

Table 7.--Pulpwood production from roundwood by Forest Survey Unit, county, and species group, Wisconsin, 2002

(In standard cords, unpeeled)

| Forest Survey Unit and county [1] | All species | Species group: Northern white-cedar | Balsam fir | Hemlock | Jack pine | Red pine | White pine | Spruce | Tamarack | Ash | Aspen | Balsam poplar |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Northeastern** | | | | | | | | | | | | |
| Florence | 78,119 | 18 | 2,294 | 4,541 | 1,310 | 1,776 | 717 | 898 | 128 | 1,289 | 18,210 | 435 |
| Forest | 122,335 | 4 | 3,821 | 1,102 | 458 | 4,154 | 151 | 3,636 | 214 | 4,032 | 25,999 | 236 |
| Langlade | 165,062 | – | 6,615 | 327 | 435 | 3,591 | 260 | 2,991 | 226 | 7,124 | 31,990 | 78 |
| Lincoln | 140,181 | – | 4,047 | 297 | 1,681 | 3,863 | 682 | 2,634 | 953 | 5,848 | 56,292 | 15 |
| Marinette | 138,037 | 9 | 4,373 | 4,121 | 16,386 | 12,565 | 1,025 | 2,418 | 457 | 2,302 | 42,256 | 519 |
| Menominee | 47,239 | 3 | 81 | 7,661 | 381 | 794 | 2,426 | 35 | 4 | 1,923 | 8,842 | 3 |
| Oconto | 58,606 | – | 383 | 141 | 1,118 | 3,045 | 325 | 113 | 137 | 1,713 | 18,101 | 293 |
| Oneida | 110,958 | 9 | 5,750 | 213 | 2,539 | 7,670 | 2,521 | 3,483 | 884 | 2,887 | 39,412 | 59 |
| Shawano | 59,426 | – | 751 | 462 | 245 | 5,182 | 389 | 146 | 12 | 1,950 | 22,784 | 30 |
| Vilas | 74,019 | 3 | 2,690 | 78 | 5,948 | 4,680 | 1,837 | 2,420 | 224 | 2,172 | 26,032 | 77 |
| Total | 993,981 | 46 | 30,806 | 18,943 | 30,501 | 47,319 | 10,334 | 18,773 | 3,239 | 31,240 | 289,918 | 1,745 |
| **Northwestern** | | | | | | | | | | | | |
| Ashland | 139,233 | – | 5,440 | 507 | 866 | 2,157 | 958 | 4,217 | 2,290 | 3,712 | 52,935 | 966 |
| Barron | 34,562 | – | 72 | 20 | 754 | 1,389 | 556 | 16 | 88 | 908 | 16,411 | 1 |
| Bayfield | 126,619 | – | 3,585 | – | 13,158 | 11,240 | 1,753 | 2,855 | 597 | 2,754 | 49,215 | 354 |
| Burnett | 71,640 | – | 282 | – | 11,686 | 5,667 | 1,325 | 126 | 27 | 679 | 31,950 | 99 |
| Douglas | 172,995 | – | 13,141 | – | 23,513 | 7,555 | 1,034 | 5,484 | 4,875 | 1,223 | 69,547 | 322 |
| Iron | 135,587 | 3 | 2,629 | 183 | 69 | 414 | 808 | 979 | 130 | 4,275 | 70,631 | 19 |
| Polk | 31,497 | – | 65 | – | 3,796 | 1,878 | 144 | 4 | – | 419 | 17,189 | 11 |
| Price | 136,729 | – | 6,758 | 569 | 766 | 2,642 | 661 | 2,956 | 1,480 | 4,441 | 53,051 | 58 |
| Rusk | 112,709 | – | 667 | 41 | 48 | 1,125 | 723 | 3,150 | 63 | 3,839 | 46,921 | * |
| Sawyer | 205,738 | – | 3,698 | 186 | 2,123 | 3,921 | 1,626 | 3,303 | 145 | 6,778 | 65,716 | 723 |
| Taylor | 62,805 | – | 2,155 | 456 | 10 | 792 | 72 | 1,388 | 970 | 2,435 | 24,739 | – |
| Washburn | 109,628 | – | 726 | – | 17,048 | 9,577 | 1,693 | 684 | 123 | 1,768 | 47,459 | 195 |
| Total | 1,339,741 | 3 | 39,217 | 1,961 | 73,838 | 48,357 | 11,355 | 25,161 | 10,788 | 33,229 | 545,765 | 2,748 |
| **Central** | | | | | | | | | | | | |
| Adams | 66,441 | – | 11 | – | 20,419 | 21,699 | 4,649 | 286 | 297 | 527 | 2,799 | – |
| Chippewa | 42,034 | – | 20 | 11 | 397 | 1,088 | 427 | 38 | 28 | 1,169 | 21,511 | – |
| Clark | 56,302 | – | 16 | 392 | 969 | 2,462 | 570 | 27 | 2 | 1,246 | 31,025 | – |
| Eau Claire | 24,736 | – | 7 | – | 3,457 | 4,967 | 1,107 | 248 | – | 476 | 3,746 | – |
| Jackson | 83,810 | – | – | 16 | 18,445 | 10,872 | 4,777 | 39 | 72 | 1,623 | 11,934 | – |
| Juneau | 63,382 | – | – | 13 | 19,671 | 15,018 | 3,098 | 38 | – | 801 | 4,870 | – |
| Marathon | 66,713 | – | 760 | 2,283 | 1,924 | 4,498 | 1,564 | 801 | 26 | 2,192 | 24,329 | 1 |
| Marquette | 12,793 | – | – | – | 1,657 | 6,005 | 948 | 63 | 10 | 187 | 537 | – |
| Monroe | 31,109 | – | – | – | 8,962 | 4,567 | 1,613 | 135 | 86 | 520 | 2,916 | – |
| Portage | 59,314 | – | 302 | 273 | 11,451 | 14,155 | 5,687 | 297 | – | 792 | 12,738 | – |
| Waupaca | 26,715 | – | 19 | 52 | 297 | 7,825 | 1,710 | 196 | – | 783 | 5,232 | – |
| Waushara | 39,633 | – | – | – | 2,261 | 20,461 | 3,766 | 169 | – | 569 | 1,344 | – |
| Wood | 61,374 | – | 26 | 22 | 6,462 | 7,010 | 4,143 | 607 | 45 | 1,305 | 21,619 | * |
| Total | 634,355 | – | 1,161 | 3,062 | 96,373 | 120,626 | 34,059 | 2,943 | 567 | 12,189 | 144,601 | 1 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Southwestern** | | | | | | | | | | | | |
| Buffalo | 23,998 | – | – | 47 | 174 | 2,206 | 757 | 100 | 1,721 | 1,429 | 595 | – |
| Crawford | 2,663 | – | – | – | – | 194 | 218 | 15 | – | 161 | 47 | – |
| Dunn | 12,981 | – | – | – | 1,017 | 3,231 | 793 | 90 | 14 | 245 | 3,801 | – |
| Grant | 1,339 | – | – | – | – | 1,128 | 169 | – | – | 1 | 14 | – |
| Iowa | 2,433 | – | – | – | 33 | 479 | 553 | 107 | – | 46 | 393 | – |
| La Crosse | 3,170 | – | – | – | 13 | 1,436 | 128 | – | – | 74 | 596 | – |
| Lafayette | 258 | – | – | – | – | 247 | 11 | – | – | – | – | – |
| Pepin | 896 | – | – | – | 16 | 179 | 99 | – | – | – | 493 | – |
| Pierce | 1,763 | – | – | – | – | 157 | – | – | – | 130 | 35 | – |
| Richland | 1,263 | – | – | – | 15 | 261 | 144 | – | – | 21 | 419 | – |
| Sauk | 8,818 | – | – | – | 1,400 | 3,939 | 1,002 | 79 | – | 74 | 652 | – |
| St. Croix | 6,254 | – | – | – | 45 | 2,108 | 233 | 189 | – | 61 | 2,838 | – |
| Trempealeau | 8,374 | – | – | – | 335 | 4,227 | 1,472 | 171 | – | 78 | 717 | – |
| Vernon | 6,094 | – | – | – | 40 | 664 | 205 | 5 | – | 510 | 39 | – |
| Total | 80,306 | – | – | 47 | 3,087 | 20,456 | 5,785 | 755 | 1,734 | 2,831 | 10,637 | – |
| **Southeastern** | | | | | | | | | | | | |
| Brown | 246 | – | 26 | – | 21 | 87 | 11 | – | – | 3 | 51 | – |
| Calumet | 14 | – | – | – | – | 14 | – | – | – | – | – | – |
| Columbia | 12,403 | – | – | 13 | 670 | 3,985 | 623 | 20 | – | 200 | 2,583 | – |
| Dane | 1,075 | – | – | – | 15 | 562 | 332 | 24 | – | 6 | 27 | – |
| Dodge | 173 | – | – | – | – | – | – | 68 | – | – | 105 | – |
| Door | 2,422 | – | 154 | 23 | 89 | 193 | 327 | 234 | – | 55 | 760 | – |
| Fond Du Lac | 2,164 | – | – | – | 12 | 935 | 956 | – | – | 12 | 56 | – |
| Green | 602 | – | – | – | – | 314 | 29 | – | – | 20 | – | – |
| Green Lake | 1,725 | – | – | – | 29 | 641 | 173 | – | – | 19 | 445 | – |
| Jefferson | 879 | – | – | – | – | 367 | 370 | 99 | – | * | 30 | – |
| Kewaunee | 306 | – | – | 22 | – | 210 | 75 | – | – | – | – | – |
| Manitowoc | 1,755 | – | – | – | – | 269 | 722 | 129 | – | 30 | 81 | – |
| Outagamie | 2,828 | – | – | – | – | 16 | 66 | – | – | 253 | 127 | – |
| Racine | 43 | – | – | – | – | – | 43 | – | – | – | – | – |
| Rock | 84 | – | – | – | – | – | – | – | – | 4 | – | – |
| Sheboygan | 3,914 | – | – | – | – | 1,601 | 879 | 463 | – | 21 | 666 | – |
| Walworth | 159 | – | – | – | – | 99 | 60 | – | – | – | – | – |
| Washington | 837 | – | – | – | 92 | 249 | 343 | 72 | – | 1 | 54 | – |
| Waukesha | 1,658 | – | – | – | – | 1,154 | 330 | – | – | 17 | – | – |
| Winnebago | 5,702 | – | – | 16 | 46 | 501 | 1,100 | 196 | – | 244 | 425 | – |
| Total | 38,989 | – | 180 | 73 | 973 | 11,197 | 6,440 | 1,304 | – | 885 | 5,411 | – |
| **State total** | 3,087,373 | 49 | 71,363 | 24,085 | 204,771 | 247,955 | 67,972 | 48,937 | 16,328 | 80,373 | 996,333 | 4,494 |

(Table 7 continued on next page)

(Table 7 continued)

| Forest Survey Unit and county [1] | Species group | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Bass-wood | Beech | White birch | Yellow birch | Cotton-wood | Elm | Hard maple | Soft maple | Red oak | White oak | Other hardwoods |
| **Northeastern** | | | | | | | | | | | |
| Florence | 2,371 | 2,613 | 3,556 | 2,162 | – | 90 | 16,050 | 17,013 | 1,321 | 281 | 1,046 |
| Forest | 4,932 | 2,650 | 11,991 | 2,939 | – | 801 | 27,101 | 24,147 | 2,545 | 368 | 1,051 |
| Langlade | 6,366 | 2,889 | 13,859 | 3,427 | – | 1,155 | 43,176 | 33,374 | 4,979 | 1,112 | 1,088 |
| Lincoln | 2,997 | 415 | 9,977 | 2,411 | – | 869 | 27,232 | 16,925 | 1,914 | 620 | 510 |
| Marinette | 3,895 | 1,868 | 6,369 | 2,078 | – | 455 | 16,552 | 15,613 | 3,266 | 753 | 755 |
| Menominee | 976 | 314 | 2,591 | 1,385 | – | 173 | 9,004 | 5,362 | 2,325 | 2,789 | 166 |
| Oconto | 2,098 | 1,248 | 3,702 | 1,688 | – | 253 | 11,736 | 10,468 | 1,046 | 390 | 610 |
| Oneida | 1,618 | 949 | 11,894 | 2,081 | – | 648 | 14,371 | 11,717 | 1,459 | 239 | 557 |
| Shawano | 514 | 98 | 2,589 | 335 | – | 217 | 10,165 | 7,600 | 4,192 | 1,725 | 40 |
| Vilas | 1,092 | 99 | 8,582 | 1,019 | – | 614 | 8,096 | 5,809 | 1,832 | 595 | 121 |
| Total | 26,860 | 13,143 | 75,108 | 19,526 | – | 5,275 | 183,483 | 148,028 | 24,879 | 8,871 | 5,945 |
| **Northwestern** | | | | | | | | | | | |
| Ashland | 4,042 | 76 | 7,632 | 607 | – | 1,002 | 18,346 | 29,470 | 2,562 | 851 | 597 |
| Barron | 793 | 16 | 2,473 | 321 | – | 217 | 3,958 | 3,834 | 2,076 | 626 | 35 |
| Bayfield | 1,754 | 94 | 12,553 | 991 | – | 415 | 9,878 | 10,943 | 3,026 | 1,176 | 278 |
| Burnett | 545 | 27 | 6,979 | 278 | – | 96 | 3,211 | 4,408 | 3,540 | 649 | 65 |
| Douglas | 1,651 | 3 | 17,472 | 105 | – | 214 | 7,950 | 16,847 | 1,565 | 336 | 160 |
| Iron | 1,220 | 468 | 7,664 | 2,141 | – | 759 | 22,295 | 18,154 | 1,628 | 482 | 634 |
| Polk | 347 | 12 | 1,257 | 148 | – | 72 | 1,543 | 1,567 | 2,326 | 692 | 27 |
| Price | 3,411 | 239 | 13,877 | 1,841 | – | 1,169 | 21,205 | 18,639 | 2,120 | 498 | 349 |
| Rusk | 2,754 | 97 | 10,235 | 1,066 | 197 | 890 | 17,239 | 14,628 | 6,779 | 2,160 | 85 |
| Sawyer | 5,905 | 84 | 15,601 | 896 | – | 1,408 | 30,259 | 45,058 | 12,644 | 4,828 | 837 |
| Taylor | 1,546 | 111 | 5,987 | 604 | 198 | 571 | 11,683 | 6,928 | 1,605 | 517 | 35 |
| Washburn | 2,019 | 12 | 8,116 | 225 | – | 219 | 6,373 | 8,626 | 3,481 | 1,181 | 102 |
| Total | 25,986 | 1,240 | 109,846 | 9,224 | 395 | 7,032 | 153,941 | 179,102 | 43,353 | 13,998 | 3,204 |
| **Central** | | | | | | | | | | | |
| Adams | 36 | 5 | 673 | 43 | – | 23 | 2,959 | 2,425 | 7,894 | 1,692 | 2 |
| Chippewa | 931 | 32 | 3,530 | 467 | 230 | 433 | 4,876 | 3,563 | 2,712 | 528 | 44 |
| Clark | 473 | 25 | 2,818 | 292 | 33 | 274 | 5,608 | 4,190 | 4,674 | 1,204 | 4 |
| Eau Claire | 192 | 7 | 1,196 | 146 | – | 113 | 1,987 | 1,529 | 4,780 | 768 | 10 |
| Jackson | 356 | 21 | 3,668 | 377 | – | 234 | 7,828 | 6,235 | 14,371 | 2,900 | 42 |
| Juneau | 48 | 1 | 938 | 29 | – | 22 | 4,647 | 3,857 | 8,334 | 1,995 | 2 |
| Marathon | 709 | 75 | 4,313 | 523 | – | 416 | 10,036 | 6,839 | 4,048 | 1,347 | 28 |
| Marquette | 1 | 14 | 200 | 105 | – | 14 | 895 | 590 | 1,171 | 369 | 27 |
| Monroe | 101 | 4 | 928 | 93 | – | 65 | 2,605 | 2,109 | 5,328 | 1,068 | 8 |
| Portage | 222 | 21 | 1,485 | 209 | – | 115 | 3,792 | 2,927 | 3,277 | 1,555 | 17 |
| Waupaca | 111 | 65 | 777 | 227 | – | 66 | 4,048 | 2,289 | 1,787 | 1,200 | 31 |
| Waushara | 26 | 24 | 689 | 197 | – | 39 | 2,924 | 2,154 | 3,349 | 1,615 | 46 |
| Wood | 494 | 7 | 3,000 | 276 | – | 264 | 5,881 | 4,701 | 4,160 | 1,352 | 2 |
| Total | 3,701 | 301 | 24,215 | 2,983 | 263 | 2,075 | 58,086 | 43,409 | 65,884 | 17,593 | 264 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Southwestern** | | | | | | | | | | | |
| Buffalo | 847 | 4 | 5,121 | 542 | – | 511 | 4,781 | 3,821 | 1,046 | 289 | 6 |
| Crawford | – | 14 | 173 | 104 | – | 14 | 743 | 465 | 291 | 199 | 27 |
| Dunn | 111 | 8 | 724 | 113 | – | 60 | 954 | 693 | 879 | 232 | 17 |
| Grant | 1 | – | 4 | – | – | – | 9 | 6 | 4 | 2 | – |
| Iowa | 6 | – | 71 | 4 | – | 4 | 255 | 213 | 193 | 76 | – |
| La Crosse | 27 | 1 | 182 | 28 | – | 18 | 297 | 224 | 110 | 35 | 2 |
| Lafayette | – | – | – | – | – | – | – | – | – | – | – |
| Pepin | – | – | – | – | – | – | – | 6 | 93 | 10 | – |
| Pierce | – | 14 | 142 | 104 | – | 14 | 557 | 310 | 136 | 136 | 27 |
| Richland | 1 | – | 23 | – | – | – | 121 | 102 | 115 | 42 | – |
| Sauk | 7 | 1 | 103 | 8 | – | 5 | 407 | 332 | 583 | 222 | 2 |
| St. Croix | 31 | 1 | 207 | 24 | – | 20 | 217 | 190 | 64 | 26 | 2 |
| Trempealeau | 13 | 4 | 433 | 39 | – | 11 | 350 | 244 | 218 | 54 | 8 |
| Vernon | – | 51 | 5 | – | – | – | 3,110 | 1,436 | 21 | 8 | – |
| Total | 1,045 | 98 | 7,189 | 966 | – | 657 | 11,801 | 8,040 | 3,752 | 1,333 | 92 |
| **Southeastern** | | | | | | | | | | | |
| Brown | 2 | – | 13 | 1 | – | 1 | 11 | 16 | 2 | – | – |
| Calumet | – | – | – | – | – | – | – | – | – | – | – |
| Columbia | 99 | * | 593 | 63 | – | 59 | 761 | 616 | 1,790 | 329 | – |
| Dane | – | – | 6 | – | – | – | 32 | 27 | 33 | 11 | – |
| Dodge | – | – | – | – | – | – | – | – | – | – | – |
| Door | 11 | 9 | 97 | 35 | – | 6 | 256 | 158 | 11 | 2 | – |
| Fond Du Lac | – | 1 | 11 | 3 | – | – | 66 | 49 | 36 | 26 | – |
| Green | 10 | – | 64 | 6 | – | 6 | 69 | 56 | 21 | 6 | – |
| Green Lake | 3 | 1 | 34 | 11 | – | 3 | 84 | 53 | 155 | 70 | 2 |
| Jefferson | – | – | * | * | – | – | 5 | 3 | 2 | 1 | – |
| Kewaunee | – | – | – | – | – | – | – | – | – | – | – |
| Manitowoc | – | 1 | 29 | 4 | – | – | 178 | 140 | 123 | 49 | – |
| Outagamie | 7 | 24 | 58 | 14 | – | 5 | 1,481 | 706 | 42 | 27 | 2 |
| Racine | – | – | – | – | – | – | – | – | – | – | – |
| Rock | – | – | 4 | – | – | – | 26 | 21 | 21 | 8 | – |
| Sheboygan | 9 | – | 56 | 5 | – | 5 | 84 | 69 | 41 | 15 | – |
| Walworth | – | – | – | – | – | – | – | – | – | – | – |
| Washington | – | – | 1 | * | – | – | 10 | 6 | 5 | 2 | – |
| Waukesha | – | 1 | 2 | 2 | – | – | 103 | 49 | – | – | – |
| Winnebago | 60 | 16 | 494 | 136 | – | 47 | 1,002 | 673 | 568 | 156 | 21 |
| Total | 203 | 54 | 1,464 | 282 | – | 133 | 4,170 | 2,642 | 2,850 | 703 | 25 |
| **State total** | 57,795 | 14,836 | 217,822 | 32,980 | 658 | 15,172 | 411,481 | 381,222 | 140,719 | 42,498 | 9,530 |

* *Less than 1/2 cord.*

[1] *Includes only those counties that supplied pulpwood in 2002.*

Table may not add due to rounding.

Table 8.--Number of industrial pulp or particleboard plants in the Lake States by product form, species group used, and State, 2002

| Product form and species group | Total Lake States | State | | |
|---|---|---|---|---|
| | | Michigan | Minnesota | Wisconsin |
| **Roundwood** | | | | |
| Softwoods | | | | |
| Northern white-cedar | 2 | 2 | 0 | 0 |
| Balsam fir | 17 | 3 | 7 | 7 |
| Hemlock | 5 | 1 | 0 | 4 |
| Jack pine | 15 | 4 | 6 | 5 |
| Red pine | 16 | 4 | 6 | 6 |
| White pine | 10 | 3 | 2 | 5 |
| Spruce | 16 | 2 | 7 | 7 |
| Tamarack | 8 | 1 | 2 | 5 |
| Total plants using softwoods [1] | 23 | 4 | 10 | 9 |
| Hardwoods | | | | |
| Ash | 16 | 6 | 2 | 8 |
| Aspen | 35 | 10 | 13 | 12 |
| Balsam poplar | 13 | 5 | 7 | 1 |
| Basswood | 19 | 9 | 5 | 5 |
| Beech | 9 | 6 | 0 | 3 |
| White birch | 27 | 8 | 10 | 9 |
| Yellow birch | 8 | 5 | 0 | 3 |
| Cottonwood | 3 | 0 | 2 | 1 |
| Elm | 7 | 3 | 1 | 3 |
| Hickory | 2 | 2 | 0 | 0 |
| Hard maple | 20 | 9 | 2 | 9 |
| Soft maple | 23 | 10 | 4 | 9 |
| Red oak | 11 | 7 | 0 | 4 |
| White oak | 8 | 3 | 0 | 5 |
| Other hardwoods | 7 | 5 | 1 | 1 |
| Total plants using hardwoods [1] | 41 | 11 | 13 | 17 |
| **Total plants using roundwood [1]** | 43 | 11 | 14 | 18 |
| **Residues** | | | | |
| Softwood | 11 | 2 | 2 | 7 |
| Hardwood | 20 | 7 | 5 | 8 |
| Total plants using residues [1] | 21 | 7 | 5 | 9 |
| **Total plants [1]** | 44 | 11 | 14 | 19 |

[1] *Some plants use more than one species, so numbers in columns are not additive.*

Table 9.--Average daily production of active woodpulp mills in the Lake States by State, company, location, and type of pulp produced, 2002

(In tons per 24 hours)

| State and company | Location | Average daily production | Type of pulp produced | | | | |
|---|---|---|---|---|---|---|---|
| | | | Sulfite | Kraft | Groundwood/ mechanical | Semi-chemical | Thermo-mechanical |
| **Michigan** | | | | | | | |
| International Paper Co. | Quinnesec | 1,224 | – | 1,224 | – | – | – |
| Louisiana-Pacific Corp. | Alpena | 250 | – | – | 250 | – | – |
| Meadwestvaco Corp. | Escanaba | 1,227 | – | 1,227 | – | – | – |
| Menasha Packaging, LLC | Otsego | 660 | – | – | – | 660 | – |
| Packaging Corp. Of America | Manistee | 361 | – | – | – | 361 | – |
| S.D. Warren(Dba) Sappi Fine Papers | Muskegon | 275 | – | 275 | – | – | – |
| Smurfit-Stone Container Corp. | Ontonagon | 751 | – | – | – | 751 | – |
| Total | 7 mills | 4,748 | – | 2,726 | 250 | 1,772 | – |
| **Minnesota** | | | | | | | |
| Boise Cascade | International Falls | 1,020 | – | 1,020 | – | – | – |
| Certainteed Corp. | Shakopee | 242 | – | – | 242 | – | – |
| Georgia-Pacific Corp. | Duluth | 212 | – | – | – | – | 212 |
| International Bildrite, Inc. | International Falls | 100 | – | – | 100 | – | – |
| International Paper | Sartell | 400 | – | – | – | – | 400 |
| Sappi Fine Papers (formerly Potlatch) | Cloquet | 1,153 | – | 1,153 | – | – | – |
| Stora Enso North America | Proctor | 325 | – | – | 325 | – | – |
| UPM Blandin Forestry | Grand Rapids | 590 | – | – | 590 | – | – |
| Total | 8 mills | 4,042 | – | 2,173 | 1,257 | – | 612 |
| **Wisconsin** | | | | | | | |
| Domtar Industries, Inc. | Nekoosa | 450 | – | 450 | – | – | – |
| Domtar Industries, Inc. | Port Edwards | 250 | 250 | – | – | – | – |
| Fraser Papers, Inc. | Park Falls | 170 | 170 | – | – | – | – |
| Georgia-Pacific Corp. | Phillips | 75 | – | – | 75 | – | – |
| International Paper Co. | Kaukauna | 400 | – | 400 | – | – | – |
| Mule-Hide Mfg. Co., Inc. | Cornell | 250 | – | – | 250 | – | – |
| Packaging Corp. Of America | Tomahawk | 1,378 | – | – | – | 1,378 | – |
| Stora Enso North America | Biron | 400 | – | – | – | – | 400 |
| Stora Enso North America | Kimberly | 50 | – | – | 50 | – | – |
| Stora Enso North America | Niagara | 250 | – | – | 250 | – | – |
| Stora Enso North America | Stevens Point | 200 | – | – | – | – | 200 |
| Stora Enso North America | Wisconsin Rapids | 1,200 | – | 1,200 | – | – | – |
| Wausau-Mosinee Paper Corp. | Brokaw | 258 | 258 | – | – | – | – |
| Wausau-Mosinee Paper Corp. | Mosinee | 275 | – | 275 | – | – | – |
| Weyerhaeuser Co. | Rothschild | 163 | 163 | – | – | – | – |
| Total | 15 mills | 5,769 | 841 | 2,325 | 625 | 1,378 | 600 |
| **Lake States total** | 30 mills | 14,559 | 841 | 7,224 | 2,132 | 3,150 | 1,212 |

Table 10.--Annual production of active particleboard and panel mills in the Lake States by State, company, location, and product produced, 2002

(In million square feet 3/4-inch basis)

| State and company | Location | Product produced | Annual production |
|---|---|---|---|
| **Michigan** | | | |
| Georgia-Pacific Corp. | Gaylord | Particleboard | 204 |
| Louisiana-Pacific Corp. | Newberry | Oriented strand board | 65 |
| Louisiana-Pacific Corp. | Sagola | Oriented strand board | 185 |
| Weyerhaeuser Co. | Grayling | Oriented strand board | 249 |
| Total | 4 mills | | 703 |
| **Minnesota** | | | |
| Louisiana-Pacific Corp. | Two Harbors | Oriented strand board | 60 |
| Northwood Panelboard Co. | Solway | Oriented strand board | 211 |
| Potlatch Corporation | Bemidji | Oriented strand board | 265 |
| Potlatch Corporation | Cook | Oriented strand board | 207 |
| Potlatch Corporation | Grand Rapids | Oriented strand board | 167 |
| Trusjoist A Weyerhaeuser Business | Deerwood | Engineered wood products | n/a |
| Total | 6 mills | | 910 |
| **Wisconsin** | | | |
| Louisiana Pacific Corp. | Tomahawk | Oriented strand board | 64 |
| Louisiana-Pacific Corp. | Hayward | Oriented strand board | 250 |
| Marshfield Doorsystems | Marshfield | Particleboard | 80 |
| Rodman Industries | Marinette | Particleboard | 8 |
| Total | 4 mills | | 402 |
| **Lake States total** | 14 mills | | 2,015 |

Table 11.--Production and imports of pulpwood, Central States, 2002

(In standard cords, unpeeled)

| Product form, species group, and destination | Production by State[1] | | | | Regional Total | Imports | | Total imports | Total receipts |
|---|---|---|---|---|---|---|---|---|---|
| | Illinois | Indiana | Iowa | Missouri | | Lake States | Other U.S. | | |
| **Roundwood** | | | | | | | | | |
| Softwoods | | | | | | | | | |
| Lake States | 1,168 | – | – | – | 1,168 | – | – | – | – |
| Southern States | 1,309 | – | – | 955 | 2,264 | – | – | – | – |
| Total | 2,476 | – | – | 955 | 3,432 | – | – | – | – |
| Soft hardwoods[2] | | | | | | | | | |
| Central States | 5,004 | 6,535 | 568 | 1,448 | 13,555 | – | – | – | 13,555 |
| Southern States | 9,487 | 529 | – | 2,213 | 12,229 | – | – | – | – |
| Total | 14,491 | 7,064 | 568 | 3,661 | 25,783 | – | – | – | 13,555 |
| Hard hardwoods[3] | | | | | | | | | |
| Central States | 2,696 | 7,139 | 726 | 253 | 10,814 | – | – | – | 10,814 |
| Lake States | 16 | – | – | – | 16 | – | – | – | – |
| Southern States | 30,343 | 1,583 | – | 78,845 | 110,771 | – | – | – | – |
| Total | 33,055 | 8,722 | 726 | 79,097 | 121,600 | – | – | – | 10,814 |
| **Total all roundwood** | | | | | | | | | |
| Central States | 7,700 | 13,674 | 1,294 | 1,700 | 24,369 | – | – | – | 24,369 |
| Lake States | 1,183 | – | – | – | 1,183 | – | – | – | – |
| Southern States | 41,139 | 2,111 | – | 82,013 | 125,263 | – | – | – | – |
| Total | 50,022 | 15,785 | 1,294 | 83,714 | 150,815 | – | – | – | 24,369 |
| **Residues** | | | | | | | | | |
| Softwoods | | | | | | | | | |
| Central States | – | – | – | – | – | – | 26,080 | 26,080 | 26,080 |
| Southern States | – | – | – | 1,860 | 1,860 | – | – | – | – |
| Total | – | – | – | 1,860 | 1,860 | – | 26,080 | 26,080 | 26,080 |
| Hardwoods | | | | | | | | | |
| Central States | 1,376 | 39,906 | 27,569 | 12,730 | 81,580 | 5,371 | – | 5,371 | 86,951 |
| Lake States | – | 8,570 | 1,457 | – | 10,027 | – | – | – | – |
| Northeastern States | – | 4,900 | – | – | 4,900 | – | – | – | – |
| Southern States | 7,701 | 66,037 | – | 103,974 | 177,711 | – | – | – | – |
| Total | 9,077 | 119,413 | 29,026 | 116,704 | 274,219 | 5,371 | – | 5,371 | 86,951 |
| **Total all residues** | | | | | | | | | |
| Central States | 1,376 | 39,906 | 27,569 | 12,730 | 81,580 | 5,371 | 26,080 | 31,451 | 113,031 |
| Lake States | – | 8,570 | 1,457 | – | 10,027 | – | – | – | – |
| Northeastern States | – | 4,900 | – | – | 4,900 | – | – | – | – |
| Southern States | 7,701 | 66,037 | – | 105,834 | 179,571 | – | – | – | – |
| Total | 9,077 | 119,413 | 29,026 | 118,564 | 276,079 | 5,371 | 26,080 | 31,451 | 113,031 |
| **Total all wood material** | | | | | | | | | |
| Central States | 9,076 | 53,580 | 28,863 | 14,430 | 105,949 | 5,371 | 26,080 | 31,451 | 137,400 |
| Lake States | 1,183 | 8,570 | 1,457 | – | 11,211 | – | – | – | – |
| Northeastern States | – | 4,900 | – | – | 4,900 | – | – | – | – |
| Southern States | 48,839 | 68,148 | – | 187,847 | 304,835 | – | – | – | – |
| Total | 59,099 | 135,198 | 30,320 | 202,277 | 426,895 | 5,371 | 26,080 | 31,451 | 137,400 |

[1] *Vertical columns of figures under the box heading "Production by State" present the amount of roundwood cut or residue generated in each State.*

[2] *Hardwood species with an average specific gravity of 0.50 or less.*

[3] *Hardwood species with an average specific gravity greater than 0.50.*

Table may not add due to rounding.

Table 12.--Central States pulpwood production by product form and species group, 1998-2002

(In standard cords, unpeeled)

| Product form and species group | 1998 | 1999 | 2000 | 2001 | 2002 |
|---|---|---|---|---|---|
| **Roundwood** | | | | | |
| Softwoods | 18,680 | 10,283 | 7,643 | 2,110 | 3,432 |
| Soft hardwoods[1] | 34,475 | 46,232 | 64,036 | 50,939 | 25,783 |
| Hard hardwoods[2] | 126,197 | 141,997 | 165,994 | 113,062 | 121,600 |
| Total | 179,351 | 198,511 | 237,673 | 166,111 | 150,815 |
| **Residues** | | | | | |
| Softwood | 38,176 | 19,773 | 12,849 | 117 | 1,860 |
| Hardwood | 254,747 | 247,244 | 269,603 | 302,510 | 274,219 |
| Total | 292,923 | 267,017 | 282,452 | 302,627 | 276,079 |
| **Total all wood material** | 472,275 | 465,528 | 520,125 | 468,738 | 426,895 |

[1] *Hardwood species with an average specific gravity of 0.50 or less.*

[2] *Hardwood species with an average specific gravity greater than 0.50.*

Table may not add due to rounding.

Table 13.--Central States pulpwood production by State and destination, 1998-2002

(In thousand standard cords, unpeeled)

| | Illinois | | | Indiana | | | Iowa | | | Missouri | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Destination | | | Destination | | | Destination | | | Destination | |
| Year | Total | Central States | Other States | Total | Central States | Other States | Total | Central States | Other States | Total | Central States | Other States |
| 1998 | 79 | 20 | 59 | 183 | 68 | 115 | 34 | 29 | 5 | 176 | 13 | 163 |
| 1999 | 79 | 22 | 58 | 176 | 73 | 102 | 33 | 29 | 4 | 177 | 12 | 166 |
| 2000 | 92 | 32 | 60 | 168 | 70 | 98 | 48 | 46 | 1 | 212 | 17 | 195 |
| 2001 | 75 | 22 | 53 | 160 | 67 | 93 | 44 | 43 | 1 | 190 | 14 | 175 |
| 2002 | 59 | 9 | 50 | 135 | 54 | 82 | 30 | 29 | 1 | 202 | 14 | 188 |

Table may not add due to rounding.

Table 14.--Average daily production of active woodpulp mills in the Central States by company, location, and type of pulp produced, 2002

(In tons per 24 hours)

| Company | Location | Average daily production | Type of pulp produced | | |
|---|---|---|---|---|---|
| | | | Groundwood/ mechanical | Semi-chemical | Thermo-mechanical |
| International Paper Co. | Terre Haute, Indiana | 215 | – | 215 | – |
| Box USA | Fort Madison, Iowa | 122 | – | 122 | – |
| Jeld-Wen Fiber Of Iowa | Dubuque, Iowa | 76 | 76 | – | – |
| Huebert Brothers Products, LLC | Booneville, Missouri | 60 | – | – | 60 |
| Central States total | 4 mills | 473 | 76 | 337 | 60 |

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2005. **Pulpwood production in the North-Central Region, 2002.** Resour. Bull. NC-239. St. Paul, MN: U.S. Department of Agriculture, Forest Service, North Central Research Station. 56 p.

Discusses 2002 production and receipts in the Lake, Central, and Plains States. Shows Michigan, Minnesota, and Wisconsin production by species for each county and compares production by Forest Survey Unit with that of previous years. Presents production data for Illinois, Indiana, Iowa, and Missouri by species group and product form. Includes 2002 production for the Plains States by species group and product form.

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KEY WORDS: Roundwood, whole-tree chips, residue, pulpwood, particleboard, Michigan, Minnesota, Wisconsin, Illinois, Indiana, Iowa, Missouri, Plains States.

## Mission Statement

We believe the good life has its roots in clean air, sparkling water, rich soil, healthy economies and a diverse living landscape. Maintaining the good life for generations to come begins with everyday choices about natural resources. The North Central Research Station provides the knowledge and the tools to help people make informed choices. That's how the science we do enhances the quality of people's lives.

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