

# UNITED STATES TIMBER INDUSTRY—AN ASSESSMENT OF TIMBER PRODUCT OUTPUT AND USE, 1996

TONY G. JOHNSON, EDITOR



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FOREST SERVICE

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**The Editor:**

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*Cover photograph courtesy of Forest Operations Research Unit, Southern Research Station—The photo shows a conventional southern logging system.*

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# Executive Summary

This report details national and regional timber removals, product output, and mill residue data compiled for the calendar year 1996 from the Timber Product Output Database Retrieval System. The database was established in November 1997 using data from the latest timber product output (TPO) studies available for each State and is the basis for the TPO estimates reported in the 1997 Resources Planning Act (RPA) assessment of the Nation's forests. This report is composed of six chapters. The first chapter deals with the Nation's timber removals and product output, while the remaining chapters deal with the five RPA regions—the Northeast, North Central, Southern, Rocky Mountains, and Pacific Coast.

Nationwide, roundwood product output totaled 16.4 billion cubic feet, 8 percent less than in 1991. Saw logs were the leading industrial roundwood product at 7.1 billion cubic feet, pulpwood ranked second at 5.2 billion cubic feet, and veneer logs were third at 1.3 billion cubic feet. Fuelwood accounted for another 2.3 billion cubic feet, 14 percent of the Nation's total roundwood production. Softwood species made up 61 percent of product output. Nonindustrial private forest owners supplied 60 percent of the Nation's roundwood products. Mill byproducts generated from primary manufacturers totaled 6.1 billion cubic feet. Mill residues were used primarily for fuel and fiber products; only 2 percent was not used for products. In addition to roundwood output for products, logging residues at 3.4 billion cubic feet, and other removals at 1.4 billion cubic feet, total removals from the Nation's forests at 21.2 billion cubic feet.

The South accounted for 58 percent of the Nation's roundwood products and had 7 of the top 10 producing States. The Northeast and North Central Regions each supplied 11 percent of those products, while the Rocky Mountains and Pacific Coast Regions supplied 4 and 16 percent, respectively. Product output from the Northeast Region declined by 20 percent, from 2.2 to 1.8 billion cubic feet. Most of the decline came from a drop in fuelwood production. The volume of roundwood products produced in the North Central Region declined by 10 percent, from 1.9 to 1.7 billion cubic feet. This decline also was primarily in fuelwood production. Timber product output in the South increased 11 percent, from 8.6 to 9.6 billion cubic feet; and increases occurred in every major product category. The Rocky Mountains Region had a 27-percent decline in roundwood products from 938 to 688 million cubic feet, while product output from the Pacific Coast Region declined 37 percent to 2.5 billion cubic feet. The Pacific Coast Region had substantial declines in all product categories.

**Keywords:** Harvest, pulpwood, removals, residues, roundwood, saw logs, veneer logs.

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# Chapter 1

## The United States

Tony G. Johnson, John S. Vissage, and Daniel P. Stratton<sup>1</sup>

### Output of Timber Products

- Between 1991 and 1996, timber product output (TPO) from roundwood declined 1.5 billion cubic feet, or 8 percent, from 17.9 to 16.4 billion cubic feet. Only the Southern Region experienced an increase in roundwood production during this period, 11 percent. The largest decline occurred in the Pacific Coast Region, 37 percent.
- Output of softwood roundwood products was down 10 percent to 10 billion cubic feet, while output of hardwood roundwood products declined 5 percent to 6.4 billion cubic feet (fig. 1.1).

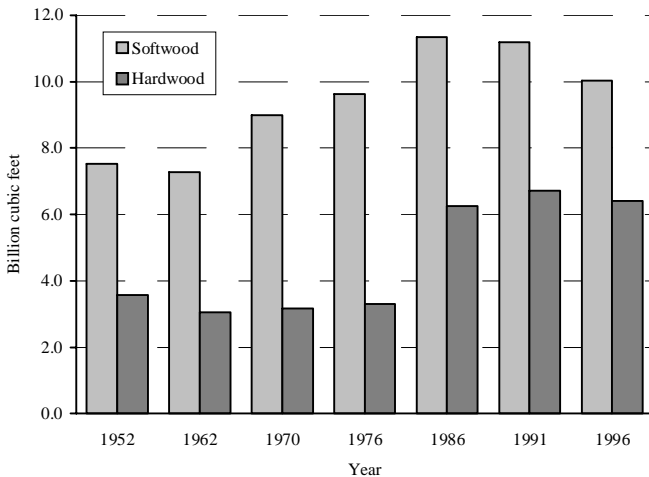


Figure 1.1—United States roundwood production for all products by species group and year (see page 46 for references for individual years).

- Saw logs and pulpwood were the principal roundwood products in 1996. Combined, they totaled 12.4 billion cubic feet and accounted for 75 percent of the Nation's total roundwood output (fig. 1.2).

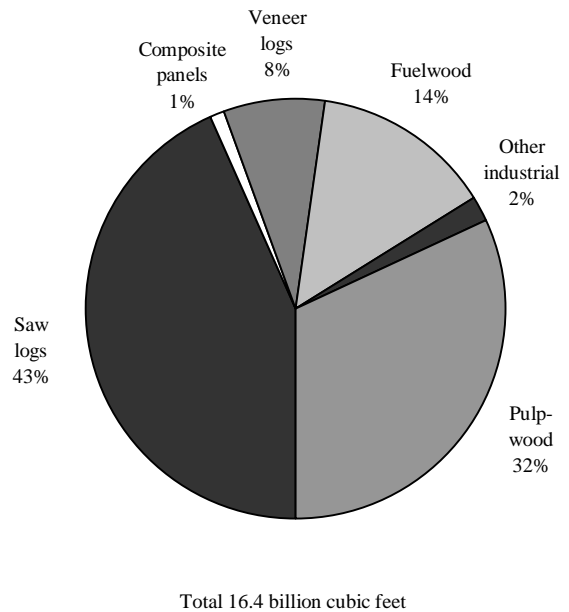


Figure 1.2—United States roundwood production by type of product, 1996.

- Product output by source, ownership, and detailed species group was estimated using the most recent inventory data for each State.
- Growing-stock volume from timberland sources, which included sawtimber and poletimber, accounted for 84 percent of total roundwood output. Nongrowing stock or other sources contributed an estimated 2.6 billion cubic feet, or 16 percent, of total roundwood output (fig. 1.3).
- Nonindustrial private forest (NIPF) lands accounted for 60 percent, or 9.8 billion cubic feet, of the total roundwood output. Forest industry lands contributed 4.7 billion cubic feet, or 28 percent, of the output. Public lands made up the remaining 12 percent, or 1.9 billion cubic feet (fig. 1.4).

<sup>1</sup> Forester, USDA Forest Service, Southern Research Station, Asheville, NC; Research Forester, USDA Forest Service, Starkville, MS; Biological Scientist, USDA Forest Service, Southern Research Station, Asheville, NC, respectively.



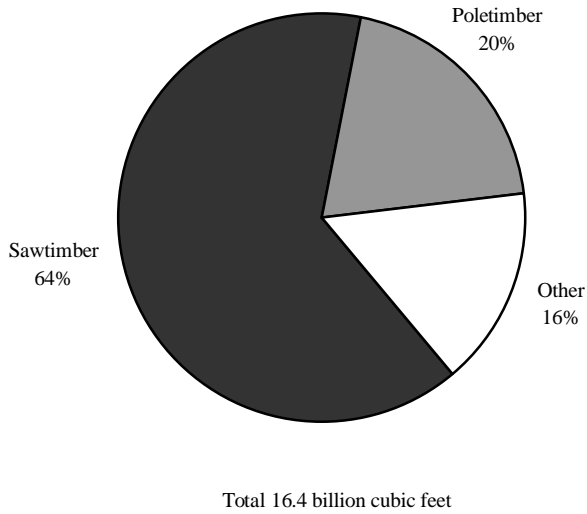


Figure 1.3—United States roundwood production by source, 1996.

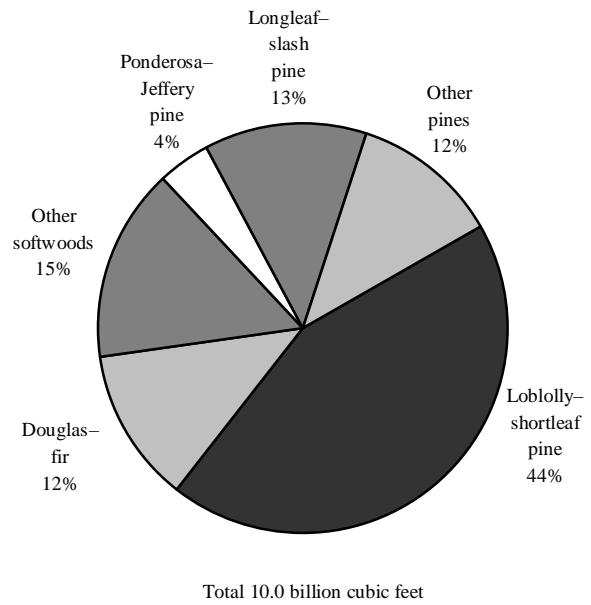


Figure 1.5—United States roundwood production by softwood species group, 1996.

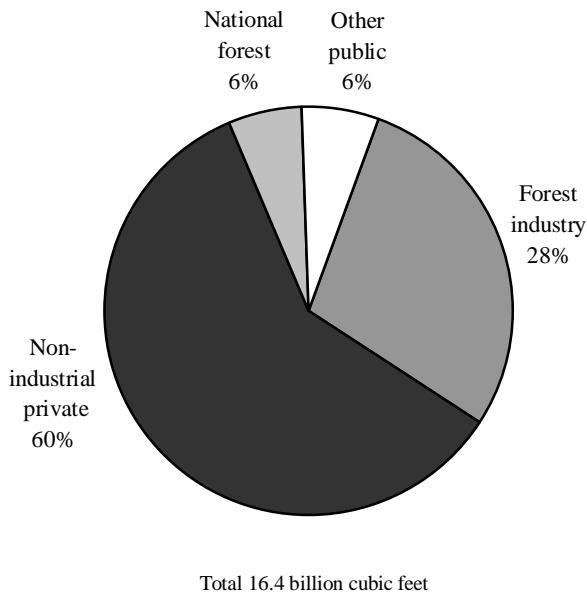


Figure 1.4—United States roundwood production by ownership, 1996.

- Of softwood species, the loblolly-shortleaf pine group provided the most volume, accounting for 44 percent, or 4.4 billion cubic feet, of the total softwood output. The Douglas-fir type and the longleaf-slash type accounted for 12 and 13 percent, respectively (fig. 1.5).

- Of hardwood species, the red oak and white oak groups accounted for 2.5 billion cubic feet, or 39 percent, of total hardwood output. Sweetgum and aspen each accounted for 8 percent and yellow-poplar accounted for 6 percent of total hardwood output (fig. 1.6).

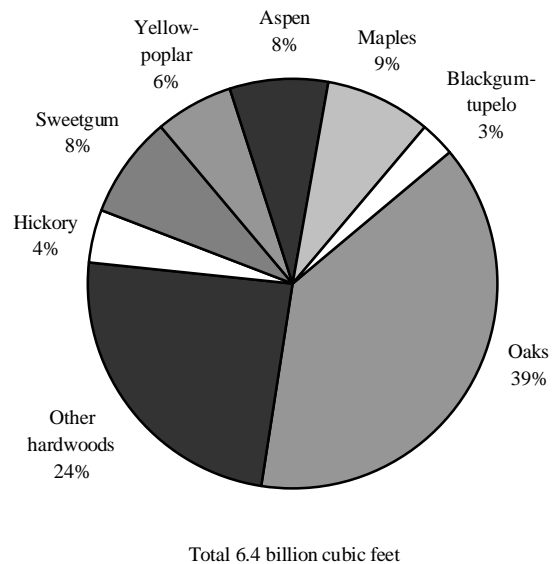


Figure 1.6—United States roundwood production by hardwood species group, 1996.

- Seven of the 10 top-producing States were in the Southern Region, 3 were in the Pacific Coast Region (fig. 1.7). The South supplied 58 percent of the Nation’s TPO, the North 22 percent, and the West 20 percent (fig. 1.8).
- Figure 1.9 displays county-level intensity of roundwood harvests for all products across the United States. The data are depicted in cubic feet harvested per acre of census land area. Counties with the highest harvest intensity are depicted in the darker colors. Those counties in red and purple had harvest rates between 40 and 60, and more than 60 cubic feet per acre, respectively. The Northeast and Northwest Regions along with the Piedmont and Coastal Plain areas of the South obviously are the most intensively harvested of the Nation.

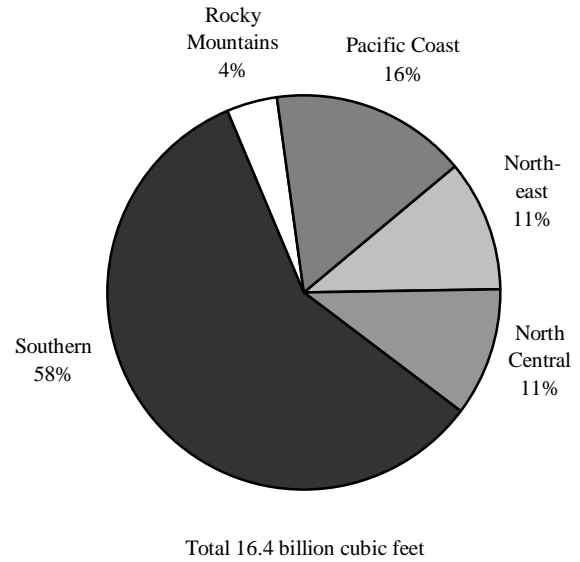


Figure 1.8—United States roundwood production by region, 1996.

### Saw Logs

- At 7.1 billion cubic feet, saw logs accounted for 43 percent of the Nation’s total roundwood products in 1996. Softwood saw-log output declined 5 percent, from 5.4 to 5.1 billion cubic feet (28.7 billion board feet), while hardwood saw-log output increased more than 2 percent to 2 billion cubic feet (11.9 billion board feet) between 1991 and 1996 (fig. 1.10) (see page 5).
- Growing stock accounted for 94 percent of saw-log production, with 6.7 billion cubic feet. Other sources, e.g., nonforest trees, stumps, and tops, added another 408 million cubic feet to saw-log output nationwide.

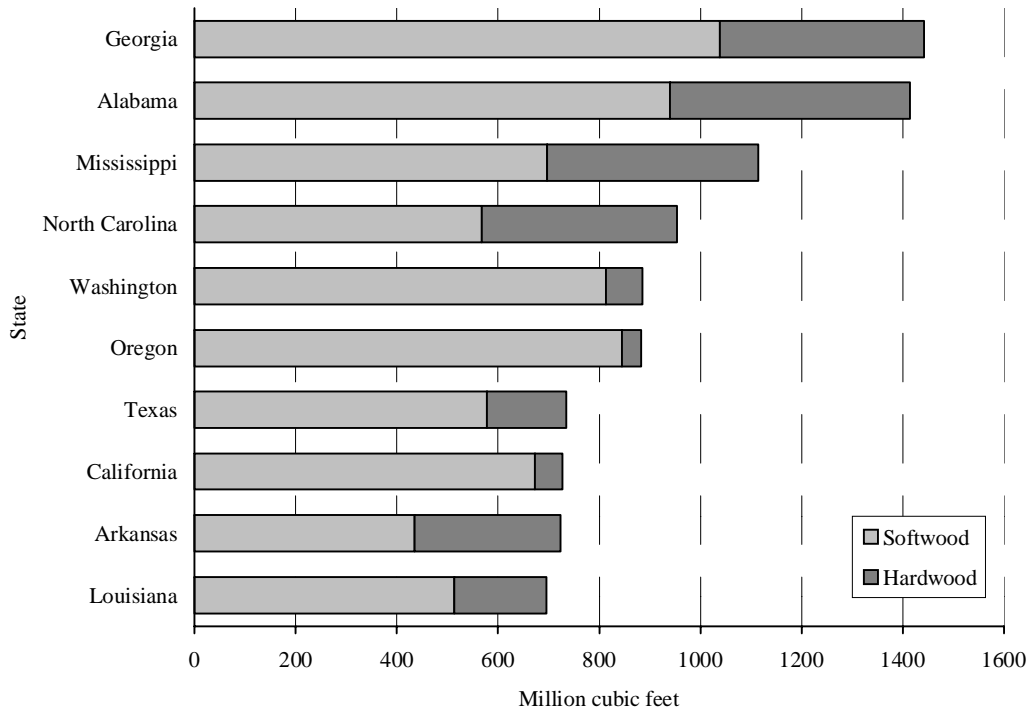


Figure 1.7—Roundwood production for all products by State and broad species group, 1996.

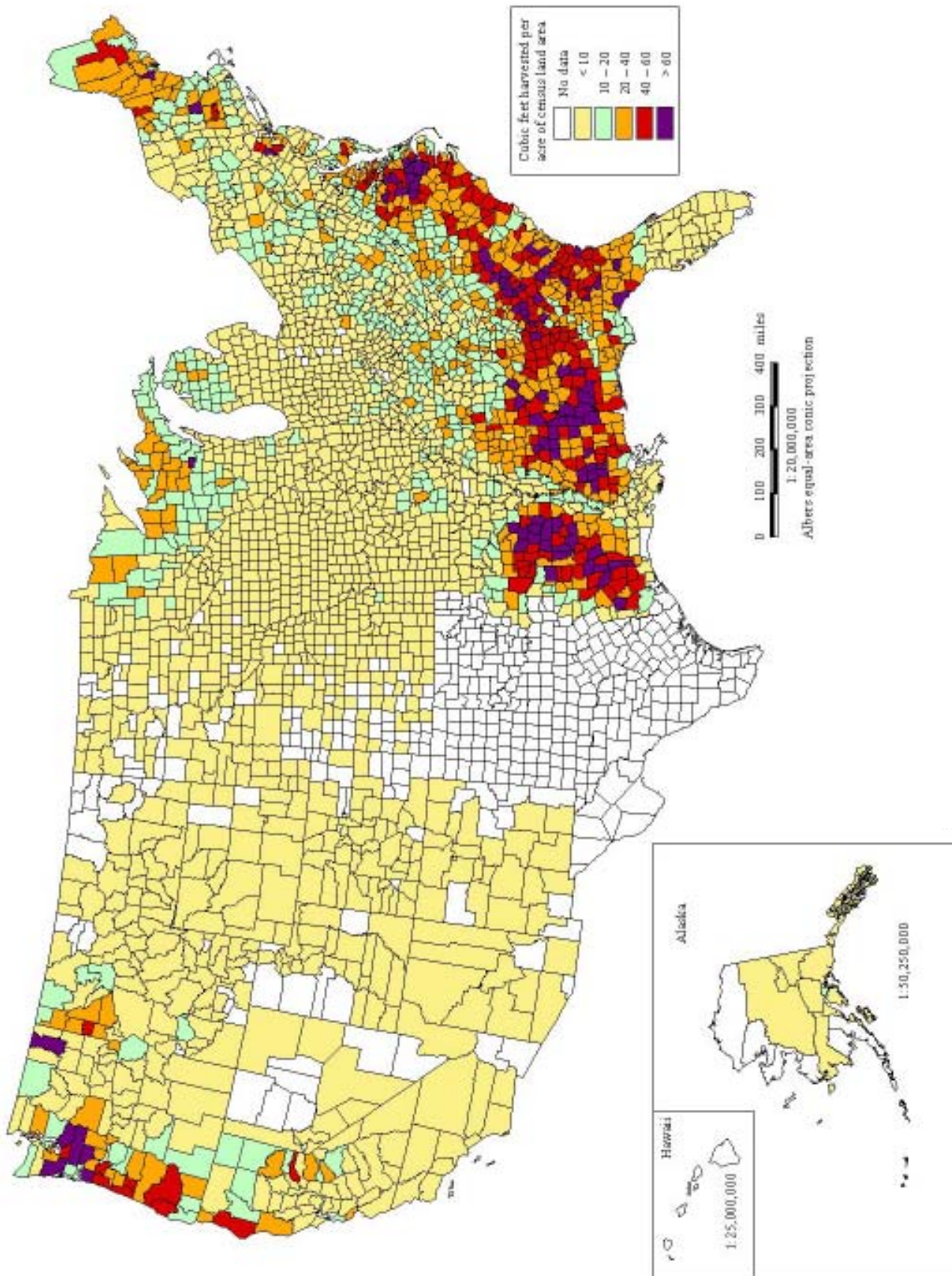


Figure 1.9.—Intensity of roundwood harvest for all products in the United States by county, 1996.

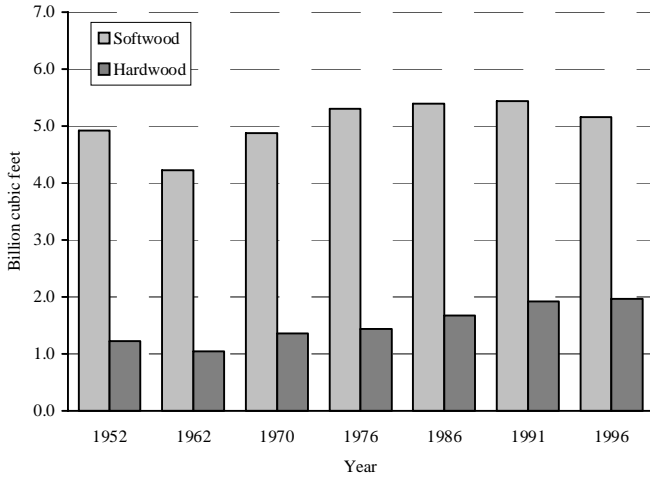


Figure 1.10—United States roundwood saw-log production by species group and year (see page 46 for references for individual years).

- The NIPF owners supplied 4.0 billion cubic feet, or 57 percent, of saw-log output. Forest industry supplied 30 percent and public lands the remaining 13 percent.
- Softwoods accounted for 72 percent of saw-log production. The loblolly-shortleaf pine group accounted for 39 percent of softwood output. The Douglas-fir and longleaf-slash pine types accounted for 17 and 10 percent, respectively.

- The red oak and white oak groups dominated hardwood saw-log output, contributing 45 percent of total hardwood production.
- Washington led the Nation in total saw-log production with 614 million cubic feet. Oregon and Georgia followed with 607 and 552 million cubic feet, respectively (fig. 1.11).
- Figure 1.12 displays county-level intensity of saw-log harvests across the United States. Counties in red and purple had harvest rates between 15 and 20, and more than 20 cubic feet per acre, respectively. The Northwest and the South were the two most intensively harvested areas for saw logs.

### Pulpwood

- Pulpwood production, which included composite panel production in the North Central Region, increased 193 million cubic feet, or 4 percent, to 5.2 billion cubic feet and accounted for 32 percent of the Nation’s total roundwood TPO.
- Softwood output declined 7 percent to 2.9 billion cubic feet (38.6 billion cords), and hardwood output increased 20 percent to 2.4 billion cubic feet (28.2 billion cords) (fig. 1.13) (see page 7).

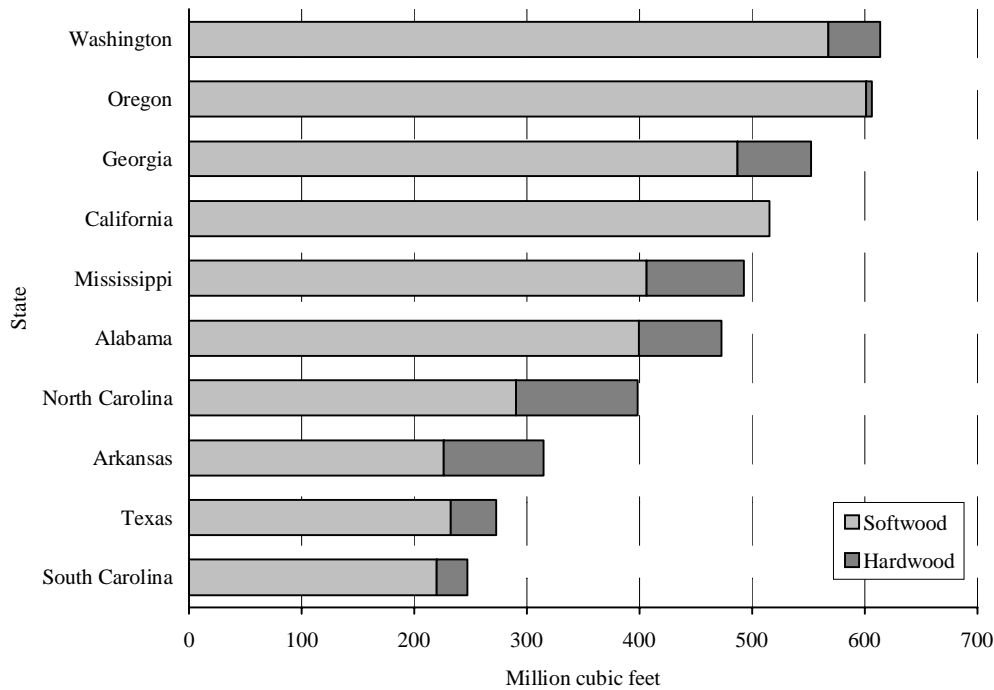


Figure 1.11—Roundwood saw-log production by State and broad species group, 1996.

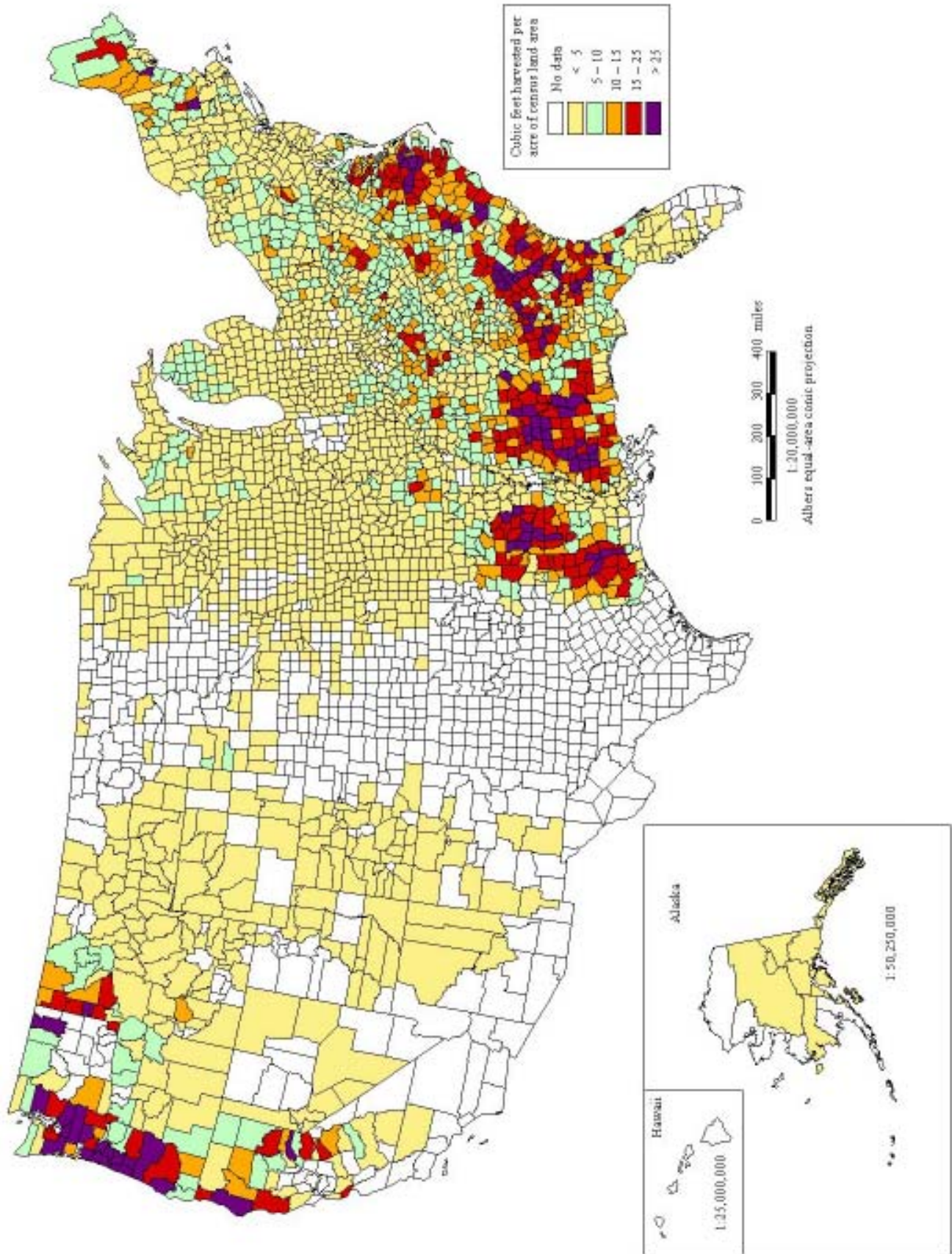


Figure 1.12—Intensity of roundwood saw-log harvest in the United States by county, 1996.

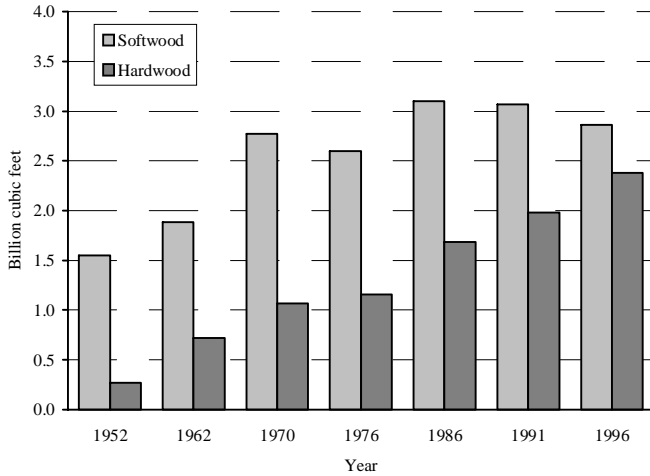


Figure 1.13—United States roundwood pulpwood production by species group and year (see page 46 for references for individual years).

- Growing-stock sources accounted for 88 percent of pulpwood production, or 4.6 billion cubic feet. For the industrial products, pulpwood typically had the highest proportion of nongrowing-stock material such as tops, limbs, and stumps.
- The NIPF owners accounted for 61 percent of pulpwood output, while forest industry lands accounted for 30 percent. Public lands supplied the remaining 9 percent.

- Softwoods accounted for 55 percent of the pulpwood production in 1996, compared with 61 percent in 1991. The loblolly-shortleaf pine and longleaf-slash pine groups made up 56 and 21 percent of softwood output, respectively.
- The proportion of pulpwood production in hardwoods continued to grow, from 15 percent in 1952 to 39 percent in 1991, and 45 percent in 1996. This represents a 20-percent increase between 1991 and 1996. Oaks accounted for 35 percent of hardwood output, sweetgum and aspen accounted for 12 and 8 percent, respectively.
- Alabama, Georgia, and Mississippi led the Nation in pulpwood production. Nine of the 10 top pulpwood-producing States were in the Southern Region (fig. 1.14).
- Figure 1.15 displays county-level intensity of roundwood harvests for pulpwood across the United States. Counties in red and purple had harvest rates between 20 and 30, and more than 30 cubic feet per acre, respectively. The upper Midwest region, the far Northeast, and the South are all intensively managed for harvest and pulpwood production.

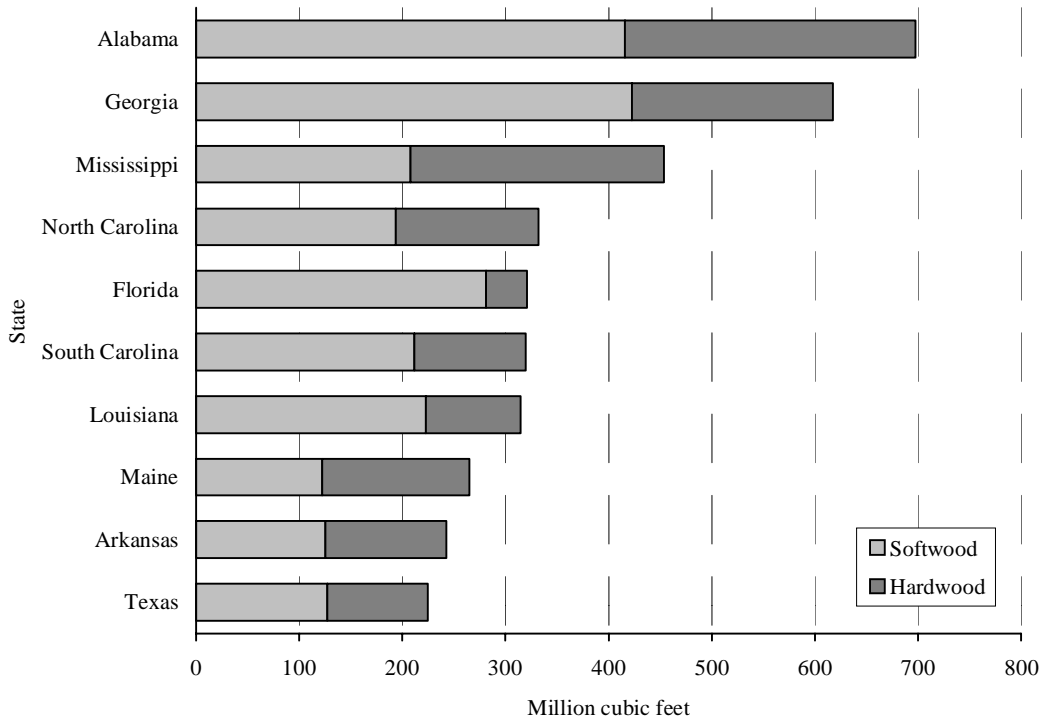


Figure 1.14—Roundwood pulpwood production by State and broad species group, 1996.

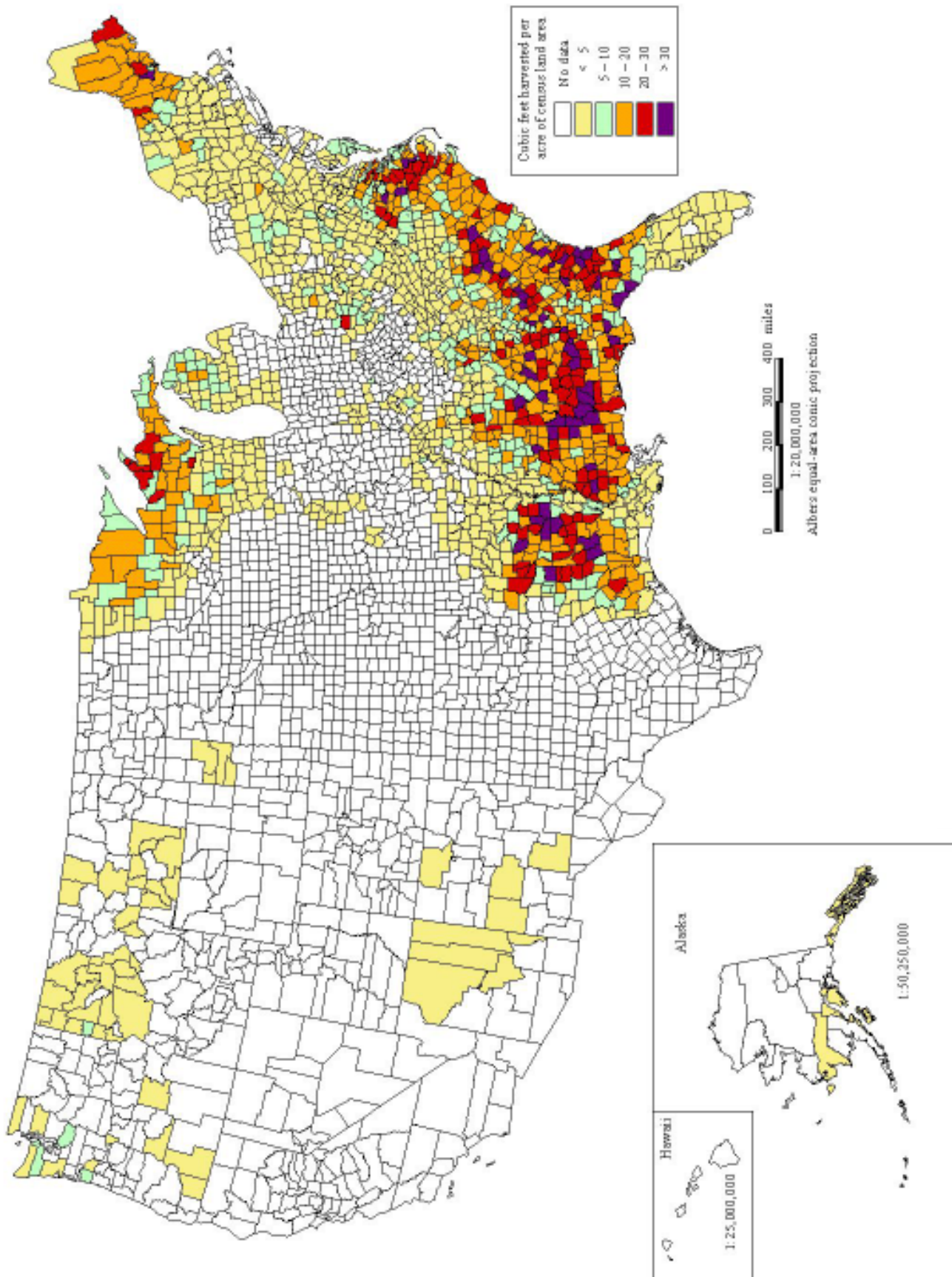


Figure 1.15—Intensity of roundwood pulpwood harvest in the United States by county, 1996.

### Veneer Logs

- Output of veneer logs in 1996 totaled 1.3 billion cubic feet, accounting for 8 percent of the Nation’s total roundwood TPO volume.
- Softwood veneer production declined 10 percent, to 1.1 billion cubic feet (6.6 billion board feet), while output of hardwood veneer logs increased 28 percent, from 123 million cubic feet in 1991 to 158 million cubic feet (977 million board feet) in 1996 (fig. 1.16).
- Approximately 95 percent of veneer-log production was from growing-stock sources.
- Fifty-two percent of veneer production came from NIPF lands, about one-third came from forest industry lands.
- The loblolly-shortleaf pine group accounted for 55 percent of softwood veneer production, while Douglas-fir from the Pacific Coast Region accounted for another 21 percent.
- Texas, Oregon, and Louisiana led the Nation in veneer-log production, accounting for 41 percent of the Nation’s total veneer output (fig. 1.17).

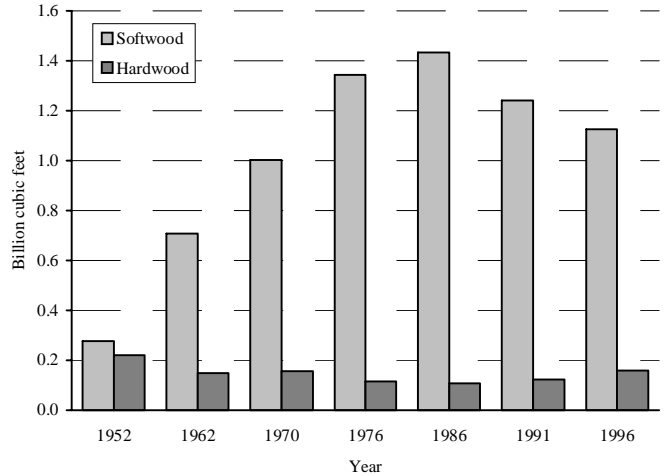


Figure 1.16—United States roundwood veneer production by species group and year (see page 46 for references for individual years).

- Figure 1.18 displays county-level intensity of roundwood harvests for veneer across the United States. Counties in red and purple had harvest rates between 5 and 10, and more than 10 cubic feet per acre, respectively. Counties in the Northwest, along with counties in Texas, Louisiana, and Arkansas, had the highest intensity of veneer harvest.

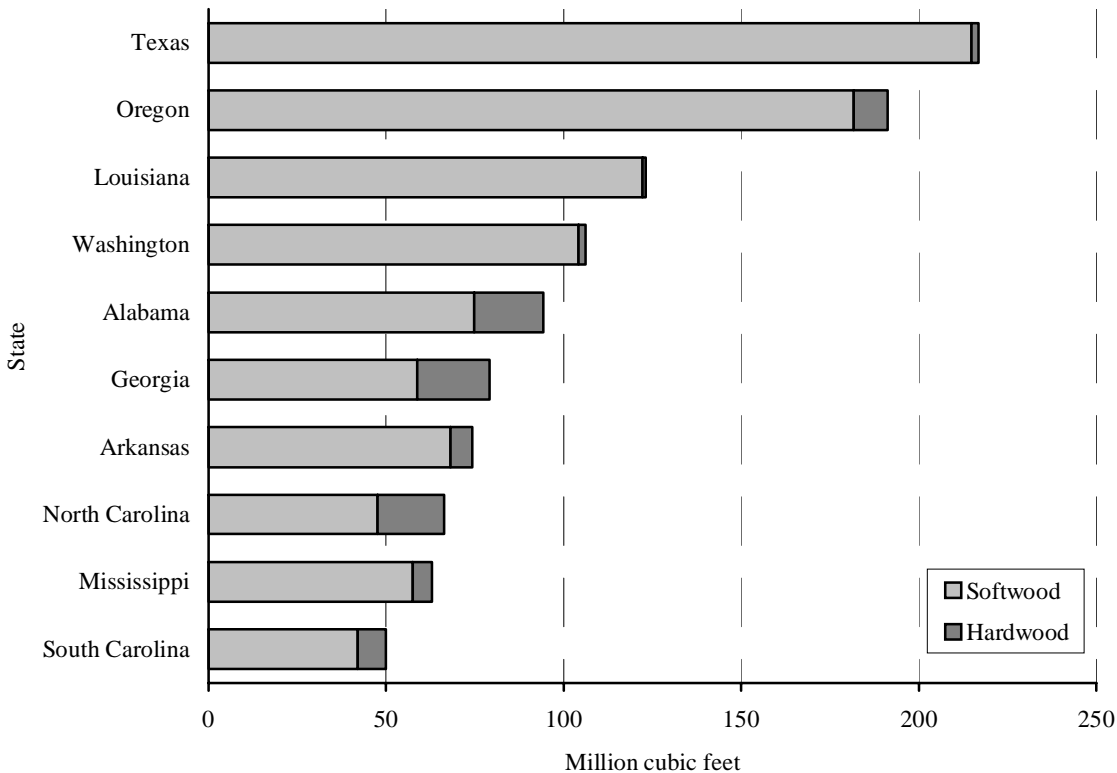


Figure 1.17—Roundwood veneer production by State and broad species group, 1996.



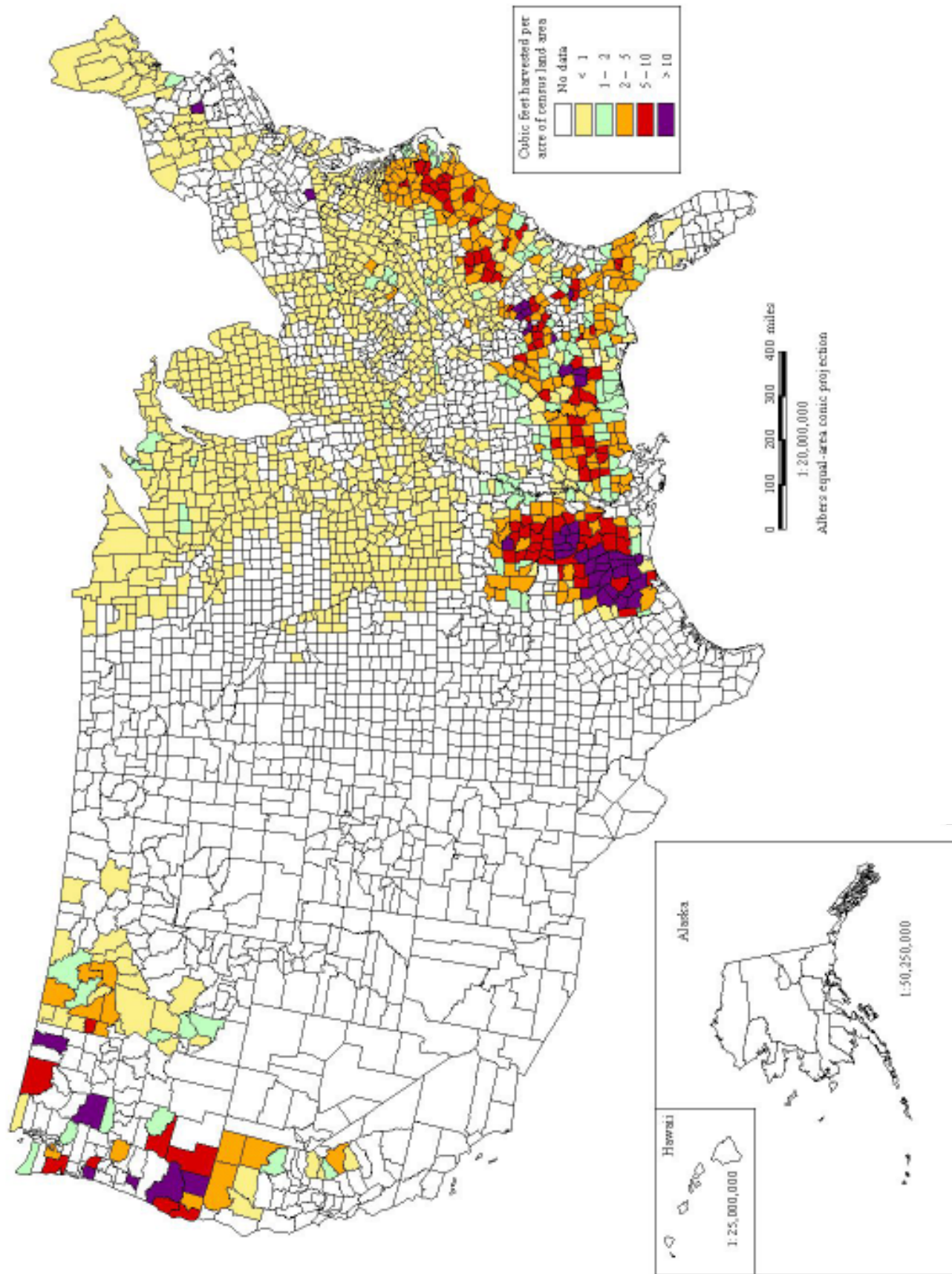


Figure 1.18—Intensity of roundwood veneer harvest in the United States by county, 1996.

### Other Industrial Products

- Roundwood harvested for other industrial products such as poles, posts, composite panels, and all other industrial uses, excluding composite panel production from the North Central Region, totaled 504 million cubic feet, a 46-percent decline from that reported in 1991. Other industrial products only accounted for 3 percent of the Nation’s total roundwood output.
- Softwood output declined 52 percent to 399 million cubic feet, while hardwood output decreased 2 percent to 105 million cubic feet (fig. 1.19).

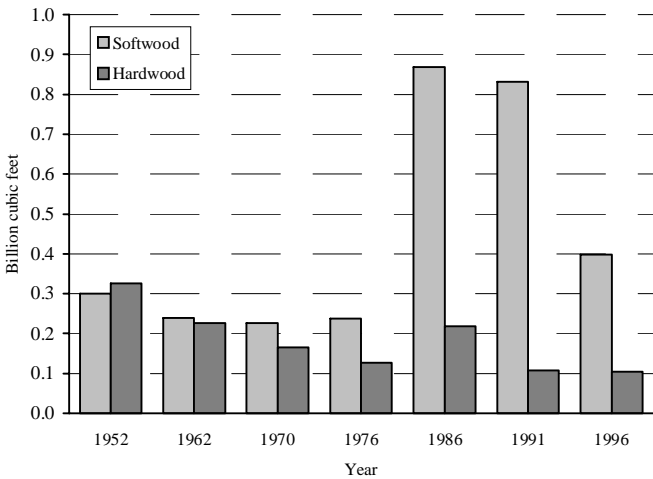


Figure 1.19—United States roundwood production for other industrial products by species group and year (see page 46 for references for individual years).

- Growing stock made up 90 percent of the other industrial output.
- Fifty-nine percent of the other industrial volume was harvested from private lands.
- The loblolly-shortleaf pine group made up 28 percent of the softwood used for other industrial products, while aspen made up 62 percent of the hardwood used for other industrial products.
- Figure 1.20 (see page 12) displays county-level intensity of roundwood harvests for other industrial products across the United States. Counties in red and purple had other industrial product harvests between 1 and 3, and more than 3 cubic feet per acre, respectively.

### Domestic Fuelwood

- Between 1991 and 1996, roundwood harvested for domestic fuelwood declined 28 percent, from 3.2 to 2.3 billion cubic feet. Despite this large drop in output, fuelwood still accounted for 14 percent of the Nation’s total roundwood production.
- Softwood fuelwood declined 19 percent to 493 million cubic feet, while hardwood fuelwood dropped 31 percent to 1.8 billion cubic feet (fig. 1.21).

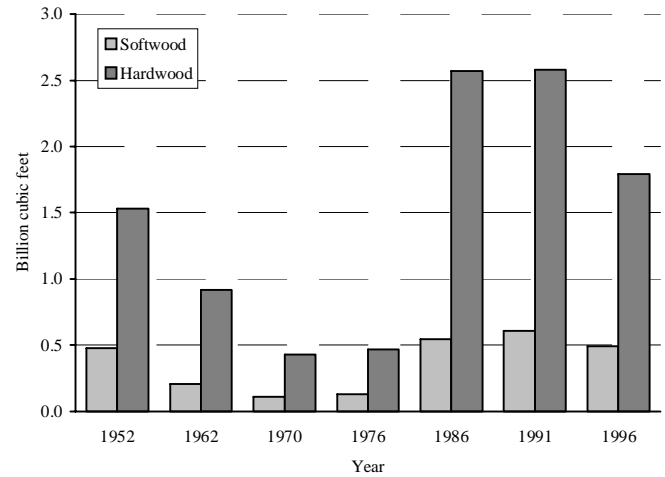


Figure 1.21—United States roundwood fuelwood production by species group and year (see page 46 for references for individual years).

- In contrast to industrial products, nongrowing-stock sources made up the majority of the fuelwood harvest, at 65 percent.
- The NIPF lands accounted for more than two-thirds of the fuelwood volume.
- Hardwood made up more than three-fourths of the total fuelwood harvested with the red oak and white oak groups making up 41 percent of the hardwood volume.
- Figure 1.22 (see page 13) displays county-level intensity of roundwood harvests for domestic fuelwood across the United States. Counties in red and purple had fuelwood harvests between 4 and 8, and more than 8 cubic feet per acre, respectively. The greatest intensity of fuelwood harvest was along the east and west coasts and population centers of the upper Midwest.

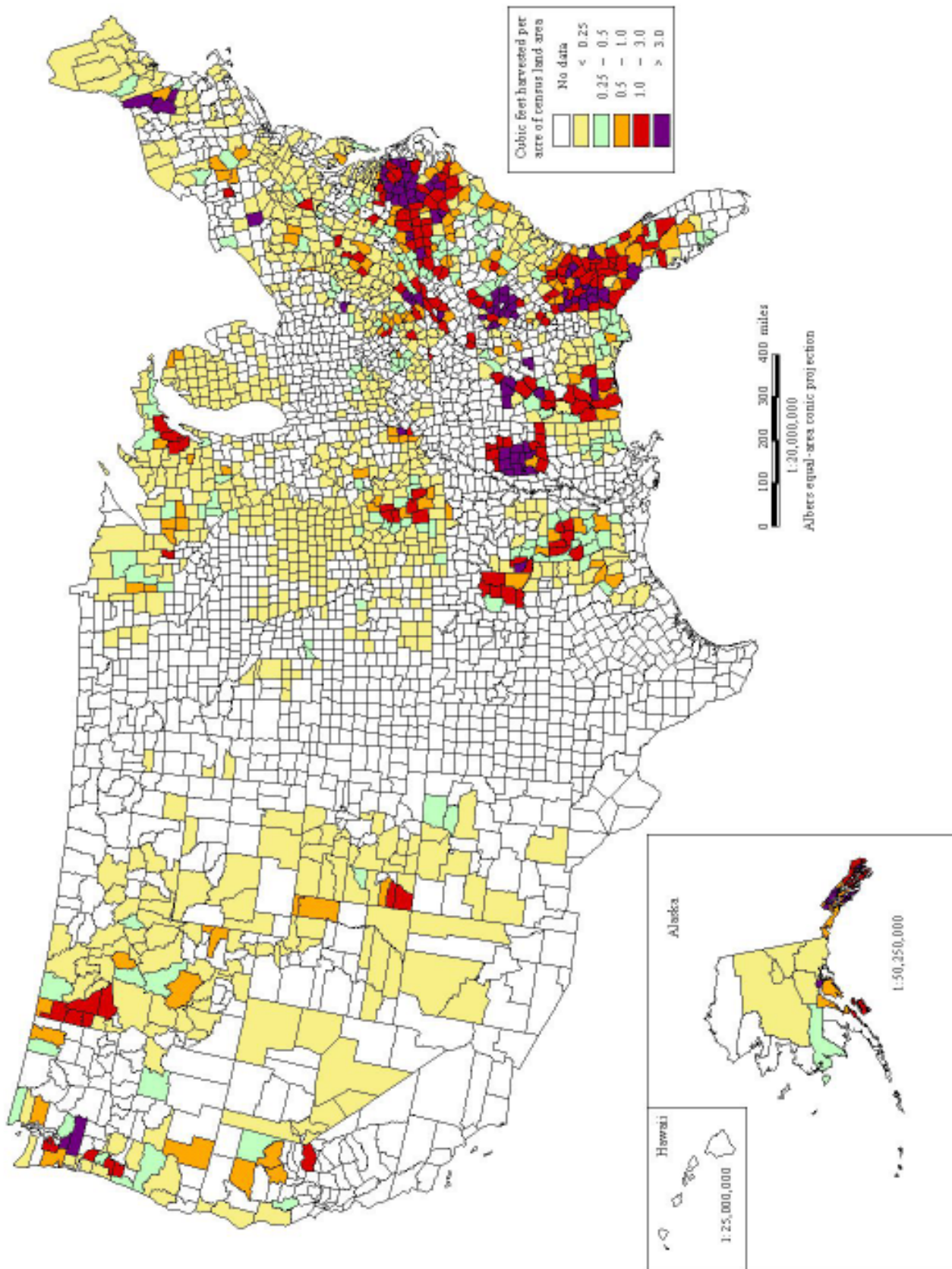


Figure 1.20—Intensity of roundwood other industrial products harvest in the United States by county, 1996.

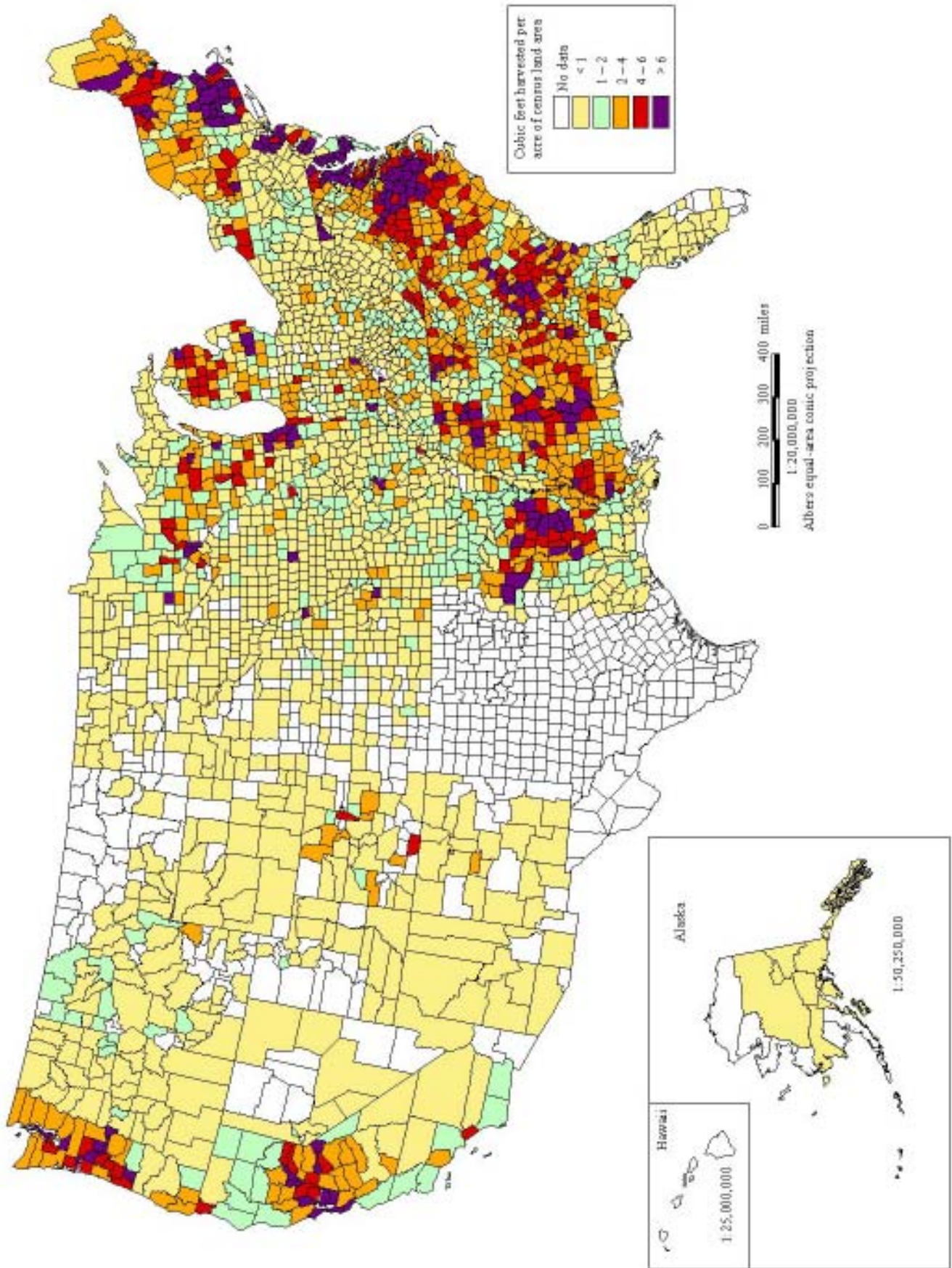


Figure 1.22—Intensity of roundwood fuelwood harvest in the United States by county, 1996.

## All Removals

- In addition to roundwood output for products, logging residues and other removals were calculated for an estimate of total removals. Total removals from all sources amounted to 21.2 billion cubic feet nationwide when combined with logging residues and other removals. This is a 7-percent decline from the 22.9 billion cubic feet of total removals in 1991.
- Logging residues from all sources amounted to 3.4 billion cubic feet, or 16 percent of total removals. Other timber removals from all sources, mostly timberland clearing for other land uses, totaled 1.4 billion cubic feet, or 7 percent of total removals (fig. 1.23).
- Georgia ranked number one in the Nation at 1.8 billion cubic feet of total removals, followed by Alabama and Mississippi at 1.6 and 1.4 billion cubic feet, respectively (fig. 1.24).

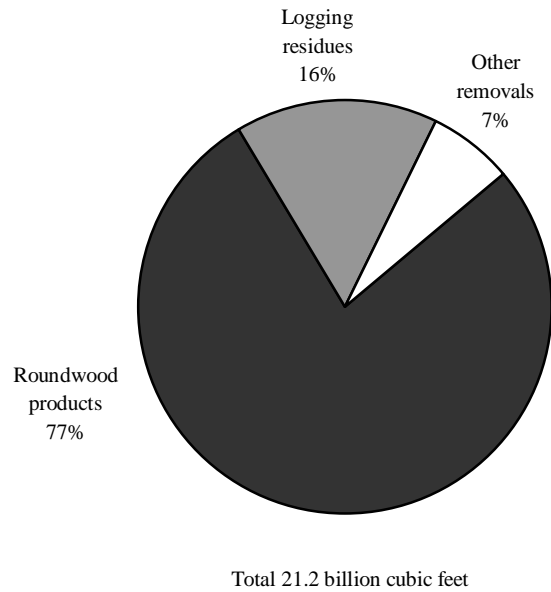


Figure 1.23—United States timber removals by source, 1996.

## Plant Byproducts

- In 1996, processing of primary products in mills nationwide generated 6.1 billion cubic feet (91.6 million dry tons) of wood and bark residues. Coarse residues from all industrial roundwood products amounted to 2.6

billion cubic feet, while bark volume totaled 1.6 billion cubic feet. Fine materials made up of sawdust and shavings accounted for 30 percent of total residues, or 1.8 billion cubic feet (fig. 1.25).

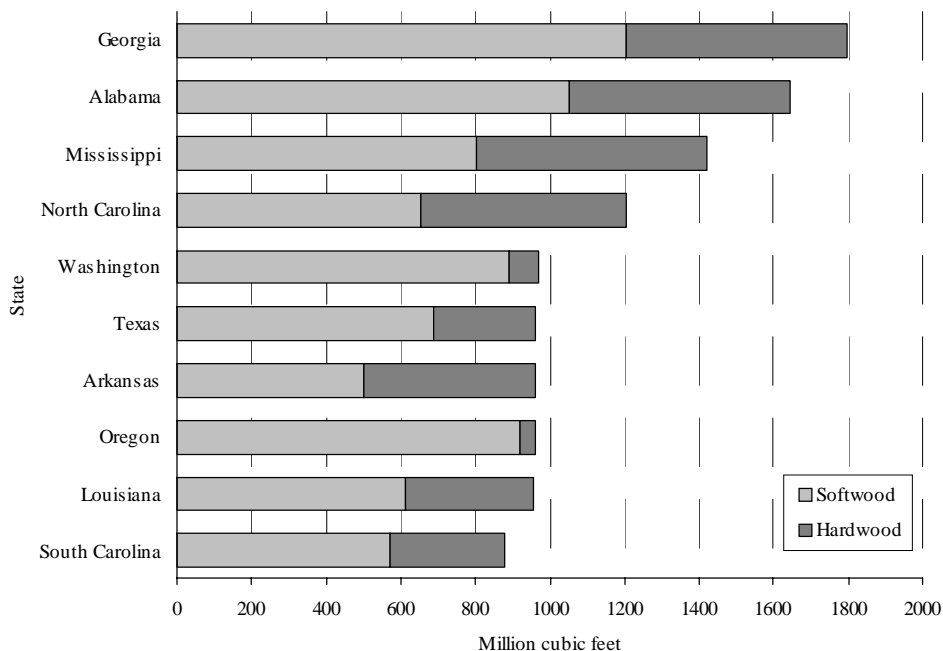


Figure 1.24—Timber removals by State and broad species group, 1996.

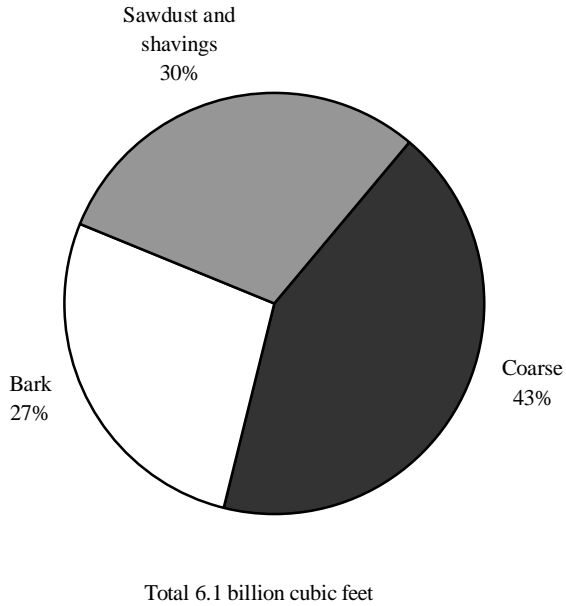


Figure 1.25—United States primary mill residue by residue type, 1996.

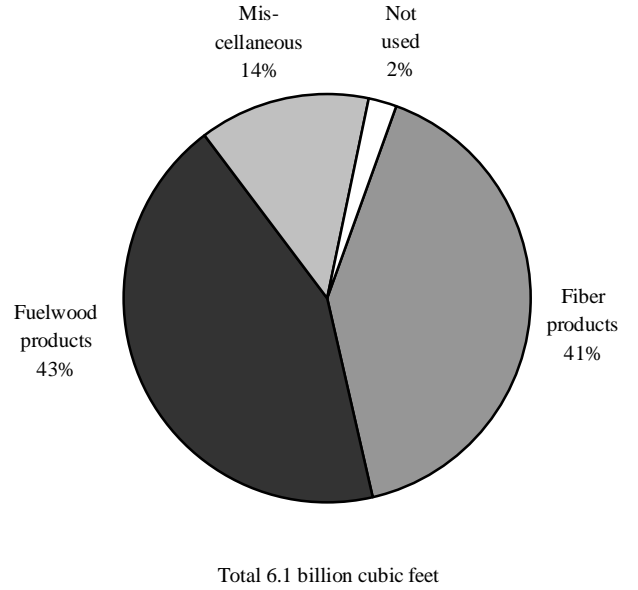


Figure 1.26—United States disposal of residue by product, 1996.

- Virtually all of the wood and bark residues were utilized; only 2 percent of the residues nationwide were not used for a byproduct, while 43 percent of the residues were used for industrial or domestic fuelwood (fig. 1.26).
- More than 2.0 billion cubic feet, or 78 percent, of the coarse residues were used for fiber products. Most of the bark was used as industrial fuel or miscellaneous products, while 55 percent of the fine residues, or sawdust and shavings, were used as industrial fuel.



## Chapter 2

# The Northeast Region

Eric H. Wharton and Richard H. Whidman<sup>2</sup>

### Output of Timber Products

- In 1996, timber product output (TPO) from the Northeast Region (Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, and West Virginia) totaled 1.8 billion cubic feet. This region with 16 percent of the Nation's timberland area accounted for 11 percent of the Nation's roundwood production.
- Between 1991 and 1996, TPO from roundwood declined by 20 percent, from 2.2 to 1.8 billion cubic feet.
- The Northeast Region primarily produced hardwood products. Output of hardwood roundwood products declined 21 percent to 1.2 billion cubic feet, while output of softwood roundwood products declined by 16 percent to 545 million cubic feet (fig. 2.1).

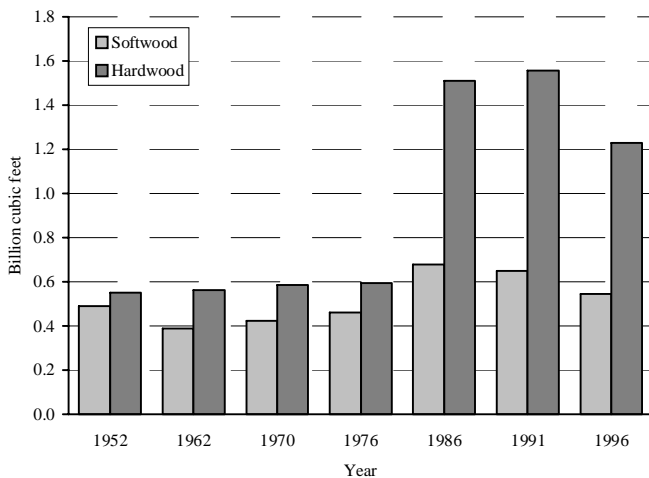
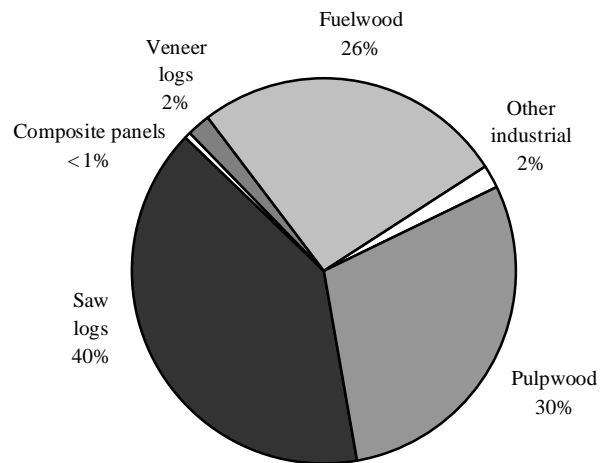


Figure 2.1—Northeast roundwood production for all products by species group and year (see page 46 for references for individual years).

- Saw logs and pulpwood were the principal roundwood products in 1996. The combined output of these two products totaled 1.2 billion cubic feet, and accounted for 70 percent of the region's total roundwood output (fig. 2.2).



Total 1.8 billion cubic feet

Figure 2.2—Northeast roundwood production by type of product, 1996.

- Growing-stock volume from timberland sources, which included sawtimber and poletimber, accounted for 65 percent of total roundwood output. Nongrowing stock or other sources contributed an estimated 623 million cubic feet, or 35 percent of total roundwood output (fig. 2.3).
- Compared to the Nation, nonindustrial private forest (NIPF) lands in the Northeast accounted for a greater proportion of total output than any other region. Almost 73 percent, or 1.3 billion cubic feet, of the total roundwood output came from these lands. Forest industry lands contributed 344 million cubic feet, or 19 percent, of the output. Public lands made up the remaining 8 percent, or 137 million cubic feet (fig. 2.4).

<sup>2</sup> Foresters, USDA Forest Service, Northeast Research Station, Newtown Square, PA, respectively.



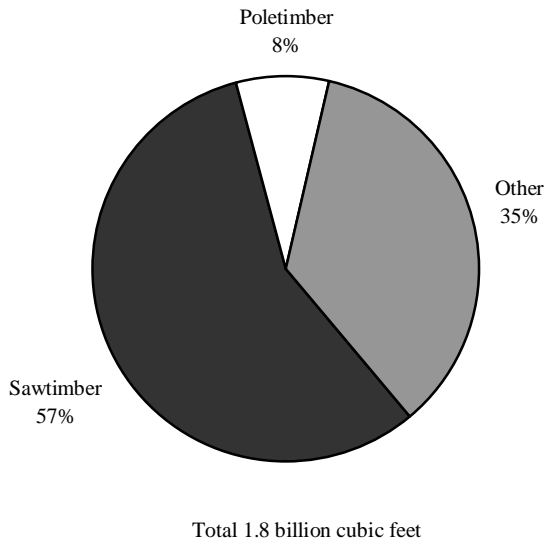


Figure 2.3—Northeast roundwood production by source, 1996.

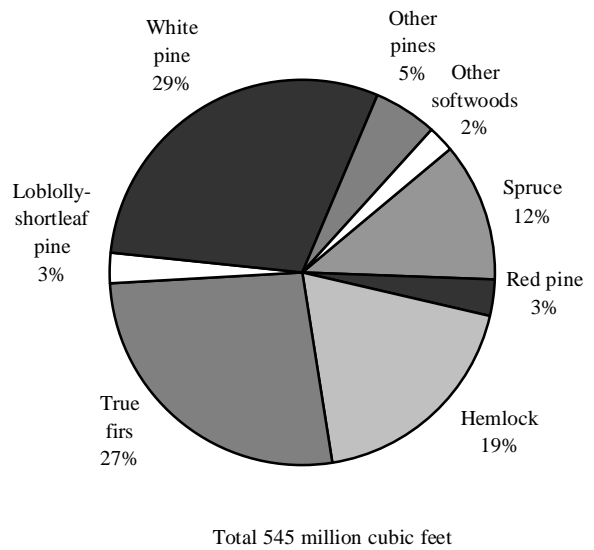


Figure 2.5—Northeast roundwood production by softwood species group, 1996.

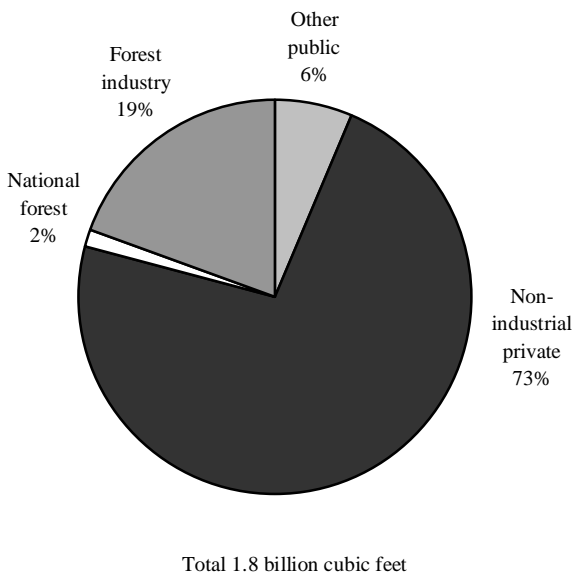


Figure 2.4—Northeast roundwood production by ownership, 1996.

- Fir, hemlock, and white pine were the leading softwood species, accounting for 75 percent, or 409 million cubic feet, of the total softwood output. However, all softwoods combined accounted for only 31 percent of total output (fig. 2.5).

- Hardwood output was fairly evenly distributed among a number of species. However, select red oak output was double that of other species, accounting for almost 200 million cubic feet, or 16 percent, of total hardwood output. All oaks combined accounted for 31 percent of total hardwood output. Hard maples (primarily sugar maple) and yellow-poplar each accounted for 7 percent, and soft maples (primarily red maple) accounted for 6 percent of hardwood output (fig. 2.6).

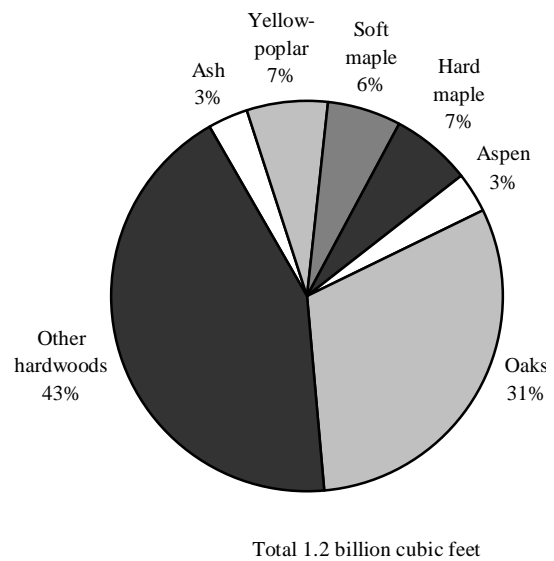


Figure 2.6—Northeast roundwood production by hardwood species group, 1996.

## Saw Logs

- Saw logs accounted for 40 percent, or 714 million cubic feet, of the region's total roundwood products. Output of softwood saw logs declined by 12 percent, from 295 to 259 million cubic feet (1.6 billion board feet). The output of hardwood saw logs, however, not only increased, but was almost double that of softwoods. Hardwood saw-log products increased 19 percent, from 382 to 455 million cubic feet (3.0 billion board feet) (fig. 2.7).

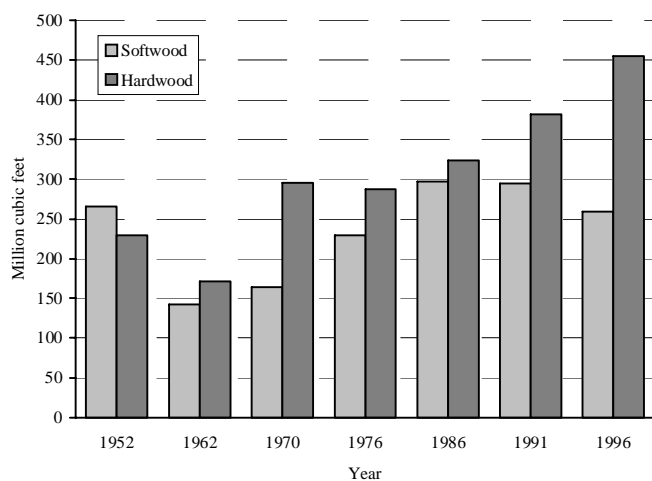


Figure 2.7—Northeast roundwood saw-log production by species group and year (see page 46 for references for individual years).

- More than 85 percent of total saw-log production came from growing stock. Softwood growing stock accounted for 80 percent of softwood saw-log production, while hardwood growing stock accounted for 88 percent of hardwood saw-log production.
- In terms of ownership, NIPF owners comprised the bulk of saw-log output. They accounted for 76 percent of total saw-log output, or 540 million cubic feet (3.5 million board feet). Most of the remainder came from forest industry lands, 131 million cubic feet (841 million board feet).
- Oaks, maples, and yellow-poplar accounted for most of the hardwood saw-log output. Fir and white pine accounted for most of the softwood saw-log output. Hemlock, a leading softwood species in terms of total output, accounted for less in terms of saw-log output because it is not used as frequently for saw logs.

- Maine led the Northeast in saw-log production, with over 200 million cubic feet (1.3 million board feet), or 28 percent. Two other States contributed significantly—Pennsylvania, 20 percent, and West Virginia, 17 percent. These three States accounted for 65 percent of the region's saw-log output.

## Pulpwood

- Pulpwood production increased very little between 1991 and 1996, nearly 2.0 million cubic feet. It increased from 522 to 524 million cubic feet, less than 1 percent. However, it accounted for 30 percent of the region's total roundwood output. Softwood pulpwood output declined by 32 million cubic feet, or 13 percent, while hardwood pulpwood output made up for that, as it increased by an almost equal amount, 34 million cubic feet, or 12 percent (fig. 2.8).

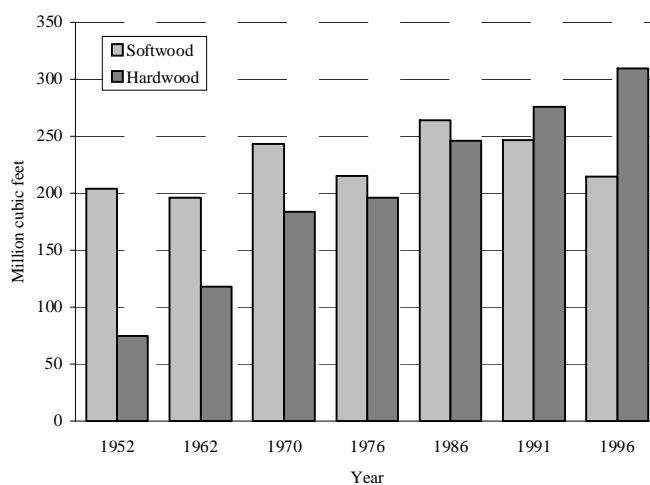


Figure 2.8—Northeast roundwood pulpwood production by species group and year (see page 46 for references for individual years).

- Growing stock accounted for 80 percent of the pulpwood production. Approximately 119 million cubic feet (1.4 million cords) came from poletimber-sized trees.
- Almost all of the pulpwood output came from privately owned lands. The NIPF owners accounted for 65 percent of pulpwood output, and forest industry lands accounted for 29 percent.
- Softwoods accounted for 41 percent and hardwoods accounted for 59 percent of total pulpwood output. Hemlock was the leading softwood species, accounting for 24 percent of the softwood pulpwood output.

- The greatest proportion of pulpwood production in the Northeast was centered in a single State. Maine accounted for 51 percent of the region’s total pulpwood output, or 265 million cubic feet (3.1 million cords).

### Veneer Logs

- Veneer logs were a highly valuable, but lesser product in the Northeast. Output of veneer logs in 1996 totaled 33 million cubic feet, accounting for only 2 percent of the region’s total roundwood volume. Almost all (92 percent) was hardwood veneer, which increased 41 percent to 30 million cubic feet (198 million board feet) (fig. 2.9).

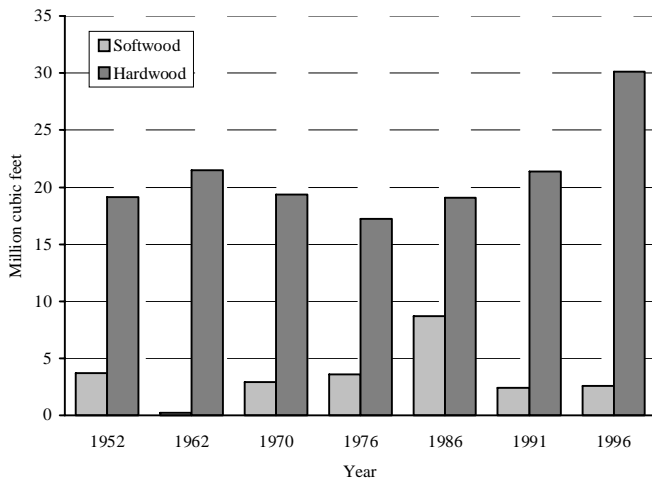


Figure 2.9—Northeast roundwood veneer production by species group and year (see page 46 for references for individual years).

- Veneer logs came mostly from growing-stock sources, about 88 percent. The production of veneer requires sawtimber-sized trees or large, straight pole-sized trees. Of the growing stock used for veneer logs, 99 percent came from sawtimber.
- Almost all veneer-log output came from private lands. More than 87 percent of the veneer production came from the NIPF ownership class and 9 percent came from forest industry lands.
- Select red oaks and yellow-poplar accounted for 33 percent and 20 percent of total veneer production, respectively. Combined, these two species groups accounted for 53 percent of veneer output, or 17 million cubic feet (114 million board feet).

- In the Northeast, most veneer-log production came from New Hampshire, with 12 million cubic feet (80 million board feet), or 37 percent, of the region’s veneer-log output. West Virginia followed with almost 7 million cubic feet (43 million board feet), or 20 percent, of the veneer production.

### Other Industrial Products

- Roundwood harvested for other industrial products such as poles, posts, composite panels, and all other industrial uses totaled 35 million cubic feet, a 23-percent decline from that reported in 1991. Other industrial products only accounted for 2 percent of the region’s total roundwood output.
- Softwood output declined 35 percent to 15 million cubic feet, and hardwood output declined 10 percent to 20 million cubic feet (fig. 2.10).

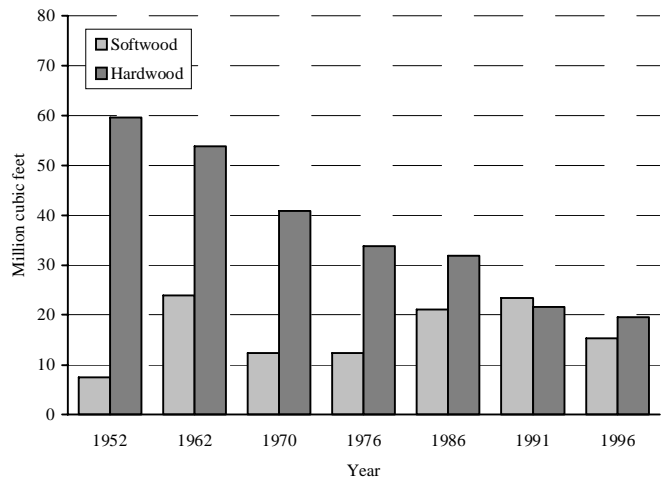


Figure 2.10—Northeast roundwood production for other industrial products by species group and year (see page 46 for references for individual years).

- Growing stock made up 78 percent of the other industrial output. Sixty-eight percent of the other industrial volume was harvested from NIPF lands.
- Of the softwoods, eastern redcedar, loblolly pine, and shortleaf pine were used primarily for posts, poles, and pilings. All oaks were also used significantly for these products. For composite products, though, select red oak and maples were primarily used.

### Domestic Fuelwood

- Between 1991 and 1996, roundwood harvested for domestic fuelwood was cut in half, declining from 940 to 467 million cubic feet. Despite this large drop in output, fuelwood still accounted for 26 percent of the region’s total roundwood production. Softwood fuelwood declined 37 percent to 53 million cubic feet, while hardwood fuelwood dropped 52 percent to 414 million cubic feet (fig. 2.11).

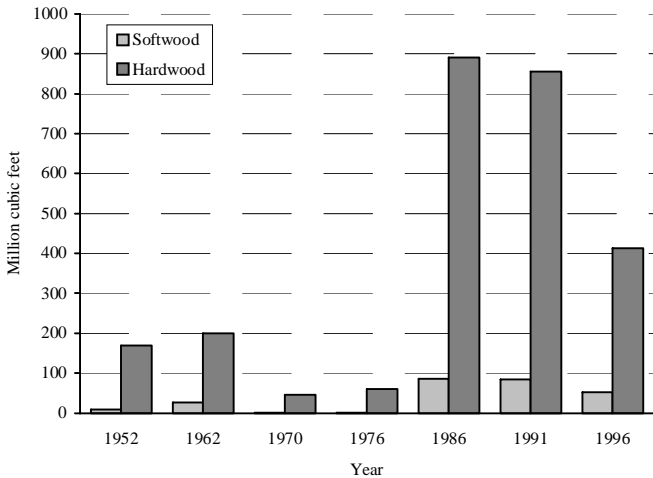


Figure 2.11—Northeast roundwood fuelwood production by species group and year (see page 46 for references for individual years).

- At 87 percent, nongrowing-stock sources made up the majority of the fuelwood harvest, or 404 million cubic feet (5.1 million cords). Within growing-stock sources, which accounted for 63 million cubic feet (783 million cords), 83 percent came from sawtimber-sized trees.
- The NIPF lands accounted for 77 percent of the fuelwood volume. For fuelwood, the second highest volumes came from other public lands (State, county, and municipal), with 12 percent of total fuelwood output.
- Hardwoods made up 89 percent of the total fuelwood harvested. Within this broad species group, select red oak was the single species group used most for fuelwood, at 85 million cubic feet (1.1 billion cords).

### All Removals

- Roundwood output for products, logging residues, and other removals combined put total removals from all sources at 2.5 billion cubic feet in the Northeast.

- Logging residues from all sources amounted to 714 million cubic feet, or 29 percent, of total removals, while other removals from all sources totaled 11 million cubic feet, only 1 percent of total removals (fig. 2.12).

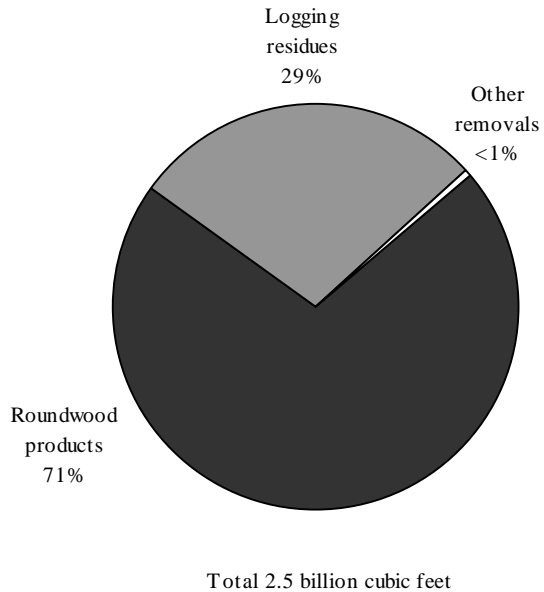


Figure 2.12—Northeast timber removals by source, 1996.

- Within the region, Maine ranked first with 764 million cubic feet of total removals. Four States, while significantly trailing Maine, had similar levels of total removals: Pennsylvania, 380 million cubic feet; New York, 303 million cubic feet; West Virginia, 277 million cubic feet; and New Hampshire, 246 million cubic feet. No Northeastern State made the top 10 nationwide, but the region’s leading State, Maine, ranked twelfth.

### Plant Byproducts

- In 1996, processing of primary products in Northeastern mills generated 404 million cubic feet (6.1 million dry tons) of wood and bark residues. Coarse residues from all industrial roundwood products amounted to 188 million cubic feet, or 46 percent, of total residues. Collectively, sawdust and shavings amounted to 137 million cubic feet, or 34 percent, of total residues. Bark volume totaled 79 million cubic feet, or 20 percent, of total residues (fig. 2.13).

- Virtually all the wood and bark residues were used, with only 7 percent of the residues in the Northeast not used for a product. Almost all that were used for fiber products came from coarse residues, 91 million cubic feet, or 92 percent. Both fine residues (sawdust and

shavings) and bark were mostly used for industrial fuel or miscellaneous products such as livestock bedding and mulch. Altogether, 24 percent of the total residues were used for fiber products, 33 percent for industrial or domestic fuelwood, and miscellaneous products accounted for 36 percent (fig. 2.14).

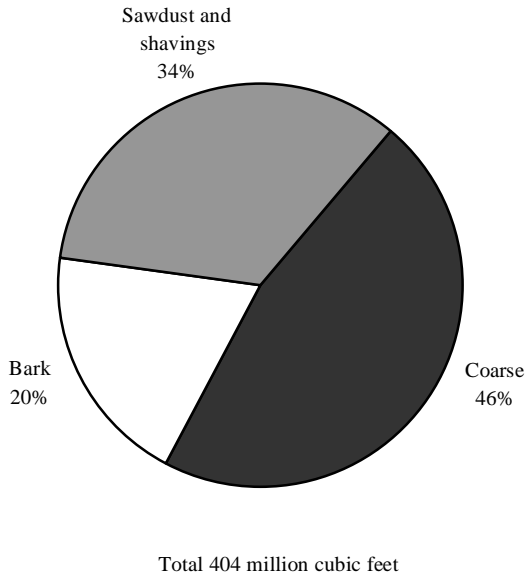


Figure 2.13—Northeast primary mill residue by residue type, 1996.

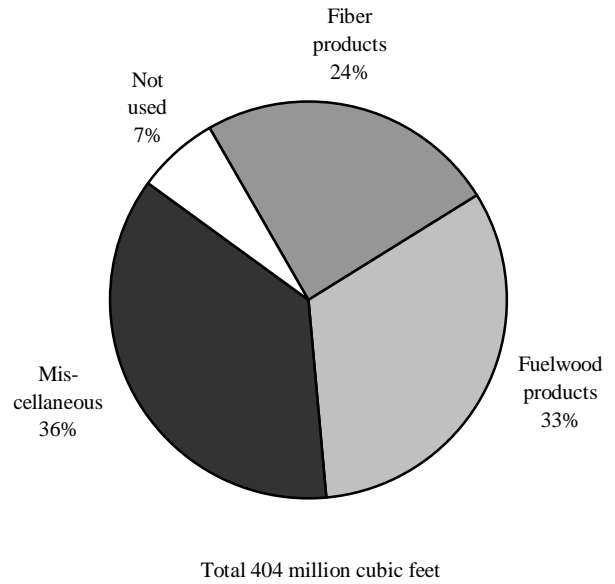


Figure 2.14—Northeast disposal of residue by product, 1996.

# Chapter 3

## The North Central Region

Dennis May and Ron Piva<sup>3</sup>

### Output of Timber Products

- The North Central Region (Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, Ohio, and Wisconsin) produced 1.7 billion cubic feet of roundwood products in 1996. Like the Northeast Region, this region accounted for 16 percent of the Nation's timberland and supplied 11 percent of the total roundwood output for the United States in 1996.
- The volume of roundwood products produced in the North Central Region declined by 10 percent between 1991 and 1996, from 1.9 to 1.7 billion cubic feet, due mostly to declining residential fuelwood use (fig. 3.1).

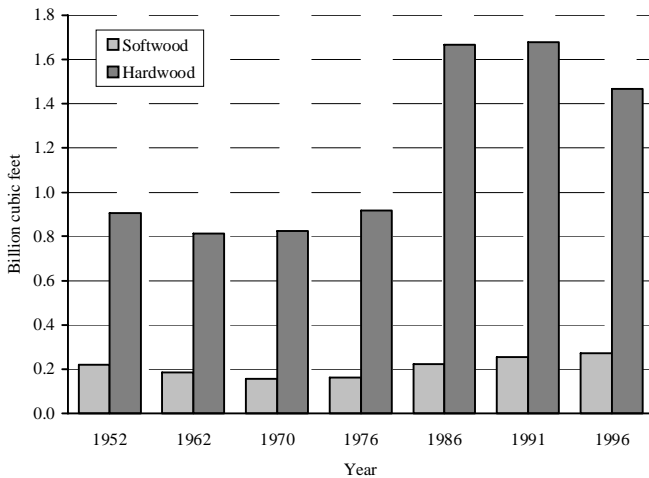


Figure 3.1—North Central roundwood production for all products by species group and year (see page 46 for references for individual years).

- Since 1991, hardwood output declined by 13 percent to 1.5 billion cubic feet; hardwoods still comprised 84 percent of the total roundwood production. Softwood use, with the remaining 16 percent of the total roundwood output, increased by 6 percent to 271 million cubic feet.

- Saw logs, pulpwood, and composite products were the principal roundwood products in 1996. Combined output of these products totaled 1.3 billion cubic feet and accounted for 75 percent of the region's total roundwood output (fig. 3.2).

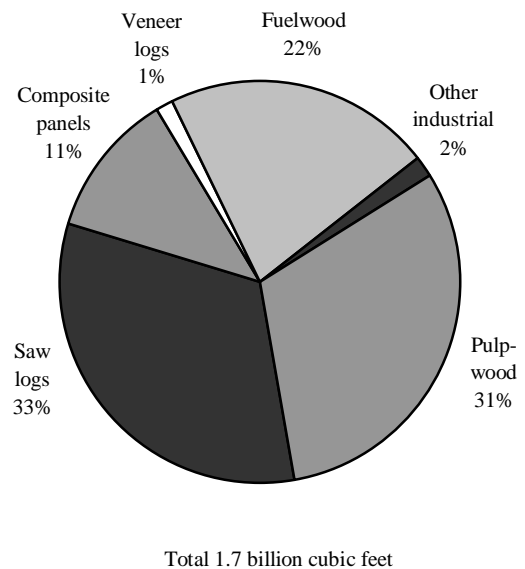


Figure 3.2—North Central roundwood production by type of product, 1996.

- Almost three-fourths of the total roundwood output, or 1.3 billion cubic feet, came from growing-stock sources (fig. 3.3).
- Nonindustrial private forest (NIPF) lands accounted for 68 percent of the total roundwood produced, or 1.2 billion cubic feet. Public lands supplied an additional 24 percent of the total roundwood produced and forest industry the remaining 8 percent (fig. 3.4).
- The red pine and jack pine groups accounted for 29 and 28 percent of the softwood roundwood produced, respectively (fig. 3.5).

<sup>3</sup> Program Manager and Forester, USDA Forest Service, North Central Research Station, St. Paul, MN, respectively.

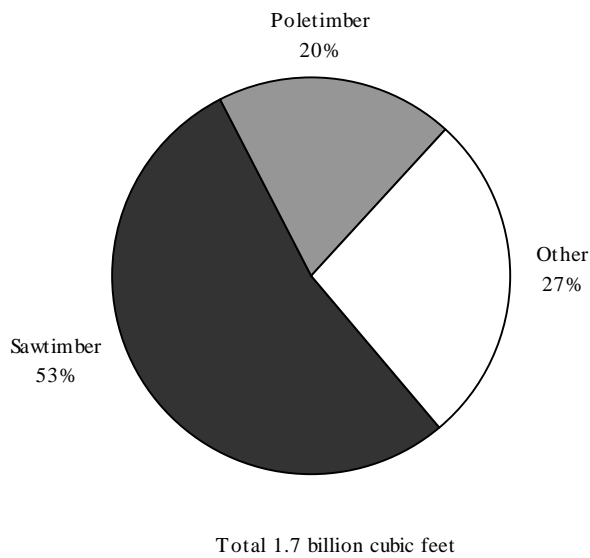


Figure 3.3—North Central roundwood production by source, 1996.

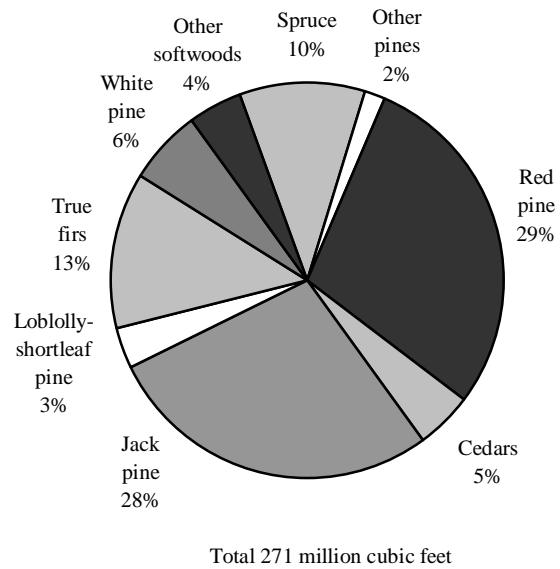


Figure 3.5—North Central roundwood production by softwood species group, 1996.

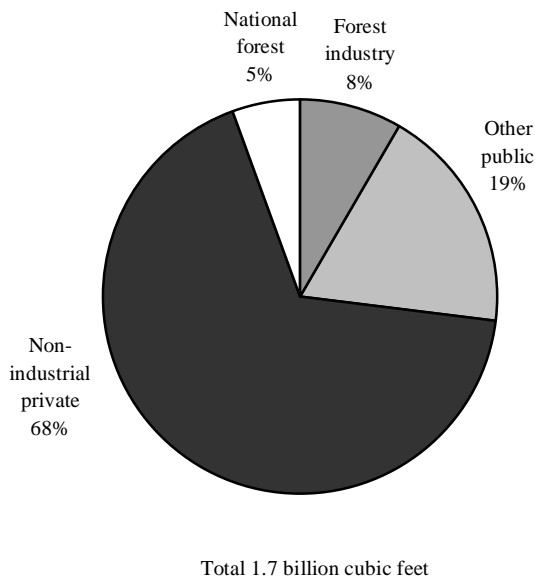


Figure 3.4—North Central roundwood production by ownership, 1996.

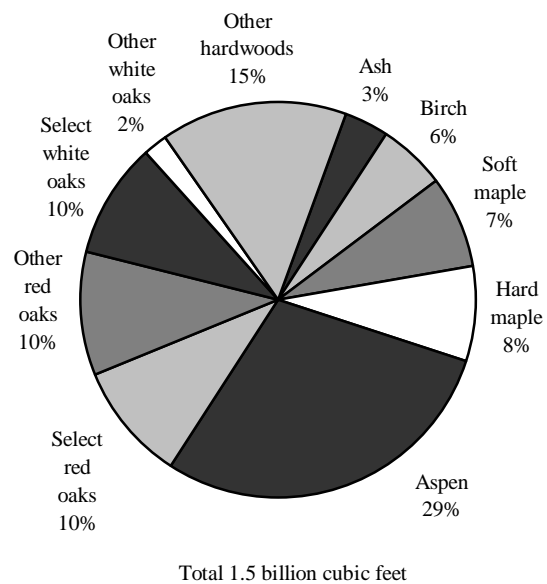


Figure 3.6—North Central roundwood production by hardwood species group, 1996.

- The major hardwood species groups harvested for products in 1996 were: aspen, which accounted for 29 percent of the region's total roundwood output; red oaks, 20 percent; white oaks, 12 percent; hard maple, 8 percent; and soft maple, 7 percent (fig. 3.6).
- Wisconsin was the leading producer of roundwood products in 1996, with a total roundwood output of 435 million cubic feet, followed by Michigan with 416 million cubic feet, and Minnesota with 348 million cubic

feet. These three States accounted for 69 percent of the North Central Region's total roundwood production.

### Saw Logs

- Roundwood production for saw logs in the North Central Region totaled 566 million cubic feet, or 3.3 billion board feet, in 1996; making up one-third of the total roundwood output for the region. The region's saw-log production accounted for 8 percent of the Nation's total saw-log production in 1996.

- Output of saw logs increased 11 percent, from 510 million cubic feet in 1991 to 566 million cubic feet in 1996. Softwood saw-log production increased 14 percent between 1991 and 1996, and hardwood saw-log production increased 10 percent during the same period (fig. 3.7).

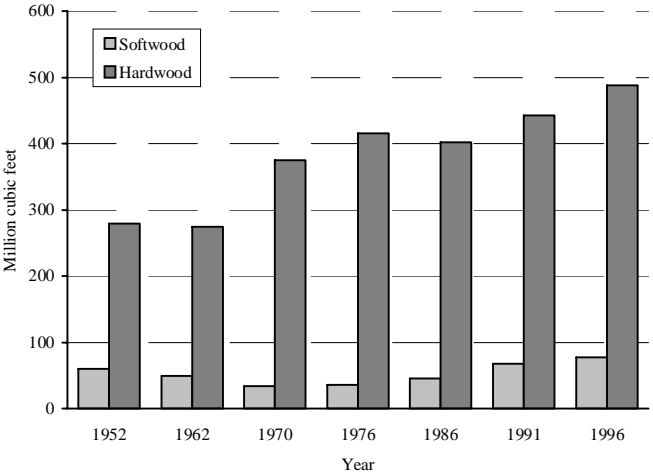


Figure 3.7—North Central roundwood saw-log production by species group and year (see page 46 for references for individual years).

- Growing stock accounted for 91 percent, or 516 million cubic feet, of the saw-log production in 1996.
- The NIPF owners supplied 427 million cubic feet, or 75 percent, of saw-log volume for the North Central Region. Public lands provided an additional 19 percent and forest industry produced the remaining 6 percent.
- Softwoods accounted for 14 percent, or 77 million cubic feet, of the saw-log production. The predominate softwood species cut was red pine with 41 percent of the region’s total softwood output.
- The red oak group, with 161 million cubic feet, comprised one-third of the hardwood saw-log volume harvested. The white oak group and the aspens were the next important species in the region for saw-log production from hardwoods with 15 and 12 percent, respectively.
- Missouri, with 121 million cubic feet, was the leading producer of saw logs in 1996, accounting for 21 percent of the region’s total saw-log output. Michigan and Wisconsin each accounted for 20 percent of the region’s total saw-log output, producing 112 and 113 million cubic feet, respectively.

**Pulpwood and Composite Products**

- Roundwood production for pulpwood and composite products totaled 739 million cubic feet (9.3 million standard cords) in the North Central Region in 1996. These products accounted for 42 percent of the region’s total roundwood production in 1996, and 14 percent of the Nation’s total output for pulpwood and wood composite products.
- The North Central Region supplied 55 percent of the Nation’s roundwood output for composite products alone.
- Output of pulpwood and composite products increased 17 percent from 1991 to 1996 compared to a national increase of 4 percent. Much of this increase was due to an increase in the production at composite product plants.
- Growing stock accounted for 638 million cubic feet, or 86 percent, of the pulpwood and composite products production.
- The NIPF owners supplied 366 million cubic feet, or 50 percent, of pulpwood and composite products volume for the North Central Region. Public lands provided an additional 36 percent and forest industry produced the remaining 14 percent.
- Softwood production for pulpwood and composite products increased 16 percent from 1991 to 1996. Softwoods accounted for 166 million cubic feet, or 22 percent, of the pulpwood and composite products production (fig. 3.8). Red and jack pine made up 55 percent of the region’s total softwood output.

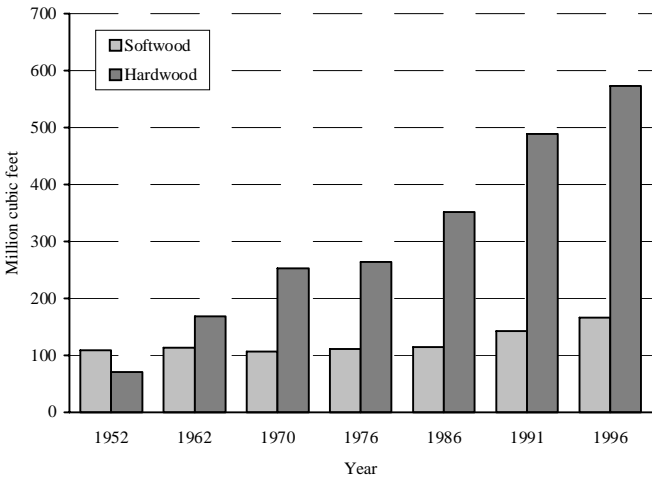


Figure 3.8—North Central roundwood pulpwood and composite panel production by species group and year (see page 46 for references for individual years).



- Hardwood production increased 17 percent from 1991 to 1996. Aspen alone accounted for 46 percent, or 338 million cubic feet, of the region's total roundwood output for pulpwood and composite products. Hard and soft maples were the second and third most important hardwoods with 13 percent of the total output and a combined volume of 98 million cubic feet.
- Wisconsin with 233 million cubic feet, Minnesota with 228 million cubic feet, and Michigan with 224 million cubic feet were the major producers of roundwood for pulpwood and composite products in 1996. Together, these States supplied almost 93 percent of the region's roundwood for pulpwood and composite products production.

### Other Industrial Products

- Roundwood harvested in 1996 in the North Central Region for other industrial roundwood products such as veneer, cooperage, poles, posts, and cabin logs totaled 57 million cubic feet, a 23-percent increase from the volume reported in 1991. Other industrial roundwood products accounted for 3 percent of the region's total roundwood output.
- Softwood output increased 5 percent to 12 million cubic feet, while hardwood output increased 29 percent to 45 million cubic feet (fig. 3.9).

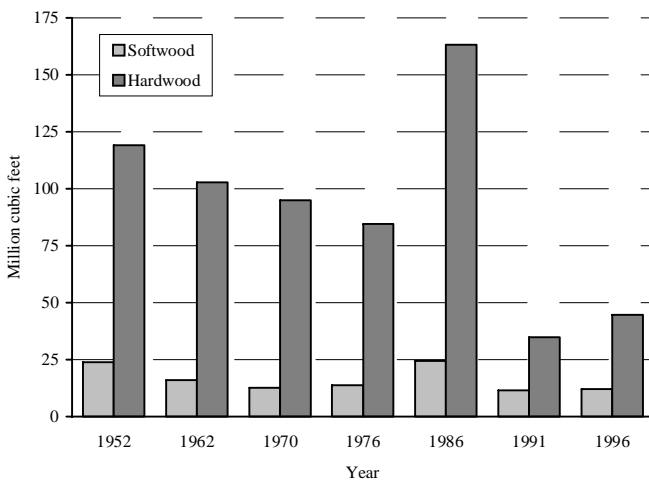


Figure 3.9—North Central roundwood veneer and other industrial production by species group and year (see page 46 for references for individual years).

- The red oak and white oak groups accounted for 30 percent of the other industrial roundwood volume produced in 1996.

- Veneer, with 27 million cubic feet, accounted for almost one-half of the other industrial roundwood products output. Between 1991 and 1996, roundwood production for veneer increased by almost 33 percent. Hard maple, red oaks, aspen, birches, and white oaks were the major species harvested for veneer, accounting for 77 percent of the region's roundwood output for veneer.
- Michigan and Wisconsin supplied 60 percent of the roundwood production for veneer for the region.

### Fuelwood Products

- Between 1991 and 1996, roundwood harvested in the North Central Region for both domestic and industrial fuelwood declined 50 percent, from 745 million cubic feet in 1991 to 375 million cubic feet in 1996 (fig. 3.10). Despite this large drop in output, fuelwood still accounted for 22 percent of the region's total roundwood production.

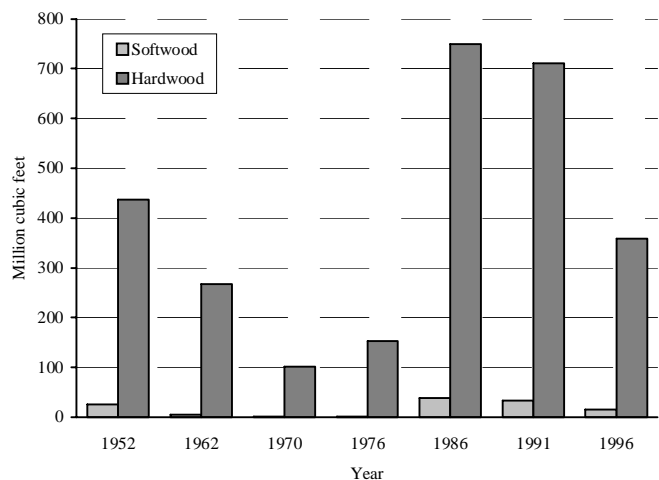


Figure 3.10—North Central roundwood fuelwood production by species group and year (see page 46 for references for individual years).

- The majority of fuelwood, 82 percent, came from nongrowing-stock sources. The NIPF lands accounted for 90 percent of the fuelwood volume produced.
- Hardwoods made up 96 percent of the total fuelwood harvested with the red oak and white oak groups making up 26 and 20 percent of the hardwood volume, respectively.
- The top three fuelwood producing States in the region (Wisconsin, Michigan, and Illinois) produced 54 percent of the region's fuelwood.

**All Removals**

- In 1996, 2.6 billion cubic feet of wood material was removed from North Central forests. About two-thirds of the removals were used for roundwood products. Another one-fourth of the total removals were left on the ground as logging residues. Other timber removals, which were due mostly to land clearing, made up the remaining volume (fig. 3.11).

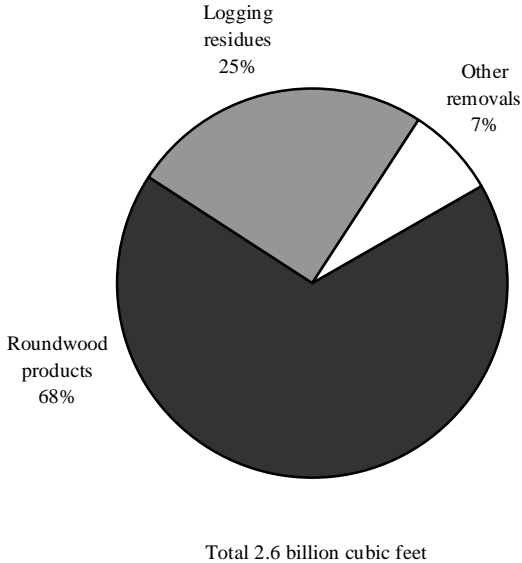


Figure 3.11—North Central timber removals by source, 1996.

- Growing stock accounted for 58 percent of the total timber volume removal in the region. Logging residues contained 20 percent of growing-stock material, and other removals contained 51 percent of growing-stock material.
- Over 90 percent of the other timber removals were from NIPF lands, while only two-thirds of the removals for roundwood products came from NIPF lands.
- Missouri and Illinois combined accounted for almost one-half of the other removals for the region.

**Plant Byproducts**

- In 1996, processing of primary products in the North Central Region mills generated 544 million cubic feet (7.8 million dry tons) of wood and bark residues. Bark residues accounted for 42 percent of all residues generated in 1996, followed by coarse residues with 34 percent, then fine residues with 24 percent (fig. 3.12).

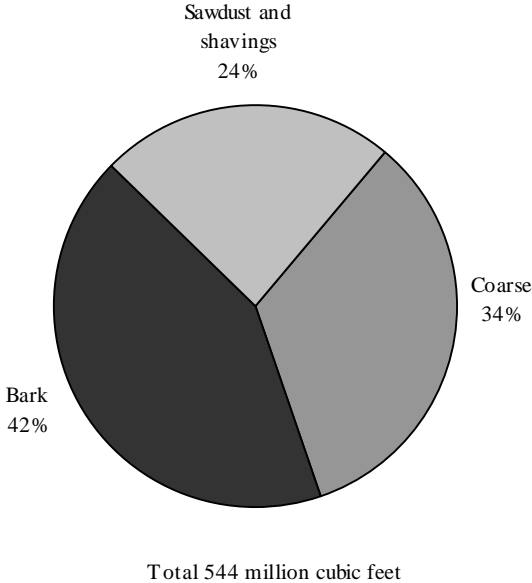


Figure 3.12—North Central primary mill residue by residue type, 1996.

- One-half of the total residue volume went into fuelwood uses in 1996 (fig. 3.13), and 56 percent of the residues used for fuelwood were bark residues.

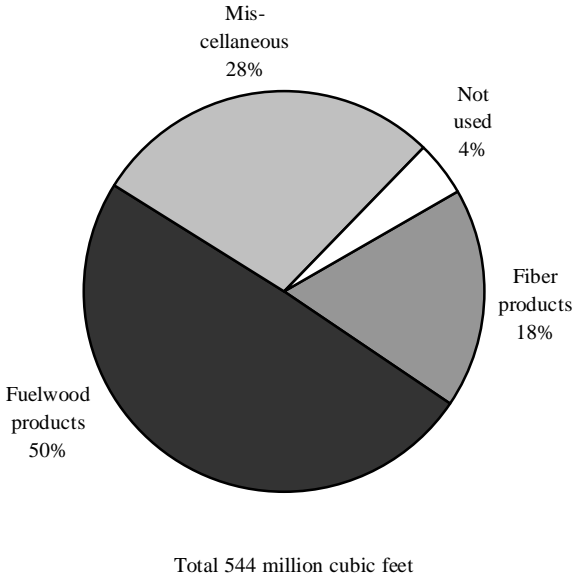


Figure 3.13—North Central disposal of residue by product, 1996.

- Only 4 percent of the total residues produced were not used in the production of some type of byproduct. The largest component, 45 percent, of this unused material was the fine wood residues.

# Chapter 4

## The Southern Region

Tony G. Johnson and John S. Vissage<sup>4</sup>

### Output of Timber Products

- In 1996, timber product output (TPO) from the Southern Region (Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, and Virginia) amounted to 9.6 billion cubic feet. This region, with 40 percent of the Nation's timberland, accounted for 58 percent of the total roundwood output.
- Between 1991 and 1996, the volume of roundwood products increased 979 million cubic feet, or 11 percent, from 8.6 to 9.6 billion cubic feet.
- Output of softwood and hardwood roundwood products was up 12 and 11 percent to 6.2 and 3.4 billion cubic feet, respectively (fig.4.1).

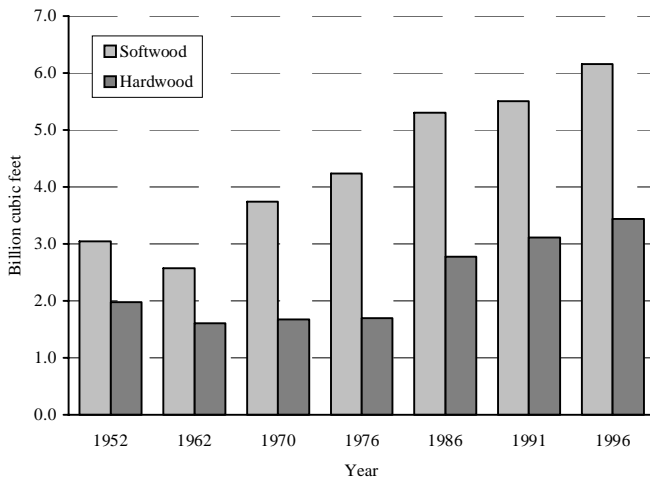


Figure 4.1—Southern roundwood production for all products by species group and year (see page 46 for references for individual years).

- Saw logs and pulpwood were the principal roundwood products in 1996. Combined output of these two products totaled 7.6 billion cubic feet and accounted for 79 percent of the region's total roundwood output (fig. 4.2).

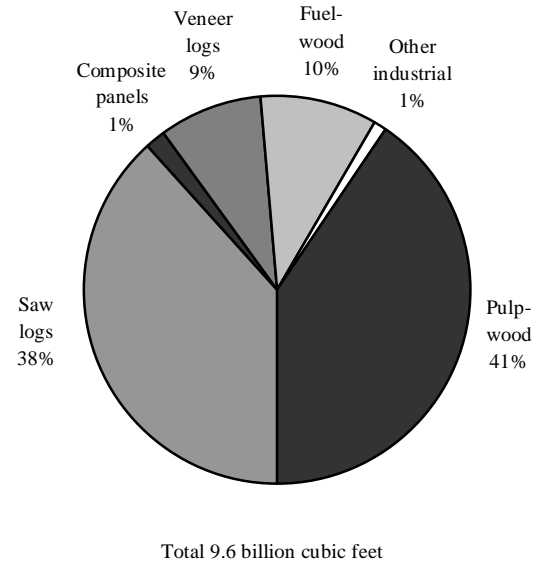


Figure 4.2—Southern roundwood production by type of product, 1996.

- Growing-stock volume from timberland sources, which included sawtimber and poletimber, accounted for 89 percent, or 8.6 billion cubic feet, of total roundwood output. Nongrowing stock or other sources contributed an estimated 1.0 billion cubic feet (fig. 4.3).

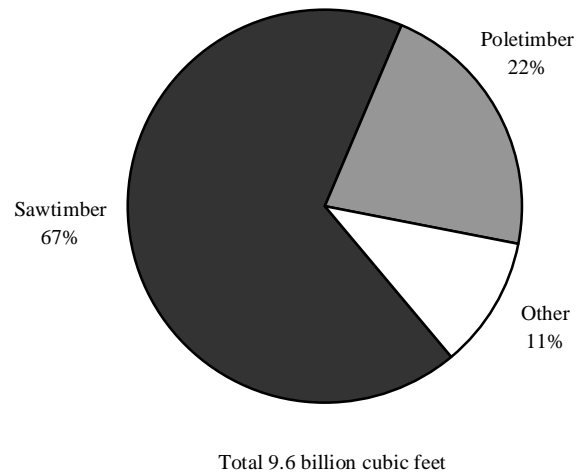


Figure 4.3—Southern roundwood production by source, 1996.

<sup>1</sup> Forester, USDA Forest Service, Southern Research Station, Asheville, NC; Research Forester, USDA Forest Service, Starkville, MS, respectively.

- Nonindustrial private forest (NIPF) lands accounted for 65 percent, or 6.3 billion cubic feet, of the total roundwood output. Forest industry lands contributed 2.8 billion cubic feet, or 29 percent, of the output. Public lands made up the remaining 6 percent, or 524 million cubic feet (fig. 4.4).

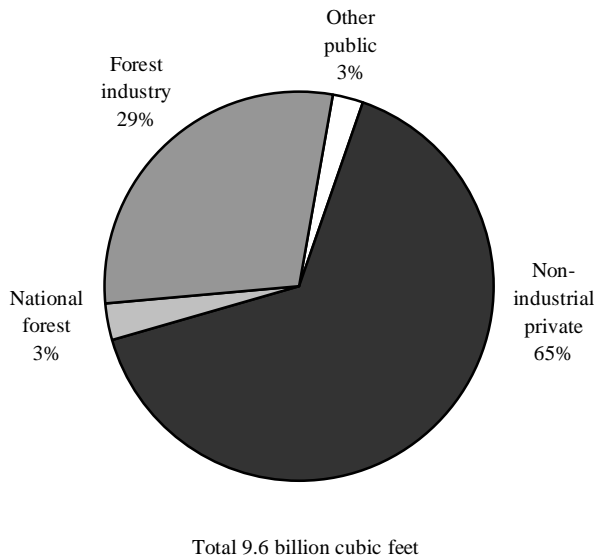


Figure 4.4—Southern roundwood production by ownership, 1996.

- Softwood made up 64 percent of the South’s roundwood production. For the softwood species group, the loblolly and shortleaf pine group provided the most volume, accounting for 71 percent, or 4.4 billion cubic feet, of the total softwood output. The longleaf and slash pine type accounted for 21 percent with 1.3 billion cubic feet (fig. 4.5).
- For hardwoods, the red oak and white oak groups accounted for 1.6 billion cubic feet, or 48 percent, of total hardwood output. Sweetgum, yellow-poplar, and hickories accounted for 15, 8, and 6 percent, respectively (fig. 4.6).
- Georgia and Alabama were the leading producers of roundwood products at 1.4 billion cubic feet each; they were followed by Mississippi with 1.1 billion cubic feet and North Carolina with 954 million cubic feet. These States accounted for 51 percent of the Southern Region’s total roundwood production.

### Saw Logs

- Saw logs, at 3.7 billion cubic feet, accounted for 38 percent of the region’s total roundwood output and more

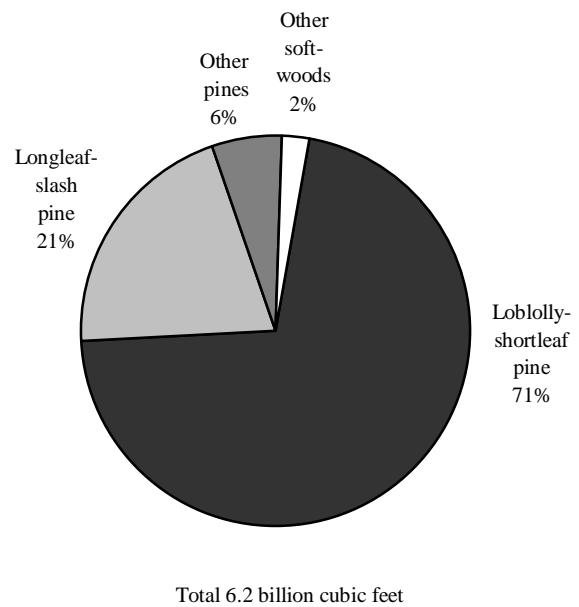


Figure 4.5—Southern roundwood production by softwood species group, 1996.

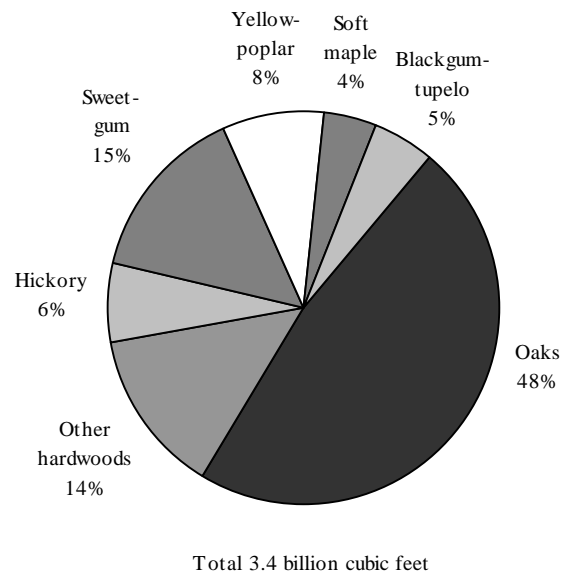


Figure 4.6—Southern roundwood production by hardwood species group, 1996.

than half of the Nation’s total saw-log production in 1996. Output of softwood saw logs increased 17 percent from 2.3 to 2.7 billion cubic feet (15.0 billion board feet), while hardwood saw logs declined 7 percent to 959 million cubic feet (5.7 billion board feet) (fig. 4.7).

- Growing stock accounted for 96 percent of the saw-log production at 3.5 billion cubic feet.

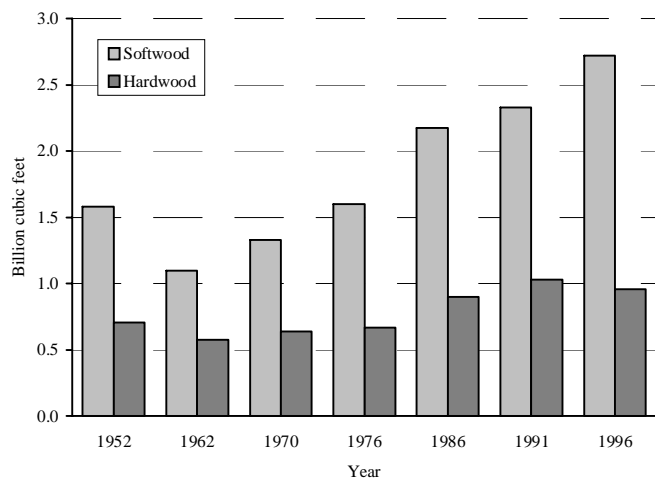


Figure 4.7—Southern roundwood saw-log production by species group and year (see page 46 for references for individual years).

- The NIPF owners supplied 2.5 billion cubic feet, or 67 percent, of saw-log volume for the Southern Region. Forest industry provided 27 percent, and public lands provided the remaining 6 percent of saw-log volume.
- Softwoods accounted for 74 percent, or 2.7 billion cubic feet, of the saw-log production with the loblolly and shortleaf pine group making up 73 percent of softwood output.
- Hardwoods supplied nearly 1.0 billion cubic feet of saw-log output. The red oak and white oak groups accounted for 466 million cubic feet, or 49 percent, of total hardwood saw-log production. Sweetgum and yellow-poplar each accounted for 11 percent, and hickories accounted for 8 percent.
- Georgia accounted for 15 percent of the region's total saw-log output with 552 million cubic feet. Mississippi and Alabama each accounted for 13 percent of saw-log output with 493 and 473 million cubic feet, respectively.

## Pulpwood

- Between 1991 and 1996, southern pulpwood production increased 15 percent, from 3.4 to 3.9 billion cubic feet, and accounted for 41 percent of the region's total roundwood TPO. Pulpwood from the South accounted for 77 percent of the Nation's total output.
- Softwood output increased 7 percent to 2.4 billion cubic feet (33.2 billion cords), while hardwood output increased 29 percent to 1.5 billion cubic feet (19.7 billion cords) (fig. 4.8).
- Growing stock accounted for 90 percent of the pulpwood production, or 3.5 billion cubic feet.

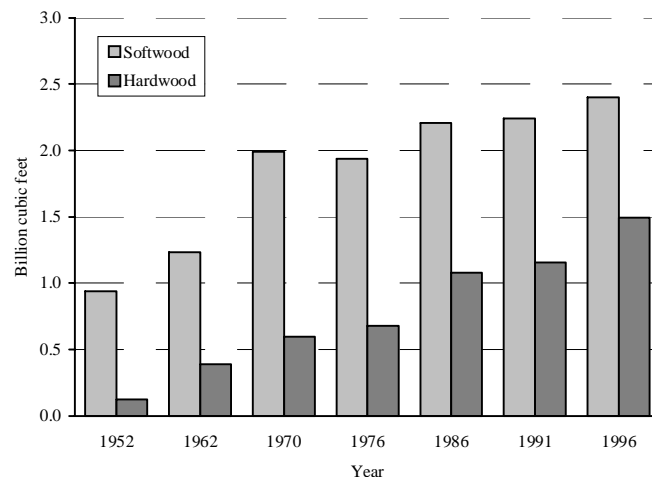


Figure 4.8—Southern roundwood pulpwood production by species group and year (see page 46 for references for individual years).

- The NIPF owners supplied 2.4 billion cubic feet, or 63 percent, of pulpwood output. Forest industry provided 32 percent and public lands the remaining 5 percent of pulpwood output.
- Softwoods accounted for 62 percent of the pulpwood production. The loblolly and shortleaf pine and the longleaf and slash pine groups made up 67 and 25 percent of the region's total softwood output, respectively. For hardwoods, the red oak and white oak groups accounted for 47 percent of pulpwood output.
- The region and the Nation's leaders in pulpwood production were: Alabama with 698 million cubic feet, Georgia with 617 million cubic feet, and Mississippi with 454 million cubic feet. These States supplied 46 percent of the region's pulpwood output.

## Veneer Logs

- Output of veneer logs in 1996 totaled 825 million cubic feet, accounting for 9 percent of the region's total roundwood TPO volume. Softwood veneer production increased 2 percent to 736 million cubic feet (4.4 billion board feet), while output of hardwood veneer logs increased 16 percent, from 77 million cubic feet in 1991 to 89 million cubic feet (550 million board feet) in 1996 (fig.4.9).
- Veneer-log production comes almost exclusively from growing-stock sources.
- The NIPF landowners provided 58 percent of the veneer production and forest industry supplied 35 percent.

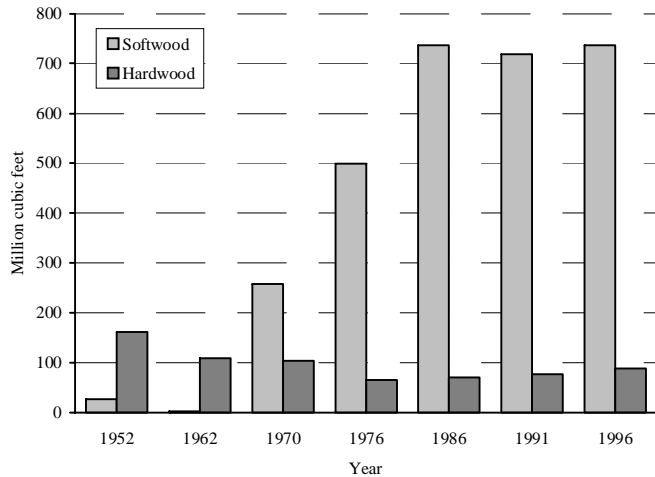


Figure 4.9—Southern roundwood veneer production by species group and year (see page 46 for references for individual years).

- The loblolly and shortleaf pine group accounted for 84 percent of the softwood veneer production.
- Texas, Louisiana, and Alabama were the leading producers of veneer in the South. These States combined accounted for 53 percent of the region’s total veneer output.

### Other Industrial Products

- Roundwood harvested for other industrial products such as poles, posts, composite panels, and all other industrial uses totaled 245 million cubic feet, a 16-percent increase from 1991 (fig. 4.10). Other industrial products accounted for only 2 percent of the region’s total roundwood output.
- Softwood output increased 27 percent to 189 million cubic feet, while hardwood output declined 12 percent to 56 million cubic feet.
- Growing stock made up 87 percent of the other industrial output.
- Seventy-two percent of the other industrial volume was harvested from NIPF lands.
- The loblolly and shortleaf pine group made up 60 percent of the softwood used for other industrial purposes, while the red oak and white oak groups made up 45 percent of the hardwood used for other industrial products.

### Domestic Fuelwood

- Between 1991 and 1996, roundwood harvested for domestic fuelwood increased 11 percent, from 852 to

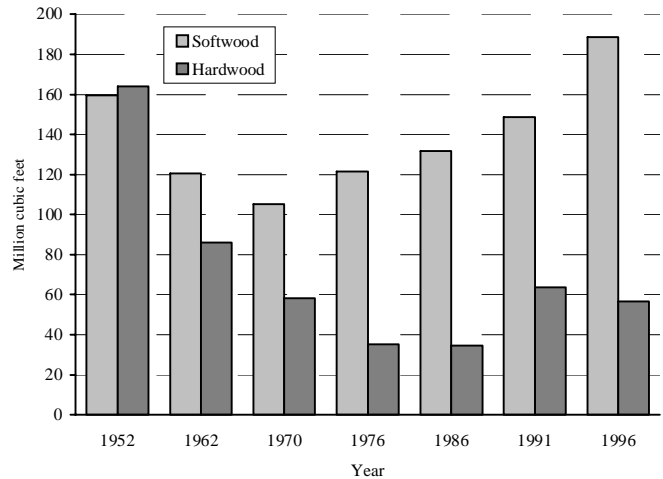


Figure 4.10—Southern roundwood production for other industrial products by species group and year (see page 46 for references for individual years).

948 million cubic feet. Fuelwood accounted for 10 percent of the region’s total roundwood production.

- Softwood fuelwood increased 57 percent to 109 million cubic feet, while hardwood fuelwood was up 7 percent to 839 million cubic feet (fig. 4.11).

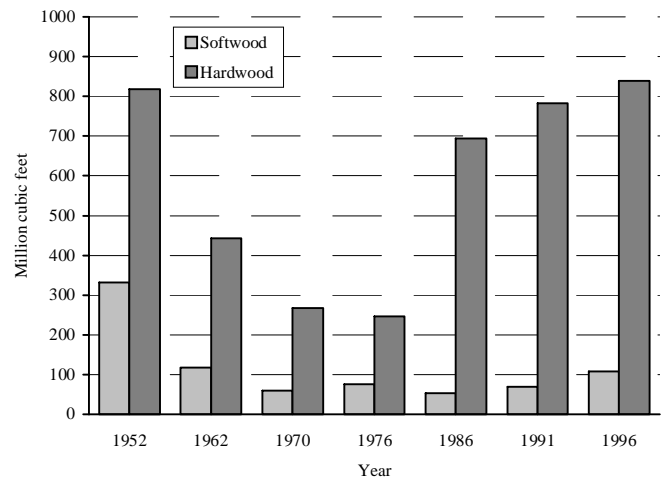


Figure 4.11—Southern roundwood fuelwood production by species group and year (see page 46 for references for individual years).

- Nongrowing-stock sources accounted for 46 percent of the fuelwood harvested. This was the highest proportion of nongrowing-stock sources for any product.
- The NIPF lands accounted for 73 percent of the fuelwood volume produced.
- Hardwood made up 88 percent of the total fuelwood harvested, with the red oak and white oak groups making up 47 percent of the hardwood volume.

**All Removals**

- In addition to roundwood output for products, logging residues and other removals were calculated for an estimate of total removals. Logging residues and other removals combined with roundwood products placed total removals from all sources at 12.3 billion cubic feet for the Southern Region.
- Logging residues from all sources amounted to 1.5 billion cubic feet, or 12 percent, of total removals, while other removals from all sources totaled 1.2 billion cubic feet, or 10 percent, of total removals (fig. 4.12).

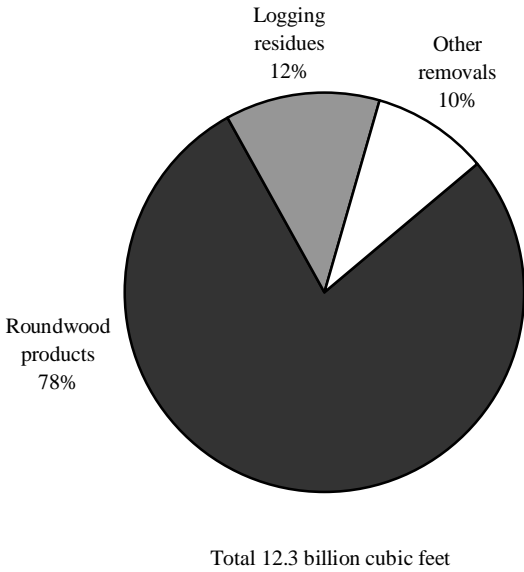


Figure 4.12—Southern timber removals by source, 1996.

- Georgia ranked number one in the region for total removals at 1.8 billion cubic feet, followed by Alabama and Mississippi at 1.6 and 1.4 billion cubic feet, respectively.

**Plant Byproducts**

- In 1996, processing of primary products in southern mills generated 3.2 billion cubic feet (52.4 million dry tons) of wood and bark residues. Coarse residues from industrial roundwood products amounted to 1.3 billion cubic feet, or 40 percent, of total residue produced. Bark volume totaled 915 million cubic feet, or 29 percent, of total residues. Fine materials made up of sawdust and shavings accounted for 31 percent of total residues, or 971 million cubic feet (fig. 4.13).

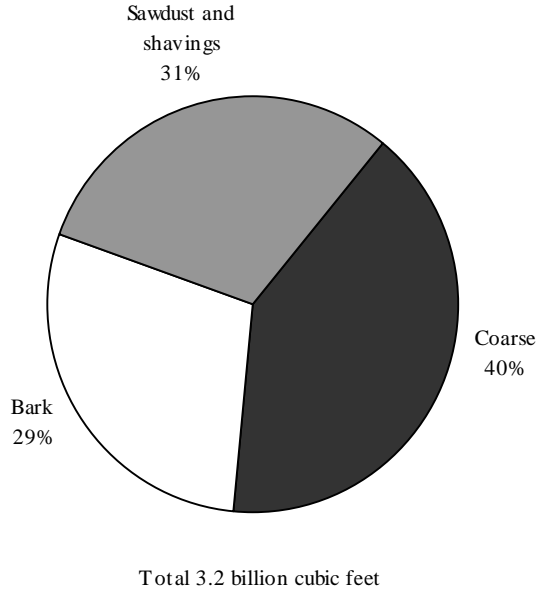


Figure 4.13—Southern primary mill residue by residue type, 1996.

- Virtually all of the wood and bark residues were used for a product; only 1 percent of the residues were not used, while 49 percent of the residues were used for industrial or domestic fuelwood (fig. 4.14).

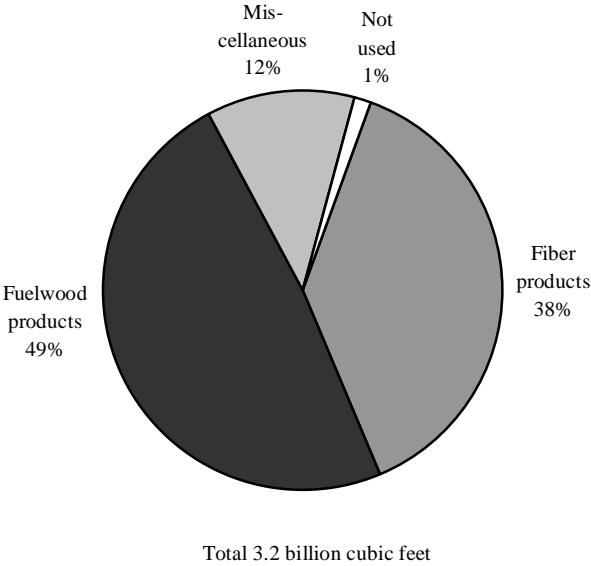


Figure 4.14—Southern disposal of residue by product, 1996.

- More than 1.0 billion cubic feet, or 83 percent, of the coarse residues were used for fiber products. Most of the bark was used for industrial fuel or other miscellaneous products, while 67 percent of the fine residues, or sawdust and shavings, were used for industrial fuel.





# Chapter 5

## The Rocky Mountains Region

Charles E. Keegan III, Robert Campbell, and Al Chase<sup>5</sup>

### Output of Timber Products

- In 1996, timber product output (TPO) from the Rocky Mountains Region (Arizona, Colorado, Idaho, Kansas, Montana, Nebraska, Nevada, New Mexico, North Dakota, South Dakota, Utah, and Wyoming) totaled 688 million cubic feet. This region accounted for 14 percent of the Nation's timberland area and supplied 4 percent of its total roundwood output.
- Between 1991 and 1996, volume of roundwood products declined 250 million cubic feet, or 27 percent, from 938 to 688 million cubic feet.
- Output of softwood roundwood products was down 30 percent to 594 million cubic feet, while output of hardwood roundwood products increased 0.9 percent to 94 million cubic feet (fig. 5.1).

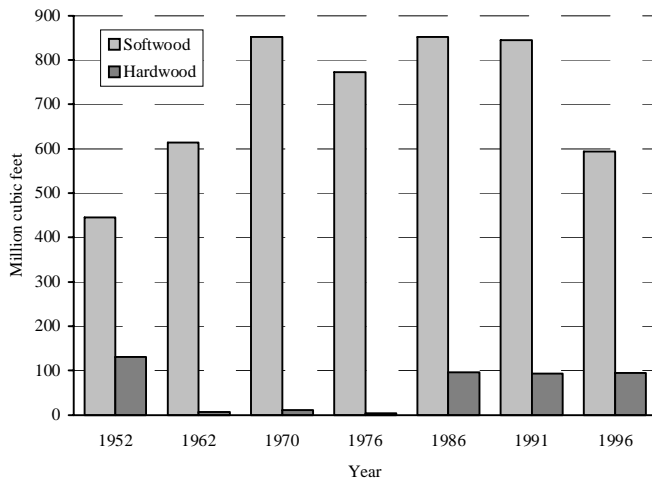


Figure 5.1—Rocky Mountains roundwood production for all products by species group and year (see page 46 for references for individual years).

- Saw logs and fuelwood were the principal roundwood products in 1996. Combined output of these products totaled 562 million cubic feet and accounted for 82 percent of the region's total roundwood output (fig. 5.2).

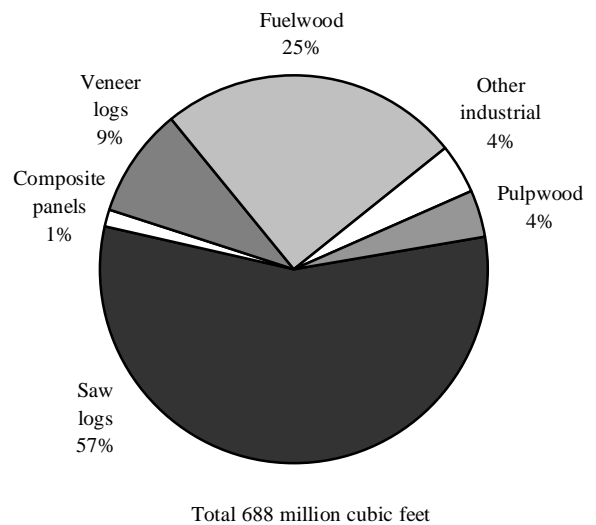


Figure 5.2—Rocky Mountains roundwood production by type of product, 1996.

- Growing-stock volume from timberland sources, which included sawtimber and poletimber, accounted for 70 percent of total roundwood output. Nongrowing stock or other sources contributed an estimated 210 million cubic feet, or 30 percent, of total roundwood output (fig. 5.3).
- Nonindustrial private forest (NIPF) lands, which included tribal lands, accounted for 40 percent, or 275 million cubic feet, of the total roundwood output. Public lands contributed 37 percent, or 258 million cubic feet. Forest industry lands made up the remaining 155 million cubic feet, or 23 percent, of the output (fig. 5.4).
- For softwood species, the ponderosa-Jeffery pine group provided the most volume, accounting for 26 percent, or 155 million cubic feet, of the total softwood output. Douglas-fir and lodgepole pine accounted for 22 and 18 percent, respectively (fig. 5.5).

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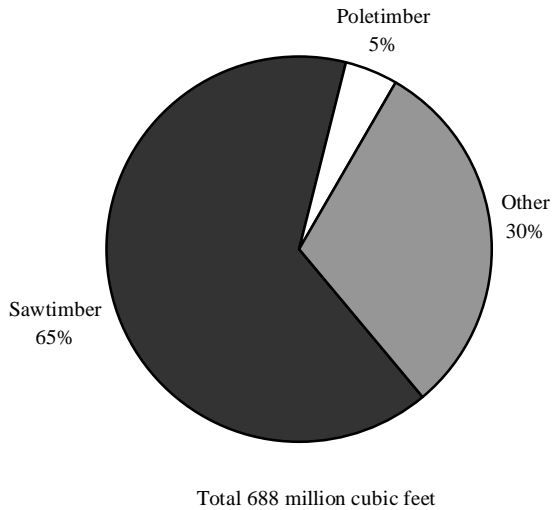


Figure 5.3—Rocky Mountains roundwood production by source, 1996.

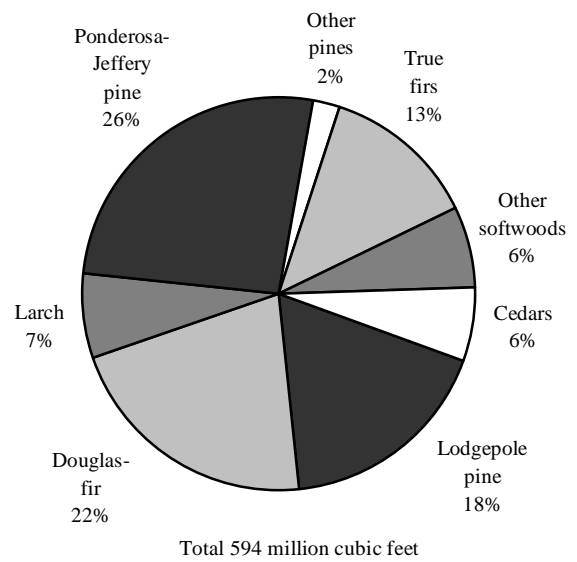


Figure 5.5—Rocky Mountains roundwood production by softwood species group, 1996.

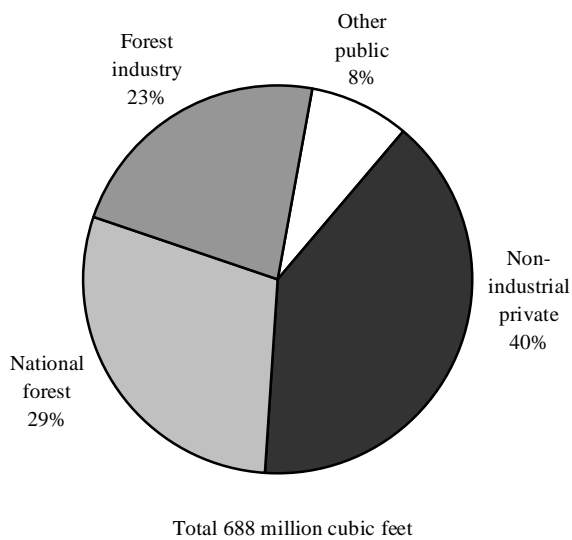


Figure 5.4—Rocky Mountains roundwood production by ownership, 1996.

- For hardwoods, cottonwood accounted for 27 million cubic feet, or 29 percent, of total hardwood output. Aspen, oaks, elm, and ash accounted for 16, 13, 10, and 6 percent, respectively (fig. 5.6).
- Idaho and Montana were the leading roundwood producers at 273 and 187 million cubic feet, respectively. These States accounted for 67 percent of the region's total output.

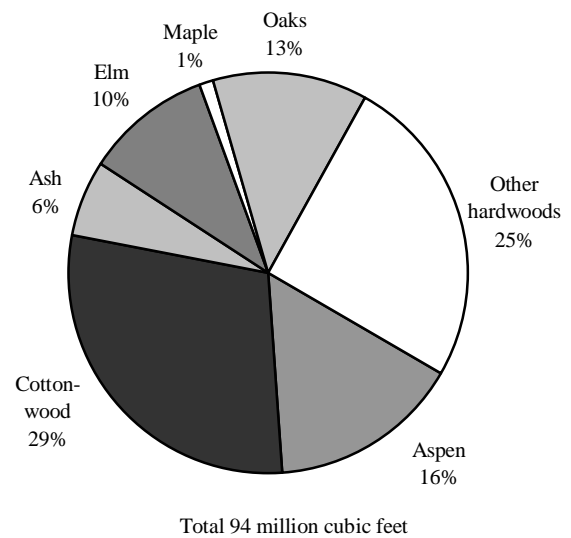


Figure 5.6—Rocky Mountains roundwood production by hardwood species group, 1996.

### Saw Logs

- Saw logs, at 390 million cubic feet, accounted for 57 percent of the region's total roundwood products. Output of softwood saw logs decreased 40 percent, from 632 to 381 million cubic feet (2.4 billion board feet), while that of hardwood saw logs declined 39 percent to 9 million cubic feet (54.6 million board feet) (fig. 5.7).

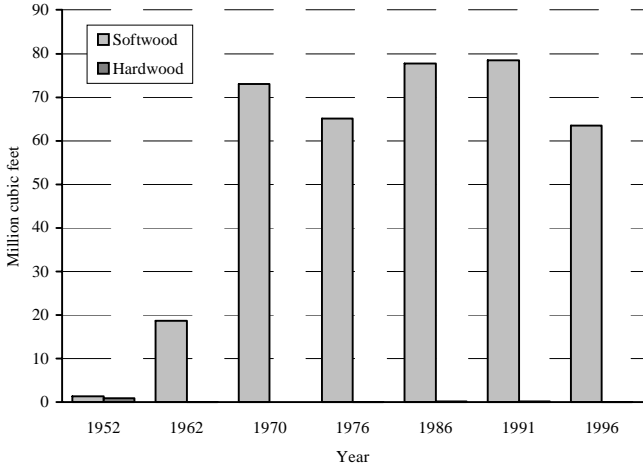


Figure 5.7—Rocky Mountains roundwood saw-log production by species group and year (see page 46 for references for individual years).

- Growing stock accounted for 93 percent of the saw-log production with 362 million cubic feet.
- The NIPF and public ownerships supplied an almost equal amount of saw-log output at 39 and 38 percent, respectively. Forest industry provided the remaining 23 percent of saw-log volume.
- Softwoods accounted for 98 percent of the saw-log production. The ponderosa-Jeffrey pine group with 111 million cubic feet accounted for 29 percent of saw-log output for the region.
- Idaho led the Rocky Mountains Region in total saw-log production with 184 million cubic feet. Montana and Arizona followed with 123 and 13 million cubic feet, respectively.

**Pulpwood**

- Pulpwood production declined 4 million cubic feet to 26 million cubic feet and accounted for <4 percent of the region’s total roundwood TPO.
- Softwood output declined 12 percent to 26 million cubic feet (328 million cords); no hardwood output was recorded in 1996, down from 150 thousand cubic feet in 1991 (fig. 5.8).
- Growing stock accounted for 71 percent of the pulpwood production.
- Forest industry lands made up the largest portion, 56 percent, of pulpwood output.

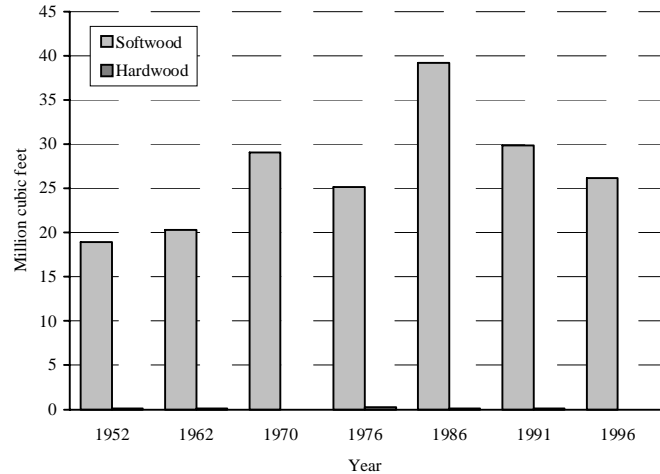


Figure 5.8—Rocky Mountains roundwood pulpwood production by species group and year (see page 46 for references for individual years).

- Softwoods accounted for all of the reported pulpwood production. The ponderosa-Jeffrey pine group along with Douglas-fir produced 49 percent of output.

**Veneer Logs**

- Output of veneer logs in 1996 totaled 64 million cubic feet, accounting for 9 percent of the region’s total roundwood TPO volume.
- Softwood veneer production declined 19 percent to 64 million cubic feet (399 million board feet), while output of hardwood veneer logs declined 47 percent, from 193 thousand cubic feet in 1991 to 102 thousand cubic feet (fig. 5.9).

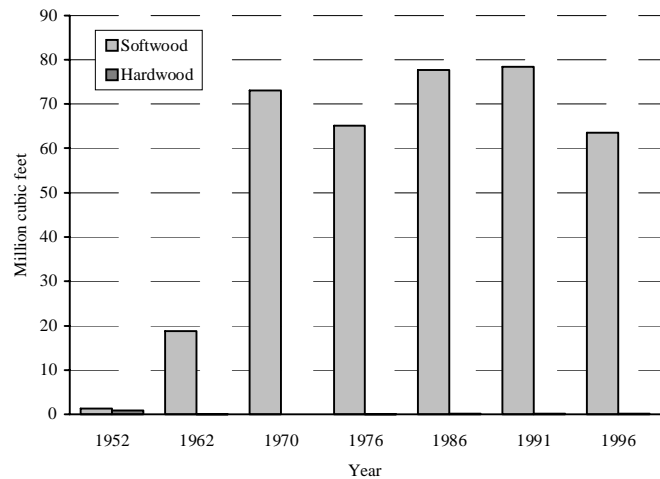


Figure 5.9—Rocky Mountains roundwood production for veneer products by species group and year (see page 46 for references for individual years).

- Veneer-log production is mostly from growing-stock sources, more than 99 percent.
- Sixty-six percent of the veneer production came from forest industry lands and 27 percent came from public lands.
- Douglas-fir, western larch, and the true firs accounted for 93 percent of the softwood veneer production.
- Montana and Idaho led the region in veneer-log production, accounting for 51 and 48 percent of the region's total veneer output, respectively. Nebraska and Kansas together produced about 100 thousand cubic feet of hardwood veneer logs.

### Other Industrial Products

- Roundwood harvested for other industrial products such as poles, posts, composite panels, and all other industrial uses totaled 36 million cubic feet, a 23-percent increase from that reported in 1991. Other industrial products accounted for 5 percent of the region's total roundwood output.
- Softwood output increased 7 percent to 24 million cubic feet, while hardwood output increased 81 percent to 11 million cubic feet (fig. 5.10).

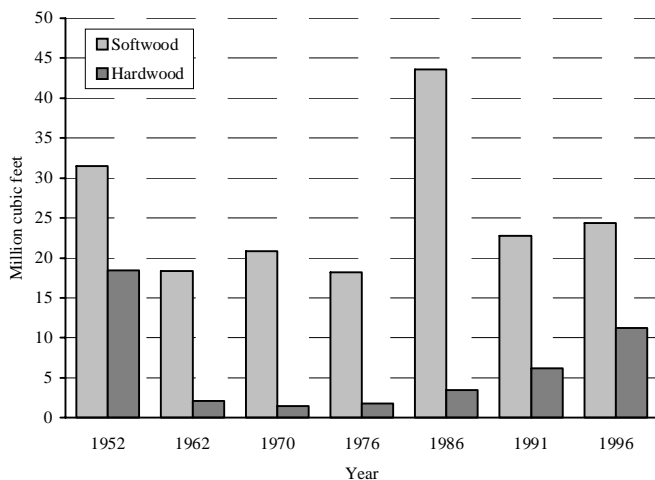


Figure 5.10—Rocky Mountains roundwood production for other industrial products by species group and year (see page 46 for references for individual years).

- Growing stock made up 77 percent of the other industrial output.
- Sixty-six percent of the other industrial volume was harvested from public lands.

- Douglas-fir and lodgepole pine made up 69 percent of the softwood used for other industrial purposes, while cottonwood and aspen made up 95 percent of the hardwood used for other industrial products.

### Domestic Fuelwood

- Between 1991 and 1996, roundwood harvested for domestic fuelwood increased 12 percent, from 154 to 172 million cubic feet. Fuelwood accounted for 25 percent of the region's total roundwood production.
- Softwood fuelwood increased 20 percent to 99 million cubic feet, while hardwood fuelwood increased 2 percent to 74 million cubic feet (fig. 5.11).

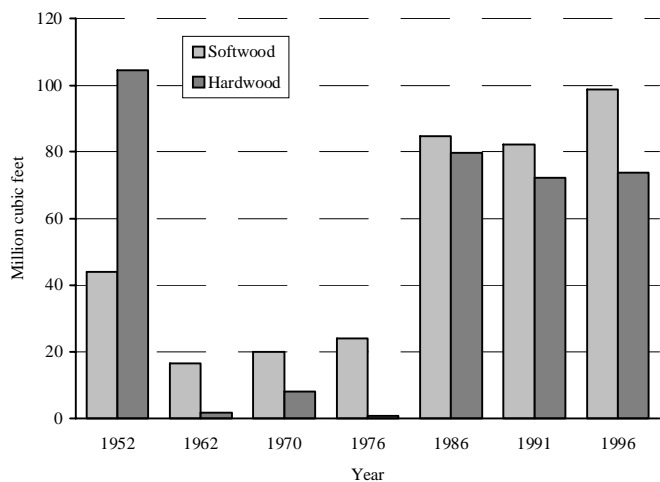


Figure 5.11—Rocky Mountains roundwood fuelwood production by species group and year (see page 46 for references for individual years).

- Nongrowing-stock sources made up the majority of the fuelwood harvest, 96 percent.
- The NIPF lands accounted for 60 percent of the fuelwood volume. Public lands supplied an additional 38 percent of the fuelwood harvest and forest industry provided the remaining 2 percent.
- Softwood species accounted for 57 percent of the total fuelwood harvested. The lodgepole and ponderosa-Jeffrey pine groups accounted for 30 and 34 percent of the softwood fuelwood, respectively. Hardwoods accounted for the remaining 43 percent of the fuelwood harvest.

**All Removals**

- In addition to roundwood output for products, logging residues and other removals were calculated for an estimate of total removals. Logging residues and other removals combined with roundwood products totaled 867 million cubic feet from all sources, regionwide, compared to 1.0 billion cubic feet in 1991.
- Logging residues from all sources amounted to 160 million cubic feet, while other removals from all sources totaled 19 million cubic feet (fig. 5.12).

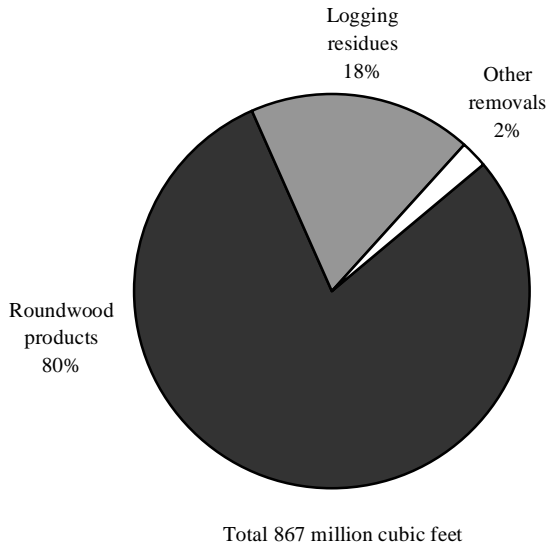


Figure 5.12—Rocky Mountains timber removals by source, 1996.

- Idaho ranked number one in the region for total removals with 343 million cubic feet, followed by Montana with 244 million cubic feet.

**Plant Byproducts**

- In 1996, processing of primary products in mills regionwide generated 607 million cubic feet (7.6 million dry tons) of wood and bark residues. Coarse residues from all industrial roundwood products amounted to 296 million cubic feet, while bark volume totaled 124 million cubic feet. Fine residue (primarily sawdust and shavings) made up 31 percent of total residues, or 187 million cubic feet (fig. 5.13).

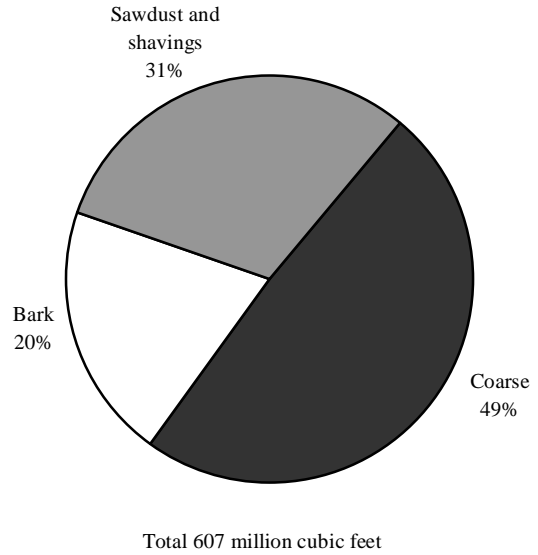


Figure 5.13—Rocky Mountains primary mill residue by residue type, 1996.

- Virtually all of the wood and bark residues were used for a product; regionwide only 4 percent of the residues were not used, while 33 percent of the residues were used for industrial or domestic fuelwood (fig. 5.14).

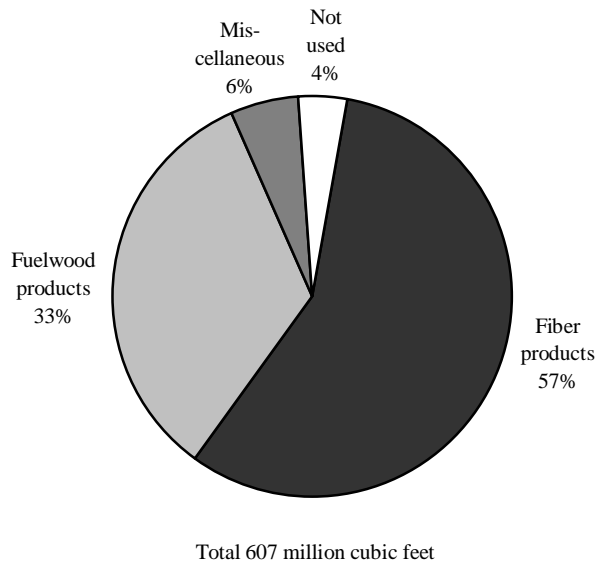


Figure 5.14—Rocky Mountains disposal of residue by product, 1996.

- More than 266 million cubic feet, or 90 percent, of the coarse residues were used for fiber products. Most of the bark was used for industrial fuel, while 45 percent of the fine residues were used for industrial fuel.



# Chapter 6

## The Pacific Coast Region

Bert Mead and Bruce Hiserote<sup>6</sup>

### Output of Timber Products

- Between 1991 and 1996, timber product output (TPO) from the Pacific Coast Region (Alaska, California, Oregon, and Washington) declined 1.6 billion cubic feet, or 37 percent, from 4.2 to 2.6 billion cubic feet. This region accounted for 14 percent of the Nation's timberland area and supplied 16 percent of its product output.
- Output of softwood roundwood products was down 37 percent to 2.5 billion cubic feet, while output of hardwood roundwood products declined 38 percent to 170 million cubic feet (fig. 6.1).

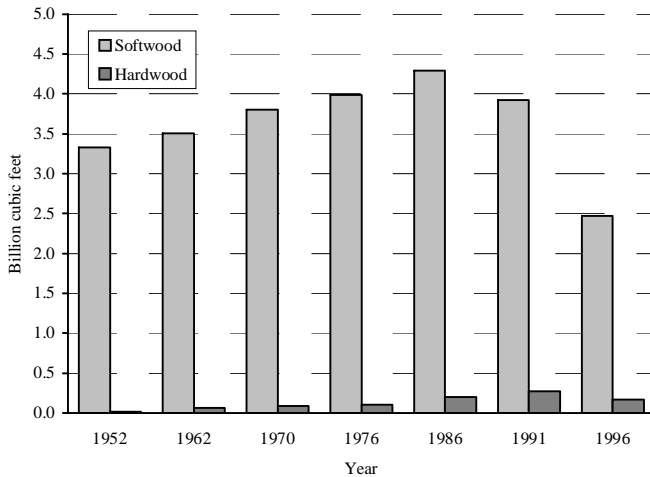


Figure 6.1—Pacific Coast roundwood production for all products by species group and year (see page 46 for references for individual years).

- Saw logs and veneer logs were the principal roundwood products in 1996. Combined output of these products totaled 2.1 billion cubic feet and accounted for 80 percent of the region's total roundwood output (fig. 6.2).

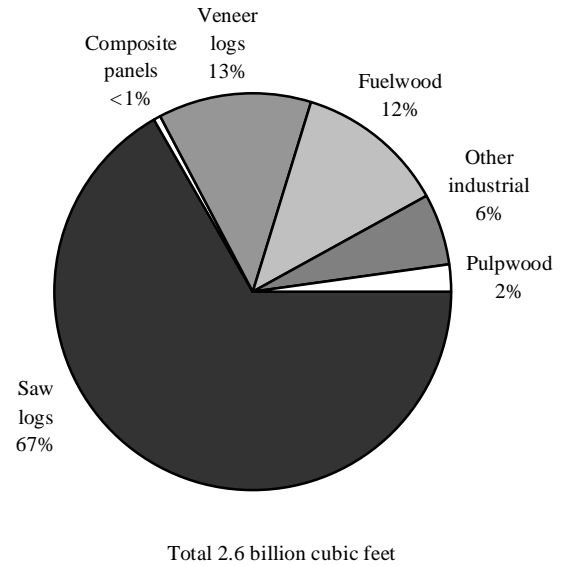


Figure 6.2—Pacific Coast roundwood production by type of product, 1996.

- Growing-stock volume from timberland sources, which included sawtimber and poletimber, accounted for 89 percent of total roundwood output. Nongrowing stock or other sources contributed an estimated 288 million cubic feet, or 11 percent, of total roundwood output (fig. 6.3).
- Forest industry lands contributed 1.2 billion cubic feet, or 47 percent, of the output. Nonindustrial private forest (NIPF) lands accounted for 30 percent, or 786 million cubic feet, of the total roundwood output. Public lands made up the remaining 23 percent, or 614 million cubic feet (fig. 6.4).
- For the softwood species group, Douglas-fir provided the most volume, accounting for 44 percent, or 1.1 billion cubic feet, of the total softwood output. The hemlock and the ponderosa-Jeffrey pine type accounted for 12 and 11 percent, respectively (fig. 6.5).

<sup>1</sup> Research Forester, USDA Forest Service, Pacific Northwest Research Station, Anchorage, AK; Research Forester, USDA Forest Service, Pacific Northwest Research Station, Portland, OR, respectively.

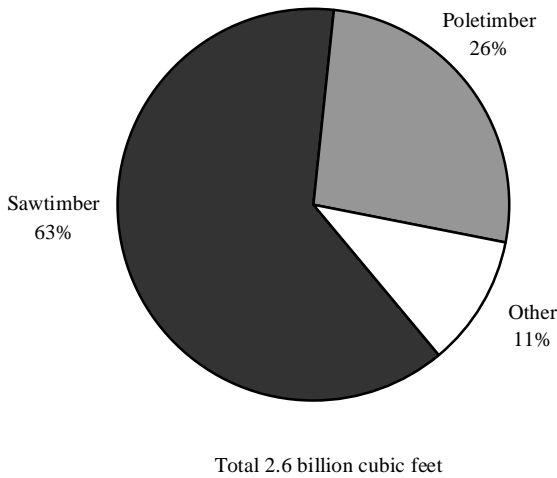


Figure 6.3—Pacific Coast roundwood production by source, 1996.

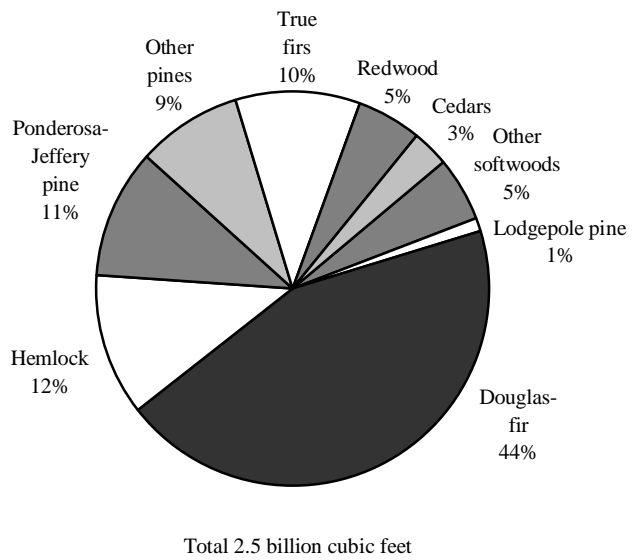


Figure 6.5—Pacific Coast roundwood production by softwood species group, 1996.

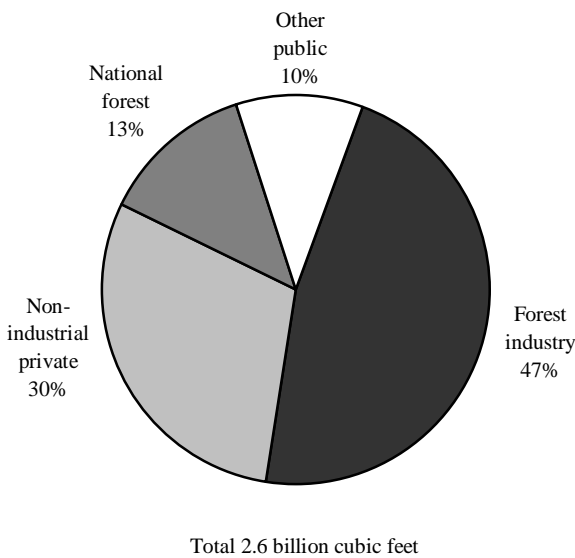


Figure 6.4—Pacific Coast roundwood production by ownership, 1996.

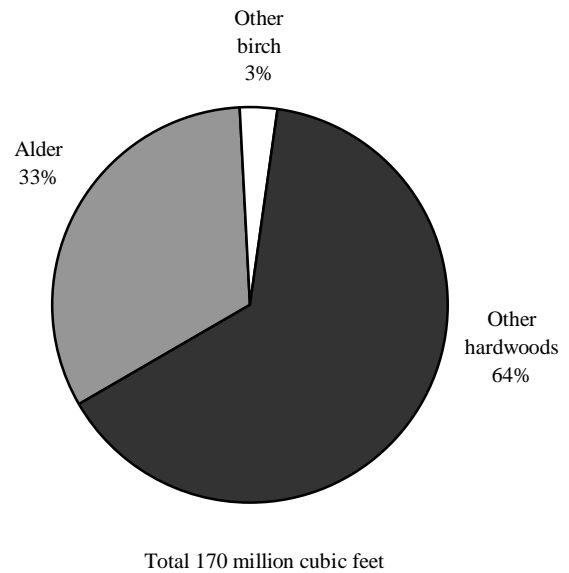


Figure 6.6—Pacific Coast roundwood production by hardwood species group, 1996.

- For hardwoods, red alder accounted for 55 million cubic feet, or 33 percent, of total hardwood output. The other birch group and miscellaneous hardwoods accounted for 3 and 64 percent, respectively (fig. 6.6).
- Washington and Oregon had production of 885 and 882 million cubic feet, respectively. California's output was 728 million cubic feet. These States were among the top 10 producing States in the Nation.

### Saw Logs

- Saw logs, at 1.8 billion cubic feet, accounted for 67 percent of the region's total roundwood products. Output of softwood saw logs declined 19 percent, from 2.1 to 1.7 billion cubic feet (9.3 billion board feet), while that of hardwood saw logs increased 4 percent to 51 million cubic feet (274 million board feet) (fig. 6.7).



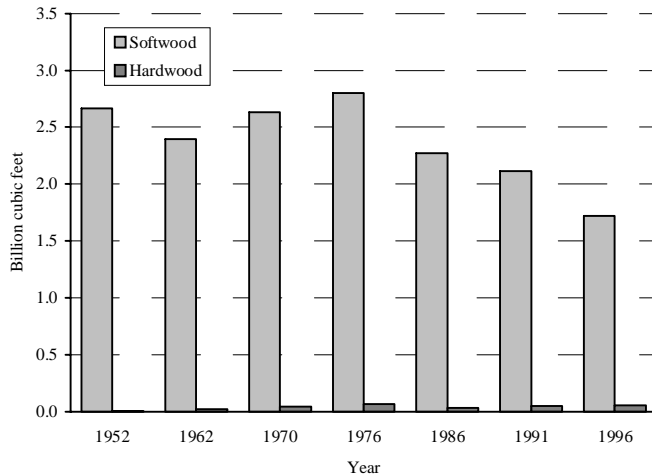


Figure 6.7—Pacific Coast roundwood saw-log production by species group and year (see page 46 for references for individual years).

- Growing stock accounted for 96 percent of the saw-log production.
- Forest industry owners made up 52 percent of saw-log output. The NIPF owners accounted for another 25 percent of saw-log output.
- Softwoods accounted for 97 percent of the saw-log production with Douglas-fir making up 47 percent of softwood output.
- Washington led the region in total saw-log production, with 614 million cubic feet. Oregon and California followed with 607 and 515 million cubic feet, respectively. Alaska was lowest in the region at 35 million cubic feet.

## Pulpwood

- Pulpwood production dropped 87 percent, from 410 to 59 million cubic feet, and accounted for 2 percent of the region's total roundwood TPO. Softwood output declined 86 percent to 56 million cubic feet (646 million cords), while hardwood output decreased 95 percent to 3 million cubic feet (39 million cords) (fig. 6.8).
- Growing stock accounted for 86 percent of the pulpwood production.
- The NIPF and forest industry owners made up 31 and 40 percent of pulpwood output, respectively.

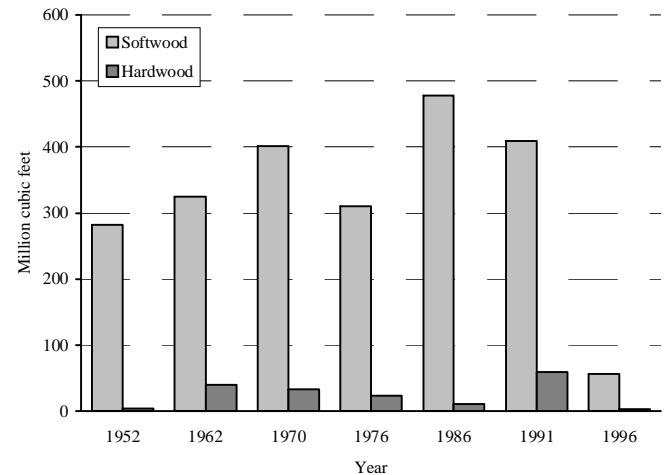


Figure 6.8—Pacific Coast roundwood pulpwood production by species group and year (see page 46 for references for individual years).

- Softwoods accounted for 95 percent of the pulpwood production with the Douglas-fir and hemlock groups making up 36 and 31 percent of softwood output, respectively.
- Washington led the region in pulpwood production with almost half its output.

## Veneer Logs

- Output of veneer logs in 1996 totaled 333 million cubic feet, accounting for 13 percent of the region's total roundwood TPO volume. Softwood veneer production declined 27 percent to 321 million cubic feet (1.8 billion board feet), while output of hardwood veneer logs increased 126 percent from 5 million cubic feet in 1991 to 12 million cubic feet (60 million board feet) in 1996 (fig. 6.9).
- Veneer-log production was mostly from growing-stock sources, 90 percent.
- Thirty-eight percent of the veneer production came from private landowners and more than one-third was produced from forest industry lands.
- Douglas-fir and the true fir group accounted for 62 and 21 percent of the softwood veneer production, respectively.
- Oregon led the region in veneer-log production with 57 percent of regional output. Oregon was also one of the top three States nationally in veneer output.

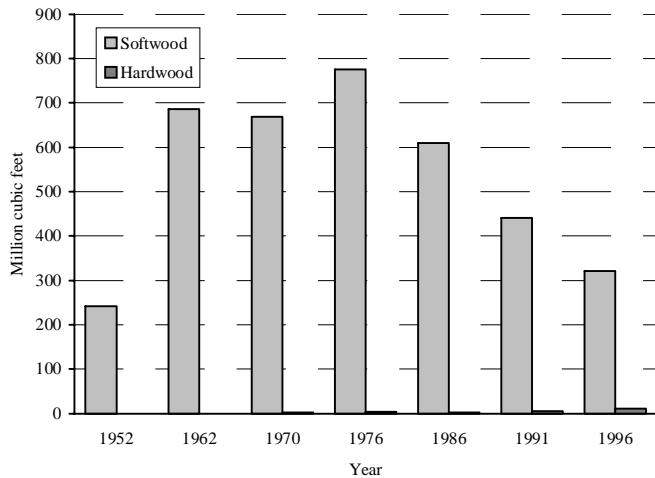


Figure 6.9—Pacific Coast roundwood veneer production by species group and year (see page 46 for references for individual years).

### Other Industrial Products

- Roundwood harvested for other industrial products such as poles, posts, composite panels, and all other industrial uses totaled 159 million cubic feet, a 75-percent decline from that reported in 1991.
- Softwood output declined 75 percent to 159 million cubic feet, while hardwood output decreased 99 percent to 3 thousand cubic feet (fig. 6.10). Other industrial products accounted for 6 percent of the region’s total roundwood output.

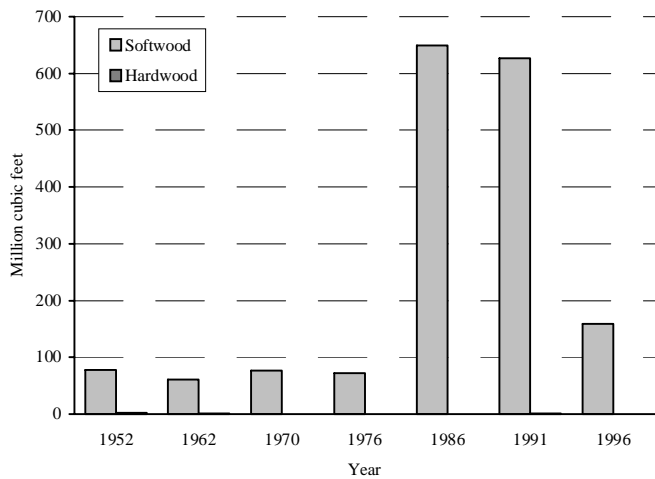


Figure 6.10—Pacific Coast roundwood production for other industrial products by species group and year (see page 46 for references for individual years).

- Growing stock made up 99 percent of the other industrial output.
- Sixty-one percent of the other industrial volume was harvested from NIPF lands.
- Douglas-fir made up 43 percent of the softwood used for other industrial uses, while hardwood use for other industrial products in the region was negligible.

### Domestic Fuelwood

- Between 1991 and 1996, roundwood harvested in the Pacific Coast Region for fuelwood declined 35 percent, from 495 to 320 million cubic feet. Despite this large drop in output, fuelwood still accounted for 12 percent of the region’s total roundwood production (fig. 6.11).

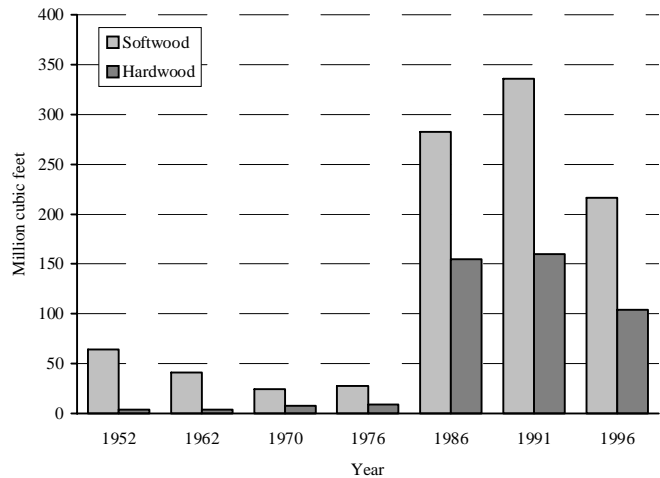


Figure 6.11—Pacific Coast roundwood fuelwood production by species group and year (see page 46 for references for individual years).

- Softwood production declined 36 percent, from 336 million cubic feet in 1991 to 216 million cubic feet in 1996. Hardwood production was down 35 percent, from 160 million cubic feet in 1991 to 104 million cubic feet in 1996.
- Nongrowing-stock sources made up the majority of the fuelwood harvest, 52 percent.
- Forest industry lands accounted for 43 percent of the fuelwood volume, while NIPF and public lands supplied 30 and 26 percent, respectively.
- Softwood made up more than 67 percent of the total fuelwood harvested with the other pine group making up 97 percent of the softwood volume.

**All Removals**

- In addition to roundwood output for products, logging residues and other removals were calculated for an estimate of total removals. Logging residues and other removals combined with roundwood products put total removals from all sources at 3.0 billion cubic feet nationwide (fig. 6.12) compared to 21.1 billion cubic feet nationwide.

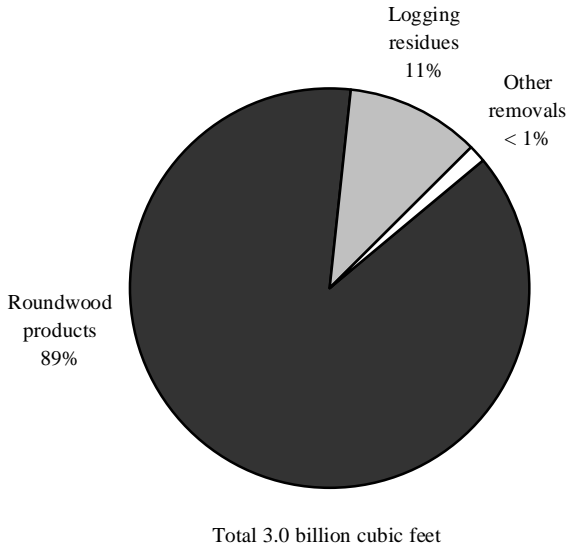


Figure 6.12—Pacific Coast timber removals by source, 1996.

- Logging residues from all sources amounted to 331 million cubic feet, while other removals from all sources totaled 2.4 million cubic feet.
- Washington ranked number one in the region and fifth in the Nation in total removals with 968 million cubic feet, followed by Oregon and California at 960 and 829 million cubic feet, respectively. Alaska was last, producing only 7 percent of the region’s total removals.

**Plant Byproducts**

- In 1996, processing of primary products in mills regionwide generated 1.4 billion cubic feet (17.6 million dry tons) of wood and bark residues. Coarse residues from all industrial roundwood products amounted to 665 million cubic feet, while bark volume totaled 298 million cubic feet. Collectively, sawdust and shavings made up 30 percent of total residues, or 403 million cubic feet (fig. 6.13).

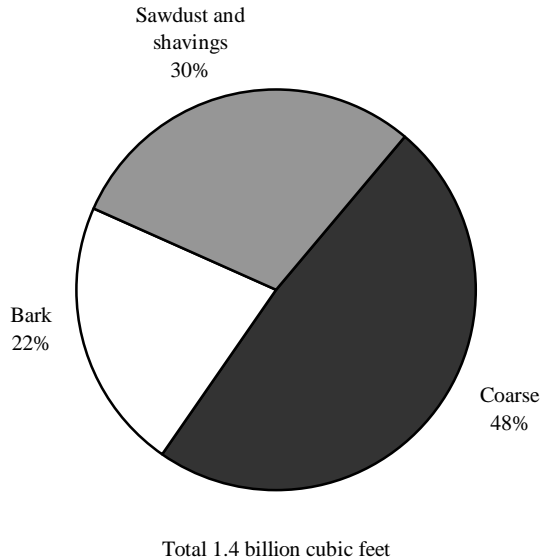


Figure 6.13—Pacific Coast primary mill residue by residue type, 1996.

- Virtually all of the wood and bark residues were used for a product; only 1 percent of the residues regionwide were not used, while 36 percent of the residues were used for industrial or domestic fuelwood (fig. 6.14).

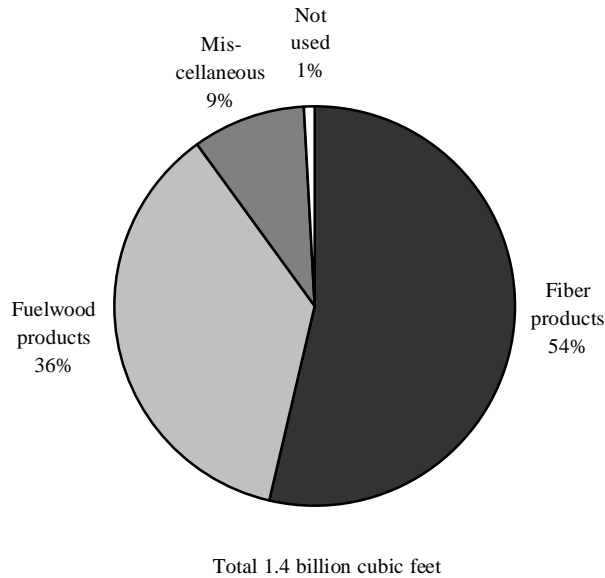


Figure 6.14—Pacific Coast disposal of residue by product, 1996.

- More than 734 million cubic feet, or 54 percent, of all residues were used for fiber products. Most of the bark was used for industrial fuel or other miscellaneous products, while 38 percent of the fine residues, or sawdust and shavings, were used for industrial fuel.

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<sup>7</sup> This section is provided for those needing additional information. The year in brackets at the end of each reference refers to the year listed in the product bar charts throughout this report.

# Appendix 1

**Table 1.1—Volume of roundwood products and species group, United States, 1991 and 1996**

Product and species group	Year		Change	Percent change
	1991	1996		
<i>Thousand cubic feet</i>				
<b>Saw logs</b>				
Softwood	5,435,177	5,158,258	-276,919	-5.1
Hardwood	1,915,595	1,961,966	46,371	2.4
Total	7,350,772	7,120,224	-230,548	-3.1
<b>Veneer logs</b>				
Softwood	1,241,643	1,123,938	-117,705	-9.5
Hardwood	122,814	157,605	34,791	28.3
Total	1,364,457	1,281,543	-82,914	-6.1
<b>Pulpwood<sup>a</sup></b>				
Softwood	3,067,366	2,862,183	-205,183	-6.7
Hardwood	1,981,911	2,380,428	398,517	20.1
Total	5,049,277	5,242,611	193,334	3.8
<b>Other industrial<sup>b</sup></b>				
Softwood	830,866	398,775	-432,091	-52.0
Hardwood	107,307	104,929	-2,378	-2.2
Total	938,173	503,704	-434,469	-46.3
<b>All industrial</b>				
Softwood	10,575,052	9,543,154	-1,031,898	-9.8
Hardwood	4,127,627	4,604,928	477,301	11.6
Total	14,702,679	14,148,082	-554,597	-3.8
<b>Fuelwood</b>				
Softwood	605,835	493,046	-112,789	-18.6
Hardwood	2,580,833	1,789,802	-791,031	-30.7
Total	3,186,668	2,282,848	-903,820	-28.4
<b>All products</b>				
Softwood	11,180,887	10,036,200	-1,144,687	-10.2
Hardwood	6,708,460	6,394,730	-313,730	-4.7
Total	17,889,347	16,430,930	-1,458,417	-8.2

Numbers in rows and columns may not add to totals due to rounding.

<sup>a</sup> Pulpwood total includes composite product totals from the North Central Region.

<sup>b</sup> Other industrial total includes composite products, posts, poles and pilings, and other products.

**Table 1.2—Volume of roundwood products by source, species group, and type of product, United States, 1996**

Source and species group	Saw logs		Veneer logs		Pulpwood		Composite products		Fuelwood		Posts-poles-pilings	Other products	All products
	<i>MBF</i>	<i>MCF</i>	<i>MBF</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>MCF</i>	<i>MCF</i>	<i>MCF</i>
<b>Sawtimber</b>													
Softwood	25,197,267	4,300,569	5,822,759	935,996	18,290,292	1,356,707	636,950	46,893	1,394,497	108,633	129,130	108,634	6,986,562
Hardwood	10,417,892	1,713,656	921,016	143,995	13,785,306	1,076,061	1,702,899	133,548	5,780,691	441,409	4,915	25,458	3,539,043
Total	35,615,159	6,014,224	6,743,775	1,079,991	32,075,598	2,432,768	2,339,849	180,441	7,175,188	550,042	134,045	134,092	10,525,605
<b>Poletimber</b>													
Softwood	2,094,076	627,729	377,411	134,478	16,300,968	1,190,560	709,463	51,595	986,503	78,676	26,113	5,868	2,115,020
Hardwood	387,427	69,864	12,329	6,049	10,632,695	821,424	1,195,755	93,500	2,243,311	170,245	1,426	6,818	1,169,326
Total	2,481,503	697,593	389,740	140,528	26,933,663	2,011,984	1,905,218	145,095	3,229,814	248,920	27,540	12,686	3,284,346
<b>Growing stock</b>													
Softwood	27,291,343	4,928,298	6,200,169	1,070,474	34,591,261	2,547,267	1,346,413	98,487	2,381,000	187,308	155,243	114,505	9,101,582
Hardwood	10,805,319	1,783,520	933,345	150,044	24,418,000	1,897,486	2,898,654	227,048	8,024,003	611,654	6,342	32,276	4,708,369
Total	38,096,662	6,711,818	7,133,515	1,220,518	59,009,261	4,444,752	4,245,067	325,535	10,405,002	798,962	161,585	146,781	13,809,951
<b>Nongrowing stock</b>													
Softwood	1,418,541	229,960	383,455	53,464	4,046,173	303,400	209,697	15,438	3,864,028	305,737	11,121	15,497	934,618
Hardwood	1,087,016	178,446	43,199	7,561	3,761,794	295,054	260,981	20,382	15,532,748	1,178,148	2,118	4,651	1,686,361
Total	2,505,557	408,406	426,654	61,025	7,807,967	598,455	470,678	35,820	19,396,776	1,483,886	13,239	20,148	2,620,979
<b>All sources</b>													
Softwood	28,709,884	5,158,258	6,583,624	1,123,938	38,637,433	2,850,667	1,556,110	113,926	6,245,028	493,046	166,364	130,001	10,036,200
Hardwood	11,892,335	1,961,966	976,545	157,605	28,179,794	2,192,540	3,159,635	247,430	23,556,751	1,789,802	8,460	36,927	6,394,729
Total	40,602,219	7,120,224	7,560,169	1,281,543	66,817,228	5,043,207	4,715,745	361,355	29,801,779	2,282,847	174,824	166,928	16,430,930

MBF = thousand board feet (1/4-inch rule); MCF = thousand cubic feet; Cords = standard cords 4' x 4' x 8'.

Numbers in rows and columns may not add to totals due to rounding.

**Table 1.3—Volume of roundwood products by ownership group, species group, and type of product, United States, 1996**

Ownership and species group	Saw logs		Veneer logs		Pulpwood		Composite products		Fuelwood		Posts-poles-pilings	Other products	All products
	<i>MBF</i>	<i>MCF</i>	<i>MBF</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>MCF</i>	<i>MCF</i>	<i>MCF</i>
<b>National forest</b>													
Softwood	2,428,044	418,558	537,926	89,422	1,134,398	84,853	48,023	3,602	1,154,323	92,651	12,348	8,227	709,661
Hardwood	417,411	69,962	30,149	4,819	803,603	62,827	212,624	16,747	712,358	55,850	828	6,497	217,531
Total	2,845,455	488,521	568,075	94,242	1,938,001	147,681	260,647	20,348	1,866,682	148,502	13,176	14,724	927,192
<b>Other public</b>													
Softwood	1,775,966	322,114	395,117	67,109	1,675,814	126,414	109,802	8,417	442,861	35,217	12,084	5,921	577,277
Hardwood	688,655	115,212	46,943	7,448	1,839,780	144,929	846,775	66,741	1,396,640	107,086	460	2,634	444,509
Total	2,464,621	437,326	442,060	74,557	3,515,594	271,343	956,577	75,159	1,839,500	142,302	12,544	8,555	1,021,786
<b>Forest industry</b>													
Softwood	10,591,606	1,927,754	2,535,812	426,584	13,833,081	1,018,074	228,057	16,544	1,788,819	143,331	80,778	10,398	3,623,463
Hardwood	1,395,203	233,478	156,438	25,182	6,634,690	517,027	358,781	28,135	3,343,488	259,936	899	4,158	1,068,816
Total	11,986,809	2,161,233	2,692,250	451,766	20,467,770	1,535,101	586,838	44,678	5,132,307	403,267	81,678	14,556	4,692,279
<b>Other private</b>													
Softwood	13,914,268	2,489,831	3,114,768	540,822	21,994,141	1,621,327	1,170,228	85,363	2,859,025	221,847	61,154	105,456	5,125,800
Hardwood	9,391,066	1,543,313	743,015	120,156	18,901,722	1,467,756	1,741,456	135,807	18,104,264	1,366,930	6,273	23,638	4,663,874
Total	23,305,334	4,033,144	3,857,784	660,979	40,895,863	3,089,082	2,911,684	221,170	20,963,289	1,588,777	67,427	129,094	9,789,673
<b>All ownerships</b>													
Softwood	28,709,884	5,158,258	6,583,624	1,123,938	38,637,433	2,850,667	1,556,110	113,926	6,245,028	493,046	166,364	130,001	10,036,200
Hardwood	11,892,335	1,961,966	976,545	157,605	28,179,794	2,192,540	3,159,635	247,430	23,556,751	1,789,802	8,460	36,927	6,394,729
Total	40,602,219	7,120,224	7,560,169	1,281,543	66,817,228	5,043,207	4,715,745	361,355	29,801,779	2,282,847	174,824	166,928	16,430,930

MBF = thousand board feet (1/4-inch rule); MCF = thousand cubic feet; Cords = standard cords 4' x 4' x 8'.

Numbers in rows and columns may not add to totals due to rounding.

Table 1.4—Volume of roundwood products by species group, detailed species group, and type of product, United States, 1996

Species	Saw logs		Veneer logs		Pulpwood		Composite products		Fuelwood		Posts- poles-pilings	Other products	All products
	MBF	MCF	MBF	MCF	Cords	MCF	Cords	MCF	Cords	MCF	MCF	MCF	MCF
<b>Softwood</b>													
Cedars	577,897	100,883	9,389	1,597	155,188	11,703	6,834	498	175,241	13,699	7,701	18,844	154,925
Cypress	188,201	34,766	23,097	3,956	436,185	31,208	17,428	1,265	16,663	1,205	922	4,000	77,322
Douglas-fir	4,804,196	881,601	1,219,953	231,131	285,967	25,518	3,318	268	109,587	8,754	69,452	815	1,217,540
True firs	1,993,384	352,510	489,400	77,983	905,526	74,090	11,901	947	57,082	4,341	313	257	510,441
Hemlock	1,448,566	247,416	181,661	34,039	967,386	81,497	2,012	155	85,466	6,817	486	44,408	414,817
Larch	138,424	23,498	102,227	17,108	102,127	8,393	173	15	85,193	6,810	9	82	55,914
Jack pine	83,319	16,784	3	1	541,477	42,714	119,792	9,455	74,384	5,203	511	414	75,081
Loblolly-shortleaf pine	11,067,072	1,996,065	3,698,029	617,130	22,090,582	1,603,203	1,064,053	77,096	1,108,696	80,438	34,035	3,707	4,411,674
Lodgepole pine	464,930	80,031	21,416	3,936	38,780	3,116	5,021	405	380,383	29,895	15,910	4,303	137,595
Longleaf-slash pine	2,757,769	508,823	561,529	93,529	8,354,694	600,124	85,039	6,161	238,026	17,224	26,922	10,881	1,263,664
Ponderosa-Jeffrey pine	2,095,563	368,953	29,945	5,619	101,672	8,129	15,424	1,183	422,939	33,483	962	491	418,820
Red pine	233,039	38,994	581	94	557,722	44,531	15,467	1,225	99,922	7,261	1,390	1,953	95,449
Sugar pine	200,748	37,083	9,120	1,847	—	—	—	—	—	—	—	2	38,932
White pine	719,221	116,788	13,982	2,217	638,232	53,116	24,638	1,813	436,851	34,570	615	2,758	211,875
Other pines	914,810	166,461	119,692	20,301	2,355,512	171,895	183,906	13,353	2,852,216	235,242	6,971	3,608	617,831
Redwood	650,784	127,707	—	—	—	—	—	—	—	—	—	133	127,839
Spruce	371,962	59,894	103,598	13,451	1,106,384	91,432	1,105	88	102,379	8,103	166	33,347	206,481
Total	28,709,884	5,158,258	6,583,624	1,123,938	38,637,433	2,850,667	1,556,110	113,926	6,245,028	493,046	166,364	130,001	10,036,200
<b>Hardwood</b>													
Alder	253,802	47,411	35,640	7,043	8,798	709	—	—	6,833	495	—	1	55,659
Ash	391,541	63,184	25,103	3,973	513,665	39,692	12,277	960	755,222	56,361	141	375	164,686
Aspen	484,862	81,855	28,566	4,634	2,229,730	176,620	2,173,429	171,342	542,744	40,174	67	9,872	484,564
Basswood	150,351	25,069	6,909	1,128	132,493	10,443	19,812	1,562	56,341	4,357	79	395	43,033
Beech	236,849	37,669	13,101	2,074	227,129	17,839	10,967	866	278,440	21,637	49	135	80,269
Yellow birch	80,856	12,641	10,416	1,615	126,234	10,119	596	49	91,196	7,156	2	86	31,668
Other birch	167,986	27,178	41,391	6,533	531,708	41,852	91,880	7,243	455,285	33,703	18	392	116,920
Black cherry	226,264	35,516	9,762	1,509	162,881	12,785	3,980	312	222,227	16,886	58	290	67,355
Cottonwood	145,404	22,462	7,845	1,302	112,275	8,607	57,886	4,630	314,769	23,354	9	1,533	61,897
Elm	132,686	21,986	10,993	1,772	422,017	32,273	5,707	436	827,433	59,254	34	157	115,912
Hickory	557,287	92,086	30,715	4,930	1,142,437	87,465	29,690	2,259	949,479	71,099	154	864	258,857
Hard maple	581,799	92,209	40,349	6,436	780,030	62,121	26,168	2,076	684,134	51,910	172	339	215,264
Soft maple	690,776	112,316	48,034	7,608	1,343,162	103,872	129,640	10,133	1,280,757	96,137	155	577	330,798
Select red oaks	1,353,058	219,619	112,140	17,451	1,086,246	84,197	43,849	3,393	2,414,173	182,937	499	1,234	509,331
Other red oaks	2,079,555	349,423	146,165	23,527	5,387,210	411,348	168,956	12,860	3,888,105	295,513	604	2,537	1,095,812
Select white oaks	1,267,047	210,054	65,497	10,438	2,080,377	159,428	72,899	5,562	2,309,475	170,934	683	5,400	562,499
Other white oaks	671,780	110,286	35,495	5,705	1,426,826	109,618	34,603	2,636	1,014,611	77,088	495	2,203	308,030
Sweetgum	633,806	107,329	96,503	15,640	3,451,901	262,238	82,497	6,275	1,732,580	132,045	27	385	523,937
Sycamore	71,989	11,921	5,531	853	98,851	7,472	4,048	308	65,882	4,959	2	230	25,745
Tupelo/blackgum	179,885	30,352	33,638	5,443	1,187,151	90,115	47,211	3,590	572,446	43,514	28	68	173,110
Black walnut	83,219	14,526	8,456	1,390	28,782	2,286	1,505	115	84,234	6,165	12	83	24,576
Yellow-poplar	970,647	157,431	96,511	15,110	1,399,338	106,800	90,286	6,882	1,352,550	104,476	3,459	840	394,999
Other hardwoods	480,886	79,443	67,784	11,492	4,300,554	354,640	51,749	3,941	3,657,836	289,647	1,713	8,931	749,806
Total	11,892,335	1,961,966	976,545	157,605	28,179,794	2,192,540	3,159,635	247,430	23,556,751	1,789,802	8,460	36,927	6,394,729
<b>All species</b>	<b>40,602,219</b>	<b>7,120,224</b>	<b>7,560,169</b>	<b>1,281,543</b>	<b>66,817,228</b>	<b>5,043,207</b>	<b>4,715,745</b>	<b>361,355</b>	<b>29,801,779</b>	<b>2,282,847</b>	<b>174,824</b>	<b>166,928</b>	<b>16,430,930</b>

MBF = thousand board feet (1/4-inch rule); MCF = thousand cubic feet; Cords = standard cords 4' x 4' x 8'.

Numbers in rows and columns may not add to totals due to rounding.

A dash (—) indicates no sample for the cell; 0.0 indicates a value of > 0.0 but < 0.05 for the cell.



**Table 1.5—Volume of roundwood products by region, State, species group, and type of product, United States, 1996**

Region, State, and species group	Saw logs		Veneer logs		Pulpwood		Composite products		Fuelwood		Posts- poles-pilings	Other products	All products
	<i>MBF</i>	<i>MCF</i>	<i>MBF</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>MCF</i>	<i>MCF</i>	<i>MCF</i>
<b>Northeast</b>													
Connecticut													
Softwood	20,849	3,302	—	—	2,959	252	—	—	633	51	—	39	3,643
Hardwood	45,839	6,996	—	—	12	1	—	—	209,630	16,770	—	—	23,768
Total	66,688	10,298	—	—	2,971	253	—	—	210,262	16,821	—	39	27,410
Delaware													
Softwood	2,518	399	2	—	50,750	4,314	—	—	2,349	188	76	—	4,977
Hardwood	16,953	2,587	723	110	9,851	837	—	—	12,189	975	54	—	4,564
Total	19,471	2,986	725	111	60,601	5,151	—	—	14,538	1,163	130	—	9,541
Maine													
Softwood	964,290	152,710	22	3	1,438,743	122,293	—	—	78,141	6,251	503	351	282,111
Hardwood	308,973	47,221	24,692	3,764	1,680,647	142,855	—	—	702,254	56,181	—	662	250,683
Total	1,273,263	199,931	24,714	3,768	3,119,390	265,148	—	—	780,395	62,432	503	1,013	532,794
Maryland													
Softwood	36,541	5,787	—	—	104,414	8,875	—	—	55,555	4,444	457	—	19,563
Hardwood	93,355	14,254	8,409	1,282	87,925	7,474	—	—	726,620	58,130	53	6	81,198
Total	129,896	20,041	8,409	1,282	192,339	16,349	—	—	782,175	62,574	510	6	100,762
Massachusetts													
Softwood	52,227	8,271	—	—	11,764	1,000	—	—	484,347	38,748	—	99	48,117
Hardwood	31,113	4,749	—	—	1,230	105	—	—	716,965	57,357	—	5	62,215
Total	83,340	13,020	—	—	12,994	1,104	—	—	1,201,312	96,105	—	104	110,333
New Hampshire													
Softwood	191,679	30,354	31	5	249,527	21,210	—	—	27,699	2,216	81	1,666	55,533
Hardwood	264,041	40,299	79,590	12,133	357,079	30,352	—	—	257,301	20,584	—	8,769	112,137
Total	455,720	70,653	79,621	12,138	606,606	51,562	—	—	285,000	22,800	81	10,435	167,669
New Jersey													
Softwood	1,511	239	—	—	5,838	496	—	—	12,030	962	82	—	1,780
Hardwood	17,323	2,644	2,129	325	640	54	—	—	988,095	79,048	1	14	82,086
Total	18,834	2,883	2,129	325	6,478	551	—	—	1,000,124	80,010	83	14	83,866
New York													
Softwood	135,290	21,425	10,750	1,703	322,415	27,405	2,101	179	—	—	380	244	51,336
Hardwood	422,560	64,493	9,272	1,413	292,207	24,838	22,820	1,940	889,015	71,121	—	5	163,809
Total	557,850	85,918	20,022	3,117	614,622	52,243	24,921	2,118	889,015	71,121	380	248	215,145

*continued*

**Table 1.5—Volume of roundwood products by region, State, species group, and type of product, United States, 1996 (continued)**

Region, State, and species group	Saw logs		Veneer logs		Pulpwood		Composite products		Fuelwood		Posts- poles-pilings	Other products	All products
	<i>MBF</i>	<i>MCF</i>	<i>MBF</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>MCF</i>	<i>MCF</i>	<i>MCF</i>
<b>Northeast (cont.)</b>													
Pennsylvania													
Softwood	40,729	6,450	60	10	73,952	6,286	—	—	1,600	128	6	10,767	23,646
Hardwood	872,254	133,127	25,953	3,956	704,401	59,874	—	—	245,756	19,661	1,278	1,896	219,792
Total	912,983	139,577	26,013	3,966	778,353	66,160	—	—	247,356	19,789	1,283	12,663	243,438
Rhode Island													
Softwood	2,080	329	—	—	4,330	368	—	—	813	65	—	—	762
Hardwood	3,311	505	—	—	—	—	—	—	93,550	7,484	—	—	7,989
Total	5,391	835	—	—	4,330	368	—	—	94,363	7,549	—	—	8,752
Vermont													
Softwood	172,337	27,292	5,362	850	203,177	17,270	—	—	238	19	101	—	45,532
Hardwood	109,273	16,678	4,042	616	211,633	17,989	—	—	285,020	22,802	—	—	58,084
Total	281,610	43,970	9,404	1,466	414,810	35,259	—	—	285,258	22,821	101	—	103,616
West Virginia													
Softwood	17,214	2,726	—	—	54,068	4,596	—	—	2,408	193	234	—	7,748
Hardwood	794,477	121,256	42,748	6,517	295,764	25,140	—	—	44,233	3,539	4,836	10	161,298
Total	811,691	123,983	42,748	6,517	349,832	29,736	—	—	46,640	3,731	5,070	10	169,046
All Northeast States													
Softwood	1,637,265	259,284	16,227	2,571	2,521,937	214,365	2,101	179	665,811	53,265	1,919	13,165	544,748
Hardwood	2,979,472	454,811	197,558	30,116	3,641,389	309,518	22,820	1,940	5,170,627	413,650	6,222	11,368	1,227,625
Total	4,616,737	714,095	213,785	32,688	6,163,326	523,883	24,921	2,118	5,836,439	466,915	8,141	24,533	1,772,372
<b>North Central</b>													
Illinois													
Softwood	337	60	—	—	4,152	328	—	—	3,598	252	18	—	658
Hardwood	215,698	35,979	5,334	734	37,320	2,948	—	—	838,621	58,703	375	2,459	101,198
Total	216,035	36,039	5,334	734	41,472	3,276	—	—	842,219	58,955	393	2,459	101,856
Indiana													
Softwood	5,678	1,013	—	—	12,684	1,002	—	—	8,178	572	21	17	2,626
Hardwood	348,150	57,984	23,670	3,246	47,985	3,791	—	—	514,499	36,015	311	419	101,767
Total	353,829	58,998	23,670	3,246	60,668	4,793	—	—	522,676	36,587	333	436	104,393
Iowa													
Softwood	102	21	—	—	—	—	—	—	781	55	65	—	141
Hardwood	88,451	14,854	2,539	519	10,298	814	—	—	407,083	28,496	131	69	44,881
Total	88,552	14,875	2,539	519	10,298	814	—	—	407,864	28,550	196	69	45,023

*continued*

**Table 1.5—Volume of roundwood products by region, State, species group, and type of product, United States, 1996 (continued)**

Region, State, and species group	Saw logs		Veneer logs		Pulpwood		Composite products		Fuelwood		Posts- poles-pilings	Other products	All products
	<i>MBF</i>	<i>MCF</i>	<i>MBF</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>MCF</i>	<i>MCF</i>	<i>MCF</i>
<b>North Central (cont.)</b>													
Michigan													
Softwood	142,968	24,617	1,234	201	486,872	38,463	114,334	9,032	131,810	9,216	3,247	728	85,503
Hardwood	505,073	86,939	49,194	8,009	1,564,846	123,623	667,947	52,768	828,023	57,939	56	699	330,032
Total	648,041	111,556	50,428	8,210	2,051,718	162,086	782,281	61,800	959,834	67,154	3,303	1,427	415,536
Minnesota													
Softwood	123,974	23,403	—	—	571,686	44,848	16,896	1,326	26,553	1,859	1,661	486	73,583
Hardwood	190,569	33,706	17,918	2,917	1,055,210	83,076	1,253,161	98,633	775,481	54,284	—	1,530	274,146
Total	314,544	57,109	17,918	2,917	1,626,896	127,924	1,270,056	99,959	802,034	56,142	1,661	2,017	347,729
Missouri													
Softwood	49,086	9,394	59	14	157	12	—	—	4,316	302	945	1,859	12,526
Hardwood	632,695	111,165	4,875	1,091	54,851	4,333	—	—	541,069	37,875	366	6,870	161,700
Total	681,781	120,559	4,935	1,105	55,008	4,346	—	—	545,385	38,177	1,311	8,728	174,226
Ohio													
Softwood	3,522	558	—	—	23,700	2,015	—	—	—	—	931	22	3,525
Hardwood	348,385	53,172	15,392	2,346	464,430	39,477	—	—	167,185	13,375	155	505	109,029
Total	351,907	53,730	15,392	2,346	488,130	41,491	—	—	167,185	13,375	1,086	527	112,555
Wisconsin													
Softwood	102,898	18,191	1,776	289	861,677	68,012	14,668	1,157	49,694	3,479	559	877	92,563
Hardwood	540,741	94,535	49,605	8,076	1,607,216	127,021	461,848	36,487	1,039,706	72,779	185	3,602	342,685
Total	643,640	112,727	51,381	8,365	2,468,892	195,032	476,516	37,645	1,089,400	76,258	744	4,478	435,249
All North Central States													
Softwood	428,567	77,258	3,070	504	1,960,928	154,679	145,897	11,516	224,931	15,734	7,447	3,989	271,126
Hardwood	2,869,761	488,335	168,527	26,938	4,842,156	385,082	2,382,956	187,888	5,111,666	359,465	1,579	16,152	1,465,440
Total	3,298,328	565,593	171,597	27,442	6,803,084	539,761	2,528,853	199,404	5,336,597	375,200	9,026	20,141	1,736,566
<b>Southern</b>													
Alabama													
Softwood	2,170,224	399,291	459,489	74,873	5,723,612	415,503	186,840	13,562	214,591	15,569	20,731	266	939,795
Hardwood	417,852	73,509	119,374	19,559	3,691,485	281,998	3,814	289	1,292,959	98,711	—	168	474,234
Total	2,588,076	472,800	578,863	94,432	9,415,097	697,501	190,654	13,851	1,507,550	114,280	20,731	434	1,414,029
Arkansas													
Softwood	1,254,627	225,807	392,352	68,257	1,723,921	125,131	697	50	151,462	10,989	4,090	189	434,513
Hardwood	536,107	88,965	38,106	6,047	1,532,282	117,344	2,470	187	995,810	76,312	21	—	288,876
Total	1,790,734	314,772	430,458	74,304	3,256,203	242,475	3,167	237	1,147,272	87,301	4,111	189	723,389

*continued*

**Table 1.5—Volume of roundwood products by region, State, species group, and type of product, United States, 1996 (continued)**

Region, State, and species group	Saw logs		Veneer logs		Pulpwood		Composite products		Fuelwood		Posts- poles-pilings	Other products	All products
	<i>MBF</i>	<i>MCF</i>	<i>MBF</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>MCF</i>	<i>MCF</i>	<i>MCF</i>
<b>Southern (cont.)</b>													
Florida													
Softwood	769,017	146,856	141,626	24,347	3,957,034	280,917	—	—	53,807	3,928	8,475	15,222	479,745
Hardwood	36,260	6,078	11,274	1,802	534,851	40,094	40,178	3,012	303,360	22,752	—	231	73,969
Total	805,277	152,934	152,900	26,149	4,491,885	321,011	40,178	3,012	357,167	26,680	8,475	15,453	553,714
Georgia													
Softwood	2,646,284	486,848	361,635	58,924	5,824,692	422,807	508,536	36,900	238,280	17,287	11,969	3,058	1,037,793
Hardwood	371,718	65,361	124,370	20,367	2,546,198	194,458	135,558	10,343	1,485,630	113,421	—	472	404,422
Total	3,018,002	552,209	486,005	79,291	8,370,890	617,265	644,094	47,243	1,723,910	130,708	11,969	3,530	1,442,215
Kentucky													
Softwood	33,096	6,015	—	—	45,686	3,336	—	—	2,060	150	1,199	606	11,306
Hardwood	946,813	155,225	6,487	1,009	224,019	17,034	20,469	1,554	328,514	25,000	6	202	200,030
Total	979,909	161,240	6,487	1,009	269,705	20,370	20,469	1,554	330,574	25,150	1,205	808	211,336
Louisiana													
Softwood	805,344	153,800	710,819	122,240	3,144,877	223,263	67,036	4,753	105,535	7,704	1,483	—	513,243
Hardwood	164,587	27,631	5,583	896	1,217,386	91,278	25,165	1,881	812,374	60,928	—	—	182,614
Total	969,931	181,431	716,402	123,136	4,362,263	314,541	92,201	6,634	917,909	68,632	1,483	—	695,857
Mississippi													
Softwood	2,207,550	406,154	352,949	57,510	2,868,185	208,192	171,100	12,415	143,718	10,427	1,451	—	696,149
Hardwood	492,389	86,628	34,013	5,559	3,214,072	245,523	138,900	10,603	923,623	70,514	—	—	418,827
Total	2,699,939	492,782	386,962	63,069	6,082,257	453,715	310,000	23,018	1,067,341	80,941	1,451	—	1,114,976
North Carolina													
Softwood	1,614,255	290,523	274,478	47,740	2,666,884	193,572	287,793	20,869	188,815	13,699	2,138	67	568,608
Hardwood	650,628	107,960	117,746	18,682	1,806,125	138,299	169,534	12,959	1,404,942	107,665	—	32	385,597
Total	2,264,883	398,483	392,224	66,422	4,473,009	331,871	457,327	33,828	1,593,757	121,364	2,138	99	954,205
Oklahoma													
Softwood	254,473	45,803	70,714	12,300	396,575	28,788	—	—	6,891	500	6,098	—	93,489
Hardwood	48,610	8,062	803	127	152,761	11,699	—	—	376,506	28,853	—	—	48,741
Total	303,083	53,865	71,517	12,427	549,336	40,487	—	—	383,397	29,353	6,098	—	142,230
South Carolina													
Softwood	1,219,481	219,484	239,212	42,086	3,084,564	211,577	19,000	1,302	114,958	7,886	3,765	261	486,361
Hardwood	164,479	27,615	48,470	7,881	1,531,393	107,941	1,000	70	660,097	48,451	—	—	191,958
Total	1,383,960	247,099	287,682	49,967	4,615,957	319,518	20,000	1,372	775,055	56,337	3,765	261	678,319

*continued*

**Table 1.5—Volume of roundwood products by region, State, species group, and type of product, United States, 1996 (continued)**

Region, State, and species group	Saw logs		Veneer logs		Pulpwood		Composite products		Fuelwood		Posts- poles-pilings	Other products	All products
	<i>MBF</i>	<i>MCF</i>	<i>MBF</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>MCF</i>	<i>MCF</i>	<i>MCF</i>
<b>Southern (cont.)</b>													
Tennessee													
Softwood	84,580	15,187	55	9	617,927	44,838	538	38	119,975	8,705	3,765	748	73,290
Hardwood	918,160	152,369	10,706	1,685	841,628	64,440	7,154	548	989,233	75,808	—	—	294,850
Total	1,002,740	167,556	10,761	1,694	1,459,555	109,278	7,692	586	1,109,208	84,513	3,765	748	368,140
Texas													
Softwood	1,432,953	232,245	1,324,718	214,754	1,574,314	127,487	—	—	23,322	1,692	1,869	29	578,076
Hardwood	241,195	40,497	12,621	2,052	1,213,419	97,097	—	—	225,279	17,199	—	—	156,845
Total	1,674,148	272,742	1,337,339	216,806	2,787,733	224,584	—	—	248,601	18,891	1,869	29	734,921
Virginia													
Softwood	512,624	93,769	81,661	13,134	1,552,276	113,741	137,877	10,089	143,438	10,508	1,194	35	242,470
Hardwood	725,834	119,000	19,949	3,163	1,152,049	87,624	149,685	11,373	1,226,335	93,324	69	2,429	316,982
Total	1,238,458	212,769	101,610	16,297	2,704,325	201,365	287,562	21,462	1,369,773	103,832	1,263	2,464	559,452
All Southern States													
Softwood	15,004,508	2,721,782	4,409,708	736,174	33,180,547	2,399,152	1,379,417	99,978	1,506,852	109,044	68,227	20,481	6,154,838
Hardwood	5,714,632	958,900	549,502	88,829	19,657,668	1,494,829	693,927	52,819	11,024,662	838,938	96	3,534	3,437,945
Total	20,719,140	3,680,682	4,959,210	825,003	52,838,215	3,893,981	2,073,344	152,797	12,531,514	947,982	68,323	24,015	9,592,783
<b>Rocky Mountains</b>													
Arizona													
Softwood	85,316	13,037	—	—	16,544	1,324	—	—	140,917	11,273	500	6	26,140
Hardwood	—	—	—	—	—	—	—	—	86,343	6,907	—	—	6,907
Total	85,316	13,037	—	—	16,544	1,324	—	—	227,260	18,181	500	6	33,047
Colorado													
Softwood	67,655	11,645	—	—	—	—	—	—	322,050	25,764	784	104	38,297
Hardwood	6,990	1,203	—	—	—	—	—	—	158,000	12,640	41	4,118	18,002
Total	74,645	12,848	—	—	—	—	—	—	480,050	38,404	825	4,221	56,299
Idaho													
Softwood	1,173,298	184,307	195,933	30,778	235,336	18,827	—	—	255,500	20,440	6,695	5,165	266,212
Hardwood	640	100	—	—	—	—	57,601	4,608	24,438	1,955	—	—	6,664
Total	1,173,937	184,407	195,933	30,778	235,336	18,827	57,601	4,608	279,938	22,395	6,695	5,165	272,876
Kansas													
Softwood	89	19	—	—	—	—	—	—	2,763	193	1	—	213
Hardwood	13,189	2,142	101	14	—	—	—	—	325,793	22,806	415	6	25,382
Total	13,278	2,161	101	14	—	—	—	—	328,556	22,999	416	6	25,596

*continued*

Table 1.5—Volume of roundwood products by region, State, species group, and type of product, United States, 1996 (continued)

Region, State, and species group	Saw logs		Veneer logs		Pulpwood		Composite products		Fuelwood		Posts- poles-pilings	Other products	All products
	<i>MBF</i>	<i>MCF</i>	<i>MBF</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>MCF</i>	<i>MCF</i>	<i>MCF</i>
<b>Rocky Mountains (cont.)</b>													
Montana													
Softwood	763,120	123,064	202,666	32,683	57,560	4,605	—	—	226,938	18,155	2,255	2,355	183,117
Hardwood	7	1	—	—	—	—	—	—	46,513	3,721	—	—	3,722
Total	763,127	123,065	202,666	32,683	57,560	4,605	—	—	273,450	21,876	2,255	2,355	186,839
Nebraska													
Softwood	22,202	3,876	—	—	—	—	—	—	6,445	451	122	119	4,568
Hardwood	29,868	4,635	384	87	—	—	—	—	167,392	11,717	44	75	16,558
Total	52,070	8,511	384	87	—	—	—	—	173,837	12,169	166	194	21,126
Nevada													
Softwood	8,370	1,279	—	—	—	—	—	—	30,000	2,400	20	—	3,699
Hardwood	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	8,370	1,279	—	—	—	—	—	—	30,000	2,400	20	—	3,699
New Mexico													
Softwood	63,519	10,321	—	—	18,090	1,422	—	—	100,852	7,927	327	787	20,784
Hardwood	—	—	—	—	—	—	—	—	45,802	3,600	—	1,090	4,690
Total	63,519	10,321	—	—	18,090	1,422	—	—	146,654	11,527	327	1,877	25,474
North Dakota													
Softwood	5	1	—	—	—	—	—	—	1,462	102	—	4	107
Hardwood	2,605	458	—	—	—	—	2,331	175	32,733	2,291	17	—	2,941
Total	2,610	458	—	—	—	—	2,331	175	34,195	2,394	17	4	3,048
South Dakota													
Softwood	78,323	12,777	—	—	—	—	10,800	810	11,476	803	21	—	14,412
Hardwood	1,066	188	—	—	—	—	—	—	56,370	3,946	46	—	4,179
Total	79,389	12,965	—	—	—	—	10,800	810	67,846	4,749	67	—	18,591
Utah													
Softwood	48,954	8,104	—	—	—	—	—	—	44,699	3,576	967	1,588	14,235
Hardwood	247	41	—	—	—	—	—	—	18,936	1,515	—	582	2,138
Total	49,201	8,145	—	—	—	—	—	—	63,635	5,091	967	2,170	16,372
Wyoming													
Softwood	74,378	12,668	—	—	—	—	—	—	105,411	7,644	1,417	322	22,051
Hardwood	—	—	—	—	—	—	—	—	36,833	2,671	—	—	2,671
Total	74,378	12,668	—	—	—	—	—	—	142,244	10,315	1,417	322	24,722
All Rocky Mountains States													
Softwood	2,385,228	381,098	398,599	63,461	327,529	26,177	10,800	810	1,248,514	98,730	13,109	10,450	593,834
Hardwood	54,612	8,767	485	102	—	—	59,932	4,783	999,151	73,769	563	5,870	93,855
Total	2,439,840	389,865	399,084	63,563	327,529	26,177	70,732	5,593	2,247,664	172,499	13,672	16,320	687,689

continued

**Table 1.5—Volume of roundwood products by region, State, species group, and type of product, United States, 1996 (continued)**

Region, State, and species group	Saw logs		Veneer logs		Pulpwood		Composite products		Fuelwood		Posts- poles-pilings	Other products	All products
	<i>MBF</i>	<i>MCF</i>	<i>MBF</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>MCF</i>	<i>MCF</i>	<i>MCF</i>
<b>Pacific Coast</b>													
Alaska													
Softwood	240,491	34,360	—	—	239,789	19,183	—	—	88,469	7,078	—	79,475	140,096
Hardwood	1,277	182	—	—	908	73	—	—	71,306	5,704	—	3	5,962
Total	241,767	34,542	—	—	240,698	19,256	—	—	159,775	12,782	—	79,478	146,058
California													
Softwood	2,681,016	515,436	180,023	35,334	—	—	—	—	1,376,674	114,718	7,056	245	672,790
Hardwood	—	—	558	99	—	—	—	—	657,557	54,794	—	—	54,893
Total	2,681,016	515,436	180,580	35,433	—	—	—	—	2,034,231	169,512	7,056	245	727,682
Oregon													
Softwood	3,383,006	601,596	1,075,387	181,761	106,270	8,570	17,895	1,443	519,555	43,295	7,323	921	844,909
Hardwood	22,637	4,909	49,353	9,542	37,673	3,038	—	—	239,109	19,925	—	—	37,414
Total	3,405,643	606,505	1,124,739	191,303	143,943	11,608	17,895	1,443	758,663	63,219	7,323	923	882,324
Washington													
Softwood	2,949,802	567,444	500,612	104,133	300,433	28,541	—	—	614,222	51,183	61,284	1,273	813,859
Hardwood	249,944	46,062	10,561	1,979	—	—	—	—	282,673	23,555	—	—	71,596
Total	3,199,746	613,506	511,173	106,113	300,433	28,541	—	—	896,895	74,738	61,284	1,273	885,455
All Pacific Coast States													
Softwood	9,254,316	1,718,836	1,756,021	321,228	646,493	56,295	17,895	1,443	2,598,919	216,273	75,662	81,917	2,471,654
Hardwood	273,858	51,153	60,472	11,620	38,581	3,111	—	—	1,250,645	103,979	—	3	169,865
Total	9,528,173	1,769,989	1,816,493	332,849	685,074	59,405	17,895	1,443	3,849,565	320,252	75,662	81,919	2,641,519
<b>All regions</b>													
All States													
Softwood	28,709,884	5,158,258	6,583,625	1,123,938	38,637,434	2,850,668	1,556,110	113,926	6,245,027	493,046	166,364	130,001	10,036,200
Hardwood	11,892,335	1,961,966	976,544	157,605	28,179,794	2,192,540	3,159,635	247,430	23,556,751	1,789,801	8,460	36,927	6,394,730
Total	40,602,219	7,120,224	7,560,169	1,281,543	66,817,228	5,043,208	4,715,745	361,356	29,801,778	2,282,847	174,824	166,928	16,430,930

MBF = thousand board feet (1/4-inch rule); MCF = thousand cubic feet; Cords = standard cords 4' x 4' x 8'.

Numbers in rows and columns may not add to totals due to rounding.

**Table 1.6—Volume of roundwood products by source, species group, and ownership group, United States, 1996**

Source and species group	National forest	Other public	Forest industry	Other private	All owners
<i>Thousand cubic feet</i>					
<b>Sawtimber</b>					
Softwood	435,035	396,998	2,531,851	3,622,678	6,986,562
Hardwood	122,317	239,562	592,534	2,584,630	3,539,043
Total	557,353	636,560	3,124,385	6,207,307	10,525,605
<b>Poletimber</b>					
Softwood	139,784	125,001	812,119	1,038,116	2,115,020
Hardwood	40,956	93,763	245,274	789,333	1,169,326
Total	180,739	218,764	1,057,393	1,827,449	3,284,346
<b>Growing stock</b>					
Softwood	574,819	521,999	3,343,970	4,660,793	9,101,582
Hardwood	163,273	333,325	837,808	3,373,963	4,708,369
Total	738,092	855,324	4,181,778	8,034,756	13,809,951
<b>Nongrowing stock</b>					
Softwood	134,842	55,277	279,493	465,007	934,618
Hardwood	54,258	111,184	231,008	1,289,910	1,686,361
Total	189,100	166,461	510,501	1,754,917	2,620,979
<b>All sources</b>					
Softwood	709,661	577,277	3,623,463	5,125,800	10,036,200
Hardwood	217,531	444,509	1,068,816	4,663,874	6,394,729
Total	927,192	1,021,786	4,692,279	9,789,673	16,430,930

Numbers in rows and columns may not add to totals due to rounding.



**Table 1.7—Volume of roundwood products by species group, detailed species group, and ownership group, United States, 1996**

Species group and detailed species group	National forest	Other public	Forest industry	Other private	All owners
<i>Thousand cubic feet</i>					
<b>Softwood</b>					
Cedars	22,496	14,285	43,562	74,582	154,925
Cypress	292	3,228	25,662	48,140	77,322
Douglas-fir	115,595	152,225	606,618	343,102	1,217,540
True firs	80,847	38,840	224,870	165,883	510,441
Hemlock	39,629	45,703	151,155	178,330	414,817
Larch	8,885	5,774	22,904	18,352	55,914
Jack pine	6,438	23,956	7,693	36,994	75,081
Loblolly-shortleaf pine	135,418	99,934	1,472,241	2,704,081	4,411,674
Lodgepole pine	48,402	10,715	27,325	51,154	137,595
Longleaf-slash pine	26,463	51,351	542,015	643,835	1,263,664
Ponderosa-Jeffrey pine	109,334	38,601	122,976	147,909	418,820
Red pine	6,122	23,956	8,404	56,967	95,449
Sugar pine	11,017	1,232	18,017	8,666	38,932
White pine	6,749	13,046	23,855	168,225	211,875
Other pines	51,678	30,382	181,674	354,097	617,831
Redwood	986	5,144	102,528	19,181	127,839
Spruce	39,312	18,904	41,965	106,300	206,481
Total	709,661	577,277	3,623,463	5,125,800	10,036,200
<b>Hardwood</b>					
Alder	523	7,631	24,199	23,307	55,659
Ash	3,618	11,875	18,605	130,588	164,686
Aspen	40,935	141,028	62,925	239,676	484,564
Basswood	2,646	6,416	5,590	28,382	43,033
Beech	2,397	4,326	11,142	62,404	80,269
Yellow birch	1,776	2,678	7,698	19,515	31,668
Other birch	8,986	21,431	16,466	70,037	116,920
Black cherry	1,366	4,126	6,904	54,959	67,355
Cottonwood	1,233	3,904	5,637	51,124	61,897
Elm	996	3,940	11,832	99,144	115,912
Hickory	6,054	8,020	39,251	205,532	258,857
Hard maple	9,127	24,050	32,216	149,871	215,264
Soft maple	11,368	26,038	43,471	249,922	330,798
Select red oaks	17,139	54,568	41,441	396,183	509,331
Other red oaks	27,460	30,365	194,311	843,676	1,095,812
Select white oaks	13,014	20,928	73,079	455,479	562,499
Other white oaks	18,568	11,962	48,175	229,325	308,030
Sweetgum	5,356	11,909	125,487	381,185	523,937
Sycamore	753	340	3,411	21,241	25,745
Tupelo/blackgum	1,396	3,082	45,909	122,723	173,110
Black walnut	602	700	789	22,485	24,576
Yellow-poplar	10,416	13,908	49,949	320,725	394,999
Other hardwoods	31,805	31,284	200,330	486,388	749,806
Total	217,531	444,509	1,068,816	4,663,874	6,394,729
<b>All species</b>	927,192	1,021,786	4,692,279	9,789,673	16,430,930

Numbers in rows and columns may not add to totals due to rounding.

**Table 1.8—Volume of roundwood products by species group, detailed species group, and source, United States, 1996**

Species group and detailed species group	Sawtimber	Poletimber	Total growing stock	Non-growing stock	All sources
<i>Thousand cubic feet</i>					
<b>Softwood</b>					
Cedars	112,006	20,486	132,492	22,433	154,925
Cypress	51,722	19,967	71,688	5,634	77,322
Douglas-fir	821,977	342,976	1,164,953	52,586	1,217,540
True firs	339,925	101,939	441,864	68,577	510,441
Hemlock	297,027	78,246	375,273	39,544	414,817
Larch	39,090	6,782	45,872	10,042	55,914
Jack pine	37,497	24,328	61,824	13,257	75,081
Loblolly-shortleaf pine	3,312,177	834,188	4,146,366	265,308	4,411,674
Lodgepole pine	70,575	19,506	90,082	47,514	137,595
Longleaf-slash pine	834,754	344,006	1,178,760	84,904	1,263,664
Ponderosa-Jeffrey pine	276,336	81,377	357,713	61,107	418,820
Red pine	62,159	18,972	81,131	14,317	95,449
Sugar pine	26,858	8,099	34,957	3,975	38,932
White pine	133,391	16,345	149,736	62,139	211,875
Other pines	321,829	147,472	469,302	148,529	617,831
Redwood	96,833	20,084	116,917	10,922	127,839
Spruce	152,406	30,245	182,651	23,830	206,481
<b>Total</b>	<b>6,986,562</b>	<b>2,115,020</b>	<b>9,101,582</b>	<b>934,618</b>	<b>10,036,200</b>
<b>Hardwood</b>					
Alder	47,001	8,032	55,033	627	55,659
Ash	87,162	20,741	107,903	56,783	164,686
Aspen	285,693	138,863	424,555	60,009	484,564
Basswood	27,373	6,859	34,232	8,801	43,033
Beech	48,673	8,337	57,009	23,260	80,269
Yellow birch	17,691	2,887	20,578	11,089	31,668
Other birch	50,027	35,881	85,908	31,012	116,920
Black cherry	42,719	6,040	48,758	18,597	67,355
Cottonwood	37,386	4,504	41,889	20,008	61,897
Elm	43,820	16,588	60,408	55,504	115,912
Hickory	150,213	44,530	194,742	64,115	258,857
Hard maple	120,203	22,493	142,696	72,568	215,264
Soft maple	173,055	64,420	237,475	93,323	330,798
Select red oaks	279,309	51,428	330,737	178,595	509,331
Other red oaks	621,461	209,719	831,180	264,632	1,095,812
Select white oaks	315,584	87,314	402,899	159,601	562,499
Other white oaks	182,912	54,675	237,587	70,443	308,030
Sweetgum	292,166	133,542	425,708	98,230	523,937
Sycamore	17,072	4,064	21,137	4,608	25,745
Tupelo/blackgum	92,954	47,610	140,564	32,546	173,110
Black walnut	13,453	1,394	14,846	9,730	24,576
Yellow-poplar	239,246	63,393	302,640	92,359	394,999
Other hardwoods	353,871	136,014	489,885	259,921	749,806
<b>Total</b>	<b>3,539,043</b>	<b>1,169,326</b>	<b>4,708,369</b>	<b>1,686,361</b>	<b>6,394,729</b>
<b>All species</b>	<b>10,525,605</b>	<b>3,284,346</b>	<b>13,809,951</b>	<b>2,620,979</b>	<b>16,430,930</b>

Numbers in rows and columns may not add to totals due to rounding.

**Table 1.9—Volume of timber removals by ownership group, species group, removals class, and source, United States, 1996**

Ownership and species group	Roundwood products			Logging residues			Other removals			All removals		
	Growing stock	Nongrowing stock	All sources	Growing stock	Nongrowing stock	All sources	Growing stock	Nongrowing stock	All sources	Growing stock	Nongrowing stock	All sources
<i>Thousand cubic feet</i>												
<b>National forest</b>												
Softwood	574,819	134,842	709,661	41,874	63,189	105,063	12,773	2,718	15,491	629,466	200,750	830,215
Hardwood	163,273	54,258	217,531	20,305	45,047	65,352	15,153	8,280	23,433	198,731	107,585	306,316
Total	738,092	189,100	927,192	62,179	108,236	170,415	27,925	10,999	38,924	828,196	308,335	1,136,531
<b>Other public</b>												
Softwood	521,999	55,277	577,277	27,074	53,538	80,611	11,711	3,630	15,341	560,784	112,445	673,229
Hardwood	333,325	111,184	444,509	33,034	112,585	145,619	18,647	12,479	31,126	385,006	236,248	621,254
Total	855,324	166,461	1,021,786	60,107	166,123	226,230	30,359	16,109	46,467	945,790	348,693	1,294,483
<b>Forest industry</b>												
Softwood	3,343,970	279,493	3,623,463	224,021	241,868	465,889	114,814	30,427	145,241	3,682,805	551,788	4,234,593
Hardwood	837,808	231,008	1,068,816	118,470	219,879	338,350	93,736	56,053	149,789	1,050,014	506,940	1,556,954
Total	4,181,778	510,501	4,692,279	342,491	461,748	804,239	208,550	86,479	295,030	4,732,819	1,058,728	5,791,547
<b>Other private</b>												
Softwood	4,660,793	465,007	5,125,800	321,774	375,124	696,898	208,909	62,970	271,879	5,191,476	903,101	6,094,577
Hardwood	3,373,963	1,289,910	4,663,874	505,113	970,390	1,475,503	443,386	290,941	734,327	4,322,462	2,551,241	6,873,704
Total	8,034,756	1,754,917	9,789,673	826,887	1,345,514	2,172,401	652,295	353,911	1,006,207	9,513,939	3,454,342	12,968,281
<b>All ownerships</b>												
Softwood	9,101,582	934,618	10,036,200	614,743	733,720	1,348,462	348,207	99,745	447,952	10,064,531	1,768,083	11,832,614
Hardwood	4,708,369	1,686,361	6,394,729	676,922	1,347,900	2,024,823	570,922	367,753	938,676	5,956,214	3,402,014	9,358,228
Total	13,809,951	2,620,979	16,430,930	1,291,665	2,081,620	3,373,285	919,129	467,498	1,386,628	16,020,745	5,170,097	21,190,842

Numbers in rows and columns may not add to totals due to rounding.

**Table 1.10—Volume of timber removals by region, State, species group, removals class, and source, United States, 1996**

Region, State, and species group	Roundwood products			Logging residues			Other removals			All removals		
	Growing stock	Nongrowing stock	All sources	Growing stock	Nongrowing stock	All sources	Growing stock	Nongrowing stock	All sources	Growing stock	Nongrowing stock	All sources
<i>Thousand cubic feet</i>												
<b>Northeast</b>												
Connecticut												
Softwood	2,870	773	3,643	143	1,344	1,488	—	19	19	3,013	2,136	5,149
Hardwood	7,599	16,168	23,768	1,079	3,604	4,683	—	15	15	8,678	19,787	28,465
Total	10,469	16,941	27,410	1,222	4,948	6,170	—	34	34	11,691	21,923	33,615
Delaware												
Softwood	3,758	1,219	4,977	209	1,536	1,745	—	2	2	3,966	2,757	6,724
Hardwood	3,201	1,364	4,564	487	1,820	2,306	—	—	—	3,688	3,184	6,871
Total	6,959	2,583	9,541	696	3,356	4,051	—	3	3	7,654	5,941	13,595
Maine												
Softwood	222,204	59,907	282,111	11,836	98,183	110,019	—	56	56	234,039	158,147	392,186
Hardwood	185,857	64,826	250,683	21,834	99,297	121,131	—	36	36	207,691	164,159	371,850
Total	408,061	124,733	532,794	33,669	197,480	231,150	—	93	93	441,730	322,306	764,037
Maryland												
Softwood	12,241	7,323	19,563	650	5,157	5,808	—	22	22	12,891	12,502	25,393
Hardwood	24,677	56,521	81,198	2,939	12,106	15,045	—	161	161	27,617	68,789	96,405
Total	36,918	63,844	100,762	3,590	17,263	20,853	—	184	184	40,507	81,291	121,798
Massachusetts												
Softwood	7,612	40,505	48,117	375	3,485	3,860	—	14	14	7,987	44,004	51,991
Hardwood	6,974	55,241	62,215	741	2,498	3,239	—	9	9	7,715	57,748	65,464
Total	14,586	95,747	110,333	1,116	5,983	7,100	—	22	22	15,703	101,752	117,455
New Hampshire												
Softwood	42,606	12,927	55,533	2,261	18,782	21,043	—	49	49	44,867	31,758	76,625
Hardwood	83,616	28,521	112,137	11,440	46,000	57,440	—	22	22	95,056	74,543	169,599
Total	126,222	41,447	167,669	13,701	64,782	78,484	—	72	72	139,923	106,301	246,224
New Jersey												
Softwood	715	1,065	1,780	38	274	313	—	1	1	753	1,340	2,094
Hardwood	9,332	72,754	82,086	464	1,562	2,026	—	10	10	9,795	74,326	84,121
Total	10,047	73,819	83,866	502	1,837	2,338	—	11	11	10,549	75,666	86,215
New York												
Softwood	40,495	10,841	51,336	2,152	17,672	19,823	—	1,194	1,194	42,646	29,707	72,353
Hardwood	86,198	77,612	163,809	12,224	46,904	59,128	—	8,708	8,708	98,421	133,223	231,645
Total	126,692	88,453	215,145	14,376	64,576	78,951	—	9,902	9,902	141,068	162,931	303,998

continued

**Table 1.10—Volume of timber removals by region, State, species group, removals class, and source, United States, 1996 (continued)**

Region, State, and species group	Roundwood products			Logging residues			Other removals			All removals		
	Growing stock	Nongrowing stock	All sources	Growing stock	Nongrowing stock	All sources	Growing stock	Nongrowing stock	All sources	Growing stock	Nongrowing stock	All sources
<i>Thousand cubic feet</i>												
<b>Northeast (cont.)</b>												
Pennsylvania												
Softwood	17,248	6,398	23,646	1,487	8,015	9,502	—	26	26	18,735	14,439	33,174
Hardwood	174,678	45,114	219,792	26,127	101,053	127,180	—	167	167	200,805	146,334	347,139
Total	191,927	51,511	243,438	27,614	109,067	136,681	—	194	194	219,541	160,773	380,313
Rhode Island												
Softwood	559	203	762	29	242	270	—	2	2	588	447	1,035
Hardwood	1,076	6,913	7,989	78	260	338	—	3	3	1,154	7,176	8,330
Total	1,635	7,117	8,752	107	502	609	—	5	5	1,742	7,623	9,365
Vermont												
Softwood	36,103	9,429	45,532	1,856	16,149	18,004	—	4	4	37,958	25,582	63,540
Hardwood	35,287	22,797	58,084	4,050	17,613	21,663	—	11	11	39,338	40,421	79,759
Total	71,390	32,226	103,616	5,906	33,762	39,668	—	15	15	77,296	66,003	143,299
West Virginia												
Softwood	5,946	1,802	7,748	326	2,560	2,886	—	10	10	6,272	4,372	10,645
Hardwood	138,109	23,189	161,298	22,932	81,634	104,566	—	126	126	161,041	104,950	265,990
Total	144,055	24,991	169,046	23,258	84,194	107,452	—	136	136	167,313	109,322	276,635
All Northeast States												
Softwood	392,355	152,393	544,748	21,362	173,399	194,761	—	1,400	1,400	413,717	327,192	740,909
Hardwood	756,605	471,020	1,227,625	104,395	414,351	518,746	—	9,270	9,270	860,999	894,641	1,755,640
Total	1,148,959	623,413	1,772,372	125,757	587,751	713,507	—	10,669	10,669	1,274,716	1,221,833	2,496,549
<b>North Central</b>												
Illinois												
Softwood	389	269	658	9	169	179	342	178	520	741	616	1,357
Hardwood	42,440	58,758	101,198	10,059	20,427	30,486	23,927	16,510	40,437	76,426	95,695	172,121
Total	42,830	59,027	101,856	10,068	20,596	30,665	24,269	16,687	40,957	77,167	96,310	173,478
Indiana												
Softwood	2,051	575	2,626	107	1,514	1,621	903	293	1,195	3,061	2,381	5,442
Hardwood	64,536	37,231	101,767	16,629	34,298	50,927	11,614	10,257	21,871	92,779	81,786	174,565
Total	66,586	37,807	104,393	16,736	35,811	52,548	12,517	10,549	23,066	95,839	84,167	180,007
Iowa												
Softwood	63	78	141	2	18	21	40	86	126	105	182	288
Hardwood	14,226	30,656	44,881	3,382	8,132	11,514	7,790	8,984	16,774	25,398	47,771	73,169
Total	14,289	30,734	45,023	3,384	8,150	11,534	7,830	9,070	16,899	25,503	47,953	73,456

continued

**Table 1.10—Volume of timber removals by region, State, species group, removals class, and source, United States, 1996 (continued)**

Region, State, and species group	Roundwood products			Logging residues			Other removals			All removals		
	Growing stock	Nongrowing stock	All sources	Growing stock	Nongrowing stock	All sources	Growing stock	Nongrowing stock	All sources	Growing stock	Nongrowing stock	All sources
<i>Thousand cubic feet</i>												
<b>North Central (cont.)</b>												
Michigan												
Softwood	73,025	12,478	85,503	3,238	20,689	23,927	2,114	1,324	3,438	78,377	34,491	112,868
Hardwood	249,715	80,317	330,032	19,190	54,066	73,255	5,446	3,951	9,397	274,351	138,334	412,685
Total	322,740	92,796	415,536	22,428	74,754	97,182	7,561	5,275	12,836	352,729	172,825	525,554
Minnesota												
Softwood	69,116	4,468	73,583	2,544	33,460	36,004	3,062	1,963	5,024	74,721	39,890	114,611
Hardwood	219,076	55,069	274,146	14,857	95,057	109,914	15,734	12,533	28,267	249,667	162,659	412,327
Total	288,192	59,537	347,729	17,401	128,517	145,918	18,796	14,495	33,291	324,388	202,550	526,938
Missouri												
Softwood	11,200	1,326	12,526	1,301	5,851	7,153	195	316	511	12,695	7,493	20,189
Hardwood	104,265	57,435	161,700	25,360	62,869	88,229	18,748	30,245	48,993	148,374	150,549	298,923
Total	115,465	58,761	174,226	26,661	68,720	95,382	18,943	30,561	49,504	161,069	158,042	319,111
Ohio												
Softwood	2,654	871	3,525	194	1,163	1,357	—	25	25	2,848	2,060	4,908
Hardwood	86,729	22,300	109,029	11,639	49,968	61,606	—	654	654	98,368	72,922	171,290
Total	89,383	23,172	112,555	11,833	51,131	62,964	—	680	680	101,216	74,982	176,198
Wisconsin												
Softwood	78,527	14,037	92,563	2,160	25,354	27,514	1,394	381	1,775	82,081	39,772	121,853
Hardwood	251,949	90,736	342,685	19,523	102,845	122,368	6,236	5,400	11,637	277,708	198,982	476,690
Total	330,476	104,773	435,249	21,683	128,200	149,883	7,630	5,781	13,411	359,789	238,754	598,543
All North Central States												
Softwood	237,025	34,102	271,126	9,556	88,218	97,775	8,048	4,566	12,614	254,629	126,886	381,515
Hardwood	1,032,936	432,504	1,465,440	120,639	427,662	548,300	89,496	88,533	178,029	1,243,071	948,698	2,191,769
Total	1,269,961	466,605	1,736,566	130,195	515,880	646,075	97,545	93,098	190,643	1,497,700	1,075,584	2,573,284
<b>Southern</b>												
Alabama												
Softwood	895,844	43,951	939,795	53,011	18,307	71,318	36,491	4,081	40,572	985,347	66,338	1,051,685
Hardwood	372,088	102,146	474,234	57,747	20,471	78,218	25,963	14,190	40,153	455,798	136,807	592,605
Total	1,267,932	146,097	1,414,029	110,758	38,778	149,536	62,455	18,270	80,725	1,441,144	203,146	1,644,290
Arkansas												
Softwood	400,409	34,104	434,513	20,954	25,265	46,219	15,462	5,589	21,051	436,826	64,957	501,783
Hardwood	226,710	62,166	288,876	44,221	59,553	103,774	39,422	27,360	66,782	310,354	149,078	459,432
Total	627,119	96,270	723,389	65,176	84,817	149,993	54,885	32,948	87,833	747,179	214,036	961,215

continued

**Table 1.10—Volume of timber removals by region, State, species group, removals class, and source, United States, 1996 (continued)**

Region, State, and species group	Roundwood products			Logging residues			Other removals			All removals		
	Growing stock	Nongrowing stock	All sources	Growing stock	Nongrowing stock	All sources	Growing stock	Nongrowing stock	All sources	Growing stock	Nongrowing stock	All sources
<i>Thousand cubic feet</i>												
<b>Southern (cont.)</b>												
Florida												
Softwood	445,605	34,140	479,745	26,069	18,208	44,277	27,696	1,680	29,376	499,369	54,029	553,398
Hardwood	51,817	22,152	73,969	10,270	11,680	21,950	24,755	23,820	48,575	86,841	57,653	144,494
Total	497,421	56,293	553,714	36,339	29,888	66,227	52,450	25,501	77,951	586,211	111,681	697,892
Georgia												
Softwood	946,269	91,524	1,037,793	60,664	15,092	75,756	55,427	35,285	90,712	1,062,360	141,901	1,204,261
Hardwood	321,686	82,736	404,422	55,710	33,615	89,325	66,704	33,253	99,957	444,100	149,604	593,704
Total	1,267,955	174,260	1,442,215	116,374	48,707	165,081	122,130	68,539	190,669	1,506,459	291,506	1,797,965
Kentucky												
Softwood	7,766	3,540	11,306	879	300	1,179	6,996	4,498	11,494	15,641	8,338	23,979
Hardwood	142,702	57,328	200,030	35,101	25,432	60,533	55,859	11,791	67,650	233,662	94,551	328,213
Total	150,468	60,868	211,336	35,980	25,732	61,712	62,855	16,289	79,144	249,303	102,889	352,192
Louisiana												
Softwood	492,061	21,182	513,243	44,289	27,451	71,740	26,583	3,159	29,742	562,933	51,792	614,725
Hardwood	162,589	20,025	182,614	37,696	71,237	108,933	28,118	20,963	49,081	228,403	112,225	340,628
Total	654,650	41,207	695,857	81,985	98,688	180,673	54,701	24,122	78,823	791,336	164,017	955,353
Mississippi												
Softwood	672,684	23,465	696,149	37,105	45,180	82,285	19,924	4,107	24,031	729,714	72,751	802,465
Hardwood	360,905	57,922	418,827	37,335	112,321	149,656	29,413	18,372	47,785	427,653	188,615	616,268
Total	1,033,590	81,386	1,114,976	74,440	157,501	231,941	49,337	22,479	71,816	1,157,367	261,366	1,418,733
North Carolina												
Softwood	537,316	31,292	568,608	35,280	11,851	47,131	32,825	7,680	40,505	605,421	50,823	656,244
Hardwood	326,028	59,569	385,597	46,124	39,763	85,887	46,577	29,707	76,284	418,730	129,038	547,768
Total	863,343	90,862	954,205	81,404	51,614	133,018	79,402	37,387	116,789	1,024,150	179,862	1,204,012
Oklahoma												
Softwood	73,320	20,169	93,489	5,181	5,678	10,859	7,966	1,450	9,416	86,467	27,297	113,764
Hardwood	25,180	23,561	48,741	3,496	9,649	13,145	9,306	8,320	17,626	37,983	41,529	79,512
Total	98,500	43,730	142,230	8,677	15,327	24,004	17,272	9,770	27,042	124,450	68,826	193,276
South Carolina												
Softwood	459,447	26,914	486,361	31,428	15,161	46,589	34,557	5,760	40,317	525,432	47,835	573,267
Hardwood	165,079	26,879	191,958	29,199	24,030	53,229	33,732	25,796	59,528	228,010	76,705	304,715
Total	624,526	53,793	678,319	60,627	39,191	99,818	68,289	31,556	99,845	753,442	124,540	877,982

continued

**Table 1.10—Volume of timber removals by region, State, species group, removals class, and source, United States, 1996 (continued)**

Region, State, and species group	Roundwood products			Logging residues			Other removals			All removals		
	Growing stock	Nongrowing stock	All sources	Growing stock	Nongrowing stock	All sources	Growing stock	Nongrowing stock	All sources	Growing stock	Nongrowing stock	All sources
<i>Thousand cubic feet</i>												
<b>Southern (cont.)</b>												
Tennessee												
Softwood	64,390	8,900	73,290	4,373	3,278	7,651	9,510	1,266	10,776	78,274	13,443	91,717
Hardwood	234,502	60,348	294,850	22,359	21,351	43,710	32,900	14,480	47,380	289,761	96,179	385,940
Total	298,892	69,248	368,140	26,732	24,629	51,361	42,410	15,746	58,156	368,035	109,622	477,657
Texas												
Softwood	554,680	23,396	578,076	34,602	22,468	57,070	46,342	7,059	53,401	635,624	52,923	688,547
Hardwood	143,506	13,339	156,845	27,314	40,526	67,840	40,251	8,349	48,600	211,072	62,213	273,285
Total	698,186	36,735	734,921	61,916	62,994	124,910	86,593	15,408	102,001	846,696	115,136	961,832
Virginia												
Softwood	222,916	19,554	242,470	14,601	4,991	19,592	17,338	11,152	28,490	254,855	35,697	290,552
Hardwood	254,086	62,896	316,982	37,503	27,173	64,676	42,563	22,451	65,014	334,151	112,521	446,672
Total	477,002	82,450	559,452	52,104	32,164	84,268	59,900	33,604	93,504	589,007	148,217	737,224
All Southern States												
Softwood	5,772,708	382,130	6,154,838	368,436	213,230	581,666	337,118	92,765	429,883	6,478,262	688,125	7,166,387
Hardwood	2,786,877	651,068	3,437,945	444,077	496,799	940,876	475,563	258,852	734,415	3,706,517	1,406,719	5,113,236
Total	8,559,586	1,033,197	9,592,783	812,513	710,029	1,522,542	812,680	351,618	1,164,298	10,184,780	2,094,843	12,279,623
<b>Rocky Mountains</b>												
Arizona												
Softwood	14,413	11,726	26,140	1,023	4,386	5,409	—	—	—	15,437	16,112	31,549
Hardwood	6	6,902	6,907	—	215	215	—	—	—	6	7,117	7,122
Total	14,419	18,628	33,047	1,023	4,601	5,624	—	—	—	15,442	23,229	38,671
Colorado												
Softwood	11,997	26,300	38,297	831	3,210	4,042	—	—	—	12,828	29,511	42,339
Hardwood	7,391	10,611	18,002	379	1,311	1,690	—	—	—	7,770	11,922	19,692
Total	19,388	36,911	56,299	1,211	4,521	5,731	—	—	—	20,598	41,432	62,030
Idaho												
Softwood	225,522	40,690	266,212	21,519	46,735	68,254	—	—	—	247,041	87,425	334,466
Hardwood	4,947	1,716	6,664	446	1,045	1,492	—	—	—	5,393	2,762	8,155
Total	230,469	42,406	272,876	21,965	47,780	69,746	—	—	—	252,435	90,187	342,621
Kansas												
Softwood	39	174	213	—	7	7	24	30	54	64	210	274
Hardwood	2,798	22,585	25,382	334	591	925	3,202	6,075	9,277	6,333	29,251	35,585
Total	2,837	22,759	25,596	334	598	932	3,226	6,105	9,331	6,397	29,461	35,859

continued



**Table 1.10—Volume of timber removals by region, State, species group, removals class, and source, United States, 1996 (continued)**

Region, State, and species group	Roundwood products			Logging residues			Other removals			All removals		
	Growing stock	Nongrowing stock	All sources	Growing stock	Nongrowing stock	All sources	Growing stock	Nongrowing stock	All sources	Growing stock	Nongrowing stock	All sources
<i>Thousand cubic feet</i>												
<b>Rocky Mountains (cont.)</b>												
Montana												
Softwood	152,260	30,857	183,117	18,475	38,921	57,395	—	—	—	170,735	69,777	240,512
Hardwood	566	3,156	3,722	—	144	144	—	—	—	566	3,300	3,866
Total	152,826	34,012	186,839	18,475	39,064	57,539	—	—	—	171,301	73,077	244,378
Nebraska												
Softwood	3,991	577	4,568	415	624	1,039	90	92	182	4,495	1,294	5,789
Hardwood	4,887	11,671	16,558	719	1,605	2,324	984	1,350	2,334	6,590	14,626	21,216
Total	8,878	12,248	21,126	1,134	2,229	3,363	1,074	1,442	2,516	11,086	15,919	27,005
Nevada												
Softwood	1,253	2,446	3,699	89	341	430	—	—	—	1,342	2,787	4,129
Hardwood	—	—	—	—	—	—	—	—	—	—	—	—
Total	1,253	2,446	3,699	89	341	430	—	—	—	1,342	2,787	4,129
New Mexico												
Softwood	11,451	9,333	20,784	484	3,075	3,559	—	—	—	11,935	12,408	24,343
Hardwood	1,116	3,574	4,690	47	191	238	—	—	—	1,163	3,765	4,928
Total	12,566	12,908	25,474	531	3,266	3,797	—	—	—	13,097	16,173	29,271
North Dakota												
Softwood	5	102	107	—	2	2	—	—	—	5	104	109
Hardwood	590	2,351	2,941	96	172	268	704	1,317	2,021	1,390	3,840	5,230
Total	595	2,453	3,048	96	174	270	704	1,317	2,021	1,395	3,944	5,339
South Dakota												
Softwood	13,379	1,033	14,412	1,020	4,668	5,688	1,218	815	2,033	15,617	6,517	22,133
Hardwood	210	3,969	4,179	36	67	103	555	2,212	2,767	800	6,249	7,049
Total	13,589	5,002	18,591	1,056	4,736	5,791	1,772	3,028	4,800	16,417	12,766	29,182
Utah												
Softwood	7,076	7,158	14,235	376	1,857	2,233	—	—	—	7,452	9,016	16,468
Hardwood	796	1,342	2,138	63	138	200	—	—	—	859	1,479	2,338
Total	7,872	8,500	16,372	439	1,995	2,433	—	—	—	8,311	10,495	18,806
Wyoming												
Softwood	13,321	8,730	22,051	853	3,754	4,606	—	—	—	14,174	12,483	26,657
Hardwood	—	2,671	2,671	—	—	—	—	—	—	—	2,671	2,671
Total	13,321	11,401	24,722	853	3,754	4,606	—	—	—	14,174	15,154	29,328

continued

**Table 1.10—Volume of timber removals by region, State, species group, removals class, and source, United States, 1996 (continued)**

Region, State, and species group	Roundwood products			Logging residues			Other removals			All removals		
	Growing stock	Nongrowing stock	All sources	Growing stock	Nongrowing stock	All sources	Growing stock	Nongrowing stock	All sources	Growing stock	Nongrowing stock	All sources
<i>Thousand cubic feet</i>												
All Rocky Mountains States												
Softwood	454,707	139,127	593,834	45,085	107,579	152,664	1,332	937	2,269	501,124	247,643	748,767
Hardwood	23,307	70,548	93,855	2,119	5,480	7,599	5,445	10,954	16,398	30,871	86,981	117,852
Total	478,014	209,675	687,689	47,204	113,059	160,263	6,776	11,891	18,667	531,995	334,624	866,619
<b>Pacific Coast</b>												
Alaska												
Softwood	136,143	3,953	140,096	40,061	30,448	70,509	1,095	—	1,095	177,299	34,401	211,700
Hardwood	4,588	1,375	5,962	635	462	1,098	6	—	6	5,228	1,837	7,065
Total	140,731	5,327	146,058	40,696	30,911	71,607	1,100	—	1,100	182,527	36,238	218,765
California												
Softwood	561,828	110,961	672,790	56,183	43,683	99,866	9	77	86	618,020	154,721	772,742
Hardwood	9,112	45,781	54,893	911	—	912	13	145	158	10,036	45,926	55,963
Total	570,940	156,742	727,682	57,094	43,684	100,778	22	222	244	628,057	200,648	828,704
Oregon												
Softwood	788,756	56,154	844,909	35,398	40,465	75,863	100	—	100	824,253	96,619	920,872
Hardwood	30,772	6,642	37,414	874	274	1,147	69	—	69	31,715	6,916	38,631
Total	819,528	62,796	882,324	36,272	40,738	77,010	169	—	169	855,969	103,534	959,503
Washington												
Softwood	758,059	55,800	813,859	38,661	36,696	75,357	506	—	506	797,226	92,496	889,722
Hardwood	64,172	7,424	71,596	3,273	2,873	6,145	331	—	331	67,776	10,297	78,072
Total	822,231	63,224	885,455	41,934	39,569	81,503	837	—	837	865,001	102,793	967,794
All Pacific Coast States												
Softwood	2,244,786	226,868	2,471,654	170,303	151,293	321,596	1,709	77	1,786	2,416,798	378,238	2,795,036
Hardwood	108,644	61,222	169,865	5,693	3,609	9,302	419	145	564	114,756	64,976	179,731
Total	2,353,430	288,089	2,641,519	175,996	154,902	330,898	2,128	222	2,350	2,531,554	443,213	2,974,767
<b>All regions</b>												
All States												
Softwood	9,101,581	934,620	10,036,200	614,742	733,719	1,348,462	348,207	99,745	447,952	10,064,530	1,768,084	11,832,614
Hardwood	4,708,369	1,686,362	6,394,730	676,923	1,347,901	2,024,823	570,923	367,754	938,676	5,956,214	3,402,015	9,358,228
Total	13,809,950	2,620,979	16,430,929	1,291,665	2,081,621	3,373,285	919,129	467,498	1,386,627	16,020,745	5,170,097	21,190,842

Numbers in rows and columns may not add to totals due to rounding.

A dash (—) indicates no sample for the cell; 0.0 indicates a value of &gt; 0.0 but &lt; 0.05 for the cell.

**Table 1.11—Volume of bark and wood residue by type of residue, softwood, hardwood, and use, United States, 1996**

Source	Fiber byproducts	Fuelwood byproducts	Misc. byproducts	Not used	All byproducts
<i>Thousand cubic feet</i>					
<b>Bark residue</b>					
Softwood	2,124	877,423	152,233	28,652	1,060,432
Hardwood	6,381	407,873	155,021	17,911	587,186
Total	8,505	1,285,296	307,253	46,563	1,647,618
<b>Wood residue</b>					
(coarse material)					
Softwood	1,634,125	179,606	115,327	14,459	1,943,518
Hardwood	392,678	173,777	74,961	22,045	663,462
Total	2,026,804	353,383	190,288	36,504	2,606,979
<b>Wood residue</b>					
(fine material)					
Softwood	429,824	734,036	191,533	18,765	1,374,158
Hardwood	14,558	263,309	147,614	27,629	453,111
Total	444,382	997,346	339,147	46,394	1,827,270
<b>Wood residue</b>					
(all material)					
Softwood	2,063,949	913,642	306,860	33,224	3,317,676
Hardwood	407,237	437,087	222,575	49,675	1,116,573
Total	2,471,186	1,350,729	529,435	82,899	4,434,249
<b>All residue</b>					
Softwood	2,066,073	1,791,066	459,093	61,877	4,378,108
Hardwood	413,618	844,960	377,596	67,586	1,703,759
Total	2,479,691	2,636,025	836,689	129,462	6,081,867

Numbers in rows and columns may not add to totals due to rounding.

**Table 1.12—Weight of bark and wood residue by type of residue, softwood, hardwood, and use, United States, 1996**

Source	Fiber byproducts	Fuelwood byproducts	Misc. byproducts	Not used	All byproducts
<i>Thousand dry tons</i>					
<b>Bark residue</b>					
Softwood	30	13,140	2,317	381	15,867
Hardwood	87	6,105	2,210	258	8,661
Total	117	19,246	4,527	638	24,528
<b>Wood residue</b>					
(coarse material)					
Softwood	24,244	2,573	1,709	206	28,731
Hardwood	6,236	2,719	1,192	349	10,495
Total	30,480	5,292	2,901	555	39,227
<b>Wood residue</b>					
(fine material)					
Softwood	6,079	11,258	2,946	287	20,569
Hardwood	224	4,228	2,333	443	7,229
Total	6,303	15,486	5,279	730	27,799
<b>Wood residue</b>					
(all material)					
Softwood	30,323	13,830	4,655	492	49,301
Hardwood	6,460	6,947	3,525	792	17,724
Total	36,783	20,777	8,180	1,285	67,025
<b>All residue</b>					
Softwood	30,353	26,971	6,972	873	65,168
Hardwood	6,547	13,052	5,735	1,050	26,385
Total	36,900	40,023	12,707	1,923	91,553

Numbers in rows and columns may not add to totals due to rounding.

**Table 2.1—Volume of roundwood products and species group, Northeast Region, 1991 and 1996**

Product and species group	Year		Change	Percent change
	1991	1996		
<i>Thousand cubic feet</i>				
<b>Saw logs</b>				
Softwood	294,742	259,284	-35,458	-12.0
Hardwood	381,515	454,811	73,296	19.2
Total	676,257	714,095	37,838	5.6
<b>Veneer logs</b>				
Softwood	2,409	2,571	162	6.7
Hardwood	21,401	30,116	8,715	40.7
Total	23,810	32,687	8,877	37.3
<b>Pulpwood</b>				
Softwood	246,167	214,365	-31,802	-12.9
Hardwood	275,736	309,518	33,782	12.3
Total	521,903	523,883	1,980	0.4
<b>Other industrial<sup>a</sup></b>				
Softwood	23,463	15,263	-8,200	-34.9
Hardwood	21,678	19,530	-2,148	-9.9
Total	45,141	34,793	-10,348	-22.9
<b>All industrial</b>				
Softwood	566,781	491,483	-75,298	-13.3
Hardwood	700,330	813,975	113,645	16.2
Total	1,267,111	1,305,458	38,347	3.0
<b>Fuelwood</b>				
Softwood	84,473	53,265	-31,208	-36.9
Hardwood	855,181	413,650	-441,531	-51.6
Total	939,654	466,915	-472,739	-50.3
<b>All products</b>				
Softwood	651,254	544,748	-106,506	-16.4
Hardwood	1,555,511	1,227,625	-327,886	-21.1
Total	2,206,765	1,772,373	-434,392	-19.7

Numbers in rows and columns may not add to totals due to rounding.

<sup>a</sup> Other industrial includes composite products, posts, poles and pilings, and other products.

**Table 2.2—Volume of roundwood products by source, species group, and type of product, Northeast Region, 1996**

Source and species group	Saw logs		Veneer logs		Pulpwood		Composite products		Fuelwood		Posts- poles-pilings	Other products	All products
	<i>MBF</i>	<i>MCF</i>	<i>MBF</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>MCF</i>	<i>MCF</i>	<i>MCF</i>
<b>Sawtimber</b>													
Softwood	1,305,917	206,810	12,943	2,051	1,447,044	122,999	1,206	102	40,165	3,213	1,011	6,936	343,122
Hardwood	2,611,787	398,679	173,317	26,421	2,110,220	179,369	13,224	1,124	608,019	48,638	4,340	7,929	666,500
Total	3,917,704	605,489	186,260	28,472	3,557,263	302,367	14,430	1,227	648,184	51,851	5,351	14,865	1,009,622
<b>Poletimber</b>													
Softwood	4,828	765	48	8	524,538	44,586	437	37	22,124	1,770	263	1,805	49,233
Hardwood	21,533	3,287	1,432	218	870,015	73,951	5,452	463	112,486	9,002	1,126	2,057	90,104
Total	26,361	4,051	1,480	226	1,394,553	118,537	5,889	501	134,609	10,772	1,389	3,862	139,337
<b>Growing stock</b>													
Softwood	1,310,745	207,575	12,991	2,058	1,971,581	167,584	1,643	140	62,289	4,983	1,274	8,740	392,355
Hardwood	2,633,320	401,965	174,749	26,639	2,980,235	253,320	18,676	1,587	720,504	57,640	5,466	9,987	756,605
Total	3,944,065	609,540	187,739	28,698	4,951,817	420,904	20,319	1,727	782,793	62,623	6,740	18,727	1,148,959
<b>Nongrowing stock</b>													
Softwood	326,520	51,709	3,236	513	550,355	46,780	459	39	603,523	48,282	645	4,425	152,393
Hardwood	346,151	52,845	22,810	3,477	661,154	56,198	4,143	352	4,450,123	356,010	756	1,381	471,020
Total	672,672	104,554	26,045	3,990	1,211,509	102,978	4,602	391	5,053,646	404,292	1,401	5,806	623,413
<b>All sources</b>													
Softwood	1,637,265	259,284	16,227	2,571	2,521,937	214,365	2,101	179	665,811	53,265	1,919	13,165	544,748
Hardwood	2,979,472	454,811	197,558	30,116	3,641,389	309,518	22,820	1,940	5,170,627	413,650	6,222	11,368	1,227,625
Total	4,616,737	714,095	213,785	32,688	6,163,326	523,883	24,921	2,118	5,836,439	466,915	8,141	24,533	1,772,372

MBF = thousand board feet (1/4-inch rule); MCF = thousand cubic feet; Cords = standard cords 4' x 4' x 8'.

Numbers in rows and columns may not add to totals due to rounding.

**Table 2.3—Volume of roundwood products by ownership group, species group, and type of product, Northeast Region, 1996**

Ownership and species group	Saw logs		Veneer logs		Pulpwood		Composite products		Fuelwood		Posts- poles-pilings	Other products	All products
	<i>MBF</i>	<i>MCF</i>	<i>MBF</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>MCF</i>	<i>MCF</i>	<i>MCF</i>
<b>National forest</b>													
Softwood	13,688	2,167	224	36	34,363	2,921	—	—	2,316	185	97	177	5,583
Hardwood	46,122	7,039	2,366	361	78,055	6,635	—	—	33,984	2,719	764	1,507	19,024
Total	59,810	9,207	2,590	396	112,419	9,556	—	—	36,300	2,904	861	1,684	24,607
<b>Other public</b>													
Softwood	46,892	7,426	607	96	63,752	5,419	245	21	45,506	3,640	62	3,425	20,090
Hardwood	170,916	26,091	3,673	560	163,494	13,897	2,657	226	638,006	51,040	416	146	92,376
Total	217,808	33,517	4,280	656	227,247	19,316	2,902	247	683,512	54,681	478	3,571	112,465
<b>Forest industry</b>													
Softwood	505,666	80,079	2,305	365	681,739	57,948	74	6	63,866	5,109	310	376	144,194
Hardwood	335,549	51,246	17,804	2,714	1,123,200	95,472	797	68	578,540	46,283	854	2,810	199,447
Total	841,215	131,325	20,109	3,079	1,804,939	153,420	871	74	642,406	51,392	1,164	3,186	343,641
<b>Other private</b>													
Softwood	1,071,020	169,611	13,091	2,074	1,742,082	148,077	1,783	152	554,124	44,330	1,450	9,187	374,881
Hardwood	2,426,885	370,435	173,715	26,482	2,276,639	193,514	19,366	1,646	3,920,097	313,608	4,188	6,905	916,778
Total	3,497,905	540,046	186,806	28,556	4,018,722	341,591	21,148	1,798	4,474,221	357,937	5,638	16,092	1,291,659
<b>All ownerships</b>													
Softwood	1,637,265	259,284	16,227	2,571	2,521,937	214,365	2,101	179	665,811	53,265	1,919	13,165	544,748
Hardwood	2,979,472	454,811	197,558	30,116	3,641,389	309,518	22,820	1,940	5,170,627	413,650	6,222	11,368	1,227,625
Total	4,616,737	714,095	213,785	32,688	6,163,326	523,883	24,921	2,118	5,836,439	466,915	8,141	24,533	1,772,372

MBF = thousand board feet (1/4-inch rule); MCF = thousand cubic feet; Cords = standard cords 4' x 4' x 8'.

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A dash (—) indicates no sample for the cell; 0.0 indicates a value of > 0.0 but < 0.05 for the cell.

**Table 2.4—Volume of roundwood products by species group, detailed species group, and type of product, Northeast Region, 1996**

Species	Saw logs		Veneer logs		Pulpwood		Composite products		Fuelwood		Posts- poles-pilings	Other products	All products
	<i>MBF</i>	<i>MCF</i>	<i>MBF</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>MCF</i>	<i>MCF</i>	<i>MCF</i>
<b>Softwood</b>													
Cedars	31,257	4,950	—	—	2,862	243	5	—	2,549	204	525	352	6,274
True firs	696,443	110,292	1,729	274	392,764	33,385	37	3	13,069	1,045	41	66	145,107
Hemlock	226,560	35,879	5,445	863	616,467	52,400	620	53	55,477	4,438	177	8,191	102,001
Larch	4,621	732	—	—	52,480	4,461	173	15	379	30	—	—	5,238
Loblolly-shortleaf pine	32,924	5,214	2	—	73,068	6,211	—	—	31,251	2,500	533	—	14,458
Red pine	44,744	7,086	81	13	80,259	6,822	598	51	27,120	2,170	131	1,118	17,390
White pine	524,137	83,005	7,578	1,201	516,906	43,937	531	45	392,864	31,429	300	1,789	161,706
Other pines	25,769	4,080	60	10	155,858	13,248	69	6	127,487	10,199	143	1,498	29,183
Spruce	50,810	8,047	1,332	211	631,272	53,658	69	6	15,615	1,249	70	151	63,391
Total	1,637,265	259,284	16,227	2,571	2,521,937	214,365	2,101	179	665,811	53,265	1,919	13,165	544,748
<b>Hardwood</b>													
Ash	140,577	21,456	4,628	705	15,397	1,309	2,237	190	210,032	16,803	98	132	40,693
Aspen	149,364	22,797	1,312	200	117,400	9,979	899	76	110,775	8,862	1	12	41,926
Basswood	42,100	6,425	159	24	3,800	323	642	55	30,580	2,446	78	12	9,363
Beech	111,018	16,944	3,840	585	41,123	3,495	3,237	275	141,358	11,309	46	88	32,743
Yellow birch	64,913	9,910	7,779	1,186	25,049	2,129	306	26	76,136	6,091	2	66	19,410
Other birch	84,484	12,955	19,027	2,901	4,739	403	385	33	86,254	6,900	17	341	23,550
Black cherry	145,510	22,208	2,397	365	20,563	1,748	1,042	89	86,021	6,882	54	223	31,569
Elm	12,436	1,898	442	67	3,321	282	96	8	11,204	896	17	32	3,201
Hickory	43,027	6,567	214	33	18,274	1,553	94	8	21,465	1,717	77	36	9,990
Hard maple	291,452	44,483	7,791	1,188	84,996	7,225	4,028	342	360,989	28,879	164	254	82,535
Soft maple	267,924	40,892	12,854	1,959	39,416	3,350	4,176	355	331,153	26,492	144	184	73,377
Select red oaks	629,413	96,067	70,732	10,783	84,622	7,193	3,684	313	1,061,086	84,887	282	471	199,995
Other red oaks	234,924	35,855	9,148	1,395	34,194	2,906	304	26	678,501	54,280	385	256	95,103
Select white oaks	206,046	31,448	7,424	1,132	35,467	3,015	728	62	178,024	14,242	467	182	50,548
Other white oaks	163,164	24,903	4,548	693	40,069	3,406	486	41	35,454	2,836	420	178	32,478
Sweetgum	20,295	3,098	47	7	—	—	—	—	105,911	8,473	18	—	11,595
Sycamore	234	36	—	—	—	—	—	—	44	4	—	—	39
Tupelo/blackgum	3,797	580	—	—	2	—	—	—	766	61	26	1	668
Black walnut	6,791	1,036	313	48	37	3	25	2	4,704	376	5	5	1,476
Yellow-poplar	265,850	40,578	43,260	6,595	30,735	2,612	156	13	376,434	30,115	3,421	204	83,539
Other hardwoods	96,153	14,675	1,643	250	3,042,186	258,586	294	25	1,263,735	101,099	501	8,690	383,826
Total	2,979,472	454,811	197,558	30,116	3,641,389	309,518	22,820	1,940	5,170,627	413,650	6,222	11,368	1,227,625
<b>All species</b>	4,616,737	714,095	213,785	32,688	6,163,326	523,883	24,921	2,118	5,836,439	466,915	8,141	24,533	1,772,372

MBF = thousand board feet (1/4-inch rule); MCF = thousand cubic feet; Cords = standard cords 4' x 4' x 8'.

Numbers in rows and columns may not add to totals due to rounding.

A dash (—) indicates no sample for the cell; 0.0 indicates a value of > 0.0 but < 0.05 for the cell.

**Table 2.5—Volume of roundwood products by State, species group, and type of product, Northeast Region, 1996**

State and species group	Saw logs		Veneer logs		Pulpwood		Composite products		Fuelwood		Posts- poles-pilings	Other products	All products
	<i>MBF</i>	<i>MCF</i>	<i>MBF</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>MCF</i>	<i>MCF</i>	<i>MCF</i>
<b>Connecticut</b>													
Softwood	20,849	3,302	—	—	2,959	252	—	—	633	51	—	39	3,643
Hardwood	45,839	6,996	—	—	12	1	—	—	209,630	16,770	—	—	23,768
Total	66,688	10,298	—	—	2,971	253	—	—	210,262	16,821	—	39	27,410
<b>Delaware</b>													
Softwood	2,518	399	2	—	50,750	4,314	—	—	2,349	188	76	—	4,977
Hardwood	16,953	2,587	723	110	9,851	837	—	—	12,189	975	54	—	4,564
Total	19,471	2,986	725	111	60,601	5,151	—	—	14,538	1,163	130	—	9,541
<b>Maine</b>													
Softwood	964,290	152,710	22	3	1,438,743	122,293	—	—	78,141	6,251	503	351	282,111
Hardwood	308,973	47,221	24,692	3,764	1,680,647	142,855	—	—	702,254	56,181	—	662	250,683
Total	1,273,263	199,931	24,714	3,768	3,119,390	265,148	—	—	780,395	62,432	503	1,013	532,794
<b>Maryland</b>													
Softwood	36,541	5,787	—	—	104,414	8,875	—	—	55,555	4,444	457	—	19,563
Hardwood	93,355	14,254	8,409	1,282	87,925	7,474	—	—	726,620	58,130	53	6	81,198
Total	129,896	20,041	8,409	1,282	192,339	16,349	—	—	782,175	62,574	510	6	100,762
<b>Massachusetts</b>													
Softwood	52,227	8,271	—	—	11,764	1,000	—	—	484,347	38,748	—	99	48,117
Hardwood	31,113	4,749	—	—	1,230	105	—	—	716,965	57,357	—	5	62,215
Total	83,340	13,020	—	—	12,994	1,104	—	—	1,201,312	96,105	—	104	110,333
<b>New Hampshire</b>													
Softwood	191,679	30,354	31	5	249,527	21,210	—	—	27,699	2,216	81	1,666	55,533
Hardwood	264,041	40,299	79,590	12,133	357,079	30,352	—	—	257,301	20,584	—	8,769	112,137
Total	455,720	70,653	79,621	12,138	606,606	51,562	—	—	285,000	22,800	81	10,435	167,669
<b>New Jersey</b>													
Softwood	1,511	239	—	—	5,838	496	—	—	12,030	962	82	—	1,780
Hardwood	17,323	2,644	2,129	325	640	54	—	—	988,095	79,048	1	14	82,086
Total	18,834	2,883	2,129	325	6,478	551	—	—	1,000,124	80,010	83	14	83,866
<b>New York</b>													
Softwood	135,290	21,425	10,750	1,703	322,415	27,405	2,101	179	—	—	380	244	51,336
Hardwood	422,560	64,493	9,272	1,413	292,207	24,838	22,820	1,940	889,015	71,121	—	5	163,809
Total	557,850	85,918	20,022	3,117	614,622	52,243	24,921	2,118	889,015	71,121	380	248	215,145

*continued*



**Table 2.5—Volume of roundwood products by State, species group, and type of product, Northeast Region, 1996 (continued)**

State and species group	Saw logs		Veneer logs		Pulpwood		Composite products		Fuelwood		Posts- poles-pilings	Other products	All products
	<i>MBF</i>	<i>MCF</i>	<i>MBF</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>MCF</i>	<i>MCF</i>	<i>MCF</i>
Pennsylvania													
Softwood	40,729	6,450	60	10	73,952	6,286	—	—	1,600	128	6	10,767	23,646
Hardwood	872,254	133,127	25,953	3,956	704,401	59,874	—	—	245,756	19,661	1,278	1,896	219,792
Total	912,983	139,577	26,013	3,966	778,353	66,160	—	—	247,356	19,789	1,283	12,663	243,438
Rhode Island													
Softwood	2,080	329	—	—	4,330	368	—	—	813	65	—	—	762
Hardwood	3,311	505	—	—	—	—	—	—	93,550	7,484	—	—	7,989
Total	5,391	835	—	—	4,330	368	—	—	94,363	7,549	—	—	8,752
Vermont													
Softwood	172,337	27,292	5,362	850	203,177	17,270	—	—	238	19	101	—	45,532
Hardwood	109,273	16,678	4,042	616	211,633	17,989	—	—	285,020	22,802	—	—	58,084
Total	281,610	43,970	9,404	1,466	414,810	35,259	—	—	285,258	22,821	101	—	103,616
West Virginia													
Softwood	17,214	2,726	—	—	54,068	4,596	—	—	2,408	193	234	—	7,748
Hardwood	794,477	121,256	42,748	6,517	295,764	25,140	—	—	44,233	3,539	4,836	10	161,298
Total	811,691	123,983	42,748	6,517	349,832	29,736	—	—	46,640	3,731	5,070	10	169,046
All Northeast States													
Softwood	1,637,265	259,284	16,227	2,571	2,521,937	214,365	2,101	179	665,811	53,265	1,919	13,165	544,748
Hardwood	2,979,472	454,811	197,558	30,116	3,641,389	309,518	22,820	1,940	5,170,627	413,650	6,222	11,368	1,227,625
Total	4,616,737	714,095	213,785	32,688	6,163,326	523,883	24,921	2,118	5,836,439	466,915	8,141	24,533	1,772,372

MBF = thousand board feet (1/4-inch rule); MCF = thousand cubic feet; Cords = standard cords 4' x 4' x 8'.

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**Table 2.6—Volume of roundwood products by source, species group, and ownership group, Northeast Region, 1996**

Source and species group	National forest	Other public	Forest industry	Other private	All owners
<i>Thousand cubic feet</i>					
<b>Sawtimber</b>					
Softwood	3,612	10,994	98,738	229,778	343,122
Hardwood	12,371	35,910	115,667	502,553	666,500
Total	15,983	46,904	214,404	732,331	1,009,622
<b>Poletimber</b>					
Softwood	662	1,649	12,923	33,998	49,233
Hardwood	2,196	4,317	25,226	58,366	90,104
Total	2,858	5,965	38,149	92,365	139,337
<b>Growing stock</b>					
Softwood	4,274	12,643	111,661	263,776	392,355
Hardwood	14,566	40,226	140,893	560,919	756,605
Total	18,841	52,869	252,554	824,696	1,148,959
<b>Nongrowing stock</b>					
Softwood	1,309	7,446	32,533	111,105	152,393
Hardwood	4,458	52,149	58,554	355,858	471,020
Total	5,767	59,596	91,087	466,963	623,413
<b>All sources</b>					
Softwood	5,583	20,090	144,194	374,881	544,748
Hardwood	19,024	92,376	199,447	916,778	1,227,625
Total	24,607	112,465	343,641	1,291,659	1,772,372

Numbers in rows and columns may not add to totals due to rounding.

**Table 2.7—Volume of roundwood products by species group, detailed species group, and ownership group, Northeast Region, 1996**

Species group and detailed species group	National forest	Other public	Forest industry	Other private	All owners
<i>Thousand cubic feet</i>					
<b>Softwood</b>					
Cedars	3	167	2,688	3,416	6,274
True firs	1,012	1,912	69,164	73,019	145,107
Hemlock	1,078	5,571	21,043	74,309	102,001
Larch	14	216	1,494	3,514	5,238
Loblolly-shortleaf pine	—	100	2,552	11,806	14,458
Red pine	52	2,512	1,594	13,232	17,390
White pine	1,983	7,407	19,006	133,309	161,706
Other pines	315	880	5,012	22,977	29,183
Spruce	1,126	1,324	21,641	39,300	63,391
Total	5,583	20,090	144,194	374,881	544,748
<b>Hardwood</b>					
Ash	687	3,958	3,796	32,252	40,693
Aspen	150	1,344	12,235	28,198	41,926
Basswood	176	643	1,013	7,531	9,363
Beech	284	2,812	4,937	24,709	32,743
Yellow birch	356	676	4,393	13,986	19,410
Other birch	197	614	5,249	17,489	23,550
Black cherry	422	2,640	3,557	24,949	31,569
Elm	8	198	203	2,791	3,201
Hickory	86	716	702	8,487	9,990
Hard maple	1,154	5,302	12,306	63,773	82,535
Soft maple	624	6,379	7,458	58,916	73,377
Select red oaks	1,739	31,191	9,149	157,916	199,995
Other red oaks	453	3,573	4,076	87,000	95,103
Select white oaks	497	4,460	2,931	42,660	50,548
Other white oaks	418	2,597	1,872	27,591	32,478
Sweetgum	—	838	806	9,951	11,595
Sycamore	—	3	1	35	39
Tupelo/blackgum	8	41	35	584	668
Black walnut	26	120	93	1,238	1,476
Yellow-poplar	1,721	8,113	6,652	67,053	83,539
Other hardwoods	10,018	16,156	117,983	239,670	383,826
Total	19,024	92,376	199,447	916,778	1,227,625
<b>All species</b>	24,607	112,465	343,641	1,291,659	1,772,372

Numbers in rows and columns may not add to totals due to rounding.

A dash (—) indicates no sample for the cell; 0.0 indicates a value of > 0.0 but < 0.05 for the cell.

**Table 2.8—Volume of roundwood products by species group, detailed species group, and source, Northeast Region, 1996**

Species group and detailed species group	Sawtimber	Poletimber	Total growing stock	Non-growing stock	All sources
<i>Thousand cubic feet</i>					
<b>Softwood</b>					
Cedars	4,562	192	4,754	1,520	6,274
True firs	107,537	7,317	114,854	30,252	145,107
Hemlock	63,929	12,198	76,127	25,874	102,001
Larch	3,156	934	4,090	1,149	5,238
Loblolly-shortleaf pine	8,133	1,461	9,593	4,865	14,458
Red pine	10,268	1,622	11,891	5,499	17,390
White pine	94,180	10,021	104,200	57,505	161,706
Other pines	13,788	4,251	18,039	11,145	29,183
Spruce	37,570	11,237	48,807	14,584	63,391
Total	343,122	49,233	392,355	152,393	544,748
<b>Hardwood</b>					
Ash	21,635	895	22,530	18,163	40,693
Aspen	26,780	2,746	29,526	12,400	41,926
Basswood	6,084	188	6,272	3,091	9,363
Beech	18,534	1,204	19,737	13,005	32,743
Yellow birch	11,624	756	12,379	7,031	19,410
Other birch	14,823	481	15,303	8,246	23,550
Black cherry	21,595	731	22,326	9,243	31,569
Elm	1,983	105	2,088	1,113	3,201
Hickory	6,897	461	7,359	2,632	9,990
Hard maple	47,205	2,792	49,997	32,538	82,535
Soft maple	41,990	1,722	43,712	29,665	73,377
Select red oaks	105,525	4,002	109,527	90,468	199,995
Other red oaks	36,961	2,302	39,264	55,839	95,103
Select white oaks	31,881	1,283	33,164	17,384	50,548
Other white oaks	25,058	1,160	26,218	6,259	32,478
Sweetgum	3,344	123	3,467	8,128	11,595
Sycamore	32	—	32	7	39
Tupelo/blackgum	531	10	541	127	668
Black walnut	990	15	1,004	472	1,476
Yellow-poplar	47,506	1,991	49,496	34,043	83,539
Other hardwoods	195,525	67,136	262,661	121,166	383,826
Total	666,500	90,104	756,605	471,020	1,227,625
<b>All species</b>	1,009,622	139,337	1,148,959	623,413	1,772,372

Numbers in rows and columns may not add to totals due to rounding.

A dash (—) indicates no sample for the cell; 0.0 indicates a value of  $> 0.0$  but  $< 0.05$  for the cell.

**Table 2.9—Volume of timber removals by ownership group, species group, removals class, and source, Northeast Region, 1996**

Ownership and species group	Roundwood products			Logging residues			Other removals			All removals		
	Growing stock	Nongrowing stock	All sources	Growing stock	Nongrowing stock	All sources	Growing stock	Nongrowing stock	All sources	Growing stock	Nongrowing stock	All sources
<i>Thousand cubic feet</i>												
<b>National forest</b>												
Softwood	4,274	1,309	5,583	237	1,848	2,085	—	—	—	4,512	3,156	7,668
Hardwood	14,566	4,458	19,024	1,923	8,117	10,039	—	—	—	16,489	12,575	29,064
Total	18,841	5,767	24,607	2,160	9,964	12,124	—	—	—	21,001	15,731	36,732
<b>Other public</b>												
Softwood	12,643	7,446	20,090	843	5,735	6,578	—	7	7	13,487	13,188	26,675
Hardwood	40,226	52,149	92,376	5,271	20,826	26,097	—	310	310	45,497	73,285	118,783
Total	52,869	59,596	112,465	6,115	26,561	32,675	—	317	317	58,984	86,473	145,457
<b>Forest industry</b>												
Softwood	111,661	32,533	144,194	5,891	49,521	55,412	—	143	143	117,552	82,197	199,749
Hardwood	140,893	58,554	199,447	17,181	76,929	94,110	—	209	209	158,074	135,692	293,766
Total	252,554	91,087	343,641	23,072	126,450	149,522	—	352	352	275,626	217,889	493,515
<b>Other private</b>												
Softwood	263,776	111,105	374,881	14,391	116,296	130,687	—	1,249	1,249	278,167	228,650	506,817
Hardwood	560,919	355,858	916,778	80,020	308,479	388,499	—	8,751	8,751	640,939	673,089	1,314,028
Total	824,696	466,963	1,291,659	94,410	424,775	519,186	—	10,001	10,001	919,106	901,739	1,820,845
<b>All ownerships</b>												
Softwood	392,355	152,393	544,748	21,362	173,399	194,761	—	1,400	1,400	413,717	327,192	740,909
Hardwood	756,605	471,020	1,227,625	104,395	414,351	518,746	—	9,270	9,270	860,999	894,641	1,755,640
Total	1,148,959	623,413	1,772,372	125,757	587,751	713,507	—	10,669	10,669	1,274,716	1,221,833	2,496,549

Numbers in rows and columns may not add to totals due to rounding.

A dash (—) indicates no sample for the cell; 0.0 indicates a value of > 0.0 but < 0.05 for the cell.

**Table 2.10—Volume of timber removals by State, species group, removals class, and source, Northeast Region, 1996**

State and species group	Roundwood products			Logging residues			Other removals			All removals		
	Growing stock	Nongrowing stock	All sources	Growing stock	Nongrowing stock	All sources	Growing stock	Nongrowing stock	All sources	Growing stock	Nongrowing stock	All sources
<i>Thousand cubic feet</i>												
Connecticut												
Softwood	2,870	773	3,643	143	1,344	1,488	—	19	19	3,013	2,136	5,149
Hardwood	7,599	16,168	23,768	1,079	3,604	4,683	—	15	15	8,678	19,787	28,465
Total	10,469	16,941	27,410	1,222	4,948	6,170	—	34	34	11,691	21,923	33,615
Delaware												
Softwood	3,758	1,219	4,977	209	1,536	1,745	—	2	2	3,966	2,757	6,724
Hardwood	3,201	1,364	4,564	487	1,820	2,306	—	—	—	3,688	3,184	6,871
Total	6,959	2,583	9,541	696	3,356	4,051	—	3	3	7,654	5,941	13,595
Maine												
Softwood	222,204	59,907	282,111	11,836	98,183	110,019	—	56	56	234,039	158,147	392,186
Hardwood	185,857	64,826	250,683	21,834	99,297	121,131	—	36	36	207,691	164,159	371,850
Total	408,061	124,733	532,794	33,669	197,480	231,150	—	93	93	441,730	322,306	764,037
Maryland												
Softwood	12,241	7,323	19,563	650	5,157	5,808	—	22	22	12,891	12,502	25,393
Hardwood	24,677	56,521	81,198	2,939	12,106	15,045	—	161	161	27,617	68,789	96,405
Total	36,918	63,844	100,762	3,590	17,263	20,853	—	184	184	40,507	81,291	121,798
Massachusetts												
Softwood	7,612	40,505	48,117	375	3,485	3,860	—	14	14	7,987	44,004	51,991
Hardwood	6,974	55,241	62,215	741	2,498	3,239	—	9	9	7,715	57,748	65,464
Total	14,586	95,747	110,333	1,116	5,983	7,100	—	22	22	15,703	101,752	117,455
New Hampshire												
Softwood	42,606	12,927	55,533	2,261	18,782	21,043	—	49	49	44,867	31,758	76,625
Hardwood	83,616	28,521	112,137	11,440	46,000	57,440	—	22	22	95,056	74,543	169,599
Total	126,222	41,447	167,669	13,701	64,782	78,484	—	72	72	139,923	106,301	246,224
New Jersey												
Softwood	715	1,065	1,780	38	274	313	—	1	1	753	1,340	2,094
Hardwood	9,332	72,754	82,086	464	1,562	2,026	—	10	10	9,795	74,326	84,121
Total	10,047	73,819	83,866	502	1,837	2,338	—	11	11	10,549	75,666	86,215
New York												
Softwood	40,495	10,841	51,336	2,152	17,672	19,823	—	1,194	1,194	42,646	29,707	72,353
Hardwood	86,198	77,612	163,809	12,224	46,904	59,128	—	8,708	8,708	98,421	133,223	231,645
Total	126,692	88,453	215,145	14,376	64,576	78,951	—	9,902	9,902	141,068	162,931	303,998

continued

**Table 2.10—Volume of timber removals by State, species group, removals class, and source, Northeast Region, 1996 (continued)**

State and species group	Roundwood products			Logging residues			Other removals			All removals		
	Growing stock	Nongrowing stock	All sources	Growing stock	Nongrowing stock	All sources	Growing stock	Nongrowing stock	All sources	Growing stock	Nongrowing stock	All sources
<i>Thousand cubic feet</i>												
Pennsylvania												
Softwood	17,248	6,398	23,646	1,487	8,015	9,502	—	26	26	18,735	14,439	33,174
Hardwood	174,678	45,114	219,792	26,127	101,053	127,180	—	167	167	200,805	146,334	347,139
Total	191,927	51,511	243,438	27,614	109,067	136,681	—	194	194	219,541	160,773	380,313
Rhode Island												
Softwood	559	203	762	29	242	270	—	2	2	588	447	1,035
Hardwood	1,076	6,913	7,989	78	260	338	—	3	3	1,154	7,176	8,330
Total	1,635	7,117	8,752	107	502	609	—	5	5	1,742	7,623	9,365
Vermont												
Softwood	36,103	9,429	45,532	1,856	16,149	18,004	—	4	4	37,958	25,582	63,540
Hardwood	35,287	22,797	58,084	4,050	17,613	21,663	—	11	11	39,338	40,421	79,759
Total	71,390	32,226	103,616	5,906	33,762	39,668	—	15	15	77,296	66,003	143,299
West Virginia												
Softwood	5,946	1,802	7,748	326	2,560	2,886	—	10	10	6,272	4,372	10,645
Hardwood	138,109	23,189	161,298	22,932	81,634	104,566	—	126	126	161,041	104,950	265,990
Total	144,055	24,991	169,046	23,258	84,194	107,452	—	136	136	167,313	109,322	276,635
All Northeast States												
Softwood	392,355	152,393	544,748	21,362	173,399	194,761	—	1,400	1,400	413,717	327,192	740,909
Hardwood	756,605	471,020	1,227,625	104,395	414,351	518,746	—	9,270	9,270	860,999	894,641	1,755,640
Total	1,148,959	623,413	1,772,372	125,757	587,751	713,507	—	10,669	10,669	1,274,716	1,221,833	2,496,549

Numbers in rows and columns may not add to totals due to rounding.

A dash (—) indicates no sample for the cell; 0.0 indicates a value of > 0.0 but < 0.05 for the cell.

**Table 2.11—Volume of bark and wood residue by type of residue, softwood, hardwood, and use, Northeast Region, 1996**

Source	Fiber byproducts	Fuelwood byproducts	Misc. byproducts	Not used	All byproducts
<i>Thousand cubic feet</i>					
<b>Bark residue</b>					
Softwood	871	4,692	9,008	1,898	16,470
Hardwood	2,165	16,472	38,802	5,344	62,783
Total	3,037	21,164	47,810	7,242	79,253
<b>Wood residue</b> (coarse material)					
Softwood	18,999	14,326	4,324	2,943	40,593
Hardwood	72,250	52,160	15,825	7,618	147,853
Total	91,249	66,486	20,149	10,561	188,445
<b>Wood residue</b> (fine material)					
Softwood	2,078	7,457	19,940	1,904	31,379
Hardwood	2,566	36,292	59,274	7,201	105,333
Total	4,645	43,749	79,214	9,105	136,712
<b>Wood residue</b> (all material)					
Softwood	21,077	21,783	24,264	4,846	71,971
Hardwood	74,816	88,452	75,098	14,820	253,186
Total	95,893	110,236	99,363	19,666	325,158
<b>All residue</b>					
Softwood	21,949	26,476	33,272	6,745	88,441
Hardwood	76,981	104,924	113,900	20,164	315,970
Total	98,930	131,400	147,172	26,909	404,411

Numbers in rows and columns may not add to totals due to rounding.

**Table 2.12—Weight of bark and wood residue by type of residue, softwood, hardwood, and use, Northeast Region, 1996**

Source	Fiber byproducts	Fuelwood byproducts	Misc. byproducts	Not used	All byproducts
<i>Thousand dry tons</i>					
<b>Bark residue</b>					
Softwood	13	70	135	28	247
Hardwood	32	247	582	80	942
Total	46	317	717	109	1,189
<b>Wood residue</b> (coarse material)					
Softwood	285	215	65	44	609
Hardwood	1,084	782	237	114	2,218
Total	1,369	997	302	158	2,827
<b>Wood residue</b> (fine material)					
Softwood	31	112	299	29	471
Hardwood	38	544	889	108	1,580
Total	70	656	1,188	137	2,051
<b>Wood residue</b> (all material)					
Softwood	316	327	364	73	1,080
Hardwood	1,122	1,327	1,126	222	3,798
Total	1,438	1,654	1,490	295	4,877
<b>All residue</b>					
Softwood	329	397	499	101	1,327
Hardwood	1,155	1,574	1,709	302	4,740
Total	1,484	1,971	2,208	404	6,066

Numbers in rows and columns may not add to totals due to rounding.



**Table 3.1—Volume of roundwood products and species group,  
North Central Region, 1991 and 1996**

Product and species group	Year		Change	Percent change
	1991	1996		
<i>Thousand cubic feet</i>				
<b>Saw logs</b>				
Softwood	67,648	77,258	9,610	14.2
Hardwood	442,699	488,335	45,636	10.3
Total	510,347	565,593	55,246	10.8
<b>Veneer logs</b>				
Softwood	1,177	504	-673	-57.2
Hardwood	19,515	26,938	7,423	38.0
Total	20,692	27,442	6,750	32.6
<b>Pulpwood<sup>a</sup></b>				
Softwood	142,859	166,195	23,336	16.3
Hardwood	488,928	572,970	84,042	17.2
Total	631,787	739,165	107,378	17.0
<b>Other industrial<sup>b</sup></b>				
Softwood	10,165	11,436	1,271	12.5
Hardwood	15,215	17,731	2,516	16.5
Total	25,380	29,167	3,787	14.9
<b>All industrial</b>				
Softwood	221,849	255,393	33,544	15.1
Hardwood	966,357	1,105,974	139,617	14.4
Total	1,188,206	1,361,367	173,161	14.6
<b>Fuelwood</b>				
Softwood	33,993	15,734	-18,259	-53.7
Hardwood	711,164	359,466	-351,698	-49.5
Total	745,157	375,200	-369,957	-49.6
<b>All products</b>				
Softwood	255,842	271,127	15,285	6.0
Hardwood	1,677,521	1,465,440	-212,081	-12.6
Total	1,933,363	1,736,567	-196,796	-10.2

Numbers in rows and columns may not add to totals due to rounding.

<sup>a</sup> Pulpwood total includes composite product totals.

<sup>b</sup> Other industrial total includes posts, poles and pilings, and other products.

**Table 3.2—Volume of roundwood products by source, species group, and type of product, North Central Region, 1996**

Source and species group	Saw logs		Veneer logs		Pulpwood		Composite products		Fuelwood		Posts- poles-pilings	Other products	All products
	<i>MBF</i>	<i>MCF</i>	<i>MBF</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>MCF</i>	<i>MCF</i>	<i>MCF</i>
<b>Saw timber</b>													
Softwood	399,452	70,681	2,912	455	979,921	77,276	88,807	7,010	36,189	2,530	2,371	3,439	163,763
Hardwood	2,490,067	419,654	158,968	24,447	2,199,155	175,171	1,336,960	105,371	430,249	30,525	517	9,885	765,570
Total	2,889,519	490,335	161,880	24,902	3,179,076	252,447	1,425,767	112,381	466,438	33,055	2,888	13,324	929,333
<b>Poletimber</b>													
Softwood	16,658	3,911	—	—	762,224	60,110	26,512	2,091	42,661	2,983	3,709	458	73,262
Hardwood	113,209	21,548	111	17	1,790,613	142,070	871,082	68,714	444,480	31,338	244	3,434	267,366
Total	129,867	25,459	111	17	2,552,837	202,179	897,594	70,805	487,141	34,321	3,953	3,893	340,628
<b>Growing stock</b>													
Softwood	416,110	74,592	2,912	455	1,742,145	137,386	115,319	9,101	78,850	5,513	6,080	3,898	237,025
Hardwood	2,603,277	441,203	159,080	24,464	3,989,768	317,240	2,208,042	174,085	874,730	61,863	761	13,320	1,032,936
Total	3,019,387	515,795	161,991	24,919	5,731,913	454,626	2,323,361	183,186	953,579	67,376	6,841	17,217	1,269,961
<b>Nongrowing stock</b>													
Softwood	12,457	2,666	158	49	218,783	17,293	30,579	2,415	146,082	10,221	1,367	91	34,102
Hardwood	266,485	47,132	9,448	2,474	852,388	67,842	174,914	13,803	4,236,936	297,602	818	2,833	432,504
Total	278,941	49,798	9,606	2,523	1,071,171	85,135	205,493	16,218	4,383,018	307,823	2,185	2,924	466,605
<b>All sources</b>													
Softwood	428,567	77,258	3,070	504	1,960,928	154,679	145,897	11,516	224,931	15,734	7,447	3,989	271,126
Hardwood	2,869,761	488,335	168,527	26,938	4,842,156	385,082	2,382,956	187,888	5,111,666	359,465	1,579	16,152	1,465,440
Total	3,298,328	565,593	171,597	27,442	6,803,084	539,761	2,528,853	199,404	5,336,597	375,200	9,026	20,141	1,736,566

MBF = thousand board feet (1/4-inch rule); MCF = thousand cubic feet; Cords = standard cords 4' x 4' x 8'.

Numbers in rows and columns may not add to totals due to rounding.

A dash (—) indicates no sample for the cell; 0.0 indicates a value of > 0.0 but < 0.05 for the cell.

**Table 3.3—Volume of roundwood products by ownership group, species group, and type of product, North Central Region, 1996**

Ownership and species group	Saw logs		Veneer logs		Pulpwood		Composite products		Fuelwood		Posts- poles-pilings	Other products	All products
	<i>MBF</i>	<i>MCF</i>	<i>MBF</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>MCF</i>	<i>MCF</i>	<i>MCF</i>
<b>National forest</b>													
Softwood	47,809	8,594	315	52	176,263	13,871	11,024	870	14,484	1,013	469	234	25,101
Hardwood	116,081	20,283	7,628	1,245	329,981	26,053	202,987	16,004	56,089	3,925	23	478	68,010
Total	163,889	28,877	7,943	1,296	506,245	39,924	214,012	16,874	70,573	4,937	492	712	93,111
<b>Other public</b>													
Softwood	117,286	21,164	564	92	536,713	42,254	70,058	5,531	45,820	3,204	1,440	406	74,090
Hardwood	317,780	55,076	22,603	3,663	1,233,643	97,717	814,872	64,229	374,164	26,312	42	1,836	248,875
Total	435,067	76,240	23,167	3,756	1,770,356	139,971	884,930	69,760	419,984	29,515	1,482	2,242	322,965
<b>Forest industry</b>													
Softwood	43,445	7,781	696	114	310,832	24,507	4,223	333	113	8	1,077	221	34,040
Hardwood	152,480	26,133	18,062	2,937	780,680	61,785	247,528	19,527	21,928	1,613	34	901	112,929
Total	195,925	33,914	18,757	3,051	1,091,512	86,292	251,751	19,860	22,041	1,621	1,111	1,121	146,970
<b>Other private</b>													
Softwood	220,027	39,719	1,495	246	937,120	74,047	60,592	4,782	164,514	11,510	4,462	3,128	137,894
Hardwood	2,283,420	386,843	120,235	19,093	2,497,852	199,526	1,117,569	88,128	4,659,485	327,616	1,479	12,938	1,035,625
Total	2,503,447	426,562	121,730	19,339	3,434,971	273,574	1,178,161	92,911	4,824,000	339,126	5,942	16,066	1,173,520
<b>All ownerships</b>													
Softwood	428,567	77,258	3,070	504	1,960,928	154,679	145,897	11,516	224,931	15,734	7,447	3,989	271,126
Hardwood	2,869,761	488,335	168,527	26,938	4,842,156	385,082	2,382,956	187,888	5,111,666	359,465	1,579	16,152	1,465,440
Total	3,298,328	565,593	171,597	27,442	6,803,084	539,761	2,528,853	199,404	5,336,597	375,200	9,026	20,141	1,736,566

MBF = thousand board feet (1/4-inch rule); MCF = thousand cubic feet; Cords = standard cords 4' x 4' x 8'.

Numbers in rows and columns may not add to totals due to rounding.

**Table 3.4—Volume of roundwood products by species group, detailed species group, and type of product, North Central Region, 1996**

Species	Saw logs		Veneer logs		Pulpwood		Composite products		Fuelwood		Posts- poles-pilings	Other products	All products
	<i>MBF</i>	<i>MCF</i>	<i>MBF</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>MCF</i>	<i>MCF</i>	<i>MCF</i>
<b>Softwood</b>													
Cedars	25,861	5,668	19	4	9,013	716	321	25	10,479	734	3,783	2,043	12,974
Cypress	—	—	—	—	—	—	—	—	103	7	—	—	7
True firs	5,104	1,028	—	—	402,678	31,647	7,253	572	21,381	1,495	43	2	34,787
Hemlock	10,229	1,718	—	—	100,024	7,927	294	23	—	—	—	1	9,670
Larch	305	61	222	36	29,821	2,346	—	—	526	37	8	—	2,488
Jack pine	83,319	16,784	3	1	541,477	42,714	119,792	9,455	74,384	5,203	511	414	75,081
Loblolly-shortleaf pine	41,823	7,265	48	11	3,297	261	—	—	1,868	131	889	331	8,887
Red pine	188,295	31,908	500	81	477,463	37,709	14,869	1,174	72,803	5,092	1,259	835	78,059
White pine	57,110	9,704	1,049	171	52,927	4,205	2,653	210	28,751	2,013	15	356	16,672
Other pines	4,661	786	—	—	26,656	2,194	—	—	8,411	589	924	—	4,493
Spruce	11,860	2,336	1,229	200	317,572	24,960	714	56	6,225	435	14	6	28,008
Total	428,567	77,258	3,070	504	1,960,928	154,679	145,897	11,516	224,931	15,734	7,447	3,989	271,126
<b>Hardwood</b>													
Alder	—	—	—	—	—	—	—	—	5,132	359	—	—	359
Ash	125,372	20,721	5,256	810	146,414	11,712	1,884	149	251,632	17,713	6	197	51,308
Aspen	328,918	57,928	27,254	4,434	2,112,330	166,641	2,170,199	171,091	315,731	22,121	25	5,161	427,401
Basswood	93,721	16,240	6,255	1,024	106,598	8,435	16,790	1,326	9,893	702	1	370	28,098
Beech	38,439	6,192	1,885	291	27,307	2,247	1,183	93	29,372	2,123	3	19	10,969
Yellow birch	14,598	2,508	2,623	427	99,589	7,868	290	23	13,467	943	—	20	11,788
Other birch	49,214	8,497	20,214	3,290	460,138	36,369	89,147	7,031	252,624	17,685	—	50	72,922
Black cherry	48,176	7,828	5,016	763	25,743	2,170	31	2	75,204	5,362	3	52	16,180
Cottonwood	84,439	12,611	911	148	28,677	2,270	—	—	53,790	3,773	—	365	19,167
Elm	24,873	4,027	720	112	51,545	4,126	31	2	484,600	33,963	2	82	42,316
Hickory	78,633	12,760	1,316	196	39,694	3,286	—	—	227,292	15,998	70	509	32,820
Hard maple	230,611	37,834	31,038	5,005	647,000	51,232	17,323	1,368	270,985	19,046	9	75	114,570
Soft maple	185,993	31,874	3,210	499	489,694	38,840	77,085	6,091	430,724	30,225	8	188	107,725
Select red oaks	392,096	68,041	20,628	3,318	172,784	13,916	8,022	634	821,081	57,635	215	670	144,428
Other red oaks	537,348	93,351	7,946	1,217	125,252	10,361	943	75	510,649	35,985	195	1,357	142,540
Select white oaks	343,977	58,803	17,509	2,783	139,211	11,465	—	—	908,563	63,880	188	4,502	141,622
Other white oaks	82,354	14,057	3,242	536	39,489	3,335	—	—	104,268	7,402	74	1,927	27,331
Sweetgum	5,054	831	700	96	—	—	—	—	233	16	—	—	943
Sycamore	35,717	5,841	1,844	257	3,936	329	—	—	8,553	612	1	166	7,206
Tupelo/blackgum	3,370	534	72	11	2,988	254	—	—	987	78	1	1	879
Black walnut	45,864	8,495	6,822	1,134	10,706	910	—	—	42,757	3,028	6	73	13,646
Yellow-poplar	100,718	16,132	3,363	482	53,874	4,535	—	—	29,725	2,252	19	270	23,690
Other hardwoods	20,274	3,231	702	104	59,187	4,782	28	2	264,404	18,564	752	97	27,532
Total	2,869,761	488,335	168,527	26,938	4,842,156	385,082	2,382,956	187,888	5,111,666	359,465	1,579	16,152	1,465,440
<b>All species</b>	<b>3,298,328</b>	<b>565,593</b>	<b>171,597</b>	<b>27,442</b>	<b>6,803,084</b>	<b>539,761</b>	<b>2,528,853</b>	<b>199,404</b>	<b>5,336,597</b>	<b>375,200</b>	<b>9,026</b>	<b>20,141</b>	<b>1,736,566</b>

MBF = thousand board feet (1/4-inch rule); MCF = thousand cubic feet; Cords = standard cords 4' x 4' x 8'.

Numbers in rows and columns may not add to totals due to rounding.

A dash (—) indicates no sample for the cell; 0.0 indicates a value of > 0.0 but < 0.05 for the cell.

**Table 3.5—Volume of roundwood products by State, species group, and type of product, North Central Region, 1996**

State and species group	Saw logs		Veneer logs		Pulpwood		Composite products		Fuelwood		Posts-poles-pilings	Other products	All products
	MBF	MCF	MBF	MCF	Cords	MCF	Cords	MCF	Cords	MCF	MCF	MCF	MCF
<b>Illinois</b>													
Softwood	337	60	—	—	4,152	328	—	—	3,598	252	18	—	658
Hardwood	215,698	35,979	5,334	734	37,320	2,948	—	—	838,621	58,703	375	2,459	101,198
Total	216,035	36,039	5,334	734	41,472	3,276	—	—	842,219	58,955	393	2,459	101,856
<b>Indiana</b>													
Softwood	5,678	1,013	—	—	12,684	1,002	—	—	8,178	572	21	17	2,626
Hardwood	348,150	57,984	23,670	3,246	47,985	3,791	—	—	514,499	36,015	311	419	101,767
Total	353,829	58,998	23,670	3,246	60,668	4,793	—	—	522,676	36,587	333	436	104,393
<b>Iowa</b>													
Softwood	102	21	—	—	—	—	—	—	781	55	65	—	141
Hardwood	88,451	14,854	2,539	519	10,298	814	—	—	407,083	28,496	131	69	44,881
Total	88,552	14,875	2,539	519	10,298	814	—	—	407,864	28,550	196	69	45,023
<b>Michigan</b>													
Softwood	142,968	24,617	1,234	201	486,872	38,463	114,334	9,032	131,810	9,216	3,247	728	85,503
Hardwood	505,073	86,939	49,194	8,009	1,564,846	123,623	667,947	52,768	828,023	57,939	56	699	330,032
Total	648,041	111,556	50,428	8,210	2,051,718	162,086	782,281	61,800	959,834	67,154	3,303	1,427	415,536
<b>Minnesota</b>													
Softwood	123,974	23,403	—	—	571,686	44,848	16,896	1,326	26,553	1,859	1,661	486	73,583
Hardwood	190,569	33,706	17,918	2,917	1,055,210	83,076	1,253,161	98,633	775,481	54,284	—	1,530	274,146
Total	314,544	57,109	17,918	2,917	1,626,896	127,924	1,270,056	99,959	802,034	56,142	1,661	2,017	347,729
<b>Missouri</b>													
Softwood	49,086	9,394	59	14	157	12	—	—	4,316	302	945	1,859	12,526
Hardwood	632,695	111,165	4,875	1,091	54,851	4,333	—	—	541,069	37,875	366	6,870	161,700
Total	681,781	120,559	4,935	1,105	55,008	4,346	—	—	545,385	38,177	1,311	8,728	174,226
<b>Ohio</b>													
Softwood	3,522	558	—	—	23,700	2,015	—	—	—	—	931	22	3,525
Hardwood	348,385	53,172	15,392	2,346	464,430	39,477	—	—	167,185	13,375	155	505	109,029
Total	351,907	53,730	15,392	2,346	488,130	41,491	—	—	167,185	13,375	1,086	527	112,555
<b>Wisconsin</b>													
Softwood	102,898	18,191	1,776	289	861,677	68,012	14,668	1,157	49,694	3,479	559	877	92,563
Hardwood	540,741	94,535	49,605	8,076	1,607,216	127,021	461,848	36,487	1,039,706	72,779	185	3,602	342,685
Total	643,640	112,727	51,381	8,365	2,468,892	195,032	476,516	37,645	1,089,400	76,258	744	4,478	435,249
<b>All North Central States</b>													
Softwood	428,567	77,258	3,070	504	1,960,928	154,679	145,897	11,516	224,931	15,734	7,447	3,989	271,126
Hardwood	2,869,761	488,335	168,527	26,938	4,842,156	385,082	2,382,956	187,888	5,111,666	359,465	1,579	16,152	1,465,440
Total	3,298,328	565,593	171,597	27,442	6,803,084	539,761	2,528,853	199,404	5,336,597	375,200	9,026	20,141	1,736,566

MBF = thousand board feet (1/4-inch rule); MCF = thousand cubic feet; Cords = standard cords 4' x 4' x 8'.

Numbers in rows and columns may not add to totals due to rounding.

A dash (—) indicates no sample for the cell; 0.0 indicates a value of > 0.0 but < 0.05 for the cell.

**Table 3.6—Volume of roundwood products by source, species group, and ownership group, North Central Region, 1996**

Source and species group	National forest	Other public	Forest industry	Other private	All owners
<i>Thousand cubic feet</i>					
<b>Sawtimber</b>					
Softwood	16,795	46,887	21,077	79,004	163,763
Hardwood	39,185	141,342	62,686	522,357	765,570
Total	55,980	188,229	83,763	601,361	929,333
<b>Poletimber</b>					
Softwood	6,124	19,363	9,918	37,856	73,262
Hardwood	18,672	69,508	33,713	145,473	267,366
Total	24,796	88,871	43,632	183,329	340,628
<b>Growing stock</b>					
Softwood	22,919	66,251	30,995	116,860	237,025
Hardwood	57,858	210,849	96,399	667,830	1,032,936
Total	80,776	277,100	127,395	784,690	1,269,961
<b>Nongrowing stock</b>					
Softwood	2,183	7,839	3,045	21,035	34,102
Hardwood	10,152	38,026	16,530	367,795	432,504
Total	12,335	45,865	19,575	388,830	466,605
<b>All sources</b>					
Softwood	25,101	74,090	34,040	137,894	271,126
Hardwood	68,010	248,875	112,929	1,035,625	1,465,440
Total	93,111	322,965	146,970	1,173,520	1,736,566

Numbers in rows and columns may not add to totals due to rounding.

**Table 3.7—Volume of roundwood products by species group, detailed species group, and ownership group, North Central Region, 1996**

Species group and detailed species group	National forest	Other public	Forest industry	Other private	All owners
<i>Thousand cubic feet</i>					
<b>Softwood</b>					
Cedars	743	1,343	1,452	9,437	12,974
Cypress	2	—	—	5	7
True firs	3,660	12,296	6,670	12,161	34,787
Hemlock	755	1,099	2,697	5,119	9,670
Larch	396	766	501	826	2,488
Jack pine	6,438	23,956	7,693	36,994	75,081
Loblolly-shortleaf pine	1,268	493	792	6,335	8,887
Red pine	6,070	21,444	6,810	43,736	78,059
White pine	1,119	3,273	1,449	10,831	16,672
Other pines	5	251	450	3,787	4,493
Spruce	4,647	9,168	5,528	8,665	28,008
Total	25,101	74,090	34,040	137,894	271,126
<b>Hardwood</b>					
Alder	—	5	1	353	359
Ash	1,457	5,092	2,506	42,253	51,308
Aspen	31,121	138,727	50,690	206,863	427,401
Basswood	1,893	5,675	4,061	16,470	28,098
Beech	356	990	354	9,269	10,969
Yellow birch	1,134	1,930	3,301	5,422	11,788
Other birch	6,545	18,695	9,864	37,818	72,922
Black cherry	150	760	277	14,992	16,180
Cottonwood	52	903	53	18,158	19,167
Elm	278	1,964	376	39,699	42,316
Hickory	522	1,069	699	30,529	32,820
Hard maple	7,535	18,179	18,229	70,626	114,570
Soft maple	5,023	16,658	8,944	77,099	107,725
Select red oaks	3,811	18,499	3,635	118,483	144,428
Other red oaks	5,004	7,762	5,060	124,713	142,540
Select white oaks	2,116	7,581	2,430	129,495	141,622
Other white oaks	641	1,345	1,040	24,305	27,331
Sweetgum	21	20	5	897	943
Sycamore	79	117	66	6,943	7,206
Tupelo/blackgum	9	62	42	767	879
Black walnut	40	327	127	13,153	13,646
Yellow-poplar	12	1,041	564	22,073	23,690
Other hardwoods	210	1,475	605	25,242	27,532
Total	68,010	248,875	112,929	1,035,625	1,465,440
<b>All species</b>	93,111	322,965	146,970	1,173,520	1,736,566

Numbers in rows and columns may not add to totals due to rounding.

A dash (—) indicates no sample for the cell; 0.0 indicates a value of > 0.0 but < 0.05 for the cell.

**Table 3.8—Volume of roundwood products by species group, detailed species group, and source, North Central Region, 1996**

Species group and detailed species group	Sawtimber	Poletimber	Total growing stock	Non-growing stock	All sources
<i>Thousand cubic feet</i>					
<b>Softwood</b>					
Cedars	6,873	4,061	10,935	2,039	12,974
Cypress	—	—	—	7	7
True firs	20,740	11,395	32,135	2,652	34,787
Hemlock	5,568	2,813	8,381	1,288	9,670
Larch	1,478	851	2,329	159	2,488
Jack pine	37,497	24,328	61,824	13,257	75,081
Loblolly-shortleaf pine	7,568	694	8,262	625	8,887
Red pine	51,890	17,350	69,240	8,819	78,059
White pine	11,904	2,242	14,146	2,527	16,672
Other pines	2,194	1,078	3,272	1,221	4,493
Spruce	18,050	8,450	26,499	1,508	28,008
Total	163,763	73,262	237,025	34,102	271,126
<b>Hardwood</b>					
Alder	—	—	—	359	359
Ash	24,912	5,560	30,472	20,836	51,308
Aspen	253,193	135,482	388,675	38,726	427,401
Basswood	17,821	5,791	23,612	4,486	28,098
Beech	7,284	826	8,110	2,859	10,969
Yellow birch	5,752	2,071	7,823	3,965	11,788
Other birch	23,607	30,398	54,005	18,917	72,922
Black cherry	9,340	1,096	10,436	5,744	16,180
Cottonwood	13,048	1,159	14,207	4,960	19,167
Elm	6,554	2,392	8,946	33,370	42,316
Hickory	13,973	1,978	15,951	16,869	32,820
Hard maple	60,918	17,721	78,639	35,931	114,570
Soft maple	46,348	25,727	72,075	35,649	107,725
Select red oaks	73,000	14,947	87,947	56,481	144,428
Other red oaks	89,213	7,715	96,928	45,613	142,540
Select white oaks	65,927	8,432	74,359	67,262	141,622
Other white oaks	16,595	1,514	18,110	9,221	27,331
Sweetgum	843	4	847	96	943
Sycamore	5,440	260	5,700	1,506	7,206
Tupelo/blackgum	640	77	717	162	879
Black walnut	6,685	420	7,105	6,542	13,646
Yellow-poplar	18,281	1,492	19,773	3,917	23,690
Other hardwoods	6,195	2,305	8,500	19,032	27,532
Total	765,570	267,366	1,032,936	432,504	1,465,440
<b>All species</b>	929,333	340,628	1,269,961	466,605	1,736,566

Numbers in rows and columns may not add to totals due to rounding.

A dash (—) indicates no sample for the cell; 0.0 indicates a value of  $> 0.0$  but  $< 0.05$  for the cell.



**Table 3.9—Volume of timber removals by ownership group, species group, removals class, and source, North Central Region, 1996**

Ownership and species group	Roundwood products			Logging residues			Other removals			All removals		
	Growing stock	Nongrowing stock	All sources	Growing stock	Nongrowing stock	All sources	Growing stock	Nongrowing stock	All sources	Growing stock	Nongrowing stock	All sources
<i>Thousand cubic feet</i>												
<b>National forest</b>												
Softwood	22,919	2,183	25,101	968	9,247	10,215	360	221	581	24,247	11,651	35,898
Hardwood	57,858	10,152	68,010	5,214	22,338	27,551	981	1,058	2,039	64,052	33,548	97,600
Total	80,776	12,335	93,111	6,181	31,585	37,766	1,341	1,280	2,621	88,299	45,200	133,498
<b>Other public</b>												
Softwood	66,251	7,839	74,090	2,380	25,260	27,641	2,175	1,008	3,183	70,806	34,108	104,914
Hardwood	210,849	38,026	248,875	15,605	78,164	93,770	5,021	4,397	9,419	231,476	120,588	352,064
Total	277,100	45,865	322,965	17,986	103,425	121,411	7,196	5,406	12,601	302,282	154,696	456,977
<b>Forest industry</b>												
Softwood	30,995	3,045	34,040	1,271	11,872	13,143	199	255	455	32,466	15,172	47,638
Hardwood	96,399	16,530	112,929	8,074	36,314	44,388	473	411	884	104,947	53,255	158,202
Total	127,395	19,575	146,970	9,346	48,186	57,531	672	666	1,339	137,413	68,427	205,840
<b>Other private</b>												
Softwood	116,860	21,035	137,894	4,937	41,839	46,776	5,314	3,081	8,395	127,111	65,954	193,065
Hardwood	667,830	367,795	1,035,625	91,745	290,846	382,591	83,021	82,666	165,687	842,596	741,307	1,583,903
Total	784,690	388,830	1,173,520	96,682	332,685	429,367	88,336	85,747	174,083	969,707	807,262	1,776,969
<b>All ownerships</b>												
Softwood	237,025	34,102	271,126	9,556	88,218	97,775	8,048	4,566	12,614	254,629	126,886	381,515
Hardwood	1,032,936	432,504	1,465,440	120,639	427,662	548,300	89,496	88,533	178,029	1,243,071	948,698	2,191,769
Total	1,269,961	466,605	1,736,566	130,195	515,880	646,075	97,545	93,098	190,643	1,497,700	1,075,584	2,573,284

Numbers in rows and columns may not add to totals due to rounding.

**Table 3.10—Volume of timber removals by State, species group, removals class, and source, North Central Region, 1996**

State and species group	Roundwood products			Logging residues			Other removals			All removals		
	Growing stock	Nongrowing stock	All sources	Growing stock	Nongrowing stock	All sources	Growing stock	Nongrowing stock	All sources	Growing stock	Nongrowing stock	All sources
<i>Thousand cubic feet</i>												
Illinois												
Softwood	389	269	658	9	169	179	342	178	520	741	616	1,357
Hardwood	42,440	58,758	101,198	10,059	20,427	30,486	23,927	16,510	40,437	76,426	95,695	172,121
Total	42,830	59,027	101,856	10,068	20,596	30,665	24,269	16,687	40,957	77,167	96,310	173,478
Indiana												
Softwood	2,051	575	2,626	107	1,514	1,621	903	293	1,195	3,061	2,381	5,442
Hardwood	64,536	37,231	101,767	16,629	34,298	50,927	11,614	10,257	21,871	92,779	81,786	174,565
Total	66,586	37,807	104,393	16,736	35,811	52,548	12,517	10,549	23,066	95,839	84,167	180,007
Iowa												
Softwood	63	78	141	2	18	21	40	86	126	105	182	288
Hardwood	14,226	30,656	44,881	3,382	8,132	11,514	7,790	8,984	16,774	25,398	47,771	73,169
Total	14,289	30,734	45,023	3,384	8,150	11,534	7,830	9,070	16,899	25,503	47,953	73,456
Michigan												
Softwood	73,025	12,478	85,503	3,238	20,689	23,927	2,114	1,324	3,438	78,377	34,491	112,868
Hardwood	249,715	80,317	330,032	19,190	54,066	73,255	5,446	3,951	9,397	274,351	138,334	412,685
Total	322,740	92,796	415,536	22,428	74,754	97,182	7,561	5,275	12,836	352,729	172,825	525,554
Minnesota												
Softwood	69,116	4,468	73,583	2,544	33,460	36,004	3,062	1,963	5,024	74,721	39,890	114,611
Hardwood	219,076	55,069	274,146	14,857	95,057	109,914	15,734	12,533	28,267	249,667	162,659	412,327
Total	288,192	59,537	347,729	17,401	128,517	145,918	18,796	14,495	33,291	324,388	202,550	526,938
Missouri												
Softwood	11,200	1,326	12,526	1,301	5,851	7,153	195	316	511	12,695	7,493	20,189
Hardwood	104,265	57,435	161,700	25,360	62,869	88,229	18,748	30,245	48,993	148,374	150,549	298,923
Total	115,465	58,761	174,226	26,661	68,720	95,382	18,943	30,561	49,504	161,069	158,042	319,111
Ohio												
Softwood	2,654	871	3,525	194	1,163	1,357	—	25	25	2,848	2,060	4,908
Hardwood	86,729	22,300	109,029	11,639	49,968	61,606	—	654	654	98,368	72,922	171,290
Total	89,383	23,172	112,555	11,833	51,131	62,964	—	680	680	101,216	74,982	176,198
Wisconsin												
Softwood	78,527	14,037	92,563	2,160	25,354	27,514	1,394	381	1,775	82,081	39,772	121,853
Hardwood	251,949	90,736	342,685	19,523	102,845	122,368	6,236	5,400	11,637	277,708	198,982	476,690
Total	330,476	104,773	435,249	21,683	128,200	149,883	7,630	5,781	13,411	359,789	238,754	598,543
All North Central States												
Softwood	237,025	34,102	271,126	9,556	88,218	97,775	8,048	4,566	12,614	254,629	126,886	381,515
Hardwood	1,032,936	432,504	1,465,440	120,639	427,662	548,300	89,496	88,533	178,029	1,243,071	948,698	2,191,769
Total	1,269,961	466,605	1,736,566	130,195	515,880	646,075	97,545	93,098	190,643	1,497,700	1,075,584	2,573,284

Numbers in rows and columns may not add to totals due to rounding.

A dash (—) indicates no sample for the cell; 0.0 indicates a value of &gt; 0.0 but &lt; 0.05 for the cell.

**Table 3.11—Volume of bark and wood residue by type of residue, softwood, hardwood, and use, North Central Region, 1996**

Source	Fiber byproducts	Fuelwood byproducts	Misc. byproducts	Not used	All byproducts
<i>Thousand cubic feet</i>					
<b>Bark residue</b>					
Softwood	104	32,174	5,321	1,692	39,290
Hardwood	3,639	118,878	63,323	6,567	192,407
Total	3,742	151,052	68,645	8,259	231,697
<b>Wood residue</b> (coarse material)					
Softwood	13,077	4,206	3,004	720	21,007
Hardwood	73,751	49,733	34,101	4,044	161,629
Total	86,828	53,939	37,105	4,764	182,636
<b>Wood residue</b> (fine material)					
Softwood	1,166	13,650	2,844	1,558	19,218
Hardwood	4,387	51,309	45,279	9,262	110,237
Total	5,553	64,959	48,122	10,820	129,454
<b>Wood residue</b> (all material)					
Softwood	14,243	17,856	5,848	2,278	40,225
Hardwood	78,138	101,042	79,379	13,307	271,866
Total	92,381	118,898	85,227	15,584	312,091
<b>All residue</b>					
Softwood	14,347	50,030	11,169	3,969	79,515
Hardwood	81,777	219,920	142,702	19,874	464,273
Total	96,124	269,950	153,871	23,843	543,788

Numbers in rows and columns may not add to totals due to rounding.

**Table 3.12—Weight of bark and wood residue by type of residue, softwood, hardwood, and use, North Central Region, 1996**

Source	Fiber byproducts	Fuelwood byproducts	Misc. byproducts	Not used	All byproducts
<i>Thousand dry tons</i>					
<b>Bark residue</b>					
Softwood	1	381	64	20	466
Hardwood	45	1,414	789	81	2,329
Total	47	1,795	853	101	2,795
<b>Wood residue</b> (coarse material)					
Softwood	215	69	50	12	345
Hardwood	1,191	807	557	66	2,621
Total	1,406	876	606	78	2,966
<b>Wood residue</b> (fine material)					
Softwood	19	220	47	26	312
Hardwood	70	820	733	152	1,775
Total	90	1,040	780	178	2,088
<b>Wood residue</b> (all material)					
Softwood	234	289	97	37	657
Hardwood	1,261	1,627	1,290	218	4,396
Total	1,496	1,916	1,386	256	5,054
<b>All residue</b>					
Softwood	236	670	160	58	1,124
Hardwood	1,307	3,041	2,079	299	6,726
Total	1,542	3,711	2,239	357	7,849

Numbers in rows and columns may not add to totals due to rounding.

**Table 4.1—Volume of roundwood products and species group, Southern Region, 1991 and 1996**

Product and species group	Year		Change	Percent change
	1991	1996		
<i>Thousand cubic feet</i>				
<b>Saw logs</b>				
Softwood	2,329,345	2,721,782	392,437	16.8
Hardwood	1,027,967	958,900	-69,067	-6.7
Total	3,357,312	3,680,682	323,370	9.6
<b>Veneer logs</b>				
Softwood	718,806	736,174	17,368	2.4
Hardwood	76,565	88,829	12,264	16.0
Total	795,371	825,003	29,632	3.7
<b>Pulpwood</b>				
Softwood	2,239,076	2,399,152	160,076	7.1
Hardwood	1,157,158	1,494,829	337,671	29.2
Total	3,396,234	3,893,981	497,747	14.7
<b>Other industrial<sup>a</sup></b>				
Softwood	148,500	188,686	40,186	27.1
Hardwood	63,792	56,449	-7,343	-11.5
Total	212,292	245,135	32,843	15.5
<b>All industrial</b>				
Softwood	5,435,727	6,045,794	610,067	11.2
Hardwood	2,325,482	2,599,007	273,525	11.8
Total	7,761,209	8,644,801	883,592	11.4
<b>Fuelwood</b>				
Softwood	69,588	109,044	39,456	56.7
Hardwood	782,701	838,938	56,237	7.2
Total	852,289	947,982	95,693	11.2
<b>All products</b>				
Softwood	5,505,315	6,154,838	649,523	11.8
Hardwood	3,108,183	3,437,945	329,762	10.6
Total	8,613,498	9,592,783	979,285	11.4

Numbers in rows and columns may not add to totals due to rounding.

<sup>a</sup> Other industrial includes composite products, posts, poles and pilings, and other products.

**Table 4.2—Volume of roundwood products by source, species group, and type of product, Southern Region, 1996**

Source and species group	Saw logs		Veneer logs		Pulpwood		Composite products		Fuelwood		Posts- poles-pilings	Other products	All products
	<i>MBF</i>	<i>MCF</i>	<i>MBF</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>MCF</i>	<i>MCF</i>	<i>MCF</i>
<b>Sawtimber</b>													
Softwood	14,023,017	2,542,188	4,160,706	694,619	15,098,762	1,091,664	530,121	38,434	619,901	44,937	52,854	12,680	4,477,377
Hardwood	5,001,976	840,220	539,926	87,295	9,439,434	718,579	296,862	22,586	4,435,768	337,034	58	2,036	2,007,809
Total	19,024,994	3,382,408	4,700,632	781,914	24,538,196	1,810,243	826,983	61,020	5,055,668	381,971	52,912	14,716	6,485,186
<b>Poletimber</b>													
Softwood	603,745	111,203	131,646	21,989	14,990,356	1,083,729	675,314	48,927	247,718	17,904	8,163	3,417	1,295,332
Hardwood	242,039	40,852	940	149	7,972,067	605,403	316,063	24,077	1,414,817	107,483	16	1,087	779,068
Total	845,784	152,055	132,586	22,138	22,962,422	1,689,133	991,378	73,004	1,662,536	125,387	8,179	4,504	2,074,400
<b>Growing stock</b>													
Softwood	14,626,763	2,653,391	4,292,353	716,609	30,089,118	2,175,393	1,205,435	87,361	867,619	62,841	61,017	16,097	5,772,708
Hardwood	5,244,015	881,072	540,866	87,443	17,411,500	1,323,983	612,926	46,664	5,850,585	444,517	75	3,123	2,786,877
Total	19,870,777	3,534,463	4,833,219	804,052	47,500,618	3,499,376	1,818,361	134,024	6,718,204	507,359	61,092	19,220	8,559,586
<b>Nongrowing stock</b>													
Softwood	377,745	68,391	117,355	19,565	3,091,429	223,759	173,982	12,617	639,233	46,203	7,210	4,384	382,130
Hardwood	470,617	77,828	8,636	1,386	2,246,168	170,846	81,002	6,155	5,174,077	394,421	21	411	651,068
Total	848,363	146,219	125,991	20,951	5,337,597	394,605	254,983	18,773	5,813,310	440,623	7,231	4,795	1,033,197
<b>All sources</b>													
Softwood	15,004,508	2,721,782	4,409,708	736,174	33,180,547	2,399,152	1,379,417	99,978	1,506,852	109,044	68,227	20,481	6,154,838
Hardwood	5,714,632	958,900	549,502	88,829	19,657,668	1,494,829	693,927	52,819	11,024,662	838,938	96	3,534	3,437,945
Total	20,719,140	3,680,682	4,959,210	825,003	52,838,215	3,893,981	2,073,344	152,797	12,531,514	947,982	68,323	24,015	9,592,783

MBF = thousand board feet (1/4-inch rule); MCF = thousand cubic feet; Cords = standard cords 4' x 4' x 8'.  
Numbers in rows and columns may not add to totals due to rounding.

**Table 4.3—Volume of roundwood products by ownership group, species group, and type of product, Southern Region, 1996**

Ownership and species group	Saw logs		Veneer logs		Pulpwood		Composite products		Fuelwood		Posts-poles-pilings	Other products	All products
	<i>MBF</i>	<i>MCF</i>	<i>MBF</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>MCF</i>	<i>MCF</i>	<i>MCF</i>
<b>National forest</b>													
Softwood	447,459	80,406	196,576	32,728	760,051	54,933	23,754	1,713	40,452	2,926	3,741	434	176,881
Hardwood	245,671	41,024	16,093	2,570	394,987	30,093	6,758	512	317,717	24,229	1	46	98,475
Total	693,130	121,430	212,669	35,298	1,155,038	85,026	30,511	2,225	358,169	27,154	3,742	480	275,356
<b>Other public</b>													
Softwood	397,839	72,701	84,935	14,230	976,769	69,999	39,200	2,843	40,693	2,936	2,013	1,180	165,903
Hardwood	158,549	26,377	12,808	2,067	442,610	33,312	12,633	962	263,221	19,940	1	71	82,730
Total	556,387	99,079	97,743	16,297	1,419,379	103,311	51,833	3,806	303,914	22,875	2,014	1,251	248,633
<b>Forest industry</b>													
Softwood	4,756,387	862,073	1,640,991	274,488	12,403,362	897,424	223,404	16,176	494,583	35,825	25,479	7,603	2,119,068
Hardwood	774,260	131,337	107,136	17,407	4,729,967	359,703	71,427	5,418	2,263,326	172,067	11	448	686,390
Total	5,530,647	993,410	1,748,127	291,895	17,133,329	1,257,127	294,831	21,594	2,757,909	207,892	25,490	8,050	2,805,458
<b>Other private</b>													
Softwood	9,402,823	1,706,602	2,487,206	414,727	19,040,365	1,376,796	1,093,059	79,246	931,124	67,358	36,993	11,264	3,692,986
Hardwood	4,536,153	760,161	413,465	66,785	14,090,103	1,071,721	603,109	45,927	8,180,398	622,703	84	2,969	2,570,350
Total	13,938,976	2,466,764	2,900,671	481,512	33,130,469	2,448,517	1,696,168	125,173	9,111,522	690,060	37,077	14,234	6,263,336
<b>All ownerships</b>													
Softwood	15,004,508	2,721,782	4,409,708	736,174	33,180,547	2,399,152	1,379,417	99,978	1,506,852	109,044	68,227	20,481	6,154,838
Hardwood	5,714,632	958,900	549,502	88,829	19,657,668	1,494,829	693,927	52,819	11,024,662	838,938	96	3,534	3,437,945
Total	20,719,140	3,680,682	4,959,210	825,003	52,838,215	3,893,981	2,073,344	152,797	12,531,514	947,982	68,323	24,015	9,592,783

MBF = thousand board feet (1/4-inch rule); MCF = thousand cubic feet; Cords = standard cords 4' x 4' x 8'.

Numbers in rows and columns may not add to totals due to rounding.

**Table 4.4—Volume of roundwood products by species group, detailed species group, and type of product, Southern Region, 1996**

Species	Saw logs		Veneer logs		Pulpwood		Composite products		Fuelwood		Posts- poles-pilings	Other products	All products
	<i>MBF</i>	<i>MCF</i>	<i>MBF</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>MCF</i>	<i>MCF</i>	<i>MCF</i>
<b>Softwood</b>													
Cedars	67,550	12,224	7,065	1,209	114,826	8,277	6,508	472	11,896	861	1,538	115	24,698
Cypress	188,201	34,766	23,097	3,956	436,185	31,208	17,428	1,265	16,560	1,198	922	4,000	77,315
Hemlock	18,047	3,290	102	17	20,805	1,511	1,098	79	2,857	208	27	—	5,132
Loblolly-shortleaf pine	10,992,325	1,983,587	3,697,979	617,119	22,014,217	1,596,731	1,064,053	77,096	1,075,577	77,807	32,613	3,376	4,388,328
Longleaf-slash pine	2,757,769	508,823	561,529	93,529	8,354,694	600,124	85,039	6,161	238,026	17,224	26,922	10,881	1,263,664
White pine	97,959	17,763	305	51	66,822	4,848	21,453	1,558	12,686	924	300	—	25,444
Other pines	882,657	161,329	119,632	20,292	2,172,998	156,454	183,837	13,347	149,249	10,822	5,904	2,110	370,258
Total	15,004,508	2,721,782	4,409,708	736,174	33,180,547	2,399,152	1,379,417	99,978	1,506,852	109,044	68,227	20,481	6,154,838
<b>Hardwood</b>													
Ash	124,318	20,789	15,220	2,458	351,855	26,671	8,155	621	214,751	16,329	—	46	66,915
Basswood	14,340	2,372	495	80	22,095	1,685	2,380	181	15,868	1,209	—	13	5,540
Beech	87,392	14,533	7,376	1,197	158,700	12,097	6,547	498	107,710	8,205	—	28	36,558
Yellow birch	1,345	223	15	2	1,596	122	—	—	1,594	122	—	—	470
Other birch	34,159	5,708	2,149	342	66,831	5,080	2,348	179	48,681	3,711	1	1	15,022
Black cherry	32,575	5,479	2,350	380	116,576	8,867	2,907	221	61,002	4,642	—	15	19,606
Cottonwood	25,487	4,298	6,555	1,067	83,053	6,293	285	22	47,819	3,622	—	1	15,303
Elm	94,919	15,987	9,831	1,593	367,150	27,865	5,580	425	195,965	14,898	—	43	60,811
Hickory	435,606	72,756	29,185	4,702	1,084,469	82,625	29,596	2,251	695,198	52,997	7	319	215,657
Hard maple	59,735	9,891	1,520	243	48,033	3,665	4,818	366	51,796	3,956	—	9	18,130
Soft maple	235,638	39,357	31,970	5,149	814,052	61,681	48,380	3,687	506,909	38,582	4	205	148,665
Select red oaks	330,573	55,337	20,780	3,351	828,839	63,089	32,143	2,446	513,477	39,118	2	93	163,436
Other red oaks	1,306,759	220,124	129,070	20,916	5,227,765	398,080	167,709	12,760	2,690,063	204,625	24	924	857,453
Select white oaks	714,388	119,333	40,563	6,522	1,905,698	144,948	72,170	5,500	1,163,830	88,678	24	712	365,720
Other white oaks	426,135	71,304	27,706	4,476	1,347,269	102,877	34,117	2,594	811,861	61,866	1	95	243,213
Sweetgum	608,456	103,400	95,755	15,537	3,451,901	262,238	82,497	6,275	1,626,436	123,556	10	385	511,399
Sycamore	35,932	6,027	3,687	595	94,915	7,143	4,048	308	57,284	4,344	1	65	18,483
Tupelo/blackgum	172,718	29,239	33,566	5,432	1,184,160	89,861	47,211	3,590	570,693	43,375	1	66	171,563
Black walnut	26,519	4,376	1,216	194	18,039	1,372	1,481	112	23,806	1,816	—	4	7,875
Yellow-poplar	604,080	100,721	49,887	8,034	1,314,729	99,653	90,131	6,869	946,391	72,109	19	366	287,770
Other hardwoods	343,560	57,647	40,607	6,559	1,169,942	88,914	51,427	3,913	673,529	51,177	1	144	208,356
Total	5,714,632	958,900	549,502	88,829	19,657,668	1,494,829	693,927	52,819	11,024,662	838,938	96	3,534	3,437,945
<b>All species</b>	20,719,140	3,680,682	4,959,210	825,003	52,838,215	3,893,981	2,073,344	152,797	12,531,514	947,982	68,323	24,015	9,592,783

MBF = thousand board feet (1/4-inch rule); MCF = thousand cubic feet; Cords = standard cords 4' x 4' x 8'.

Numbers in rows and columns may not add to totals due to rounding.

A dash (—) indicates no sample for the cell; 0.0 indicates a value of > 0.0 but < 0.05 for the cell.

**Table 4.5—Volume of roundwood products by State, species group, and type of product, Southern Region, 1996**

State and species group	Saw logs		Veneer logs		Pulpwood		Composite products		Fuelwood		Posts- poles-pilings	Other products	All products
	<i>MBF</i>	<i>MCF</i>	<i>MBF</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>MCF</i>	<i>MCF</i>	<i>MCF</i>
<b>Alabama</b>													
Softwood	2,170,224	399,291	459,489	74,873	5,723,612	415,503	186,840	13,562	214,591	15,569	20,731	266	939,795
Hardwood	417,852	73,509	119,374	19,559	3,691,485	281,998	3,814	289	1,292,959	98,711	—	168	474,234
Total	2,588,076	472,800	578,863	94,432	9,415,097	697,501	190,654	13,851	1,507,550	114,280	20,731	434	1,414,029
<b>Arkansas</b>													
Softwood	1,254,627	225,807	392,352	68,257	1,723,921	125,131	697	50	151,462	10,989	4,090	189	434,513
Hardwood	536,107	88,965	38,106	6,047	1,532,282	117,344	2,470	187	995,810	76,312	21	—	288,876
Total	1,790,734	314,772	430,458	74,304	3,256,203	242,475	3,167	237	1,147,272	87,301	4,111	189	723,389
<b>Florida</b>													
Softwood	769,017	146,856	141,626	24,347	3,957,034	280,917	—	—	53,807	3,928	8,475	15,222	479,745
Hardwood	36,260	6,078	11,274	1,802	534,851	40,094	40,178	3,012	303,360	22,752	—	231	73,969
Total	805,277	152,934	152,900	26,149	4,491,885	321,011	40,178	3,012	357,167	26,680	8,475	15,453	553,714
<b>Georgia</b>													
Softwood	2,646,284	486,848	361,635	58,924	5,824,692	422,807	508,536	36,900	238,280	17,287	11,969	3,058	1,037,793
Hardwood	371,718	65,361	124,370	20,367	2,546,198	194,458	135,558	10,343	1,485,630	113,421	—	472	404,422
Total	3,018,002	552,209	486,005	79,291	8,370,890	617,265	644,094	47,243	1,723,910	130,708	11,969	3,530	1,442,215
<b>Kentucky</b>													
Softwood	33,096	6,015	—	—	45,686	3,336	—	—	2,060	150	1,199	606	11,306
Hardwood	946,813	155,225	6,487	1,009	224,019	17,034	20,469	1,554	328,514	25,000	6	202	200,030
Total	979,909	161,240	6,487	1,009	269,705	20,370	20,469	1,554	330,574	25,150	1,205	808	211,336
<b>Louisiana</b>													
Softwood	805,344	153,800	710,819	122,240	3,144,877	223,263	67,036	4,753	105,535	7,704	1,483	—	513,243
Hardwood	164,587	27,631	5,583	896	1,217,386	91,278	25,165	1,881	812,374	60,928	—	—	182,614
Total	969,931	181,431	716,402	123,136	4,362,263	314,541	92,201	6,634	917,909	68,632	1,483	—	695,857
<b>Mississippi</b>													
Softwood	2,207,550	406,154	352,949	57,510	2,868,185	208,192	171,100	12,415	143,718	10,427	1,451	—	696,149
Hardwood	492,389	86,628	34,013	5,559	3,214,072	245,523	138,900	10,603	923,623	70,514	—	—	418,827
Total	2,699,939	492,782	386,962	63,069	6,082,257	453,715	310,000	23,018	1,067,341	80,941	1,451	—	1,114,976
<b>North Carolina</b>													
Softwood	1,614,255	290,523	274,478	47,740	2,666,884	193,572	287,793	20,869	188,815	13,699	2,138	67	568,608
Hardwood	650,628	107,960	117,746	18,682	1,806,125	138,299	169,534	12,959	1,404,942	107,665	—	32	385,597
Total	2,264,883	398,483	392,224	66,422	4,473,009	331,871	457,327	33,828	1,593,757	121,364	2,138	99	954,205
<b>Oklahoma</b>													
Softwood	254,473	45,803	70,714	12,300	396,575	28,788	—	—	6,891	500	6,098	—	93,489
Hardwood	48,610	8,062	803	127	152,761	11,699	—	—	376,506	28,853	—	—	48,741
Total	303,083	53,865	71,517	12,427	549,336	40,487	—	—	383,397	29,353	6,098	—	142,230

continued



**Table 4.5—Volume of roundwood products by State, species group, and type of product, Southern Region, 1996 (continued)**

State and species group	Saw logs		Veneer logs		Pulpwood		Composite products		Fuelwood		Posts-poles-pilings	Other products	All products
	<i>MBF</i>	<i>MCF</i>	<i>MBF</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>MCF</i>	<i>MCF</i>	<i>MCF</i>
South Carolina													
Softwood	1,219,481	219,484	239,212	42,086	3,084,564	211,577	19,000	1,302	114,958	7,886	3,765	261	486,361
Hardwood	164,479	27,615	48,470	7,881	1,531,393	107,941	1,000	70	660,097	48,451	—	—	191,958
Total	1,383,960	247,099	287,682	49,967	4,615,957	319,518	20,000	1,372	775,055	56,337	3,765	261	678,319
Tennessee													
Softwood	84,580	15,187	55	9	617,927	44,838	538	38	119,975	8,705	3,765	748	73,290
Hardwood	918,160	152,369	10,706	1,685	841,628	64,440	7,154	548	989,233	75,808	—	—	294,850
Total	1,002,740	167,556	10,761	1,694	1,459,555	109,278	7,692	586	1,109,208	84,513	3,765	748	368,140
Texas													
Softwood	1,432,953	232,245	1,324,718	214,754	1,574,314	127,487	—	—	23,322	1,692	1,869	29	578,076
Hardwood	241,195	40,497	12,621	2,052	1,213,419	97,097	—	—	225,279	17,199	—	—	156,845
Total	1,674,148	272,742	1,337,339	216,806	2,787,733	224,584	—	—	248,601	18,891	1,869	29	734,921
Virginia													
Softwood	512,624	93,769	81,661	13,134	1,552,276	113,741	137,877	10,089	143,438	10,508	1,194	35	242,470
Hardwood	725,834	119,000	19,949	3,163	1,152,049	87,624	149,685	11,373	1,226,335	93,324	69	2,429	316,982
Total	1,238,458	212,769	101,610	16,297	2,704,325	201,365	287,562	21,462	1,369,773	103,832	1,263	2,464	559,452
All South States													
Softwood	15,004,508	2,721,782	4,409,708	736,174	33,180,547	2,399,152	1,379,417	99,978	1,506,852	109,044	68,227	20,481	6,154,838
Hardwood	5,714,632	958,900	549,502	88,829	19,657,668	1,494,829	693,927	52,819	11,024,662	838,938	96	3,534	3,437,945
Total	20,719,140	3,680,682	4,959,210	825,003	52,838,215	3,893,981	2,073,344	152,797	12,531,514	947,982	68,323	24,015	9,592,783

MBF = thousand board feet (1/4-inch rule); MCF = thousand cubic feet; Cords = standard cords 4' x 4' x 8'.

Numbers in rows and columns may not add to totals due to rounding.

A dash (—) indicates no sample for the cell; 0.0 indicates a value of > 0.0 but < 0.05 for the cell.

**Table 4.6—Volume of roundwood products by source, species group, and ownership group, Southern Region, 1996**

Source and species group	National forest	Other public	Forest industry	Other private	All owners
<i>Thousand cubic feet</i>					
<b>Sawtimber</b>					
Softwood	135,076	114,756	1,507,606	2,719,939	4,477,377
Hardwood	62,652	49,549	378,764	1,516,844	2,007,809
Total	197,729	164,304	1,886,369	4,236,784	6,485,186
<b>Poletimber</b>					
Softwood	30,663	40,756	471,599	752,314	1,295,332
Hardwood	17,483	17,096	176,368	568,121	779,068
Total	48,146	57,852	647,967	1,320,435	2,074,400
<b>Growing stock</b>					
Softwood	165,739	155,512	1,979,204	3,472,253	5,772,708
Hardwood	80,136	66,644	555,132	2,084,965	2,786,877
Total	245,875	222,156	2,534,336	5,557,219	8,559,586
<b>Nongrowing stock</b>					
Softwood	11,142	10,391	139,864	220,733	382,130
Hardwood	18,339	16,086	131,258	485,384	651,068
Total	29,481	26,477	271,122	706,117	1,033,197
<b>All sources</b>					
Softwood	176,881	165,903	2,119,068	3,692,986	6,154,838
Hardwood	98,475	82,730	686,390	2,570,350	3,437,945
Total	275,356	248,633	2,805,458	6,263,336	9,592,783

Numbers in rows and columns may not add to totals due to rounding.

**Table 4.7—Volume of roundwood products by species group, detailed species group, and ownership group, Southern Region, 1996**

Species group and detailed species group	National forest	Other public	Forest industry	Other private	All owners
<i>Thousand cubic feet</i>					
<b>Softwood</b>					
Cedars	727	719	3,786	19,465	24,698
Cypress	290	3,228	25,662	48,135	77,315
Hemlock	1,195	1	17	3,919	5,132
Loblolly-shortleaf pine	134,150	99,340	1,468,897	2,685,941	4,388,328
Longleaf-slash pine	26,463	51,351	542,015	643,835	1,263,664
White pine	1,817	341	1,773	21,513	25,444
Other pines	12,239	10,922	76,919	270,178	370,258
Total	176,881	165,903	2,119,068	3,692,986	6,154,838
<b>Hardwood</b>					
Ash	1,466	2,805	12,304	50,340	66,915
Basswood	577	92	516	4,355	5,540
Beech	1,757	524	5,851	28,427	36,558
Yellow birch	286	72	4	108	470
Other birch	2,139	413	1,353	11,117	15,022
Black cherry	793	726	3,069	15,017	19,606
Cottonwood	85	1,562	2,452	11,205	15,303
Elm	711	1,424	11,253	47,424	60,811
Hickory	5,446	6,155	37,850	166,206	215,657
Hard maple	409	569	1,680	15,472	18,130
Soft maple	5,721	2,987	27,069	112,888	148,665
Select red oaks	11,588	4,818	28,658	118,372	163,436
Other red oaks	22,003	19,028	185,175	631,248	857,453
Select white oaks	10,393	8,580	67,718	279,029	365,720
Other white oaks	14,206	7,590	45,263	176,154	243,213
Sweetgum	5,334	11,051	124,676	370,337	511,399
Sycamore	674	219	3,344	14,246	18,483
Tupelo/blackgum	1,379	2,979	45,832	121,373	171,563
Black walnut	536	249	569	6,521	7,875
Yellow-poplar	8,683	4,754	42,733	231,599	287,770
Other hardwoods	4,288	6,134	39,021	158,913	208,356
Total	98,475	82,730	686,390	2,570,350	3,437,945
<b>All species</b>	275,356	248,633	2,805,458	6,263,336	9,592,783

Numbers in rows and columns may not add to totals due to rounding.

**Table 4.8—Volume of roundwood products by species group, detailed species group, and source, Southern Region, 1996**

Species group and detailed species group	Sawtimber	Poletimber	Total growing stock	Non-growing stock	All sources
<i>Thousand cubic feet</i>					
<b>Softwood</b>					
Cedars	17,512	5,111	22,623	2,075	24,698
Cypress	51,722	19,967	71,688	5,626	77,315
Hemlock	3,849	885	4,734	398	5,132
Loblolly-shortleaf pine	3,296,477	832,033	4,128,510	259,819	4,388,328
Longleaf-slash pine	834,754	344,006	1,178,760	84,904	1,263,664
White pine	20,147	3,813	23,960	1,484	25,444
Other pines	252,916	89,518	342,433	27,824	370,258
Total	4,477,377	1,295,332	5,772,708	382,130	6,154,838
<b>Hardwood</b>					
Ash	40,318	14,206	54,524	12,391	66,915
Basswood	3,441	878	4,319	1,221	5,540
Beech	22,855	6,308	29,162	7,396	36,558
Yellow birch	315	60	376	94	470
Other birch	9,463	3,020	12,483	2,540	15,022
Black cherry	11,783	4,213	15,996	3,610	19,606
Cottonwood	10,231	2,809	13,041	2,263	15,303
Elm	35,114	14,006	49,120	11,690	60,811
Hickory	129,339	42,090	171,428	44,228	215,657
Hard maple	12,079	1,981	14,060	4,070	18,130
Soft maple	84,526	36,951	121,477	27,188	148,665
Select red oaks	100,629	32,437	133,066	30,371	163,436
Other red oaks	495,203	199,679	694,882	162,571	857,453
Select white oaks	217,362	77,500	294,862	70,857	365,720
Other white oaks	141,232	51,992	193,224	49,989	243,213
Sweetgum	287,979	133,415	421,394	90,005	511,399
Sycamore	11,586	3,804	15,391	3,093	18,483
Tupelo/blackgum	91,782	47,523	139,306	32,258	171,563
Black walnut	5,248	957	6,205	1,670	7,875
Yellow-poplar	173,459	59,911	233,370	54,400	287,770
Other hardwoods	123,864	45,328	169,193	39,163	208,356
Total	2,007,809	779,068	2,786,877	651,068	3,437,945
<b>All species</b>	6,485,186	2,074,400	8,559,586	1,033,197	9,592,783

Numbers in rows and columns may not add to totals due to rounding.

**Table 4.9—Volume of timber removals by ownership group, species group, removals class, and source, Southern Region, 1996**

Ownership and species group	Roundwood products			Logging residues			Other removals			All removals		
	Growing stock	Nongrowing stock	All sources	Growing stock	Nongrowing stock	All sources	Growing stock	Nongrowing stock	All sources	Growing stock	Nongrowing stock	All sources
<i>Thousand cubic feet</i>												
<b>National forest</b>												
Softwood	165,739	11,142	176,881	10,432	7,721	18,154	10,526	2,357	12,883	186,697	21,221	207,918
Hardwood	80,136	18,339	98,475	12,361	13,488	25,849	14,157	7,086	21,243	106,654	38,913	145,567
Total	245,875	29,481	275,356	22,794	21,209	44,003	24,683	9,444	34,127	293,352	60,134	353,485
<b>Other public</b>												
Softwood	155,512	10,391	165,903	9,877	5,531	15,408	9,391	2,614	12,005	174,780	18,537	193,317
Hardwood	66,644	16,086	82,730	11,419	12,831	24,251	13,273	7,607	20,879	91,336	36,524	127,860
Total	222,156	26,477	248,633	21,296	18,363	39,659	22,664	10,221	32,885	266,116	55,061	321,177
<b>Forest industry</b>												
Softwood	1,979,204	139,864	2,119,068	127,019	75,516	202,535	114,376	29,978	144,353	2,220,599	245,357	2,465,956
Hardwood	555,132	131,258	686,390	90,647	104,434	195,081	93,104	55,334	148,439	738,883	291,027	1,029,910
Total	2,534,336	271,122	2,805,458	217,666	179,950	397,616	207,480	85,312	292,792	2,959,482	536,384	3,495,866
<b>Other private</b>												
Softwood	3,472,253	220,733	3,692,986	221,108	124,461	345,569	202,825	57,816	260,641	3,896,186	403,010	4,299,196
Hardwood	2,084,965	485,384	2,570,350	329,650	366,045	695,695	355,029	188,825	543,853	2,769,644	1,040,254	3,809,898
Total	5,557,219	706,117	6,263,336	550,758	490,507	1,041,265	557,854	246,641	804,494	6,665,830	1,443,264	8,109,095
<b>All ownerships</b>												
Softwood	5,772,708	382,130	6,154,838	368,436	213,230	581,666	337,118	92,765	429,883	6,478,262	688,125	7,166,387
Hardwood	2,786,877	651,068	3,437,945	444,077	496,799	940,876	475,563	258,852	734,415	3,706,517	1,406,719	5,113,236
Total	8,559,586	1,033,197	9,592,783	812,513	710,029	1,522,542	812,680	351,618	1,164,298	10,184,780	2,094,843	12,279,623

Numbers in rows and columns may not add to totals due to rounding.

**Table 4.10—Volume of timber removals by State, species group, removals class, and source, Southern Region, 1996**

State and species group	Roundwood products			Logging residues			Other removals			All removals		
	Growing stock	Nongrowing stock	All sources	Growing stock	Nongrowing stock	All sources	Growing stock	Nongrowing stock	All sources	Growing stock	Nongrowing stock	All sources
<i>Thousand cubic feet</i>												
Alabama												
Softwood	895,844	43,951	939,795	53,011	18,307	71,318	36,491	4,081	40,572	985,347	66,338	1,051,685
Hardwood	372,088	102,146	474,234	57,747	20,471	78,218	25,963	14,190	40,153	455,798	136,807	592,605
Total	1,267,932	146,097	1,414,029	110,758	38,778	149,536	62,455	18,270	80,725	1,441,144	203,146	1,644,290
Arkansas												
Softwood	400,409	34,104	434,513	20,954	25,265	46,219	15,462	5,589	21,051	436,826	64,957	501,783
Hardwood	226,710	62,166	288,876	44,221	59,553	103,774	39,422	27,360	66,782	310,354	149,078	459,432
Total	627,119	96,270	723,389	65,176	84,817	149,993	54,885	32,948	87,833	747,179	214,036	961,215
Florida												
Softwood	445,605	34,140	479,745	26,069	18,208	44,277	27,696	1,680	29,376	499,369	54,029	553,398
Hardwood	51,817	22,152	73,969	10,270	11,680	21,950	24,755	23,820	48,575	86,841	57,653	144,494
Total	497,421	56,293	553,714	36,339	29,888	66,227	52,450	25,501	77,951	586,211	111,681	697,892
Georgia												
Softwood	946,269	91,524	1,037,793	60,664	15,092	75,756	55,427	35,285	90,712	1,062,360	141,901	1,204,261
Hardwood	321,686	82,736	404,422	55,710	33,615	89,325	66,704	33,253	99,957	444,100	149,604	593,704
Total	1,267,955	174,260	1,442,215	116,374	48,707	165,081	122,130	68,539	190,669	1,506,459	291,506	1,797,965
Kentucky												
Softwood	7,766	3,540	11,306	879	300	1,179	6,996	4,498	11,494	15,641	8,338	23,979
Hardwood	142,702	57,328	200,030	35,101	25,432	60,533	55,859	11,791	67,650	233,662	94,551	328,213
Total	150,468	60,868	211,336	35,980	25,732	61,712	62,855	16,289	79,144	249,303	102,889	352,192
Louisiana												
Softwood	492,061	21,182	513,243	44,289	27,451	71,740	26,583	3,159	29,742	562,933	51,792	614,725
Hardwood	162,589	20,025	182,614	37,696	71,237	108,933	28,118	20,963	49,081	228,403	112,225	340,628
Total	654,650	41,207	695,857	81,985	98,688	180,673	54,701	24,122	78,823	791,336	164,017	955,353
Mississippi												
Softwood	672,684	23,465	696,149	37,105	45,180	82,285	19,924	4,107	24,031	729,714	72,751	802,465
Hardwood	360,905	57,922	418,827	37,335	112,321	149,656	29,413	18,372	47,785	427,653	188,615	616,268
Total	1,033,590	81,386	1,114,976	74,440	157,501	231,941	49,337	22,479	71,816	1,157,367	261,366	1,418,733

*continued*

**Table 4.10—Volume of timber removals by State, species group, removals class, and source, Southern Region, 1996 (continued)**

State and species group	Roundwood products			Logging residues			Other removals			All removals		
	Growing stock	Nongrowing stock	All sources	Growing stock	Nongrowing stock	All sources	Growing stock	Nongrowing stock	All sources	Growing stock	Nongrowing stock	All sources
<i>Thousand cubic feet</i>												
North Carolina												
Softwood	537,316	31,292	568,608	35,280	11,851	47,131	32,825	7,680	40,505	605,421	50,823	656,244
Hardwood	326,028	59,569	385,597	46,124	39,763	85,887	46,577	29,707	76,284	418,730	129,038	547,768
Total	863,343	90,862	954,205	81,404	51,614	133,018	79,402	37,387	116,789	1,024,150	179,862	1,204,012
Oklahoma												
Softwood	73,320	20,169	93,489	5,181	5,678	10,859	7,966	1,450	9,416	86,467	27,297	113,764
Hardwood	25,180	23,561	48,741	3,496	9,649	13,145	9,306	8,320	17,626	37,983	41,529	79,512
Total	98,500	43,730	142,230	8,677	15,327	24,004	17,272	9,770	27,042	124,450	68,826	193,276
South Carolina												
Softwood	459,447	26,914	486,361	31,428	15,161	46,589	34,557	5,760	40,317	525,432	47,835	573,267
Hardwood	165,079	26,879	191,958	29,199	24,030	53,229	33,732	25,796	59,528	228,010	76,705	304,715
Total	624,526	53,793	678,319	60,627	39,191	99,818	68,289	31,556	99,845	753,442	124,540	877,982
Tennessee												
Softwood	64,390	8,900	73,290	4,373	3,278	7,651	9,510	1,266	10,776	78,274	13,443	91,717
Hardwood	234,502	60,348	294,850	22,359	21,351	43,710	32,900	14,480	47,380	289,761	96,179	385,940
Total	298,892	69,248	368,140	26,732	24,629	51,361	42,410	15,746	58,156	368,035	109,622	477,657
Texas												
Softwood	554,680	23,396	578,076	34,602	22,468	57,070	46,342	7,059	53,401	635,624	52,923	688,547
Hardwood	143,506	13,339	156,845	27,314	40,526	67,840	40,251	8,349	48,600	211,072	62,213	273,285
Total	698,186	36,735	734,921	61,916	62,994	124,910	86,593	15,408	102,001	846,696	115,136	961,832
Virginia												
Softwood	222,916	19,554	242,470	14,601	4,991	19,592	17,338	11,152	28,490	254,855	35,697	290,552
Hardwood	254,086	62,896	316,982	37,503	27,173	64,676	42,563	22,451	65,014	334,151	112,521	446,672
Total	477,002	82,450	559,452	52,104	32,164	84,268	59,900	33,604	93,504	589,007	148,217	737,224
All Southern States												
Softwood	5,772,708	382,130	6,154,838	368,436	213,230	581,666	337,118	92,765	429,883	6,478,262	688,125	7,166,387
Hardwood	2,786,877	651,068	3,437,945	444,077	496,799	940,876	475,563	258,852	734,415	3,706,517	1,406,719	5,113,236
Total	8,559,586	1,033,197	9,592,783	812,513	710,029	1,522,542	812,680	351,618	1,164,298	10,184,780	2,094,843	12,279,623

Numbers in rows and columns may not add to totals due to rounding.

**Table 4.11—Volume of bark and wood residue by type of residue, softwood, hardwood, and use, Southern Region, 1996**

Source	Fiber byproducts	Fuelwood byproducts	Misc. byproducts	Not used	All byproducts
<i>Thousand cubic feet</i>					
<b>Bark residue</b>					
Softwood	—	503,654	95,050	4,905	603,609
Hardwood	534	257,840	47,919	5,525	311,818
Total	534	761,494	142,969	10,430	915,427
<b>Wood residue (coarse material)</b>					
Softwood	840,924	66,122	52,023	3,621	962,690
Hardwood	220,609	61,068	20,620	9,622	311,919
Total	1,061,533	127,190	72,643	13,243	1,274,609
<b>Wood residue (fine material)</b>					
Softwood	135,687	483,009	119,475	10,066	748,237
Hardwood	5,393	166,981	39,032	10,859	222,265
Total	141,080	649,990	158,507	20,925	970,502
<b>Wood residue (all material)</b>					
Softwood	976,611	549,131	171,498	13,687	1,710,927
Hardwood	226,002	228,049	59,652	20,481	534,184
Total	1,202,613	777,180	231,150	34,168	2,245,111
<b>All residue</b>					
Softwood	976,611	1,052,785	266,548	18,592	2,314,536
Hardwood	226,536	485,889	107,571	26,006	846,002
Total	1,203,147	1,538,674	374,119	44,598	3,160,538

Numbers in rows and columns may not add to totals due to rounding.

A dash (—) indicates no sample for the cell; 0.0 indicates a value of > 0.0 but < 0.05 for the cell.

**Table 4.12—Weight of bark and wood residue by type of residue, softwood, hardwood, and use, Southern Region, 1996**

Source	Fiber byproducts	Fuelwood byproducts	Misc. byproducts	Not used	All byproducts
<i>Thousand dry tons</i>					
<b>Bark residue</b>					
Softwood	—	8,357	1,580	82	10,019
Hardwood	9	4,275	794	91	5,168
Total	9	12,632	2,374	172	15,187
<b>Wood residue (coarse material)</b>					
Softwood	13,957	1,095	865	60	15,976
Hardwood	3,658	1,002	340	158	5,157
Total	17,615	2,097	1,204	217	21,134
<b>Wood residue (fine material)</b>					
Softwood	2,256	8,014	1,983	167	12,420
Hardwood	90	2,762	647	179	3,677
Total	2,346	10,776	2,630	345	16,097
<b>Wood residue (all material)</b>					
Softwood	16,213	9,109	2,848	227	28,396
Hardwood	3,748	3,764	986	336	8,835
Total	19,962	12,873	3,834	563	37,231
<b>All residue</b>					
Softwood	16,213	17,466	4,427	308	38,415
Hardwood	3,757	8,039	1,780	427	14,003
Total	19,970	25,505	6,208	735	52,418

Numbers in rows and columns may not add to totals due to rounding.

A dash (—) indicates no sample for the cell; 0.0 indicates a value of > 0.0 but < 0.05 for the cell.



**Table 5.1—Volume of roundwood products and species group,  
Rocky Mountains Region, 1991 and 1996**

Product and species group	Year		Change	Percent change
	1991	1996		
<i>Thousand cubic feet</i>				
<b>Saw logs</b>				
Softwood	631,539	381,098	-250,441	-39.7
Hardwood	14,279	8,767	-5,512	-38.6
Total	645,818	389,865	-255,953	-39.6
<b>Veneer logs</b>				
Softwood	78,458	63,461	-14,997	-19.1
Hardwood	193	102	-91	-47.2
Total	78,651	63,563	-15,088	-19.2
<b>Pulpwood</b>				
Softwood	29,821	26,177	-3,644	-12.2
Hardwood	150	—	-150	-100.0
Total	29,971	26,177	-3,794	-12.7
<b>Other industrial<sup>a</sup></b>				
Softwood	22,751	24,369	1,618	7.1
Hardwood	6,194	11,216	5,022	81.1
Total	28,945	35,585	6,640	22.9
<b>All industrial</b>				
Softwood	762,569	495,105	-267,464	-35.1
Hardwood	20,816	20,085	-731	-3.5
Total	783,385	515,190	-268,195	-34.2
<b>Fuelwood</b>				
Softwood	82,129	98,730	16,601	20.2
Hardwood	72,195	73,769	1,574	2.2
Total	154,324	172,499	18,175	11.8
<b>All products</b>				
Softwood	844,698	593,835	-250,863	-29.7
Hardwood	93,011	93,854	843	0.9
Total	937,709	687,689	-250,020	-26.7

Numbers in rows and columns may not add to totals due to rounding.

A dash (—) indicates no sample for the cell; 0.0 indicates a value of > 0.0 but < 0.05 for the cell.

<sup>a</sup> Other industrial includes composite products, posts, poles and pilings, and other products.

**Table 5.2—Volume of roundwood products by source, species group, and type of product, Rocky Mountains Region, 1996**

Source and species group	Saw logs		Veneer logs		Pulpwood		Composite products		Fuelwood		Posts- poles-pilings	Other products	All products
	<i>MBF</i>	<i>MCF</i>	<i>MBF</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>MCF</i>	<i>MCF</i>	<i>MCF</i>
<b>Sawtimber</b>													
Softwood	2,180,718	338,047	389,175	59,639	225,601	18,023	1,728	130	34,221	2,728	976	4,635	424,177
Hardwood	50,704	8,050	472	100	—	—	55,852	4,466	47,343	3,690	—	5,605	21,911
Total	2,231,423	346,096	389,647	59,739	225,601	18,023	57,580	4,596	81,564	6,418	976	10,240	446,089
<b>Poletimber</b>													
Softwood	31,157	15,318	6,848	3,424	8,653	692	7,200	540	2,137	166	10,234	156	30,530
Hardwood	443	119	—	—	—	—	3,157	245	10,369	753	40	239	1,396
Total	31,600	15,437	6,848	3,424	8,653	692	10,357	785	12,505	919	10,274	395	31,926
<b>Growing stock</b>													
Softwood	2,211,875	353,364	396,022	63,063	234,254	18,715	8,928	670	36,358	2,894	11,211	4,791	454,707
Hardwood	51,147	8,169	472	100	—	—	59,010	4,711	57,712	4,443	40	5,844	23,307
Total	2,263,022	361,534	396,494	63,162	234,254	18,715	67,938	5,381	94,070	7,337	11,251	10,635	478,014
<b>Nongrowing stock</b>													
Softwood	173,353	27,734	2,576	398	93,275	7,462	1,872	140	1,212,156	95,836	1,898	5,658	139,127
Hardwood	3,465	598	13	2	—	—	922	72	941,439	69,326	523	27	70,548
Total	176,818	28,332	2,590	400	93,275	7,462	2,794	212	2,153,594	165,162	2,422	5,685	209,675
<b>All sources</b>													
Softwood	2,385,228	381,098	398,599	63,461	327,529	26,177	10,800	810	1,248,514	98,730	13,109	10,450	593,834
Hardwood	54,612	8,767	485	102	—	—	59,932	4,783	999,151	73,769	563	5,870	93,855
Total	2,439,840	389,865	399,084	63,563	327,529	26,177	70,732	5,593	2,247,664	172,499	13,672	16,320	687,689

MBF = thousand board feet (1/4-inch rule); MCF = thousand cubic feet; Cords = standard cords 4' x 4' x 8'.

Numbers in rows and columns may not add to totals due to rounding.

A dash (—) indicates no sample for the cell; 0.0 indicates a value of > 0.0 but < 0.05 for the cell.

**Table 5.3—Volume of roundwood products by ownership group, species group, and type of product, Rocky Mountains Region, 1996**

Ownership and species group	Saw logs		Veneer logs		Pulpwood		Composite products		Fuelwood		Posts- poles-pilings	Other products	All products
	<i>MBF</i>	<i>MCF</i>	<i>MBF</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>MCF</i>	<i>MCF</i>	<i>MCF</i>
<b>National forest</b>													
Softwood	667,636	107,440	66,342	10,540	31,056	2,484	8,771	658	633,725	49,969	7,903	7,154	186,148
Hardwood	7,449	1,277	—	—	—	—	2,879	230	103,174	8,202	41	4,466	14,216
Total	675,085	108,717	66,342	10,540	31,056	2,484	11,650	888	736,899	58,171	7,944	11,620	200,364
<b>Other public</b>													
Softwood	242,573	38,279	43,131	6,807	28,632	2,291	299	22	70,885	5,515	854	332	54,100
Hardwood	332	54	—	—	—	—	16,613	1,324	22,173	1,617	—	582	3,578
Total	242,905	38,333	43,131	6,807	28,632	2,291	16,911	1,347	93,059	7,133	854	914	57,678
<b>Forest industry</b>													
Softwood	570,316	90,649	263,573	42,040	182,098	14,568	—	—	38,675	3,094	304	1,180	151,835
Hardwood	58	9	—	—	—	—	39,029	3,122	—	—	—	—	3,131
Total	570,374	90,658	263,573	42,040	182,098	14,568	39,029	3,122	38,675	3,094	304	1,180	154,966
<b>Other private</b>													
Softwood	904,703	144,730	25,552	4,074	85,742	6,835	1,731	130	505,228	40,151	4,048	1,783	201,751
Hardwood	46,773	7,428	485	102	—	—	1,412	106	873,803	63,950	522	823	72,930
Total	951,476	152,157	26,038	4,175	85,742	6,835	3,143	236	1,379,031	104,101	4,570	2,606	274,681
<b>All ownerships</b>													
Softwood	2,385,228	381,098	398,599	63,461	327,529	26,177	10,800	810	1,248,514	98,730	13,109	10,450	593,834
Hardwood	54,612	8,767	485	102	—	—	59,932	4,783	999,151	73,769	563	5,870	93,855
Total	2,439,840	389,865	399,084	63,563	327,529	26,177	70,732	5,593	2,247,664	172,499	13,672	16,320	687,689

MBF = thousand board feet (1/4-inch rule); MCF = thousand cubic feet; Cords = standard cords 4' x 4' x 8'.

Numbers in rows and columns may not add to totals due to rounding.

A dash (—) indicates no sample for the cell; 0.0 indicates a value of > 0.0 but < 0.05 for the cell.

**Table 5.4—Volume of roundwood products by species group, detailed species group, and type of product, Rocky Mountains Region, 1996**

Species	Saw logs		Veneer logs		Pulpwood		Composite products		Fuelwood		Posts- poles-pilings	Other products	All products
	<i>MBF</i>	<i>MCF</i>	<i>MBF</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>MCF</i>	<i>MCF</i>	<i>MCF</i>
<b>Softwood</b>													
Cedars	123,237	19,438	1,478	232	169	13	—	—	150,316	11,901	949	3,239	35,773
Douglas-fir	502,700	79,887	209,081	33,309	62,127	4,970	—	—	109,587	8,754	672	729	128,322
True firs	354,742	56,022	73,853	11,628	92,144	7,353	—	—	22,632	1,801	—	184	76,987
Hemlock	57,030	8,966	5,461	872	26,160	2,093	—	—	450	36	—	4	11,971
Larch	117,639	18,703	88,021	14,127	19,826	1,586	—	—	84,288	6,743	1	81	41,241
Lodgepole pine	355,380	57,475	3,413	544	18,194	1,456	—	—	380,383	29,895	11,125	4,303	104,798
Ponderosa-Jeffrey pine	690,687	110,778	5,389	865	98,240	7,853	10,800	810	422,939	33,483	301	490	154,579
Sugar pine	221	34	—	—	—	—	—	—	—	—	—	—	34
White pine	40,015	6,317	5,051	794	1,577	126	—	—	2,550	204	—	612	8,053
Other pines	1,722	266	—	—	—	—	—	—	56,618	4,436	—	—	4,702
Spruce	141,857	23,212	6,852	1,090	9,092	727	—	—	18,750	1,476	60	809	27,375
Total	2,385,228	381,098	398,599	63,461	327,529	26,177	10,800	810	1,248,514	98,730	13,109	10,450	593,834
<b>Hardwood</b>													
Ash	1,274	218	—	—	—	—	—	—	78,806	5,516	36	—	5,770
Aspen	6,580	1,131	—	—	—	—	2,331	175	109,638	8,663	41	4,700	14,709
Basswood	190	32	—	—	—	—	—	—	—	—	—	—	32
Other birch	7	1	—	—	—	—	—	—	4,720	366	—	—	368
Black cherry	3	—	—	—	—	—	—	—	—	—	—	—	—
Cottonwood	34,784	5,454	380	87	—	—	57,601	4,608	213,160	15,959	9	1,166	27,283
Elm	459	74	—	—	—	—	—	—	135,663	9,496	14	—	9,584
Hickory	21	4	—	—	—	—	—	—	5,524	387	—	—	390
Hard maple	—	—	—	—	—	—	—	—	364	29	—	—	29
Soft maple	1,222	194	—	—	—	—	—	—	11,972	838	—	—	1,032
Select red oaks	976	174	—	—	—	—	—	—	18,530	1,297	—	—	1,471
Other red oaks	523	93	—	—	—	—	—	—	8,892	622	—	—	716
Select white oaks	2,636	470	—	—	—	—	—	—	59,058	4,134	4	3	4,610
Other white oaks	128	23	—	—	—	—	—	—	63,027	4,984	—	2	5,008
Sycamore	106	17	—	—	—	—	—	—	—	—	—	—	17
Black walnut	4,046	619	105	15	—	—	—	—	12,967	944	—	—	1,578
Other hardwoods	1,658	263	—	—	—	—	—	—	276,828	20,533	459	—	21,256
Total	54,612	8,767	485	102	—	—	59,932	4,783	999,151	73,769	563	5,870	93,855
<b>All species</b>	<b>2,439,840</b>	<b>389,865</b>	<b>399,084</b>	<b>63,563</b>	<b>327,529</b>	<b>26,177</b>	<b>70,732</b>	<b>5,593</b>	<b>2,247,664</b>	<b>172,499</b>	<b>13,672</b>	<b>16,320</b>	<b>687,689</b>

MBF = thousand board feet (1/4-inch rule); MCF = thousand cubic feet; Cords = standard cords 4' x 4' x 8'.

Numbers in rows and columns may not add to totals due to rounding.

A dash (—) indicates no sample for the cell; 0.0 indicates a value of > 0.0 but < 0.05 for the cell.

**Table 5.5—Volume of roundwood products by State, species group, and type of product, Rocky Mountains Region, 1996**

State and species group	Saw logs		Veneer logs		Pulpwood		Composite products		Fuelwood		Posts- poles-pilings	Other products	All products
	<i>MBF</i>	<i>MCF</i>	<i>MBF</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>MCF</i>	<i>MCF</i>	<i>MCF</i>
Arizona													
Softwood	85,316	13,037	—	—	16,544	1,324	—	—	140,917	11,273	500	6	26,140
Hardwood	—	—	—	—	—	—	—	—	86,343	6,907	—	—	6,907
Total	85,316	13,037	—	—	16,544	1,324	—	—	227,260	18,181	500	6	33,047
Colorado													
Softwood	67,655	11,645	—	—	—	—	—	—	322,050	25,764	784	104	38,297
Hardwood	6,990	1,203	—	—	—	—	—	—	158,000	12,640	41	4,118	18,002
Total	74,645	12,848	—	—	—	—	—	—	480,050	38,404	825	4,221	56,299
Idaho													
Softwood	1,173,298	184,307	195,933	30,778	235,336	18,827	—	—	255,500	20,440	6,695	5,165	266,212
Hardwood	640	100	—	—	—	—	57,601	4,608	24,438	1,955	—	—	6,664
Total	1,173,937	184,407	195,933	30,778	235,336	18,827	57,601	4,608	279,938	22,395	6,695	5,165	272,876
Kansas													
Softwood	89	19	—	—	—	—	—	—	2,763	193	1	—	213
Hardwood	13,189	2,142	101	14	—	—	—	—	325,793	22,806	415	6	25,382
Total	13,278	2,161	101	14	—	—	—	—	328,556	22,999	416	6	25,596
Montana													
Softwood	763,120	123,064	202,666	32,683	57,560	4,605	—	—	226,938	18,155	2,255	2,355	183,117
Hardwood	7	1	—	—	—	—	—	—	46,513	3,721	—	—	3,722
Total	763,127	123,065	202,666	32,683	57,560	4,605	—	—	273,450	21,876	2,255	2,355	186,839
Nebraska													
Softwood	22,202	3,876	—	—	—	—	—	—	6,445	451	122	119	4,568
Hardwood	29,868	4,635	384	87	—	—	—	—	167,392	11,717	44	75	16,558
Total	52,070	8,511	384	87	—	—	—	—	173,837	12,169	166	194	21,126
Nevada													
Softwood	8,370	1,279	—	—	—	—	—	—	30,000	2,400	20	—	3,699
Hardwood	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	8,370	1,279	—	—	—	—	—	—	30,000	2,400	20	—	3,699
New Mexico													
Softwood	63,519	10,321	—	—	18,090	1,422	—	—	100,852	7,927	327	787	20,784
Hardwood	—	—	—	—	—	—	—	—	45,802	3,600	—	1,090	4,690
Total	63,519	10,321	—	—	18,090	1,422	—	—	146,654	11,527	327	1,877	25,474

*continued*

**Table 5.5—Volume of roundwood products by State, species group, and type of product, Rocky Mountains Region, 1996 (continued)**

State and species group	Saw logs		Veneer logs		Pulpwood		Composite products		Fuelwood		Posts- poles-pilings	Other products	All products
	<i>MBF</i>	<i>MCF</i>	<i>MBF</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>MCF</i>	<i>MCF</i>	<i>MCF</i>
North Dakota													
Softwood	5	1	—	—	—	—	—	—	1,462	102	—	4	107
Hardwood	2,605	458	—	—	—	—	2,331	175	32,733	2,291	17	—	2,941
Total	2,610	458	—	—	—	—	2,331	175	34,195	2,394	17	4	3,048
South Dakota													
Softwood	78,323	12,777	—	—	—	—	10,800	810	11,476	803	21	—	14,412
Hardwood	1,066	188	—	—	—	—	—	—	56,370	3,946	46	—	4,179
Total	79,389	12,965	—	—	—	—	10,800	810	67,846	4,749	67	—	18,591
Utah													
Softwood	48,954	8,104	—	—	—	—	—	—	44,699	3,576	967	1,588	14,235
Hardwood	247	41	—	—	—	—	—	—	18,936	1,515	—	582	2,138
Total	49,201	8,145	—	—	—	—	—	—	63,635	5,091	967	2,170	16,372
Wyoming													
Softwood	74,378	12,668	—	—	—	—	—	—	105,411	7,644	1,417	322	22,051
Hardwood	—	—	—	—	—	—	—	—	36,833	2,671	—	—	2,671
Total	74,378	12,668	—	—	—	—	—	—	142,244	10,315	1,417	322	24,722
All Rocky Mountains States													
Softwood	2,385,228	381,098	398,599	63,461	327,529	26,177	10,800	810	1,248,514	98,730	13,109	10,450	593,834
Hardwood	54,612	8,767	485	102	—	—	59,932	4,783	999,151	73,769	563	5,870	93,855
Total	2,439,840	389,865	399,084	63,563	327,529	26,177	70,732	5,593	2,247,664	172,499	13,672	16,320	687,689

MBF = thousand board feet (1/4-inch rule); MCF = thousand cubic feet; Cords = standard cords 4' x 4' x 8'.

Numbers in rows and columns may not add to totals due to rounding.

A dash (—) indicates no sample for the cell; 0.0 indicates a value of > 0.0 but < 0.05 for the cell.

**Table 5.6—Volume of roundwood products by source, species group, and ownership group, Rocky Mountains Region, 1996**

Source and species group	National forest	Other public	Forest industry	Other private	All owners
<i>Thousand cubic feet</i>					
<b>Sawtimber</b>					
Softwood	107,373	42,320	131,806	142,679	424,177
Hardwood	5,579	1,828	3,014	11,491	21,911
Total	112,952	44,148	134,820	154,169	446,089
<b>Poletimber</b>					
Softwood	11,048	2,149	7,497	9,836	30,530
Hardwood	307	105	87	896	1,396
Total	11,355	2,254	7,584	10,732	31,926
<b>Growing stock</b>					
Softwood	118,421	44,468	139,303	152,515	454,707
Hardwood	5,886	1,933	3,101	12,387	23,307
Total	124,307	46,401	142,404	164,902	478,014
<b>Nongrowing stock</b>					
Softwood	67,727	9,632	12,532	49,236	139,127
Hardwood	8,330	1,644	30	60,543	70,548
Total	76,057	11,277	12,562	109,779	209,675
<b>All sources</b>					
Softwood	186,148	54,100	151,835	201,751	593,834
Hardwood	14,216	3,578	3,131	72,930	93,855
Total	200,364	57,678	154,966	274,681	687,689

Numbers in rows and columns may not add to totals due to rounding.

**Table 5.7—Volume of roundwood products by species group, detailed species group, and ownership group, Rocky Mountains Region, 1996**

Species group and detailed species group	National forest	Other public	Forest industry	Other private	All owners
<i>Thousand cubic feet</i>					
<b>Softwood</b>					
Cedars	12,896	4,353	10,473	8,051	35,773
Douglas-fir	34,374	12,809	42,476	38,663	128,322
True firs	14,474	10,059	33,705	18,749	76,987
Hemlock	1,561	2,058	3,831	4,521	11,971
Larch	7,836	3,687	19,776	9,941	41,241
Lodgepole pine	45,379	5,640	15,428	38,351	104,798
Ponderosa-Jeffrey pine	53,668	11,854	18,648	70,410	154,579
Sugar pine	8	—	—	26	34
White pine	1,829	2,024	1,627	2,572	8,053
Other pines	1,805	172	—	2,725	4,702
Spruce	12,318	1,445	5,871	7,741	27,375
Total	186,148	54,100	151,835	201,751	593,834
<b>Hardwood</b>					
Ash	7	21	—	5,743	5,770
Aspen	9,664	773	—	4,272	14,709
Basswood	—	6	—	25	32
Other birch	—	—	—	368	368
Black cherry	—	—	—	—	—
Cottonwood	971	1,435	3,131	21,745	27,283
Elm	—	354	—	9,230	9,584
Hickory	—	80	—	310	390
Hard maple	29	—	—	—	29
Soft maple	—	14	—	1,018	1,032
Select red oaks	—	60	—	1,411	1,471
Other red oaks	—	2	—	714	716
Select white oaks	8	307	—	4,296	4,610
Other white oaks	3,303	430	—	1,275	5,008
Sycamore	—	—	—	17	17
Black walnut	—	4	—	1,574	1,578
Other hardwoods	234	92	—	20,930	21,256
Total hardwoods	14,216	3,578	3,131	72,930	93,855
<b>All species</b>	200,364	57,678	154,966	274,681	687,689

Numbers in rows and columns may not add to totals due to rounding.

A dash (—) indicates no sample for the cell; 0.0 indicates a value of > 0.0 but < 0.05 for the cell.



**Table 5.8—Volume of roundwood products by species group, detailed species group, and source, Rocky Mountains Region, 1996**

Species group and detailed species group	Sawtimber	Poletimber	Total	Non-	All
			growing stock	growing stock	sources
<i>Thousand cubic feet</i>					
<b>Softwood</b>					
Cedars	21,341	1,413	22,754	13,019	35,773
Douglas-fir	107,225	6,173	113,398	14,923	128,322
True firs	68,883	2,421	71,304	5,683	76,987
Hemlock	10,779	370	11,149	823	11,971
Larch	30,821	1,939	32,760	8,481	41,241
Lodgepole pine	48,195	11,796	59,991	44,807	104,798
Ponderosa-Jeffrey pine	107,705	4,928	112,633	41,947	154,579
Sugar pine	34	—	34	—	34
White pine	7,161	269	7,430	623	8,053
Other pines	310	4	313	4,388	4,702
Spruce	21,725	1,217	22,941	4,434	27,375
Total	424,177	30,530	454,707	139,127	593,834
<b>Hardwood</b>					
Ash	298	80	378	5,392	5,770
Aspen	5,526	432	5,958	8,751	14,709
Basswood	28	1	29	3	32
Other birch	261	8	269	99	368
Black cherry	—	—	—	—	—
Cottonwood	13,968	536	14,504	12,779	27,283
Elm	169	85	254	9,330	9,584
Hickory	4	—	4	386	390
Hard maple	—	—	—	29	29
Soft maple	191	19	211	821	1,032
Select red oaks	156	41	197	1,274	1,471
Other red oaks	84	23	107	609	716
Select white oaks	414	99	513	4,098	4,610
Other white oaks	26	8	35	4,973	5,008
Sycamore	15	—	15	2	17
Black walnut	530	1	532	1,046	1,578
Other hardwoods	240	62	302	20,954	21,256
Total	21,911	1,396	23,307	70,548	93,855
<b>All species</b>	446,089	31,926	478,014	209,675	687,689

Numbers in rows and columns may not add to totals due to rounding.

A dash (—) indicates no sample for the cell; 0.0 indicates a value of > 0.0 but < 0.05 for the cell.

**Table 5.9—Volume of timber removals by ownership group, species group, removals class, and source, Rocky Mountains Region, 1996**

Ownership and species group	Roundwood products			Logging residues			Other removals			All removals		
	Growing stock	Nongrowing stock	All sources	Growing stock	Nongrowing stock	All sources	Growing stock	Nongrowing stock	All sources	Growing stock	Nongrowing stock	All sources
<i>Thousand cubic feet</i>												
<b>National forest</b>												
Softwood	118,421	67,727	186,148	11,171	29,245	40,415	792	140	932	130,383	97,111	227,495
Hardwood	5,886	8,330	14,216	421	1,028	1,449	9	136	145	6,316	9,494	15,810
Total	124,307	76,057	200,364	11,591	30,273	41,864	801	276	1,077	136,699	106,605	243,305
<b>Other public</b>												
Softwood	44,468	9,632	54,100	4,342	9,558	13,900	—	—	—	48,810	19,190	68,000
Hardwood	1,933	1,644	3,578	160	371	531	337	165	502	2,431	2,181	4,611
Total	46,401	11,277	57,678	4,502	9,929	14,431	337	165	502	51,241	21,371	72,611
<b>Forest industry</b>												
Softwood	139,303	12,532	151,835	15,092	31,467	46,559	—	—	—	154,395	43,999	198,393
Hardwood	3,101	30	3,131	297	627	924	—	—	—	3,398	657	4,056
Total	142,404	12,562	154,966	15,389	32,094	47,483	—	—	—	157,793	44,656	202,449
<b>Other private</b>												
Softwood	152,515	49,236	201,751	14,482	37,310	51,791	540	797	1,337	167,536	87,343	254,879
Hardwood	12,387	60,543	72,930	1,241	3,453	4,694	5,098	10,653	15,751	18,725	74,649	93,375
Total	164,902	109,779	274,681	15,722	40,763	56,485	5,638	11,450	17,088	186,262	161,992	348,254
<b>All ownerships</b>												
Softwood	454,707	139,127	593,834	45,085	107,579	152,664	1,332	937	2,269	501,124	247,643	748,767
Hardwood	23,307	70,548	93,855	2,119	5,480	7,599	5,445	10,954	16,398	30,871	86,981	117,852
Total	478,014	209,675	687,689	47,204	113,059	160,263	6,776	11,891	18,667	531,995	334,624	866,619

Numbers in rows and columns may not add to totals due to rounding.

A dash (—) indicates no sample for the cell; 0.0 indicates a value of > 0.0 but < 0.05 for the cell.

**Table 5.10—Volume of timber removals by State, species group, removals class, and source, Rocky Mountains Region, 1996**

State and species group	Roundwood products			Logging residues			Other removals			All removals		
	Growing stock	Nongrowing stock	All sources	Growing stock	Nongrowing stock	All sources	Growing stock	Nongrowing stock	All sources	Growing stock	Nongrowing stock	All sources
<i>Thousand cubic feet</i>												
Arizona												
Softwood	14,413	11,726	26,140	1,023	4,386	5,409	—	—	—	15,437	16,112	31,549
Hardwood	6	6,902	6,907	—	215	215	—	—	—	6	7,117	7,122
Total	14,419	18,628	33,047	1,023	4,601	5,624	—	—	—	15,442	23,229	38,671
Colorado												
Softwood	11,997	26,300	38,297	831	3,210	4,042	—	—	—	12,828	29,511	42,339
Hardwood	7,391	10,611	18,002	379	1,311	1,690	—	—	—	7,770	11,922	19,692
Total	19,388	36,911	56,299	1,211	4,521	5,731	—	—	—	20,598	41,432	62,030
Idaho												
Softwood	225,522	40,690	266,212	21,519	46,735	68,254	—	—	—	247,041	87,425	334,466
Hardwood	4,947	1,716	6,664	446	1,045	1,492	—	—	—	5,393	2,762	8,155
Total	230,469	42,406	272,876	21,965	47,780	69,746	—	—	—	252,435	90,187	342,621
Kansas												
Softwood	39	174	213	—	7	7	24	30	54	64	210	274
Hardwood	2,798	22,585	25,382	334	591	925	3,202	6,075	9,277	6,333	29,251	35,585
Total	2,837	22,759	25,596	334	598	932	3,226	6,105	9,331	6,397	29,461	35,859
Montana												
Softwood	152,260	30,857	183,117	18,475	38,921	57,395	—	—	—	170,735	69,777	240,512
Hardwood	566	3,156	3,722	—	144	144	—	—	—	566	3,300	3,866
Total	152,826	34,012	186,839	18,475	39,064	57,539	—	—	—	171,301	73,077	244,378
Nebraska												
Softwood	3,991	577	4,568	415	624	1,039	90	92	182	4,495	1,294	5,789
Hardwood	4,887	11,671	16,558	719	1,605	2,324	984	1,350	2,334	6,590	14,626	21,216
Total	8,878	12,248	21,126	1,134	2,229	3,363	1,074	1,442	2,516	11,086	15,919	27,005
Nevada												
Softwood	1,253	2,446	3,699	89	341	430	—	—	—	1,342	2,787	4,129
Hardwood	—	—	—	—	—	—	—	—	—	—	—	—
Total	1,253	2,446	3,699	89	341	430	—	—	—	1,342	2,787	4,129

*continued*

**Table 5.10—Volume of timber removals by State, species group, removals class, and source, Rocky Mountains Region, 1996 (continued)**

State and species group	Roundwood products			Logging residues			Other removals			All removals		
	Growing stock	Nongrowing stock	All sources	Growing stock	Nongrowing stock	All sources	Growing stock	Nongrowing stock	All sources	Growing stock	Nongrowing stock	All sources
<i>Thousand cubic feet</i>												
New Mexico												
Softwood	11,451	9,333	20,784	484	3,075	3,559	—	—	—	11,935	12,408	24,343
Hardwood	1,116	3,574	4,690	47	191	238	—	—	—	1,163	3,765	4,928
Total	12,566	12,908	25,474	531	3,266	3,797	—	—	—	13,097	16,173	29,271
North Dakota												
Softwood	5	102	107	—	2	2	—	—	—	5	104	109
Hardwood	590	2,351	2,941	96	172	268	704	1,317	2,021	1,390	3,840	5,230
Total	595	2,453	3,048	96	174	270	704	1,317	2,021	1,395	3,944	5,339
South Dakota												
Softwood	13,379	1,033	14,412	1,020	4,668	5,688	1,218	815	2,033	15,617	6,517	22,133
Hardwood	210	3,969	4,179	36	67	103	555	2,212	2,767	800	6,249	7,049
Total	13,589	5,002	18,591	1,056	4,736	5,791	1,772	3,028	4,800	16,417	12,766	29,182
Utah												
Softwood	7,076	7,158	14,235	376	1,857	2,233	—	—	—	7,452	9,016	16,468
Hardwood	796	1,342	2,138	63	138	200	—	—	—	859	1,479	2,338
Total	7,872	8,500	16,372	439	1,995	2,433	—	—	—	8,311	10,495	18,806
Wyoming												
Softwood	13,321	8,730	22,051	853	3,754	4,606	—	—	—	14,174	12,483	26,657
Hardwood	—	2,671	2,671	—	—	—	—	—	—	—	2,671	2,671
Total	13,321	11,401	24,722	853	3,754	4,606	—	—	—	14,174	15,154	29,328
All Rocky Mountains States												
Softwood	454,707	139,127	593,834	45,085	107,579	152,664	1,332	937	2,269	501,124	247,643	748,767
Hardwood	23,307	70,548	93,855	2,119	5,480	7,599	5,445	10,954	16,398	30,871	86,981	117,852
Total	478,014	209,675	687,689	47,204	113,059	160,263	6,776	11,891	18,667	531,995	334,624	866,619

Numbers in rows and columns may not add to totals due to rounding.

A dash (—) indicates no sample for the cell; 0.0 indicates a value of > 0.0 but < 0.05 for the cell.

**Table 5.11—Volume of bark and wood residue by type of residue, softwood, hardwood, and use, Rocky Mountains Region, 1996**

Source	Fiber byproducts	Fuelwood byproducts	Misc. byproducts	Not used	All byproducts
<i>Thousand cubic feet</i>					
<b>Bark residue</b>					
Softwood	—	101,070	9,180	11,597	121,847
Hardwood	—	323	1,203	348	1,874
Total	—	101,393	10,382	11,945	123,721
<b>Wood residue</b> (coarse material)					
Softwood	265,763	15,645	6,062	5,761	293,231
Hardwood	602	542	1,431	518	3,094
Total	266,365	16,187	7,493	6,279	296,324
<b>Wood residue</b> (fine material)					
Softwood	81,108	84,004	16,147	4,359	185,618
Hardwood	—	308	1,276	239	1,823
Total	81,108	84,312	17,423	4,598	187,441
<b>Wood residue</b> (all material)					
Softwood	346,871	99,649	22,210	10,120	478,849
Hardwood	602	850	2,707	757	4,917
Total	347,473	100,499	24,916	10,877	483,765
<b>All residue</b>					
Softwood	346,871	200,719	31,389	21,717	600,696
Hardwood	602	1,173	3,910	1,105	6,790
Total	347,473	201,892	35,299	22,822	607,486

Numbers in rows and columns may not add to totals due to rounding.

A dash (—) indicates no sample for the cell; 0.0 indicates a value of > 0.0 but < 0.05 for the cell.

**Table 5.12—Weight of bark and wood residue by type of residue, softwood, hardwood, and use, Rocky Mountain Region, 1996**

Source	Fiber byproducts	Fuelwood byproducts	Misc. byproducts	Not used	All byproducts
<i>Thousand dry tons</i>					
<b>Bark residue</b>					
Softwood	—	1,262	115	145	1,521
Hardwood	—	4	14	4	22
Total	—	1,266	129	149	1,544
<b>Wood residue</b> (coarse material)					
Softwood	3,336	197	76	72	3,682
Hardwood	9	9	23	8	49
Total	3,345	206	99	81	3,731
<b>Wood residue</b> (fine material)					
Softwood	1,017	1,053	202	55	2,327
Hardwood	—	4	20	4	29
Total	1,017	1,057	223	59	2,356
<b>Wood residue</b> (all material)					
Softwood	4,354	1,250	278	128	6,009
Hardwood	9	13	44	12	77
Total	4,363	1,263	322	140	6,087
<b>All residue</b>					
Softwood	4,354	2,512	393	273	7,531
Hardwood	9	17	58	16	100
Total	4,363	2,528	451	289	7,631

Numbers in rows and columns may not add to totals due to rounding.

A dash (—) indicates no sample for the cell; 0.0 indicates a value of > 0.0 but < 0.05 for the cell.

**Table 6.1—Volume of roundwood products and species group,  
Pacific Coast Region, 1991 and 1996**

Product and species group	Year		Change	Percent change
	1991	1996		
<i>Thousand cubic feet</i>				
<b>Saw logs</b>				
Softwood	2,111,903	1,718,836	-393,067	-18.6
Hardwood	49,135	51,153	2,018	4.1
Total	2,161,038	1,769,989	-391,049	-18.1
<b>Veneer logs</b>				
Softwood	440,793	321,228	-119,565	-27.1
Hardwood	5,140	11,620	6,480	126.1
Total	445,933	332,848	-113,085	-25.4
<b>Pulpwood</b>				
Softwood	409,443	56,295	-353,148	-86.3
Hardwood	59,939	3,111	-56,828	-94.8
Total	469,382	59,406	-409,976	-87.3
<b>Other industrial<sup>a</sup></b>				
Softwood	625,987	159,021	-466,966	-74.6
Hardwood	428	3	-425	-99.3
Total	626,415	159,024	-467,391	-74.6
<b>All industrial</b>				
Softwood	3,588,126	2,255,380	-1,332,746	-37.1
Hardwood	114,642	65,887	-48,755	-42.5
Total	3,702,768	2,321,267	-1,381,501	-37.3
<b>Fuelwood</b>				
Softwood	335,652	216,273	-119,379	-35.6
Hardwood	159,592	103,979	-55,613	-34.8
Total	495,244	320,252	-174,992	-35.3
<b>All products</b>				
Softwood	3,923,778	2,471,653	-1,452,125	-37.0
Hardwood	274,234	169,866	-104,368	-38.1
Total	4,198,012	2,641,519	-1,556,493	-37.1

Numbers in rows and columns may not add to totals due to rounding.

<sup>a</sup> Other industrial includes composite products, posts, poles and pilings, and other products.

**Table 6.2—Volume of roundwood products by source, species group, and type of product, Pacific Coast Region, 1996**

Source and species group	Saw logs		Veneer logs		Pulpwood		Composite products		Fuelwood		Posts- poles-pilings	Other products	All products
	<i>MBF</i>	<i>MCF</i>	<i>MBF</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>MCF</i>	<i>MCF</i>	<i>MCF</i>
<b>Sawtimber</b>													
Softwood	7,288,162	1,142,842	1,257,023	179,232	538,964	46,744	15,088	1,217	664,021	55,225	71,918	80,945	1,578,123
Hardwood	263,357	47,053	48,334	5,732	36,497	2,943	—	—	259,312	21,521	—	3	77,252
Total	7,551,519	1,189,895	1,305,356	184,964	575,461	49,687	15,088	1,217	923,333	76,746	71,918	82,794	1,655,375
<b>Poletimber</b>													
Softwood	1,437,688	496,533	238,869	109,058	15,199	1,444	—	—	671,863	55,852	3,744	33	666,664
Hardwood	10,203	4,057	9,846	5,665	—	—	—	—	261,159	21,669	—	—	31,392
Total	1,447,891	500,590	248,715	114,723	15,199	1,444	—	—	933,023	77,521	3,744	33	698,055
<b>Growing stock</b>													
Softwood	8,725,850	1,639,375	1,495,892	288,290	554,163	48,188	15,088	1,217	1,335,884	111,076	75,662	80,978	2,244,786
Hardwood	273,560	51,110	58,179	11,398	36,497	2,943	—	—	520,472	43,190	—	3	108,644
Total	8,999,410	1,690,486	1,554,071	299,687	590,660	51,131	15,088	1,217	1,856,356	154,267	75,662	80,981	2,353,430
<b>Nongrowing stock</b>													
Softwood	528,465	79,460	260,129	32,939	92,330	8,106	2,806	226	1,263,036	105,197	—	938	226,868
Hardwood	298	43	2,293	222	2,084	168	—	—	730,173	60,789	—	—	61,222
Total	528,763	79,503	262,421	33,161	94,414	8,275	2,806	226	1,993,209	165,985	—	938	288,089
<b>All sources</b>													
Softwood	9,254,316	1,718,836	1,756,021	321,228	646,493	56,295	17,895	1,443	2,598,919	216,273	75,662	81,916	2,471,654
Hardwood	273,858	51,153	60,472	11,620	38,581	3,111	—	—	1,250,645	103,979	—	3	169,865
Total	9,528,173	1,769,989	1,816,493	332,849	685,074	59,405	17,895	1,443	3,849,565	320,252	75,662	81,919	2,641,519

MBF = thousand board feet (1/4-inch rule); MCF = thousand cubic feet; Cords = standard cords 4' x 4' x 8'.

Numbers in rows and columns may not add to totals due to rounding.

A dash (—) indicates no sample for the cell; 0.0 indicates a value of > 0.0 but < 0.05 for the cell.

**Table 6.3—Volume of roundwood products by ownership group, species group, and type of product, Pacific Coast Region, 1996**

Ownership and species group	Saw logs		Veneer logs		Pulpwood		Composite products		Fuelwood		Posts- poles-pilings	Other products	All products
	<i>MBF</i>	<i>MCF</i>	<i>MBF</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>MCF</i>	<i>MCF</i>	<i>MCF</i>
<b>National forest</b>													
Softwood	1,251,452	219,951	274,469	46,067	132,665	10,644	4,474	361	463,346	38,559	137	228	315,947
Hardwood	2,088	340	4,062	644	578	46	—	—	201,395	16,776	—	—	17,806
Total	1,253,541	220,291	278,531	46,712	133,243	10,691	4,474	361	664,741	55,335	137	228	333,753
<b>Other public</b>													
Softwood	971,376	182,544	265,879	45,883	69,948	6,451	—	—	239,956	19,922	7,716	577	263,094
Hardwood	41,078	7,614	7,859	1,157	32	3	—	—	99,076	8,176	—	—	16,950
Total	1,012,454	190,158	273,739	47,041	69,980	6,454	—	—	339,032	28,098	7,716	577	280,044
<b>Forest industry</b>													
Softwood	4,715,792	887,172	628,248	109,576	255,049	23,627	357	29	1,191,583	99,295	53,609	1,019	1,174,326
Hardwood	132,856	24,753	13,437	2,124	843	68	—	—	479,694	39,973	—	—	66,918
Total	4,848,648	911,926	641,684	111,700	255,892	23,695	357	29	1,671,277	139,267	53,609	1,019	1,241,244
<b>Other private</b>													
Softwood	2,315,695	429,169	587,425	119,701	188,831	15,572	13,064	1,054	704,034	58,498	14,200	80,093	718,287
Hardwood	97,835	18,446	35,114	7,695	37,128	2,994	—	—	470,481	39,053	—	3	68,191
Total	2,413,531	447,615	622,539	127,396	225,959	18,566	13,064	1,054	1,174,515	97,551	14,200	81,705	786,478
<b>All ownerships</b>													
Softwood	9,254,316	1,718,836	1,756,021	321,228	646,493	56,295	17,895	1,443	2,598,919	216,273	75,662	81,917	2,471,654
Hardwood	273,858	51,153	60,472	11,620	38,581	3,111	—	—	1,250,645	103,979	—	3	169,865
Total	9,528,173	1,769,989	1,816,493	332,849	685,074	59,405	17,895	1,443	3,849,565	320,252	75,662	81,920	2,641,519

MBF = thousand board feet (1/4-inch rule); MCF = thousand cubic feet; Cords = standard cords 4' x 4' x 8'.

Numbers in rows and columns may not add to totals due to rounding.

A dash (—) indicates no sample for the cell; 0.0 indicates a value of > 0.0 but < 0.05 for the cell.



**Table 6.4—Volume of roundwood products by species group, detailed species group, and type of product, Pacific Coast Region, 1996**

Species	Saw logs		Veneer logs		Pulpwood		Composite products		Fuelwood		Posts- poles-pilings	Other products	All products
	<i>MBF</i>	<i>MCF</i>	<i>MBF</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>MCF</i>	<i>MCF</i>	<i>MCF</i>
<b>Softwood</b>													
Cedars	329,993	58,602	827	151	28,318	2,453	—	—	—	—	906	13,095	75,207
Douglas-fir	4,301,496	801,714	1,010,872	197,821	223,840	20,548	3,318	268	—	—	68,780	87	1,089,218
True firs	937,094	185,168	413,818	66,081	17,939	1,704	4,610	372	—	—	228	6	253,560
Hemlock	1,136,701	197,563	170,654	32,287	203,930	17,566	—	—	26,681	2,135	281	36,211	286,043
Larch	15,859	4,002	13,985	2,945	—	—	—	—	—	—	—	—	6,947
Lodgepole pine	109,550	22,556	18,003	3,392	20,586	1,660	5,021	405	—	—	4,784	—	32,797
Ponderosa-Jeffrey pine	1,404,876	258,175	24,557	4,754	3,432	277	4,624	373	—	—	660	1	264,241
Sugar pine	200,527	37,049	9,120	1,847	—	—	—	—	—	—	—	2	38,899
Other pines	—	—	—	—	—	—	—	—	2,510,450	209,196	—	—	209,196
Redwood	650,784	127,707	—	—	—	—	—	—	—	—	—	133	127,839
Spruce	167,435	26,299	94,185	11,950	148,448	12,086	322	26	61,788	4,943	22	32,382	87,707
Total	9,254,316	1,718,836	1,756,021	321,228	646,493	56,295	17,895	1,443	2,598,919	216,273	75,662	81,917	2,471,654
<b>Hardwood</b>													
Alder	253,802	47,411	35,640	7,043	8,798	709	—	—	1,701	136	—	1	55,300
Aspen	—	—	—	—	—	—	—	—	6,600	528	—	—	528
Other birch	121	17	—	—	—	—	—	—	63,005	5,040	—	—	5,058
Cottonwood	693	99	—	—	545	44	—	—	—	—	—	1	144
Other hardwoods	19,242	3,626	24,831	4,577	29,239	2,358	—	—	1,179,339	98,274	—	—	108,836
Total	273,858	51,153	60,472	11,620	38,581	3,111	—	—	1,250,645	103,979	—	3	169,865
<b>All species</b>	<b>9,528,173</b>	<b>1,769,989</b>	<b>1,816,493</b>	<b>332,849</b>	<b>685,074</b>	<b>59,405</b>	<b>17,895</b>	<b>1,443</b>	<b>3,849,565</b>	<b>320,252</b>	<b>75,662</b>	<b>81,920</b>	<b>2,641,519</b>

MBF = thousand board feet (1/4-inch rule); MCF = thousand cubic feet; Cords = standard cords 4' x 4' x 8'.

Numbers in rows and columns may not add to totals due to rounding.

A dash (—) indicates no sample for the cell; 0.0 indicates a value of > 0.0 but < 0.05 for the cell.

**Table 6.5—Volume of roundwood products by State, species group, and type of product, Pacific Coast Region, 1996**

State and species group	Saw logs		Veneer logs		Pulpwood		Composite products		Fuelwood		Posts- poles-pilings	Other products	All products
	<i>MBF</i>	<i>MCF</i>	<i>MBF</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>Cords</i>	<i>MCF</i>	<i>MCF</i>	<i>MCF</i>	<i>MCF</i>
<b>Alaska</b>													
Softwood	240,491	34,360	—	—	239,789	19,183	—	—	88,469	7,078	—	79,475	140,096
Hardwood	1,277	182	—	—	908	73	—	—	71,306	5,704	—	3	5,962
Total	241,767	34,542	—	—	240,698	19,256	—	—	159,775	12,782	—	79,478	146,058
<b>California</b>													
Softwood	2,681,016	515,436	180,023	35,334	—	—	—	—	1,376,674	114,718	7,056	245	672,790
Hardwood	—	—	558	99	—	—	—	—	657,557	54,794	—	—	54,893
Total	2,681,016	515,436	180,580	35,433	—	—	—	—	2,034,231	169,512	7,056	245	727,682
<b>Oregon</b>													
Softwood	3,383,006	601,596	1,075,387	181,761	106,270	8,570	17,895	1,443	519,555	43,295	7,323	921	844,909
Hardwood	22,637	4,909	49,353	9,542	37,673	3,038	—	—	239,109	19,925	—	—	37,414
Total	3,405,643	606,505	1,124,739	191,303	143,943	11,608	17,895	1,443	758,663	63,219	7,323	923	882,324
<b>Washington</b>													
Softwood	2,949,802	567,444	500,612	104,133	300,433	28,541	—	—	614,222	51,183	61,284	1,273	813,859
Hardwood	249,944	46,062	10,561	1,979	—	—	—	—	282,673	23,555	—	—	71,596
Total	3,199,746	613,506	511,173	106,113	300,433	28,541	—	—	896,895	74,738	61,284	1,273	885,455
<b>All Pacific Coast States</b>													
Softwood	9,254,316	1,718,836	1,756,021	321,228	646,493	56,295	17,895	1,443	2,598,919	216,273	75,662	81,917	2,471,654
Hardwood	273,858	51,153	60,472	11,620	38,581	3,111	—	—	1,250,645	103,979	—	3	169,865
Total	9,528,173	1,769,989	1,816,493	332,849	685,074	59,405	17,895	1,443	3,849,565	320,252	75,662	81,919	2,641,519

MBF = thousand board feet (1/4-inch rule); MCF = thousand cubic feet; Cords = standard cords 4' x 4' x 8'.

Numbers in rows and columns may not add to totals due to rounding.

A dash (—) indicates no sample for the cell; 0.0 indicates a value of > 0.0 but < 0.05 for the cell.

**Table 6.6—Volume of roundwood products by source, species group, and ownership group, Pacific Coast Region, 1996**

Source and species group	National forest	Other public	Forest industry	Other private	All owners
<i>Thousand cubic feet</i>					
<b>Sawtimber</b>					
Softwood	172,179	182,041	772,624	451,278	1,578,123
Hardwood	2,530	10,934	32,404	31,384	77,252
Total	174,709	192,975	805,029	482,662	1,655,375
<b>Poletimber</b>					
Softwood	91,287	61,084	310,182	204,111	666,664
Hardwood	2,298	2,738	9,879	16,477	31,392
Total	93,584	63,822	320,060	220,588	698,055
<b>Growing stock</b>					
Softwood	263,466	243,125	1,082,806	655,389	2,244,786
Hardwood	4,828	13,672	42,283	47,861	108,644
Total	268,293	256,797	1,125,089	703,250	2,353,430
<b>Nongrowing stock</b>					
Softwood	52,481	19,968	91,520	62,898	226,868
Hardwood	12,979	3,278	24,635	20,329	61,222
Total	65,460	23,247	116,155	83,228	288,089
<b>All sources</b>					
Softwood	315,947	263,094	1,174,326	718,287	2,471,654
Hardwood	17,806	16,950	66,918	68,191	169,865
Total	333,753	280,044	1,241,244	786,478	2,641,519

Numbers in rows and columns may not add to totals due to rounding.

**Table 6.7—Volume of roundwood products by species group, detailed species group, and ownership group, Pacific Coast Region, 1996**

Species group and detailed species group	National forest	Other public	Forest industry	Other private	All owners
<i>Thousand cubic feet</i>					
<b>Softwood</b>					
Cedars	8,127	7,702	25,164	34,213	75,207
Douglas-fir	81,221	139,416	564,143	304,439	1,089,218
True firs	61,702	14,573	115,331	61,954	253,560
Hemlock	35,040	36,975	123,567	90,461	286,043
Larch	639	1,105	1,133	4,071	6,947
Lodgepole pine	3,022	5,075	11,897	12,803	32,797
Ponderosa-Jeffrey pine	55,666	26,748	104,328	77,498	264,241
Sugar pine	11,009	1,232	18,017	8,641	38,899
White pine	37,314	18,156	99,295	54,431	209,196
Other pines	986	5,144	102,528	19,181	127,839
Spruce	21,222	6,967	8,925	50,595	87,707
Total	315,947	263,094	1,174,326	718,287	2,471,654
<b>Hardwood</b>					
Alder	522	7,625	24,198	22,955	55,300
Aspen	—	185	—	343	528
Other birch	104	1,709	—	3,245	5,058
Cottonwood	125	3	—	16	144
Other hardwoods	17,055	7,428	42,721	41,633	108,836
Total	17,806	16,950	66,918	68,191	169,865
<b>All species</b>	333,753	280,044	1,241,244	786,478	2,641,519

Numbers in rows and columns may not add to totals due to rounding.

A dash (—) indicates no sample for the cell; 0.0 indicates a value of > 0.0 but < 0.05 for the cell.

**Table 6.8—Volume of roundwood products by species group, detailed species group, and source, Pacific Coast Region, 1996**

Species group and detailed species group	Sawtimber	Poletimber	Total growing stock	Non-growing stock	All sources
<i>Thousand cubic feet</i>					
<b>Softwood</b>					
Cedars	61,717	9,710	71,427	3,780	75,207
Douglas-fir	714,752	336,803	1,051,555	37,663	1,089,218
True firs	142,764	80,806	223,570	29,989	253,560
Hemlock	212,901	61,981	274,882	11,161	286,043
Larch	3,636	3,058	6,693	254	6,947
Lodgepole pine	22,380	7,710	30,090	2,707	32,797
Ponderosa-Jeffrey pine	168,631	76,449	245,080	19,161	264,241
Sugar pine	26,824	8,099	34,923	3,975	38,899
Other pines	52,622	52,622	105,244	103,952	209,196
Redwood	96,833	20,084	116,917	10,922	127,839
Spruce	75,062	9,342	84,404	3,304	87,707
Total	1,578,123	666,664	2,244,786	226,868	2,471,654
<b>Hardwood</b>					
Alder	47,001	8,032	55,033	267	55,300
Aspen	194	202	396	132	528
Other birch	1,873	1,975	3,848	1,210	5,058
Cottonwood	137	—	137	7	144
Other hardwoods	28,047	21,183	49,230	59,606	108,836
Total	77,252	31,392	108,644	61,222	169,865
<b>All species</b>	1,655,375	698,055	2,353,430	288,089	2,641,519

Numbers in rows and columns may not add to totals due to rounding.

A dash (—) indicates no sample for the cell; 0.0 indicates a value of > 0.0 but < 0.05 for the cell.

**Table 6.9—Volume of timber removals by ownership group, species group, removals class, and source, Pacific Coast Region, 1996**

Ownership and species group	Roundwood products			Logging residues			Other removals			All removals		
	Growing stock	Nongrowing stock	All sources	Growing stock	Nongrowing stock	All sources	Growing stock	Nongrowing stock	All sources	Growing stock	Nongrowing stock	All sources
<i>Thousand cubic feet</i>												
<b>National forest</b>												
Softwood	263,466	52,481	315,947	19,067	15,128	34,195	1,095	—	1,095	283,627	67,609	351,236
Hardwood	4,828	12,979	17,806	386	77	463	6	—	6	5,219	13,055	18,275
Total	268,293	65,460	333,753	19,453	15,205	34,658	1,100	—	1,100	288,846	80,665	369,511
<b>Other public</b>												
Softwood	243,125	19,968	263,094	9,631	7,454	17,085	145	—	145	252,902	27,422	280,324
Hardwood	13,672	3,278	16,950	578	392	970	16	—	16	14,266	3,670	17,936
Total	256,797	23,247	280,044	10,209	7,845	18,054	162	—	162	267,168	31,092	298,260
<b>Forest industry</b>												
Softwood	1,082,806	91,520	1,174,326	74,748	73,493	148,242	239	50	289	1,157,794	165,063	1,322,857
Hardwood	42,283	24,635	66,918	2,271	1,574	3,845	159	99	258	44,713	26,308	71,021
Total	1,125,089	116,155	1,241,244	77,019	75,067	152,087	398	149	547	1,202,506	191,372	1,393,878
<b>Other private</b>												
Softwood	655,389	62,898	718,287	66,857	55,218	122,075	230	27	257	722,476	118,143	840,619
Hardwood	47,861	20,329	68,191	2,458	1,566	4,024	238	46	284	50,558	21,942	72,499
Total	703,250	83,228	786,478	69,315	56,784	126,099	468	73	541	773,033	140,085	913,118
<b>All ownerships</b>												
Softwood	2,244,786	226,868	2,471,654	170,303	151,293	321,596	1,709	77	1,786	2,416,798	378,238	2,795,036
Hardwood	108,644	61,222	169,865	5,693	3,609	9,302	419	145	564	114,756	64,976	179,731
Total	2,353,430	288,089	2,641,519	175,996	154,902	330,898	2,128	222	2,350	2,531,554	443,213	2,974,767

Numbers in rows and columns may not add to totals due to rounding.

A dash (—) indicates no sample for the cell; 0.0 indicates a value of > 0.0 but < 0.05 for the cell.

**Table 6.10—Volume of timber removals by State, species group, removals class, and source, Pacific Coast Region, 1996**

State and species group	Roundwood products			Logging residues			Other removals			All removals		
	Growing stock	Nongrowing stock	All sources	Growing stock	Nongrowing stock	All sources	Growing stock	Nongrowing stock	All sources	Growing stock	Nongrowing stock	All sources
<i>Thousand cubic feet</i>												
Alaska												
Softwood	136,143	3,953	140,096	40,061	30,448	70,509	1,095	—	1,095	177,299	34,401	211,700
Hardwood	4,588	1,375	5,962	635	462	1,098	6	—	6	5,228	1,837	7,065
Total	140,731	5,327	146,058	40,696	30,911	71,607	1,100	—	1,100	182,527	36,238	218,765
California												
Softwood	561,828	110,961	672,790	56,183	43,683	99,866	9	77	86	618,020	154,721	772,742
Hardwood	9,112	45,781	54,893	911	—	912	13	145	158	10,036	45,926	55,963
Total	570,940	156,742	727,682	57,094	43,684	100,778	22	222	244	628,057	200,648	828,704
Oregon												
Softwood	788,756	56,154	844,909	35,398	40,465	75,863	100	—	100	824,253	96,619	920,872
Hardwood	30,772	6,642	37,414	874	274	1,147	69	—	69	31,715	6,916	38,631
Total	819,528	62,796	882,324	36,272	40,738	77,010	169	—	169	855,969	103,534	959,503
Washington												
Softwood	758,059	55,800	813,859	38,661	36,696	75,357	506	—	506	797,226	92,496	889,722
Hardwood	64,172	7,424	71,596	3,273	2,873	6,145	331	—	331	67,776	10,297	78,072
Total	822,231	63,224	885,455	41,934	39,569	81,503	837	—	837	865,001	102,793	967,794
All Pacific Coast States												
Softwood	2,244,786	226,868	2,471,654	170,303	151,293	321,596	1,709	77	1,786	2,416,798	378,238	2,795,036
Hardwood	108,644	61,222	169,865	5,693	3,609	9,302	419	145	564	114,756	64,976	179,731
Total	2,353,430	288,089	2,641,519	175,996	154,902	330,898	2,128	222	2,350	2,531,554	443,213	2,974,767

Numbers in rows and columns may not add to totals due to rounding.

A dash (—) indicates no sample for the cell; 0.0 indicates a value of > 0.0 but < 0.05 for the cell.

**Table 6.11—Volume of bark and wood residue by type of residue, softwood, hardwood, and use, Pacific Coast Region, 1996**

Source	Fiber byproducts	Fuelwood byproducts	Misc. byproducts	Not used	All byproducts
<i>Thousand cubic feet</i>					
<b>Bark residue</b>					
Softwood	1,148	235,833	33,674	8,560	279,216
Hardwood	43	14,360	3,773	127	18,304
Total	1,192	250,193	37,447	8,687	297,519
<b>Wood residue (coarse material)</b>					
Softwood	495,362	79,307	49,914	1,415	625,998
Hardwood	25,466	10,274	2,985	242	38,967
Total	520,829	89,581	52,898	1,657	664,965
<b>Wood residue (fine material)</b>					
Softwood	209,785	145,916	33,127	879	389,706
Hardwood	2,212	8,419	2,755	68	13,453
Total	211,997	154,335	35,881	946	403,160
<b>Wood residue (all material)</b>					
Softwood	705,147	225,223	83,040	2,294	1,015,704
Hardwood	27,678	18,693	5,739	310	52,421
Total	732,825	243,916	88,780	2,603	1,068,124
<b>All residue</b>					
Softwood	706,295	461,056	116,714	10,854	1,294,920
Hardwood	27,722	33,053	9,513	437	70,724
Total	734,017	494,110	126,227	11,290	1,365,644

Numbers in rows and columns may not add to totals due to rounding.

**Table 6.12—Weight of bark and wood residue by type of residue, softwood, hardwood, and use, Pacific Coast Region, 1996**

Source	Fiber byproducts	Fuelwood byproducts	Misc. byproducts	Not used	All byproducts
<i>Thousand dry tons</i>					
<b>Bark residue</b>					
Softwood	15	3,069	424	106	3,614
Hardwood	—	166	31	2	199
Total	16	3,235	454	107	3,813
<b>Wood residue (coarse material)</b>					
Softwood	6,450	997	654	17	8,119
Hardwood	294	119	34	3	450
Total	6,744	1,116	688	20	8,569
<b>Wood residue (fine material)</b>					
Softwood	2,755	1,859	414	10	5,039
Hardwood	26	97	45	1	168
Total	2,781	1,956	459	11	5,207
<b>Wood residue (all material)</b>					
Softwood	9,205	2,856	1,068	28	13,158
Hardwood	320	216	79	4	618
Total	9,525	3,072	1,147	31	13,776
<b>All residue</b>					
Softwood	9,221	5,926	1,492	133	16,772
Hardwood	320	382	110	5	817
Total	9,541	6,308	1,602	139	17,589

Numbers in rows and columns may not add to totals due to rounding.

A dash (—) indicates no sample for the cell; 0.0 indicates a value of > 0.0 but < 0.05 for the cell.



## Appendix 2

### Timber Product Output Database Retrieval System

The Forest Inventory and Analysis Research Work Units (FIA) of the U.S. Department of Agriculture, Forest Service (USDA Forest Service) developed the Timber Product Output Database Retrieval System to help customers answer questions about timber harvesting and use in the United States. This system acts as an interface to a standard set of consistently coded TPO data for each State and county in the Nation. This national set of TPO data consists of 11 variables that describe for each county the roundwood products harvested, logging residues left behind, timber otherwise removed, and wood and bark residues generated by the county's primary wood-using mills. The system is available through the Starkville, MS, Web site: <http://www.srsfia.usfs.msstate.edu/rpa/tpo>.

The database is well documented and user friendly. The retrieval system allows the user to select the TPO variables of interest and generate a standard set of timber removals and mill residue tables for the specified resource area or areas. The system has been logically divided into four sections to assist the user in specific data. In section 1, the user will be asked to define the resource area, section 2 customizes the removals data for the area, section 3 customizes the mill residue data, and section 4 generates tables for the user-defined resource area. In each section, the user is asked to supply specific inputs that will serve to customize the database retrieval.

There are four options available for defining the geographic area of interest. Each option provides an increasing level of detail. The region, subregion, State, or county can define the area. The user selects the option that best suits the level of detail required. Users who select county as an option should be aware that some counties have been combined due to data sensitivity. These combined counties are identified with asterisks in the output tables.

The TPO contacts are listed for each region to provide additional explanation or clarification.

### Study Methods

This study was a cooperative effort of individual State Forestry agencies, universities or extension agencies, and FIA units at USDA Forest Service Research Stations around the country. The State Forestry agencies or university personnel canvassed all primary wood-using mills (excluding pulpmills) within their States using mail questionnaires supplied by the research stations. The questionnaire was designed to determine the size and composition of each State's primary wood-using industry, its roundwood use, and its generation and disposition of wood residues. Canvassing agencies followed up on nonresponding mills by using additional mailings, telephone, or personal contacts until a 100-percent response was achieved. Completed questionnaires were sent to the research stations or universities for editing and processing.

Pulpwood production was assessed using data from an annual canvass of the Nation's pulpmills by individual research stations. Medium-density fiberboard, insulating board, and hardboard plants were included.

All industrial roundwood volumes reported on the questionnaires were converted to standard units of measure using regional conversion factors. Timber removals by source and harvest residues generated during logging were estimated using factors developed from logging utilization studies conducted by the research stations. Aggregate county-level data for individual State industrial roundwood receipts were loaded into regional timber removal databases and supplemented with data from out-of-State uses of roundwood to provide a complete assessment of timber product output for the individual States.

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## Species Listing

### Hardwoods

<u>Common name</u>	<u>Scientific name</u>
Red alder	<i>Alnus</i> spp.
Ash	<i>Fraxinus</i> spp.
Aspen	<i>Populus</i> spp.
Birch	<i>Betula</i> spp.
Cottonwood	<i>Populus</i> spp.
Elm	<i>Ulmus</i> spp.
Hickory	<i>Carya</i> spp.
Maple	<i>Acer</i> spp.
Red maple	<i>A. rubrum</i> L.
Sugar maple	<i>A. saccharum</i> Marsh.
Red oak	<i>Quercus rubra</i> L.
White oak	<i>Q. alba</i> L.
Sweetgum	<i>Liquidambar styraciflua</i> L.
Yellow-poplar	<i>Liriodendron tulipifera</i> L.

### Softwoods

<u>Common name</u>	<u>Scientific name</u>
Firs	<i>Abies</i> spp.
Douglas-fir	<i>Pseudotsuga menziessii</i> (Mirb.) Franco
Eastern hemlock	<i>Tsuga canadensis</i> (L.) Carr.
Western larch	<i>Larix occidentalis</i> Nutt.
Eastern white pine	<i>Pinus strobes</i> L.
Jack pine	<i>P. banksiana</i> Lamb.
Jeffrey pine	<i>P. jeffreyi</i> Grev. & Balf.
Loblolly pine	<i>P. taeda</i> L.
Lodgepole pine	<i>P. contorta</i> Dougl. ex Loud.
Longleaf pine	<i>P. palustris</i> Mill.
Red pine	<i>P. resinosa</i> Ait.
Ponderosa pine	<i>P. ponderosa</i> Dougl. ex Laws.
Shortleaf pine	<i>P. echinata</i> Mill.
Slash pine	<i>P. elliottii</i> Engelm.
Eastern redcedar	<i>Juniperus virginiana</i> L.

## Definition of Terms

**Board foot.** Unit of measure applied to roundwood. It relates to lumber that is 1-foot long, 1-foot wide, and 1-inch thick (or its equivalent).

**Bole.** That portion of a tree between a 1-foot stump and a 4-inch top d.o.b. in trees 5.0 inches d.b.h. and larger.

**Byproducts.** Primary wood products, e.g., pulp chips, animal bedding, fuelwood, recycled from mill residues.

**Commercial species.** Tree species currently or potentially suitable for industrial wood products.

**Composite products.** Roundwood products manufactured into chips, wafers, strands, flakes, shavings, or sawdust and then reconstituted into a variety of panel and engineered lumber products.

**Consumption.** The quantity of a commodity, such as pulpwood, utilized by a particular mill or group of mills.

**D.b.h.** Tree diameter in inches (outside bark) at breast height (4.5 feet aboveground).

**D.o.b. (diameter outside bark).** Stem diameter including bark.

**Drain.** The volume of roundwood removed from any geographic area where timber is grown.

**Exports.** The volume of roundwood utilized by mills outside the State where timber was cut.

**Fiber products.** Byproducts used in the manufacture of pulp, paper, paperboard, and composite products, such as waferboard or chipboard.

**Forest land.** Land at least 10 percent stocked by forest trees of any size, or formerly having had such tree cover, which has not been developed for nonforest use. The minimum area considered for classification is 1 acre. Forested strips must be at least 120 feet wide.

**Fuelwood production.** The volume of roundwood harvested to produce some form of energy, e.g., heat, steam, in residential, industrial, or institutional settings.

**Growing-stock removals.** The growing-stock volume removed from poletimber and sawtimber trees in the timberland inventory. (Note: Includes volume removed for roundwood products, logging residues, and other removals.)

**Growing-stock trees.** Living trees of commercial species classified as sawtimber, poletimber, saplings, and seedlings. Growing-stock trees must contain at least one 12-foot or two 8-foot logs in the saw-log portion, currently or potentially (if too small to qualify). The log(s) must meet dimension and merchantability standards and have, currently or potentially, one-third of the gross board-foot volume in sound wood.

**Growing-stock volume.** The cubic-foot volume of sound wood in growing-stock trees at least 5.0 inches d.b.h. from a 1-foot stump to a minimum 4.0-inch top d.o.b. of the central stem.

**Hardwoods.** Dicotyledonous trees, usually broadleaf and deciduous.

*Soft hardwoods.* Hardwood species with an average specific gravity of 0.50 or less, such as gums, yellow-poplar, cottonwoods, red maple, basswoods, and willows.

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

**Imports.** The volume of roundwood delivered to a mill or group of mills in a specific State but harvested outside that State.

**Industrial fuelwood.** A roundwood product, with or without bark, used to generate energy at a manufacturing facility such as a wood-using mill.

**Industrial roundwood products.** Any primary use of the main stem of a tree, such as saw logs, pulpwood, veneer logs, intended to be processed into primary wood products such as lumber, wood pulp, sheathing, at primary wood-using mills.

**International 1/4-inch rule.** A log rule or formula for estimating the board-foot volume of logs, allowing 1/2-inch of taper for each 4-foot length. The rule appears in a number of forms that allow for kerf. In the form used by FIA, a 1/4-inch of kerf is assumed. This rule is used as the USDA Forest Service standard log rule in the Eastern United States.

**Log.** A primary forest product harvested in long, primarily 8-, 12-, and 16-foot lengths.

**Logging residues.** The unused merchantable portion of growing-stock trees cut or destroyed during logging operations.

**Merchantable portion.** That portion of live trees 5.0 inches d.b.h. and larger between a 1-foot stump and a minimum 4.0-inch top d.o.b. on the central stem. That portion of primary forks from the point of occurrence to a minimum 4.0-inch top d.o.b. is included.

**Merchantable volume.** Solid-wood volume in the merchantable portion of live trees.

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

**Nonforest land.** Land that has never supported forests and land formerly forested where timber production is precluded by development for other uses.

**Nongrowing-stock sources.** The net volume removed from the nongrowing-stock portions of poletimber and sawtimber trees (stumps, tops, limbs, cull sections of central stem) and from any portion of a rough, rotten, sapling, dead, or nonforest tree.

**Other forest land.** Forest land other than timberland and productive reserved forest land. It includes available and reserved forest land that is incapable of producing annually 20 cubic feet per acre of industrial wood under natural conditions because of adverse site conditions such as sterile soils, dry climate, poor drainage, high elevation, steepness, or rockiness.

**Other products.** A miscellaneous category of roundwood products, e.g., cooperage, excelsior, shingles, and mill residue byproducts (charcoal, bedding, mulch, etc.).

**Other removals.** The growing-stock volume of trees removed from the inventory by cultural operations such as timber stand improvement, land clearing, and other changes in land use, resulting in the removal of the trees from timberland.

**Other sources.** (see: Nongrowing-stock sources.)

**Ownership.** The property owned by one ownership unit, including all parcels of land in the United States.

*National forest land.* Federal land that has been legally designated as national forests or purchase units, and other

land under the administration of the Forest Service, including experimental areas and Bankhead-Jones Title III land.

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

*Nonindustrial private forest (NIPF) land.* Privately owned land excluding forest industry land or forest industry-leased land.

Corporate. Owned by corporations, including incorporated farm ownerships.

Individual. All lands owned by individuals, including farm operators.

*Other public.* An ownership class that includes all public lands except national forests.

Miscellaneous Federal land. Federal land other than national forests.

State, county, and municipal land. Land owned by States, counties, and local public agencies or municipalities, or land leased to these governmental units for 50 years or more.

**Plant residues.** Wood material generated in the production of timber products at primary manufacturing plants.

*Coarse residues.* Material, such as slabs, edgings, trim, veneer cores and ends, which is suitable for chipping.

*Fine residues.* Material, such as sawdust, shavings, and veneer chippings, which is not suitable for chipping.

*Plant byproducts.* Residues (coarse or fine) used in the further manufacture of industrial products for consumer use or as fuel.

*Unused plant residues.* Residues (coarse or fine) that are not used for any product, including fuel.

**Posts, poles, and pilings.** Roundwood products milled (cut or peeled) into standard sizes (lengths and circumferences) to be put in the ground to provide vertical and lateral support in buildings, foundations, utility lines, and fences. May also include nonindustrial (unmilled) products.

**Poletimber-size trees.** Softwoods 5.0 to 8.9 inches d.b.h. and hardwoods 5.0 to 10.9 inches d.b.h.

**Primary wood-using plants.** Industries that convert roundwood products (saw logs, veneer logs, pulpwood, etc.) into primary wood products, such as lumber, veneer or sheathing, wood pulp.

**Production.** The total volume of roundwood harvested from land within a State, regardless of where it is consumed. Production is the sum of timber harvested and used within a State, and all roundwood exported to other States.

**Pulpwood.** A roundwood product that will be reduced to individual wood fibers by chemical or mechanical means. The fibers are used to make a broad generic group of pulp products that includes paper products, as well as chipboard, fiberboard, insulating board, and paperboard.

**Receipts.** The quantity or volume of industrial roundwood received at a mill or by a group of mills in a State, regardless of the geographic source. Volume of roundwood receipts is equal to the volume of roundwood retained in a State plus roundwood imported from other States.

**Retained.** Roundwood volume harvested from and processed by mills within the same State.

**Rotten trees.** Live trees of commercial species not containing at least one 12-foot saw log, or two noncontiguous saw logs, each 8 feet or longer, now or prospectively, primarily because of rot or missing sections, and with less than one-third of the gross board-foot tree volume in sound material.

**Rough trees.** Live trees of commercial species not containing at least one 12-foot saw log, or two noncontiguous saw logs, each 8 feet or longer, now or prospectively, primarily because of roughness, poor form, splits, and cracks, and with less than one-third of the gross board-foot tree volume in sound material; and live trees of non-commercial species.

**Roundwood (roundwood logs).** Logs, bolts, or other round sections cut from trees for industrial manufacture or consumer uses.

**Roundwood chipped.** Any timber cut primarily for industrial manufacture, delivered to nonpulp mills, chipped, and then sold to pulpmills for use as fiber. Includes tops, jump sections, whole trees, and pulpwood sticks.

**Roundwood products.** Any primary product, such as lumber, poles, pilings, pulp, or fuelwood that is produced from roundwood.

**Roundwood product drain.** That portion of total drain used for a product.

**Salvable dead trees.** Standing or downed dead trees that were formerly growing stock and considered merchantable. Trees must be at least 5.0 inches d.b.h. to qualify.

**Saplings.** Live trees 1.0 to 5.0 inches d.b.h.

**Saw log.** A roundwood product, usually 8 feet in length or longer, processed into a variety of sawn products such as lumber, cants, pallets, railroad ties, and timbers.

**Saw-log portion.** The part of the bole of sawtimber trees between a 1-foot stump and the saw-log top.

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

**Sawtimber-size trees.** Softwoods 9.0 inches d.b.h. and larger and hardwoods 11.0 inches d.b.h. and larger.

**Sawtimber volume.** Growing-stock volume in the saw-log portion of sawtimber-sized trees in board feet (International ¼-inch rule).

**Seedlings.** Trees less than 1.0 inch d.b.h. and greater than 1 foot tall for hardwoods, greater than 6 inches tall for softwood, and greater than 0.5 inch in diameter at ground level for longleaf pine.

**Select red oaks.** A group of several red oak species composed of cherrybark, Shumard, and northern red oaks. Other red oak species are included in the other red oaks group.

**Select white oaks.** A group of several white oak species composed of white, swamp chestnut, swamp white, chinkapin, Durand, and bur oaks. Other white oak species are included in the other white oaks group.

**Softwoods.** Coniferous trees, usually evergreen, having leaves that are needles or scalelike.

**Standard cord.** A unit of measure applied to roundwood, usually bolts or split wood. It is a stack of wood 4 feet high, 4 feet wide, and 8 feet long encompassing 128 cubic feet of wood, bark, and air space. This usually translates to approximately 75.0 to 81.0 cubic feet of solid wood for pulpwood, because pulpwood is more uniform.

**Standard unit.** A unit measure applied to roundwood timber products. Board feet (International ¼ rule) is the standard unit used for saw logs and veneer; cords are used for pulpwood, composite panel, and fuelwood; hundred pieces for poles; thousand pieces for posts; and thousand cubic feet for all other miscellaneous forest products.

**Timberland.** Forest land capable of producing 20 cubic feet of industrial wood per acre per year and not withdrawn from timber utilization.

**Timber products.** Roundwood products and byproducts.

**Timber products output.** The total volume of roundwood products from all sources plus the volume of byproducts recovered from mill residues (equals roundwood product drain).

**Timber removals.** The total volume of trees removed from the timberland inventory by harvesting, cultural operations such as stand improvement, land clearing, or changes in land use. (Note: Includes roundwood products, logging residues, and other removals.)

**Tree.** Woody plants having one erect perennial stem or trunk at least 3 inches d.b.h., a more or less definitely formed crown of foliage, and a height of at least 13 feet (at maturity).

**Upper-stem portion.** The part of the main stem of saw-timber trees above the saw-log top and the minimum top diameter of 4.0 inches outside bark, or to the point where the main stem breaks into limbs.

**Utilization studies.** Studies conducted on active logging operations to develop factors for merchantable portions of trees left in the woods (logging residues), logging damage, and utilization of the unmerchantable portion of growing-stock trees and nongrowing stock trees.

**Veneer log.** A roundwood product either rotary cut, sliced, stamped, or sawn into a variety of veneer products such as plywood, finished panels, veneer sheets, or sheathing.

**Weight.** A unit of measure for mill residues, expressed as oven-dry tons (2,000 oven-dry pounds).

**Johnson, Tony G., ed.** 2001. United States timber industry—an assessment of timber product output and use, 1996. Gen. Tech. Rep. SRS-45. Asheville, NC: U.S. Department of Agriculture, Forest Service, Southern Research Station. 145 p.

This report is a compilation of timber product output for the United States and the five Resources Planning Act regions for 1996 and is a companion report to the Forest Resources of the United States, 1997. Roundwood output from the Nation's forests totaled 16.4 billion cubic feet, 8 percent less than in 1991. Saw logs were the leading roundwood product at 7.1 billion cubic feet; pulpwood ranked second at 5.2 billion cubic feet; and veneer logs were third at 1.3 billion cubic feet. The South supplied 58 percent of the Nation's timber product output and had 7 of the top 10 producing States. Softwood species accounted for 61 percent of output, and nonindustrial private forest owners supplied 60 percent of the Nation's roundwood products. Mill byproducts generated from primary manufacturers totaled 6.1 billion cubic feet. Only 2 percent of the mill residues were not used. Mill residue was used primarily for fuel and fiber products.

**Keywords:** Pulpwood, removals, residue, roundwood, saw logs, veneer logs.





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