

United States
Department of
Agriculture

Forest Service

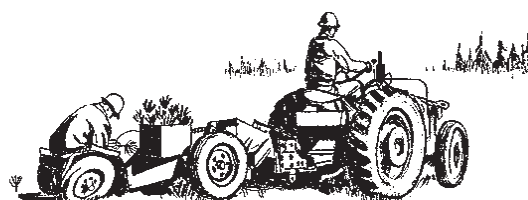
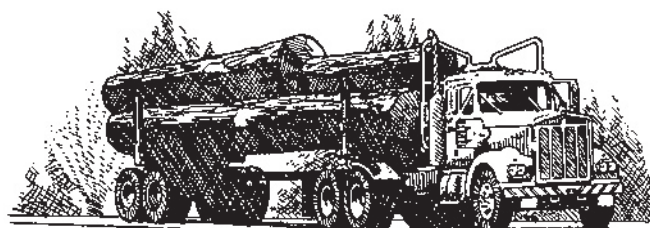
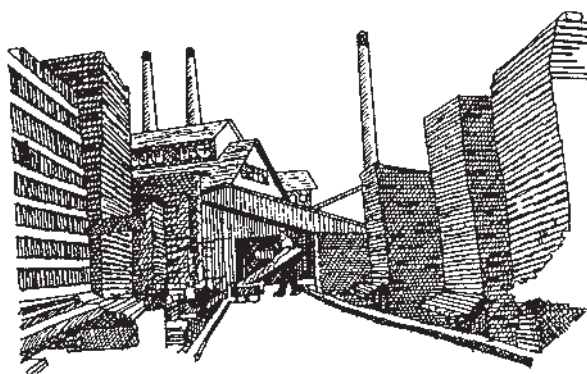


Southern
Research Station

Resource Bulletin
SRS-112

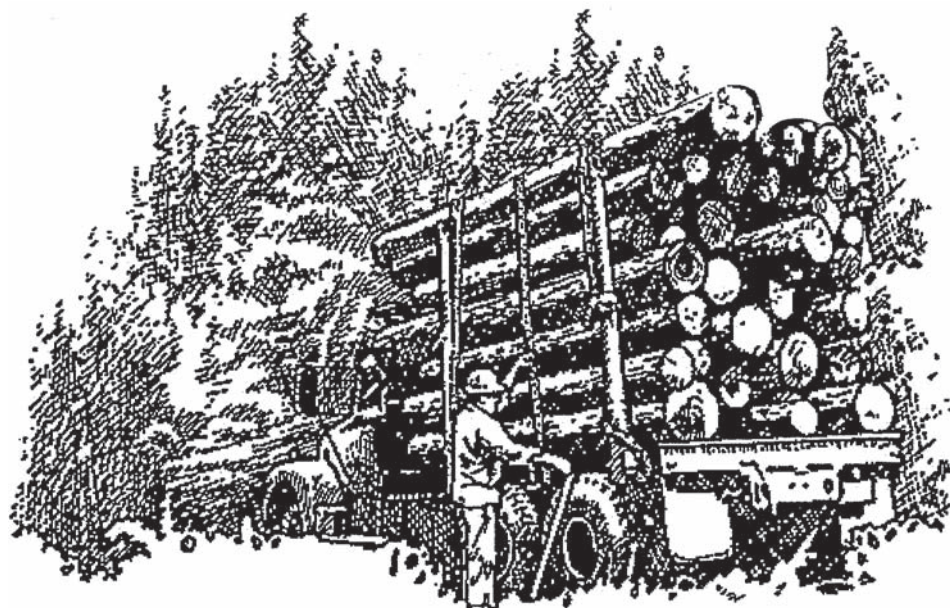
North Carolina's Timber Industry— An Assessment of Timber Product Output and Use, 2003

Michael Howell,
Barry D. New, and
Michael C. Mann



The Authors:

Michael Howell, Resource Forester, USDA Forest Service, Southern Research Station, Knoxville, TN 37919; **Barry D. New**, Senior Staff Forester, and **Michael C. Mann**, Utilization Forester, North Carolina Division of Forest Resources, Raleigh, NC 27699.



July 2006

Southern Research Station
P.O. Box 2680
Asheville, NC 28802

Foreword

This report contains the findings of a 2003 canvass of all primary wood-using plants in North Carolina, and presents changes in product output and residue use since 2001. It complements the Forest Inventory and Analysis periodic inventory of volume and removals from the State's timberland. The canvass was conducted to determine the amount and source of wood receipts and annual timber product drain, by county, in 2003 and to determine interstate and cross-regional movement of industrial roundwood. Only primary wood-using mills were canvassed. Primary mills are those that process roundwood in log or bolt form or as chipped roundwood. Examples of industrial roundwood products are saw logs, pulpwood, veneer logs, poles, and logs used for composite board products. Mills producing products from residues generated at primary and secondary processors were not canvassed. Trees chipped in the woods were included in the estimate of timber drain only if they were delivered to a primary domestic manufacturer.

A 100-percent canvass of certain wood processors in North Carolina was conducted in 2004 to obtain information for 2003. In addition, roundwood from out-of-State mills known to be using logs or bolts harvested from North Carolina timberland was incorporated into North Carolina production estimates. The mills were canvassed by mail or through personal contact at plant locations. Telephone contacts followed mailed questionnaire responses when additional

information or clarification of a response was necessary. In the event of a nonresponse, data collected in previous surveys were updated using current data collected for mills of similar size, product type, and location. Surveys for all timber products other than pulpwood began in 1961, and are currently conducted every 2 years.

Pulpwood production data were taken from an annual canvass of all southern pulpmills. Medium density fiberboard, insulating board, and hardboard plants were included in this survey.

Acknowledgments

The authors thank Mark J. Brown for review and comments; Sonja N. Oswalt and Joe McCollum for the maps; Anne Jenkins, Sharon Johnson, Janet Griffin and Lyn Thornhill for tables, graphs, and statistical checking; and Louise Wilde for editorial review, styling, and publication of this report.

The Southern Research Station gratefully acknowledges the cooperation and assistance provided by the North Carolina Department of Environment and Natural Resources, Division of Forest Resources in collecting mill data. Appreciation is also extended to forest industry and mill managers for providing timber products information.



Timber Product Output Database Retrieval System

The FIA Research Work Unit of the U.S. Department of Agriculture Forest Service (USDA Forest Service) developed the Timber Product Output (TPO) Database Retrieval System to help customers answer questions about timber harvesting and use in the Southern region. This system acts as an interface to a standard set of consistently coded TPO data for each State and county in the Southern region. This regional and national set of TPO data consists of 11 variables that describe for each county the roundwood products harvested, logging residues left in the woods, timber otherwise removed, and wood and bark residues generated by the county's primary wood-using mills. The system is available through the FIA Web site:
<http://srsfia2.fs.fed.us/php/tpo2/tpo.php>.

The database is well documented and easy to use. The retrieval system allows the user to select the TPO variables of interest and generate a standard set of timber products, removals, and mill residue tables for the specified resource area or areas. The system has been logically divided into two sections to assist the user in making specific data requests. In section 1, the user is asked to define the resource area, and section 2 generates tables for the specified area. In each section, the user is asked to supply specific input 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 defines an 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.

Tony Johnson
Southern Research Station
USDA Forest Service
4700 Old Kingston Pike
Knoxville, TN 37919
(865) 862-2042

James Bentley
Southern Research Station
USDA Forest Service
4700 Old Kingston Pike
Knoxville, TN 37919
(865) 862-2056

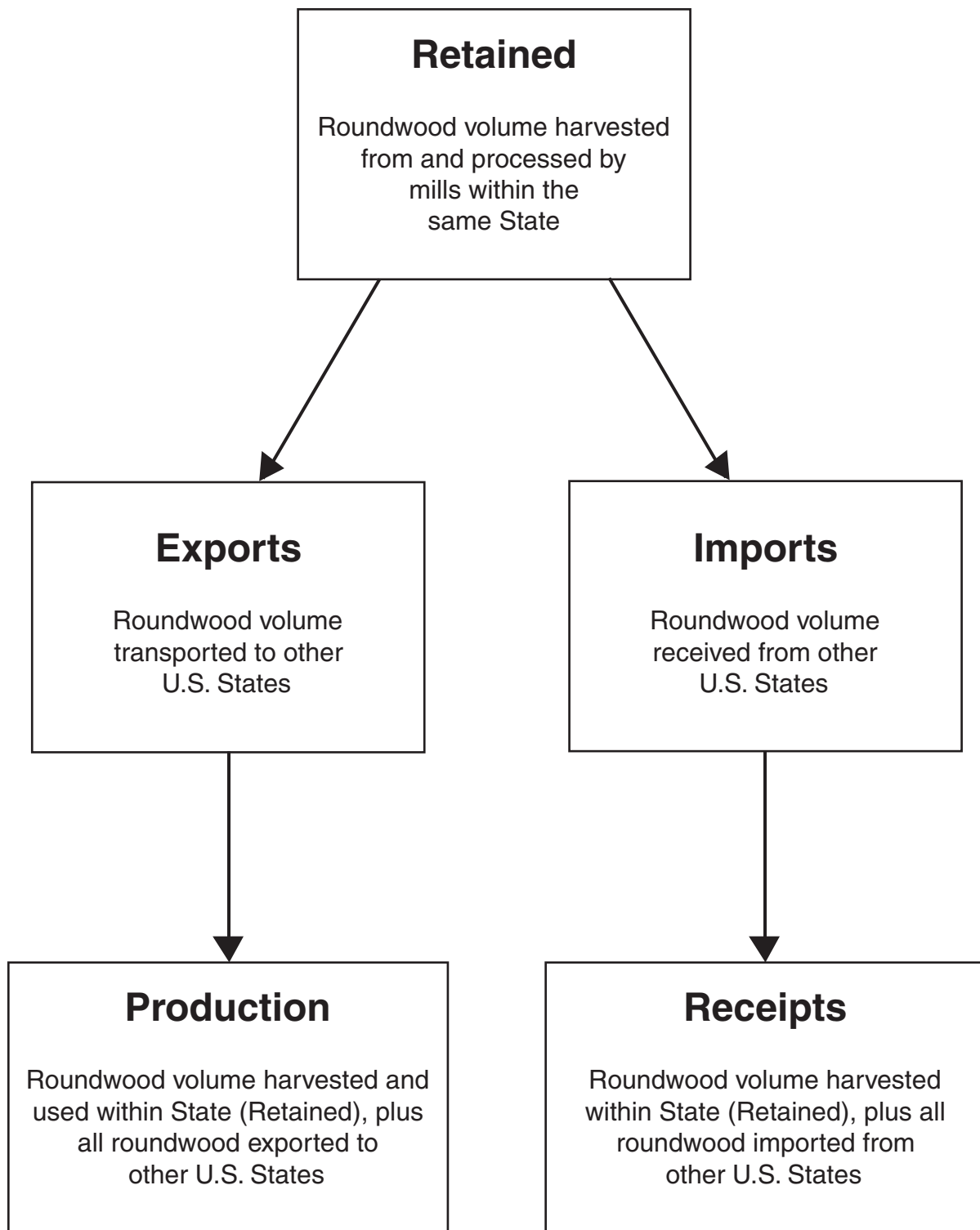
Carolyn Steppleton
Southern Research Station
USDA Forest Service
P.O. Box 2680
Asheville, NC 28802
(828) 257-4848

Table of Contents

| | <i>Page</i> |
|--|-------------|
| Output of Industrial Timber Products | 1 |
| All Products | 1 |
| Saw Logs | 3 |
| Pulpwood..... | 4 |
| Veneer Logs | 4 |
| Composite Panels | 4 |
| Other Industrial Products..... | 6 |
| Plant Byproducts | 6 |
| Regional Trends | 6 |
| Southern Coastal Plain Region..... | 6 |
| Northern Coastal Plain Region..... | 7 |
| Piedmont Region | 8 |
| Mountain Region | 8 |
| Total Roundwood Output | 8 |
| Source..... | 8 |
| Ownership | 9 |
| Species..... | 9 |
| References..... | 10 |
| Glossary | 11 |
| Metric Equivalents | 14 |
| Conversion Factors..... | 14 |
| Species List | 15 |
| Appendix..... | 17 |
| Index of Tables | 19 |
| Tables A.1–A.26 ^a | 21 |

^a All tables in this report are available in Microsoft® Excel workbook files. Upon request, these files will be supplied in the format the customer requests.

The use of trade or firm names in this publication is for reader information and does not imply endorsement by the U.S. Department of Agriculture of any product or service.



Production = Retained + Exports

Receipts = Retained + Imports

Figure 1—Movement of roundwood exports and imports within the United States.

North Carolina's Timber Industry— An Assessment of Timber Product Output and Use, 2003

Michael Howell, Barry D. New, and Michael C. Mann

Output of Industrial Timber Products

Note: Certain terms used in this report—retained, export, import, production, and receipts—have specialized meanings unique to the Forest Inventory and Analysis Units across the country that deal with timber product output (TPO) (fig. 1).

All Products

- Between 2001 and 2003, the combined industrial TPO from roundwood and plant byproducts increased 2 percent, from 1.07 to 1.09 billion cubic feet.
- TPO from roundwood was up 18 million cubic feet, or 2 percent, to 776 million cubic feet, while output of plant byproducts was up 0.5 million cubic feet to 314 million cubic feet.
- Output of softwood roundwood products increased 4 percent to 531 million cubic feet, while output of

hardwood roundwood products dropped from 246 to 245 million cubic feet (fig. 2).

- Figures 3 and 4 display softwood and hardwood county-level intensity of roundwood production for all industrial products across North Carolina. The data are depicted in cubic feet produced per acre of census land area. Counties with the highest production intensity are depicted in the darker shades. For softwoods the darkest shade represents more than 30 cubic feet of production per acre, while for hardwoods the darkest shade represents more than 15 cubic feet per acre.
- Saw logs and pulpwood were the principal roundwood products in 2003. Combined output of these products totaled 666 million cubic feet and accounted for 86 percent of the State's total roundwood output (fig. 5).
- Total receipts at North Carolina mills, which included roundwood harvested and retained in the State as well

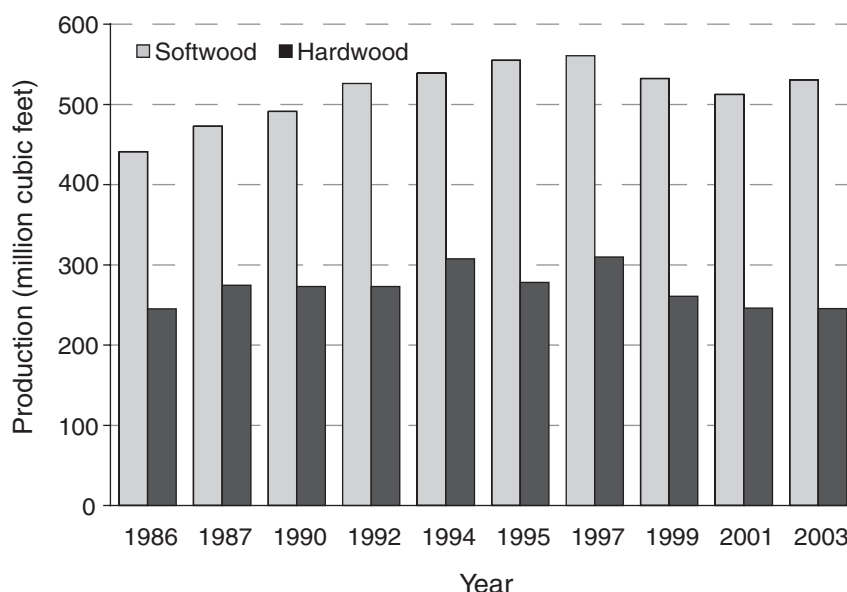


Figure 2—Roundwood production for all products by species group and year (see page 10 for references for individual years).

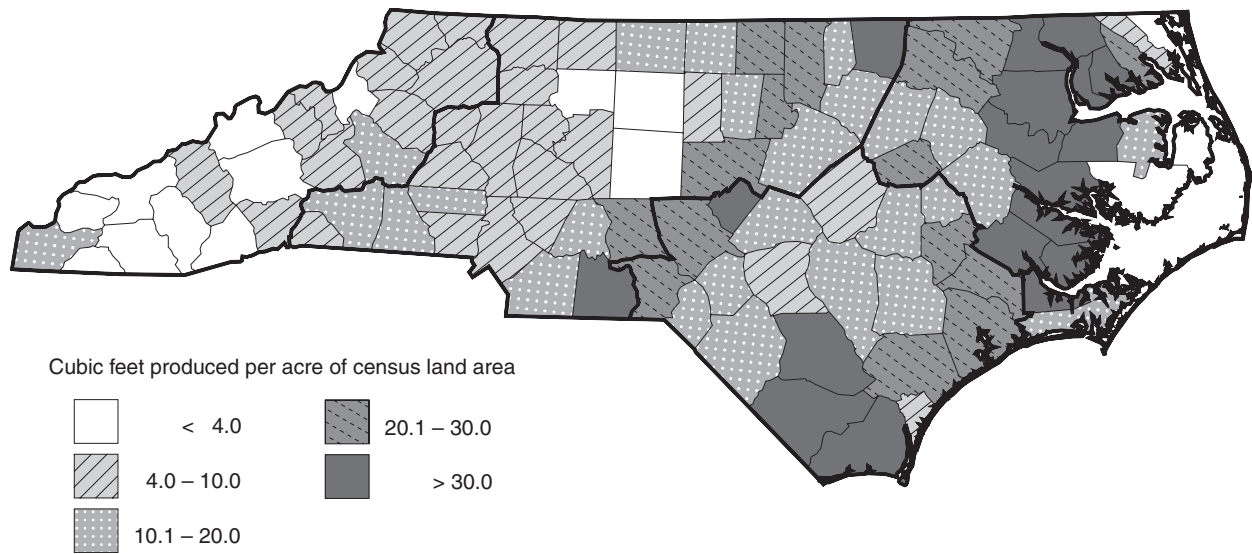


Figure 3—Intensity of roundwood softwood output for all industrial products in North Carolina by county, 2003.

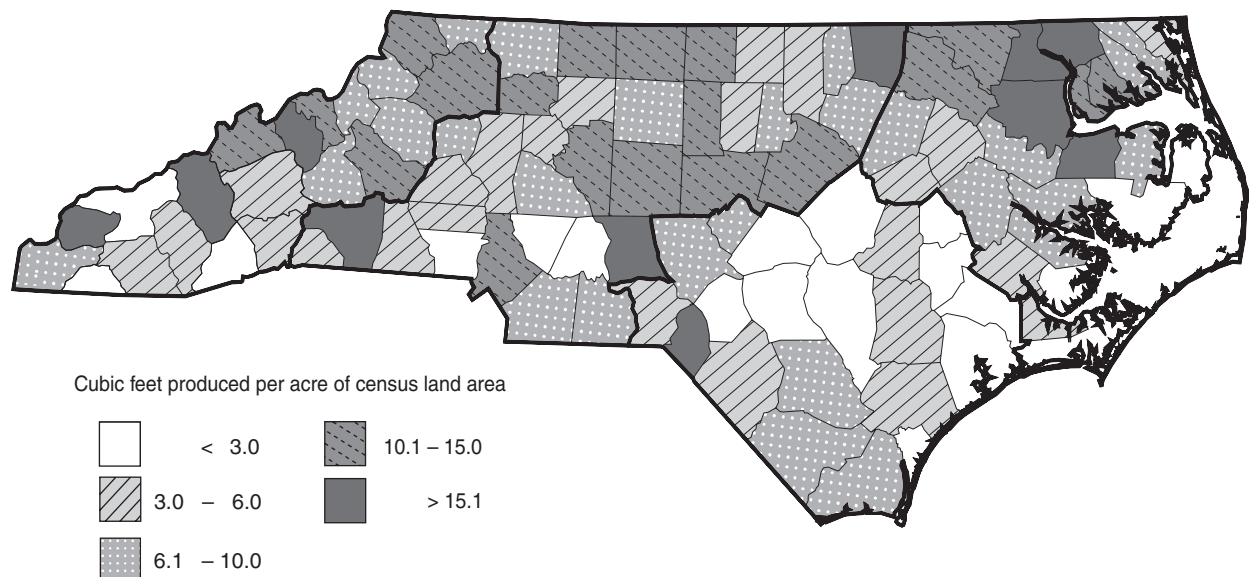
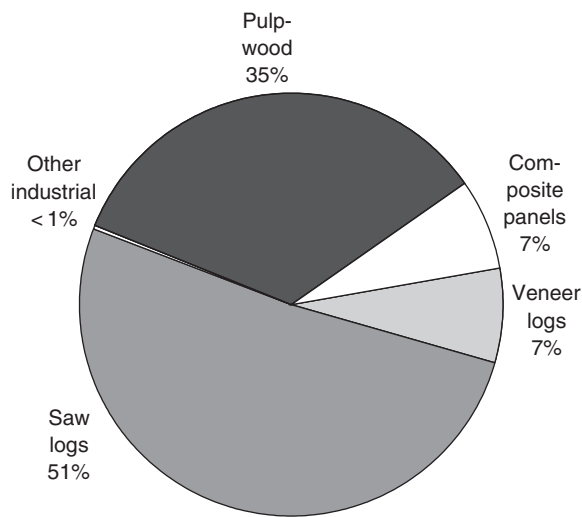


Figure 4—Intensity of roundwood hardwood output for all industrial products in North Carolina by county, 2003.



Total 776 million cubic feet

Figure 5—Roundwood production by type of product, 2003.

as roundwood imported from other States, was up 20.7 million cubic feet to 742 million cubic feet. At the same time, the number of primary roundwood-using plants in North Carolina was down from 249 in 2001 to 235 in 2003.

Saw Logs

- Saw logs accounted for 51 percent of the State's total roundwood products. Output of softwood saw logs was down 7 percent to 286 million cubic feet (1.59 billion board feet, International ¼-inch rule), while output of hardwood saw logs declined 3 percent to 113 million cubic feet (681 million board feet, International ¼-inch rule) (fig. 6).
- In 2003, North Carolina had 204 sawmills, a net loss of 11 mills since 2001. Total saw-log receipts were down 15 million cubic feet to 415 million cubic feet. Softwood saw-log receipts were down 3 percent to 297 million cubic feet, while hardwood receipts declined 5 percent to 117 million cubic feet. Of the mills operating in 2003, 28 percent had receipts <1 million board feet, while 29 percent had receipts >10 million board feet. Those 60 mills accounted for 85 percent of saw-log receipts.
- North Carolina retained 94 percent of its saw-log production for domestic manufacture, and saw-log imports exceeded exports by 16 million cubic feet in 2003.

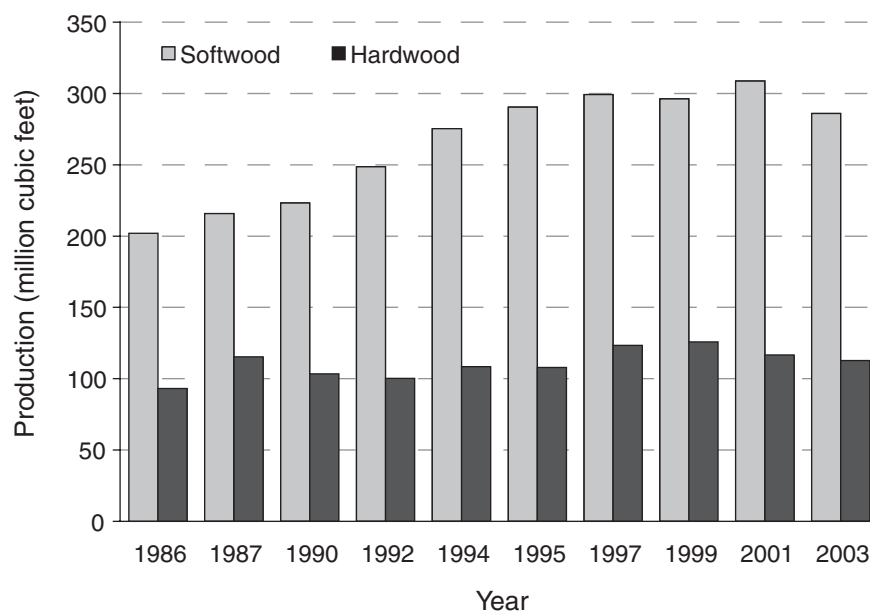


Figure 6—Roundwood saw-log production by species group and year (see page 10 for references for individual years).

Pulpwood

- Pulpwood production, including chipped roundwood, increased 24 million cubic feet to 267 million cubic feet (3.6 million cords) and accounted for 35 percent of the State's total roundwood TPO. Softwood output was up 12 percent to 158 million cubic feet, while hardwood output increased 7 percent to 109 million cubic feet (fig. 7).
- Six pulpmill facilities were operating and receiving roundwood in North Carolina in 2003, a net loss of one mill since 2001. Total pulpwood receipts for these mills were up 34 million cubic feet to 225 million cubic feet, accounting for 30 percent of total receipts for all mills.
- Sixty-seven percent of roundwood cut for pulpwood was retained for processing by North Carolina pulpmills. Roundwood pulpwood accounted for 64 percent of total known exports and 45 percent of total imports. Roundwood pulpwood exports amounted to 89 million cubic feet, while imports totaled 47 million cubic feet.

Veneer Logs

- Output of veneer logs in 2003 totaled 57 million cubic feet and accounted for 7 percent of the State's total roundwood TPO volume. Softwood veneer production was up 17 percent to 40 million cubic feet (230 million board feet, International 1/4-inch rule), while output of

hardwood veneer logs declined 14 percent to 17 million cubic feet (104 million board feet, International 1/4-inch rule) (fig. 8).

- The number of veneer mills operating in North Carolina declined from 20 in 2001 to 18 in 2003. Receipts of veneer logs increased 2 percent to 58 million cubic feet. Softwood veneer receipts were up 4.1 million cubic feet to 36 million cubic feet. Hardwood veneer receipts decreased 13 percent to 22 million cubic feet.
- North Carolina retained 82 percent of its veneer-log production for processing at domestic veneer mills. Imports amounted to 11.4 million cubic feet, while exports totaled 10.2 million cubic feet, making the State a net importer of roundwood veneer logs.

Composite Panels

- Roundwood harvested from North Carolina's forests for composite panels increased 48 percent and totaled 53 million cubic feet (725 thousand cords). Softwood output increased 71 percent to 45 million cubic feet, while hardwood output was down 18 percent to 8 million cubic feet (fig. 9).
- Three composite panel mills were operating in North Carolina in 2003, the same as in 2001. Total receipts for these mills increased 3 percent to 44 million cubic feet.

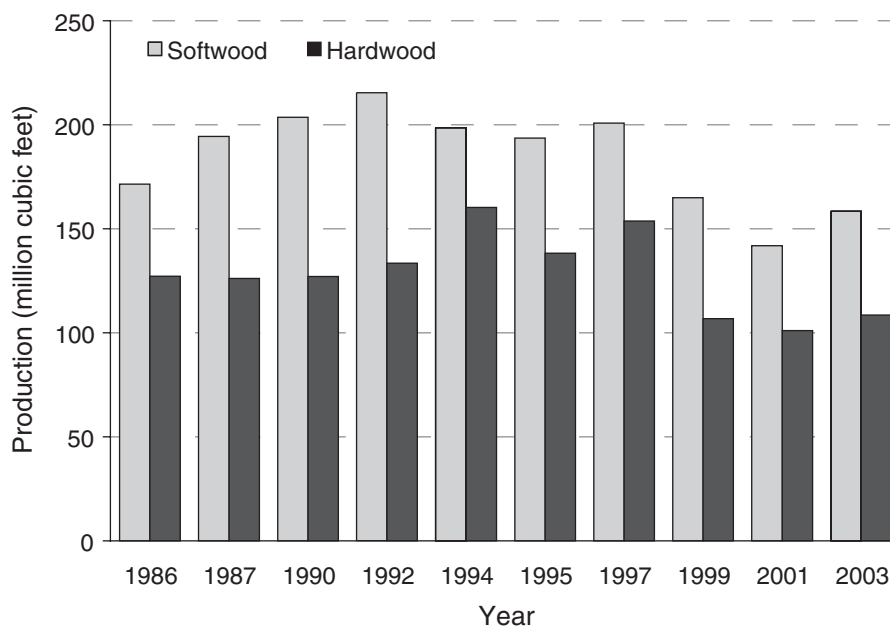


Figure 7—Roundwood pulpwood production by species group and year (see page 10 for references for individual years).

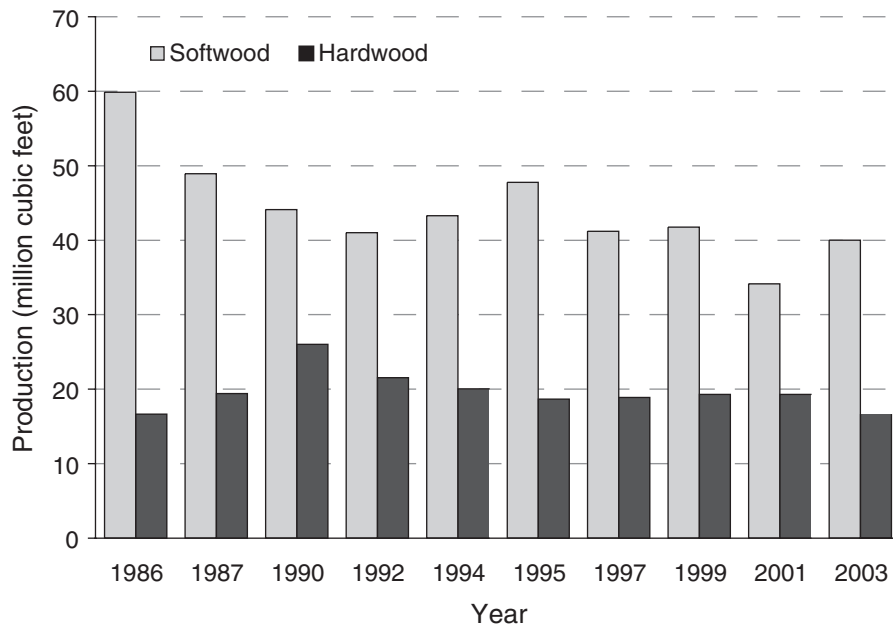


Figure 8—Roundwood veneer-log production by species group and year (see page 10 for references for individual years).

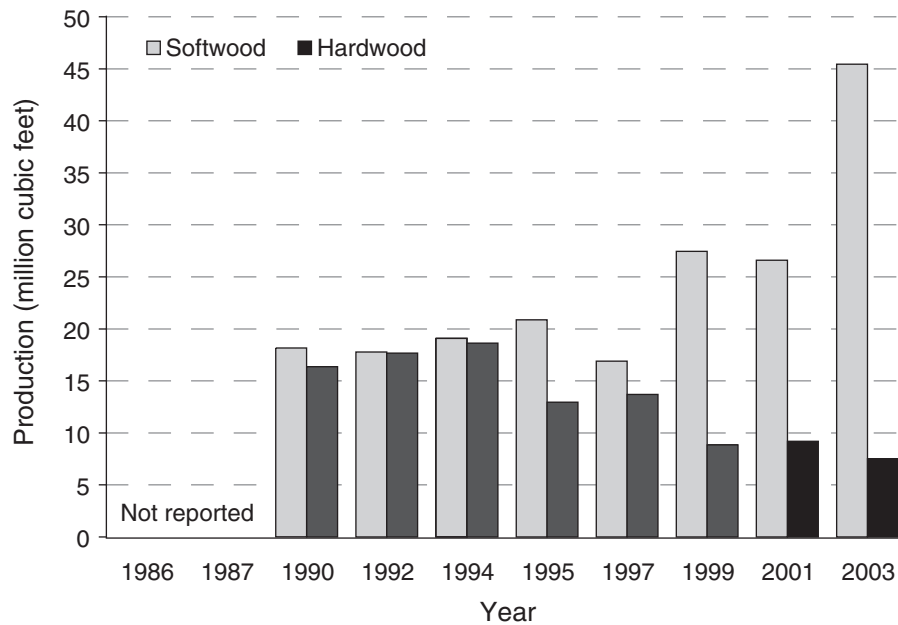


Figure 9—Roundwood composite panel production by species group and year (see page 10 for references for individual years).

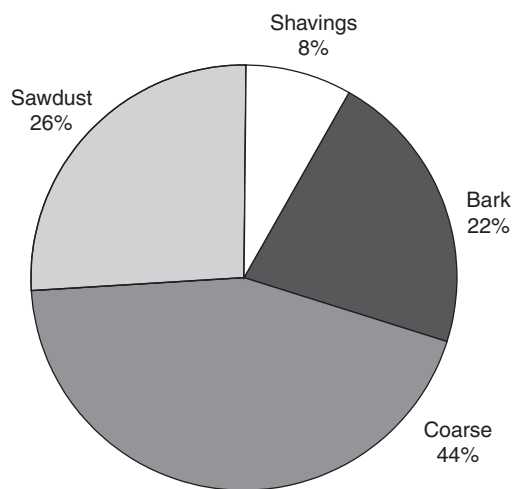
- Seventy percent of the composite panel production was retained for processing by North Carolina mills. Exports amounted to 15.6 million cubic feet, while imports totaled 6.8 million cubic feet, making the State a net exporter of roundwood used for composite panels.

Other Industrial Products

- Roundwood harvested for other industrial uses, e.g., poles, posts, mulch, firewood, logs for log homes, and all other industrial products, totaled 951 thousand cubic feet, down 8 percent from 2001. Softwood made up 98 percent of the other industrial products volume.
- The number of plants producing other industrial products was four in 2003, the same as in 2001. Receipts of other industrial products totaled 887 thousand cubic feet.
- North Carolina was a net exporter of roundwood used for other industrial products; of the 94 thousand cubic feet exported, 77 percent was softwood, whereas 100 percent of imports were softwood.

Plant Byproducts

- In 2003, processing of primary products in North Carolina mills generated 315 million cubic feet of wood and bark residues. Coarse residues from all primary products amounted to 138 million cubic feet, while bark volume totaled 69 million cubic feet. Sawdust and shavings made up 34 percent of total residues, or 108 million cubic feet (fig. 10).



Total 315 million cubic feet

Figure 10—Primary mill residue by residue type, 2003.

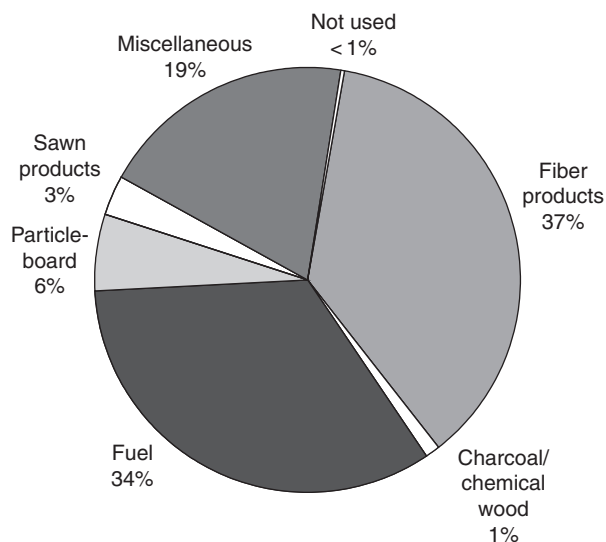
- Less than 1 percent of the wood and bark residues were not used for a product, while 34 percent of the residues were used for industrial fuel (fig. 11). More than 115 million cubic feet, or 83 percent, of the coarse residues were used to manufacture fiber products. More than one-half of the bark was used for industrial fuel or other miscellaneous products, while 75 percent of the sawdust and 5 percent of the shavings were used for industrial fuel. Shavings were used primarily for particleboard manufacture or miscellaneous uses such as bedding.
- The processing of saw logs by sawmills generated 249 million cubic feet of mill residues, or 79 percent of the total residues produced (fig. 12).

Regional Trends

- Output of industrial roundwood products increased in all regions, with the exception of the Southern Coastal Plain region of North Carolina. This region showed a 4-percent decline in product output. The Northern Coastal Plain and Mountain regions had increases of 8 and 5 percent, respectively. The Piedmont region had the smallest increases at 2 percent (fig. 13).

Southern Coastal Plain Region

- Roundwood output from the Southern Coastal Plain region totaled 219 million cubic feet, down 4 percent. Softwood output remained relatively stable at 179 million



Total 315 million cubic feet

Figure 11—Disposal of residue by product, 2003.

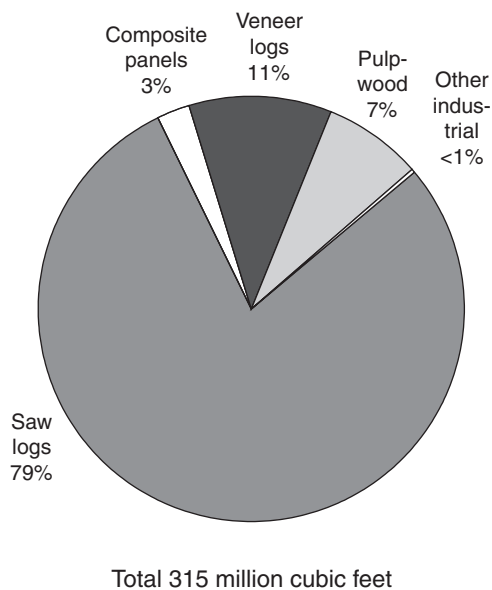


Figure 12—Primary mill residue produced by roundwood type, 2003.

cubic feet, while hardwood output was down 16 percent to 41 million cubic feet.

- Saw-log production of 95 million cubic feet accounted for 43 percent of the total roundwood output for the region. Pulpwood production of 87 million cubic feet accounted for 40 percent of the region's TPO and 32 percent of the State's roundwood pulpwood output.
- In the Southern Coastal Plain region, 31 primary wood-using plants were operating during 2003: 25 sawmills, 4 veneer or plywood mills, 1 pulpmill, and 1 composite panel mill (fig. 14). These mills processed 28 percent of the State's total roundwood output.

Northern Coastal Plain Region

- The Northern Coastal Plain region had an 8-percent increase in roundwood output. Production was up from 232 million cubic feet in 2001 to 249 million cubic feet in 2003.
- Saw-log production of 124 million cubic feet accounted for 50 percent of the region's total roundwood output and 31 percent of the State's total saw-log output. Production of pulpwood was up 11 percent to 100 million cubic feet, but still accounted for 40 percent of the region's total roundwood output and 37 percent of the State's total roundwood pulpwood output.

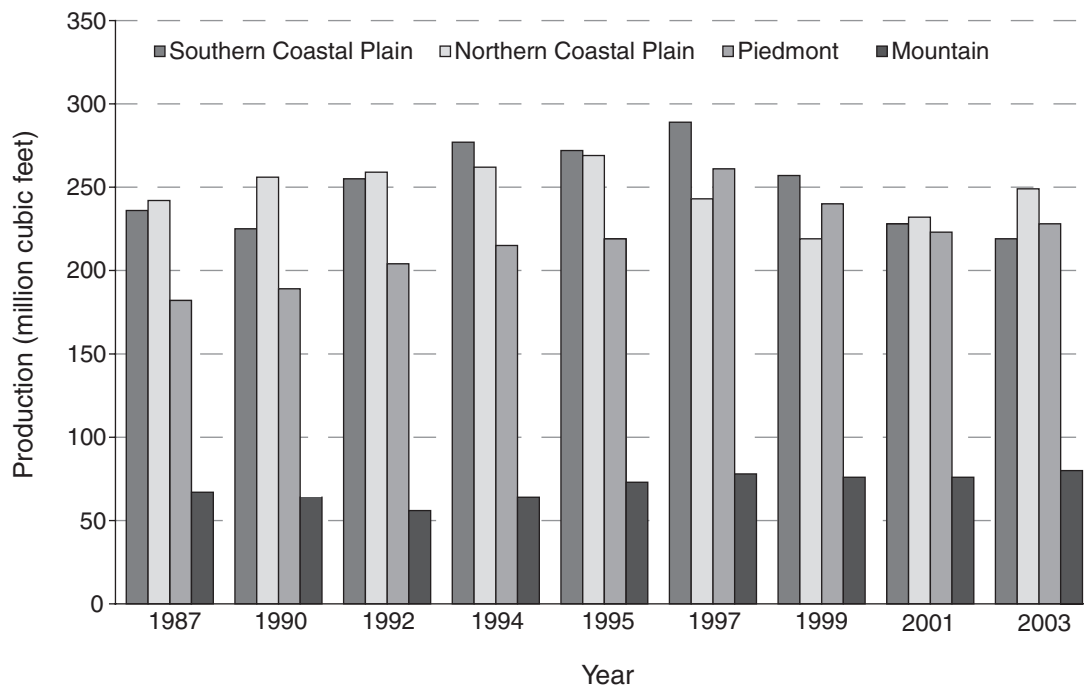


Figure 13—Roundwood production for all products by survey region and year (see page 10 for references for individual years).

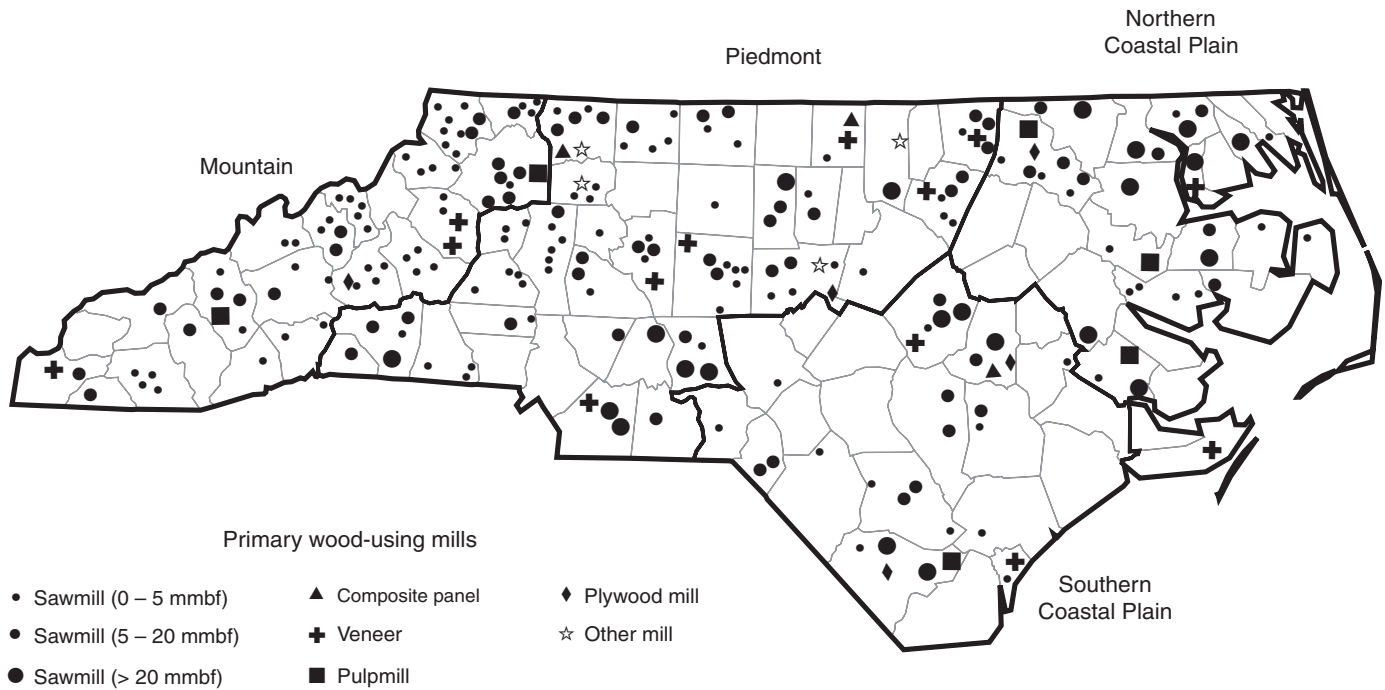


Figure 14—Primary wood-using mills by region, 2003.

- The 36 mills operating in the Northern Coastal Plain region in 2003 included 30 sawmills, 3 veneer or plywood mills, and 3 pulpmills. These mills processed 32 percent of the State's total roundwood output.

Piedmont Region

- Roundwood output from the Piedmont region of North Carolina totaled 228 million cubic feet, an increase of 2 percent. Roundwood production from this region accounted for 29 percent of the total roundwood TPO for the State.
- Saw-log production of 127 million cubic feet accounted for 56 percent of the region's total roundwood output. Pulpwood production increased by 18 percent to 59 million cubic feet, accounting for 26 percent of the region's total TPO.
- The 100 primary wood-using plants operating in the Piedmont region included 87 sawmills, 7 veneer or plywood mills, 2 composite panel mills, and 4 other miscellaneous mills.

Mountain Region

- Roundwood output from the Mountain region totaled 80 million cubic feet, a 5-percent increase from 2001.
- Saw-log production increased 4 percent to 52 million cubic feet and accounted for 66 percent of the region's total roundwood output. Pulpwood production was up 2 million cubic feet to 22 million cubic feet and accounted for 27 percent of the region's total TPO.
- In the Mountain region, 68 primary wood-using plants were operating during 2003: 62 sawmills, 4 veneer or plywood mills, and 2 pulpmills.

Total Roundwood Output

- Using the most recent inventory data for North Carolina, product output by source, ownership, and detailed species group was estimated.

Source

- In addition to the 776 million cubic feet of industrial roundwood output, an estimated 82 million cubic feet

was harvested for domestic fuelwood, bringing North Carolina's total roundwood output to 859 million cubic feet.

- Ninety-seven percent of total roundwood output was considered growing-stock volume (sawtimber and poletimber) from timberland sources. Other sources (such as saplings; stumps, tops, and limbs of trees on timberland; and trees on nonforestland) contributed an estimated 28 million cubic feet, or 3 percent of total roundwood output (fig. 15).

Ownership

- An estimated 693 million cubic feet, or 81 percent, of the total roundwood output came from nonindustrial private forestlands. Forest industry lands contributed 148 million cubic feet, or 17 percent of the output. Public lands made up the remaining 2 percent, or 17 million cubic feet (fig. 16).

Species

- The loblolly and shortleaf pine group provided the most volume of any softwood species group; at 427 million cubic feet, it accounted for 79 percent of the total softwood output (fig. 17). Other yellow pine types accounted for another 11 percent of softwood output. The red oak and white oak groups combined accounted for 111 million cubic feet, or 35 percent of total hardwood output (fig. 18).

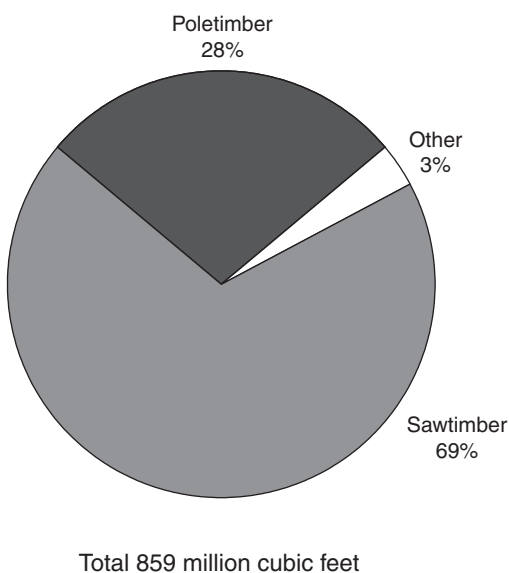


Figure 15—Roundwood output by source, 2003.

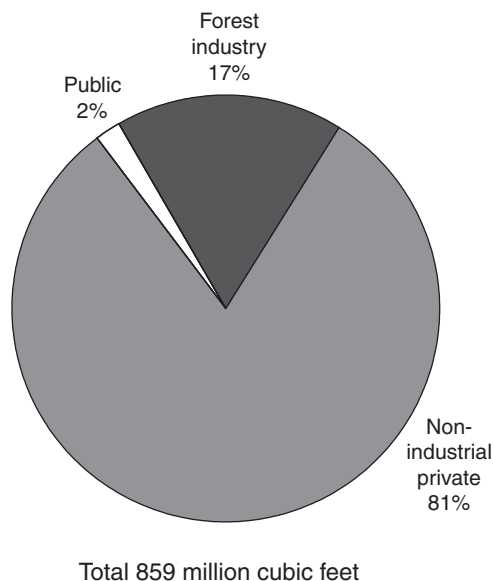


Figure 16—Roundwood output by ownership, 2003.

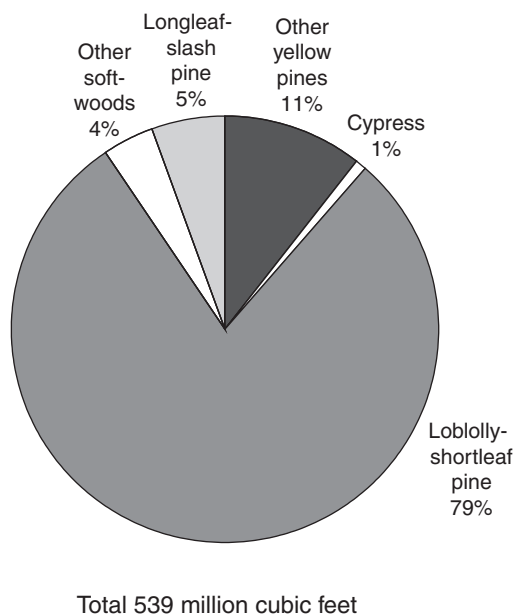


Figure 17—Roundwood output by softwood species group, 2003.

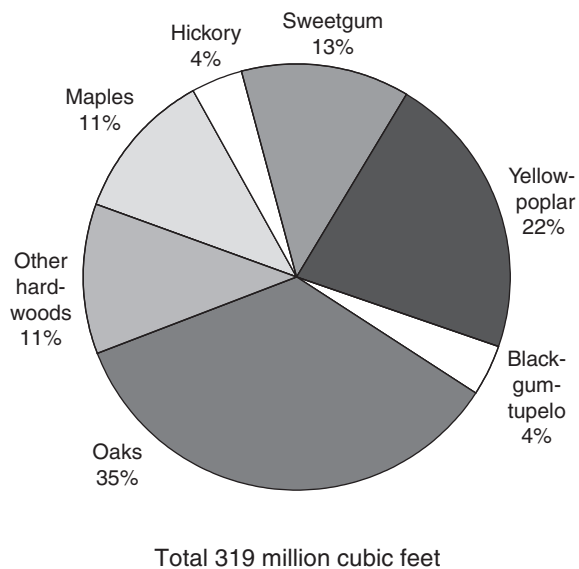


Figure 18—Roundwood output by hardwood species group, 2003.

References

- Davenport, E.L. 1992. Changes in North Carolina's industrial roundwood products output, 1987-1990. Resour. Bull. SE-132. Asheville, NC: U.S. Department of Agriculture Forest Service, Southeastern Forest Experiment Station. 22 p. [1987, 1990].
- Howell, M.; Brown, D.R. 2004. North Carolina's timber industry—an assessment of timber product output and use, 2001. Resour. Bull. SRS-94. Asheville, NC: U.S. Department of Agriculture Forest Service, Southern Research Station. 39 p.
- Hutchins, C.C., Jr. 1983. Changes in output of industrial timber products in North Carolina, 1973-1979. Resour. Bull. SE-70. Asheville, NC: U.S. Department of Agriculture Forest Service, Southeastern Forest Experiment Station. 23 p. [1979].
- Johnson, T.G. 1994. North Carolina's timber industry—an assessment of timber product output and use, 1992. Resour. Bull. SE-146. Asheville, NC: U.S. Department of Agriculture Forest Service, Southeastern Forest Experiment Station. 30 p. [1992].
- Johnson, T.G.; Brown, D.R. 1996. North Carolina's timber industry—an assessment of timber product output and use, 1994. Resour. Bull. SRS-4. Asheville, NC: U.S. Department of Agriculture Forest Service, Southern Research Station. 31 p. [1994].
- Johnson, T.G.; Brown, D.R. 1999. North Carolina's timber industry—an assessment of timber product output and use, 1997. Resour. Bull. SRS-39. Asheville, NC: U.S. Department of Agriculture Forest Service, Southern Research Station, 34 p. [1997].
- Johnson, T.G.; Brown, D.R. 2002. North Carolina's timber industry—an assessment of timber product output and use, 1999. Resour. Bull. SRS-73. Asheville, NC: U.S. Department of Agriculture Forest Service, Southern Research Station. 39 p. [1997].
- Johnson, T.G.; Jenkins, A.; Brown, D.R. 1997. North Carolina's timber industry—an assessment of timber product output and use, 1995. Resour. Bull. SRS-18. Asheville, NC: U.S. Department of Agriculture Forest Service, Southern Research Station. 35 p. [1995].
- Little, E.L., Jr. 1979. Checklist of United States trees (native and naturalized). Agric. Handb. 541. Washington, DC: U.S. Department of Agriculture. 375 p.
- U.S. Department of Agriculture Forest Service. Product drain by county, product, and species. 6 p. Unpublished data. On file with: Southern Research Station, Forest Inventory and Analysis Research Work Unit, 4700 Old Kingston Pike, Knoxville, TN 37919. [1983, 1986].

Glossary

Board foot. A unit of measure applied to lumber that is 1-foot long, 1-foot wide, and 1-inch thick (or its equivalent) and also associated with roundwood as to its potential yield of such products.

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

Composite panels. 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.

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

Exports. The volume of domestic 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 chipboard.

Fuelwood production. The volume of roundwood harvested to produce some form of energy, e.g., heat and 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 >0.50, such as oaks, hard maples, hickories, and beech.

Imports. The volume of domestic 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.

Nonforestland. 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 forestland. Forestland other than timberland and productive reserved forestland. It includes available and reserved forestland 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 forestland. 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 forestland (NIPF). Privately owned land excluding forest industry 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 residue, 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.

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

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.

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 known 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 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 noncommercial 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 nonpulpmills, chipped, and then sold to pulpmills for use as fiber. Includes tops, jump sections, whole trees, and pulpwood sticks.

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

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

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 for FIA standards.

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 1/4-inch rule).

Seedlings. Trees <1.0 inch d.b.h. and >1 foot tall for hardwoods, >6 inches tall for softwoods, and >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 scale like.

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 1/4-inch 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. Forestland capable of producing 20 cubic feet of industrial wood per acre per year and not withdrawn from timber utilization.

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

Timber products. Roundwood products and byproducts.

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).

Metric Equivalents

| |
|---|
| 1 acre = 4,046.86 m ² or 0.404686 ha |
| 1 cubic foot = 0.028317 m ³ |
| 1 inch = 2.54 cm or 0.0254 m |
| Breast height = 1.4 m above the ground |
| 1 square foot = 929.03 cm ² or 0.0929 m ² |
| 1 square foot per basal area = 0.229568 m ² /ha |
| 1 pound = 0.454 kg |
| 1 ton = 0.907 mt |

Conversion Factors^a

| | |
|-----------------------|---|
| Saw logs | |
| Softwood | 0.18018 cubic foot = 1 board foot 5.55 board feet = 1 cubic foot |
| Hardwood | 0.16556 cubic foot = 1 board foot 6.04 board feet = 1 cubic foot |
| Veneer logs | |
| Softwood | 0.17391 cubic foot = 1 board foot 5.75 board feet = 1 cubic foot |
| Hardwood | 0.15873 cubic foot = 1 board foot 6.30 board feet = 1 cubic foot |
| Pulpwood ^b | |
| Softwood | 72.5 cubic feet per cord |
| Hardwood | 76.6 cubic feet per cord |

^a Conversion factors vary with stem size (d.b.h.) and species. The factors shown are for trees of average diameters removed in North Carolina during the most recent survey period.

^b Cubic feet of solid wood per cord.

Species List^a

| Common name | Scientific name ^b | Common name | Scientific name ^b |
|----------------------|--|-----------------------|---|
| Softwoods | | Hardwoods (continued) | |
| Atlantic white-cedar | <i>Chamaecyparis thyoides</i> (L.) B.S.P. | Kentucky coffeetree | <i>Gymnocladus dioica</i> (L.) K. Koch |
| Southern redcedar | <i>Juniperus silicicola</i> (Small) Bailey | American holly | <i>Ilex opaca</i> Ait. |
| Eastern redcedar | <i>J. virginiana</i> L. | Black walnut | <i>Juglans nigra</i> L. |
| Shortleaf pine | <i>Pinus echinata</i> Mill. | Sweetgum | <i>Liquidambar styraciflua</i> L. |
| Longleaf pine | <i>P. palustris</i> Mill. | Yellow-poplar | <i>Liriodendron tulipifera</i> L. |
| Table Mt. pine | <i>P. pungens</i> Lamb. | Cucumbertree | <i>Magnolia acuminata</i> L. |
| Pitch pine | <i>P. rigida</i> Mill. | Southern magnolia | <i>M. grandiflora</i> L. |
| Pond pine | <i>P. serotina</i> Michx. | Bigleaf magnolia | <i>M. macrophylla</i> Michx. |
| Eastern white pine | <i>P. strobus</i> L. | Sweetbay | <i>M. virginiana</i> L. |
| Loblolly pine | <i>P. taeda</i> L. | Apple | <i>Malus</i> spp. Mill. |
| Virginia pine | <i>P. virginiana</i> Mill. | Chinaberry | <i>Melia azedarach</i> L. |
| Baldcypress | <i>Taxodium distichum</i> (L.) Rich. | White mulberry | <i>Morus alba</i> L. |
| Eastern hemlock | <i>Tsuga canadensis</i> (L.) Carr. | Red mulberry | <i>M. rubra</i> L. |
| Hardwoods | | Water tupelo | <i>Nyssa aquatica</i> L. |
| Florida maple | <i>Acer barbatum</i> Michx. | Blackgum | <i>N. sylvatica</i> Marsh. |
| Boxelder | <i>A. negundo</i> L. | Swamp tupelo | <i>N. sylvatica</i> var. <i>biflora</i> (Walt.) Sarg. |
| Red maple | <i>A. rubrum</i> L. | Eastern hophornbeam | <i>Ostrya virginiana</i> (Mill.) K. Koch |
| Silver maple | <i>A. saccharinum</i> L. | Sourwood | <i>Oxydendrum arboreum</i> (L.) DC. |
| Sugar maple | <i>A. saccharum</i> Marsh. | Redbay | <i>Persea borbonia</i> (L.) Spreng. |
| Buckeye | <i>Aesculus</i> spp. L. | American sycamore | <i>Platanus occidentalis</i> L. |
| Yellow buckeye | <i>A. octandra</i> Marsh. | Cottonwood | <i>Populus</i> spp. L. |
| Ailanthus | <i>Ailanthus altissima</i> (Mill.) Swingle | Black cherry | <i>Prunus serotina</i> Ehrh. |
| Serviceberry | <i>Amelanchier</i> spp. Medic. | White oak | <i>Quercus alba</i> L. |
| River birch | <i>Betula nigra</i> L. | Scarlet oak | <i>Q. coccinea</i> Muenchh. |
| American hornbeam | <i>Carpinus caroliniana</i> Walt. | Southern red oak | <i>Q. falcata</i> Michx. |
| Hickory | <i>Carya</i> spp. Nutt. | Cherrybark oak | <i>Q. falcata</i> var. <i>pagodifolia</i> Ell. |
| Water hickory | <i>C. aquatica</i> (Michx. f.) Nutt. | Bluejack oak | <i>Q. incana</i> Bartr. |
| Bitternut hickory | <i>C. cordiformis</i> (Wangenh.) K. Koch | Turkey oak | <i>Q. laevis</i> Walt. |
| Pignut hickory | <i>C. glabra</i> (Mill.) Sweet | Laurel oak | <i>Q. laurifolia</i> Michx. |
| Pecan | <i>C. illinoensis</i> (Wangenh.) K. Koch | Overcup oak | <i>Q. lyrata</i> Walt. |
| Shellbark hickory | <i>C. laciniosa</i> (Michx. f.) Loud. | Swamp chestnut oak | <i>Q. michauxii</i> Nutt. |
| Shagbark hickory | <i>C. ovata</i> (Mill.) K. Koch | Chinkapin oak | <i>Q. muehlenbergii</i> Engelm. |
| Mockernut hickory | <i>C. tomentosa</i> (Poir.) Nutt. | Water oak | <i>Q. nigra</i> L. |
| Allegheny chinkapin | <i>Castanea pumila</i> Mill. | Pin oak | <i>Q. palustris</i> Muenchh. |
| Chinkapin | <i>Castanopsis</i> (D. Don) Spach | Willow oak | <i>Q. phellos</i> L. |
| Catalpa | <i>Catalpa</i> spp. Scop. | Chestnut oak | <i>Q. prinus</i> L. |
| Sugarberry | <i>Celtis laevigata</i> Willd. | Northern red oak | <i>Q. rubra</i> L. |
| Hackberry | <i>C. occidentalis</i> L. | Shumard oak | <i>Q. shumardii</i> Buckl. |
| Eastern redbud | <i>Cercis canadensis</i> L. | Post oak | <i>Q. stellata</i> Wangenh. |
| Flowering dogwood | <i>Cornus florida</i> L. | Black oak | <i>Q. velutina</i> Lam. |
| Hawthorn | <i>Crataegus</i> spp. L. | Live oak | <i>Q. virginiana</i> Mill. |
| Common persimmon | <i>Diospyros virginiana</i> L. | Black locust | <i>Robinia pseudoacacia</i> L. |
| American beech | <i>Fagus grandifolia</i> Ehrh. | Willow | <i>Salix</i> spp. L. |
| White ash | <i>Fraxinus americana</i> L. | Sassafras | <i>Sassafras albidum</i> (Nutt.) Nees |
| Carolina ash | <i>F. caroliniana</i> Mill. | American basswood | <i>Tilia americana</i> L. |
| Green ash | <i>F. pennsylvanica</i> Marsh. | White basswood | <i>T. heterophylla</i> Vent. |
| Pumpkin ash | <i>F. profunda</i> (Bush) Bush | Winged elm | <i>Ulmus alata</i> Michx. |
| Waterlocust | <i>Gleditsia aquatica</i> Marsh. | American elm | <i>U. americana</i> L. |
| Honeylocust | <i>G. triacanthos</i> L. | Slippery elm | <i>U. rubra</i> Muhl. |
| | | Rock elm | <i>U. thomasii</i> Sarg. |

^a Scientific and common names of tree species > 1.0 inch in d.b.h. occurring in the FIA sample.

^b Nomenclature (Little 1979).

Appendix

Index of Tables

Table A.1—Output of industrial products by product and species group, North Carolina, 2001 and 2003

Table A.2—Roundwood receipts by product and species group, North Carolina, 2001 and 2003

Table A.3—Number of primary wood-using plants by industry, North Carolina, 1986 to 2003

Table A.4—Roundwood receipts by sawmill size, North Carolina, 2001 and 2003

Table A.5—Roundwood receipts by species and type of mill, North Carolina, 2003

Table A.6—Industrial roundwood movement by year and species group, North Carolina, 2001 and 2003

Table A.7—Industrial roundwood movement by product and species group, North Carolina, 2003

Table A.8—Saw-log volume by destination, source, and species group, North Carolina, 2003

Table A.9—Veneer volume by destination, source, and species group, North Carolina, 2003

Table A.10—Pulpwood volume by destination, source, and species group, North Carolina, 2003

Table A.11—Composite panel volume by destination, source, and species group, North Carolina, 2003

Table A.12—Other industrial volume by destination, source, and species group, North Carolina, 2003

Table A.13—Primary mill residue volume by roundwood type, species group, and residue type, North Carolina, 2003

Table A.14—Disposal of residue at primary wood-using plants by product, species group, and type of residue, North Carolina, 2001 and 2003

Table A.15—Roundwood timber product output by product and species group, Southern Coastal Plain region of North Carolina, 2001 and 2003

Table A.16—Roundwood timber product output by county, product, and species group, Southern Coastal Plain region of North Carolina, 2003

Table A.17—Roundwood timber product output by product and species group, Northern Coastal Plain region of North Carolina, 2001 and 2003

Table A.18—Roundwood timber product output by county, product, and species group, Northern Coastal Plain region of North Carolina, 2003

Table A.19—Roundwood timber product output by product and species group, Piedmont region of North Carolina, 2001 and 2003

Table A.20—Roundwood timber product output by county, product, and species group, Piedmont region of North Carolina, 2003

Table A.21—Roundwood timber product output by product and species group, Mountain region of North Carolina, 2001 and 2003

Table A.22—Roundwood timber product output by county, product, and species group, Mountain region of North Carolina, 2003

Table A.23—Total roundwood output by product, species group, and source of material, North Carolina, 2003

Table A.24—Total roundwood output by species group, survey region, and ownership class, North Carolina, 2003

Table A.25—Total roundwood output by species group, detailed species group, and product, North Carolina, 2003

Table A.26—Total roundwood output by species group, detailed species group, and ownership class, North Carolina, 2003

Table A.1—Output of industrial products by product and species group, North Carolina, 2001 and 2003

| Product and species group | Year | | Change | Change |
|---------------------------|---------------------------------|-----------|---------|---------|
| | 2001 | 2003 | | |
| | ----- thousand cubic feet ----- | | | percent |
| Saw logs | | | | |
| Softwood | 308,668 | 285,904 | -22,764 | -7.4 |
| Hardwood | 116,581 | 112,758 | -3,823 | -3.3 |
| Total | 425,249 | 398,662 | -26,587 | -6.3 |
| Veneer logs | | | | |
| Softwood | 34,117 | 39,980 | 5,863 | 17.2 |
| Hardwood | 19,302 | 16,574 | -2,728 | -14.1 |
| Total | 53,419 | 56,554 | 3,135 | 5.9 |
| Pulpwood ^a | | | | |
| Softwood | 141,903 | 158,359 | 16,456 | 11.6 |
| Hardwood | 101,098 | 108,554 | 7,456 | 7.4 |
| Total | 243,001 | 266,913 | 23,912 | 9.8 |
| Composite panels | | | | |
| Softwood | 26,610 | 45,444 | 18,834 | 70.8 |
| Hardwood | 9,184 | 7,519 | -1,665 | -18.1 |
| Total | 35,794 | 52,963 | 17,169 | 48.0 |
| Other industrial | | | | |
| Softwood | 1,015 | 929 | -86 | -8.5 |
| Hardwood | 22 | 22 | 0 | — |
| Total | 1,037 | 951 | -86 | -8.3 |
| All industrial | | | | |
| Softwood | 512,313 | 530,616 | 18,303 | 3.6 |
| Hardwood | 246,187 | 245,427 | -760 | -0.3 |
| Total | 758,500 | 776,043 | 17,543 | 2.3 |
| Byproduct output | | | | |
| Softwood | 215,722 | 213,304 | -2,418 | -1.1 |
| Hardwood | 97,757 | 100,645 | 2,888 | 3.0 |
| Total | 313,479 | 313,949 | 470 | 0.1 |
| Total output | | | | |
| Softwood | 728,035 | 743,920 | 15,885 | 2.2 |
| Hardwood | 343,944 | 346,072 | 2,128 | 0.6 |
| Total | 1,071,979 | 1,089,992 | 18,013 | 1.7 |

— = negligible.

^a Includes roundwood delivered to nonpulp mills, then chipped and sold to pulp mills (7,746,000 cubic feet in 2001 and 11,934,000 cubic feet in 2003).

Table A.2—Roundwood receipts by product and species group, North Carolina, 2001 and 2003

| Product and species group | Year | | Change | Change |
|---------------------------|---------------------------------|---------|---------|---------|
| | 2001 | 2003 | | |
| | ----- thousand cubic feet ----- | | | percent |
| Saw logs | | | | |
| Softwood | 306,583 | 297,099 | -9,484 | -3.1 |
| Hardwood | 123,161 | 117,449 | -5,712 | -4.6 |
| Total | 429,744 | 414,548 | -15,196 | -3.5 |
| Veneer logs | | | | |
| Softwood | 32,079 | 36,142 | 4,063 | 12.7 |
| Hardwood | 24,688 | 21,589 | -3,099 | -12.6 |
| Total | 56,767 | 57,731 | 964 | 1.7 |
| Pulpwood ^a | | | | |
| Softwood | 122,656 | 150,273 | 27,617 | 22.5 |
| Hardwood | 68,824 | 74,750 | 5,926 | 8.6 |
| Total | 191,480 | 225,023 | 33,543 | 17.5 |
| Composite panels | | | | |
| Softwood | 30,387 | 38,383 | 7,996 | 26.3 |
| Hardwood | 12,335 | 5,721 | -6,614 | -53.6 |
| Total | 42,722 | 44,104 | 1,382 | 3.2 |
| Other industrial | | | | |
| Softwood | 893 | 887 | -6 | -0.7 |
| Hardwood | 0 | 0 | 0 | — |
| Total | 893 | 887 | -6 | -0.7 |
| Total output | | | | |
| Softwood | 492,598 | 522,784 | 30,186 | 6.1 |
| Hardwood | 229,008 | 219,509 | -9,499 | -4.1 |
| Total | 721,606 | 742,293 | 20,687 | 2.9 |

— = negligible.

^a Includes roundwood delivered to nonpulp mills, then chipped and sold to pulp mills (9,132,000 cubic feet in 2001 and 15,150,000 cubic feet in 2003).

Table A.3—Number of primary wood-using plants by industry, North Carolina, 1986 to 2003

| Industry | Year | | | | | | | | | |
|-----------------------|------|------|------|------|------|------|------|------|------|------|
| | 1986 | 1987 | 1990 | 1992 | 1994 | 1995 | 1997 | 1999 | 2001 | 2003 |
| Sawmills | 336 | 362 | 308 | 306 | 275 | 273 | 243 | 240 | 215 | 204 |
| Veneer mills | 32 | 31 | 32 | 29 | 27 | 27 | 23 | 24 | 20 | 18 |
| Pulpmills | 8 | 8 | 8 | 8 | 8 | 8 | 7 | 7 | 7 | 6 |
| Composite panel mills | 4 | 4 | 5 | 4 | 4 | 4 | 3 | 3 | 3 | 3 |
| Other mills | 15 | 17 | 13 | 10 | 8 | 8 | 4 | 4 | 4 | 4 |
| All plants | 395 | 422 | 366 | 357 | 322 | 320 | 280 | 278 | 249 | 235 |

Table A.4—Roundwood receipts by sawmill size, North Carolina, 2001 and 2003

| Sawmill size class ^a | 2001 | | | 2003 | | |
|------------------------------------|---------------|------------|----------------|---------------|------------|----------------|
| | Mills | Volume | | Mills | Volume | |
| <i>mmbf</i> | <i>number</i> | <i>mbf</i> | <i>percent</i> | <i>number</i> | <i>mbf</i> | <i>percent</i> |
| < 1.0 | 60 | 19,496 | 1 | 58 | 18,958 | 1 |
| 1.0 – 4.99 | 65 | 159,215 | 6 | 59 | 150,977 | 6 |
| 5.0 – 9.99 | 34 | 233,464 | 10 | 27 | 180,071 | 8 |
| 10.0 – 49.99 | 44 | 854,144 | 35 | 48 | 860,631 | 36 |
| > 50 | 12 | 1,179,243 | 48 | 12 | 1,147,792 | 49 |
| Total | 215 | 2,445,562 | 100 | 204 | 2,358,429 | 100 |

^a Based on volume received as opposed to actual capacity.

Table A.5—Roundwood receipts by species and type of mill, North Carolina, 2003

| Species | Type of mill | | | | | | |
|---------------------|--------------|----------|--------------|--------|----------------|------------------------|-------------|
| | All mills | Sawmills | Veneer mills | | OSB and panels | Pulpmills ^a | Other mills |
| | | | Pine | Other | | | |
| | | | plywood | veneer | | | |
| thousand cubic feet | | | | | | | |
| Softwood | | | | | | | |
| Yellow pine | 350,744 | 276,723 | 35,754 | 238 | 37,142 | NA | 887 |
| Eastern white pine | 19,901 | 18,527 | 114 | 19 | 1,241 | NA | 0 |
| Cedar | 29 | 25 | 0 | 4 | 0 | NA | 0 |
| Cypress | 1,557 | 1,548 | 0 | 9 | 0 | NA | 0 |
| Other softwood | 280 | 276 | 0 | 4 | 0 | NA | 0 |
| Unclassified | 150,273 | 0 | 0 | 0 | 0 | 150,273 | 0 |
| Total softwoods | 522,784 | 297,099 | 35,868 | 274 | 38,383 | 150,273 | 887 |
| Hardwood | | | | | | | |
| Blackgum and tupelo | 4,632 | 3,168 | 550 | 349 | 565 | NA | 0 |
| Soft maple | 7,029 | 5,457 | 343 | 13 | 1,216 | NA | 0 |
| Sweetgum | 18,793 | 9,872 | 5,692 | 1,794 | 1,435 | NA | 0 |
| Yellow-poplar | 51,238 | 37,806 | 5,548 | 5,706 | 2,178 | NA | 0 |
| Other soft hardwood | 1,871 | 1,062 | 482 | 0 | 327 | NA | 0 |
| Hickory | 3,612 | 3,608 | 0 | 4 | 0 | NA | 0 |
| Red oak | 28,862 | 28,528 | 73 | 261 | 0 | NA | 0 |
| White oak | 21,731 | 21,549 | 0 | 182 | 0 | NA | 0 |
| Other hard hardwood | 6,991 | 6,399 | 0 | 592 | 0 | NA | 0 |
| Unclassified | 74,750 | 0 | 0 | 0 | 0 | 74,750 | 0 |
| Total hardwoods | 219,509 | 117,449 | 12,688 | 8,901 | 5,721 | 74,750 | 0 |
| All species | 742,293 | 414,548 | 48,556 | 9,175 | 44,104 | 225,023 | 887 |

NA = not applicable. OSB = oriented strand board.

^a Collected only by softwood and hardwood and includes roundwood chipped.

**Table A.6—Industrial roundwood movement by year and species group,
North Carolina, 2001 and 2003**

| Year | Production | Exported to other States | Retained | Imported from other States | Receipts |
|----------------------------|------------|-----------------------------|----------|-------------------------------|----------|
| <i>thousand cubic feet</i> | | | | | |
| Softwood | | | | | |
| 2001 | 512,313 | 81,718 | 430,595 | 62,003 | 492,598 |
| 2003 | 530,616 | 78,827 | 451,789 | 70,995 | 522,784 |
| Hardwood | | | | | |
| 2001 | 246,187 | 51,514 | 194,673 | 34,335 | 229,008 |
| 2003 | 245,427 | 60,651 | 184,776 | 34,733 | 219,509 |
| All species | | | | | |
| 2001 | 758,500 | 133,232 | 625,268 | 96,338 | 721,606 |
| 2003 | 776,043 | 139,478 | 636,565 | 105,728 | 742,293 |

Table A.7—Industrial roundwood movement by product and species group, North Carolina, 2003

| Product and species group | Production | Exported to other States | Retained | Imported from other States | Receipts |
|----------------------------|------------|--------------------------|----------|----------------------------|----------|
| <i>thousand cubic feet</i> | | | | | |
| Saw logs | | | | | |
| Softwood | 285,904 | 17,967 | 267,937 | 29,162 | 297,099 |
| Hardwood | 112,758 | 6,317 | 106,441 | 11,008 | 117,449 |
| Total | 398,662 | 24,284 | 374,378 | 40,170 | 414,548 |
| Veneer logs | | | | | |
| Softwood | 39,980 | 8,085 | 31,895 | 4,247 | 36,142 |
| Hardwood | 16,574 | 2,140 | 14,434 | 7,155 | 21,589 |
| Total | 56,554 | 10,225 | 46,329 | 11,402 | 57,731 |
| Pulpwood ^a | | | | | |
| Softwood | 158,359 | 40,438 | 117,921 | 32,352 | 150,273 |
| Hardwood | 108,554 | 48,810 | 59,744 | 15,006 | 74,750 |
| Total | 266,913 | 89,248 | 177,665 | 47,358 | 225,023 |
| Composite panels | | | | | |
| Softwood | 45,444 | 12,265 | 33,179 | 5,204 | 38,383 |
| Hardwood | 7,519 | 3,362 | 4,157 | 1,564 | 5,721 |
| Total | 52,963 | 15,627 | 37,336 | 6,768 | 44,104 |
| Other industrial | | | | | |
| Softwood | 929 | 72 | 857 | 30 | 887 |
| Hardwood | 22 | 22 | 0 | 0 | 0 |
| Total | 951 | 94 | 857 | 30 | 887 |
| All products | | | | | |
| Softwood | 530,616 | 78,827 | 451,789 | 70,995 | 522,784 |
| Hardwood | 245,427 | 60,651 | 184,776 | 34,733 | 219,509 |
| Total | 776,043 | 139,478 | 636,565 | 105,728 | 742,293 |

^a Includes roundwood delivered to nonpulpmills, then chipped and sold to pulpmills.

Table A.8—Saw-log volume by destination, source, and species group, North Carolina, 2003

| Destination and source | All species | Species group | |
|----------------------------|----------------|---------------|----------|
| | | Softwood | Hardwood |
| <i>thousand cubic feet</i> | | | |
| North Carolina (retained) | 374,378 | 267,937 | 106,441 |
| Exports to | | | |
| Georgia | 532 | 443 | 89 |
| South Carolina | 7,019 | 6,325 | 694 |
| Tennessee | 1,965 | 978 | 987 |
| Virginia | 14,768 | 10,221 | 4,547 |
| Total | 24,284 | 17,967 | 6,317 |
| Imports from | | | |
| Florida | 37 | 37 | 0 |
| Georgia | 1,436 | 118 | 1,318 |
| South Carolina | 17,683 | 13,302 | 4,381 |
| Tennessee | 1,053 | 137 | 916 |
| Virginia | 19,961 | 15,568 | 4,393 |
| Total | 40,170 | 29,162 | 11,008 |

Table A.9—Veneer volume by destination, source, and species group, North Carolina, 2003

| Destination and source | All species | Species group | |
|----------------------------|----------------|---------------|----------|
| | | Softwood | Hardwood |
| <i>thousand cubic feet</i> | | | |
| North Carolina (retained) | 46,329 | 31,895 | 14,434 |
| Exports to | | | |
| Georgia | 391 | 344 | 47 |
| South Carolina | 1,672 | 1,533 | 139 |
| Virginia | 8,162 | 6,208 | 1,954 |
| Total | 10,225 | 8,085 | 2,140 |
| Imports from | | | |
| Georgia | 117 | 0 | 117 |
| Indiana | 122 | 0 | 122 |
| Kentucky | 1,043 | 0 | 1,043 |
| Maryland | 11 | 0 | 11 |
| New York | 125 | 0 | 125 |
| Pennsylvania | 667 | 5 | 662 |
| South Carolina | 5,494 | 4,237 | 1,257 |
| Tennessee | 147 | 0 | 147 |
| Virginia | 3,660 | 0 | 3,660 |
| Washington | 5 | 5 | 0 |
| West Virginia | 11 | 0 | 11 |
| Total | 11,402 | 4,247 | 7,155 |

Table A.10—Pulpwood volume by destination, source, and species group, North Carolina, 2003^a

| Destination and source | All species | Species group | |
|----------------------------|----------------|---------------|----------|
| | | Softwood | Hardwood |
| <i>thousand cubic feet</i> | | | |
| North Carolina (retained) | 177,665 | 117,921 | 59,744 |
| Exports to | | | |
| Georgia | 165 | 17 | 148 |
| Louisiana | 7 | 0 | 7 |
| South Carolina | 56,039 | 32,340 | 23,699 |
| Tennessee | 7,397 | 2,359 | 5,038 |
| Virginia | 25,640 | 5,722 | 19,918 |
| Total | 89,248 | 40,438 | 48,810 |
| Imports from | | | |
| Alabama | 1,107 | 0 | 1,107 |
| Georgia | 1,421 | 382 | 1,039 |
| South Carolina | 27,151 | 21,757 | 5,394 |
| Tennessee | 5,131 | 0 | 5,131 |
| Virginia | 12,537 | 10,213 | 2,324 |
| West Virginia | 11 | 0 | 11 |
| Total | 47,358 | 32,352 | 15,006 |

^a Includes roundwood delivered to nonpulpmills, then chipped and sold to pulpmills.

Table A.12—Other industrial volume by destination, source, and species group, North Carolina, 2003^a

| Destination and source | All species | Species group | |
|----------------------------|----------------|---------------|----------|
| | | Softwood | Hardwood |
| <i>thousand cubic feet</i> | | | |
| North Carolina (retained) | 857 | 857 | 0 |
| Exports to | | | |
| South Carolina | 28 | 28 | 0 |
| Virginia | 66 | 44 | 22 |
| Total | 94 | 72 | 22 |
| Imports from | | | |
| Virginia | 30 | 30 | 0 |
| Total | 30 | 30 | 0 |

^a Includes poles, posts, mulch, firewood, log homes, charcoal, and all other industrial mills.

Table A.11—Composite panel volume by destination, source, and species group, North Carolina, 2003

| Destination and source | All species | Species group | |
|----------------------------|----------------|---------------|----------|
| | | Softwood | Hardwood |
| <i>thousand cubic feet</i> | | | |
| North Carolina (retained) | 37,336 | 33,179 | 4,157 |
| Exports to | | | |
| Virginia | 15,439 | 12,247 | 3,192 |
| West Virginia | 188 | 18 | 170 |
| Total | 15,627 | 12,265 | 3,362 |
| Imports from | | | |
| Virginia | 6,768 | 5,204 | 1,564 |
| Total | 6,768 | 5,204 | 1,564 |

Table A.13—Primary mill residue volume by roundwood type, species group, and residue type, North Carolina, 2003

| Roundwood type and species group | All types | Residue type | | | |
|-------------------------------------|--------------|---------------------|---------|---------|----------|
| | | Bark | Coarse | Sawdust | Shavings |
| | | thousand cubic feet | | | |
| Saw logs | | | | | |
| Softwood | 179,099 | 19,943 | 81,777 | 52,809 | 24,570 |
| Hardwood | 69,527 | 12,177 | 33,167 | 23,536 | 647 |
| Total | 248,626 | 32,120 | 114,944 | 76,345 | 25,217 |
| Veneer logs | | | | | |
| Softwood | 13,103 | 2,510 | 6,434 | 4,159 | 0 |
| Hardwood | 21,259 | 2,340 | 16,985 | 1,934 | 0 |
| Total | 34,362 | 4,850 | 23,419 | 6,093 | 0 |
| Pulpwood | | | | | |
| Softwood | 14,227 | 14,227 | 0 | 0 | 0 |
| Hardwood | 9,120 | 9,120 | 0 | 0 | 0 |
| Total | 23,347 | 23,347 | 0 | 0 | 0 |
| Composite panels | | | | | |
| Softwood | 6,391 | 6,391 | 0 | 0 | 0 |
| Hardwood | 1,288 | 1,288 | 0 | 0 | 0 |
| Total | 7,679 | 7,679 | 0 | 0 | 0 |
| Other industrial ^a | | | | | |
| Softwood | 703 | 589 | 114 | 0 | 0 |
| Hardwood | 0 | 0 | 0 | 0 | 0 |
| Total | 703 | 589 | 114 | 0 | 0 |
| Total | | | | | |
| Softwood | 213,523 | 43,660 | 88,325 | 56,968 | 24,570 |
| Hardwood | 101,194 | 24,925 | 50,152 | 25,470 | 647 |
| Total | 314,717 | 68,585 | 138,477 | 82,438 | 25,217 |

^a Includes poles, pilings, posts, and all other industrial products.

Table A.14—Disposal of residue at primary wood-using plants by product, species group, and type of residue, North Carolina, 2001 and 2003

| Product and species group | All types | | Bark | | Coarse | | Sawdust | | Shavings | |
|------------------------------|-----------|---------|--------|--------|---------|---------|---------|--------|----------|--------|
| | 2001 | 2003 | 2001 | 2003 | 2001 | 2003 | 2001 | 2003 | 2001 | 2003 |
| <i>thousand cubic feet</i> | | | | | | | | | | |
| Fiber products | | | | | | | | | | |
| Softwood | 87,769 | 83,705 | 0 | 0 | 81,654 | 83,599 | 3,737 | 106 | 2,378 | 0 |
| Hardwood | 36,054 | 31,812 | 194 | 194 | 35,619 | 31,561 | 241 | 57 | 0 | 0 |
| Total | 123,823 | 115,517 | 194 | 194 | 117,273 | 115,160 | 3,978 | 163 | 2,378 | 0 |
| Particleboard | | | | | | | | | | |
| Softwood | 17,619 | 13,357 | 3 | 3 | 1,081 | 3,148 | 7,334 | 3,145 | 9,201 | 7,061 |
| Hardwood | 3,944 | 4,764 | 150 | 143 | 3,089 | 3,873 | 563 | 574 | 142 | 174 |
| Total | 21,563 | 18,121 | 153 | 146 | 4,170 | 7,021 | 7,897 | 3,719 | 9,343 | 7,235 |
| Charcoal/ chemical wood | | | | | | | | | | |
| Softwood | 0 | 3,178 | 0 | 0 | 0 | 0 | 0 | 3,178 | 0 | 0 |
| Hardwood | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 0 | 3,178 | 0 | 0 | 0 | 0 | 0 | 3,178 | 0 | 0 |
| Sawn products | | | | | | | | | | |
| Softwood | 2,409 | 5 | 0 | 1 | 2,409 | 4 | 0 | 0 | 0 | 0 |
| Hardwood | 222 | 9,430 | 0 | 3 | 222 | 9,427 | 0 | 0 | 0 | 0 |
| Total | 2,631 | 9,435 | 0 | 4 | 2,631 | 9,431 | 0 | 0 | 0 | 0 |
| Fuel | | | | | | | | | | |
| Softwood | 71,468 | 67,020 | 22,477 | 24,596 | 475 | 676 | 48,417 | 40,493 | 99 | 1,255 |
| Hardwood | 42,831 | 39,242 | 15,952 | 14,120 | 2,947 | 3,760 | 23,434 | 21,273 | 498 | 89 |
| Total | 114,299 | 106,262 | 38,429 | 38,716 | 3,422 | 4,436 | 71,851 | 61,766 | 597 | 1,344 |
| Miscellaneous | | | | | | | | | | |
| Softwood | 36,457 | 46,039 | 18,070 | 19,012 | 881 | 825 | 4,064 | 9,948 | 13,442 | 16,254 |
| Hardwood | 14,706 | 15,397 | 10,084 | 10,379 | 1,816 | 1,385 | 2,490 | 3,249 | 316 | 384 |
| Total | 51,163 | 61,436 | 28,154 | 29,391 | 2,697 | 2,210 | 6,554 | 13,197 | 13,758 | 16,638 |
| Not used | | | | | | | | | | |
| Softwood | 450 | 219 | 109 | 48 | 147 | 73 | 194 | 98 | 0 | 0 |
| Hardwood | 495 | 549 | 114 | 86 | 215 | 146 | 166 | 317 | 0 | 0 |
| Total | 945 | 768 | 223 | 134 | 362 | 219 | 360 | 415 | 0 | 0 |
| All products | | | | | | | | | | |
| Softwood | 216,172 | 213,523 | 40,659 | 43,660 | 86,647 | 88,325 | 63,746 | 56,968 | 25,120 | 24,570 |
| Hardwood | 98,252 | 101,194 | 26,494 | 24,925 | 43,908 | 50,152 | 26,894 | 25,470 | 956 | 647 |
| Total | 314,424 | 314,717 | 67,153 | 68,585 | 130,555 | 138,477 | 90,640 | 82,438 | 26,076 | 25,217 |

Table A.15—Roundwood timber product output by product and species group, Southern Coastal Plain region of North Carolina, 2001 and 2003

| Product and species group | Year | | Change | Change |
|---------------------------|---------------------------------|---------|---------|---------|
| | 2001 | 2003 | | |
| | ----- thousand cubic feet ----- | | | percent |
| Saw logs | | | | |
| Softwood | 92,943 | 82,899 | -10,044 | -10.8 |
| Hardwood | 14,046 | 11,790 | -2,256 | -16.1 |
| Total | 106,989 | 94,689 | -12,300 | -11.5 |
| Veneer logs | | | | |
| Softwood | 25,407 | 27,672 | 2,265 | 8.9 |
| Hardwood | 5,167 | 1,554 | -3,613 | -69.9 |
| Total | 30,574 | 29,226 | -1,348 | -4.4 |
| Pulpwood ^a | | | | |
| Softwood | 55,733 | 59,970 | 4,237 | 7.6 |
| Hardwood | 27,501 | 26,604 | -897 | -3.3 |
| Total | 83,234 | 86,574 | 3,340 | 4.0 |
| Composite panels | | | | |
| Softwood | 4,458 | 7,490 | 3,032 | 68.0 |
| Hardwood | 2,014 | 1,013 | -1,001 | -49.7 |
| Total | 6,472 | 8,503 | 2,031 | 31.4 |
| Other industrial | | | | |
| Softwood | 315 | 239 | -76 | -24.1 |
| Hardwood | 0 | 0 | 0 | — |
| Total | 315 | 239 | -76 | -24.1 |
| All industrial | | | | |
| Softwood | 178,856 | 178,270 | -586 | -0.3 |
| Hardwood | 48,728 | 40,961 | -7,767 | -15.9 |
| Total | 227,584 | 219,231 | -8,353 | -3.7 |

— = negligible.

^a Includes roundwood delivered to nonpulp mills, then chipped and sold to pulp mills (1,576,000 cubic feet in 2001 and 4,452,000 cubic feet in 2003).

Table A.16—Roundwood timber product output by county, product, and species group, Southern Coastal Plain region of North Carolina, 2003

| County | All products | | Saw logs | | Veneer logs | | Pulpwood ^a | | Composite panels | | Other industrial | |
|----------------------------|--------------|-----------|-----------|-----------|-------------|-----------|-----------------------|-----------|------------------|-----------|------------------|-----------|
| | Soft-wood | Hard-wood | Soft-wood | Hard-wood | Soft-wood | Hard-wood | Soft-wood | Hard-wood | Soft-wood | Hard-wood | Soft-wood | Hard-wood |
| <i>thousand cubic feet</i> | | | | | | | | | | | | |
| Bladen | 20,144 | 5,257 | 9,189 | 1,093 | 2,421 | 83 | 8,534 | 4,081 | 0 | 0 | 0 | 0 |
| Brunswick | 20,298 | 3,471 | 8,022 | 153 | 3,228 | 122 | 9,048 | 3,196 | 0 | 0 | 0 | 0 |
| Columbus | 18,543 | 5,970 | 9,139 | 1,174 | 2,421 | 106 | 6,983 | 4,690 | 0 | 0 | 0 | 0 |
| Cumberland | 3,083 | 1,082 | 1,195 | 127 | 322 | 11 | 1,566 | 944 | 0 | 0 | 0 | 0 |
| Duplin | 7,846 | 2,358 | 1,970 | 511 | 1,946 | 288 | 2,646 | 1,320 | 1,284 | 239 | 0 | 0 |
| Greene | 2,940 | 370 | 1,324 | 156 | 973 | 26 | 322 | 129 | 321 | 59 | 0 | 0 |
| Harnett | 6,608 | 655 | 3,903 | 160 | 1,946 | 17 | 759 | 478 | 0 | 0 | 0 | 0 |
| Hoke | 2,836 | 622 | 738 | 324 | 322 | 0 | 1,753 | 298 | 0 | 0 | 23 | 0 |
| Johnston | 4,748 | 1,368 | 2,645 | 500 | 973 | 274 | 488 | 475 | 642 | 119 | 0 | 0 |
| Jones | 8,647 | 497 | 4,462 | 197 | 973 | 18 | 3,212 | 282 | 0 | 0 | 0 | 0 |
| Lee | 7,030 | 1,129 | 4,371 | 865 | 1,946 | 17 | 605 | 247 | 0 | 0 | 108 | 0 |
| Lenoir | 7,379 | 447 | 3,046 | 234 | 1,946 | 18 | 2,066 | 136 | 321 | 59 | 0 | 0 |
| Moore | 10,897 | 3,146 | 6,331 | 2,277 | 0 | 0 | 2,425 | 869 | 2,033 | 0 | 108 | 0 |
| New Hanover | 561 | 50 | 85 | 0 | 161 | 15 | 315 | 35 | 0 | 0 | 0 | 0 |
| Onslow | 10,649 | 1,022 | 5,012 | 141 | 973 | 71 | 4,343 | 751 | 321 | 59 | 0 | 0 |
| Pender | 11,403 | 1,841 | 6,397 | 700 | 807 | 170 | 4,199 | 971 | 0 | 0 | 0 | 0 |
| Richmond | 7,636 | 1,486 | 4,850 | 1,116 | 0 | 0 | 2,786 | 370 | 0 | 0 | 0 | 0 |
| Robeson | 7,749 | 3,183 | 4,103 | 765 | 1,614 | 0 | 2,032 | 2,418 | 0 | 0 | 0 | 0 |
| Sampson | 10,792 | 1,671 | 3,246 | 310 | 2,920 | 71 | 3,342 | 1,051 | 1,284 | 239 | 0 | 0 |
| Scotland | 3,419 | 3,860 | 722 | 316 | 807 | 0 | 1,890 | 3,544 | 0 | 0 | 0 | 0 |
| Wayne | 5,062 | 1,476 | 2,149 | 671 | 973 | 247 | 656 | 319 | 1,284 | 239 | 0 | 0 |
| All counties | 178,270 | 40,961 | 82,899 | 11,790 | 27,672 | 1,554 | 59,970 | 26,604 | 7,490 | 1,013 | 239 | 0 |

^a Includes roundwood delivered to nonpulp mills, then chipped and sold to pulpmills (4,452,000 cubic feet in 2003).

Table A.17—Roundwood timber product output by product and species group, Northern Coastal Plain region of North Carolina, 2001 and 2003

| Product and species group | Year | | Change | Change |
|---------------------------|---------------------------------|---------|--------|---------|
| | 2001 | 2003 | | |
| | ----- thousand cubic feet ----- | | | percent |
| Saw logs | | | | |
| Softwood | 112,410 | 107,063 | -5,347 | -4.8 |
| Hardwood | 16,152 | 17,134 | 982 | 6.1 |
| Total | 128,562 | 124,197 | -4,365 | -3.4 |
| Veneer logs | | | | |
| Softwood | 5,914 | 9,322 | 3,408 | 57.6 |
| Hardwood | 5,790 | 5,761 | -29 | -0.5 |
| Total | 11,704 | 15,083 | 3,379 | 28.9 |
| Pulpwood ^a | | | | |
| Softwood | 56,566 | 64,425 | 7,859 | 13.9 |
| Hardwood | 33,619 | 35,468 | 1,849 | 5.5 |
| Total | 90,185 | 99,893 | 9,708 | 10.8 |
| Composite panels | | | | |
| Softwood | 958 | 7,446 | 6,488 | 677.2 |
| Hardwood | 432 | 2,706 | 2,274 | 526.4 |
| Total | 1,390 | 10,152 | 8,762 | 630.4 |
| Other industrial | | | | |
| Softwood | 0 | 0 | 0 | — |
| Hardwood | 0 | 0 | 0 | — |
| Total | 0 | 0 | 0 | — |
| All industrial | | | | |
| Softwood | 175,848 | 188,256 | 12,408 | 7.1 |
| Hardwood | 55,993 | 61,069 | 5,076 | 9.1 |
| Total | 231,841 | 249,325 | 17,484 | 7.5 |

— = negligible.

^a Includes roundwood delivered to nonpulp mills, then chipped and sold to pulp mills (2,443,000 cubic feet in 2001 and 2,817,000 cubic feet in 2003).

Table A.18—Roundwood timber product output by county, product, and species group, Northern Coastal Plain region of North Carolina, 2003

| County | All products | | Saw logs | | Veneer logs | | Pulpwood ^a | | Composite panels | | Other industrial | |
|----------------------------|--------------|-----------|-----------|-----------|-------------|-----------|-----------------------|-----------|------------------|-----------|------------------|-----------|
| | Soft-wood | Hard-wood | Soft-wood | Hard-wood | Soft-wood | Hard-wood | Soft-wood | Hard-wood | Soft-wood | Hard-wood | Soft-wood | Hard-wood |
| <i>thousand cubic feet</i> | | | | | | | | | | | | |
| Beaufort | 36,601 | 4,080 | 26,432 | 657 | 0 | 540 | 10,169 | 2,883 | 0 | 0 | 0 | 0 |
| Bertie | 16,197 | 11,045 | 7,485 | 1,791 | 778 | 2,016 | 7,060 | 6,897 | 874 | 341 | 0 | 0 |
| Camden | 817 | 930 | 757 | 168 | 0 | 0 | 60 | 762 | 0 | 0 | 0 | 0 |
| Carteret | 3,672 | 209 | 2,682 | 39 | 0 | 0 | 990 | 170 | 0 | 0 | 0 | 0 |
| Chowan | 6,352 | 1,752 | 3,216 | 254 | 0 | 34 | 2,262 | 1,123 | 874 | 341 | 0 | 0 |
| Craven | 21,740 | 1,469 | 15,658 | 49 | 0 | 202 | 6,082 | 1,218 | 0 | 0 | 0 | 0 |
| Currituck | 417 | 682 | 386 | 21 | 0 | 0 | 31 | 661 | 0 | 0 | 0 | 0 |
| Dare | 11 | 127 | 6 | 127 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 |
| Edgecombe | 4,649 | 1,727 | 1,691 | 827 | 718 | 230 | 2,240 | 670 | 0 | 0 | 0 | 0 |
| Gates | 7,242 | 3,734 | 4,334 | 1,424 | 733 | 239 | 1,228 | 1,702 | 947 | 369 | 0 | 0 |
| Halifax | 12,092 | 7,141 | 5,076 | 3,198 | 736 | 820 | 5,333 | 2,754 | 947 | 369 | 0 | 0 |
| Hertford | 7,792 | 3,774 | 3,026 | 1,795 | 838 | 237 | 3,928 | 1,742 | 0 | 0 | 0 | 0 |
| Hyde | 1,440 | 485 | 933 | 264 | 0 | 0 | 507 | 221 | 0 | 0 | 0 | 0 |
| Martin | 11,064 | 2,882 | 6,656 | 943 | 0 | 232 | 4,408 | 1,707 | 0 | 0 | 0 | 0 |
| Nash | 6,386 | 2,984 | 3,433 | 1,505 | 778 | 655 | 2,175 | 824 | 0 | 0 | 0 | 0 |
| Northampton | 8,410 | 5,441 | 3,812 | 1,935 | 848 | 272 | 2,803 | 2,865 | 947 | 369 | 0 | 0 |
| Pamlico | 7,265 | 554 | 3,711 | 61 | 973 | 0 | 2,581 | 493 | 0 | 0 | 0 | 0 |
| Pasquotank | 3,191 | 1,357 | 1,534 | 457 | 0 | 0 | 710 | 531 | 947 | 369 | 0 | 0 |
| Perquimans | 9,620 | 1,727 | 6,065 | 172 | 0 | 0 | 2,608 | 1,186 | 947 | 369 | 0 | 0 |
| Pitt | 6,444 | 2,633 | 3,516 | 476 | 0 | 0 | 2,928 | 2,157 | 0 | 0 | 0 | 0 |
| Tyrrell | 2,538 | 1,743 | 1,850 | 207 | 0 | 13 | 688 | 1,523 | 0 | 0 | 0 | 0 |
| Washington | 8,276 | 3,879 | 2,989 | 570 | 0 | 202 | 5,287 | 3,107 | 0 | 0 | 0 | 0 |
| Wilson | 6,040 | 714 | 1,815 | 194 | 2,920 | 69 | 342 | 272 | 963 | 179 | 0 | 0 |
| All counties | 188,256 | 61,069 | 107,063 | 17,134 | 9,322 | 5,761 | 64,425 | 35,468 | 7,446 | 2,706 | 0 | 0 |

^a Includes roundwood delivered to nonpulp mills, then chipped and sold to pulp mills (2,817,000 cubic feet in 2003).

Table A.19—Roundwood timber product output by product and species group, Piedmont region of North Carolina, 2001 and 2003

| Product and species group | Year | | Change | Change |
|---------------------------|---------------------------------|---------|---------|---------|
| | 2001 | 2003 | | |
| | ----- thousand cubic feet ----- | | | percent |
| Saw logs | | | | |
| Softwood | 84,477 | 74,896 | -9,581 | -11.3 |
| Hardwood | 54,933 | 52,456 | -2,477 | -4.5 |
| Total | 139,410 | 127,352 | -12,058 | -8.6 |
| Veneer logs | | | | |
| Softwood | 2,238 | 2,462 | 224 | 10.0 |
| Hardwood | 5,168 | 6,138 | 970 | 18.8 |
| Total | 7,406 | 8,600 | 1,194 | 16.1 |
| Pulpwood ^a | | | | |
| Softwood | 25,127 | 25,817 | 690 | 2.7 |
| Hardwood | 24,493 | 32,839 | 8,346 | 34.1 |
| Total | 49,620 | 58,656 | 9,036 | 18.2 |
| Composite panels | | | | |
| Softwood | 19,645 | 29,210 | 9,565 | 48.7 |
| Hardwood | 6,464 | 3,467 | -2,997 | -46.4 |
| Total | 26,109 | 32,677 | 6,568 | 25.2 |
| Other industrial | | | | |
| Softwood | 628 | 625 | -3 | -0.5 |
| Hardwood | 22 | 22 | 0 | — |
| Total | 650 | 647 | -3 | -0.5 |
| All industrial | | | | |
| Softwood | 132,115 | 133,010 | 895 | 0.7 |
| Hardwood | 91,080 | 94,922 | 3,842 | 4.2 |
| Total | 223,195 | 227,932 | 4,737 | 2.1 |

— = negligible.

^a Includes roundwood delivered to nonpulp mills, then chipped and sold to pulp mills (3,365,000 cubic feet in 2001 and 4,108,000 cubic feet in 2003).

Table A.20—Roundwood timber product output by county, product, and species group, Piedmont region of North Carolina, 2003

| County | All products | | Saw logs | | Veneer logs | | Pulpwood ^a | | Composite panels | | Other industrial | |
|----------------------------|--------------|-----------|-----------|-----------|-------------|-----------|-----------------------|-----------|------------------|-----------|------------------|-----------|
| | Soft-wood | Hard-wood | Soft-wood | Hard-wood | Soft-wood | Hard-wood | Soft-wood | Hard-wood | Soft-wood | Hard-wood | Soft-wood | Hard-wood |
| <i>thousand cubic feet</i> | | | | | | | | | | | | |
| Alamance | 2,224 | 2,784 | 2,177 | 2,387 | 0 | 213 | 47 | 184 | 0 | 0 | 0 | 0 |
| Alexander | 1,016 | 1,020 | 988 | 729 | 0 | 98 | 9 | 71 | 0 | 122 | 19 | 0 |
| Anson | 12,179 | 2,964 | 5,942 | 1,729 | 506 | 45 | 5,731 | 1,190 | 0 | 0 | 0 | 0 |
| Cabarrus | 2,318 | 550 | 1,945 | 522 | 0 | 0 | 257 | 28 | 116 | 0 | 0 | 0 |
| Caswell | 3,743 | 3,377 | 1,806 | 2,086 | 0 | 190 | 63 | 884 | 1,874 | 217 | 0 | 0 |
| Catawba | 1,155 | 1,046 | 965 | 824 | 0 | 35 | 74 | 146 | 116 | 41 | 0 | 0 |
| Chatham | 9,151 | 4,937 | 6,096 | 2,570 | 150 | 2,115 | 237 | 200 | 2,556 | 52 | 112 | 0 |
| Cleveland | 3,261 | 1,083 | 738 | 483 | 0 | 0 | 1,708 | 559 | 815 | 41 | 0 | 0 |
| Davidson | 2,656 | 3,668 | 1,926 | 3,267 | 0 | 32 | 148 | 287 | 582 | 82 | 0 | 0 |
| Davie | 1,086 | 725 | 821 | 539 | 0 | 9 | 29 | 177 | 232 | 0 | 4 | 0 |
| Durham | 4,314 | 1,119 | 2,561 | 235 | 0 | 95 | 127 | 781 | 1,626 | 8 | 0 | 0 |
| Forsyth | 712 | 1,353 | 558 | 1,020 | 0 | 4 | 19 | 247 | 116 | 82 | 19 | 0 |
| Franklin | 6,051 | 2,496 | 3,514 | 1,583 | 0 | 331 | 911 | 582 | 1,626 | 0 | 0 | 0 |
| Gaston | 1,432 | 308 | 375 | 48 | 521 | 50 | 420 | 210 | 116 | 0 | 0 | 0 |
| Granville | 8,696 | 1,902 | 4,376 | 953 | 16 | 273 | 568 | 393 | 3,557 | 283 | 179 | 0 |
| Guilford | 1,527 | 2,968 | 1,018 | 2,735 | 0 | 4 | 44 | 147 | 465 | 82 | 0 | 0 |
| Iredell | 2,158 | 1,112 | 1,815 | 741 | 0 | 50 | 99 | 239 | 232 | 82 | 12 | 0 |
| Lincoln | 2,036 | 945 | 1,444 | 421 | 0 | 51 | 243 | 432 | 349 | 41 | 0 | 0 |
| Mecklenburg | 1,589 | 3,703 | 895 | 770 | 0 | 45 | 345 | 2,806 | 349 | 82 | 0 | 0 |
| Montgomery | 8,307 | 6,305 | 6,716 | 2,732 | 0 | 13 | 1,591 | 3,560 | 0 | 0 | 0 | 0 |
| Orange | 3,724 | 1,068 | 1,533 | 496 | 0 | 114 | 42 | 160 | 2,149 | 298 | 0 | 0 |
| Person | 5,469 | 1,409 | 1,323 | 828 | 0 | 204 | 97 | 191 | 4,014 | 164 | 35 | 22 |
| Polk | 955 | 829 | 712 | 801 | 0 | 0 | 123 | 28 | 116 | 0 | 4 | 0 |
| Randolph | 1,387 | 5,439 | 1,013 | 4,969 | 0 | 55 | 258 | 415 | 116 | 0 | 0 | 0 |
| Rockingham | 3,866 | 5,466 | 1,930 | 3,165 | 45 | 78 | 727 | 1,773 | 1,164 | 450 | 0 | 0 |
| Rowan | 2,548 | 2,115 | 1,871 | 1,337 | 0 | 9 | 95 | 728 | 582 | 41 | 0 | 0 |
| Rutherford | 5,246 | 7,029 | 2,327 | 1,825 | 0 | 0 | 1,988 | 5,204 | 931 | 0 | 0 | 0 |
| Stanly | 2,986 | 491 | 2,249 | 238 | 0 | 9 | 388 | 244 | 349 | 0 | 0 | 0 |
| Stokes | 1,773 | 4,172 | 1,142 | 3,329 | 0 | 0 | 20 | 434 | 582 | 409 | 29 | 0 |
| Surry | 1,970 | 2,594 | 1,514 | 1,777 | 0 | 0 | 57 | 531 | 349 | 286 | 50 | 0 |
| Union | 5,028 | 3,390 | 1,975 | 456 | 506 | 45 | 2,431 | 2,848 | 116 | 41 | 0 | 0 |
| Vance | 3,168 | 1,607 | 722 | 918 | 0 | 362 | 427 | 220 | 1,965 | 107 | 54 | 0 |
| Wake | 5,336 | 5,556 | 3,531 | 887 | 0 | 174 | 583 | 4,392 | 1,133 | 103 | 89 | 0 |
| Warren | 12,393 | 6,595 | 4,999 | 2,562 | 718 | 1,435 | 5,875 | 2,286 | 801 | 312 | 0 | 0 |
| Yadkin | 1,550 | 2,797 | 1,379 | 2,494 | 0 | 0 | 36 | 262 | 116 | 41 | 19 | 0 |
| All counties | 133,010 | 94,922 | 74,896 | 52,456 | 2,462 | 6,138 | 25,817 | 32,839 | 29,210 | 3,467 | 625 | 22 |

^a Includes roundwood delivered to nonpulp mills, then chipped and sold to pulpmills (4,108,000 cubic feet in 2003).

Table A.21—Roundwood timber product output by product and species group, Mountain region of North Carolina, 2001 and 2003

| Product and species group | Year | | Change | Change |
|---------------------------|---------------------------------|--------|--------|---------|
| | 2001 | 2003 | | |
| | ----- thousand cubic feet ----- | | ----- | percent |
| Saw logs | | | | |
| Softwood | 18,838 | 21,046 | 2,208 | 11.7 |
| Hardwood | 31,450 | 31,378 | -72 | -0.2 |
| Total | 50,288 | 52,424 | 2,136 | 4.2 |
| Veneer logs | | | | |
| Softwood | 558 | 524 | -34 | -6.1 |
| Hardwood | 3,177 | 3,121 | -56 | -1.8 |
| Total | 3,735 | 3,645 | -90 | -2.4 |
| Pulpwood ^a | | | | |
| Softwood | 4,477 | 8,147 | 3,670 | 82.0 |
| Hardwood | 15,485 | 13,643 | -1,842 | -11.9 |
| Total | 19,962 | 21,790 | 1,828 | 9.2 |
| Composite panels | | | | |
| Softwood | 1,549 | 1,298 | -251 | -16.2 |
| Hardwood | 274 | 333 | 59 | 21.5 |
| Total | 1,823 | 1,631 | -192 | -10.5 |
| Other industrial | | | | |
| Softwood | 72 | 65 | -7 | -9.7 |
| Hardwood | 0 | 0 | 0 | — |
| Total | 72 | 65 | -7 | -9.7 |
| All industrial | | | | |
| Softwood | 25,494 | 31,080 | 5,586 | 21.9 |
| Hardwood | 50,386 | 48,475 | -1,911 | -3.8 |
| Total | 75,880 | 79,555 | 3,675 | 4.8 |

— = negligible.

^a Includes roundwood delivered to nonpulp mills, then chipped and sold to pulp mills (362,000 cubic feet in 2001 and 557,000 cubic feet in 2003).

Table A.22—Roundwood timber product output by county, product, and species group, Mountain region of North Carolina, 2003

| County | All products | | Saw logs | | Veneer logs | | Pulpwood ^a | | Composite panels | | Other industrial | |
|----------------------------|--------------|-----------|-----------|-----------|-------------|-----------|-----------------------|-----------|------------------|-----------|------------------|-----------|
| | Soft-wood | Hard-wood | Soft-wood | Hard-wood | Soft-wood | Hard-wood | Soft-wood | Hard-wood | Soft-wood | Hard-wood | Soft-wood | Hard-wood |
| <i>thousand cubic feet</i> | | | | | | | | | | | | |
| Alleghany | 1,067 | 1,200 | 988 | 1,036 | 0 | 45 | 34 | 119 | 0 | 0 | 45 | 0 |
| Ashe | 1,996 | 2,884 | 1,864 | 2,295 | 0 | 56 | 114 | 363 | 18 | 170 | 0 | 0 |
| Avery | 375 | 1,400 | 373 | 1,239 | 0 | 102 | 2 | 59 | 0 | 0 | 0 | 0 |
| Buncombe | 413 | 2,142 | 413 | 1,961 | 0 | 153 | 0 | 28 | 0 | 0 | 0 | 0 |
| Burke | 6,016 | 3,849 | 4,029 | 1,981 | 66 | 127 | 990 | 1,741 | 931 | 0 | 0 | 0 |
| Caldwell | 1,888 | 2,238 | 1,882 | 1,721 | 0 | 172 | 6 | 345 | 0 | 0 | 0 | 0 |
| Cherokee | 4,852 | 1,955 | 605 | 624 | 0 | 80 | 4,247 | 1,251 | 0 | 0 | 0 | 0 |
| Clay | 0 | 247 | 0 | 214 | 0 | 33 | 0 | 0 | 0 | 0 | 0 | 0 |
| Graham | 534 | 3,505 | 173 | 510 | 114 | 392 | 247 | 2,603 | 0 | 0 | 0 | 0 |
| Haywood | 2,571 | 7,275 | 142 | 1,633 | 0 | 147 | 2,429 | 5,495 | 0 | 0 | 0 | 0 |
| Henderson | 1,243 | 851 | 1,241 | 772 | 0 | 51 | 2 | 28 | 0 | 0 | 0 | 0 |
| Jackson | 87 | 1,297 | 87 | 1,144 | 0 | 153 | 0 | 0 | 0 | 0 | 0 | 0 |
| Macon | 300 | 1,191 | 300 | 1,055 | 0 | 136 | 0 | 0 | 0 | 0 | 0 | 0 |
| Madison | 473 | 3,460 | 473 | 2,742 | 0 | 718 | 0 | 0 | 0 | 0 | 0 | 0 |
| McDowell | 1,990 | 1,814 | 1,961 | 1,642 | 0 | 130 | 29 | 42 | 0 | 0 | 0 | 0 |
| Mitchell | 1,184 | 1,879 | 1,180 | 1,594 | 0 | 256 | 4 | 29 | 0 | 0 | 0 | 0 |
| Swain | 382 | 601 | 38 | 601 | 344 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Transylvania | 43 | 36 | 43 | 36 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Watauga | 1,606 | 1,662 | 1,606 | 1,352 | 0 | 0 | 0 | 310 | 0 | 0 | 0 | 0 |
| Wilkes | 2,879 | 5,114 | 2,471 | 3,642 | 0 | 114 | 39 | 1,195 | 349 | 163 | 20 | 0 |
| Yancey | 1,181 | 3,875 | 1,177 | 3,584 | 0 | 256 | 4 | 35 | 0 | 0 | 0 | 0 |
| All counties | 31,080 | 48,475 | 21,046 | 31,378 | 524 | 3,121 | 8,147 | 13,643 | 1,298 | 333 | 65 | 0 |

^a Includes roundwood delivered to nonpulp mills, then chipped and sold to pulpmills (557,000 cubic feet in 2003).

Table A.23—Total roundwood output by product, species group, and source of material, North Carolina, 2003

| Product and species group | All sources | Total | Growing-stock trees | | Other sources |
|---------------------------|-------------|---------|---------------------|------------|---------------|
| | | | Sawtimber | Poletimber | |
| | | | thousand cubic feet | | |
| Saw logs | | | | | |
| Softwood | 285,904 | 281,477 | 274,174 | 7,303 | 4,427 |
| Hardwood | 112,758 | 111,564 | 104,349 | 7,215 | 1,194 |
| Total | 398,662 | 393,041 | 378,523 | 14,518 | 5,621 |
| Veneer logs and bolts | | | | | |
| Softwood | 39,980 | 39,217 | 38,037 | 1,180 | 763 |
| Hardwood | 16,574 | 16,389 | 16,389 | 0 | 185 |
| Total | 56,554 | 55,606 | 54,426 | 1,180 | 948 |
| Pulpwood | | | | | |
| Softwood | 158,359 | 151,413 | 56,198 | 95,215 | 6,946 |
| Hardwood | 108,554 | 106,383 | 34,317 | 72,066 | 2,171 |
| Total | 266,913 | 257,796 | 90,515 | 167,281 | 9,117 |
| Composite panels | | | | | |
| Softwood | 45,444 | 44,763 | 12,202 | 32,561 | 681 |
| Hardwood | 7,519 | 7,208 | 4,083 | 3,125 | 311 |
| Total | 52,963 | 51,970 | 16,285 | 35,686 | 993 |
| Poles and posts | | | | | |
| Softwood | 929 | 690 | 371 | 320 | 239 |
| Hardwood | 0 | 0 | 0 | 0 | 0 |
| Total | 929 | 690 | 371 | 320 | 239 |
| Other miscellaneous | | | | | |
| Softwood | 0 | 0 | 0 | 0 | 0 |
| Hardwood | 22 | 22 | 9 | 13 | 0 |
| Total | 22 | 22 | 9 | 13 | 0 |
| Total industrial products | | | | | |
| Softwood | 530,616 | 517,560 | 380,982 | 136,578 | 13,056 |
| Hardwood | 245,427 | 241,566 | 159,147 | 82,419 | 3,861 |
| Total | 776,043 | 759,126 | 540,128 | 218,997 | 16,917 |
| Fuelwood | | | | | |
| Softwood | 8,790 | 7,786 | 4,527 | 3,259 | 1,004 |
| Hardwood | 73,679 | 63,717 | 46,606 | 17,110 | 9,962 |
| Total | 82,469 | 71,503 | 51,133 | 20,370 | 10,966 |
| All products | | | | | |
| Softwood | 539,406 | 525,346 | 385,509 | 139,838 | 14,060 |
| Hardwood | 319,106 | 305,283 | 205,753 | 99,530 | 13,823 |
| Total | 858,512 | 830,629 | 591,262 | 239,367 | 27,883 |

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

Table A.24—Total roundwood output by species group, survey region, and ownership class, North Carolina, 2003

| Species group and survey region | Total | Ownership class | | |
|------------------------------------|---------|-----------------|--------------------|--------------------------|
| | | Public | Forest industry | Nonindustrial private |
| <i>thousand cubic feet</i> | | | | |
| Softwoods | | | | |
| Southern Coastal Plain | 181,223 | 9,688 | 37,831 | 133,704 |
| Northern Coastal Plain | 191,373 | 663 | 82,653 | 108,057 |
| Piedmont | 135,213 | 1,581 | 6,518 | 127,114 |
| Mountain | 31,597 | 2,781 | 1,204 | 27,612 |
| Total softwoods | 539,406 | 14,712 | 128,206 | 396,488 |
| Hardwoods | | | | |
| Southern Coastal Plain | 53,259 | 881 | 9,455 | 42,923 |
| Northern Coastal Plain | 79,401 | 470 | 8,518 | 70,413 |
| Piedmont | 123,419 | 369 | 1,283 | 121,767 |
| Mountain | 63,027 | 1,013 | 286 | 61,729 |
| Total hardwoods | 319,106 | 2,734 | 19,541 | 296,832 |
| All species | 858,512 | 17,445 | 147,747 | 693,319 |

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

Table A.25—Total roundwood output by species group, detailed species group, and product, North Carolina, 2003

| Species group and detailed species group | Total | Product | | | | | | |
|---|---------|----------|----------------|----------|---------------------|--------------------|------------------------|---------------|
| | | Saw logs | Veneer logs | Pulpwood | Composite panels | Poles and posts | Other miscellaneous | Fuel- wood |
| thousand cubic feet | | | | | | | | |
| Softwood | | | | | | | | |
| Cedar | 2,356 | 1,185 | 190 | 334 | 593 | 15 | 0 | 38 |
| Longleaf-slash pine | 29,476 | 13,104 | 3,699 | 11,622 | 529 | 41 | 0 | 480 |
| White pine | 17,426 | 11,995 | 51 | 4,131 | 907 | 56 | 0 | 286 |
| Loblolly-shortleaf pine | 427,147 | 221,152 | 33,538 | 128,312 | 36,513 | 674 | 0 | 6,958 |
| Other yellow pines | 57,647 | 36,009 | 1,735 | 12,137 | 6,683 | 143 | 0 | 940 |
| Cypress | 4,778 | 1,988 | 767 | 1,726 | 219 | 0 | 0 | 78 |
| Hemlock | 577 | 470 | 0 | 97 | 0 | 0 | 0 | 10 |
| Total softwoods | 539,406 | 285,904 | 39,980 | 158,359 | 45,444 | 929 | 0 | 8,790 |
| Hardwood | | | | | | | | |
| Soft maple | 35,306 | 10,513 | 1,901 | 14,013 | 724 | 0 | 3 | 8,152 |
| Hard maple | 902 | 335 | 12 | 337 | 8 | 0 | 0 | 208 |
| Other birch | 1,332 | 626 | 77 | 294 | 28 | 0 | 0 | 308 |
| Yellow birch | 739 | 266 | 13 | 278 | 10 | 0 | 0 | 171 |
| Hickory | 12,908 | 5,526 | 506 | 3,623 | 272 | 0 | 1 | 2,980 |
| Beech | 3,118 | 1,720 | 183 | 420 | 75 | 0 | 0 | 720 |
| Ash | 5,794 | 2,850 | 151 | 1,351 | 104 | 0 | 0 | 1,338 |
| Black walnut | 625 | 366 | 22 | 76 | 17 | 0 | 0 | 144 |
| Sweetgum | 40,312 | 10,159 | 2,637 | 16,908 | 1,293 | 0 | 7 | 9,308 |
| Yellow-poplar | 68,996 | 26,570 | 3,678 | 21,375 | 1,439 | 0 | 3 | 15,931 |
| Blackgum-tupelo | 12,962 | 2,647 | 804 | 6,294 | 224 | 0 | 0 | 2,993 |
| Sycamore | 702 | 321 | 30 | 171 | 18 | 0 | 0 | 162 |
| Cottonwood | 187 | 67 | 21 | 52 | 4 | 0 | 0 | 43 |
| Black cherry | 1,818 | 633 | 59 | 673 | 33 | 0 | 0 | 420 |
| Select white oaks | 37,364 | 14,512 | 1,909 | 11,249 | 1,063 | 0 | 4 | 8,627 |
| Other white oaks | 12,384 | 5,884 | 444 | 2,898 | 298 | 0 | 2 | 2,860 |
| Select red oaks | 13,627 | 4,966 | 675 | 4,477 | 363 | 0 | 1 | 3,146 |
| Other red oaks | 47,683 | 16,411 | 2,462 | 16,631 | 1,167 | 0 | 1 | 11,010 |
| Basswood | 1,597 | 562 | 61 | 599 | 7 | 0 | 0 | 369 |
| Elm | 2,137 | 818 | 133 | 641 | 52 | 0 | 0 | 493 |
| Other Eastern hardwoods | 18,613 | 7,006 | 797 | 6,195 | 318 | 0 | 0 | 4,297 |
| Total hardwoods | 319,106 | 112,758 | 16,574 | 108,554 | 7,519 | 0 | 22 | 73,679 |
| All species | 858,512 | 398,662 | 56,554 | 266,913 | 52,963 | 929 | 22 | 82,469 |

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

Table A.26—Total roundwood output by species group, detailed species group, and ownership class, North Carolina, 2003

| Species group and detailed species group | Total | Ownership class | | |
|---|---------|---------------------|--------------------|--------------------------|
| | | Public | Forest industry | Nonindustrial private |
| | | thousand cubic feet | | |
| Softwood | | | | |
| Cedar | 2,356 | 71 | 295 | 1,990 |
| Longleaf-slash pine | 29,476 | 1,033 | 10,212 | 18,230 |
| White pine | 17,426 | 2,563 | 1,204 | 13,659 |
| Loblolly-shortleaf pine | 427,147 | 10,068 | 108,851 | 308,227 |
| Other yellow pines | 57,647 | 872 | 6,267 | 50,508 |
| Cypress | 4,778 | 4 | 1,376 | 3,397 |
| Hemlock | 577 | 101 | 0 | 477 |
| Total softwoods | 539,406 | 14,712 | 128,206 | 396,488 |
| Hardwood | | | | |
| Soft maple | 35,306 | 224 | 2,760 | 32,322 |
| Hard maple | 902 | 0 | | 902 |
| Other birch | 1,332 | 45 | 22 | 1,266 |
| Yellow birch | 739 | 6 | 8 | 725 |
| Hickory | 12,908 | 59 | 318 | 12,531 |
| Beech | 3,118 | 19 | 102 | 2,996 |
| Ash | 5,794 | 15 | 239 | 5,540 |
| Black walnut | 625 | 1 | 0 | 625 |
| Sweetgum | 40,312 | 332 | 3,678 | 36,302 |
| Yellow-poplar | 68,996 | 374 | 2,829 | 65,793 |
| Blackgum-tupelo | 12,962 | 45 | 2,337 | 10,580 |
| Sycamore | 702 | 6 | 6 | 691 |
| Cottonwood | 187 | 5 | 3 | 178 |
| Black cherry | 1,818 | 7 | 95 | 1,716 |
| Select white oaks | 37,364 | 388 | 1,421 | 35,555 |
| Other white oaks | 12,384 | 95 | 329 | 11,960 |
| Select red oaks | 13,627 | 242 | 426 | 12,959 |
| Other red oaks | 47,683 | 613 | 3,737 | 43,333 |
| Basswood | 1,597 | 32 | 18 | 1,546 |
| Elm | 2,137 | 11 | 127 | 1,999 |
| Other Eastern hardwoods | 18,613 | 216 | 1,085 | 17,312 |
| Total hardwoods | 319,106 | 2,734 | 19,541 | 296,832 |
| All species | 858,512 | 17,445 | 147,747 | 693,319 |

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



The Forest Service, U.S. Department of Agriculture, is dedicated to the principle of multiple use management of the Nation's forest resources for sustained yields of wood, water, forage, wildlife, and recreation. Through forestry research, cooperation with the States and private forest owners, and management of the National Forests and National Grasslands, it strives—as directed by Congress—to provide increasingly greater service to a growing Nation.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD).

To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, SW, Washington, DC 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

Howell, M.; New, B.D.; Mann, M.C. 2006. North Carolina's timber industry—an assessment of timber product output and use, 2003. Resour. Bull. SRS-112. Asheville, NC: U.S. Department of Agriculture Forest Service, Southern Research Station. 42 p.

In 2003, industrial roundwood output from North Carolina's forests totaled 776 million cubic feet, 2 percent more than in 2001. Mill byproducts generated from primary manufacturers increased four-tenths of 1 percent to 315 million cubic feet. Almost all plant residues were used primarily for fuel and fiber products. Saw logs were the leading roundwood product at 399 million cubic feet; pulpwood ranked second at 267 million cubic feet; veneer logs were third at 57 million cubic feet. The number of primary processing plants declined from 249 in 2001 to 235 in 2003. Total receipts increased 20.7 million cubic feet to 742 million cubic feet.

Keywords: FIA, pulpwood, residues, roundwood, saw logs, veneer logs, wood movement.

United States
Department of Agriculture

Forest Service

**Southern
Research Station**
P.O. Box 2680
200 Weaver Blvd.
Asheville, NC 28802

OFFICIAL BUSINESS
Penalty for Private Use, \$300

