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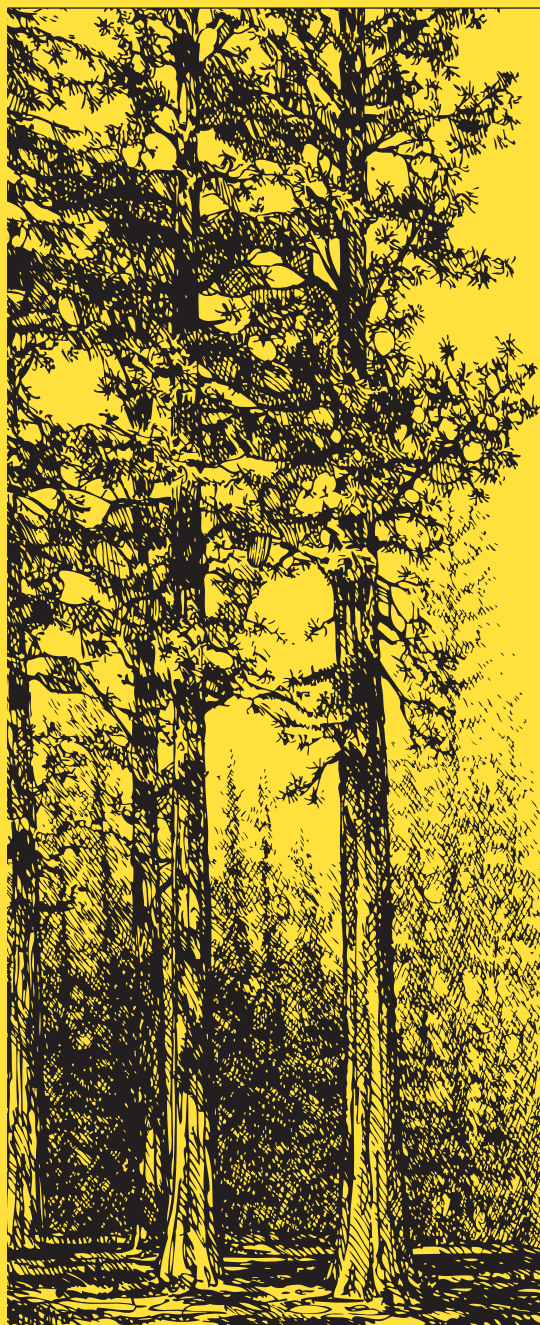


Southern  
Research Station

Resource Bulletin  
SRS-164

# The South's Timber Industry—An Assessment of Timber Product Output and Use, 2007

Tony G. Johnson,  
James W. Bentley,  
and Michael Howell

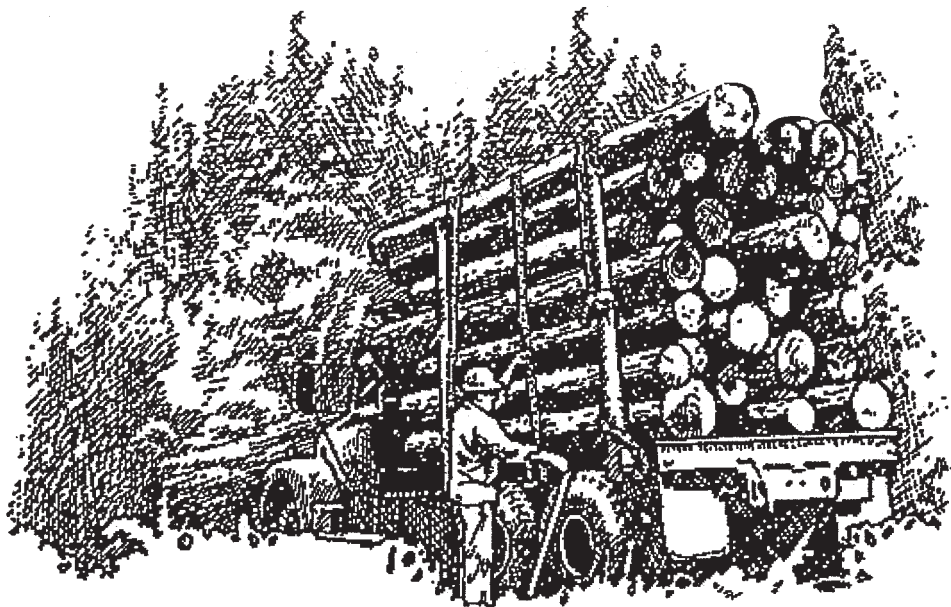


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October 2009

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## Foreword

This report contains the findings of a 2007 canvass of primary wood-using plants in the South, and presents changes in product output and residue use from 2005 to 2007. It complements the Forest Inventory and Analysis periodic inventory of volume and removals from southern timberland. The canvass was conducted to determine the amount and source of wood receipts and annual timber product drain, by county, in 2007 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 canvass of wood processors in the South was conducted in 2008 to obtain information for 2007. In addition, information about roundwood from out-of-region mills known to be using logs or bolts harvested from southern timberland was incorporated into southern production estimates. Each mill was 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.

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 Gene Quick, Sara Baldwin, and Curtis L. VanderSchaaf for review and comments; Carolyn Steppleton for her tireless efforts in processing and ensuring the accuracy of Timber Product Output (TPO) data; Joe McCollum for the maps; Helen Beresford for timber product output database maintenance and support; Anne Jenkins, Janet Griffin, Sharon Johnson, Charlene Walker, and Rhonda M. Mathison for tables, graphs, and statistical checking; and the Southern Research Station (SRS) Technical Publications Team for editorial review, styling, and publication of this report.

The SRS gratefully acknowledges the cooperation and assistance provided by the State forestry commissions 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 Forest Inventory and Analysis (FIA) Research Work Unit of the 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 region and Nation. 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, other timber removals (i.e. land clearing and reserved timber removals), 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/>.

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, State, or region. The system has been logically divided into two sections to assist the user in making specific data requests. In section 1, the user will be 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 options 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.

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<sup>a</sup> 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.

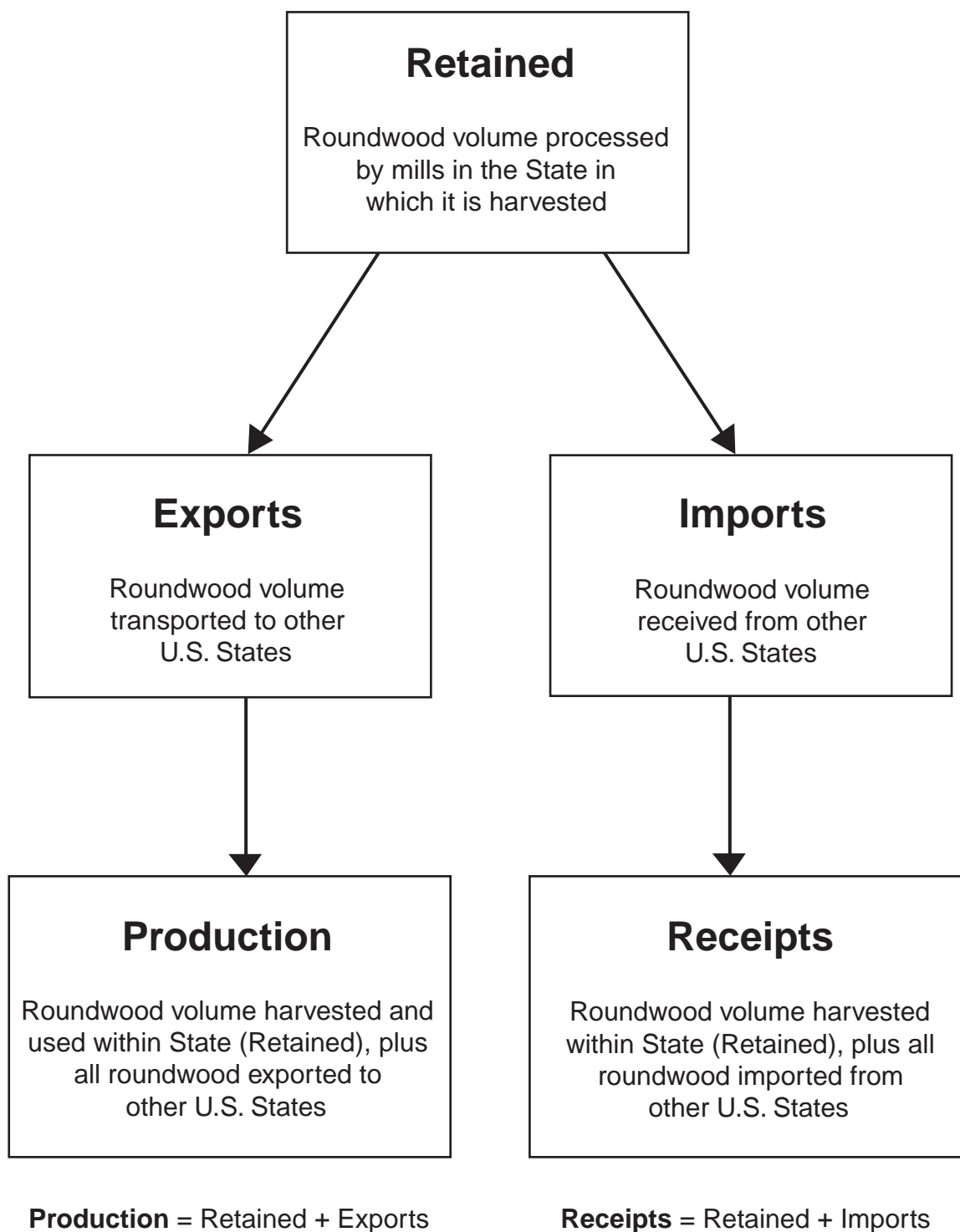


Figure 1—Movement of roundwood exports and imports within the United States.



# The South's Timber Industry—An Assessment of Timber Product Output and Use, 2007

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## Output of Industrial Timber Products

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

### All Products

- Between 2005 and 2007, the South's industrial TPO from roundwood was down 452 million cubic feet, or 5 percent, to 8.22 billion cubic feet, while output of utilized plant byproducts declined 258 million cubic feet, or 8 percent, to 2.93 billion cubic feet.

- Output of softwood roundwood products declined 5 percent, or 302 million cubic feet, to 6.09 billion cubic feet, while output of hardwood roundwood products was down 7 percent, or 150 million cubic feet, to 2.13 billion cubic feet (fig. 2).
- Figures 3 and 4 display softwood and hardwood county-level intensity of roundwood production for all industrial products across the South. The data are depicted in cubic feet produced per acre of timberland area. Counties with the highest production intensity are depicted in the darker shades. For softwoods the darkest shade represents >45 cubic feet of production per acre, while for hardwoods the darkest shade represents >20 cubic feet per acre.

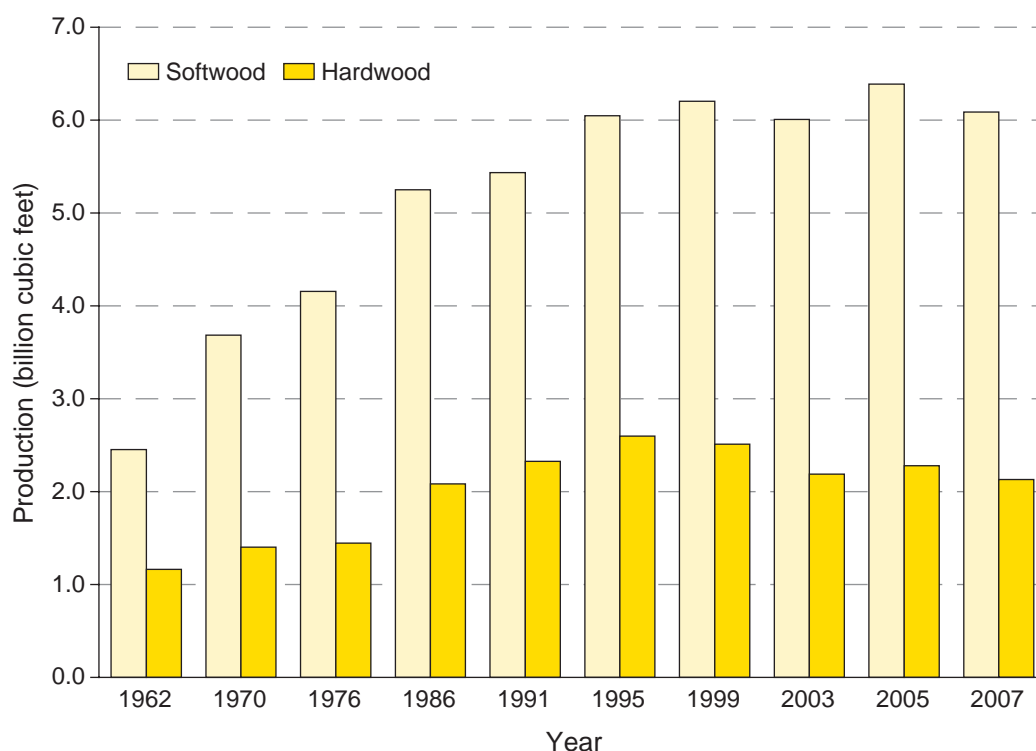


Figure 2—Roundwood production for all products by species group and year (see page 12 for references for individual years), in the South.

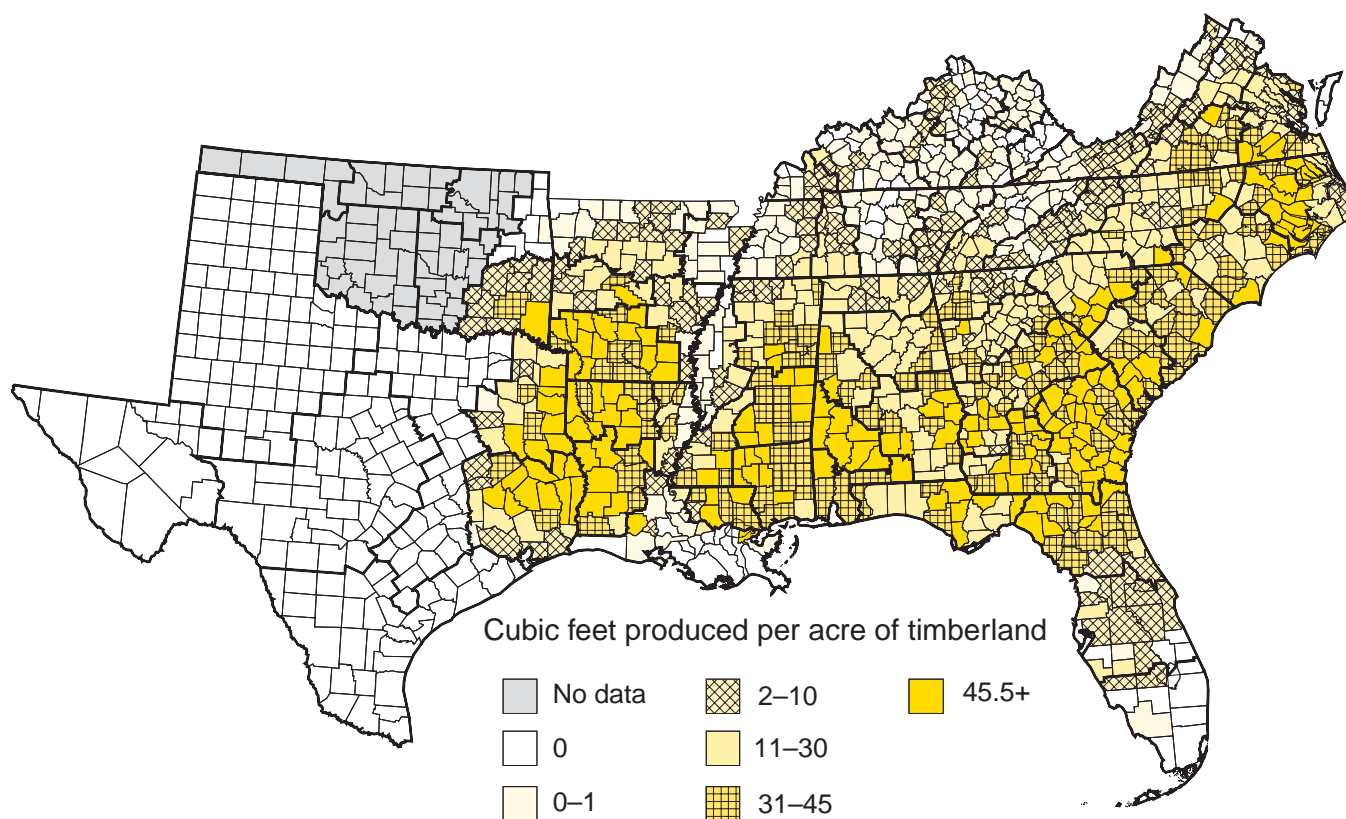


Figure 3—Intensity of roundwood softwood output for all industrial products in the South by county, 2007.

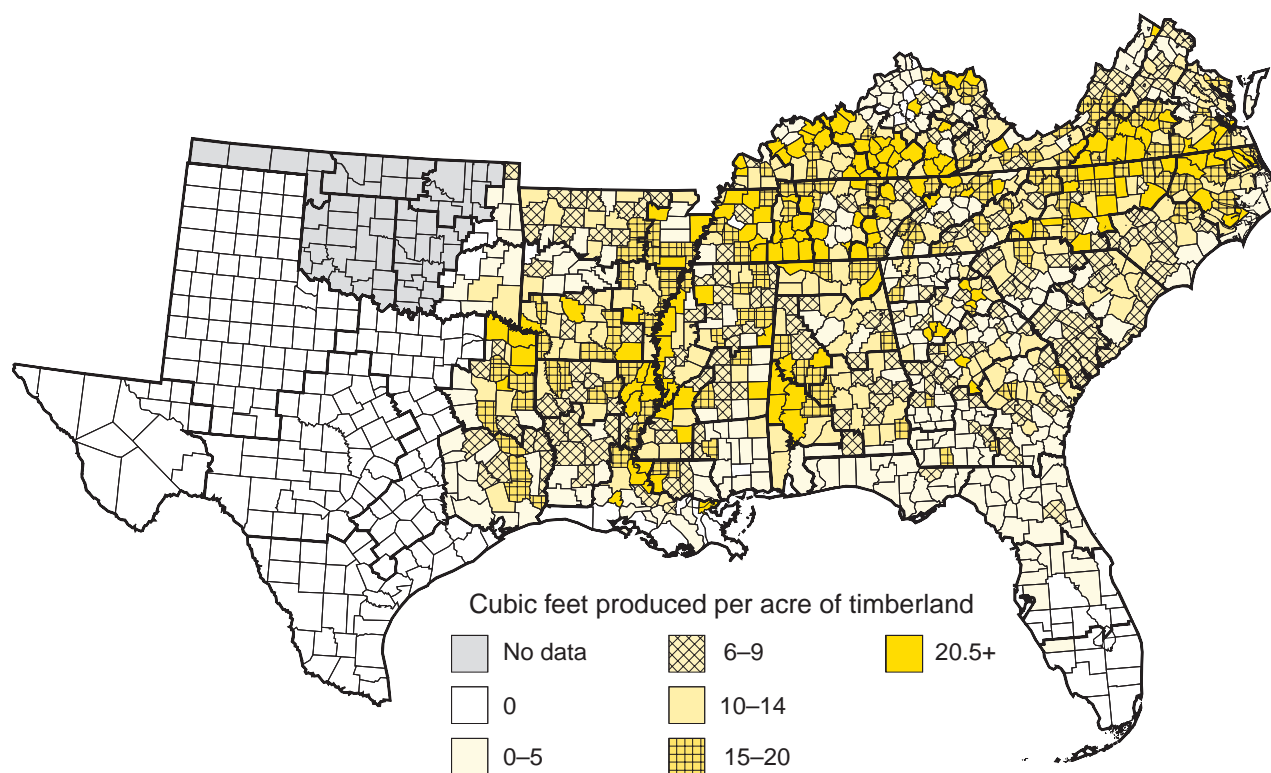


Figure 4—Intensity of roundwood hardwood output for all industrial products in the South by county, 2007.



- Saw logs and pulpwood were the principal roundwood products in 2007. Combined output of these two products totaled 7.0 billion cubic feet and accounted for 85 percent of the South's total industrial roundwood output (fig. 5).
- Total receipts at southern mills, which included roundwood harvested and retained in the South and roundwood imported from other regions, declined 5 percent to 8.26 billion cubic feet. The number of primary roundwood-using plants in the South was down from 2,028 in 2005 to 1,882 in 2007 (fig. 6: see foldout map, page 5).
- Georgia led the 13 Southern States in total roundwood output (which includes domestic fuelwood) with 1.25 billion cubic feet, while Alabama was a close second with 1.12 billion cubic feet. These two States accounted for 28 percent of the South's total production. Mississippi, Louisiana, and North Carolina followed with 908, 834, and 783 million cubic feet, respectively (fig. 7).

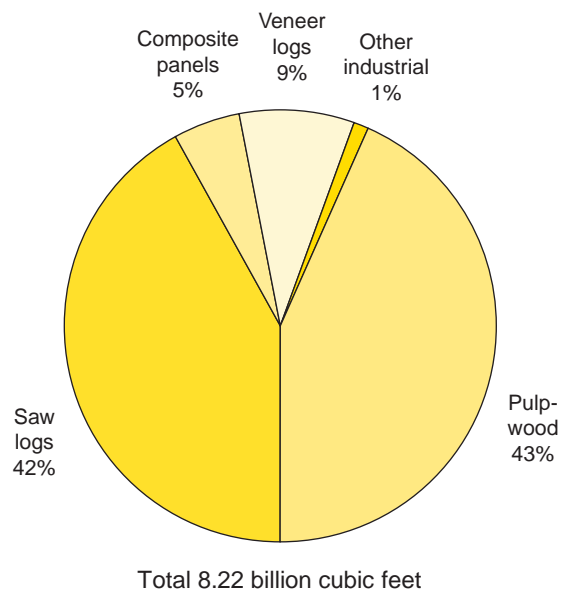


Figure 5—Roundwood production by type of product in the South, 2007.

## Saw Logs

- Total saw-log production declined 11 percent from 3.89 billion cubic feet in 2005 to 3.45 billion cubic feet

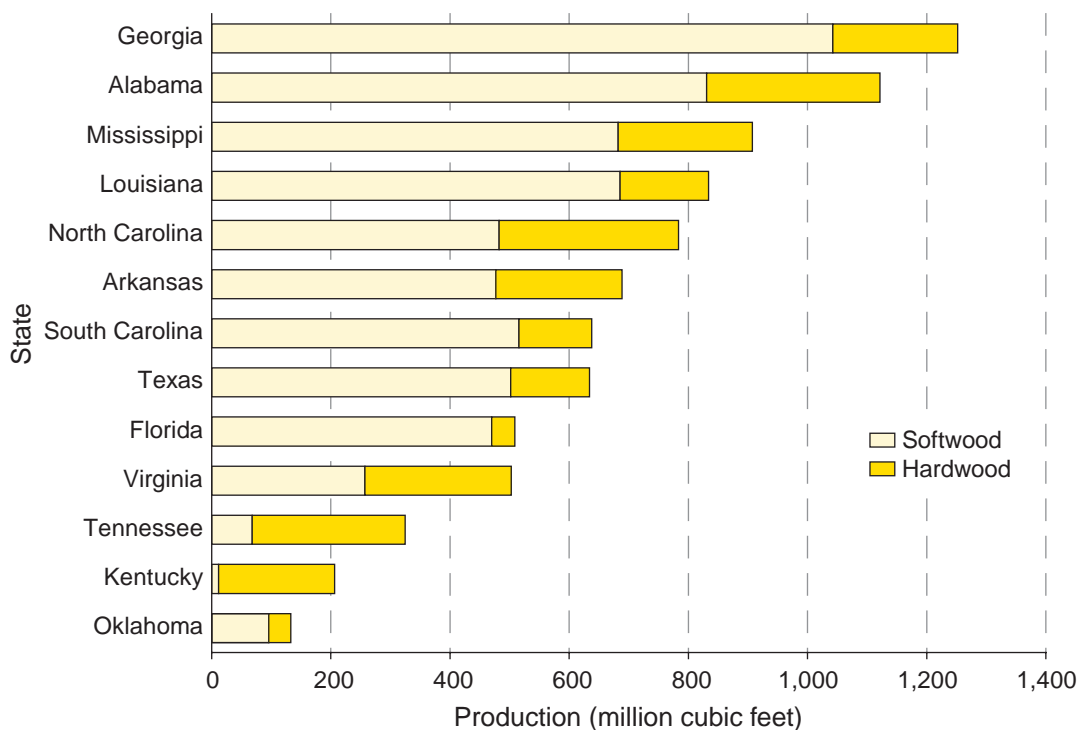


Figure 7—Roundwood production for all products by State and species group in the South, 2007.

(19.5 billion board feet, International ¼-inch rule) in 2007. Saw logs accounted for 42 percent of the South's total roundwood products.

- Output of softwood saw logs declined 13 percent to 2.52 billion cubic feet (13.94 billion board feet, International ¼-inch rule), while output of hardwood saw logs was down 8 percent to 923 million cubic feet (5.56 billion board feet, International ¼-inch rule) (fig. 8).
- In 2007, the South had 1,540 sawmills, a net loss of 129 mills since 2005. The total number of sawmills does not include a number of one-man sawmills in the Southern Region. Of the 1,540 sawmills operating, 429 were classified as softwood sawmills, 1,009 were classified as hardwood sawmills, and the remaining 102 were classified as softwood/hardwood sawmills.
- Total saw-log receipts dropped 474 million cubic feet to 3.45 billion cubic feet. Softwood saw-log receipts declined 14 percent to 2.54 billion cubic feet; hardwood saw-log receipts were down from 996 to 916 million cubic feet. Of the operating mills in 2007, 483, or 31 percent, had receipts of < 1 million board feet, while 362, or 23 percent, had receipts > 10 million board feet and accounted for 85 percent of total saw-log receipts.

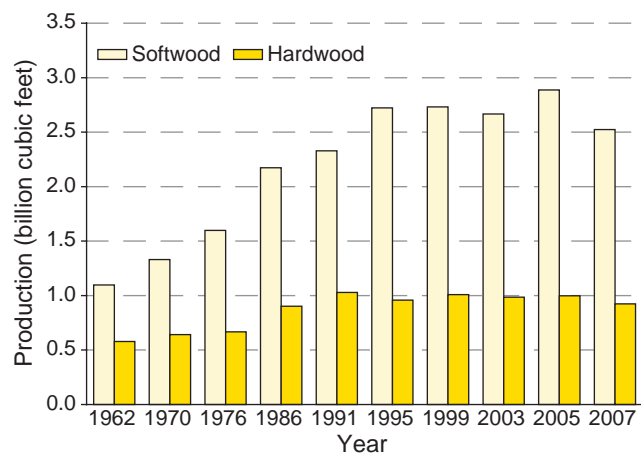


Figure 8—Roundwood saw-log production by species group and year (see page 12 for references for individual years) in the South.

- Alabama led the 13 Southern States in total saw-log production with 413 million cubic feet, while Georgia was second with 412 million cubic feet. Mississippi and Arkansas followed with 379 and 354 million cubic feet, respectively (fig. 9). These four States accounted for 45 percent of the South's saw-log production.

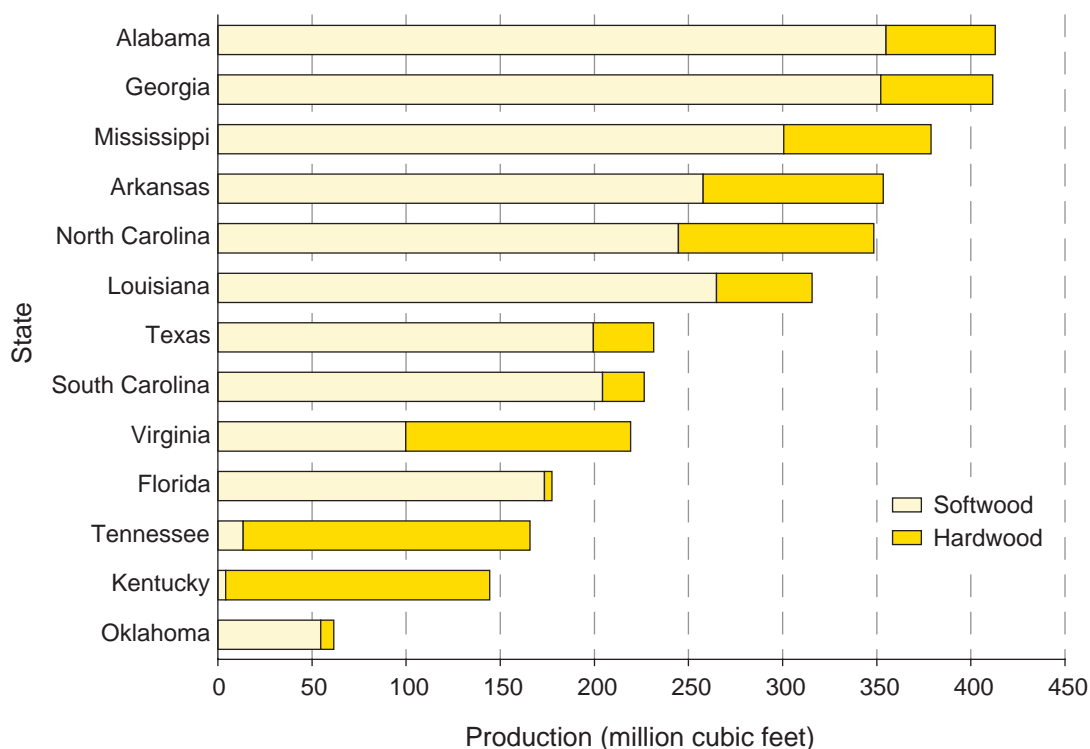


Figure 9—Roundwood saw-log production by State and species group in the South, 2007.

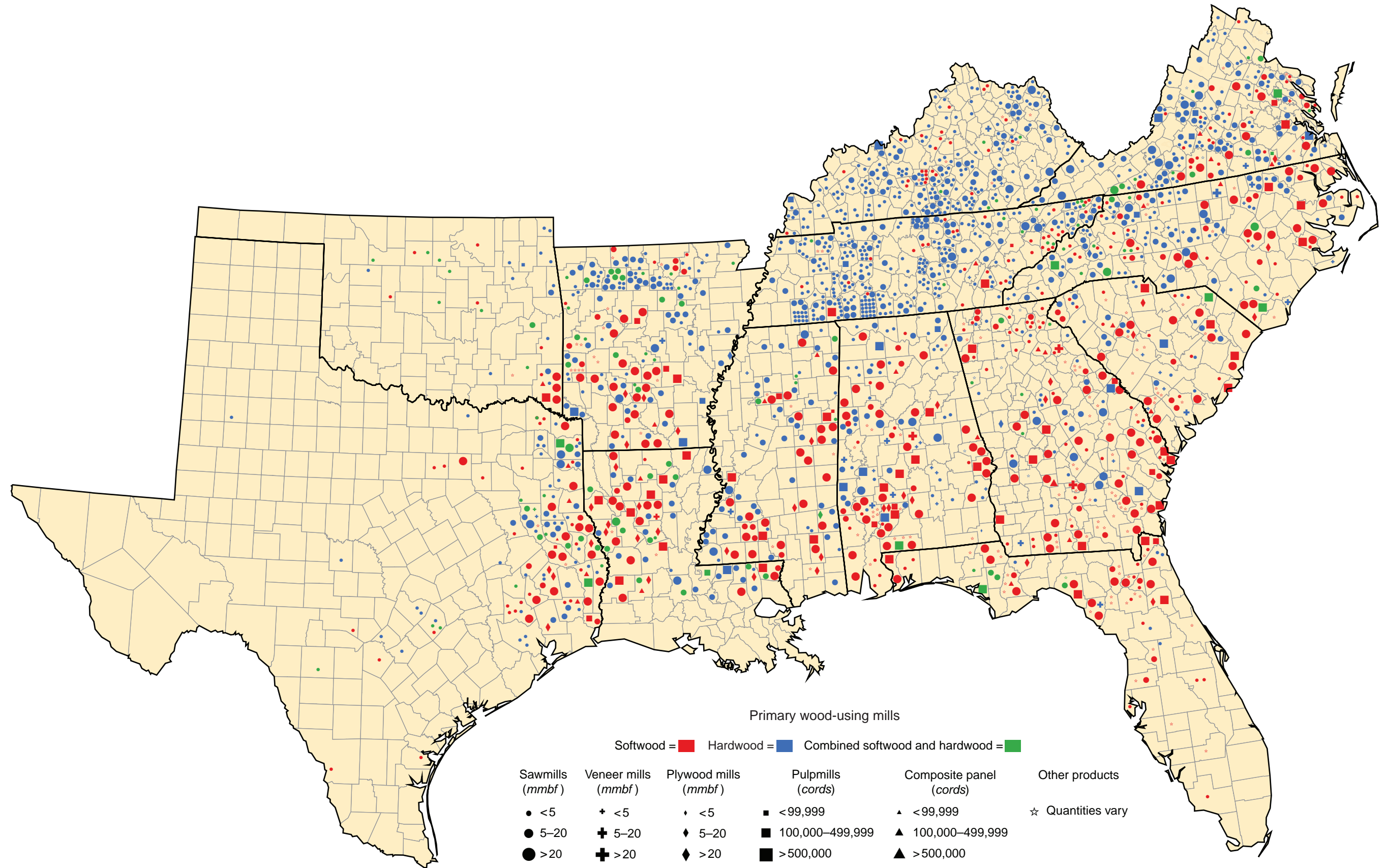


Figure 6—Primary wood-using mills in the South by State, 2007.

## Pulpwood

- Total pulpwood production, including chipped roundwood, increased 3 percent to 3.55 billion cubic feet (48.58 million cords) and accounted for 43 percent of the South's total roundwood TPO. Softwood output was up 6 percent to 2.45 billion cubic feet (34.0 million cords); hardwood output declined 4 percent to 1.10 billion cubic feet (14.58 million cords) (fig. 10).
- Eighty-seven pulpmill facilities were operating and receiving roundwood in the South in 2007, the same as in 2005. Of the 87 pulpmills operating, 56 were classified as softwood pulpmills, 23 were classified as hardwood pulpmills, and the remaining nine were classified as softwood/hardwood pulpmills.
- Total pulpwood receipts for these mills increased 114 million cubic feet to 3.58 billion cubic feet, accounting for 43 percent of total receipts for all mills.
- Georgia led the 13 Southern States in total pulpwood production with 611 million cubic feet. Alabama followed closely with 574 million cubic feet (fig. 11). These two States accounted for 33 percent of the Southern pulpwood production.

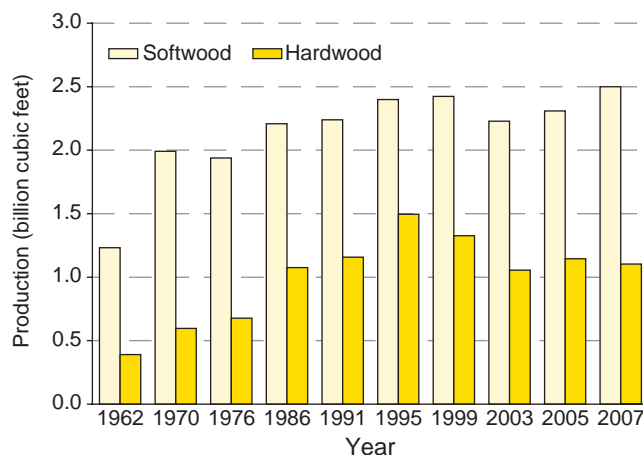


Figure 10—Roundwood pulpwood production by species group and year (see page 12 for references for individual years) in the South.

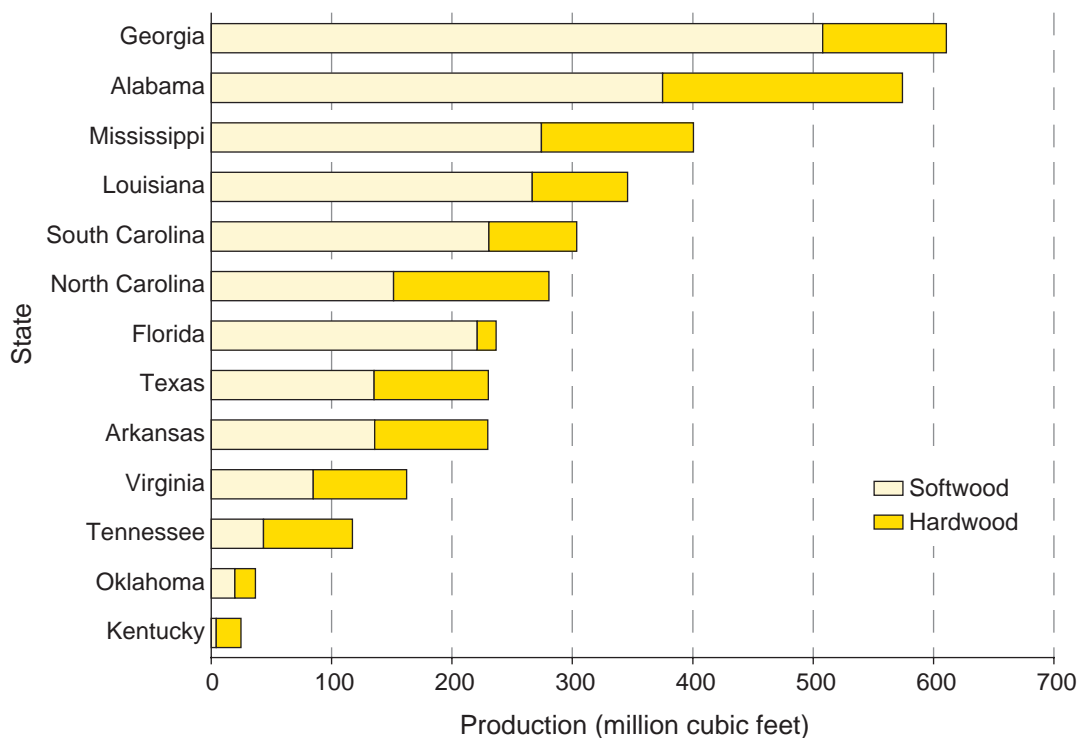


Figure 11—Roundwood pulpwood production by State and species group in the South, 2007.

## Veneer Logs

- Output of veneer logs in 2007 totaled 721 million cubic feet and accounted for 9 percent of the South's total roundwood TPO volume. Softwood veneer production dropped 15 percent to 655 million cubic feet (3.87 billion board feet, International ¼-inch rule); output of hardwood veneer logs was down 18 percent to 66 million cubic feet (410 million board feet, International ¼-inch rule) (fig. 12).
- The number of veneer mills operating in the South declined from 99 to 87 between 2005 and 2007. Receipts of veneer logs declined 13 percent to 731 million cubic feet. Softwood veneer receipts were down 97 million cubic feet, to 662 million cubic feet.
- Texas led the 13 Southern States in total veneer-log production with 164 million cubic feet. Louisiana, Mississippi, and Alabama followed with 131, 76, and 75 million cubic feet, respectively (fig. 13). These four States accounted for 62 percent of the South's veneer-log production.

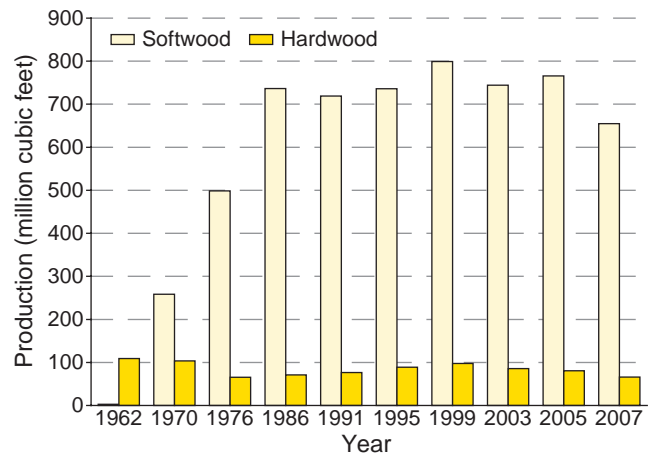


Figure 12—Roundwood veneer-log production by species group and year (see page 12 for references for individual years) in the South.

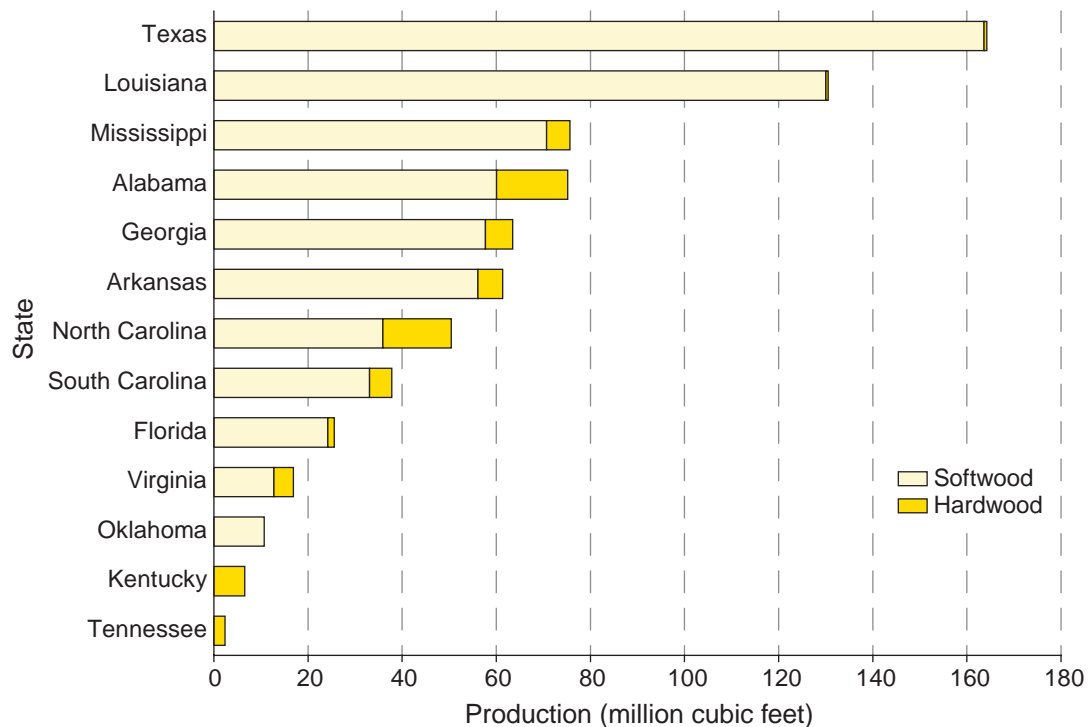


Figure 13—Roundwood veneer-log production by State and species group in the South, 2007.

## Composite Panels

- Roundwood harvested from the South's forests for composite panels increased 2 percent and totaled 405 million cubic feet. Softwood output was up 9 percent to 374 million cubic feet (5.09 million cords); hardwood production declined 44 percent to 31 million cubic feet (361,000 cords) (fig. 14).
- Twenty-seven oriented strand board mills were operating in the South in 2007, three less than in 2005. Total receipts for these mills increased 2 percent to 405 million cubic feet, and accounted for 5 percent of the South's total receipts.

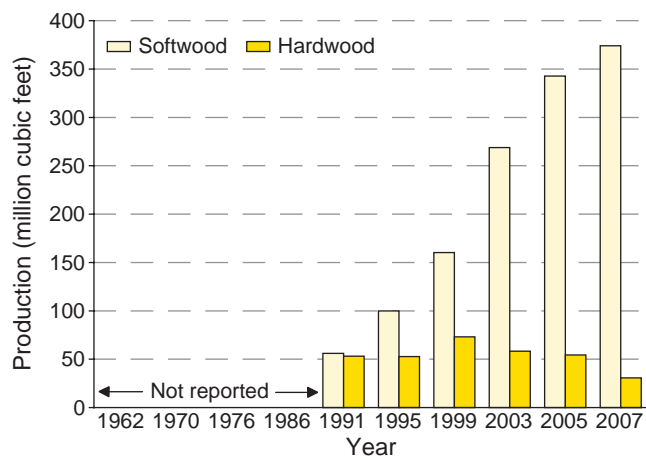


Figure 14—Roundwood production for composite panels by species group and year (see page 12 for references for individual years) in the South.

## Other Industrial Products

- Roundwood harvested for other industrial uses such as poles, posts, mulch, industrial fuelwood, as well as, firewood produced from firewood processors, logs for log homes, and all other industrial products totaled 92 million cubic feet, a 6-percent increase from 2005. Softwood made up 91 percent of the other industrial products volume (fig. 15).
- The number of plants producing other industrial products declined from 143 in 2005 to 141 in 2007. Combined receipts of other industrial products from softwood and hardwood increased 5 percent to 91 million cubic feet.

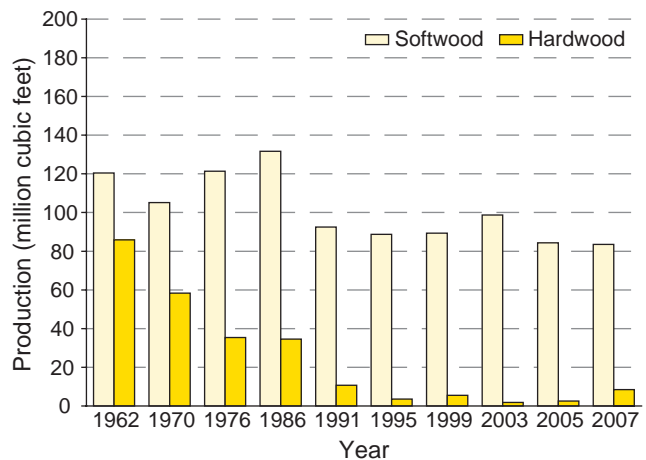


Figure 15—Roundwood production for other industrial products by species group and year (see page 12 for references for individual years) in the South.

## Plant Byproducts

- In 2007, processing of primary products in southern mills generated 2.95 billion cubic feet of wood and bark residues. Coarse residues from all primary products amounted to 1.17 billion cubic feet, or 40 percent of total residue, while bark volume totaled 886 million cubic feet, 30 percent of residue produced. Collectively, sawdust and shavings made up 30 percent of total residues, or 895 million cubic feet (fig. 16).

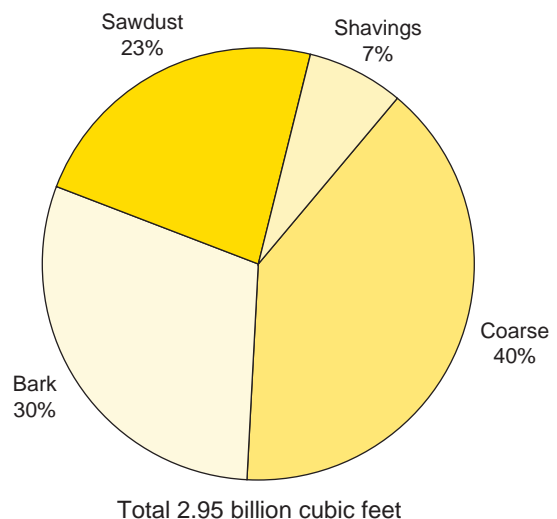


Figure 16—Primary mill residue by residue type in the South, 2007.



- The processing of saw logs generated 2.02 billion cubic feet of mill residues, accounting for 69 percent of the total residues produced (fig. 17).
- More than 2.93 billion cubic feet, or 99 percent, of the wood and bark residues were used for a product. Of the utilized mill residue, 48 percent of the residues were used for industrial fuel and 33 percent were used for fiber products. The remaining 18 percent were utilized in miscellaneous products such as particleboard production, mulch, charcoal, or sawn products such as landscape timbers (fig. 18). In the South, 964 million cubic feet, or 82 percent, of the coarse residues were used for fiber products. Most of the bark was used for industrial fuel or other miscellaneous products, while 70 percent of the sawdust and shavings were used for industrial fuel.

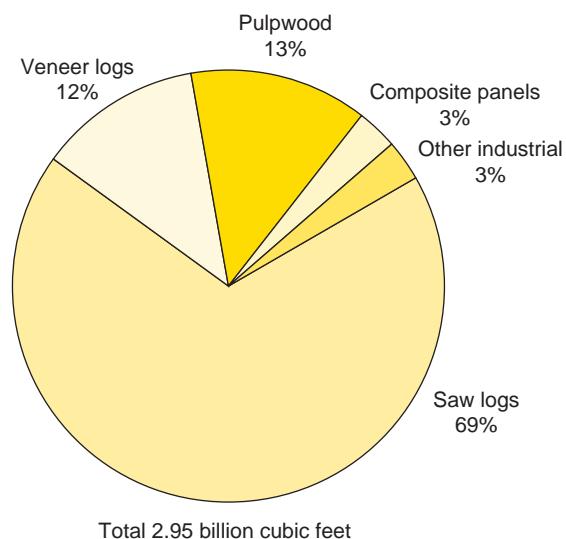


Figure 17—Primary mill residue produced by roundwood type in the South, 2007.

## Total Roundwood Output

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

### Source

- In addition to the 8.22 billion cubic feet of roundwood output for industrial roundwood, an estimated 316 million cubic feet were harvested for domestic fuelwood, bringing the South's total roundwood output to 8.53 billion cubic feet.

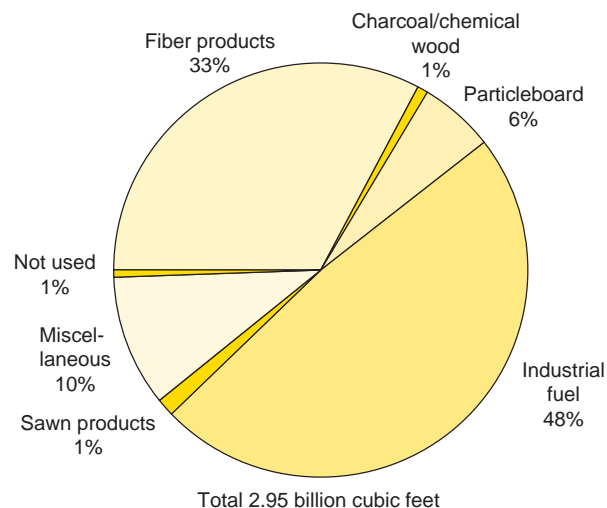


Figure 18—Disposal of residue by product in the South, 2007.

- Ninety-two 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 nonforest land) contributed an estimated 653 million cubic feet, or 8 percent of total roundwood output (fig. 19).

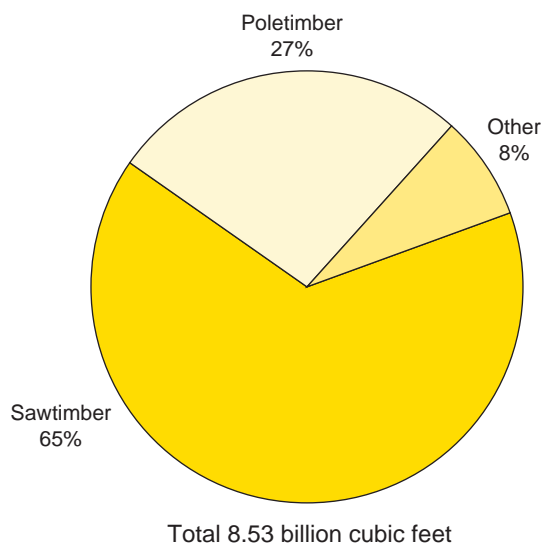


Figure 19—Roundwood output by source in the South, 2007.

## Ownership

- An estimated 5.98 billion cubic feet, or 70 percent, of the total roundwood output came from nonindustrial private forest lands. Forest industry lands contributed 2.26 billion cubic feet, or 26 percent of the output. Public lands made up the remaining 4 percent, or 300 million cubic feet (fig. 20).

## Species

- The loblolly and shortleaf pine group provided more volume than any other softwood species group, accounting for 76 percent of the total softwood output (fig. 21). The longleaf-slash pine type accounted for 17 percent of the softwood output. In hardwoods, the red oak and white oak groups combined accounted for 1.1 billion cubic feet, or 46 percent of total hardwood output (fig. 22).

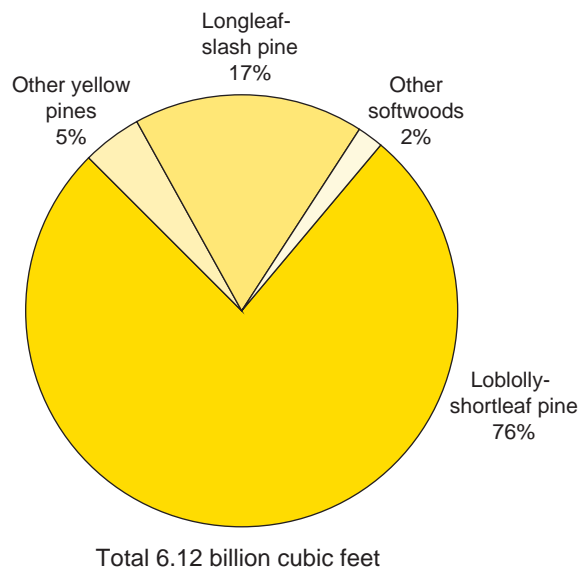


Figure 21—Roundwood output by softwood species group in the South, 2007.

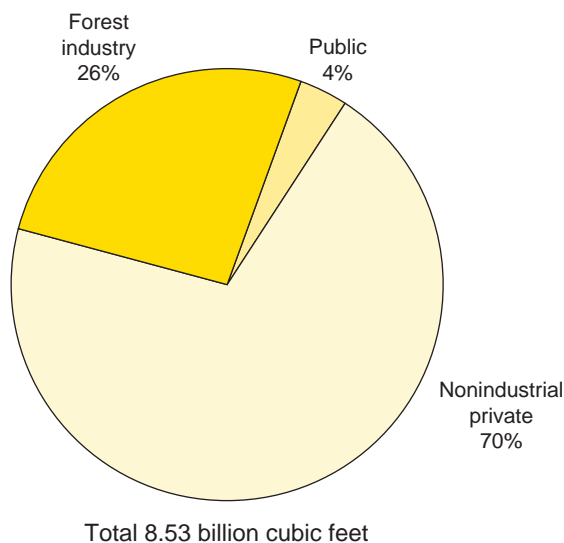


Figure 20—Roundwood output by ownership class in the South, 2007.

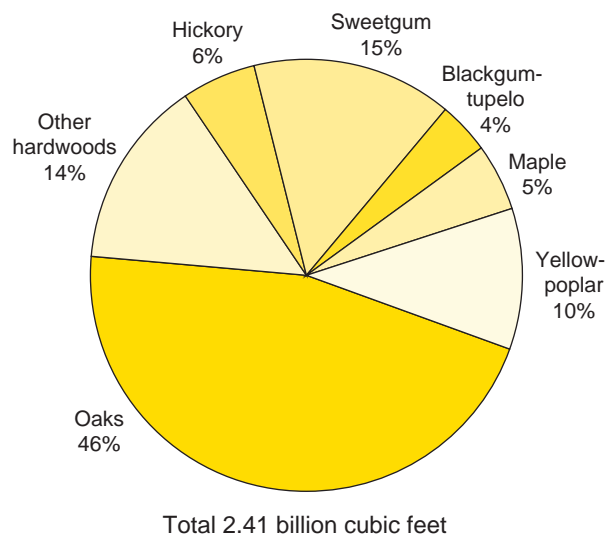


Figure 22—Roundwood output by hardwood species group in the South, 2007.

## Regional Trends

- Figure 23 displays the three major physiographic regions in the South. These are the Mountain, Piedmont, and Coastal Plain regions.
- Output of industrial roundwood products was down in all the major physiographic regions of the South. The Coastal Plain region had the smallest decline at 4 percent. The Coastal Plain produced 52 percent of the South's total industrial roundwood production, while the Piedmont and Mountain produced 42 and 6 percent of the South's total output, respectively (fig. 24).

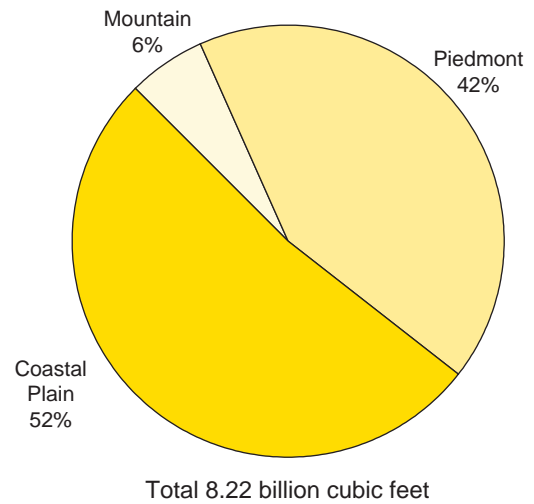


Figure 24—Roundwood production for all products by region in the South, 2007.

## Mountain Region

- Roundwood output from the Mountain region totaled 455 million cubic feet, down 10 percent since 2005. Domestic fuelwood contributed an additional 37 million cubic feet of roundwood product output.

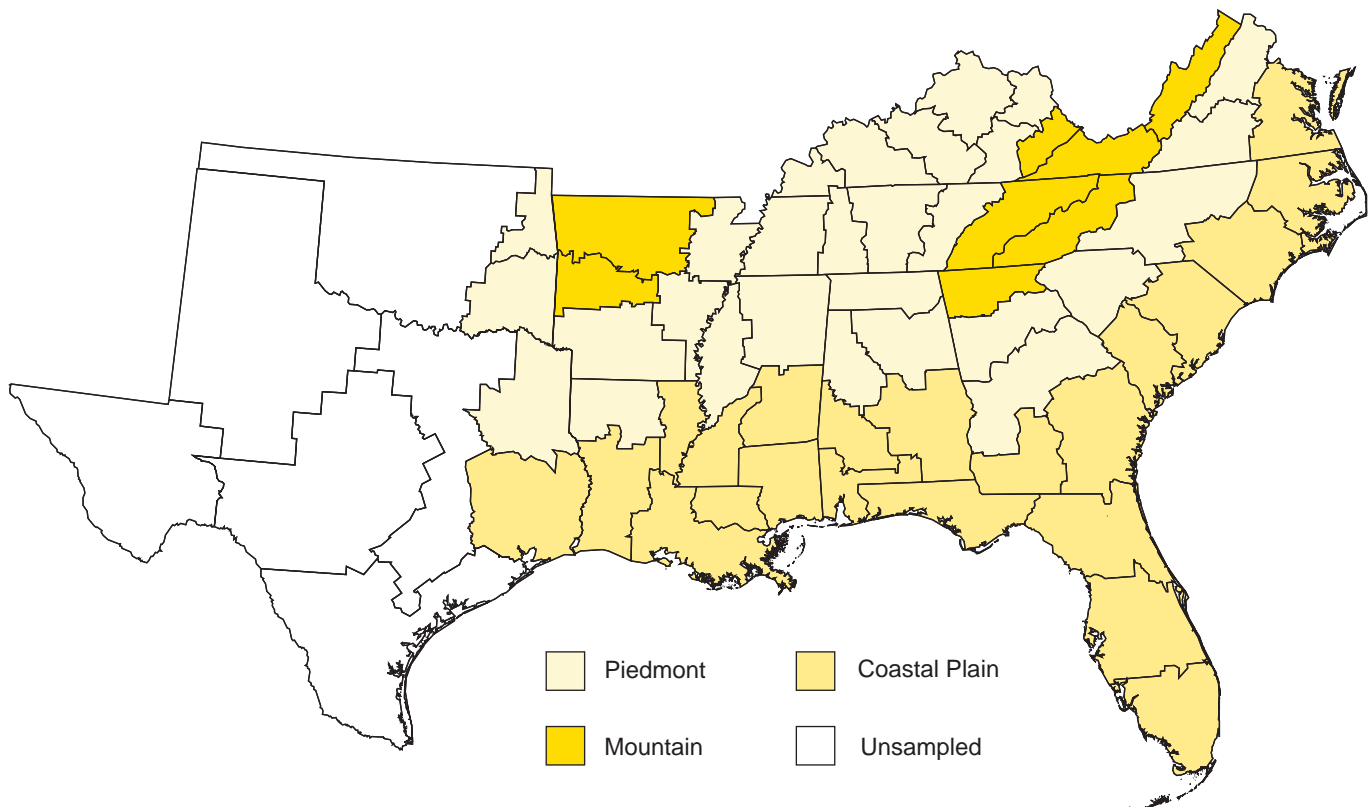


Figure 23—Physiographic regions of the South, 2007.

- Saw logs accounted for 59 percent of the region's industrial TPO and 8 percent of the South's roundwood saw-log output. The 148 million cubic feet of pulpwood accounted for 32 percent of the total roundwood output for the region and 4 percent of the South's total pulpwood output. The 13.6 million cubic feet of veneer logs accounted for 2 percent of the South's total veneer-log output.

### **Piedmont Region**

- Roundwood output from the Piedmont region totaled 3.45 billion cubic feet, a decline of 6 percent since 2005. Domestic fuelwood contributed an additional 160.7 million cubic feet towards total product output.
- Saw-log production of 1.55 billion cubic feet accounted for 45 percent of the region's industrial TPO and 45 percent of the South's total saw-log output. Production of pulpwood declined 1 percent to 1.33 billion cubic feet accounting for 39 percent of the region's total roundwood output and nearly 38 percent of the South's total pulpwood output. The 298 million cubic feet of veneer logs accounted for 9 percent of the region's total output and 41 percent of the South's total veneer-log output.

### **Coastal Plain Region**

- Roundwood output from the Coastal Plain region totaled 4.32 billion cubic feet, down 4 percent since 2005. Domestic fuelwood from the region contributed an additional 119 million cubic feet towards total product output.
- Saw-log production of 1.63 billion cubic feet accounted for 38 percent of the region's total TPO and 47 percent of the South's total saw-log output. Pulpwood production of 2.07 billion cubic feet accounted for another 48 percent of the region's total roundwood output and 58 percent of the South's total pulpwood production. The 409 million cubic feet of veneer logs accounted for 57 percent of the South's total veneer-log output.

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## 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.

**Domestic fuelwood.** The volume of roundwood harvested to produce heat for residential settings.

**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.

**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.

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

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

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

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

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

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

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

*National forest land.* Federal land that has been legally designated as national forests or purchase units, and other land under the administration of the Forest Service, including experimental areas and Bankhead-Jones Title III land.

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

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

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 ¼-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 ¼-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.** Forest land 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).

## Conversion Factors

### Alabama Conversion Factors<sup>a</sup>

Saw logs		
Softwood	0.18018 cubic foot = 1 board foot	5.55 board feet = 1 cubic foot
Hardwood	0.16807 cubic foot = 1 board foot	5.95 board feet = 1 cubic foot
Veneer logs		
Softwood	0.17094 cubic foot = 1 board foot	5.85 board feet = 1 cubic foot
Hardwood	0.16260 cubic foot = 1 board foot	6.15 board feet = 1 cubic foot
Pulpwood <sup>b</sup>		
Softwood	71.0 cubic feet per cord	
Hardwood	75.0 cubic feet per cord	

<sup>a</sup> Conversion factors vary with stem size (d.b.h.) and species. The factors shown are for trees of average diameters removed in Alabama during the most recent survey period.

<sup>b</sup> Cubic feet of solid wood per cord.

### Arkansas Conversion Factors<sup>a</sup>

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 <sup>b</sup>		
Softwood	72.5 cubic feet per cord	
Hardwood	76.6 cubic feet per cord	

<sup>a</sup> Conversion factors vary with stem size (d.b.h.) and species.

<sup>b</sup> Cubic feet of solid wood per cord.

### Florida Conversion Factors<sup>a</sup>

Saw logs		
Softwood	0.19121 cubic foot = 1 board foot	5.23 board feet = 1 cubic foot
Hardwood	0.16807 cubic foot = 1 board foot	5.95 board feet = 1 cubic foot
Veneer logs		
Softwood	0.17241 cubic foot = 1 board foot	5.80 board feet = 1 cubic foot
Hardwood	0.16129 cubic foot = 1 board foot	6.20 board feet = 1 cubic foot
Pulpwood <sup>b</sup>		
Softwood	71.0 cubic feet per cord	
Hardwood	75.0 cubic feet per cord	

<sup>a</sup> Conversion factors vary with stem size (d.b.h.) and species. The factors shown are for trees of average diameters removed in Florida during the latest survey period.

<sup>b</sup> Cubic feet of solid wood per cord.

### Georgia Conversion Factors<sup>a</sup>

Saw logs		
Softwood	0.18349 cubic foot = 1 board foot	5.45 board feet = 1 cubic foot
Hardwood	0.16807 cubic foot = 1 board foot	5.95 board feet = 1 cubic foot
Veneer logs		
Softwood	0.17094 cubic foot = 1 board foot	5.85 board feet = 1 cubic foot
Hardwood	0.16260 cubic foot = 1 board foot	6.15 board feet = 1 cubic foot
Pulpwood <sup>b</sup>		
Softwood	72.6 cubic feet per cord	
Hardwood	75.0 cubic feet per cord	

<sup>a</sup> Conversion factors vary with stem size (d.b.h.) and species. The factors shown are for trees of average diameters removed in Georgia during the most recent survey period.

<sup>b</sup> Cubic feet of solid wood per cord.

### Kentucky Conversion Factors<sup>a</sup>

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Saw logs	
Softwood	0.18282 cubic foot = 1 board foot 5.47 board feet = 1 cubic foot
Hardwood	0.16393 cubic foot = 1 board foot 6.10 board feet = 1 cubic foot
Veneer logs	
Softwood	0.16129 cubic foot = 1 board foot 6.20 board feet = 1 cubic foot
Hardwood	0.16000 cubic foot = 1 board foot 6.25 board feet = 1 cubic foot
Pulpwood <sup>b</sup>	
Softwood	73.3 cubic feet per cord
Hardwood	76.1 cubic feet per cord

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<sup>a</sup> Conversion factors vary with stem size (d.b.h.) and species. The factors shown are for trees of average diameters removed in Kentucky during the most recent survey period.

<sup>b</sup> Cubic feet of solid wood per cord.

### Mississippi Conversion Factors<sup>a</sup>

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Saw logs	
Softwood	0.18349 cubic foot = 1 board foot 5.45 board feet = 1 cubic foot
Hardwood	0.16807 cubic foot = 1 board foot 5.95 board feet = 1 cubic foot
Veneer logs	
Softwood	0.17094 cubic foot = 1 board foot 5.85 board feet = 1 cubic foot
Hardwood	0.16260 cubic foot = 1 board foot 6.15 board feet = 1 cubic foot
Pulpwood <sup>b</sup>	
Softwood	72.6 cubic feet per cord
Hardwood	75.0 cubic feet per cord

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<sup>a</sup> Conversion factors vary with stem size (d.b.h.) and species. The factors shown are for trees of average diameters removed in Mississippi during the most recent survey period.

<sup>b</sup> Cubic feet of solid wood per cord.

### Louisiana Conversion Factors<sup>a</sup>

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Saw logs	
Softwood	0.18349 cubic foot = 1 board foot 5.45 board feet = 1 cubic foot
Hardwood	0.16807 cubic foot = 1 board foot 5.95 board feet = 1 cubic foot
Veneer logs	
Softwood	0.17094 cubic foot = 1 board foot 5.85 board feet = 1 cubic foot
Hardwood	0.16260 cubic foot = 1 board foot 6.15 board feet = 1 cubic foot
Pulpwood <sup>b</sup>	
Softwood	72.6 cubic feet per cord
Hardwood	75.0 cubic feet per cord

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<sup>a</sup> Conversion factors vary with stem size (d.b.h.) and species. The factors shown are for trees of average diameters removed in Louisiana during the most recent survey period.

<sup>b</sup> Cubic feet of solid wood per cord.

### North Carolina Conversion Factors<sup>a</sup>

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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 <sup>b</sup>	
Softwood	72.5 cubic feet per cord
Hardwood	76.6 cubic feet per cord

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<sup>a</sup> 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.

<sup>b</sup> Cubic feet of solid wood per cord.

### Oklahoma Conversion Factors<sup>a</sup>

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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 <sup>b</sup>		
Softwood	72.5 cubic feet per cord	
Hardwood	76.6 cubic feet per cord	

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<sup>a</sup> Conversion factors vary with stem size (d.b.h.) and species.

<sup>b</sup> Cubic feet of solid wood per cord.

### Tennessee Conversion Factors<sup>a</sup>

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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 <sup>b</sup>		
Softwood	72.5 cubic feet per cord	
Hardwood	76.6 cubic feet per cord	

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<sup>a</sup> Conversion factors vary with stem size (d.b.h.) and species.  
The factors shown are for trees of average diameters removed in Tennessee during the most recent survey period.

<sup>b</sup> Cubic feet of solid wood per cord.

### South Carolina Conversion Factors<sup>a</sup>

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Saw logs		
Softwood	0.18018 cubic foot = 1 board foot	
	5.55 board feet = 1 cubic foot	
Hardwood		
	0.16750 cubic foot = 1 board foot	
	5.97 board feet = 1 cubic foot	
Veneer logs		
Softwood	0.17601 cubic foot = 1 board foot	
	5.68 board feet = 1 cubic foot	
Hardwood		
	0.16340 cubic foot = 1 board foot	
	6.12 board feet = 1 cubic foot	
Pulpwood <sup>b</sup>		
Softwood	68.6 cubic feet per cord	
Hardwood	70.5 cubic feet per cord	

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

<sup>b</sup> Cubic feet of solid wood per cord.

### Virginia Conversion Factors<sup>a</sup>

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Saw logs		
Softwood	0.18282 cubic foot = 1 board foot	
	5.47 board feet = 1 cubic foot	
Hardwood		
	0.16393 cubic foot = 1 board foot	
	6.10 board feet = 1 cubic foot	
Veneer logs		
Softwood	0.16129 cubic foot = 1 board foot	
	6.20 board feet = 1 cubic foot	
Hardwood		
	0.16000 cubic foot = 1 board foot	
	6.25 board feet = 1 cubic foot	
Pulpwood <sup>b</sup>		
Softwood	73.3 cubic feet per cord	
Hardwood	76.1 cubic feet per cord	

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<sup>a</sup> Conversion factors vary with stem size (d.b.h.) and species.  
The factors shown are for trees of average diameters removed in Virginia during the most recent survey period.

<sup>b</sup> Cubic feet of solid wood per cord.

## Species List<sup>a</sup>

Common name	Scientific name <sup>b</sup>	Common name	Scientific name <sup>b</sup>
Softwoods		Hardwoods (continued)	
Atlantic white-cedar	<i>Chamaecyparis thyoides</i> (L.) B.S.P.	American holly	<i>Ilex opaca</i> Ait.
Southern redcedar	<i>Juniperus silicicola</i> (Small) Bailey	Black walnut	<i>Juglans nigra</i> L.
Eastern redcedar	<i>J. virginiana</i> L.	Sweetgum	<i>Liquidambar styraciflua</i> L.
Shortleaf pine	<i>Pinus echinata</i> Mill.	Yellow-poplar	<i>Liriodendron tulipifera</i> L.
Slash pine	<i>P. elliotii</i> Engelm.	Osage-orange	<i>Maclura pomifera</i> (Raf.) Schneid.
Spruce pine	<i>P. glabra</i> Walt.	Cucumbertree	<i>Magnolia acuminata</i> L.
Longleaf pine	<i>P. palustris</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.
Pondcypress	<i>T. distichum</i> var. <i>nutans</i>	Red mulberry	<i>M. rubra</i> L.
Eastern hemlock	<i>Tsuga canadensis</i> (L.) Carr.	Water tupelo	<i>Nyssa aquatica</i> L.
Hardwoods		Blackgum	<i>N. sylvatica</i> Marsh.
Florida maple	<i>Acer barbatum</i> Michx.	Swamp tupelo	<i>N. sylvatica</i> var. <i>biflora</i> (Walt.) Sarg.
Boxelder	<i>A. negundo</i> L.	Eastern hophornbeam	<i>Ostrya virginiana</i> (Mill.) K. Koch
Red maple	<i>A. rubrum</i> L.	Sourwood	<i>Oxydendrum arboreum</i> (L.) DC.
Silver maple	<i>A. saccharinum</i> L.	Redbay	<i>Persea borbonia</i> (L.) Spreng.
Sugar maple	<i>A. saccharum</i> Marsh.	American sycamore	<i>Platanus occidentalis</i> L.
Buckeye	<i>Aesculus</i> spp. L.	Cottonwood	<i>Populus</i> spp. L.
Ohio buckeye	<i>A. glabra</i> Willd.	Black cherry	<i>Prunus serotina</i> Ehrh.
Ailanthus	<i>Ailanthus altissima</i> (Mill.) Swingle	White oak	<i>Quercus alba</i> L.
Tung-oil tree	<i>Aleurites fordii</i> Hemsl.	Scarlet oak	<i>Q. coccinea</i> Muenchh.
Serviceberry	<i>Amelanchier</i> spp. Med.	Durand oak	<i>Q. durandii</i> Buckl.
River birch	<i>Betula nigra</i> L.	Southern red oak	<i>Q. falcata</i> Michx.
American hornbeam	<i>Carpinus caroliniana</i> Walt.	Cherrybark oak	<i>Q. falcata</i> var. <i>pagodifolia</i> Ell.
Hickory	<i>Carya</i> spp. Nutt.	Bluejack oak	<i>Q. incana</i> Bartr.
Water hickory	<i>C. aquatica</i> (Michx. f.) Nutt.	Turkey oak	<i>Q. laevis</i> Walt.
Bitternut hickory	<i>C. cordiformis</i> (Wangenh.) K. Koch	Laurel oak	<i>Q. laurifolia</i> Michx.
Pignut hickory	<i>C. glabra</i> (Mill.) Sweet	Overcup oak	<i>Q. lyrata</i> Walt.
Pecan	<i>C. illinoensis</i> (Wangenh.) K. Koch	Swamp chestnut oak	<i>Q. michauxii</i> Nutt.
Shellbark hickory	<i>C. laciniosa</i> (Michx. f.) Loud.	Chinkapin oak	<i>Q. muehlenbergii</i> Engelm.
Nutmeg hickory	<i>C. myristiciformis</i> (Michx. f.) Nutt.	Water oak	<i>Q. nigra</i> L.
Shagbark hickory	<i>C. ovata</i> (Mill.) K. Koch	Nuttall oak	<i>Q. nuttallii</i> Palmer
Black hickory	<i>C. texana</i> Buckl.	Pin oak	<i>Q. palustris</i> Muenchh.
Mockernut hickory	<i>C. tomentosa</i> (Poir.) Nutt.	Willow oak	<i>Q. phellos</i> L.
Allegheny chinkapin	<i>Castanea pumila</i> Mill.	Chestnut oak	<i>Q. prinus</i> L.
Chinkapin	<i>Castanopsis</i> (D. Don) Spach	Northern red oak	<i>Q. rubra</i> L.
Catalpa	<i>Catalpa</i> spp. Scop.	Shumard oak	<i>Q. shumardii</i> Buckl.
Sugarberry	<i>Celtis laevigata</i> Willd.	Post oak	<i>Q. stellata</i> Wangenh.
Hackberry	<i>C. occidentalis</i> L.	Black oak	<i>Q. velutina</i> Lam.
Eastern redbud	<i>Cercis canadensis</i> L.	Live oak	<i>Q. virginiana</i> Mill.
Flowering dogwood	<i>Cornus florida</i> L.	Black locust	<i>Robinia pseudoacacia</i> L.
Hawthorn	<i>Crataegus</i> spp. L.	Willow	<i>Salix</i> spp. L.
Common persimmon	<i>Diospyros virginiana</i> L.	Sassafras	<i>Sassafras albidum</i> (Nutt.) Nees
American beech	<i>Fagus grandifolia</i> Ehrh.	American basswood	<i>Tilia americana</i> L.
White ash	<i>Fraxinus americana</i> L.	White basswood	<i>T. heterophylla</i> Vent.
Pumpkin ash	<i>F. profunda</i> (Bush) Bush	Winged elm	<i>Ulmus alata</i> Michx.
Blue ash	<i>F. quadrangulata</i> Michx.	American elm	<i>U. americana</i> L.
Waterlocust	<i>Gleditsia aquatica</i> Marsh.	Cedar elm	<i>U. crassifolia</i> Nutt.
Honeylocust	<i>G. triacanthos</i> L.	Slippery elm	<i>U. rubra</i> Muhl.
Kentucky coffeetree	<i>Gymnocladus dioica</i> (L.) K. Koch	September elm	<i>U. serotina</i> Sarg.
		Rock elm	<i>U. thomasi</i> Sarg.

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

<sup>b</sup> Little (1979).



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**Table A.1—Output of industrial products by product and species group, Southern Region, 2005 and 2007**

Product and species group	Year		Change	Change
	2005	2007		
	----- thousand cubic feet -----			percent
Saw logs				
Softwood	2,887,854	2,524,468	-363,386	-12.6
Hardwood	997,509	922,992	-74,517	-7.5
Total	3,885,363	3,447,460	-437,903	-11.3
Veneer logs				
Softwood	765,727	654,897	-110,830	-14.5
Hardwood	80,546	65,826	-14,720	-18.3
Total	846,273	720,723	-125,550	-14.8
Pulpwood <sup>a</sup>				
Softwood	2,308,247	2,449,972	141,725	6.1
Hardwood	1,145,601	1,102,558	-43,043	-3.8
Total	3,453,848	3,552,530	98,682	2.9
Composite panels				
Softwood	342,686	373,949	31,263	9.1
Hardwood	54,356	30,635	-23,721	-43.6
Total	397,042	404,584	7,542	1.9
Other industrial				
Softwood	84,340	83,498	-842	-1.0
Hardwood	2,535	8,513	5,978	235.8
Total	86,875	92,011	5,136	5.9
All industrial				
Softwood	6,388,854	6,086,784	-302,070	-4.7
Hardwood	2,280,547	2,130,524	-150,023	-6.6
Total	8,669,401	8,217,308	-452,093	-5.2

<sup>a</sup> Includes roundwood delivered to nonpulp mills, then chipped and sold to pulpmills (58,540,000 cubic feet in 2005 and 37,604,000 cubic feet in 2007).

**Table A.2—Roundwood receipts by product and species group,  
Southern Region, 2005 and 2007**

Product and species group	Year		Change	Change
	2005	2007		
	----- <i>thousand cubic feet</i> -----			<i>percent</i>
Saw logs				
Softwood	2,931,824	2,537,350	-394,474	-13.5
Hardwood	996,222	916,467	-79,755	-8.0
Total	3,928,046	3,453,817	-474,229	-12.1
Veneer logs				
Softwood	759,641	662,354	-97,287	-12.8
Hardwood	83,249	68,758	-14,491	-17.4
Total	842,890	731,112	-111,778	-13.3
Pulpwood <sup>a</sup>				
Softwood	2,305,098	2,447,649	142,551	6.2
Hardwood	1,158,379	1,129,836	-28,543	-2.5
Total	3,463,477	3,577,485	114,008	3.3
Composite panels				
Softwood	343,918	374,935	31,017	9.0
Hardwood	51,124	29,674	-21,450	-42.0
Total	395,042	404,609	9,567	2.4
Other industrial				
Softwood	84,302	82,916	-1,386	-1.6
Hardwood	2,525	8,489	5,964	236.2
Total	86,827	91,405	4,578	5.3
Total output				
Softwood	6,424,783	6,105,204	-319,579	-5.0
Hardwood	2,291,499	2,153,224	-138,275	-6.0
Total	8,716,282	8,258,428	-457,854	-5.3

<sup>a</sup> Includes roundwood delivered to nonpulp mills, then chipped and sold to pulp mills (67,975,000 cubic feet in 2005 and 42,695,000 cubic feet in 2007).



**Table A.3—Number of primary wood-using plants by type of mill, Southern Region, 1970 to 2007**

Type of mill	Year									
	1970	1975	1980	1985	1990	1995	1999	2003	2005	2007
	<i>number</i>									
Sawmills	4,289	3,591	3,482	3,086	2,683	2,386	2,165	1,896	1,669	1,540
Veneer mills	239	200	192	168	155	139	124	107	99	87
Pulpmills	109	115	116	107	105	105	97	91	87	87
Composite panel mills	0	0	0	6	11	21	24	29	30	27
Other mills	452	358	313	295	235	161	141	158	143	141
All plants	5,089	4,264	4,103	3,662	3,189	2,812	2,551	2,281	2,028	1,882

**Table A.4—Roundwood receipts by sawmill size, Southern Region, 2005 and 2007**

Sawmill size class <sup>a</sup>	2005			2007		
	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	522	133,944	1	483	125,578	1
1.0–4.99	494	1,329,178	6	471	1,265,540	6
5.0–9.99	256	1,782,751	8	224	1,490,431	8
10.0–49.99	266	5,686,938	26	246	5,816,138	30
>50	131	12,725,201	59	116	10,831,003	55
Total	1,669	21,658,012	100	1,540	19,528,690	100

<sup>a</sup> Based on volume received as opposed to actual capacity.

**Table A.5—Roundwood receipts by species and type of mill, Southern Region, 2007**

Species	All mills	Type of mill					
		Sawmills	Veneer mills		OSB and panels	Pulpmills <sup>a</sup>	Other mills
			Pine plywood	Other veneer			
thousand cubic feet							
Softwood							
Yellow pine	3,580,989	2,478,086	634,007	28,326	371,305	NA	69,265
Eastern white pine	32,222	28,629	0	3	3,451	NA	139
Cedar	5,241	4,049	0	12	179	NA	1,001
Cypress	36,469	25,178	6	0	0	NA	11,285
Other softwood	2,634	1,408	0	0	0	NA	1,226
Unclassified	2,447,649	0	0	0	0	2,447,649	0
Total softwoods	6,105,204	2,537,350	634,013	28,341	374,935	2,447,649	82,916
Hardwood							
Tupelo-blackgum	19,382	14,671	1,086	2,465	1,158	NA	2
Soft maple	24,203	19,772	361	390	3,663	NA	17
Sweetgum	75,227	54,199	7,222	5,716	8,067	NA	23
Yellow-poplar	229,045	181,565	21,893	10,729	11,526	NA	3,332
Other soft hardwood	33,103	26,760	1,110	705	4,528	NA	0
Hickory	45,423	42,880	451	1,719	189	NA	184
Red oak	294,505	283,782	503	7,056	189	NA	2,975
White oak	198,599	193,559	453	3,053	189	NA	1,345
Other hard hardwood	103,901	99,279	675	3,171	165	NA	611
Unclassified	1,129,836	0	0	0	0	1,129,836	0
Total hardwoods	2,153,224	916,467	33,754	35,004	29,674	1,129,836	8,489
All species	8,258,428	3,453,817	667,767	63,345	404,609	3,577,485	91,405

OSB = oriented strand board; NA = not applicable.

<sup>a</sup> Collected only by softwood and hardwood and includes roundwood chipped.

**Table A.6—Primary mill residue volume by roundwood type, species group, and residue type, Southern Region, 2007**

Roundwood type and species group	All types	Residue type			
		Bark	Coarse	Sawdust	Shavings
thousand cubic feet					
Saw logs					
Softwood	1,477,007	202,603	700,275	370,772	203,357
Hardwood	542,028	96,849	256,771	182,212	6,196
Total	2,019,035	299,452	957,046	552,984	209,553
Veneer logs					
Softwood	313,637	46,551	153,590	113,496	0
Hardwood	45,578	8,535	22,091	14,952	0
Total	359,215	55,086	175,681	128,448	0
Pulpwood					
Softwood	251,464	251,464	0	0	0
Hardwood	140,271	140,271	0	0	0
Total	391,735	391,735	0	0	0
Composite panels					
Softwood	84,068	84,068	0	0	0
Hardwood	7,094	7,094	0	0	0
Total	91,162	91,162	0	0	0
Other industrial <sup>a</sup>					
Softwood	85,853	47,670	34,888	3,295	0
Hardwood	4,887	1,156	2,699	1,032	0
Total	90,740	48,826	37,587	4,327	0
Total					
Softwood	2,212,029	632,356	888,753	487,563	203,357
Hardwood	739,858	253,905	281,561	198,196	6,196
Total	2,951,887	886,261	1,170,314	685,759	209,553

<sup>a</sup> Includes poles, pilings, posts, and other industrial products.

**Table A.7—Disposal of residue at primary wood-using plants by product, species group, and type of residue, Southern Region, 2005 and 2007**

Product and species group	All types		Bark		Coarse		Sawdust		Shavings	
	2005	2007	2005	2007	2005	2007	2005	2007	2005	2007
<i>thousand cubic feet</i>										
Fiber products										
Softwood	1,866,321	777,160	0	0	843,138	770,503	7,416	2,740	15,767	3,917
Hardwood	214,889	194,438	29	0	213,816	193,750	1,044	688	0	0
Total	1,081,210	971,598	29	0	1,056,954	964,253	8,460	3,428	15,767	3,917
Particleboard										
Softwood	153,489	150,266	146	50	27,993	17,200	38,933	39,654	86,417	93,362
Hardwood	14,977	14,720	433	102	11,909	11,894	2,314	2,586	321	138
Total	168,466	164,986	579	152	39,902	29,094	41,247	42,240	86,738	93,500
Charcoal/ chemical wood										
Softwood	3,412	3,023	0	6	59	95	3,349	2,922	4	0
Hardwood	15,297	21,602	1,300	2,113	4,008	9,217	9,890	10,271	99	1
Total	18,709	24,625	1,300	2,119	4,067	9,312	13,239	13,193	103	1
Sawn products										
Softwood	49,895	38,925	0	14	49,895	38,911	0	0	0	0
Hardwood	4,809	5,162	0	1	4,809	5,161	0	0	0	0
Total	54,704	44,087	0	15	54,704	44,072	0	0	0	0
Industrial fuel										
Softwood	1,104,878	1,037,137	547,120	534,570	40,297	36,711	442,291	398,500	75,170	67,356
Hardwood	431,694	390,115	212,918	195,572	40,246	33,718	172,812	155,927	5,718	4,898
Total	1,536,572	1,427,252	760,038	730,142	80,543	70,429	615,103	554,427	80,888	72,254
Miscellaneous										
Softwood	234,317	202,484	103,642	97,338	23,247	24,067	56,254	42,358	51,174	38,721
Hardwood	99,149	99,612	57,022	53,536	15,045	21,204	25,540	23,727	1,542	1,145
Total	333,466	302,096	160,664	150,874	38,292	45,271	81,794	66,085	52,716	39,866
Not used										
Softwood	13,058	3,034	3,389	378	2,202	1,266	6,098	1,389	1,369	1
Hardwood	15,456	14,209	2,759	2,581	7,484	6,617	5,204	4,997	9	14
Total	28,514	17,243	6,148	2,959	9,686	7,883	11,302	6,386	1,378	15
All products										
Softwood	2,425,370	2,212,029	654,297	632,356	986,831	888,753	554,341	487,563	229,901	203,357
Hardwood	796,271	739,858	274,461	253,905	297,317	281,561	216,804	198,196	7,689	6,196
Total	3,221,641	2,951,887	928,758	886,261	1,284,148	1,170,314	771,145	685,759	237,590	209,553

**Table A.8—Total roundwood output by product, species group, and source of material, Southern Region, 2007**

Product and species group	All sources	Total	Growing-stock trees		Other sources
			Sawtimber	Poletimber	
thousand cubic feet					
Saw logs					
Softwood	2,524,468	2,452,594	2,267,797	184,797	71,874
Hardwood	922,992	884,715	835,788	48,927	38,277
Total	3,447,460	3,337,309	3,103,585	233,724	110,151
Veneer logs and bolts					
Softwood	654,897	639,454	596,775	42,679	15,443
Hardwood	65,826	64,730	64,332	398	1,096
Total	720,723	704,184	661,107	43,077	16,539
Pulpwood					
Softwood	2,449,972	2,163,647	941,570	1,222,077	286,325
Hardwood	1,102,558	982,853	461,005	521,848	119,705
Total	3,552,530	3,146,500	1,402,575	1,743,925	406,030
Composite panels					
Softwood	373,949	326,061	129,300	196,761	47,888
Hardwood	30,635	28,208	13,420	14,788	2,427
Total	404,584	354,269	142,720	211,549	50,315
Poles and posts					
Softwood	53,571	48,952	42,995	5,957	4,619
Hardwood	86	72	49	23	14
Total	53,657	49,024	43,044	5,980	4,633
Other miscellaneous					
Softwood	29,927	22,302	16,755	5,547	7,625
Hardwood	8,427	7,736	4,461	3,275	691
Total	38,354	30,038	21,216	8,822	8,316
Total industrial products					
Softwood	6,086,784	5,653,010	3,995,192	1,657,818	433,774
Hardwood	2,130,524	1,968,314	1,379,055	589,259	162,210
Total	8,217,308	7,621,324	5,374,247	2,247,077	595,984
Domestic fuelwood					
Softwood	33,690	26,238	17,722	8,516	7,452
Hardwood	282,792	233,299	178,702	54,597	49,493
Total	316,482	259,537	196,424	63,113	56,945
All products					
Softwood	6,120,474	5,679,248	4,012,914	1,666,334	441,226
Hardwood	2,413,316	2,201,613	1,557,757	643,856	211,703
Total	8,533,790	7,880,861	5,570,671	2,310,190	652,929

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

**Table A.9—Total roundwood output by species group, State, and ownership class, Southern Region, 2007**

Species group and State	Total	Ownership class		
		Other Public	Forest industry	Nonindustrial private
thousand cubic feet				
Softwoods				
Alabama	830,712	21,758	212,999	595,955
Arkansas	476,827	18,885	259,131	198,811
Florida	469,682	29,928	97,357	342,397
Georgia	1,042,696	21,575	354,933	666,188
Kentucky	11,737	45	8	11,684
Louisiana	685,325	13,744	344,344	327,238
Mississippi	682,283	27,037	159,388	495,858
North Carolina	482,596	12,636	99,698	370,262
Oklahoma	95,646	1,755	61,540	32,351
South Carolina	515,863	43,028	124,206	348,629
Tennessee	68,080	3,882	14,666	49,533
Texas	501,748	2,636	197,427	301,685
Virginia	257,279	4,685	25,395	227,199
Total softwoods	6,120,474	201,593	1,951,092	3,967,789
Hardwoods				
Alabama	291,040	14,291	43,181	233,568
Arkansas	211,976	13,582	48,374	150,020
Florida	39,193	3,266	5,284	30,644
Georgia	209,141	7,913	23,126	178,102
Kentucky	194,632	3,157	6,534	184,941
Louisiana	148,573	4,060	48,224	96,288
Mississippi	225,268	4,782	39,908	180,578
North Carolina	300,863	2,601	15,798	282,464
Oklahoma	35,921	946	11,098	23,877
South Carolina	121,864	5,342	10,625	105,897
Tennessee	256,671	25,842	23,505	207,324
Texas	132,538	0	17,887	114,651
Virginia	245,636	12,790	13,274	219,572
Total hardwoods	2,413,316	98,572	306,818	2,007,926
All species	8,533,790	300,166	2,257,910	5,975,715

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



**Table A.10—Total roundwood output by species group, detailed species group, and product, Southern Region, 2007**

Species group and detailed species group	Total	Product						
		Saw logs	Veneer logs	Pulpwood	Composite panels	Poles and posts	Other miscellaneous	Domestic fuelwood
thousand cubic feet								
Softwood								
Cedars	30,967	16,640	1,905	8,736	2,688	136	492	370
Cypress	53,622	20,858	2,926	25,031	1,702	1,098	1,739	268
Hemlock	5,633	2,205	18	1,016	164	4	2,072	154
Loblolly-shortleaf pines	4,678,561	1,973,904	567,922	1,795,861	276,094	31,762	7,864	25,154
Longleaf-slash pines	1,047,628	390,385	68,735	502,982	48,017	18,763	15,025	3,721
White pine	27,918	16,469	399	6,624	3,633	39	353	401
Other yellow pines	276,145	104,007	12,992	109,722	33,502	1,769	10,531	3,622
Total softwoods	6,120,474	2,524,468	654,897	2,449,972	365,800	53,571	38,076	33,690
Hardwood								
Ash	45,099	23,527	1,176	15,205	249	1	50	4,891
Basswood	7,550	4,585	260	1,534	263	0	15	893
Beech	27,342	15,023	627	8,212	340	3	33	3,104
Yellow birch	2,688	841	5	677	0	0	898	267
Other birch	4,024	1,673	126	1,858	79	0	2	286
Black cherry	22,727	8,863	735	10,086	326	1	68	2,648
Cottonwood	17,189	9,057	596	5,882	21	1	95	1,537
Elm	51,422	19,728	1,103	24,616	283	1	101	5,590
Hickory	136,733	59,950	3,179	56,451	1,797	3	407	14,946
Hard maples	16,728	9,222	229	5,157	282	0	35	1,803
Soft maples	104,728	38,521	3,595	46,486	1,424	7	508	14,187
Select red oaks	101,687	46,344	2,298	41,033	1,010	8	434	10,560
Other red oaks	561,962	193,576	14,718	281,417	5,745	14	2,076	64,416
Select white oaks	250,430	110,485	4,897	103,362	2,635	14	1,468	27,569
Other white oaks	190,220	75,772	4,718	84,503	1,769	0	1,107	22,351
Sweetgum	362,563	101,446	12,651	203,260	3,030	7	663	41,506
Sycamore	20,460	10,965	692	6,459	270	0	32	2,042
Tupelo-blackgum	91,238	23,341	2,471	50,479	1,122	2	236	13,587
Black walnut	13,597	8,906	1,310	1,750	35	0	20	1,576
Yellow-poplar	256,300	116,673	6,850	92,925	5,344	21	2,188	32,299
Other hardwoods	128,629	44,494	3,590	61,206	1,268	3	1,334	16,734
Total hardwoods	2,413,316	922,992	65,826	1,102,558	27,292	86	11,770	282,792
All species	8,533,790	3,447,460	720,723	3,552,530	393,092	53,657	49,846	316,482

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

**Table A.11—Total roundwood output by species group, detailed species group, and ownership class, Southern Region, 2007**

Species group and detailed species group	Total	Ownership class		
		Public	Forest industry	Nonindustrial private
thousand cubic feet				
Softwood				
Cedars	30,967	654	1,694	28,619
Cypress	53,622	2,272	15,860	35,490
Hemlock	5,633	330	465	4,838
Loblolly-shortleaf pines	4,678,561	133,225	1,554,963	2,990,373
Longleaf-slash pines	1,047,628	52,836	332,097	662,695
White pine	27,918	2,122	115	25,681
Other yellow pines	276,145	10,154	45,898	220,093
Total softwoods	6,120,474	201,593	1,951,092	3,967,789
Hardwood				
Ash	45,099	3,024	6,614	35,461
Basswood	7,550	57	437	7,056
Beech	27,342	691	2,861	23,790
Yellow birch	2,688	50	2	2,636
Other birch	4,024	48	192	3,784
Black cherry	22,727	1,263	2,581	18,883
Cottonwood	17,189	861	2,288	14,040
Elm	51,422	1,919	7,453	42,050
Hickory	136,733	7,358	16,164	113,211
Hard maples	16,728	1,720	3,153	11,855
Soft maples	104,728	4,690	9,265	90,773
Select red oaks	101,687	4,590	13,082	84,015
Other red oaks	561,962	20,684	78,819	462,459
Select white oaks	250,430	13,285	29,135	208,010
Other white oaks	190,220	9,239	30,772	150,209
Sweetgum	362,563	9,360	49,580	303,623
Sycamore	20,460	1,580	4,346	14,534
Tupelo-blackgum	91,238	4,320	14,470	72,448
Black walnut	13,597	254	219	13,124
Yellow-poplar	256,300	7,382	20,602	228,316
Other hardwoods	128,629	6,197	14,783	107,649
Total hardwoods	2,413,316	98,572	306,818	2,007,926
All species	8,533,790	300,165	2,257,910	5,975,715

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

**Table A.12—Output of roundwood products by product and species group, Southern Mountain, 2005 and 2007**

Product and species group	Year		Change	Change
	2005	2007		
	<i>----- thousand cubic feet -----</i>			<i>percent</i>
Saw logs				
Softwood	136,358	105,711	-30,647	-22.5
Hardwood	166,622	164,472	-2,150	-1.3
Total	302,980	270,183	-32,797	-10.8
Veneer logs				
Softwood	15,916	4,178	-11,738	-73.7
Hardwood	11,072	9,398	-1,674	-15.1
Total	26,988	13,576	-13,412	-49.7
Pulpwood				
Softwood	80,923	79,992	-931	-1.2
Hardwood	66,003	67,621	1,618	2.5
Total	146,926	147,613	687	0.5
Composite panels				
Softwood	7,201	5,579	-1,622	-22.5
Hardwood	7,795	4,659	-3,136	-40.2
Total	14,996	10,238	-4,758	-31.7
Other industrial				
Softwood	9,110	8,594	-516	-5.7
Hardwood	3,437	4,405	968	28.2
Total	12,547	12,999	452	3.6
All industrial				
Softwood	249,508	204,054	-45,454	-18.2
Hardwood	254,929	250,555	-4,374	-1.7
Total	504,437	454,609	-49,828	-9.9
Domestic fuelwood				
Softwood	2,454	2,127	-327	-13.3
Hardwood	35,190	34,706	-484	-1.4
Total	37,644	36,833	-811	-2.2
Total output				
Softwood	251,962	206,181	-45,781	-18.2
Hardwood	290,119	285,261	-4,858	-1.7
Total	542,081	491,442	-50,639	-9.3

**Table A.13—Output of roundwood products by product and species group, Southern Piedmont, 2005 and 2007**

Product and species group	Year		Change	Change
	2005	2007		
	----- thousand cubic feet -----			percent
Saw logs				
Softwood	1,080,282	971,207	-109,075	-10.1
Hardwood	604,533	574,122	-30,411	-5.0
Total	1,684,815	1,545,329	-139,486	-8.3
Veneer logs				
Softwood	330,913	271,975	-58,938	-17.8
Hardwood	29,280	26,523	-2,757	-9.4
Total	360,193	298,498	-61,695	-17.1
Pulpwood				
Softwood	768,717	782,794	14,077	1.8
Hardwood	580,451	547,861	-32,590	-5.6
Total	1,349,168	1,330,655	-18,513	-1.4
Composite panels				
Softwood	243,525	228,187	-15,338	-6.3
Hardwood	21,474	17,915	-3,559	-16.6
Total	264,999	246,102	-18,897	-7.1
Other industrial				
Softwood	21,804	18,883	-2,921	-13.4
Hardwood	1,731	6,432	4,701	271.6
Total	23,535	25,315	1,780	7.6
All industrial				
Softwood	2,445,241	2,273,046	-172,195	-7.0
Hardwood	1,237,469	1,172,853	-64,616	-5.2
Total	3,682,710	3,445,899	-236,811	-6.4
Domestic fuelwood				
Softwood	14,453	13,342	-1,111	-7.7
Hardwood	156,289	147,384	-8,905	-5.7
Total	170,742	160,726	-10,016	-5.9
Total output				
Softwood	2,459,694	2,286,388	-173,306	-7.0
Hardwood	1,393,758	1,320,237	-73,521	-5.3
Total	3,853,452	3,606,625	-246,827	-6.4

**Table A.14—Output of roundwood products by product and species group, Southern Coastal Plain, 2005 and 2007**

Product and species group	Year		Change	Change
	2005	2007		
	----- thousand cubic feet -----			percent
Saw logs				
Softwood	1,671,214	1,447,550	-223,664	-13.4
Hardwood	226,354	184,398	-41,956	-18.5
Total	1,897,568	1,631,948	-265,620	-14.0
Veneer logs				
Softwood	418,898	378,744	-40,154	-9.6
Hardwood	40,194	29,905	-10,289	-25.6
Total	459,092	408,649	-50,443	-11.0
Pulpwood				
Softwood	1,458,607	1,587,186	128,579	8.8
Hardwood	499,147	487,076	-12,071	-2.4
Total	1,957,754	2,074,262	116,508	6.0
Composite panels				
Softwood	82,905	132,034	49,129	59.3
Hardwood	21,373	4,718	-16,655	-77.9
Total	104,278	136,752	32,474	31.1
Other industrial				
Softwood	62,481	64,170	1,689	2.7
Hardwood	1,081	1,019	-62	-5.7
Total	63,562	65,189	1,627	2.6
All industrial				
Softwood	3,694,105	3,609,684	-84,421	-2.3
Hardwood	788,149	707,116	-81,033	-10.3
Total	4,482,254	4,316,800	-165,454	-3.7
Domestic fuelwood				
Softwood	20,391	18,221	-2,170	-10.6
Hardwood	110,887	100,702	-10,185	-9.2
Total	131,278	118,923	-12,355	-9.4
Total output				
Softwood	3,714,496	3,627,905	-86,591	-2.3
Hardwood	899,036	807,818	-91,218	-10.1
Total	4,613,532	4,435,723	-177,809	-3.9

**Table A.15—Volume of roundwood products by State, year, species group, and product, Southern Region**

State, year, and species group	All products	Product						
		Saw logs	Veneer logs	Pulpwood	Composite panels	Poles and posts	Other miscellaneous	Domestic fuelwood
thousand cubic feet								
Alabama 2007								
Softwood	830,712	354,977	60,069	374,966	27,777	9,794	512	2,617
Hardwood	291,040	58,030	15,100	199,131	1,610	0	100	17,069
Total	1,121,752	413,007	75,169	574,097	29,387	9,794	612	19,686
Arkansas 2007								
Softwood	476,827	257,812	56,095	135,715	24,760	240	91	2,114
Hardwood	211,976	95,700	5,283	94,061	0	0	2	16,930
Total	688,803	353,512	61,378	229,776	24,760	240	93	19,044
Florida 2007								
Softwood	469,682	173,532	24,229	221,021	28,335	7,447	13,810	1,308
Hardwood	39,193	3,899	1,371	15,533	1,218	0	666	16,506
Total	508,875	177,431	25,600	236,554	29,553	7,447	14,476	17,814
Georgia 2007								
Softwood	1,042,696	352,142	57,684	507,960	95,415	16,001	9,105	4,389
Hardwood	209,141	59,543	5,804	102,767	2,786	0	609	37,632
Total	1,251,837	411,685	63,488	610,727	98,201	16,001	9,714	42,021
Kentucky 2007								
Softwood	11,737	4,164	7	4,187	1,929	229	1,022	199
Hardwood	194,632	140,254	6,538	20,420	6,946	0	0	20,474
Total	206,369	144,418	6,545	24,607	8,875	229	1,022	20,673
Louisiana 2007								
Softwood	685,325	264,861	130,054	266,738	19,046	3,199	0	1,427
Hardwood	148,573	50,766	463	79,217	109	0	0	18,018
Total	833,898	315,627	130,517	345,955	19,155	3,199	0	19,445
Mississippi 2007								
Softwood	682,283	300,541	70,675	274,250	32,980	1,534	0	2,303
Hardwood	225,268	78,241	4,967	126,305	4,606	0	0	11,149
Total	907,551	378,782	75,642	400,555	37,586	1,534	0	13,452
North Carolina 2007								
Softwood	482,596	244,657	35,911	151,350	39,403	1,641	742	8,892
Hardwood	300,863	103,760	14,505	129,059	6,356	0	1,000	46,183
Total	783,459	348,417	50,416	280,409	45,759	1,641	1,742	55,075
Oklahoma 2005								
Softwood	95,646	54,691	10,691	19,626	6,313	4,115	0	210
Hardwood	35,921	6,803	13	16,983	0	0	0	12,122
Total	131,567	61,494	10,704	36,609	6,313	4,115	0	12,332

*continued*



**Table A.15—Volume of roundwood products by State, year, species group, and product, Southern Region (continued)**

State, year, and species group	All products	Product						
		Saw logs	Veneer logs	Pulpwood	Composite panels	Poles and posts	Other miscellaneous	Domestic fuelwood
		thousand cubic feet						
South Carolina 2007								
Softwood	515,863	204,382	33,091	230,722	39,286	5,020	617	2,745
Hardwood	121,864	22,108	4,705	72,777	97	0	0	22,177
Total	637,727	226,490	37,796	303,499	39,383	5,020	617	24,922
Tennessee 2007								
Softwood	68,080	13,448	0	43,360	0	20	8,198	3,054
Hardwood	256,671	152,316	2,365	73,834	0	222	3,343	24,591
Total	324,751	165,764	2,365	117,194	0	242	11,541	27,645
Texas 2007								
Softwood	501,748	199,402	163,637	135,401	0	2,761	0	547
Hardwood	132,538	32,166	570	94,867	0	17	0	4,918
Total	634,286	231,568	164,207	230,268	0	2,778	0	5,465
Virginia 2007								
Softwood	257,279	99,859	12,754	84,676	50,556	1,570	3,979	3,885
Hardwood	245,636	119,406	4,142	77,604	3,564	69	5,828	35,023
Total	502,915	219,265	16,896	162,280	54,120	1,639	9,807	38,908
Total States								
Softwood	6,120,474	2,524,468	654,897	2,449,972	365,800	53,571	38,076	33,690
Hardwood	2,413,316	922,992	65,826	1,102,558	27,292	308	11,548	282,792
Total	8,533,790	3,447,460	720,723	3,552,530	393,092	53,879	49,624	316,482

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

**Table A.16—Output of industrial products by product and species group, Alabama, 2005 and 2007**

Product and species group	Year		Change	Change
	2005	2007		
	<i>----- thousand cubic feet -----</i>			<i>percent</i>
Saw logs				
Softwood	371,660	354,977	-16,683	-4.5
Hardwood	53,636	58,030	4,394	8.2
Total	425,296	413,007	-12,289	-2.9
Veneer logs				
Softwood	74,444	60,069	-14,375	-19.3
Hardwood	18,824	15,100	-3,724	-19.8
Total	93,268	75,169	-18,099	-19.4
Pulpwood <sup>a</sup>				
Softwood	372,736	374,966	2,230	0.6
Hardwood	190,046	199,131	9,085	4.8
Total	562,782	574,097	11,315	2.0
Composite panels				
Softwood	43,760	27,777	-15,983	-36.5
Hardwood	1,509	1,610	101	6.7
Total	45,269	29,387	-15,882	-35.1
Other industrial				
Softwood	16,108	10,306	-5,802	-36.0
Hardwood	60	100	40	66.7
Total	16,168	10,406	-5,762	-35.6
All industrial				
Softwood	878,708	828,095	-50,613	-5.8
Hardwood	264,075	273,971	9,896	3.7
Total	1,142,783	1,102,066	-40,717	-3.6

<sup>a</sup> Includes roundwood delivered to nonpulp mills, then chipped and sold to pulp mills (9,401,000 cubic feet in 2005 and 4,084,000 cubic feet in 2007).

**Table A.17—Output of industrial products by product and species group, Arkansas, 2005 and 2007**

Product and species group	Year		Change	Change
	2005	2007		
	<i>----- thousand cubic feet -----</i>			<i>percent</i>
Saw logs				
Softwood	289,161	257,812	-31,349	-10.8
Hardwood	100,433	95,700	-4,733	-4.7
Total	389,594	353,512	-36,082	-9.3
Veneer logs				
Softwood	89,449	56,095	-33,354	-37.3
Hardwood	5,717	5,283	-434	-7.6
Total	95,166	61,378	-33,788	-35.5
Pulpwood <sup>a</sup>				
Softwood	130,774	135,715	4,941	3.8
Hardwood	103,848	94,061	-9,787	-9.4
Total	234,622	229,776	-4,846	-2.1
Composite panels				
Softwood	27,475	24,760	-2,715	-9.9
Hardwood	187	0	-187	-100.0
Total	27,662	24,760	-2,902	-10.5
Other industrial				
Softwood	1,794	331	-1,463	-81.5
Hardwood	0	2	2	0.0
Total	1,794	333	-1,461	-81.4
All industrial				
Softwood	538,653	474,713	-63,940	-11.9
Hardwood	210,185	195,046	-15,139	-7.2
Total	748,838	669,759	-79,079	-10.6

<sup>a</sup> Includes roundwood delivered to nonpulp mills, then chipped and sold to pulpmills (2,942,000 cubic feet in 2005 and 2,170,000 cubic feet in 2007).

**Table A.18—Output of industrial products by product and species group, Florida, 2005 and 2007**

Product and species group	Year		Change	Change
	2005	2007		
	----- <i>thousand cubic feet</i> -----			<i>percent</i>
Saw logs				
Softwood	162,617	173,532	10,915	6.7
Hardwood	4,415	3,899	-516	-11.7
Total	167,032	177,431	10,399	6.2
Veneer logs				
Softwood	24,905	24,229	-676	-2.7
Hardwood	1,526	1,371	-155	-10.2
Total	26,431	25,600	-831	-3.1
Pulpwood <sup>a</sup>				
Softwood	193,390	221,021	27,631	14.3
Hardwood	20,111	15,533	-4,578	-22.8
Total	213,501	236,554	23,053	10.8
Composite panels				
Softwood	14,164	28,335	14,171	100.0
Hardwood	1,418	1,218	-200	-14.1
Total	15,582	29,553	13,971	89.7
Other industrial				
Softwood	21,720	21,257	-463	-2.1
Hardwood	879	666	-213	-24.2
Total	22,599	21,923	-676	-3.0
All industrial				
Softwood	416,796	468,374	51,578	12.4
Hardwood	28,349	22,687	-5,662	-20.0
Total	445,145	491,061	45,916	10.3

<sup>a</sup> Includes roundwood delivered to nonpulp mills, then chipped and sold to pulpmills (4,102,000 cubic feet in 2005 and 1,403,000 cubic feet in 2007).

**Table A.19—Output of industrial products by product and species group, Georgia, 2005 and 2007**

Product and species group	Year		Change	Change
	2005	2007		
	<i>----- thousand cubic feet -----</i>			<i>percent</i>
Saw logs				
Softwood	394,723	352,142	-42,581	-10.8
Hardwood	63,480	59,543	-3,937	-6.2
Total	458,203	411,685	-46,518	-10.2
Veneer logs				
Softwood	66,742	57,684	-9,058	-13.6
Hardwood	7,660	5,804	-1,856	-24.2
Total	74,402	63,488	-10,914	-14.7
Pulpwood <sup>a</sup>				
Softwood	455,654	507,960	52,306	11.5
Hardwood	87,174	102,767	15,593	17.9
Total	542,828	610,727	67,899	12.5
Composite panels				
Softwood	56,350	95,415	39,065	69.3
Hardwood	6,658	2,786	-3,872	-58.2
Total	63,008	98,201	35,193	55.9
Other industrial				
Softwood	25,926	25,106	-820	-3.2
Hardwood	904	609	-295	-32.6
Total	26,830	25,715	-1,115	-4.2
All industrial				
Softwood	999,395	1,038,307	38,912	3.9
Hardwood	165,876	171,509	5,633	3.4
Total	1,165,271	1,209,816	44,545	3.8

<sup>a</sup> Includes roundwood delivered to nonpulp mills, then chipped and sold to pulpmills (14,673,000 cubic feet in 2005 and 10,131,000 cubic feet in 2007).

**Table A.20—Output of industrial products by product and species group, Kentucky, 2005 and 2007**

Product and species group	Year		Change	Change
	2005	2007		
	<i>----- thousand cubic feet -----</i>			<i>percent</i>
Saw logs				
Softwood	4,429	4,164	-265	-6.0
Hardwood	138,870	140,254	1,384	1.0
Total	143,299	144,418	1,119	0.8
Veneer logs				
Softwood	268	7	-261	-97.4
Hardwood	7,280	6,538	-742	-10.2
Total	7,548	6,545	-1,003	-13.3
Pulpwood <sup>a</sup>				
Softwood	4,162	4,187	25	0.6
Hardwood	20,389	20,420	31	0.2
Total	24,551	24,607	56	0.2
Composite panels				
Softwood	2,038	1,929	-109	-5.3
Hardwood	12,061	6,946	-5,115	-42.4
Total	14,099	8,875	-5,224	-37.1
Other industrial				
Softwood	1,639	1,251	-388	-23.7
Hardwood	44	0	-44	-100.0
Total	1,683	1,251	-432	-25.7
All industrial				
Softwood	12,536	11,538	-998	-8.0
Hardwood	178,644	174,158	-4,486	-2.5
Total	191,180	185,696	-5,484	-2.9

<sup>a</sup> Includes roundwood delivered to nonpulp mills, then chipped and sold to pulpmills (373,000 cubic feet in 2005 and 140,000 cubic feet in 2007).

**Table A.21—Output of industrial products by product and species group, Louisiana, 2005 and 2007**

Product and species group	Year		Change	Change
	2005	2007		
	<i>----- thousand cubic feet -----</i>			<i>percent</i>
Saw logs				
Softwood	282,659	264,861	-17,798	-6.3
Hardwood	60,402	50,766	-9,636	-16.0
Total	343,061	315,627	-27,434	-8.0
Veneer logs				
Softwood	144,915	130,054	-14,861	-10.3
Hardwood	695	463	-232	-33.4
Total	145,610	130,517	-15,093	-10.4
Pulpwood <sup>a</sup>				
Softwood	254,488	266,738	12,250	4.8
Hardwood	82,070	79,217	-2,853	-3.5
Total	336,558	345,955	9,397	2.8
Composite panels				
Softwood	26,248	19,046	-7,202	-27.4
Hardwood	11,730	109	-11,621	-99.1
Total	37,978	19,155	-18,823	-49.6
Other industrial				
Softwood	2,327	3,199	872	37.5
Hardwood	0	0	0	—
Total	2,327	3,199	872	37.5
All industrial				
Softwood	710,637	683,898	-26,739	-3.8
Hardwood	154,897	130,555	-24,342	-15.7
Total	865,534	814,453	-51,081	-5.9

— = negligible.

<sup>a</sup> Includes roundwood delivered to nonpulp mills, then chipped and sold to pulp mills (3,729,000 cubic feet in 2005 and 1,441,000 cubic feet in 2007).



**Table A.22—Output of industrial products by product and species group, Mississippi, 2005 and 2007**

Product and species group	Year		Change	Change
	2005	2007		
	<i>----- thousand cubic feet -----</i>			<i>percent</i>
Saw logs				
Softwood	432,908	300,541	-132,367	-30.6
Hardwood	110,394	78,241	-32,153	-29.1
Total	543,302	378,782	-164,520	-30.3
Veneer logs				
Softwood	69,401	70,675	1,274	1.8
Hardwood	8,752	4,967	-3,785	-43.2
Total	78,153	75,642	-2,511	-3.2
Pulpwood <sup>a</sup>				
Softwood	238,166	274,250	36,084	15.2
Hardwood	127,761	126,305	-1,456	-1.1
Total	365,927	400,555	34,628	9.5
Composite panels				
Softwood	39,332	32,980	-6,352	-16.1
Hardwood	4,524	4,606	82	1.8
Total	43,856	37,586	-6,270	-14.3
Other industrial				
Softwood	1,521	1,534	13	0.9
Hardwood	0	0	0	—
Total	1,521	1,534	13	0.9
All industrial				
Softwood	781,328	679,980	-101,348	-13.0
Hardwood	251,431	214,119	-37,312	-14.8
Total	1,032,759	894,099	-138,660	-13.4

— = negligible.

<sup>a</sup> Includes roundwood delivered to nonpulp mills, then chipped and sold to pulp mills (2,801,000 cubic feet in 2005 and 2,968,000 cubic feet in 2007).

**Table A.23—Output of industrial products by product and species group, North Carolina, 2005 and 2007**

Product and species group	Year		Change	Change
	2005	2007		
	<i>----- thousand cubic feet -----</i>			<i>percent</i>
Saw logs				
Softwood	289,355	244,657	-44,698	-15.4
Hardwood	110,302	103,760	-6,542	-5.9
Total	399,657	348,417	-51,240	-12.8
Veneer logs				
Softwood	44,337	35,911	-8,426	-19.0
Hardwood	15,437	14,505	-932	-6.0
Total	59,774	50,416	-9,358	-15.7
Pulpwood <sup>a</sup>				
Softwood	136,936	151,350	14,414	10.5
Hardwood	136,726	129,059	-7,667	-5.6
Total	273,662	280,409	6,747	2.5
Composite panels				
Softwood	41,126	39,403	-1,723	-4.2
Hardwood	8,271	6,356	-1,915	-23.2
Total	49,397	45,759	-3,638	-7.4
Other industrial				
Softwood	1,408	2,383	975	69.2
Hardwood	22	1,000	978	4,445.5
Total	1,430	3,383	1,953	136.6
All industrial				
Softwood	513,162	473,704	-39,458	-7.7
Hardwood	270,758	254,680	-16,078	-5.9
Total	783,920	728,384	-55,536	-7.1

<sup>a</sup> Includes roundwood delivered to nonpulp mills, then chipped and sold to pulp mills (7,051,000 cubic feet in 2005 and 4,608,000 cubic feet in 2007).

**Table A.24—Output of industrial products by product and species group, Oklahoma, 2002 and 2005**

Product and species group	Year		Change	Change
	2002	2005		
	----- <i>thousand cubic feet</i> -----			<i>percent</i>
Saw logs				
Softwood	57,304	54,691	-2,613	-4.6
Hardwood	6,653	6,803	150	2.3
Total	63,957	61,494	-2,463	-3.9
Veneer logs and other industrial <sup>a</sup>				
Softwood	12,906	21,119	8,213	63.6
Hardwood	0	13	13	—
Total	12,906	21,132	8,226	63.7
Pulpwood <sup>b</sup>				
Softwood	27,706	19,626	-8,080	-29.2
Hardwood	21,212	16,983	-4,229	-19.9
Total	48,918	36,609	-12,309	-25.2
All industrial				
Softwood	97,916	95,436	-2,480	-2.5
Hardwood	27,865	23,799	-4,066	-14.6
Total	125,781	119,235	-6,546	-5.2

Note: No timber product output study was conducted for 2007.

— = negligible.

<sup>a</sup> Includes poles, posts, composite panels, mulch, firewood, log homes, charcoal, and all other industrial products.

<sup>b</sup> Includes roundwood delivered to nonpulp mills, then chipped and sold to pulp mills (3,707,000 cubic feet in 2002 and 3,707,000 cubic feet in 2005).

**Table A.25—Output of industrial products by product and species group, South Carolina, 2005 and 2007**

Product and species group	Year		Change	Change
	2005	2007		
	----- <i>thousand cubic feet</i> -----			<i>percent</i>
Saw logs				
Softwood	233,982	204,382	-29,600	-12.7
Hardwood	23,846	22,108	-1,738	-7.3
Total	257,828	226,490	-31,338	-12.2
Veneer logs				
Softwood	34,299	33,091	-1,208	-3.5
Hardwood	7,324	4,705	-2,619	-35.8
Total	41,623	37,796	-3,827	-9.2
Pulpwood <sup>a</sup>				
Softwood	236,513	230,722	-5,791	-2.4
Hardwood	81,223	72,777	-8,446	-10.4
Total	317,736	303,499	-14,237	-4.5
Composite panels				
Softwood	23,674	39,286	15,612	65.9
Hardwood	108	97	-11	-10.2
Total	23,782	39,383	15,601	65.6
Other industrial				
Softwood	4,255	5,637	1,382	32.5
Hardwood	0	0	0	—
Total	4,255	5,637	1,382	32.5
All industrial				
Softwood	532,723	513,118	-19,605	-3.7
Hardwood	112,501	99,687	-12,814	-11.4
Total	645,224	612,805	-32,419	-5.0

— = negligible.

<sup>a</sup> Includes roundwood delivered to nonpulp mills, then chipped and sold to pulpmills (7,104,000 cubic feet in 2005 and 3,516,000 cubic feet in 2007).

**Table A.26—Output of industrial products by product and species group, Tennessee, 2005 and 2007**

Product and species group	Year		Change	Change
	2005	2007		
	<i>----- thousand cubic feet -----</i>			<i>percent</i>
Saw logs				
Softwood	27,242	13,448	-13,794	-50.6
Hardwood	161,502	152,316	-9,186	-5.7
Total	188,744	165,764	-22,980	-12.2
Veneer logs				
Softwood	239	0	-239	-100.0
Hardwood	1,910	2,365	455	23.8
Total	2,149	2,365	216	10.1
Pulpwood				
Softwood	40,018	43,360	3,342	8.4
Hardwood	81,190	73,834	-7,356	-9.1
Total	121,208	117,194	-4,014	-3.3
Other industrial				
Softwood	9,240	8,218	-1,022	-11.1
Hardwood	3,948	3,565	-383	-9.7
Total	13,188	11,783	-1,405	-10.7
All industrial				
Softwood	76,739	65,026	-11,713	-15.3
Hardwood	248,550	232,080	-16,470	-6.6
Total	325,289	297,106	-28,183	-8.7

**Table A.27—Output of industrial products by product and species group, Texas, 2005 and 2007**

Product and species group	Year		Change	Change
	2005	2007		
	<i>----- thousand cubic feet -----</i>			<i>percent</i>
Saw logs				
Softwood	237,699	199,402	-38,297	-16.1
Hardwood	41,987	32,166	-9,821	-23.4
Total	279,686	231,568	-48,118	-17.2
Veneer logs				
Softwood	194,772	163,637	-31,135	-16.0
Hardwood	493	570	77	15.6
Total	195,265	164,207	-31,058	-15.9
Pulpwood				
Softwood	129,468	135,401	5,933	4.6
Hardwood	94,695	94,867	172	0.2
Total	224,163	230,268	6,105	2.7
Composite panels				
Softwood	0	0	0	—
Hardwood	0	0	0	—
Total	0	0	0	—
Other industrial				
Softwood	2,329	2,761	432	18.5
Hardwood	0	17	17	—
Total	2,329	2,778	449	19.3
All industrial				
Softwood	564,268	501,201	-63,067	-11.2
Hardwood	137,175	127,620	-9,555	-7.0
Total	701,443	628,821	-72,622	-10.4

— = negligible.

**Table A.28—Output of industrial products by product and species group, Virginia, 2005 and 2007**

Product and species group	Year		Change	Change
	2005	2007		
	<i>----- thousand cubic feet -----</i>			<i>percent</i>
Saw logs				
Softwood	106,728	99,859	-6,869	-6.4
Hardwood	121,439	119,406	-2,033	-1.7
Total	228,167	219,265	-8,902	-3.9
Veneer logs				
Softwood	11,265	12,754	1,489	13.2
Hardwood	4,915	4,142	-773	-15.7
Total	16,180	16,896	716	4.4
Pulpwood <sup>a</sup>				
Softwood	96,316	84,676	-11,640	-12.1
Hardwood	103,385	77,604	-25,781	-24.9
Total	199,701	162,280	-37,421	-18.7
Composite panels				
Softwood	53,151	50,556	-2,595	-4.9
Hardwood	4,176	3,564	-612	-14.7
Total	57,327	54,120	-3,207	-5.6
Other industrial				
Softwood	1,013	5,549	4,536	447.8
Hardwood	392	5,897	5,505	1,404.3
Total	1,405	11,446	10,041	714.7
All industrial				
Softwood	268,473	253,394	-15,079	-5.6
Hardwood	234,307	210,613	-23,694	-10.1
Total	502,780	464,007	-38,773	-7.7

<sup>a</sup> Includes roundwood delivered to nonpulp mills, then chipped and sold to pulpmills (2,657,000 cubic feet in 2005 and 3,436,000 cubic feet in 2007).



**Johnson, Tony G.; Bentley, James W.; Howell, Mike.** 2009. The South's timber industry—an assessment of timber product output and use, 2007. Resour. Bull. SRS-164. Asheville, NC: U.S. Department of Agriculture Forest Service, Southern Research Station. 52 p.

In 2007, industrial roundwood output from the South's forests totaled 8.22 billion cubic feet, 5 percent less than in 2005. Mill byproducts generated from primary manufacturers declined 8 percent to 2.95 billion cubic feet. Almost all plant residues produced were used for another product. Fuel and fiber products accounted for 82 percent of utilized plant byproducts. Pulpwood was the leading roundwood product at 3.55 billion cubic feet; saw logs ranked second at 3.45 billion cubic feet; veneer logs were third at 721 million cubic feet. The number of primary processing plants declined from 2,028 in 2005 to 1,882 in 2007. Total receipts declined 5 percent to 8.26 billion cubic feet.

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



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