United States
Department of
Agriculture

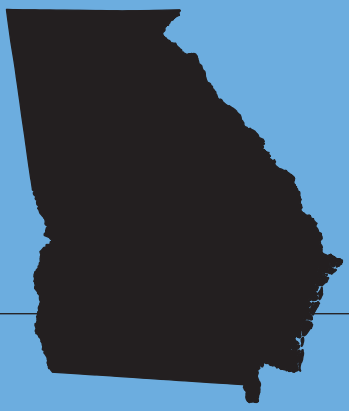
Forest Service

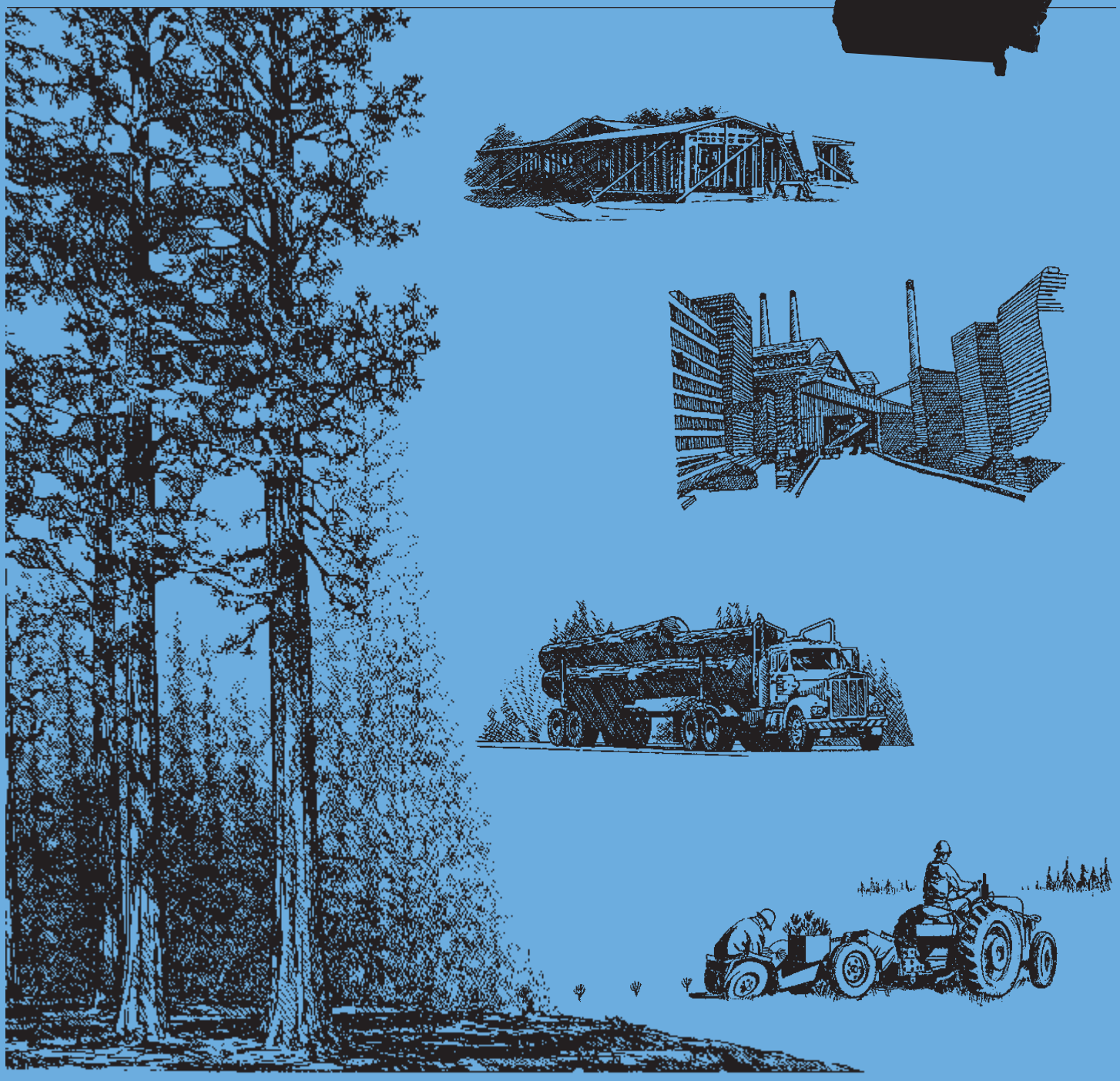
**Southern
Research Station**

Resource Bulletin
SRS–123

Georgia's Timber Industry—An Assessment of Timber Product Output and Use, 2005

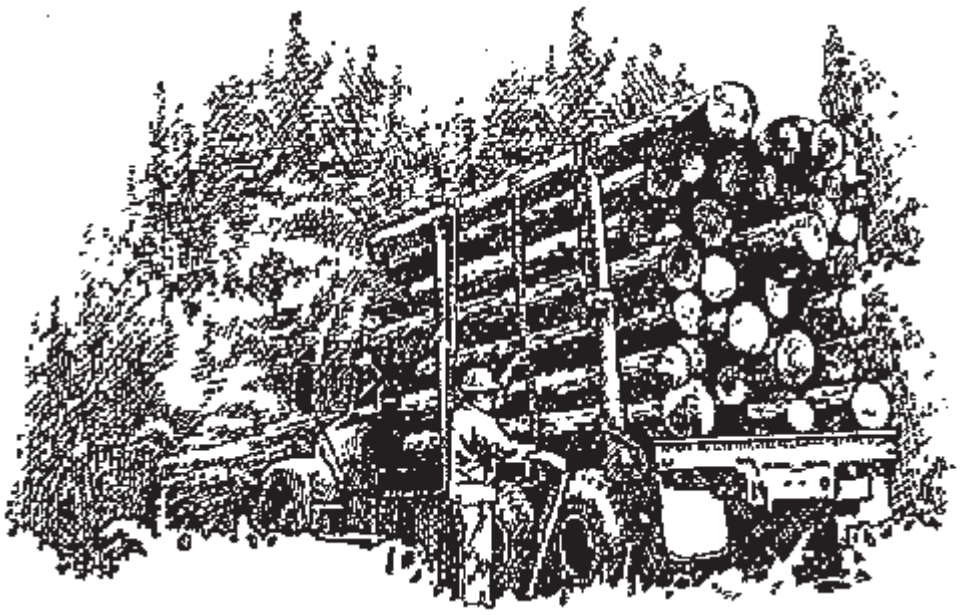
**Tony G. Johnson,
Nathan McClure,
and John L. Wells**





The Authors:

Tony G. Johnson, Resource Analyst, USDA Forest Service, Southern Research Station, Knoxville, TN 37919;
Nathan McClure, Staff Forester, and **John L. Wells,** Staff Forester, Georgia Forestry Commission, Macon, GA 31202-0819.



November 2007

Southern Research Station
200 W.T. Weaver Blvd.
Asheville, NC 28804

Foreword

This report contains the findings of a 2005 canvass of all primary wood-using plants in Georgia, and presents changes in product output and residue use since 2003. 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 2005 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 all wood processors in Georgia was conducted in 2006 to obtain information for 2005. In addition, roundwood from out-of-State mills known to be using logs or bolts harvested from Georgia timberland was incorporated into Georgia 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. 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 Tommy Loggins and Richard Harper for review and comments; Carolyn Steppleton for her tireless efforts in processing and accuracy of the data; Sonja Oswalt for the mill map; Helen Beresford for timber product output database maintenance and support; Anne Jenkins, Janet Griffin, Sharon Johnson, and Charlene Walker 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 Georgia Forestry Commission 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/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, 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.

Tony Johnson
Southern Research Station
USDA Forest Service
4700 Old Kingston Pike
Knoxville, TN 37919
tjohnson09@fs.fed.us
865-862-2042

Helen Beresford
Southern Research Station
USDA Forest Service
4700 Old Kingston Pike
Knoxville, TN 37919
hberesford@fs.fed.us
865-862-2091

James Bentley
Southern Research Station
USDA Forest Service
4700 Old Kingston Pike
Knoxville, TN 37919
jbentley@fs.fed.us
865-862-2056

Carolyn Steppleton
Southern Research Station
USDA Forest Service
200 W.T. Weaver Blvd.
Asheville, NC 28804
csteppleton@fs.fed.us
828-257-4848

Contents

[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.

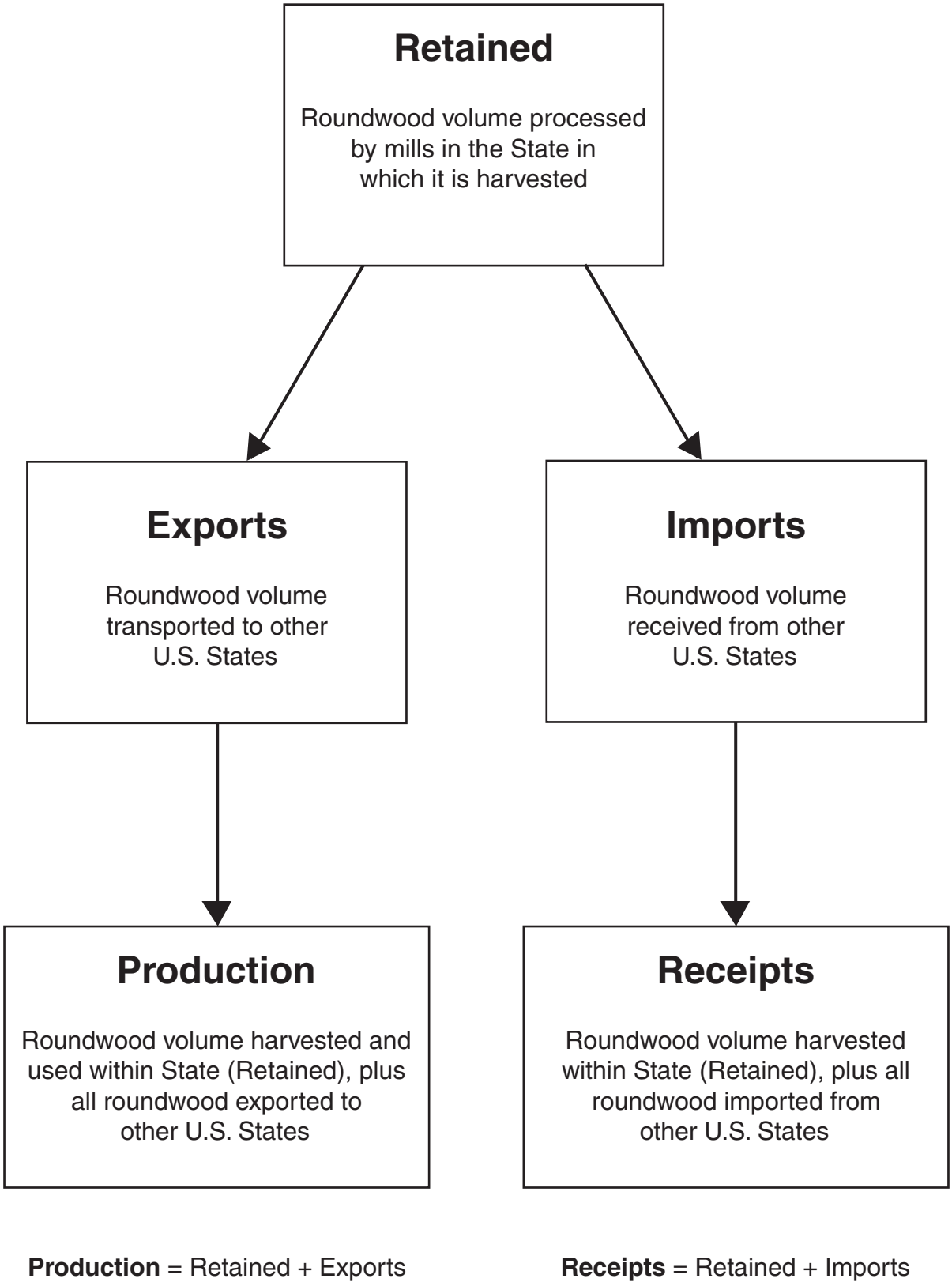


Figure 1—Movement of roundwood exports and imports within the United States.

Georgia's Timber Industry—An Assessment of Timber Product Output and Use, 2005

Tony G. Johnson, Nathan McClure, and John L. Wells

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 Work Units across the country that deal with timber product output (TPO) (fig. 1).

All Products

- Between 2003 and 2005, the combined industrial TPO from roundwood and plant byproducts increased 2 percent, from 1.57 to 1.60 billion cubic feet.
- TPO from roundwood was up 12 million cubic feet, or 1 percent, to 1.17 billion cubic feet, while output of plant byproducts was up 16 million cubic feet, or 4 percent, to 433 million cubic feet.
- Output of softwood roundwood products increased 4 percent, totaling 999 million cubic feet, while output of hardwood roundwood products was down 13 percent to 166 million cubic feet (fig. 2).
- Pulpwood and saw logs were the principal roundwood products in 2005. Combined output of these two products totaled 1.0 billion cubic feet and accounted for 86 percent of the State's total industrial roundwood output (fig. 3).
- Total receipts at Georgia mills, which included roundwood harvested and retained in the State and roundwood imported from other States, increased 3 percent, from 1.17 billion cubic feet to 1.21 billion cubic feet. At the same time, the number of primary roundwood-using plants in Georgia declined from 187 in 2003 to 181 in 2005 (fig. 4). The number of sawmills declined by seven, while the State gained one other miscellaneous mill.

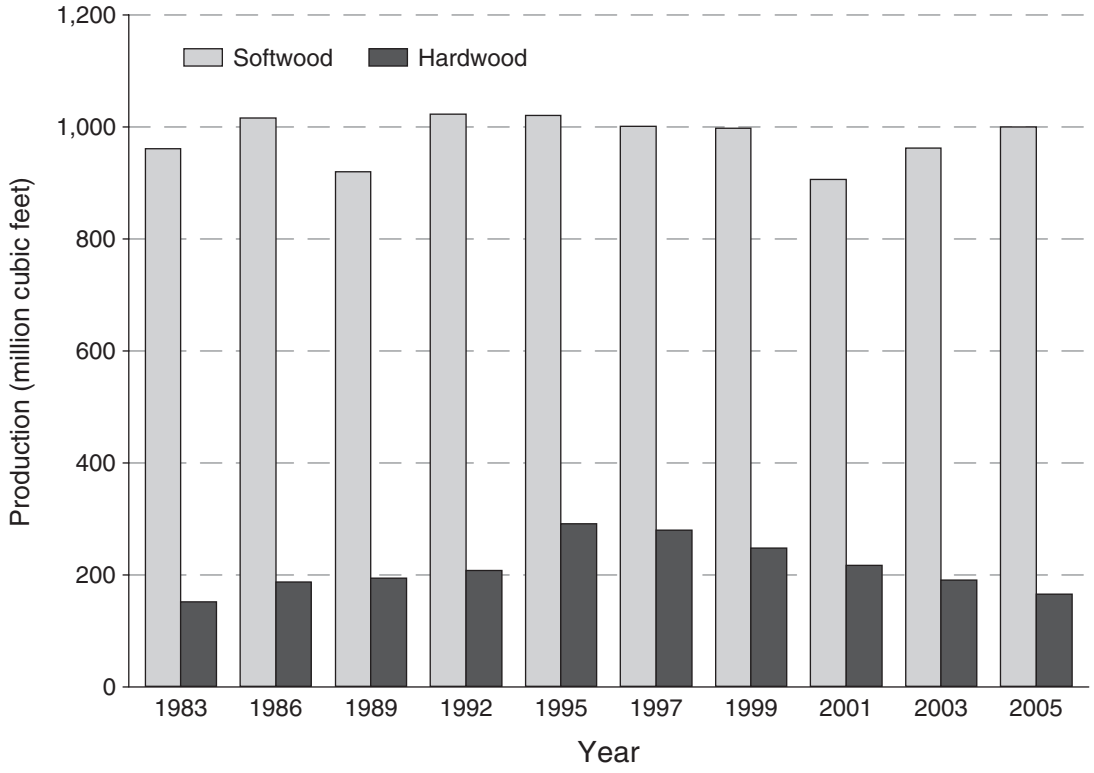


Figure 2—Roundwood production for all products by species group and year (see page 8 for references for individual years).

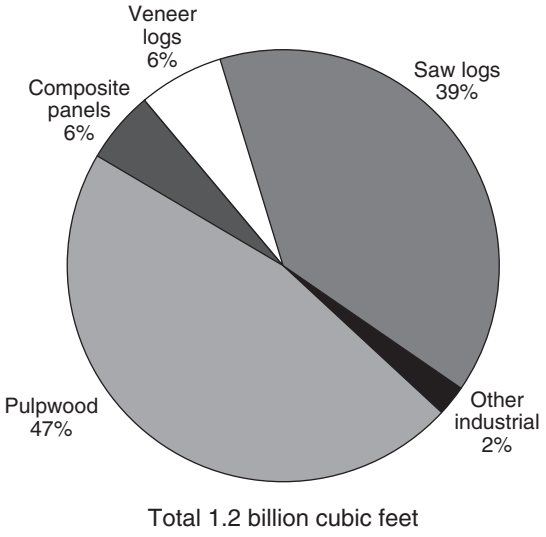


Figure 3—Roundwood production by type of product, 2005.

- Across all products, 87 percent of roundwood harvested was retained for processing at Georgia mills. Exports of roundwood to other States amounted to 151 million cubic feet, while imports of roundwood amounted to 194 million cubic feet making the State a net importer of roundwood. Tables A.8 to A.12 show exports to and imports from other States by individual product type.

Pulpwood

- Total pulpwood production, including chipped roundwood, declined nearly 5 percent to 543 million cubic feet and accounted for 47 percent of the State's total roundwood TPO compared to 50 percent of total TPO in 2003. Softwood output remained relatively stable at 456 million cubic feet (6.3 million cords); hardwood output declined 24 million cubic feet, or 22 percent, to 87 million cubic feet (1.2 million cords) (fig. 5).

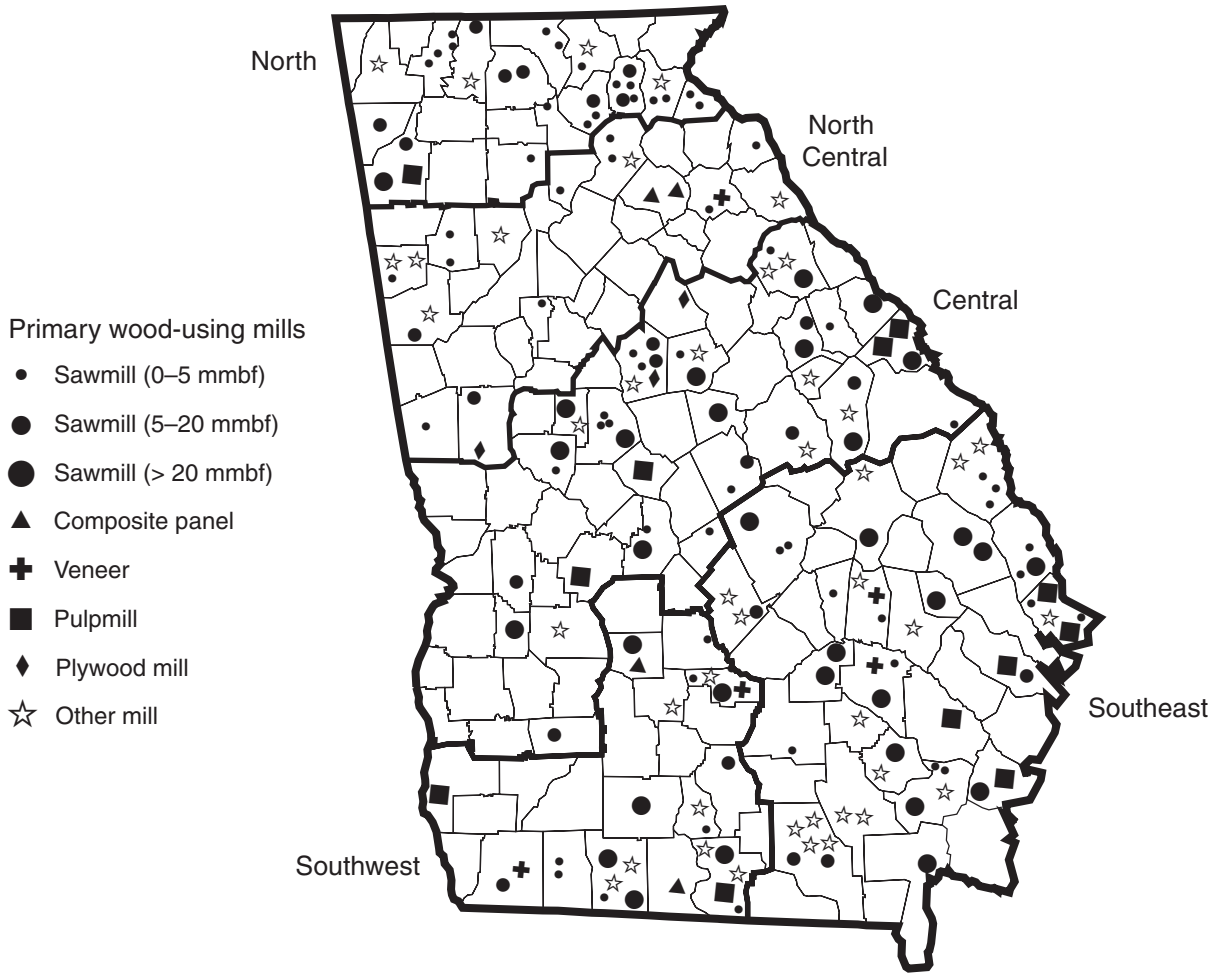


Figure 4—Primary wood-using mills by region, 2005.

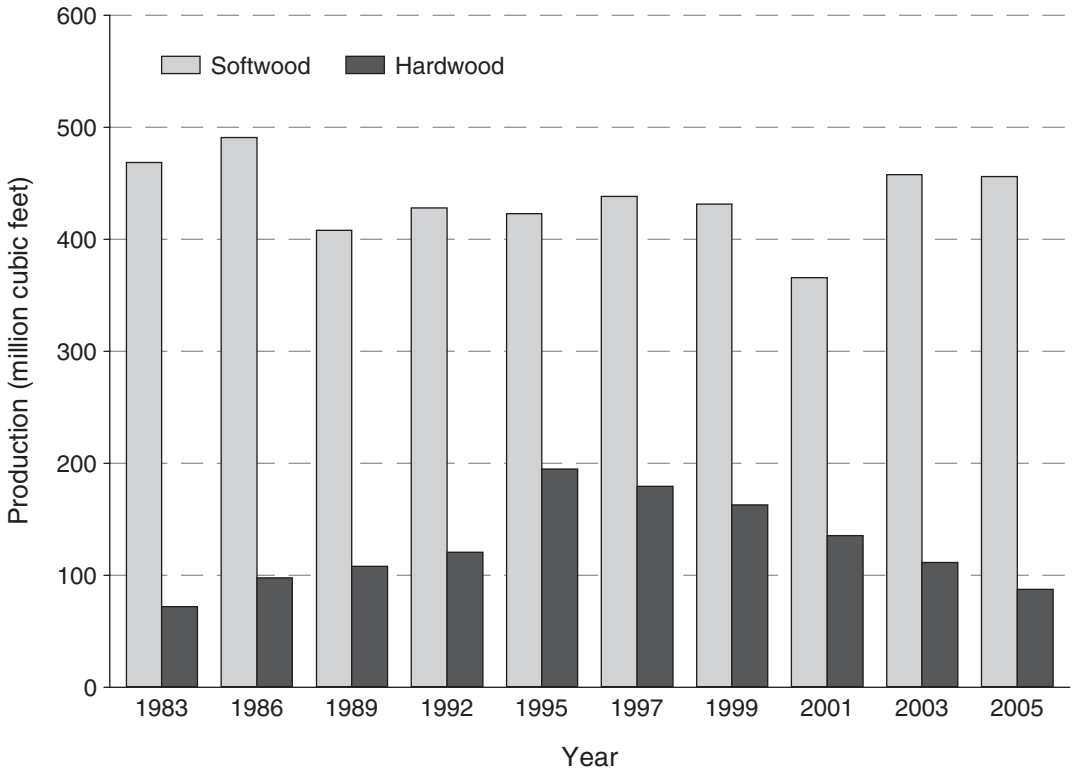


Figure 5—Roundwood pulpwood production by species group and year (see page 8 for references for individual years).

- Twelve pulpmill facilities were operating and receiving roundwood in Georgia in 2005, the same as in 2003. Total pulpwood receipts for these mills remained stable at 562 million cubic feet, accounting for 47 percent of total receipts for all mills.

- Eighty percent of roundwood cut for pulpwood was retained for processing at Georgia pulpmills. Roundwood pulpwood accounted for 73 percent of total known exports and 67 percent of total imports. Roundwood pulpwood imports exceeded exports by 19 million cubic feet, making the State a net importer of pulpwood for processing.

Saw Logs

- Saw logs accounted for 39 percent of the State's total roundwood products. Output of softwood saw logs increased 5 percent to 395 million cubic feet (2.2 billion board feet, International ¼-inch rule), while that of hardwood saw logs was down 3 percent to 63 million cubic feet (378 million board feet, International ¼-inch rule) (fig. 6).

- In 2005, Georgia had 115 sawmills, 7 mills less than in 2003. The total number of sawmills does not include the several single operator sawmills in the State. Total saw-log receipts were up more than 25 million cubic feet to 477 million cubic feet. Softwood saw-log receipts increased 7 percent to 410 million cubic feet, while those of hardwoods declined 1 percent to 66 million cubic feet. Of the operating mills in 2005, 32 percent had receipts of <1 million board feet, while 38 percent had receipts >10 million board feet. Those 44 mills, however, accounted for 95 percent of total saw-log receipts.

- Georgia retained 95 percent of its saw-log production for within-State manufacture, with saw-log imports exceeding exports by 19 million cubic feet in 2005.

Veneer Logs

- Output of veneer logs in 2005 totaled 74 million cubic feet and accounted for 6 percent of the State's total roundwood TPO volume. Softwood veneer production was up 17 percent to 67 million cubic feet (391 million board feet, International ¼-inch rule); output of hardwood

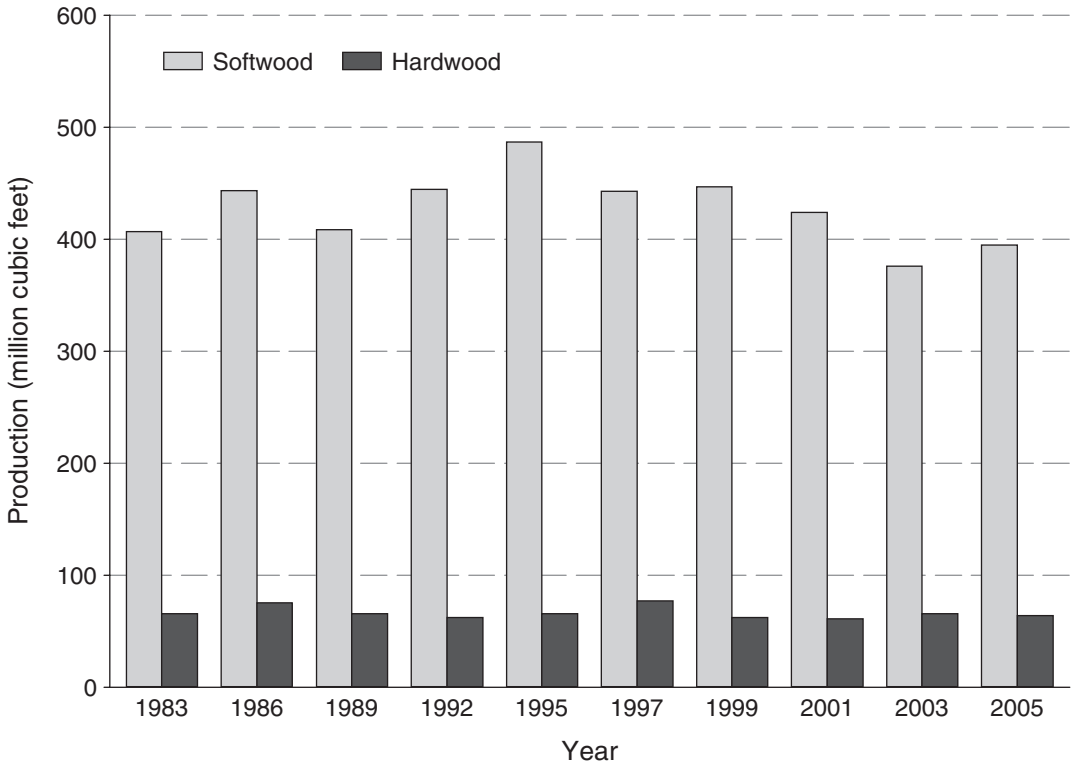


Figure 6—Roundwood saw-log production by species group and year (see page 8 for references for individual years).

veneer logs declined 33 percent to 8 million cubic feet (47 million board feet, International ¼-inch rule) (fig. 7).

- The number of veneer mills operating in Georgia remained at eight in 2005. Receipts of veneer logs increased 7 percent to 78 million cubic feet. Softwood veneer receipts were up 7 million cubic feet to 61 million cubic feet, while hardwood veneer receipts declined 13 percent to 17 million cubic feet.

- Georgia retained 86 percent of its veneer-log production for processing at veneer mills within the State. Imports amounted to 14 million cubic feet, and exports totaled 10 million cubic feet, making the State a net importer of roundwood veneer logs.

Composite Panels

- Roundwood harvested from Georgia's forests for composite panels increased 32 percent and totaled 63 million cubic feet. Softwood output was up 24 percent to 56 million cubic feet (777,000 cords); hardwood production increased 182 percent to 7 million cubic feet (89,000 cords) (fig. 8).

- Four composite panel, or oriented strand board, mills were operating in Georgia in 2005. Total receipts for these mills increased 12 percent to 65 million cubic feet, and accounted for 5 percent of the State's total receipts.

- Ninety-two percent of the roundwood production harvested for composite panels was retained for processing at Georgia's mills. Imports amounted to 7 million cubic feet, and exports totaled 5 million cubic feet, making the State a net importer of roundwood used for composite panels.

Other Industrial Products

- Roundwood harvested for other industrial uses such as poles, posts, mulch, firewood, logs for log homes, and all other industrial products totaled 27 million cubic feet, a 1-percent increase from 2003. Softwood made up 97 percent of the other industrial products volume.

- The number of plants producing other industrial products totaled 42 in 2005. Combined receipts of other industrial products from softwood and hardwood remained at 27 million cubic feet.

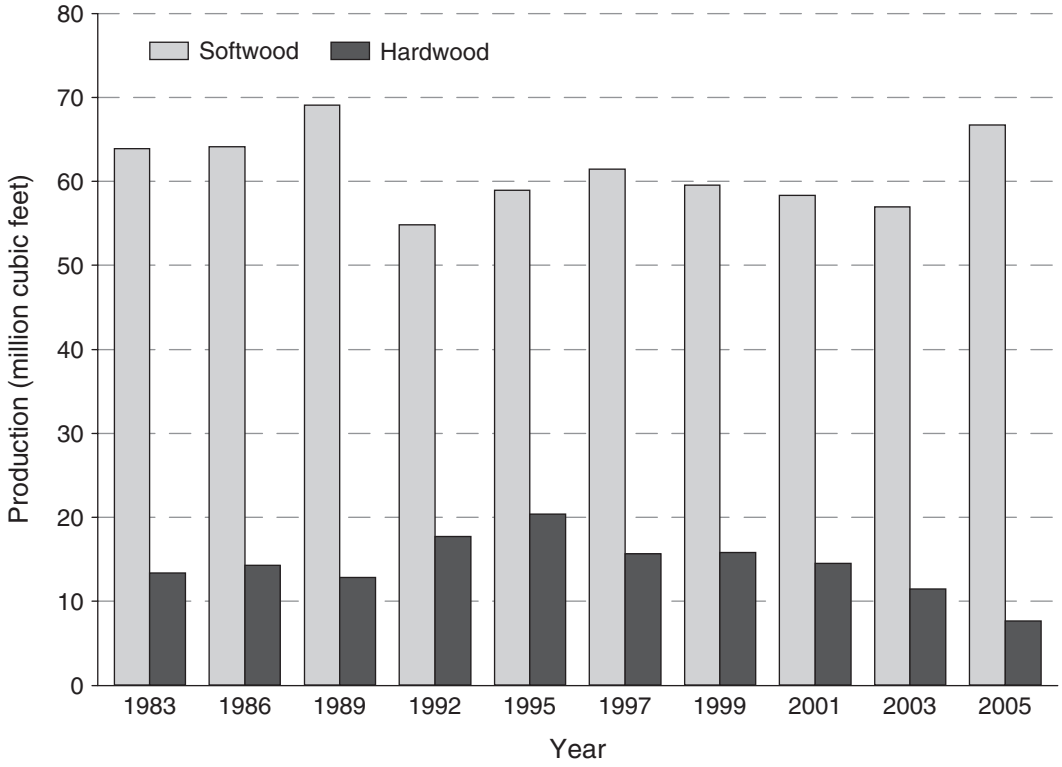


Figure 7—Roundwood veneer-log production by species group and year (see page 8 for references for individual years).

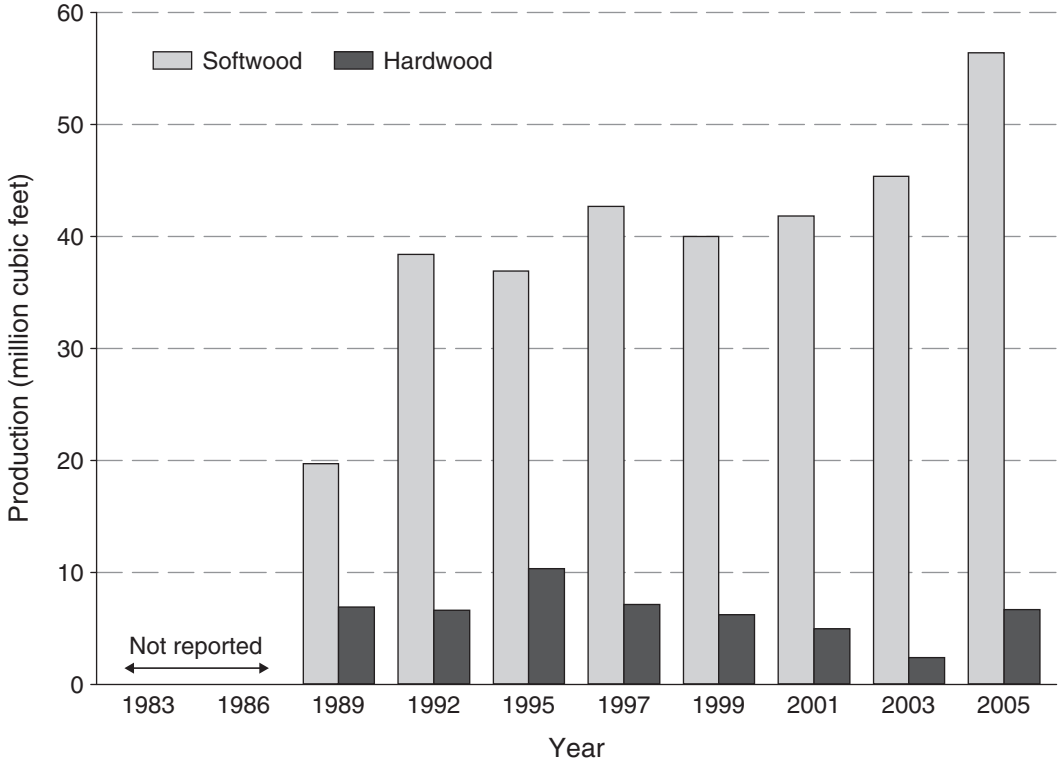


Figure 8—Roundwood production for composite panels by species group and year (see page 8 for references for individual years).

- Georgia was a net exporter of roundwood used for other industrial products, but only by a small margin; nearly all of the 1.4 million cubic feet exported and 1.4 million cubic feet imported were softwood.

Plant Byproducts

- In 2005, processing of primary products in Georgia mills generated 438 million cubic feet of wood and bark residues. Coarse residues from all primary products amounted to 164 million cubic feet, while bark volume totaled 141 million cubic feet. Collectively, sawdust and shavings made up 30 percent of total residues, or 133 million cubic feet (fig. 9).

- The processing of saw logs generated 287 million cubic feet of mill residues, accounting for 66 percent of the total residues produced (fig. 10).

- Nearly 433 million cubic feet, or 99 percent, of the wood and bark residues were used for a product. While 1 percent of the residues were not used for a product, 44 percent of the residues were used for industrial fuel and 32 percent were used for fiber products (fig. 11). More than 134 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 57 percent of the sawdust and shavings were used for industrial fuel.

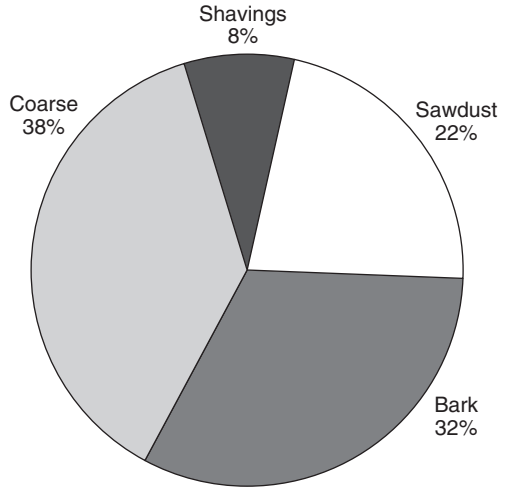


Figure 9—Primary mill residue by residue type, 2005.

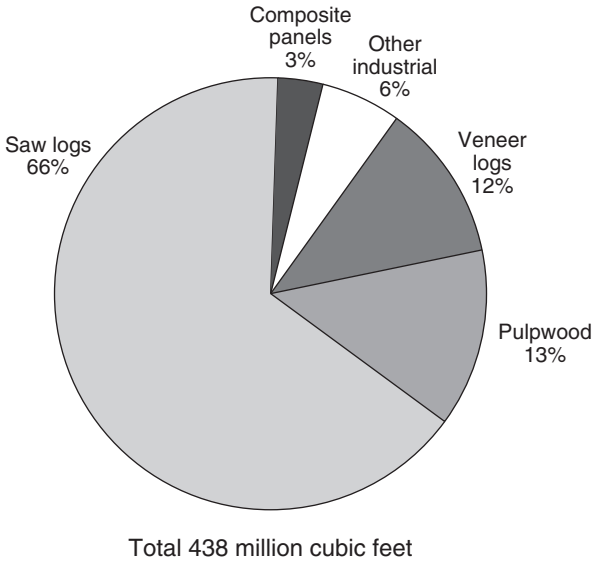


Figure 10—Primary mill residue produced by roundwood type, 2005.

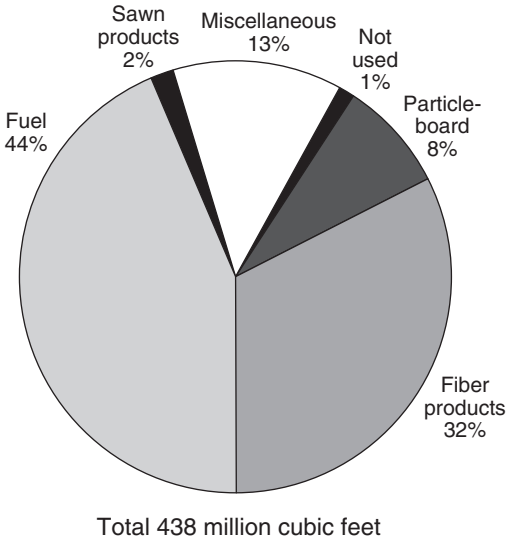


Figure 11—Disposal of residue by product, 2005.

County Data

- Table A.15 shows softwood and hardwood product output by county and individual product type. All 159 counties in Georgia had softwood and hardwood output. Eighteen counties (Appling, Brantley, Burke, Charlton, Clinch, Dodge, Effingham, Elbert, Emanuel, Floyd, Glynn, Hancock, Jeff Davis, Laurens, Liberty, Washington, Wayne, and Wilkes) had combined softwood and hardwood product output of more than 15 million cubic feet each. These 18 counties total product output amounted to nearly 338 million cubic feet and accounted for 29 percent of the State's total product output.

Total Roundwood Output

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

Source

- In addition to the 1.17 billion cubic feet of roundwood output for industrial roundwood, an estimated 51 million cubic feet were harvested for domestic fuelwood, bringing Georgia's total roundwood output to 1.22 billion cubic feet.

- Ninety-six 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 47 million cubic feet, or 4 percent of total roundwood output (fig. 12).

Ownership

- An estimated 844 million cubic feet, or 69 percent, of the total roundwood output came from nonindustrial private forest lands. Forest industry lands contributed 343 million cubic feet, or 28 percent of the output. Public lands made up the remaining 3 percent, or 30 million cubic feet (fig. 13).

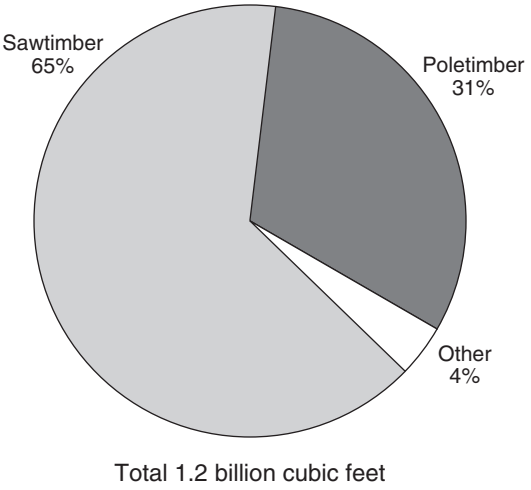


Figure 12—Roundwood output by source, 2005.

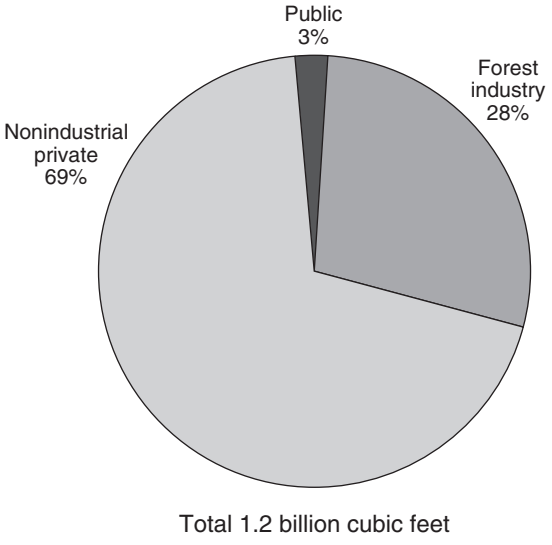


Figure 13—Roundwood output by ownership, 2005.

Species

- The loblolly and shortleaf pine group provided the most volume of any softwood species group, accounting for 64 percent of the total softwood output (fig. 14). The longleaf-slash pine type accounted for 30 percent of the softwood output. In hardwoods, the red oak and white oak groups combined accounted for 80 million cubic feet, or 38 percent of total hardwood output (fig. 15).

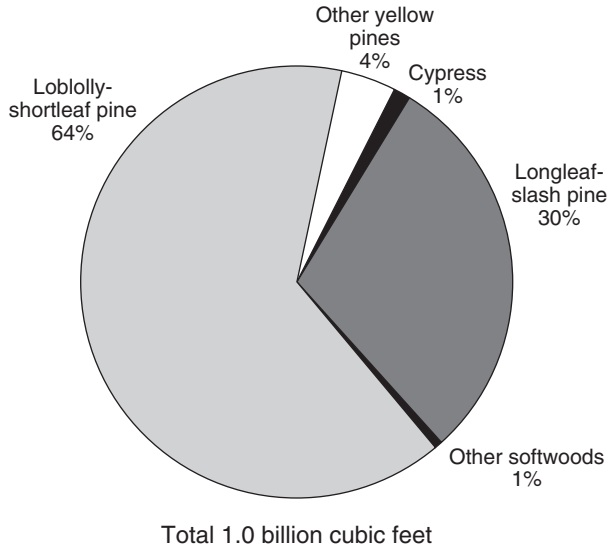


Figure 14—Roundwood output by softwood species group, 2005.

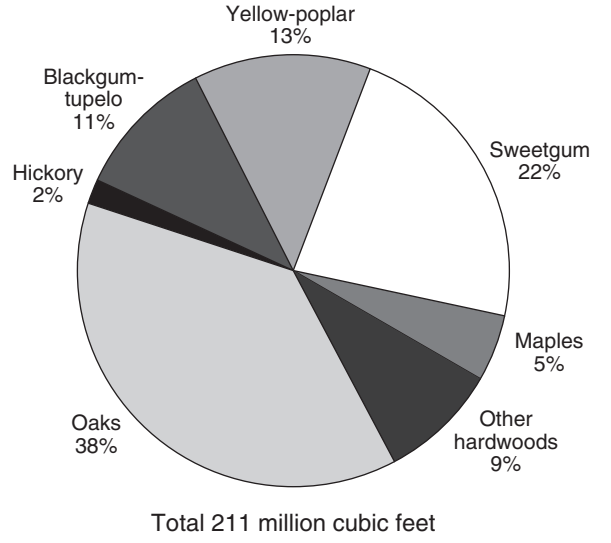


Figure 15—Roundwood output by hardwood species group, 2005.

References

Johnson, T.G. 1994. Georgia's timber industry—an assessment of timber product output and use, 1992. Resour. Bull. SE–144. Asheville, NC: U.S. Department of Agriculture Forest Service, Southeastern Forest Experiment Station. 32 p. [1992].

Johnson, T.G.; Jenkins, A.W.; Wells, J.L. 1997. Georgia's timber industry—an assessment of timber product output and use, 1995. Resour. Bull. SRS–14. Asheville, NC: U.S. Department of Agriculture Forest Service, Southern Research Station. 37 p. [1995].

Johnson, T.G.; Wells, J.L. 1999. Georgia's timber industry—an assessment of timber product output and use, 1997. Resour. Bull. SRS–38. Asheville, NC: U.S. Department of Agriculture Forest Service, Southern Research Station. 36 p. [1997].

Johnson, T.G.; Wells, J.L. 2002. Georgia's timber industry—an assessment of timber product output and use, 1999. Resour. Bull. SRS–68. Asheville, NC: U.S. Department of Agriculture Forest Service, Southern Research Station. 40 p. [1999].

Johnson, T.G.; Wells, J.L. 2004. Georgia's timber industry—an assessment of timber product output and use, 2001. Resour. Bull. SRS–92. Asheville, NC: U.S. Department of Agriculture Forest Service, Southern Research Station. 40 p. [2001].

Johnson, T.G.; Wells, J.L. 2005. Georgia's timber industry—an assessment of timber product output and use, 2003. Resour. Bull. SRS–104. Asheville, NC: U.S. Department of Agriculture Forest Service, Southern Research Station. 46 p. [2003].

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.

Tansey, J.B.; Steppleton, C.D. 1991. Georgia's timber industry—an assessment of timber product output and use, 1989. Resour. Bull. SE–126. Asheville, NC: U.S. Department of Agriculture Forest Service, Southeastern Forest Experiment Station. 23 p. [1986, 1989].

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].

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 ¼-inch rule. A log rule or formula for estimating the board-foot volume of logs, allowing ½-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 ¼-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).

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 acre basal area = 0.229568 m^2/ha
1 pound = 0.454 kg
1 ton = 0.907 MT

Conversion Factors[a]

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[b]	
Softwood	72.6 cubic feet per cord
Hardwood	75.0 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 Georgia during the most recent survey period.

[b] Cubic feet of solid wood per cord.

Species List[a]

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

[a] Common and scientific names of tree species > 1.0 inch d.b.h. occurring in the FIA sample.
[b] Little (1979).

Appendix

Index of Tables

Table A.1—Output of industrial products by product and species group, Georgia, 2003 and 2005

Product and species group	Year 2003	2005	Change	Change
	- - - - - - thousand cubic feet - - - - - -			*percent*
Saw logs				
Softwood	375,705	394,723	19,018	5.1
Hardwood	65,442	63,480	-1,962	-3.0
Total	441,147	458,203	17,056	3.9
Veneer logs				
Softwood	56,986	66,742	9,756	17.1
Hardwood	11,488	7,660	-3,828	-33.3
Total	68,474	74,402	5,928	8.7
Pulpwood[a]				
Softwood	457,619	455,654	-1,965	-0.4
Hardwood	111,277	87,174	-24,103	-21.7
Total	568,896	542,828	-26,068	-4.6
Composite panels				
Softwood	45,373	56,350	10,977	24.2
Hardwood	2,365	6,658	4,293	181.5
Total	47,738	63,008	15,270	32.0
Other industrial				
Softwood	26,264	25,926	-338	-1.3
Hardwood	335	904	569	169.9
Total	26,599	26,830	231	0.9
All industrial				
Softwood	961,947	999,395	37,448	3.9
Hardwood	190,907	165,876	-25,031	-13.1
Total	1,152,854	1,165,271	12,417	1.1
Byproduct output				
Softwood	348,174	369,893	21,719	6.2
Hardwood	68,460	62,876	-5,584	-8.2
Total	416,634	432,769	16,135	3.9
Total output				
Softwood	1,310,121	1,369,288	59,167	4.5
Hardwood	259,367	228,752	-30,615	-11.8
Total	1,569,488	1,598,040	28,552	1.8

[a] Includes roundwood delivered to nonpulpmills, then chipped and sold to pulpmills (10,473,000 cubic feet in 2003 and 14,673,000 cubic feet in 2005).

Table A.2—Roundwood receipts by product and species group, Georgia, 2003 and 2005

Product and species group	Year		Change	Change
	2003	2005		
	- - - - - - thousand cubic feet - - - - - -			*percent*
Saw logs				
Softwood	384,600	410,456	25,856	6.7
Hardwood	66,804	66,253	-551	-0.8
Total	451,404	476,709	25,305	5.6
Veneer logs				
Softwood	53,943	61,420	7,477	13.9
Hardwood	18,921	16,484	-2,437	-12.9
Total	72,864	77,904	5,040	6.9
Pulpwood[a]				
Softwood	462,362	471,513	9,151	2.0
Hardwood	100,065	90,679	-9,386	-9.4
Total	562,427	562,192	-235	0.0
Composite panels				
Softwood	49,080	57,815	8,735	17.8
Hardwood	8,776	7,090	-1,686	-19.2
Total	57,856	64,905	7,049	12.2
Other industrial				
Softwood	26,533	25,881	-652	-2.5
Hardwood	335	912	577	172.2
Total	26,868	26,793	-75	-0.3
Total output				
Softwood	976,518	1,027,085	50,567	5.2
Hardwood	194,901	181,418	-13,483	-6.9
Total	1,171,419	1,208,503	37,084	3.2

[a] Includes roundwood delivered to nonpulpmills, then chipped and sold to pulpmills (12,467,000 cubic feet in 2003 and 16,583,000 cubic feet in 2005).

Table A.3—Number of primary wood-using plants by industry, Georgia, 1986 to 2005

Industry	Year								
	1986	1989	1992	1995	1997	1999	2001	2003	2005
	number								
Sawmills	239	172	178	144	129	129	118	122	115
Veneer mills	18	16	14	12	11	12	10	8	8
Pulpmills	15	14	13	14	13	12	13	12	12
Composite panel mills	0	3	4	5	5	4	4	4	4
Other mills	29	26	41	32	28	31	25	41	42
All plants	301	231	250	207	186	188	170	187	181

Table A.4—Roundwood receipts by sawmill size, Georgia, 2003 and 2005

Sawmill size class[a]	2003			2005		
	Mills	Volume		Mills	Volume	
mmbf	*number*	*mbf*	*percent*	*number*	*mbf*	*percent*
< 1.0	34	11,208	0	37	11,917	0
1.0–4.99	31	78,172	3	24	62,798	2
5.0–9.99	13	93,793	4	10	70,266	3
10.0–49.99	21	454,629	18	18	363,519	14
> 50	23	1,862,143	75	26	2,129,425	81
Total	122	2,499,945	100	115	2,637,925	100

[a] Based on volume received as opposed to actual capacity.

Table A.5—Roundwood receipts by species and type of mill, Georgia, 2005

Species	All mills	Type of mill					
			Veneer mills				
		Sawmills	Pine plywood	Other veneer	OSB and panels	Pulpmills[a]	Other mills
		thousand cubic feet					
Softwood							
Yellow pine	542,814	401,884	45,305	16,115	57,815	NA	21,695
Eastern white pine	1,296	1,291	0	0	0	NA	5
Cedar	5	5	0	0	0	NA	0
Cypress	11,188	7,007	0	0	0	NA	4,181
Other softwood	269	269	0	0	0	NA	0
Unclassified	471,513	0	0	0	0	471,513	0
Total softwoods	1,027,085	410,456	45,305	16,115	57,815	471,513	25,881
Hardwood							
Blackgum and tupelo	8,793	3,781	0	1,231	3,781	NA	0
Soft maple	2,608	1,962	0	173	473	NA	0
Sweetgum	11,388	6,922	1,317	1,255	1,890	NA	4
Yellow-poplar	22,153	9,500	10,538	1,139	946	NA	30
Other soft hardwood	2,456	2,253	0	173	0	NA	30
Hickory	1,610	1,463	0	0	0	NA	147
Red oak	27,556	26,719	0	329	0	NA	508
White oak	8,663	8,475	0	0	0	NA	188
Other hard hardwood	5,512	5,178	0	329	0	NA	5
Unclassified	90,679	0	0	0	0	90,679	0
Total hardwoods	181,418	66,253	11,855	4,629	7,090	90,679	912
All species	1,208,503	476,709	57,160	20,744	64,905	562,192	26,793

OSB = oriented strand board; NA = not applicable.

[a] Collected only by softwood and hardwood and includes roundwood chipped.

Table A.6—Industrial roundwood movement by year and species group, Georgia, 2003 and 2005

Year	Production	Exported to other States	Retained	Imported from other States	Receipts
			thousand cubic feet		
			Softwood		
2003	961,947	138,829	823,118	153,400	976,518
2005	999,395	124,248	875,147	151,938	1,027,085
			Hardwood		
2003	190,907	33,064	157,843	37,058	194,901
2005	165,876	26,526	139,350	42,068	181,418
			All species		
2003	1,152,854	171,893	980,961	190,458	1,171,419
2005	1,165,271	150,774	1,014,497	194,006	1,208,503

Table A.7—Industrial roundwood movement by product and species group, Georgia, 2005

Product and species group	Production	Exported to other States	Retained	Imported from other States	Receipts
			thousand cubic feet		
Saw logs					
Softwood	394,723	21,899	372,824	37,632	410,456
Hardwood	63,480	1,686	61,794	4,459	66,253
Total	458,203	23,585	434,618	42,091	476,709
Veneer logs					
Softwood	66,742	9,643	57,099	4,321	61,420
Hardwood	7,660	729	6,931	9,553	16,484
Total	74,402	10,372	64,030	13,874	77,904
Pulpwood[a]					
Softwood	455,654	87,007	368,647	102,866	471,513
Hardwood	87,174	23,125	64,049	26,630	90,679
Total	542,828	110,132	432,696	129,496	562,192
Composite panels					
Softwood	56,350	4,278	52,072	5,743	57,815
Hardwood	6,658	986	5,672	1,418	7,090
Total	63,008	5,264	57,744	7,161	64,905
Other industrial					
Softwood	25,926	1,421	24,505	1,376	25,881
Hardwood	904	0	904	8	912
Total	26,830	1,421	25,409	1,384	26,793
All products					
Softwood	999,395	124,248	875,147	151,938	1,027,085
Hardwood	165,876	26,526	139,350	42,068	181,418
Total	1,165,271	150,774	1,014,497	194,006	1,208,503

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

Table A.8—Saw-log volume by destination, source, and species group, Georgia, 2005

Destination and source	All species	Species group	
		Softwood	Hardwood
	thousand cubic feet		
Georgia (retained)	434,618	372,824	61,794
Exports to			
Alabama	17,045	16,129	916
Florida	3,535	3,429	106
North Carolina	147	3	144
South Carolina	2,107	1,820	287
Tennessee	751	518	233
Total	23,585	21,899	1,686
Imports from			
Alabama	5,056	4,672	384
Florida	13,631	12,977	654
North Carolina	112	102	10
South Carolina	22,423	19,334	3,089
Tennessee	869	547	322
Total	42,091	37,632	4,459

Table A.9—Veneer volume by destination, source, and species group, Georgia, 2005

Destination and source	All species	Species group	
		Softwood	Hardwood
	thousand cubic feet		
Georgia (retained)	64,030	57,099	6,931
Exports to			
Alabama	2,382	2,258	124
Florida	7,259	7,259	0
North Carolina	120	0	120
South Carolina	611	126	485
Total	10,372	9,643	729
Imports from			
Alabama	3,179	1,269	1,910
Florida	555	0	555
Kentucky	4,326	209	4,117
North Carolina	654	523	131
Ohio	118	0	118
South Carolina	2,632	2,111	521
Tennessee	1,432	209	1,223
Virginia	978	0	978
Total	13,874	4,321	9,553

Table A.10—Pulpwood volume by destination, source, and species group, Georgia, 2005[a]

Destination and source	All species	Species group	
		Softwood	Hardwood
	thousand cubic feet		
Georgia (retained)	432,696	368,647	64,049
Exports to			
Alabama	46,561	36,376	10,185
Florida	29,223	29,097	126
Kentucky	17	0	17
Louisiana	256	256	0
North Carolina	252	0	252
Oklahoma	1,449	1,449	0
South Carolina	9,453	3,012	6,441
Tennessee	22,921	16,817	6,104
Total	110,132	87,007	23,125
Imports from			
Alabama	38,405	32,913	5,492
Florida	30,603	25,763	4,840
North Carolina	1,946	4	1,942
South Carolina	58,185	44,077	14,108
Tennessee	116	109	7
Virigina	241	0	241
Total	129,496	102,866	26,630

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

Table A.11—Composite panel volume by destination, source, and species group, Georgia, 2005

Destination and source	All species	Species group	
		Softwood	Hardwood
	thousand cubic feet		
Georgia (retained)	57,744	52,072	5,672
Exports to			
Florida	1,233	1,233	0
South Carolina	602	602	0
Tennessee	3,424	2,443	981
West Virginia	5	0	5
Total	5,264	4,278	986
Imports from			
Florida	1,876	458	1,418
South Carolina	5,285	5,285	0
Total	7,161	5,743	1,418

Table A.12—Other industrial volume by destination, source, and species group, Georgia, 2005[a]

Destination and source	All species	Species group	
		Softwood	Hardwood
	thousand cubic feet		
Georgia (retained)	25,409	24,505	904
Exports to			
Alabama	102	102	0
Florida	1,105	1,105	0
South Carolina	151	151	0
Virginia	63	63	0
Total	1,421	1,421	0
Imports from			
Florida	1,358	1,358	0
Tennessee	26	18	8
Total	1,384	1,376	8

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

Table A.13—Primary mill residue volume by roundwood type, species group, and residue type, Georgia, 2005

Roundwood type and species group	All types	Residue type			
		Bark	Coarse	Sawdust	Shavings
		thousand cubic feet			
Saw logs					
Softwood	247,899	36,373	115,016	60,531	35,979
Hardwood	38,862	7,572	17,284	13,906	100
Total	286,761	43,945	132,300	74,437	36,079
Veneer logs					
Softwood	40,937	5,828	19,226	15,883	0
Hardwood	10,817	1,940	3,862	5,015	0
Total	51,754	7,768	23,088	20,898	0
Pulpwood					
Softwood	47,273	47,273	0	0	0
Hardwood	11,085	11,085	0	0	0
Total	58,358	58,358	0	0	0
Composite panels					
Softwood	12,918	12,918	0	0	0
Hardwood	1,815	1,815	0	0	0
Total	14,733	14,733	0	0	0
Other industrial[a]					
Softwood	25,795	16,167	8,328	1,300	0
Hardwood	521	117	289	115	0
Total	26,316	16,284	8,617	1,415	0
Total					
Softwood	374,822	118,559	142,570	77,714	35,979
Hardwood	63,100	22,529	21,435	19,036	100
Total	437,922	141,088	164,005	96,750	36,079

[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, Georgia, 2003 and 2005

Product and species group	All types		Bark		Coarse		Sawdust		Shavings	
	2003	2005	2003	2005	2003	2005	2003	2005	2003	2005
	thousand cubic feet									
Fiber products										
Softwood	119,048	125,522	0	0	116,301	117,749	1,862	2,502	885	5,271
Hardwood	18,158	16,455	0	0	18,010	16,455	148	0	0	0
Total	137,206	141,977	0	0	134,311	134,204	2,010	2,502	885	5,271
Particleboard										
Softwood	41,011	36,175	0	143	2,336	7,584	21,023	6,452	17,652	21,996
Hardwood	0	110	0	91	0	0	0	0	0	19
Total	41,011	36,285	0	234	2,336	7,584	21,023	6,452	17,652	22,015
Sawn products										
Softwood	3,876	7,406	0	0	3,876	7,406	0	0	0	0
Hardwood	1,459	146	0	0	1,459	146	0	0	0	0
Total	5,335	7,552	0	0	5,335	7,552	0	0	0	0
Fuel										
Softwood	130,048	150,970	82,048	88,953	3,000	2,420	37,210	55,313	7,790	4,284
Hardwood	43,150	40,414	21,390	19,677	4,282	3,982	17,333	16,684	145	71
Total	173,198	191,384	103,438	108,630	7,282	6,402	54,543	71,997	7,935	4,355
Miscellaneous										
Softwood	54,191	49,820	28,532	28,092	6,855	7,371	12,014	11,247	6,790	3,110
Hardwood	5,693	5,751	2,934	2,747	203	814	2,161	2,180	395	10
Total	59,884	55,571	31,466	30,839	7,058	8,185	14,175	13,427	7,185	3,120
Not used										
Softwood	2,487	4,929	1,701	1,371	711	40	75	2,200	0	1,318
Hardwood	219	224	8	14	22	38	189	172	0	0
Total	2,706	5,153	1,709	1,385	733	78	264	2,372	0	1,318
All products										
Softwood	350,661	374,822	112,281	118,559	133,079	142,570	72,184	77,714	33,117	35,979
Hardwood	68,679	63,100	24,332	22,529	23,976	21,435	19,831	19,036	540	100
Total	419,340	437,922	136,613	141,088	157,055	164,005	92,015	96,750	33,657	36,079

Table A.15—Roundwood timber product output by county, product, and species group, Georgia, 2005

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
	thousand cubic feet											
Appling	21,342	1,714	9,261	452	248	49	11,316	1,213	0	0	517	0
Atkinson	7,120	1,189	4,570	377	248	9	1,756	803	0	0	546	0
Bacon	9,567	949	4,516	429	165	9	4,309	511	0	0	577	0
Baker	1,959	43	159	0	0	0	1,752	43	0	0	48	0
Baldwin	4,245	442	1,083	361	1,115	76	2,047	5	0	0	0	0
Banks	1,292	117	269	92	235	25	15	0	766	0	7	0
Barrow	823	27	0	0	365	25	75	2	383	0	0	0
Bartow	5,340	1,057	1,299	320	244	117	3,789	618	0	0	8	2
Ben Hill	5,194	101	2,337	64	414	0	559	37	1,720	0	164	0
Berrien	4,861	1,609	3,307	291	414	0	487	609	229	709	424	0
Bibb	2,201	293	662	15	151	0	1,388	278	0	0	0	0
Bleckley	4,488	640	1,480	374	0	0	3,004	266	0	0	4	0
Brantley	17,813	624	6,568	258	370	130	10,241	236	0	0	634	0
Brooks	5,454	1,090	2,971	127	0	230	1,807	24	377	709	299	0
Bryan	6,935	264	2,926	259	0	0	3,948	5	0	0	61	0
Bulloch	11,682	563	6,438	430	0	50	5,068	83	0	0	176	0
Burke	16,432	2,887	3,852	716	209	11	12,291	2,160	0	0	80	0
Butts	2,349	945	622	869	813	38	914	25	0	0	0	13
Calhoun	1,758	482	0	374	0	0	1,758	108	0	0	0	0
Camden	11,597	891	6,471	258	205	0	4,891	633	0	0	30	0
Candler	4,841	145	2,293	0	0	35	2,487	110	0	0	61	0
Carroll	5,391	1,533	605	435	1,552	325	3,234	762	0	0	0	11
Catoosa	372	746	170	550	0	0	199	196	0	0	3	0
Charlton	16,123	304	4,779	1	288	0	10,488	303	0	0	568	0
Chatham	4,811	624	1,442	17	0	0	3,284	607	0	0	85	0
Chattahoochee	3,853	1,240	1,791	423	93	0	1,969	817	0	0	0	0
Chattooga	3,894	750	932	367	0	0	2,962	383	0	0	0	0
Cherokee	5,436	1,187	1,265	140	826	155	3,345	892	0	0	0	0
Clarke	648	32	1	19	610	12	37	1	0	0	0	0
Clay	2,221	186	264	0	0	0	1,957	186	0	0	0	0
Clayton	886	675	746	650	93	12	47	13	0	0	0	0
Clinch	20,153	3,564	12,191	259	384	0	5,914	2,596	229	709	1,435	0
Cobb	253	445	30	343	93	0	130	86	0	0	0	16
Coffee	10,584	785	4,246	467	414	9	5,320	309	0	0	604	0
Colquitt	10,312	151	6,000	0	0	0	2,145	151	1,868	0	299	0
Columbia	7,483	85	5,809	60	595	12	1,079	13	0	0	0	0
Cook	3,555	891	2,521	0	0	0	190	182	229	709	615	0
Coweta	4,777	1,097	1,160	534	1,025	312	2,592	238	0	0	0	13
Crawford	4,082	255	1,097	3	151	0	2,834	249	0	0	0	3
Crisp	3,222	371	2,541	43	0	0	572	281	0	0	109	47
Dade	30	547	0	339	0	0	30	208	0	0	0	0
Dawson	1,425	298	975	235	0	12	249	51	201	0	0	0
Decatur	9,378	726	3,481	107	1,173	0	3,943	619	468	0	313	0
Dekalb	347	111	1	111	302	0	44	0	0	0	0	0

continued

Table A.15—Roundwood timber product output by county, product, and species group, Georgia, 2005 (continued)

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
	thousand cubic feet											
Dodge	14,815	1,761	2,907	545	414	12	8,340	1,204	0	0	3,154	0
Dooly	6,466	951	540	350	0	0	4,078	554	1,720	0	128	47
Dougherty	1,406	1,011	155	374	0	0	1,251	637	0	0	0	0
Douglas	358	513	2	359	186	0	170	130	0	0	0	24
Early	6,012	630	1,909	0	0	88	4,090	542	0	0	13	0
Echols	5,544	1,354	2,927	1	0	0	1,936	289	343	1,064	338	0
Effingham	20,473	3,367	5,857	293	0	0	14,356	3,074	0	0	260	0
Elbert	7,842	11,129	2,085	1,918	626	12	180	8,797	4,938	402	13	0
Emanuel	14,673	2,414	7,631	1,555	0	0	6,801	859	0	0	241	0
Evans	3,431	147	1,932	0	0	0	1,438	147	0	0	61	0
Fannin	1,002	597	482	275	93	117	424	177	0	0	3	28
Fayette	1,137	728	384	652	186	0	567	60	0	0	0	16
Floyd	15,427	1,751	4,952	340	397	0	10,078	1,411	0	0	0	0
Forsyth	1,883	742	325	142	906	284	249	314	403	0	0	2
Franklin	1,711	121	297	102	235	0	9	19	1,170	0	0	0
Fulton	2,369	1,108	919	805	861	208	589	79	0	0	0	16
Gilmer	1,673	330	777	311	0	0	893	19	0	0	3	0
Glascock	1,073	411	139	319	360	0	420	92	0	0	154	0
Glynn	16,370	287	8,469	0	974	130	6,757	157	0	0	170	0
Gordon	2,503	620	335	305	0	0	2,160	313	0	0	8	2
Grady	5,886	156	2,186	5	1,173	0	1,969	151	308	0	250	0
Greene	10,879	190	4,134	176	3,374	12	1,223	2	2,078	0	70	0
Gwinnett	3,347	915	383	607	1,569	129	831	177	564	0	0	2
Habersham	3,652	963	1,270	229	417	246	1,250	204	708	284	7	0
Hall	1,812	246	745	180	365	0	295	66	403	0	4	0
Hancock	14,145	1,793	5,885	1,616	1,941	12	5,204	165	1,109	0	6	0
Haralson	6,405	403	1,303	125	584	0	4,518	269	0	0	0	9
Harris	8,144	1,462	2,799	0	372	104	4,973	1,358	0	0	0	0
Hart	1,213	99	0	99	235	0	10	0	968	0	0	0
Heard	6,923	411	2,052	132	372	104	4,499	162	0	0	0	13
Henry	1,646	1,431	480	895	93	0	1,073	533	0	0	0	3
Houston	6,700	874	1,026	461	0	0	5,674	413	0	0	0	0
Irwin	6,992	372	3,757	22	414	0	759	350	1,720	0	342	0
Jackson	1,071	25	1	0	653	25	54	0	363	0	0	0
Jasper	8,978	1,687	5,437	543	1,418	480	1,754	618	363	0	6	46
Jeff Davis	12,182	3,722	4,883	280	828	9	6,232	3,433	0	0	239	0
Jefferson	10,217	3,715	4,632	3,151	511	0	4,710	564	0	0	364	0
Jenkins	6,662	874	4,696	258	0	0	1,739	616	0	0	227	0
Johnson	10,072	2,659	3,549	2,153	0	0	6,342	506	0	0	181	0
Jones	9,466	816	4,864	665	1,058	0	3,538	143	0	0	6	8
Lamar	2,826	1,741	1,012	309	93	133	1,721	1,286	0	0	0	13
Lanier	1,028	68	185	0	205	0	242	68	0	0	396	0
Laurens	18,150	2,827	6,104	1,716	565	0	9,596	1,111	1,720	0	165	0
Lee	2,519	426	1,018	0	0	0	1,501	379	0	0	0	47

continued

Table A.15—Roundwood timber product output by county, product, and species group, Georgia, 2005 (continued)

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
	thousand cubic feet											
Liberty	16,642	635	7,800	432	0	9	8,529	194	0	0	313	0
Lincoln	7,495	117	2,956	106	1,557	0	1,397	11	1,533	0	52	0
Long	10,691	1,352	4,090	916	0	77	6,288	359	0	0	313	0
Lowndes	5,245	1,493	3,096	32	0	0	1,170	397	343	1,064	636	0
Lumpkin	1,146	330	818	327	0	0	127	3	201	0	0	0
Macon	5,927	308	2,716	294	1,280	0	603	14	1,328	0	0	0
Madison	7,451	500	2,799	0	205	68	4,201	432	0	0	246	0
Marion	3,790	631	349	0	0	0	3,441	584	0	0	0	47
McDuffie	2,463	8	369	8	365	0	1	0	1,715	0	13	0
McIntosh	13,334	1,306	4,219	423	93	0	9,022	836	0	0	0	47
Meriwether	5,589	1,430	1,328	318	745	104	3,516	1,004	0	0	0	4
Miller	1,120	54	139	0	0	0	921	54	0	0	60	0
Mitchell	4,009	259	598	0	0	0	3,001	259	160	0	250	0
Monroe	6,264	1,910	2,039	860	697	12	3,528	1,030	0	0	0	8
Montgomery	10,371	1,346	3,206	680	828	9	6,082	657	0	0	255	0
Morgan	6,202	5,096	1,816	654	2,491	63	760	4,333	1,129	0	6	46
Murray	2,452	911	917	254	0	0	1,519	654	0	0	16	3
Muscogee	2,608	497	2,039	282	0	0	569	215	0	0	0	0
Newton	1,664	578	4	364	662	0	635	176	363	0	0	38
Oconee	1,958	101	146	101	287	0	12	0	1,513	0	0	0
Oglethorpe	10,613	1,638	2,123	1,074	3,176	12	897	552	4,299	0	118	0
Paulding	6,286	2,047	877	360	745	208	3,931	1,160	733	294	0	25
Peach	1,410	37	616	0	0	0	794	37	0	0	0	0
Pickens	3,124	535	897	247	151	117	2,073	171	0	0	3	0
Pierce	9,926	1,227	4,960	429	165	9	3,942	789	0	0	859	0
Pike	1,536	489	664	320	244	104	628	57	0	0	0	8
Polk	6,193	329	2,021	64	397	0	3,775	265	0	0	0	0
Pulaski	5,162	853	827	530	0	0	2,435	323	1,720	0	180	0
Putnam	6,834	519	2,685	389	1,566	12	1,605	110	927	0	51	8
Quitman	2,392	732	279	0	0	0	2,113	732	0	0	0	0
Rabun	302	146	237	129	0	0	2	17	0	0	63	0
Randolph	10,444	1,284	3,090	246	0	427	7,354	611	0	0	0	0
Richmond	3,953	5,200	2,363	24	0	0	1,590	5,176	0	0	0	0
Rockdale	855	88	0	76	720	12	135	0	0	0	0	0
Schley	6,932	595	3,641	282	0	0	3,291	266	0	0	0	47
Screven	9,968	2,011	5,465	16	0	473	4,053	1,522	0	0	450	0
Seminole	2,599	25	1,246	0	0	0	1,269	25	0	0	84	0
Spalding	1,200	47	664	3	186	12	350	27	0	0	0	5
Stephens	874	206	771	206	78	0	6	0	0	0	19	0
Stewart	9,103	2,205	2,405	282	0	36	6,698	1,887	0	0	0	0
Sumter	9,138	1,292	3,206	501	0	395	5,778	349	0	0	154	47
Talbot	8,581	1,693	4,956	282	279	0	3,346	1,411	0	0	0	0
Taliaferro	5,837	534	2,298	500	1,300	12	1,093	22	1,129	0	17	0
Tattnall	11,517	836	4,580	429	0	9	6,708	398	0	0	229	0

continued

Table A.15—Roundwood timber product output by county, product, and species group, Georgia, 2005 (continued)

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
	thousand cubic feet											
Taylor	9,146	2,212	3,524	1,419	0	427	5,622	319	0	0	0	47
Telfair	10,190	2,046	3,584	1,281	828	9	3,587	756	1,720	0	471	0
Terrell	3,068	1,322	0	218	0	395	3,068	662	0	0	0	47
Thomas	12,662	1,143	6,198	133	2,347	230	2,793	71	229	709	1,095	0
Tift	6,067	963	3,682	367	82	197	216	399	1,720	0	367	0
Toombs	10,334	1,907	4,853	939	414	9	4,975	959	0	0	92	0
Towns	65	10	65	10	0	0	0	0	0	0	0	0
Treutlen	5,559	237	3,589	25	0	0	1,866	212	0	0	104	0
Troup	2,769	922	1,314	290	745	208	710	411	0	0	0	13
Turner	3,020	243	2,057	64	0	0	876	179	0	0	87	0
Twiggs	4,802	1,162	797	1,013	302	0	3,699	149	0	0	4	0
Union	181	294	146	136	0	120	35	16	0	0	0	22
Upson	4,304	610	941	6	93	0	3,270	599	0	0	0	5
Walker	2,442	982	1,316	404	0	0	522	578	0	0	604	0
Walton	2,162	147	50	109	1,352	38	196	0	564	0	0	0
Ware	13,650	1,290	4,939	259	414	9	6,273	1,022	0	0	2,024	0
Warren	8,980	1,316	3,383	1,205	1,712	0	3,104	111	726	0	55	0
Washington	19,453	2,968	10,993	2,596	1,871	12	6,294	355	0	5	295	0
Wayne	16,832	646	6,398	0	179	9	9,494	637	0	0	761	0
Webster	6,646	757	1,213	282	0	0	5,433	428	0	0	0	47
Wheeler	7,854	1,369	2,630	942	1,242	9	3,723	418	0	0	259	0
White	1,641	460	1,227	450	0	0	210	4	201	0	3	6
Whitfield	2,591	1,314	648	926	0	0	1,927	385	0	0	16	3
Wilcox	7,469	1,109	3,994	701	82	0	1,495	408	1,720	0	178	0
Wilkes	14,268	2,399	5,732	1,982	2,287	38	861	379	5,309	0	79	0
Wilkinson	10,669	3,718	6,628	1,518	302	12	3,667	2,188	0	0	72	0
Worth	7,759	378	3,951	328	0	0	1,591	50	1,720	0	497	0
All counties	999,395	165,876	394,723	63,480	66,742	7,660	455,654	87,174	56,350	6,658	25,926	904

[a] Includes roundwood delivered to nonpulpmills, then chipped and sold to pulpmills (14,673,000 cubic feet in 2005).

Table A.16—Total roundwood output by product, species group, and source of material, Georgia, 2005

Product and species group	All sources	Growing-stock trees		Other sources
		Total	Sawtimber	Poletimber	
	thousand cubic feet			
Saw logs				
Softwood	394,723	386,431	364,095	22,336	8,292
Hardwood	63,480	62,084	58,474	3,609	1,396
Total	458,203	448,514	422,570	25,945	9,689
Veneer logs and bolts					
Softwood	66,742	65,408	64,689	719	1,334
Hardwood	7,660	7,560	7,486	75	100
Total	74,402	72,969	72,175	794	1,433
Pulpwood					
Softwood	455,654	442,784	188,410	254,374	12,870
Hardwood	87,174	80,124	29,594	50,530	7,050
Total	542,828	522,908	218,004	304,904	19,920
Composite panels					
Softwood	56,350	54,152	22,202	31,950	2,198
Hardwood	6,658	6,095	2,438	3,657	563
Total	63,008	60,248	24,640	35,608	2,760
Poles and posts					
Softwood	14,079	13,754	12,979	775	325
Hardwood	10	8	5	3	2
Total	14,089	13,762	12,984	778	327
Other miscellaneous					
Softwood	11,847	11,573	6,757	4,816	274
Hardwood	894	760	443	316	134
Total	12,741	12,333	7,201	5,132	408
Total industrial products					
Softwood	999,395	974,103	659,132	314,970	25,292
Hardwood	165,876	156,631	98,441	58,191	9,245
Total	1,165,271	1,130,734	757,573	373,161	34,537
Fuelwood					
Softwood	5,449	3,924	2,749	1,174	1,525
Hardwood	45,453	34,104	26,170	7,934	11,349
Total	50,902	38,028	28,920	9,108	12,874
All products					
Softwood	1,004,844	978,026	661,881	316,145	26,818
Hardwood	211,329	190,735	124,611	66,124	20,594
Total	1,216,173	1,168,761	786,492	382,269	47,412

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

Table A.17—Total roundwood output by species group, survey region, and ownership class, Georgia, 2005

Species group and survey region	Total	Ownership class		
		Public	Forest industry	Nonindustrial private
		thousand cubic feet		
Softwoods				
Southeast	408,138	12,703	171,221	224,214
Southwest	120,924	1,253	14,426	105,245
Central	325,510	8,525	90,206	226,779
North Central	94,398	26	22,150	72,221
North	55,874	1,027	11,864	42,984
Total softwoods	1,004,844	23,534	309,867	671,443
Hardwoods				
Southeast	59,152	4,375	10,781	43,996
Southwest	16,344	81	457	15,806
Central	80,697	1,375	16,589	62,733
North Central	37,255	114	3,826	33,314
North	17,881	228	1,126	16,526
Total hardwoods	211,329	6,173	32,780	172,376
All species	1,216,173	29,707	342,647	843,819

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

Table A.18—Total roundwood output by species group, detailed species group, and product, Georgia, 2005

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	597	140	124	284	42	3	1	3
Longleaf-slash pine	297,067	127,210	6,487	137,290	10,119	7,582	6,768	1,611
Easterm white pine	5,187	2,025	400	2,097	626	11	0	28
Loblolly-shortleaf pine	647,775	245,223	56,710	288,984	43,043	5,816	4,486	3,513
Other yellow pines	41,560	15,528	2,891	20,370	1,713	377	457	225
Cypress	12,646	4,592	130	6,623	806	290	136	69
Hemlock	13	5	1	5	2	0	0	0
Total softwoods	1,004,844	394,723	66,742	455,654	56,350	14,079	11,847	5,449
Hardwood								
Soft maple	9,941	2,578	332	4,638	229	0	25	2,138
Hard maple	565	226	1	217	0	0	0	122
Hickory	3,896	1,792	176	848	226	0	16	838
Beech	81	6	0	48	10	0	1	17
Ash	2,191	658	44	1,013	0	0	4	471
Black walnut	161	49	10	68	0	0	0	35
Sweetgum	47,687	14,617	1,460	20,185	943	3	224	10,256
Yellow-poplar	28,036	8,819	1,083	11,156	809	2	135	6,030
Blackgum-tupelo	22,470	5,595	473	10,306	1,234	0	29	4,833
Sycamore	168	4	1	127	0	0	0	36
Black cherry	3,734	1,019	82	1,651	163	0	15	803
Select white oaks	9,953	3,187	674	3,662	247	0	42	2,140
Other white oaks	10,659	3,402	367	3,646	885	2	64	2,293
Select red oaks	1,746	573	231	565	0	0	1	375
Other red oaks	57,547	17,433	2,289	23,715	1,435	2	295	12,378
Basswood	1,029	318	47	443	0	0	0	221
Elm	3,926	1,214	17	1,723	126	0	1	844
Other eastern hardwoods	7,538	1,990	373	3,162	350	0	41	1,621
Total hardwoods	211,329	63,480	7,660	87,174	6,658	10	894	45,453
All species	1,216,173	458,203	74,402	542,828	63,008	14,089	12,741	50,902

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

Table A.19—Total roundwood output by species group, detailed species group, and ownership class, Georgia, 2005

Species group and detailed species group	Total	Ownership class		
		Public	Forest industry	Nonindustrial private
	thousand cubic feet			
Softwood				
Cedar	597	1	54	542
Longleaf-slash pine	297,067	4,378	102,433	190,256
Eastern white pine	5,187	72	16	5,099
Loblolly-shortleaf pine	647,775	18,271	190,295	439,208
Other yellow pines	41,560	702	11,649	29,209
Cypress	12,646	110	5,420	7,116
Hemlock	13	0	0	13
Total softwoods	1,004,844	23,534	309,867	671,443
Hardwood				
Soft maple	9,941	795	1,156	7,990
Hard maple	565	0	44	521
Hickory	3,896	43	262	3,591
Beech	81	1	0	80
Ash	2,191	1	642	1,548
Black walnut	161	0	36	126
Sweetgum	47,687	1,176	7,338	39,172
Yellow-poplar	28,036	278	3,759	23,999
Blackgum-tupelo	22,470	1,500	4,665	16,305
Sycamore	168	0	117	51
Black cherry	3,734	49	454	3,232
Select white oaks	9,953	48	2,032	7,874
Other white oaks	10,659	89	1,712	8,858
Select red oaks	1,746	0	12	1,734
Other red oaks	57,547	1,831	8,467	47,250
Basswood	1,029	0	232	797
Elm	3,926	130	695	3,102
Other eastern hardwoods	7,538	233	1,158	6,147
Total hardwoods	211,329	6,173	32,780	172,376
All species	1,216,173	29,707	342,647	843,819

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

Johnson, Tony G.; McClure, Nathan; Wells, John L. 2007. Georgia's timber industry—an assessment of timber product output and use, 2005. Resour. Bull. SRS–123. Asheville, NC: U.S. Department of Agriculture Forest Service, Southern Research Station. 36 p.

In 2005, industrial roundwood output from Georgia's forests totaled 1.17 billion cubic feet, 1 percent more than in 2003. Mill byproducts generated from primary manufacturers increased 4 percent to 433 million cubic feet. Almost all plant residues were used primarily for fuel and fiber products. Pulpwood was the leading roundwood product at 543 million cubic feet; saw logs ranked second at 458 million cubic feet; veneer logs were third at 74 million cubic feet. The number of primary processing plants was down from 187 in 2003 to 181 in 2005. Total receipts increased 3 percent, from 1.17 billion cubic feet in 2003 to 1.21 billion cubic feet in 2005.

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

The Forest Service, U.S. Department of Agriculture (USDA), 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.