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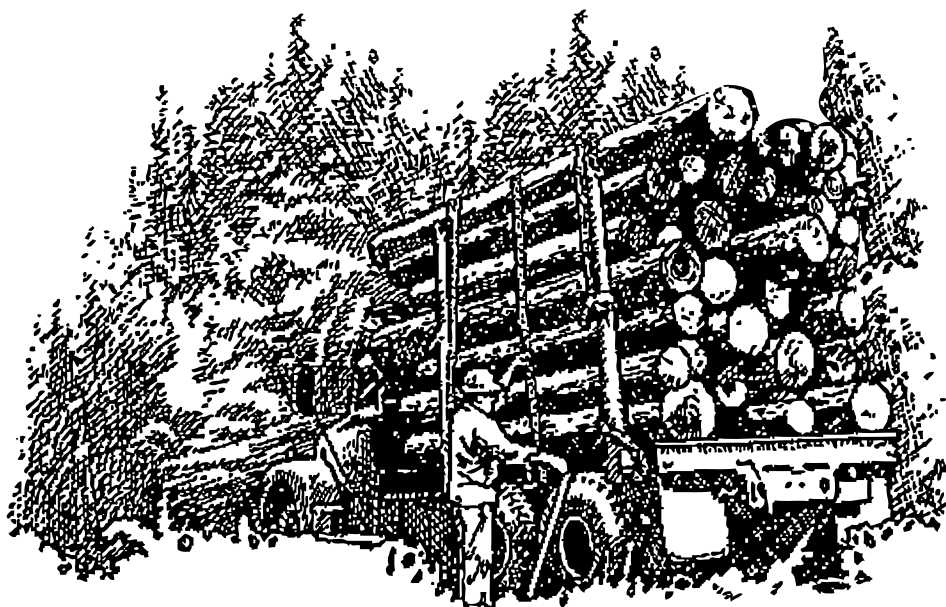
Florida's Timber Industry—An Assessment of Timber Product Output and Use, 2007

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Foreword

This report contains the findings of a 2007 canvass of all primary wood-using plants in Florida, and presents changes in product output and residue use since 2005. 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 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 100-percent canvass of all wood processors in Florida was conducted in 2008 to obtain information for 2007. In addition, roundwood from out-of-State mills known to be using logs or bolts harvested from Florida timberland was incorporated into Florida 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 1958, 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 Anthony T. Grossman and Dr. Marian Marinescu for review and comments; Carolyn Steppleton and Michael Howell for their tireless efforts in processing and accuracy of the data; 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 Florida Department of Agriculture and Consumer Services, Division of Forestry 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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^a All tables in this report are available in Microsoft® Excel workbook files. Upon request, these files will be supplied in the format the customer requests. The use of trade or firm names in this publication is for reader information and does not imply endorsement by the U.S. Department of Agriculture of any product or service.

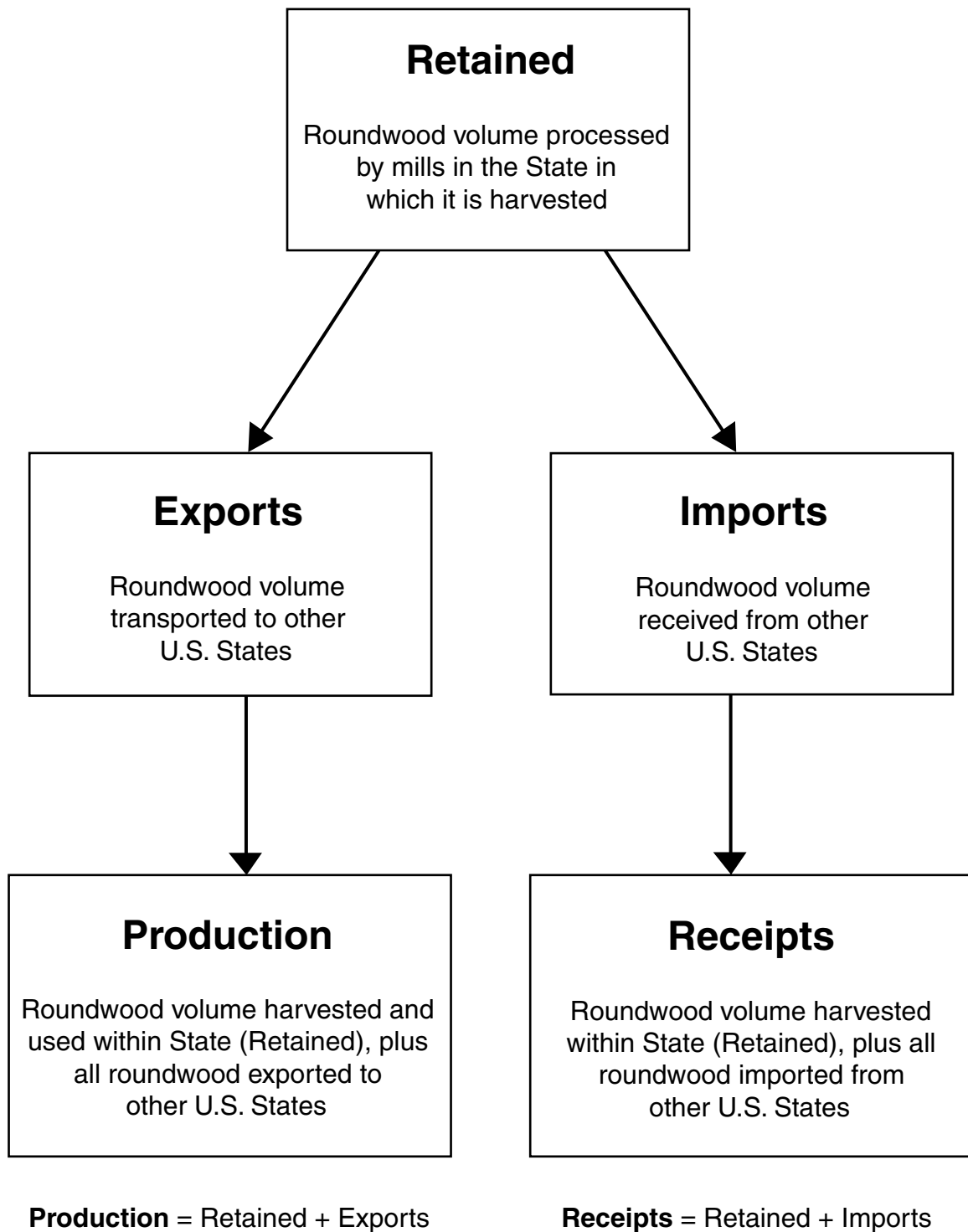


Figure 1—Movement of roundwood exports and imports within the United States.

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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

- Industrial TPO from roundwood increased 46 million cubic feet, or 10 percent, while output of utilized plant products was up 21 million cubic feet, or 14 percent.
- Output of softwood roundwood products increased 12 percent to 468 million cubic feet, while hardwood roundwood products declined 20 percent to 23 million cubic feet (fig. 2).

- Pulpwood and saw logs were the principal roundwood products in 2007. Combined output of these products totaled 414 million cubic feet and accounted for 84 percent of Florida's total roundwood output (fig. 3).
- Total receipts at Florida mills, which included roundwood harvested and retained in the State, and roundwood imported from other States, increased 10 percent to 506 million cubic feet. Sixty-nine primary roundwood-using plants operated in Florida in 2007 (fig. 4).
- Across all products, 83 percent of roundwood harvested was retained for processing at Florida mills. Exports of roundwood to other States amounted to 85 million cubic feet, while imports of roundwood amounted to 100 million cubic feet, making the State a net importer of roundwood. Tables A.8 to A.11 show exports to and imports from other States by individual product type.

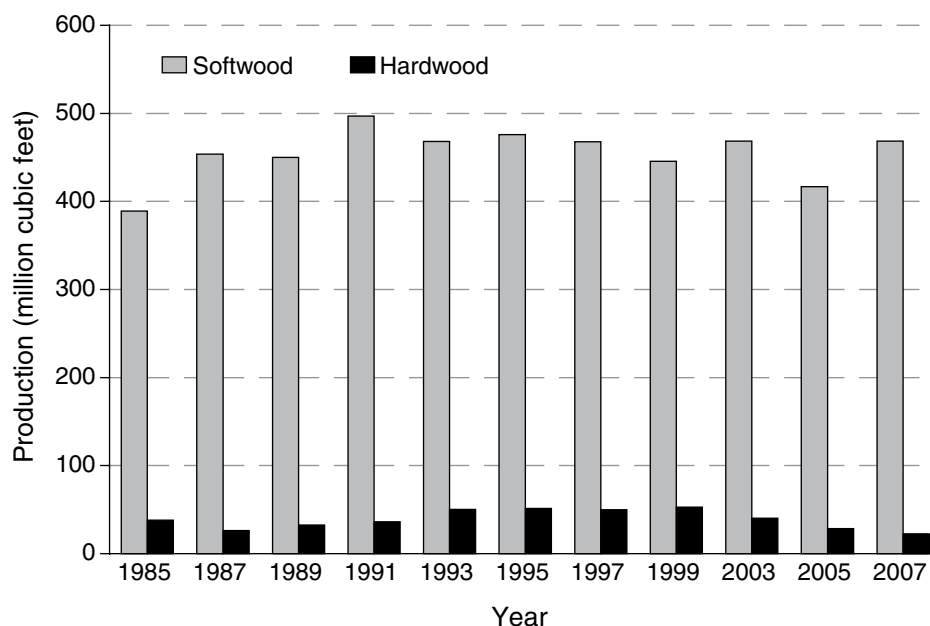


Figure 2—Roundwood production for all products by species group and year (see page 8 for references for individual years), Florida.

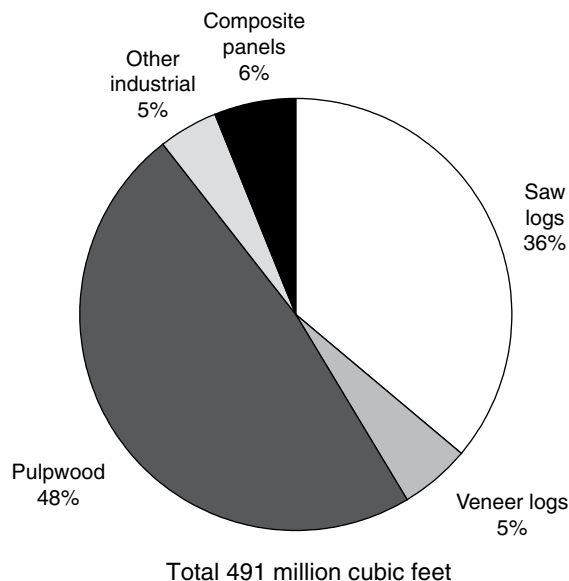


Figure 3—Roundwood production by type of product, Florida, 2007.

Pulpwood

- Total pulpwood production, including chipped roundwood, was up 23 million cubic feet, or 11 percent, to 237 million cubic feet and accounted for 48 percent of the State's total roundwood TPO. Softwood output increased 14 percent to 221 million cubic feet (3.1 million cords); hardwood output declined 23 percent to 16 million cubic feet (207,000 cords) (fig. 5).
- Six pulpmills were operating and receiving roundwood in Florida in 2007, the same as in 2005. Total pulpwood receipts for these mills increased 12 million cubic feet to 248 million cubic feet, accounting for 49 percent of total receipts for all mills.
- Eighty percent of roundwood cut for pulpwood was retained for processing at Florida pulpmills. Roundwood pulpwood accounted for 55 percent of total known exports and 59 percent of total imports. Roundwood pulpwood imports amounted to 58 million cubic feet, 12 million cubic feet more than was exported, making the State a net importer of pulpwood for processing.

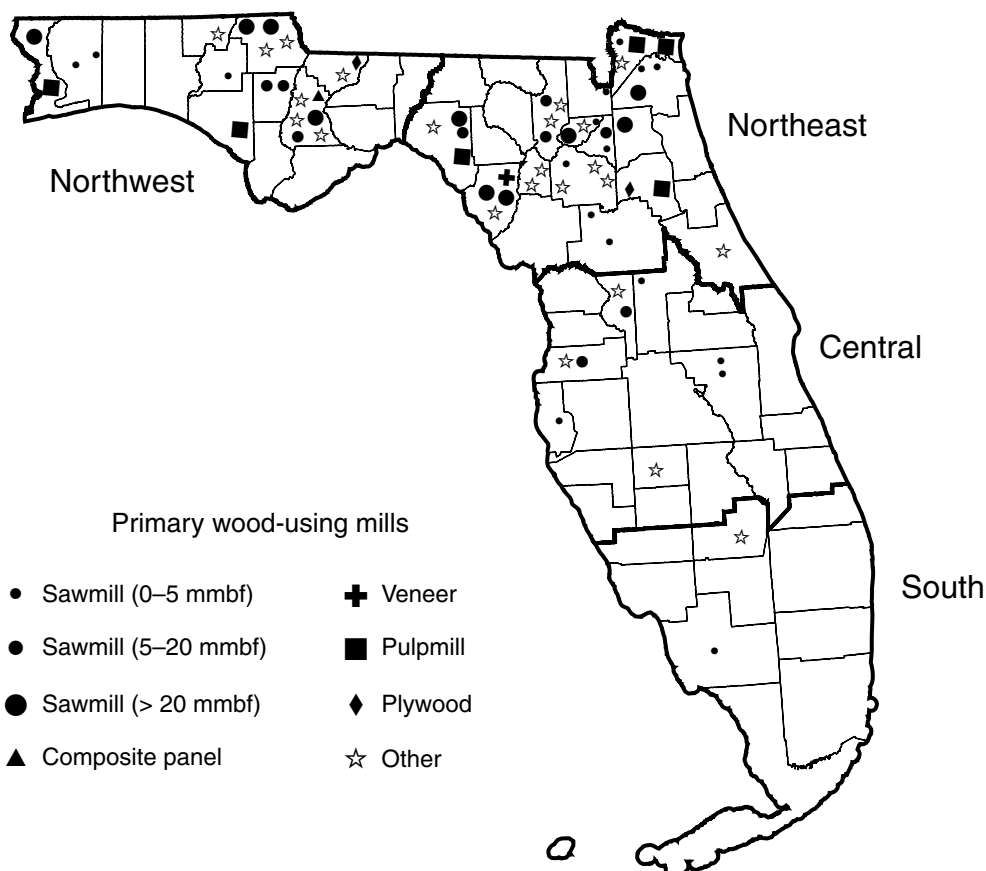


Figure 4—Primary wood-using mills by region, Florida, 2007.

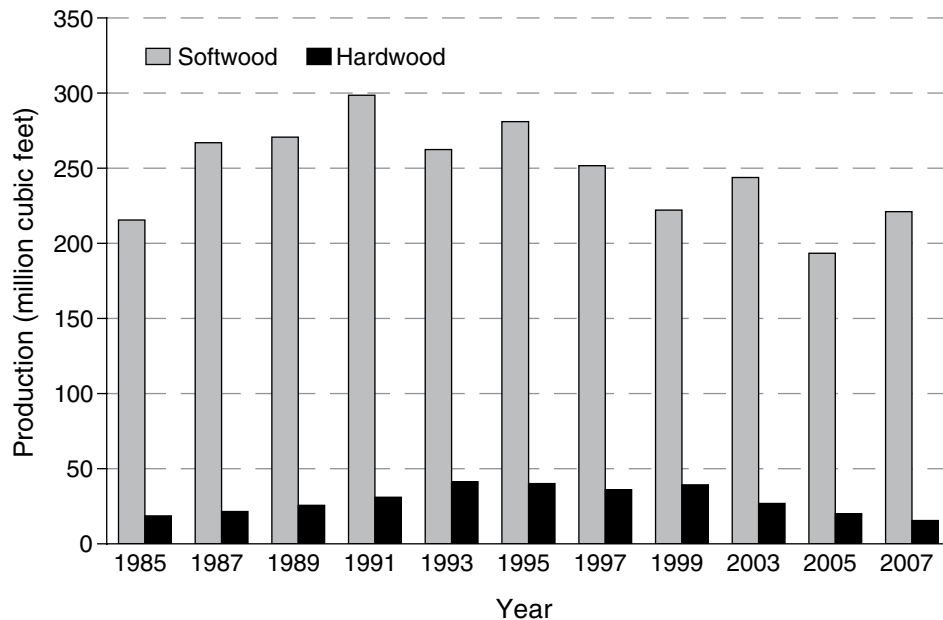


Figure 5—Roundwood pulpwood production by species group and year (see page 8 for references for individual years), Florida.

Saw Logs

- Saw logs accounted for 36 percent of the State's total roundwood products. Output of softwood saw logs increased 7 percent to 174 million cubic feet (909 million board feet, International ¼-inch rule), while that of hardwood saw logs was down nearly 12 percent to 4.0 million cubic feet (23 million board feet, International ¼-inch rule) (fig. 6).
- In 2007, Florida had 37 sawmills, 16 fewer than in 2005. Total saw-log receipts increased 31 million cubic feet to 186 million cubic feet. Softwood saw-log receipts were up 20 percent to 182 million cubic feet, while those of hardwoods were down 5 percent to 3.7 million cubic feet. Of the 37 mills operating in 2007, 18 mills, or 49 percent had receipts of <5 million board feet. Thirty-eight percent, or 14 mills, had receipts of >10 million board feet and accounted for 95 percent of saw-log receipts.
- Florida retained 87 percent of its saw-log production for within-State manufacture; saw-log imports exceeded exports by >8 million cubic feet in 2007.

Veneer Logs

- Output of veneer logs in 2007 totaled 25.6 million cubic feet, and accounted for 5 percent of the State's total

roundwood TPO volume. Softwood veneer production declined 3 percent to 24 million cubic feet (141 million board feet, International ¼-inch rule), while output of hardwood veneer logs dropped 10 percent to 1.4 million cubic feet (8.6 million board feet, International ¼-inch rule) (fig. 7).

- Three veneer mills operated in Florida in 2007. Total veneer log receipts declined 13 percent to 28.2 million cubic feet. Softwood receipts were down 14 percent to 27.3 million cubic feet, while hardwood receipts were up 11 percent to 916,000 cubic feet.
- Florida retained 78 percent of its veneer-log production for processing at veneer mills within State. Imports amounted to 8.2 million cubic feet, while exports totaled 5.6 million cubic feet, making the State a net importer of roundwood veneer logs.

Composite Panels

- Roundwood harvested from Florida's forests for composite panels increased 90 percent from 15.6 million cubic feet to 29.6 million cubic feet. Softwood output totaled 28.3 million cubic feet (399,000 cords); hardwood production dropped 14 percent from 1.4 million cubic feet to 1.2 million cubic feet (16,000 cords) (fig. 8).

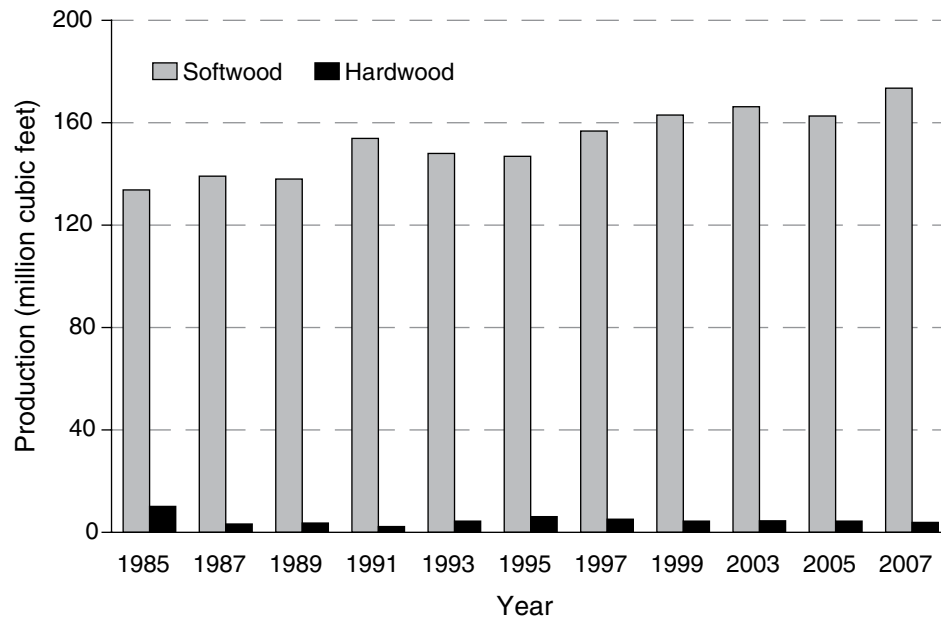


Figure 6—Roundwood saw-log production by species group and year (see page 8 for references for individual years), Florida.

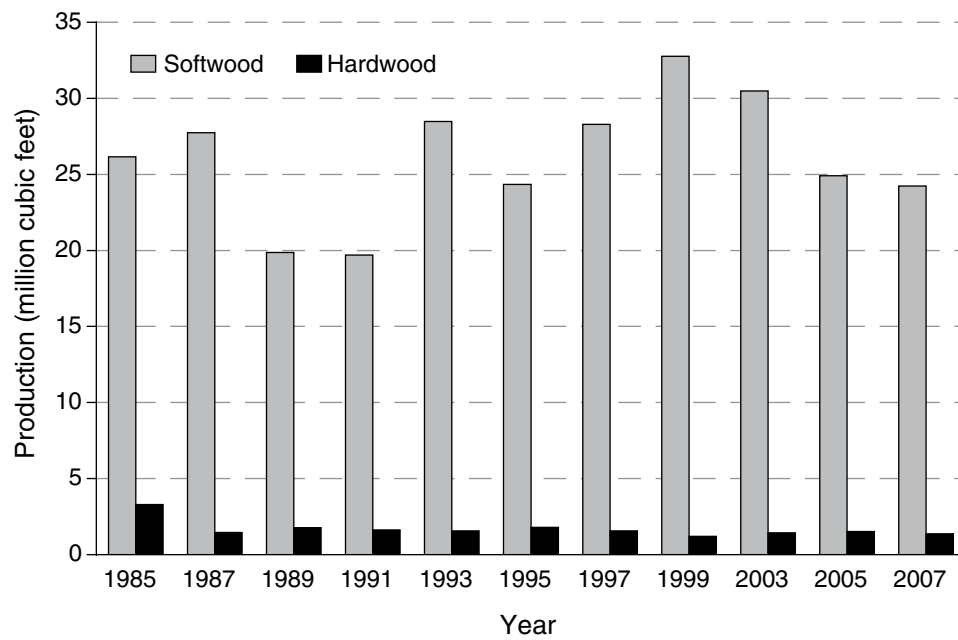


Figure 7—Roundwood veneer-log production by species group and year (see page 8 for references for individual years), Florida.

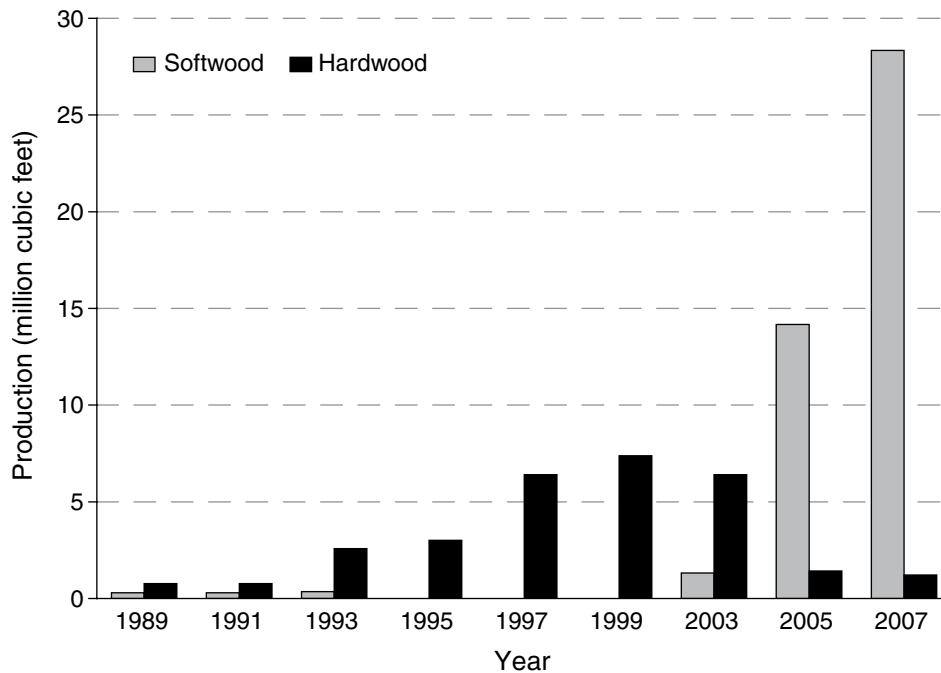


Figure 8—Roundwood production for composite panels by species group and year (see page 8 for references for individual years), Florida.

Other Industrial Products

- Roundwood harvested for other industrial uses, such as poles, posts, mulch, firewood, logs for log homes, and all other industrial products, declined 3 percent to 21.9 million cubic feet. Softwood made up 97 percent of the other industrial product volume (fig. 9).
- Between 2005 and 2007, the number of plants producing other industrial products dropped from 30 to 22 mills.

Plant Byproducts

- In 2007, processing of primary products in Florida mills generated 167 million cubic feet of wood and bark residues. Coarse residues from all primary products amounted to 63 million cubic feet, and bark volume totaled 53 million cubic feet. Sawdust and shavings made up 30 percent of total residues, or 50 million cubic feet (fig. 10).
- The processing of saw logs generated 108 million cubic feet of mill residues, accounting for 64 percent of the total residues produced (fig. 11).

- Virtually all residues were used for a product (fig. 12). Fifty-four million cubic feet, or 85 percent, of the coarse residues were used to manufacture fiber products. Most of the bark was used for industrial fuel or other miscellaneous products, and 66 percent of the sawdust and shavings was used for industrial fuel.

County Data

- Table A.14 shows softwood and hardwood product output by county and individual product type. Fifty-five of the sixty seven counties in Florida had either softwood or hardwood output. Fourteen counties (Baker, Bay, Calhoun, Columbia, Gadsden, Gulf, Hamilton, Jackson, Jefferson, Levy, Madison, Nassau, Taylor, and Washington) had combined softwood and hardwood product output of >15 million cubic feet each. These 14 counties total product output amounted to >268 million cubic feet and accounted for 55 percent of the State's total product output.

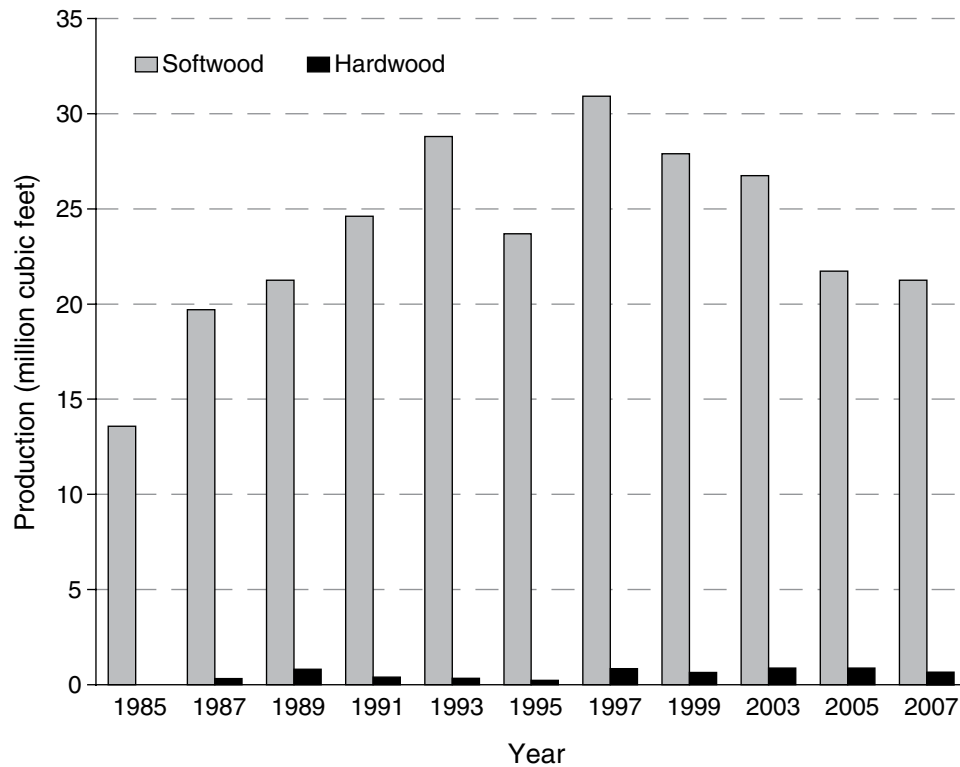


Figure 9—Roundwood production for other industrial products by species group and year (see page 8 for references for individual years), Florida.

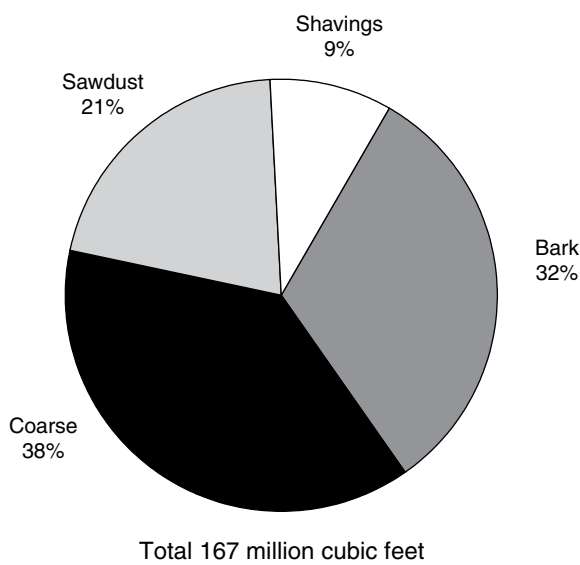


Figure 10—Primary mill residue by residue type, Florida, 2007.

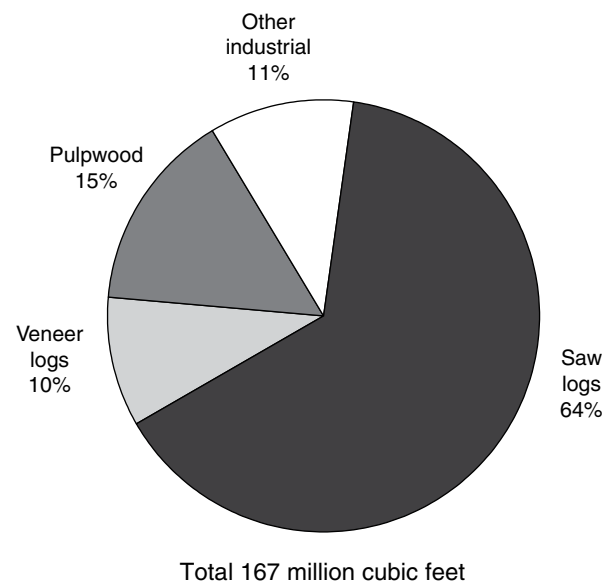


Figure 11—Primary mill residue produced by roundwood type, Florida, 2007.

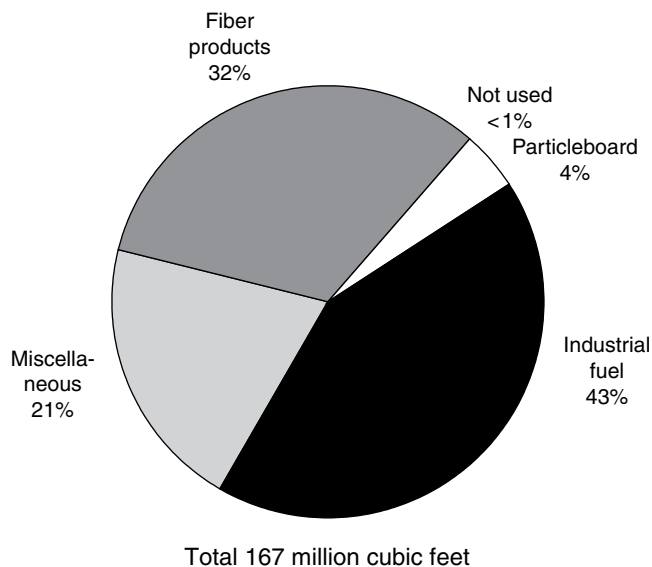


Figure 12—Disposal of residue by product, Florida, 2007.

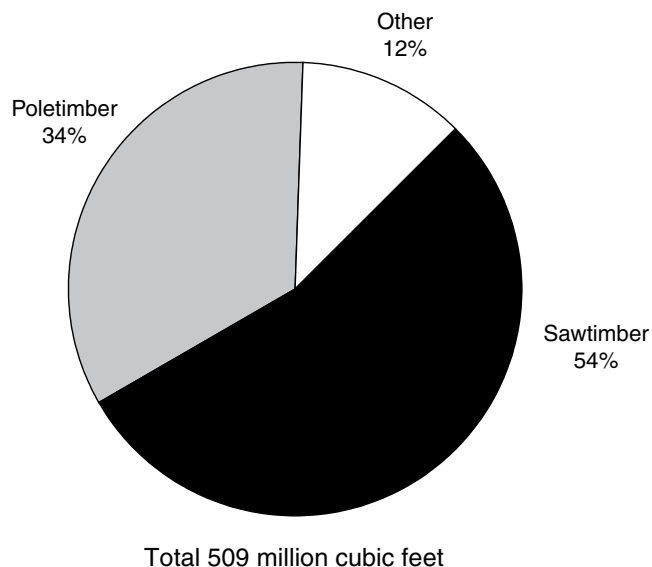


Figure 13—Roundwood output by source, Florida, 2007.

Total Roundwood Output

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

Source

- In addition to the 491 million cubic feet of roundwood output for industrial products, an estimated 18 million cubic feet was harvested for domestic fuelwood, bringing Florida's total roundwood output to 509 million cubic feet.
- Eighty-eight percent 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 60 million cubic feet, or 12 percent of total roundwood output (fig. 13).

Ownership

- Forest industry and nonindustrial private forest lands contributed 103 and 373 million cubic feet, or 20 and 73 percent, respectively, of the total roundwood output. Public lands made up the remaining 7 percent, or 33 million cubic feet (fig. 14).

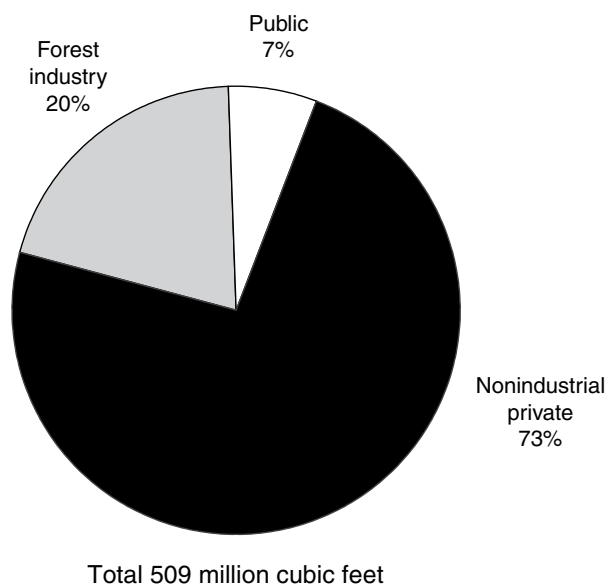


Figure 14—Roundwood output by ownership, Florida, 2007.

Species

- The longleaf and slash pine group provided more volume than any other softwood species group; at 367 million cubic feet, it accounted for 78 percent of total softwood output (fig. 15). The red oak and white oak groups combined accounted for 15 million cubic feet of total hardwood output, or 38 percent (fig. 16).

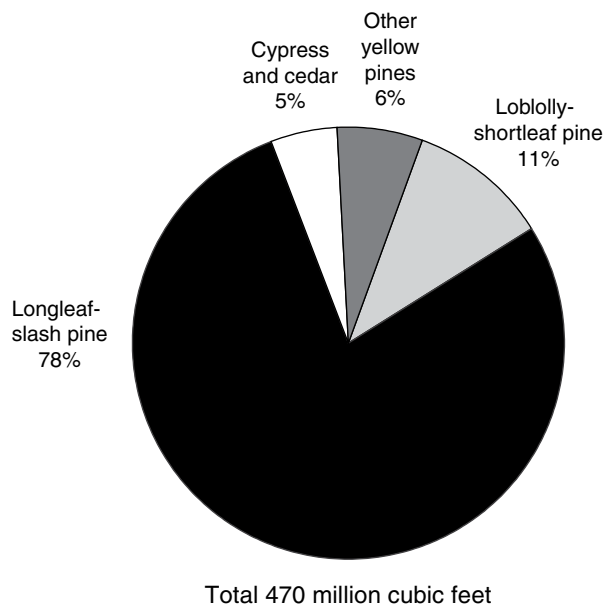


Figure 15—Roundwood output by softwood species group, Florida, 2007.

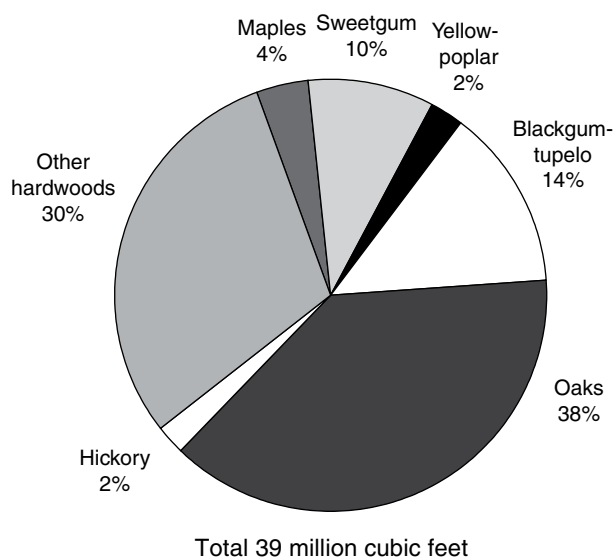


Figure 16—Roundwood output by hardwood species group, Florida, 2007.

References

- Bentley, J.W.; Howell, M.; Johnson, T.G. 2006. Florida's timber industry—an assessment of timber product and use, 2003. Resour. Bull. SRS-110. Asheville, NC: U.S. Department of Agriculture Forest Service, Southern Research Station. 40 p. [2003].
- Bentley, J.W.; Johnson, T.G.; Ford, E. 2002. Florida's timber industry—an assessment of timber product and use, 1999. Resour. Bull. SRS-77. Asheville, NC: U.S. Department of Agriculture Forest Service, Southern Research Station. 37 p. [1999].
- Davenport, E.L. 1991. Changes in Florida's industrial roundwood products output, 1987-1989. Resour. Bull. SE-125. Asheville, NC: U.S. Department of Agriculture Forest Service, Southeastern Forest Experiment Station. 21 p. [1987, 1989].
- Davenport, E.L. 1993. Florida's timber industry—an assessment of timber product output and use, 1991. Resour. Bull. SE-139. Asheville, NC: U.S. Department of Agriculture Forest Service, Southeastern Forest Experiment Station. 21 p. [1991].
- Davenport, E.L.; Tansey, J.B. 1990. Changes in Florida's industrial roundwood products output, 1977-1987. Resour. Bull. SE-116. Asheville, NC: U.S. Department of Agriculture Forest Service, Southeastern Forest Experiment Station. 21 p. [1985].
- Howell, M. 1995. Florida's timber industry—an assessment of timber product output and use, 1993. Resour. Bull. SE-153. Asheville, NC: U.S. Department of Agriculture Forest Service, Southeastern Forest Experiment Station. 29 p. [1993].
- Howell, M.; Ford, E. 1999. Florida's timber industry—an assessment of timber product output and use, 1997. Resour. Bull. SRS-43. Asheville, NC: U.S. Department of Agriculture Forest Service, Southern Research Station. 32 p. [1997].
- Johnson, T.G.; Bentley, J.W.; Howell, M. 2008. Florida's timber industry—an assessment of timber product output and use, 2005. Resour. Bull. SRS-133. Asheville, NC: U.S. Department of Agriculture Forest Service, Southern Research Station. 31 p. [2005].
- Johnson, T.G.; Jenkins, A.; Haxby, T.S. 1997. Florida's timber industry—an assessment of timber product output and use, 1995. Resour. Bull. SRS-13. Asheville, NC: U.S. Department of Agriculture Forest Service, Southern Research Station. 29 p. [1995].
- Little, E.L., Jr. 1979. Checklist of United States trees (native and naturalized). Agric. Handb. 541. Washington, DC: U.S. Department of Agriculture. 375 p.

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 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 nonpulp mills, chipped, and then sold to pulp mills 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^a

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 ^b	
Softwood	71.00 cubic feet per cord
Hardwood	75.00 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 Florida during the latest survey period.

^b Cubic feet of solid wood per cord.

Species List^a

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

^a Common and scientific and common names of tree species ≥ 1.0 inch d.b.h. occurring in the FIA sample.

^b Little (1979).

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

Product and species group	Year		Change	Change
	2005	2007		
	- - - thousand cubic feet - - -			percent
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 ^a				
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

^a Includes roundwood delivered to nonpulp mills, then chipped and sold to pulp mills (4,102,000 cubic feet in 2005 and 1,403,000 cubic feet in 2007).

Table A.2—Roundwood receipts 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	151,182	181,979	30,797	20.4
Hardwood	3,912	3,701	-211	-5.4
Total	155,094	185,680	30,586	19.7
Veneer logs				
Softwood	31,632	27,258	-4,374	-13.8
Hardwood	828	916	88	10.6
Total	32,460	28,174	-4,286	-13.2
Pulpwood ^a				
Softwood	221,858	238,145	16,287	7.3
Hardwood	14,346	10,176	-4,170	-29.1
Total	236,204	248,321	12,117	5.1
Other industrial				
Softwood	35,405	43,260	7,855	22.2
Hardwood	879	664	-215	-24.5
Total	36,284	43,924	7,640	21.1
Total output				
Softwood	440,077	490,642	50,565	11.5
Hardwood	19,965	15,457	-4,508	-22.6
Total	460,042	506,099	46,057	10.0

^a Includes roundwood delivered to nonpulp mills, then chipped and sold to pulp mills (4,392,000 cubic feet in 2005 and 1,434,000 cubic feet in 2007).

Table A.3—Number of primary wood-using plants by type of mill, Florida, 1987 to 2007

Type of mill	Year									
	1987	1989	1991	1993	1995	1997	1999	2003	2005	2007
	<i>number</i>									
Sawmills	97	85	71	64	68	58	53	53	53	37
Veneer mills	5	5	5	5	5	5	4	3	3	3
Pulpmills	10	9	9	8	8	8	6	6	6	6
Composite panel mills	0	0	0	0	0	0	0	0	1	1
Other mills	31	28	30	32	32	30	30	30	30	22
All plants	143	127	115	109	113	101	93	92	93	69

Table A.4—Roundwood receipts by sawmill size, Florida, 2005 and 2007

Sawmill size class ^a <i>mmbf</i>	2005			2007		
	Mills	Volume		Mills	Volume	
	<i>number</i>	<i>mbf</i>	<i>percent</i>	<i>number</i>	<i>mbf</i>	<i>percent</i>
<1.0	24	8,367	1	14	5,286	1
1.0–4.99	9	18,064	2	4	7,871	1
5.0–9.99	4	24,384	3	5	32,343	3
10.0–49.99	8	169,999	21	5	112,765	11
>50	8	594,127	73	9	816,717	84
Total	53	814,941	100	37	974,982	100

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

Table A.5—Roundwood receipts by species and type of mill, Florida, 2007

Species	All mills	Sawmills	Type of mill		Pulpmills ^a	Other mills
			Veneer mills			
			Pine	Other		
			plywood	veneer		
<i>thousand cubic feet</i>						
Softwood						
Yellow pine	237,280	175,949	27,258	0	NA	34,073
Eastern white pine	0	0	0	0	NA	0
Cedar	2	0	0	0	NA	2
Cypress	15,018	5,878	0	0	NA	9,140
Other softwood	197	152	0	0	NA	45
Unclassified	238,145	0	0	0	238,145	0
Total softwoods	490,642	181,979	27,258	0	238,145	43,260
Hardwood						
Blackgum-tupelo	92	0	0	92	NA	0
Soft maple	92	0	0	92	NA	0
Sweetgum	404	130	0	274	NA	0
Yellow-poplar	366	0	0	366	NA	0
Other soft hardwood	436	436	0	0	NA	0
Hickory	289	242	0	0	NA	47
Red oak	1,134	973	0	0	NA	161
White oak	198	169	0	0	NA	29
Other hard hardwood	2,270	1,751	0	92	NA	427
Unclassified	10,176	0	0	0	10,176	0
Total hardwoods	15,457	3,701	0	916	10,176	664
All species	506,099	185,680	27,258	916	248,321	43,924

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, Florida, 2005 and 2007

Year	Production	Exported to other States	Retained	Imported from other States	Receipts
<i>thousand cubic feet</i>					
Softwood					
2005	416,796	58,146	358,650	81,427	440,077
2007	468,374	77,290	391,084	99,558	490,642
Hardwood					
2005	28,349	8,936	19,413	552	19,965
2007	22,687	7,357	15,330	127	15,457
All species					
2005	445,146	67,083	378,063	81,979	460,042
2007	491,061	84,647	406,414	99,685	506,099

Table A.7—Industrial roundwood movement by product and species group, Florida, 2007

Product and species group	Production	Exported to other States	Retained	Imported from other States	Receipts
<i>thousand cubic feet</i>					
Saw logs					
Softwood	173,532	23,172	150,360	31,619	181,979
Hardwood	3,899	313	3,586	115	3,701
Total	177,431	23,485	153,946	31,734	185,680
Veneer logs					
Softwood	24,229	5,141	19,088	8,170	27,258
Hardwood	1,371	455	916	0	916
Total	25,600	5,596	20,004	8,170	28,174
Pulpwood ^a					
Softwood	221,021	41,232	179,789	58,356	238,145
Hardwood	15,533	5,369	10,164	12	10,176
Total	236,554	46,601	189,953	58,368	248,321
Other industrial					
Softwood	49,592	7,745	41,847	1,413	43,260
Hardwood	1,884	1,220	664	0	664
Total	51,476	8,965	42,511	1,413	43,924
Total output					
Softwood	468,374	77,290	391,084	99,558	490,642
Hardwood	22,687	7,357	15,330	127	15,457
Total	491,061	84,647	406,414	99,685	506,099

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

Table A.8—Saw-log volume by destination, source, and species group, Florida, 2007

Destination and source	All species	Species group	
		Softwood	Hardwood
<i>thousand cubic feet</i>			
Florida (retained)	153,946	150,360	3,586
Exports to			
Alabama	5,944	5,944	0
Georgia	17,541	17,228	313
Total	23,485	23,172	313
Imports from			
Alabama	26,303	26,296	7
Georgia	5,431	5,323	108
Total	31,734	31,619	115

Table A.10—Pulpwood volume by destination, source, and species group, Florida, 2007^a

Destination and source	All species	Species group	
		Softwood	Hardwood
<i>thousand cubic feet</i>			
Florida (retained)	189,953	179,789	10,164
Exports to			
Alabama	7,567	6,560	1,007
Georgia	38,967	34,605	4,362
Mississippi	67	67	0
Total	46,601	41,232	5,369
Imports from			
Alabama	16,705	16,693	12
Georgia	41,501	41,501	0
Mississippi	162	162	0
Total	58,368	58,356	12

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

Table A.9—Veneer volume by destination, source, and species group, Florida, 2007

Destination and source	All species	Species group	
		Softwood	Hardwood
<i>thousand cubic feet</i>			
Florida (retained)	20,004	19,088	916
Exports to			
Alabama	935	932	3
Georgia	4,661	4,209	452
Total	5,596	5,141	455
Imports from			
Georgia	8,170	8,170	0
Total	8,170	8,170	0

Table A.11—Other industrial and composite panel volume by destination, source, and species group, Florida, 2007^a

Destination and source	All species	Species group	
		Softwood	Hardwood
<i>thousand cubic feet</i>			
Florida (retained)	42,511	41,847	664
Exports to			
Alabama	869	869	0
Georgia	7,090	5,870	1,220
Ohio	1,006	1,006	0
Total	8,965	7,745	1,220
Imports from			
Georgia	1,413	1,413	0
Total	1,413	1,413	0

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

Table A.12—Primary mill residue volume by roundwood type, species group, and residue type, Florida, 2007

Roundwood type and species group	All types	Residue type			
		Bark	Coarse	Sawdust	Shavings
thousand cubic feet					
Saw logs					
Softwood	105,614	15,121	49,795	25,164	15,534
Hardwood	2,209	424	1,001	778	6
Total	107,823	15,545	50,796	25,942	15,540
Veneer logs					
Softwood	15,607	2,516	6,234	6,857	0
Hardwood	668	110	274	284	0
Total	16,275	2,626	6,508	7,141	0
Pulpwood					
Softwood	23,900	23,900	0	0	0
Hardwood	1,292	1,292	0	0	0
Total	25,192	25,192	0	0	0
Other industrial ^a					
Softwood	17,342	9,957	5,869	1,516	0
Hardwood	373	82	209	82	0
Total	17,715	10,039	6,078	1,598	0
Total					
Softwood	162,463	51,494	61,898	33,537	15,534
Hardwood	4,542	1,908	1,484	1,144	6
Total	167,005	53,402	63,382	34,681	15,540

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

Table A.13—Disposal of residue at primary wood-using plants by product, species group, and type of residue, Florida, 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	34,818	53,201	0	0	33,645	53,201	50	0	1,123	0
Hardwood	1,282	978	0	0	1,282	978	0	0	0	0
Total	36,100	54,179	0	0	34,927	54,179	50	0	1,123	0
Particleboard										
Softwood	4,473	7,122	0	0	0	241	689	21	3,784	6,860
Hardwood	0	0	0	0	0	0	0	0	0	0
Total	4,473	7,122	0	0	0	241	689	21	3,784	6,860
Charcoal/ chemical wood										
Softwood	0	0	0	0	0	0	0	0	0	0
Hardwood	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
Sawn products										
Softwood	7,076	0	0	0	7,076	0	0	0	0	0
Hardwood	0	0	0	0	0	0	0	0	0	0
Total	7,076	0	0	0	7,076	0	0	0	0	0
Industrial fuel										
Softwood	66,352	68,202	32,834	34,638	2,057	1,242	25,109	26,624	6,352	5,698
Hardwood	3,209	2,886	2,201	1,802	60	95	946	989	2	0
Total	69,561	71,088	35,035	36,440	2,117	1,337	26,055	27,613	6,354	5,698
Miscellaneous										
Softwood	28,202	33,881	13,856	16,845	8,130	7,178	4,670	6,882	1,546	2,976
Hardwood	859	673	249	105	371	408	239	154	0	6
Total	29,061	34,554	14,105	16,950	8,501	7,586	4,909	7,036	1,546	2,982
Not used										
Softwood	75	57	14	11	47	36	14	10	0	0
Hardwood	57	5	0	1	57	3	0	1	0	0
Total	132	62	14	12	104	39	14	11	0	0
All products										
Softwood	140,996	162,463	46,704	51,494	50,955	61,898	30,532	33,537	12,805	15,534
Hardwood	5,407	4,542	2,450	1,908	1,770	1,484	1,185	1,144	2	6
Total	146,403	167,005	49,154	53,402	52,725	63,382	31,717	34,681	12,807	15,540

Table A.14—Roundwood timber product output by county, product, and species group, Florida, 2007

County	All products		Saw logs		Veneer logs		Pulpwood ^a		Composite panels		Other industrial	
	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood
<i>thousand cubic feet</i>												
Alachua	10,475	357	4,652	0	312	0	4,751	259	0	0	760	98
Baker	15,070	342	4,518	0	936	0	9,261	342	0	0	355	0
Bay	15,373	1,141	3,985	191	0	0	11,074	950	0	0	314	0
Bradford	10,150	451	3,725	0	312	0	5,943	451	0	0	170	0
Brevard	419	0	3	0	312	0	104	0	0	0	0	0
Calhoun	17,004	1,384	5,962	766	0	162	6,428	456	4,206	0	408	0
Charlotte	719	1	0	0	0	0	14	1	0	0	705	0
Citrus	313	3	176	0	0	0	66	3	0	0	71	0
Clay	11,117	252	3,221	2	780	0	6,999	250	0	0	117	0
Collier	19	0	19	0	0	0	0	0	0	0	0	0
Columbia	16,966	643	6,453	0	156	92	9,838	551	0	0	519	0
De Soto	705	0	0	0	0	0	0	0	0	0	705	0
Dixie	13,140	611	5,143	187	624	156	5,613	110	532	158	1,228	0
Duval	8,237	287	2,965	8	312	0	4,852	279	0	0	108	0
Escambia	7,015	374	4,067	0	0	0	2,650	374	0	0	298	0
Flagler	5,777	790	1,489	0	624	0	3,633	790	0	0	31	0
Franklin	7,330	21	2,305	0	0	0	1,480	21	3,463	0	82	0
Gadsden	15,274	1,480	6,148	269	3,031	81	2,857	1,130	2,968	0	270	0
Gilchrist	4,448	172	2,348	0	0	73	1,040	15	0	0	1,060	84
Glades	1,193	0	0	0	312	0	0	0	0	0	881	0
Gulf	14,502	913	4,485	385	0	0	9,342	528	494	0	181	0
Hamilton	16,412	412	5,929	0	841	110	8,848	180	409	122	385	0
Hardee	156	0	0	0	156	0	0	0	0	0	0	0
Hernando	410	1	296	0	0	0	43	1	0	0	71	0
Highlands	979	0	150	0	0	0	0	0	0	0	829	0
Hillsborough	386	31	184	0	156	0	3	31	0	0	43	0
Holmes	10,406	194	6,546	2	0	0	2,915	192	0	0	945	0
Jackson	19,982	897	9,168	273	1,166	3	7,728	621	1,237	0	683	0
Jefferson	14,566	618	4,223	0	1,361	81	5,405	98	3,453	439	124	0
Lafayette	14,022	274	3,386	111	0	73	10,281	90	0	0	355	0
Lake	1,605	529	529	0	156	0	733	529	0	0	187	0
Leon	4,256	154	1,578	2	272	0	1,143	152	989	0	274	0
Levy	18,883	822	6,986	276	2,654	64	7,757	426	0	0	1,486	56
Liberty	7,107	786	1,797	574	0	0	671	212	4,453	0	186	0
Madison	20,056	1,289	6,685	67	841	183	9,680	698	2,136	341	714	0
Marion	4,930	177	1,558	16	468	0	2,689	120	0	0	215	41
Nassau	26,064	1,157	13,096	315	624	0	11,906	842	0	0	438	0
Okaloosa	6,405	316	3,309	0	130	0	2,806	316	0	0	160	0
Orange	457	36	379	0	0	0	60	36	0	0	18	0
Osceola	792	25	440	25	0	0	0	0	0	0	352	0
Pasco	2,353	115	1,359	0	156	0	79	115	0	0	759	0
Polk	1,537	0	733	0	156	0	48	0	0	0	600	0
Putnam	12,166	1,975	1,489	0	1,717	0	8,790	1,975	0	0	170	0
St. Johns	8,441	523	4,223	1	468	0	3,724	522	0	0	26	0

continued

Table A.14—Roundwood timber product output by county, product, and species group, Florida, 2007 (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
<i>thousand cubic feet</i>												
Santa Rosa	10,135	161	6,184	6	0	0	3,766	155	0	0	185	0
Sarasota	1,071	0	70	0	983	0	0	0	0	0	18	0
Seminole	198	60	0	0	0	0	24	2	0	0	174	58
Sumter	912	78	728	0	0	0	1	78	0	0	183	0
Suwannee	10,595	662	3,914	0	841	92	5,663	570	0	0	177	0
Taylor	29,764	703	8,440	223	1,840	201	16,093	121	2,511	158	880	0
Union	8,567	57	6,624	0	468	0	1,361	57	0	0	114	0
Volusia	4,448	535	1,545	6	468	0	1,304	200	0	0	1,131	329
Wakulla	6,677	7	2,722	0	0	0	2,675	7	1,237	0	43	0
Walton	13,123	158	3,114	0	130	0	9,673	158	0	0	206	0
Washington	15,267	713	4,484	194	466	0	9,207	519	247	0	863	0
All counties	468,374	22,687	173,532	3,899	24,229	1,371	221,021	15,533	28,335	1,218	21,257	666

^a Includes roundwood delivered to nonpulp mills, then chipped and sold to pulpmills (1,403,000 cubic feet in 2007).

Table A.15—Total roundwood output by product, species group, and source of material, Florida, 2007

Product and species group	All sources	Total	Growing-stock trees		Other sources
			Sawtimber	Poletimber	
			thousand cubic feet		
Saw logs					
Softwood	173,532	167,084	154,001	13,083	6,448
Hardwood	3,899	3,882	3,568	314	17
Total	177,431	170,966	157,569	13,397	6,465
Veneer logs and bolts					
Softwood	24,229	23,850	23,543	307	379
Hardwood	1,371	1,366	1,366	0	5
Total	25,600	25,216	24,909	307	384
Pulpwood					
Softwood	221,021	184,216	54,700	129,516	36,805
Hardwood	15,533	13,644	9,090	4,553	1,889
Total	236,554	197,860	63,790	134,070	38,694
Composite panels					
Softwood	28,335	23,616	7,012	16,604	4,719
Hardwood	1,218	965	643	322	253
Total	29,553	24,581	7,655	16,926	4,972
Poles and posts					
Softwood	7,447	6,982	5,362	1,619	465
Hardwood	0	0	0	0	0
Total	7,447	6,982	5,362	1,619	465
Other miscellaneous					
Softwood	13,810	7,179	6,048	1,131	6,631
Hardwood	666	631	75	556	35
Total	14,476	7,810	6,122	1,688	6,666
Total industrial products					
Softwood	468,374	412,926	250,665	162,261	55,448
Hardwood	22,687	20,487	14,742	5,746	2,200
Total	491,061	433,414	265,407	168,007	57,647
Domestic fuelwood					
Softwood	1,308	1,122	997	125	186
Hardwood	16,506	14,059	9,529	4,530	2,447
Total	17,814	15,180	10,526	4,655	2,634
All products					
Softwood	469,682	414,048	251,662	162,386	55,634
Hardwood	39,193	34,546	24,271	10,275	4,647
Total	508,875	448,594	275,933	172,662	60,281

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

Table A.16—Total roundwood output by species group, survey region, and ownership class, Florida, 2007

Species group and survey region	Total	Ownership class		
		Public	Forest industry	Nonindustrial private
<i>thousand cubic feet</i>				
Softwoods				
Northeast	270,481	11,584	68,872	190,025
Northwest	184,938	15,113	28,485	141,340
Central and South	14,263	3,232	0	11,031
Total softwoods	469,682	29,928	97,357	342,397
Hardwoods				
Northeast	21,578	2,088	4,422	15,068
Northwest	16,095	725	862	14,508
Central and South	1,520	452	0	1,068
Total hardwoods	39,193	3,266	5,284	30,644
All species	508,875	33,194	102,640	373,041

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

Table A.17—Total roundwood output by species group, detailed species group, and product, Florida, 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								
Cedar	498	197	23	179	84	10	3	1
Longleaf-slash pine	366,953	136,603	16,924	176,174	20,657	5,672	9,902	1,022
Loblolly-shortleaf pine	49,803	18,947	3,750	20,543	4,780	615	1,029	139
Other yellow pines	29,862	9,416	1,888	14,666	2,121	433	1,254	83
Cypress	22,567	8,370	1,644	9,460	692	716	1,623	62
Total softwoods	469,682	173,532	24,229	221,021	28,335	7,447	13,810	1,308
Hardwood								
Soft maple	1,400	63	52	656	35	0	5	590
Hard maple	102	8	9	28	13	0	0	43
Other birch	15	0	0	6	0	0	2	6
Hickory	837	106	29	319	18	0	12	352
Beech	620	199	42	118	0	0	0	261
Ash	573	97	12	208	4	0	10	241
Sweetgum	3,744	327	118	1,554	133	0	36	1,577
Yellow-poplar	909	155	30	341	0	0	0	383
Blackgum-tupelo	5,351	367	268	2,122	287	0	54	2,254
Black cherry	188	11	12	79	7	0	0	79
Select white oaks	513	124	21	148	4	0	0	216
Other white oaks	2,609	60	60	1,295	70	0	26	1,099
Select red oaks	179	16	8	79	1	0	0	76
Other red oaks	11,737	1,346	439	4,372	484	0	153	4,943
Basswood	45	9	3	12	1	0	1	19
Elm	320	37	20	118	7	0	4	135
Other eastern hardwoods	10,050	974	251	4,076	154	0	363	4,232
Total hardwoods	39,193	3,899	1,371	15,533	1,218	0	666	16,506
All species	508,875	177,431	25,600	236,554	29,553	7,447	14,476	17,814

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 ownership class, Florida, 2007

Species group and detailed species group	Total	Ownership class		
		Public	Forest industry	Nonindustrial private
<i>thousand cubic feet</i>				
Softwood				
Cedar	498	47	41	410
Longleaf-slash pine	366,953	22,574	78,396	265,984
Loblolly-shortleaf pine	49,803	3,283	9,432	37,088
Other yellow pines	29,862	2,747	4,619	22,496
Cypress	22,567	1,278	4,869	16,419
Total softwoods	469,682	29,928	97,357	342,397
Hardwood				
Soft maple	1,400	151	289	959
Hard maple	102	2	14	86
Other birch	15	7	1	7
Hickory	837	140	119	578
Beech	620	0	53	567
Ash	573	124	90	358
Sweetgum	3,744	230	603	2,912
Yellow-poplar	909	14	121	774
Blackgum-tupelo	5,351	227	1,034	4,090
Black cherry	188	25	19	144
Select white oaks	513	15	90	407
Other white oaks	2,609	375	210	2,024
Select red oaks	179	22	8	148
Other red oaks	11,737	1,264	1,771	8,703
Basswood	45	10	12	24
Elm	320	50	48	223
Other eastern hardwoods	10,050	609	802	8,638
Total hardwoods	39,193	3,266	5,284	30,644
All species	508,875	33,194	102,640	373,041

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

Johnson, Tony G.; Nowak, Jarek; Mathison, Rhonda M. 2009. Florida's timber industry—an assessment of timber product output and use, 2007. Resour. Bull. SRS-153. Asheville, NC: U.S. Department of Agriculture Forest Service, Southern Research Station. 31 p.

In 2007, volume of industrial roundwood output from Florida's forests totaled 491 million cubic feet, 10 percent more than in 2005. Mill byproducts generated from primary manufacturers increased to 167 million cubic feet. Almost all plant residues were used primarily for fuel and fiber products. Pulpwood was the leading roundwood product at 237 million cubic feet; saw logs ranked second at 177 million cubic feet; composite panel production was third at 30 million cubic feet. Total receipts were up 10 percent to 506 million cubic feet. The number of primary processing plants totaled 69 in 2007 compared to 93 in 2005.

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



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