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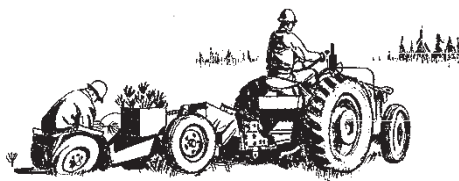
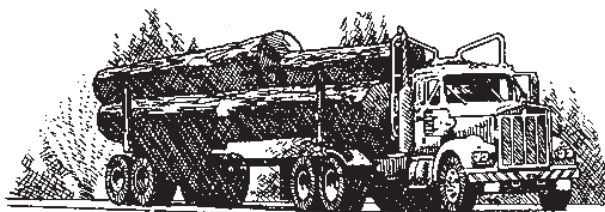
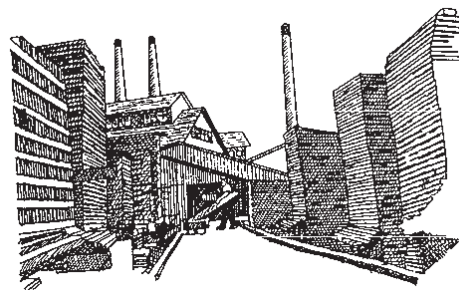
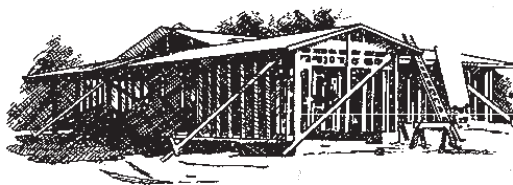


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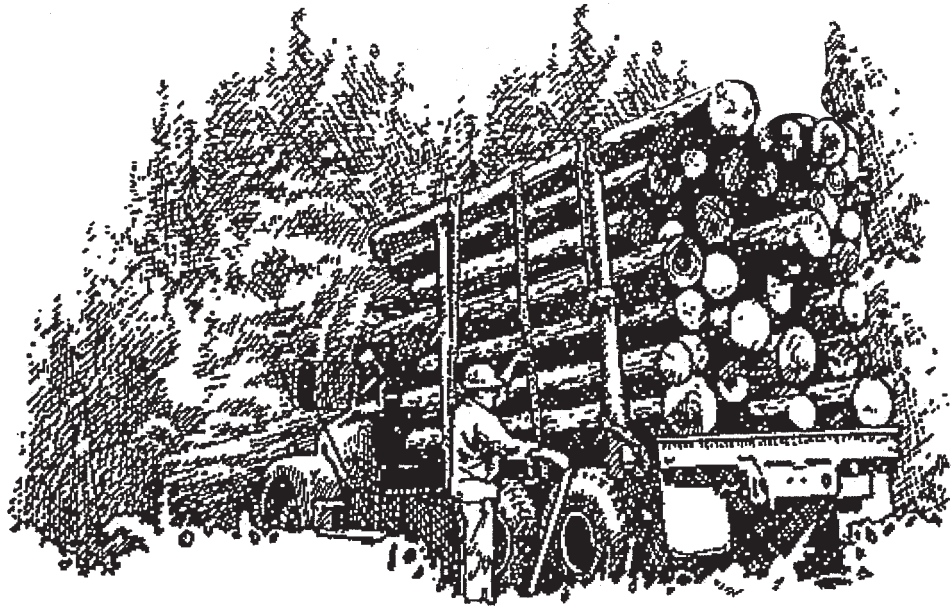
Virginia's Timber Industry— An Assessment of Timber Product Output and Use, 2003

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Foreword

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

A 100-percent canvass of all wood processors in Virginia was conducted in 2004 to obtain information for 2003. In addition, roundwood from out-of-State mills known to be using logs or bolts harvested from Virginia timberland was incorporated into Virginia 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 1965, 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 John A. Scrivani for review and comments; Joe McCollum and Sonja N. Oswalt for the maps; Anne Jenkins, Charlene Walker, Sharon Johnson, and Janet Griffin for tables, graphs, and statistical checking; and Diana Corbin and Louise Wilde for editorial review, styling, and publication of this report.

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

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

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

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

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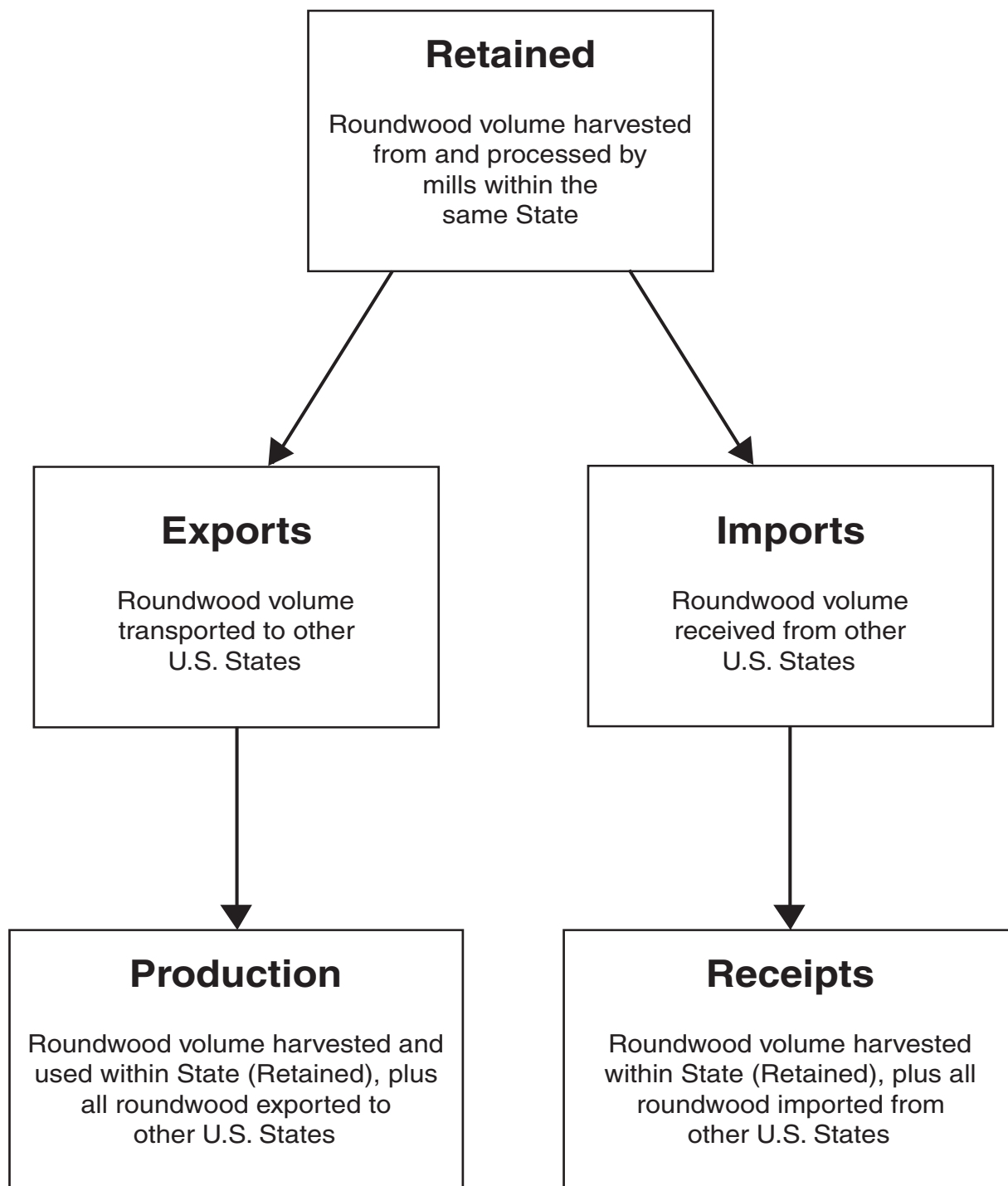
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^a All tables in this report are available in Microsoft® Excel workbook files. Upon request, these files will be supplied in the format the customer requests.

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.



Production = Retained + Exports

Receipts = Retained + Imports

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

- Between 2001 and 2003, the combined industrial TPO from roundwood and plant byproducts decreased 2 percent, from 673 to 660 million cubic feet.
- TPO from roundwood decreased 1 percent, from 492 million cubic feet to 488 million cubic feet while output of plant byproducts decreased 6 percent, from 181 to 171 million cubic feet.
- Output of softwood roundwood products declined 1 percent to 252 million cubic feet, while output of hardwood roundwood products decreased 1 percent to 236 million cubic feet (fig. 2).
- Figures 3 and 4 display softwood and hardwood county-level intensity of roundwood production for all industrial products across Virginia. The data are depicted in cubic feet produced per acre of census land area. Counties with the highest production intensity are depicted in the darker shades. For softwoods the darkest shade represents more than 30 cubic feet of production per acre, while for hardwoods the darkest shade represents more than 18 cubic feet per acre.

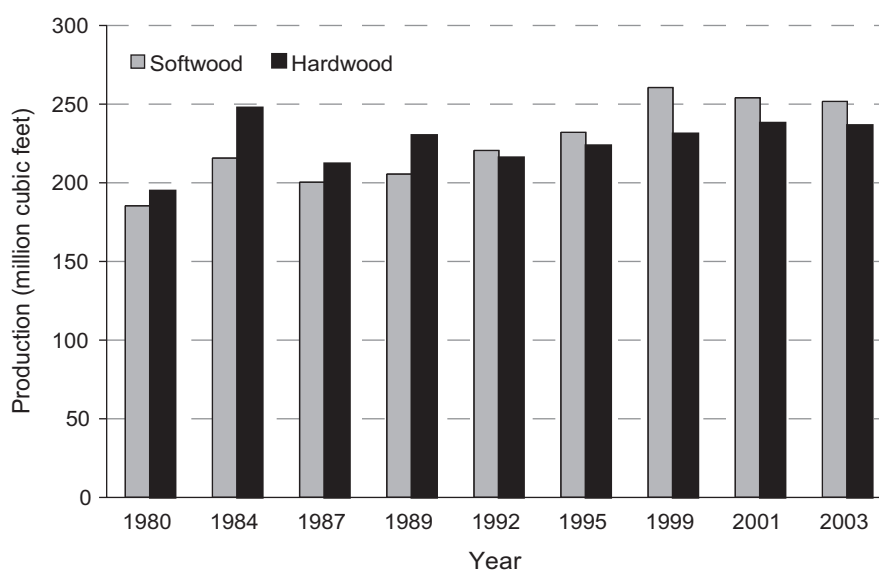


Figure 2—Roundwood production for all products by species group and year (see page 11 for references for individual years).

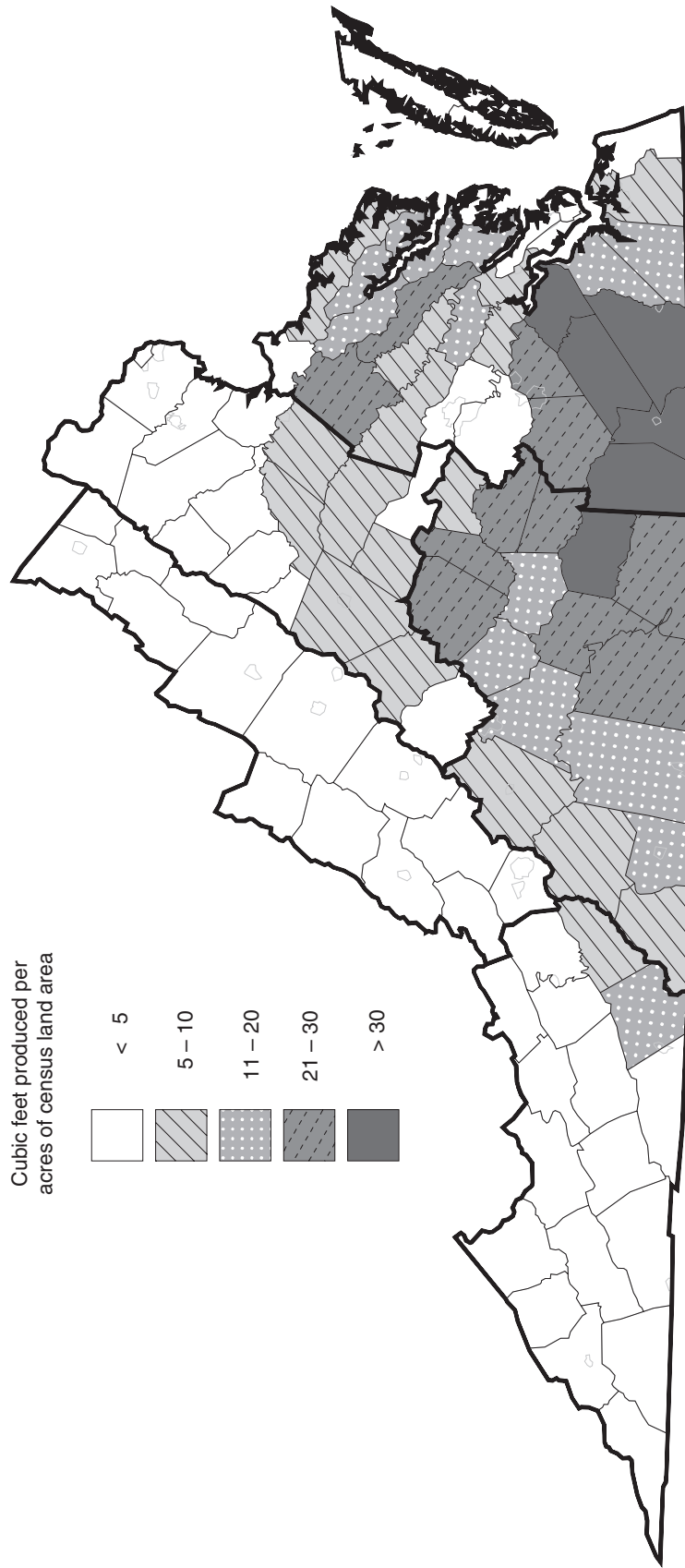


Figure 3—Intensity of roundwood softwood output for all industrial products in Virginia by county, 2003.

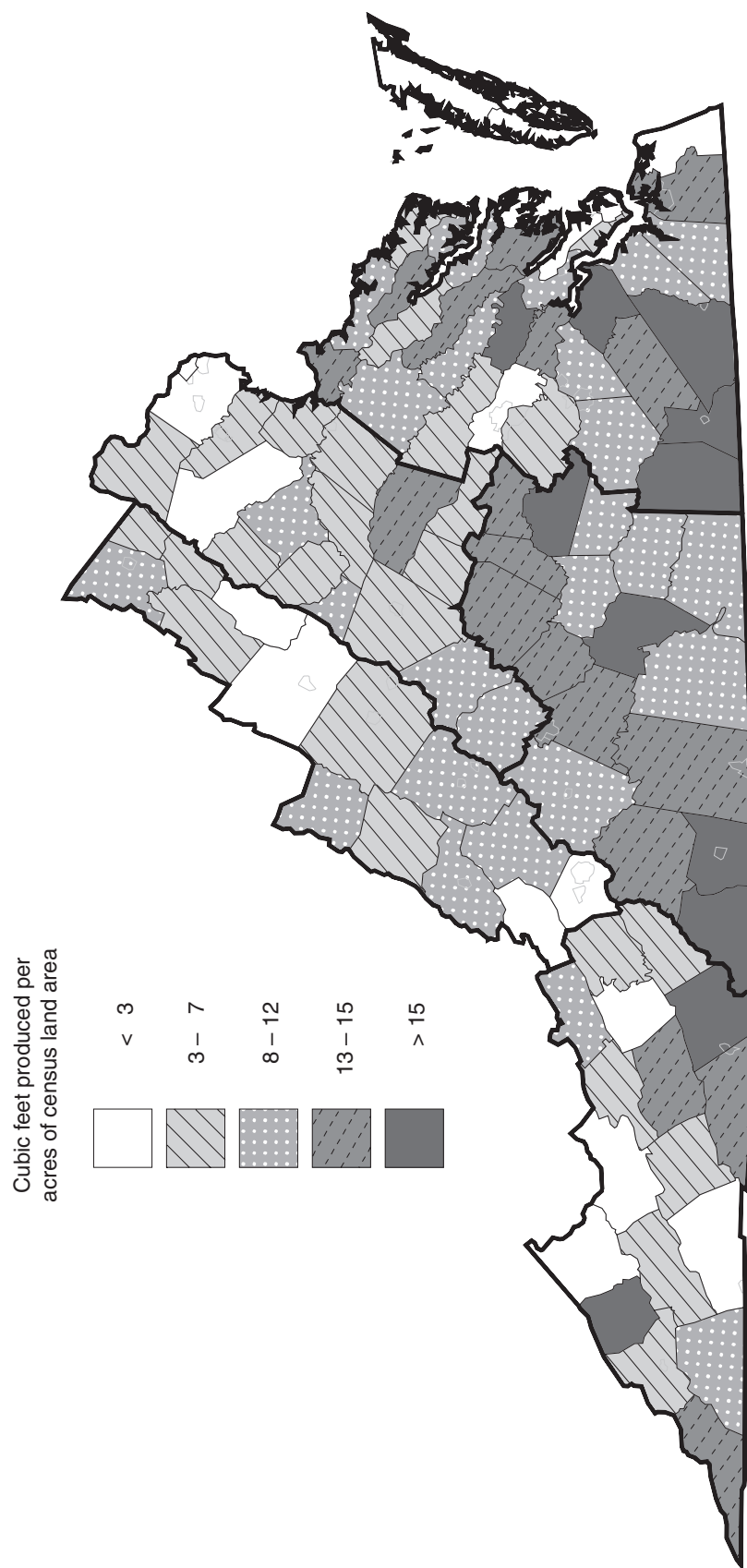


Figure 4—Intensity of roundwood hardwood output for all inudstrial product in Virginia by counmty, 2003.

- Saw logs and pulpwood were the principal roundwood products in 2003. Combined output of these two products totaled 416 million cubic feet and accounted for 85 percent of the State's total roundwood output (fig. 5).
- Total receipts at Virginia mills, which included roundwood harvested and retained in the State and roundwood imported from other States, remained stable at 492 million cubic feet. At the same time, the number of primary roundwood-using plants in Virginia declined from 248 in 2001 to 234 in 2003.

Saw Logs

- Saw logs accounted for 47 percent of the State's total roundwood products. Output of softwood saw logs decreased 7.6 million cubic feet to 108 million cubic feet (591 million board feet, International 1/4-inch rule), while that of hardwood saw logs decreased 11 percent to 121 million cubic feet (739 million board feet, International 1/4-inch rule) (fig. 6).
- In 2003, Virginia had 204 sawmills, a net loss of 13 mills since 2001. The total number of sawmills does not include several one-man sawmills not picked up in this survey. Total saw-log receipts decreased 27 million cubic feet to 227 million cubic feet. Softwood saw-log receipts decreased 9 percent to 104 million cubic feet, while

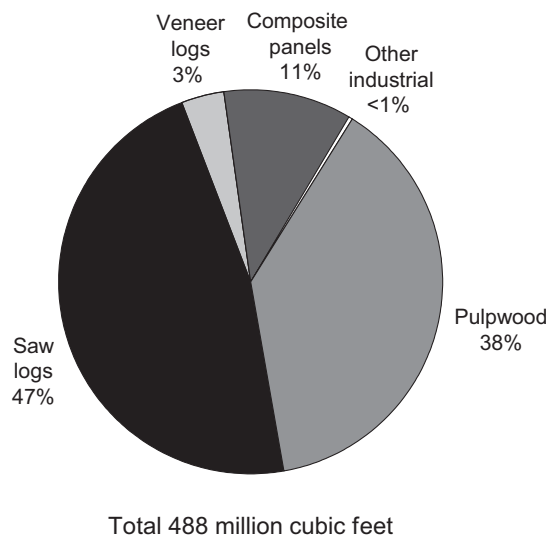


Figure 5—Roundwood production by type of product, 2003.

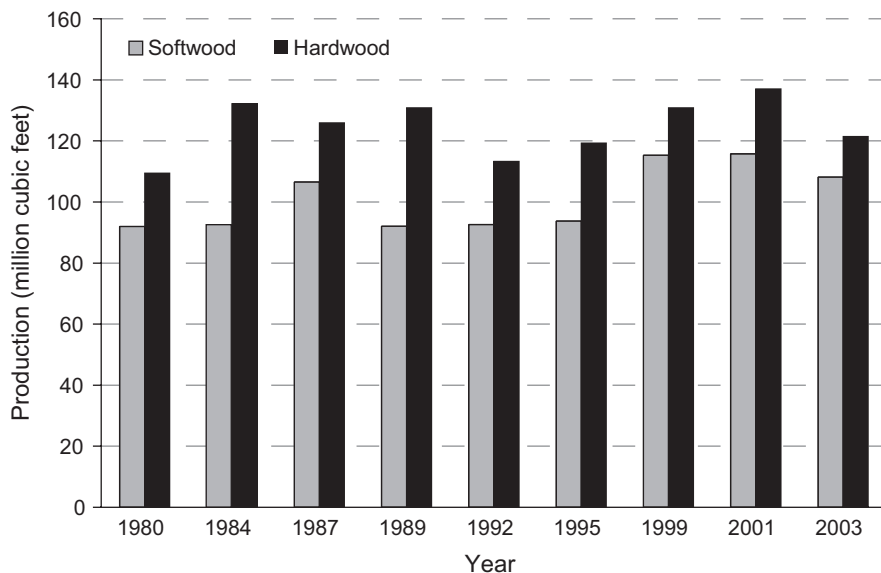


Figure 6—Roundwood saw-log production by species group and year (see page 11 for references for individual years).

hardwoods decreased 12 percent to 123 million cubic feet. Of the 204 mills operating in 2003, 23 percent had receipts of < 1 million board feet, while 42 percent, or 85 mills, had receipts > 5 million board feet.

- Virginia retained 89 percent of its saw-log production for domestic manufacture, with saw-log exports exceeding imports by 2.7 million cubic feet in 2003.

Pulpwood

- Pulpwood production, including chipped roundwood, increased 16 million cubic feet to 186 million cubic feet and accounted for 38 percent of the State's total roundwood TPO. Softwood output remained stable at 89 million cubic feet (1.2 million cords), while hardwood output increased 20 percent to 97 million cubic feet (1.3 million cords) (fig. 7).
- Nine pulpmill facilities were operating and receiving roundwood in Virginia in 2003, the same as in 2001. Total pulpwood receipts for these mills increased 3 million cubic feet to 184 million cubic feet, accounting for 37 percent of total receipts for all mills.

- Seventy-nine percent of roundwood cut for pulpwood was retained for processing at Virginia pulpmills. Roundwood pulpwood accounted for 49 percent of total known exports and 44 percent of total imports. Roundwood pulpwood exports amounted to 40 million cubic feet, while imports amounted to 37 million cubic feet, making the State a net exporter of roundwood pulpwood.

Veneer Logs

- Output of veneer logs in 2003 totaled 17 million cubic feet and accounted for 3 percent of the State's total roundwood TPO volume. Softwood veneer-log production decreased 36 percent to 8 million cubic feet (52 million board feet, International 1/4-inch rule), while output of hardwood veneer-log production increased 45 percent to 8 million cubic feet (53 million board feet, International 1/4-inch rule) (fig. 8).
- The number of veneer mills operating in Virginia remained the same at five in 2003. Total receipts for veneer logs increased 11 percent to 20 million cubic feet.

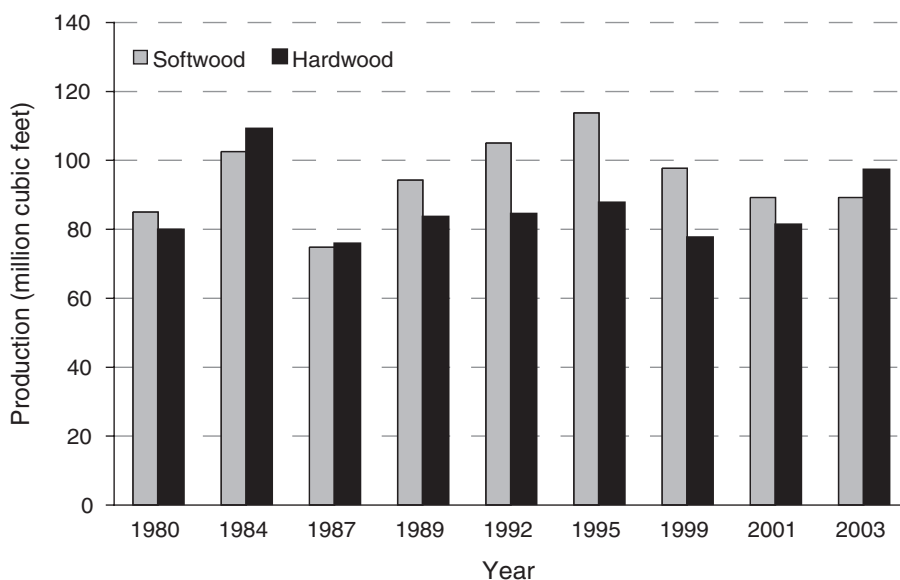


Figure 7—Roundwood pulpwood production by species group and year (see page 11 for references for individual years).

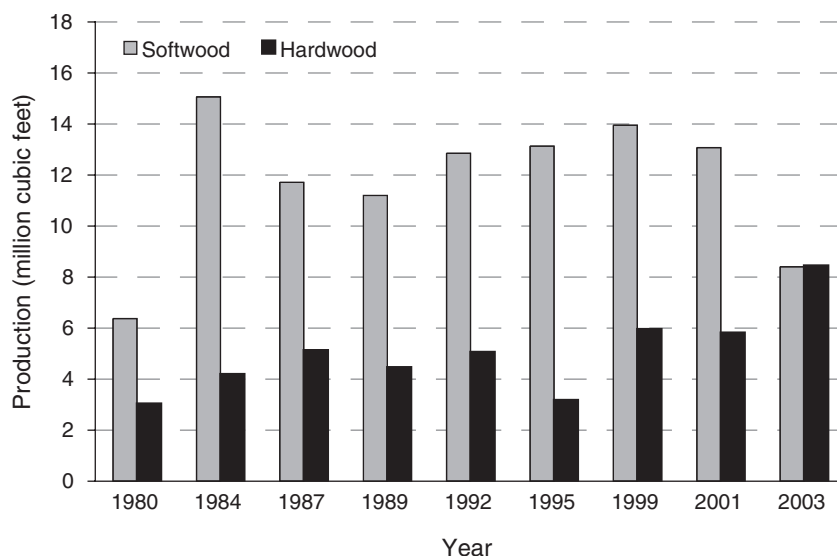


Figure 8—Roundwood veneer-log production by species group and year (see page 11 for references for individual years).

- Virginia retained 67 percent of its veneer-log production for processing at domestic veneer mills. Imports amounted to 9 million cubic feet, while exports totaled 6 million cubic feet.

Composite Panels

- Roundwood harvested from Virginia's forests for composite panels increased 12 percent and totaled 54 million cubic feet. Softwood output was up 31 percent to 45 million cubic feet (608 thousand cords), while hardwood production decreased 34 percent to 9 million cubic feet (120 thousand cords) (fig. 9).
- The number of composite panel mills operating in Virginia remained the same at three. Total receipts for these mills were 60 million cubic feet, or about 12 percent of the State's total receipts.
- Eighty-two percent of the roundwood production harvested for composite panels was retained for processing at Virginia's mills. Imports amounted to 16 million cubic feet, while exports totaled 10 million cubic feet, making the State a net importer of logs 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 2 million cubic feet and accounted for four-tenths of 1 percent of the State's TPO output. Softwood made up 77 percent of the other industrial product volume.
- The number of plants producing other industrial products decreased from 14 to 13. Combined receipts of other industrial products from softwood and hardwood totaled 2 million cubic feet.
- Virginia was a net importer of roundwood used for other industrial products; of the 299 thousand cubic feet imported, 93 percent was softwood.

Plant Byproducts

- In 2003, processing of primary products in Virginia mills generated about 174 million cubic feet of wood and bark residues. Coarse residues from all primary products amounted to 66 million cubic feet, while bark volume totaled 54 million cubic feet. Collectively, sawdust and shavings made up 31 percent of total residues, or 53 million cubic feet (fig. 10).

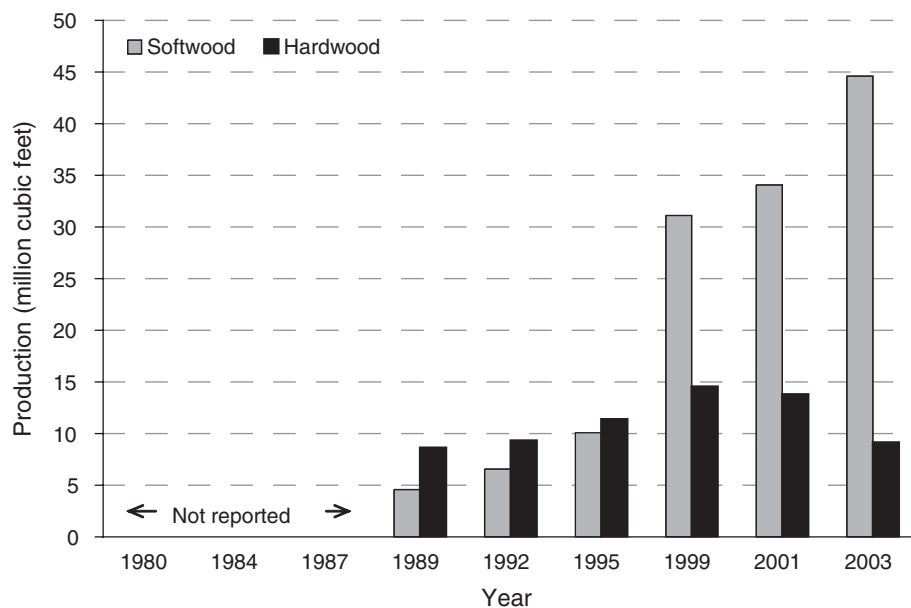


Figure 9—Roundwood composite panel production by species group and year (see page 11 for references for individual years).

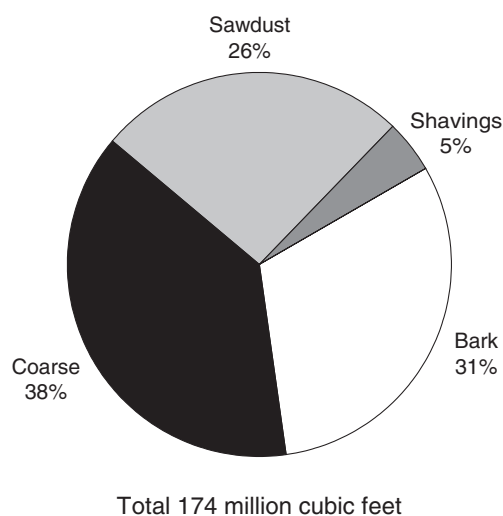


Figure 10—Primary mill residue by residue type, 2003.

- Virtually all the wood and bark residues were used for a product: only 1 percent was not used, while 42 percent of the residues were used for industrial fuel (fig. 11). Fifty-seven million cubic feet, or 85 percent, of the coarse residues were used for fiber products. Most of the bark was used for industrial fuel or other miscellaneous products, while 62 percent of the sawdust and shavings were used for industrial fuel.
- The processing of saw logs generated 131 million cubic feet of mill residues, accounting for 75 percent of the total residues produced (fig. 12).

Regional Trends

- Output of industrial roundwood products increased in the Northern Piedmont and Southern Piedmont regions with the Southern Piedmont region having the largest increase at 22 percent. Output of industrial roundwood products decreased in the Coastal Plain, Northern, and Southern Mountain regions.

Coastal Plain Region

- Roundwood output from the Coastal Plain region totaled 177 million cubic feet, down 15 percent since 2001.

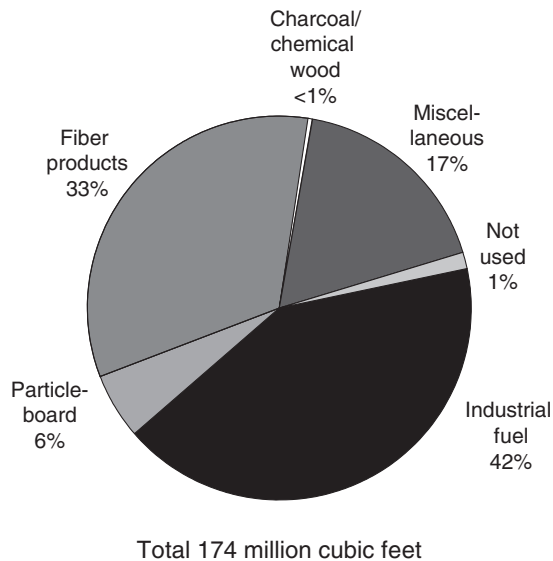


Figure 11—Disposal of residue by product, 2003.

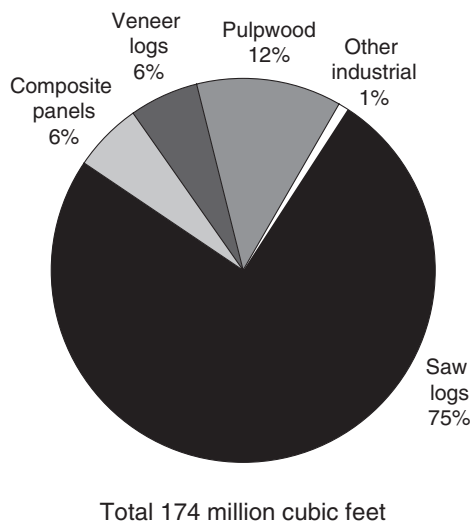


Figure 12—Primary mill residue produced by roundwood type, 2003.

- Pulpwood accounted for 44 percent of the region's TPO and 41 percent of the State's roundwood pulpwood output. The 81 million cubic feet of saw logs accounted for 46 percent of the total roundwood output for the region.
- In the Coastal Plain region, 49 primary wood-using plants were operating during 2003, 4 less than in 2001: 37 sawmills, 5 pulpmills, 2 veneer or plywood mills, 1 composite panel mill, and 4 other miscellaneous mills (fig. 13). These mills processed 36 percent of the State's total roundwood output.

Southern Piedmont Region

- Roundwood output from the Southern Piedmont region totaled 182 million cubic feet, an increase of 22 percent.
- Saw-log production of 73 million cubic feet accounted for 40 percent of the region's total roundwood output. Production of pulpwood increased to 64 million cubic feet and accounted for 35 percent of the region's total roundwood output.
- The 80 mills operating in the Southern Piedmont region in 2003 included 73 sawmills, 2 veneer or plywood mills, 2 pulpmills, 2 composite panel mills, and 1 other miscellaneous mill.

Northern Piedmont Region

- Roundwood output from the Northern Piedmont region totaled more than 47 million cubic feet, up 5 percent. Roundwood production from this region accounted for 10 percent of the total roundwood TPO for the State.
- Pulpwood production increased by 30 percent to 25 million cubic feet, accounting for 52 percent of the region's total TPO. Saw-log production of 21 million cubic feet accounted for another 45 percent of the region's total roundwood output.
- The 39 primary wood-using plants operating in the Northern Piedmont region included 33 sawmills, 1 pulpmill, and 5 other miscellaneous mills.

Northern Mountain Region

- Roundwood output from the Northern Mountain region totaled 28 million cubic feet, a 6 percent decrease.
- Saw-log production remained stable at 16 million cubic feet, accounting for 56 percent of the region's total roundwood output. Production of pulpwood decreased 10 percent to 11 million cubic feet and accounted for 38 percent of the region's total roundwood output.

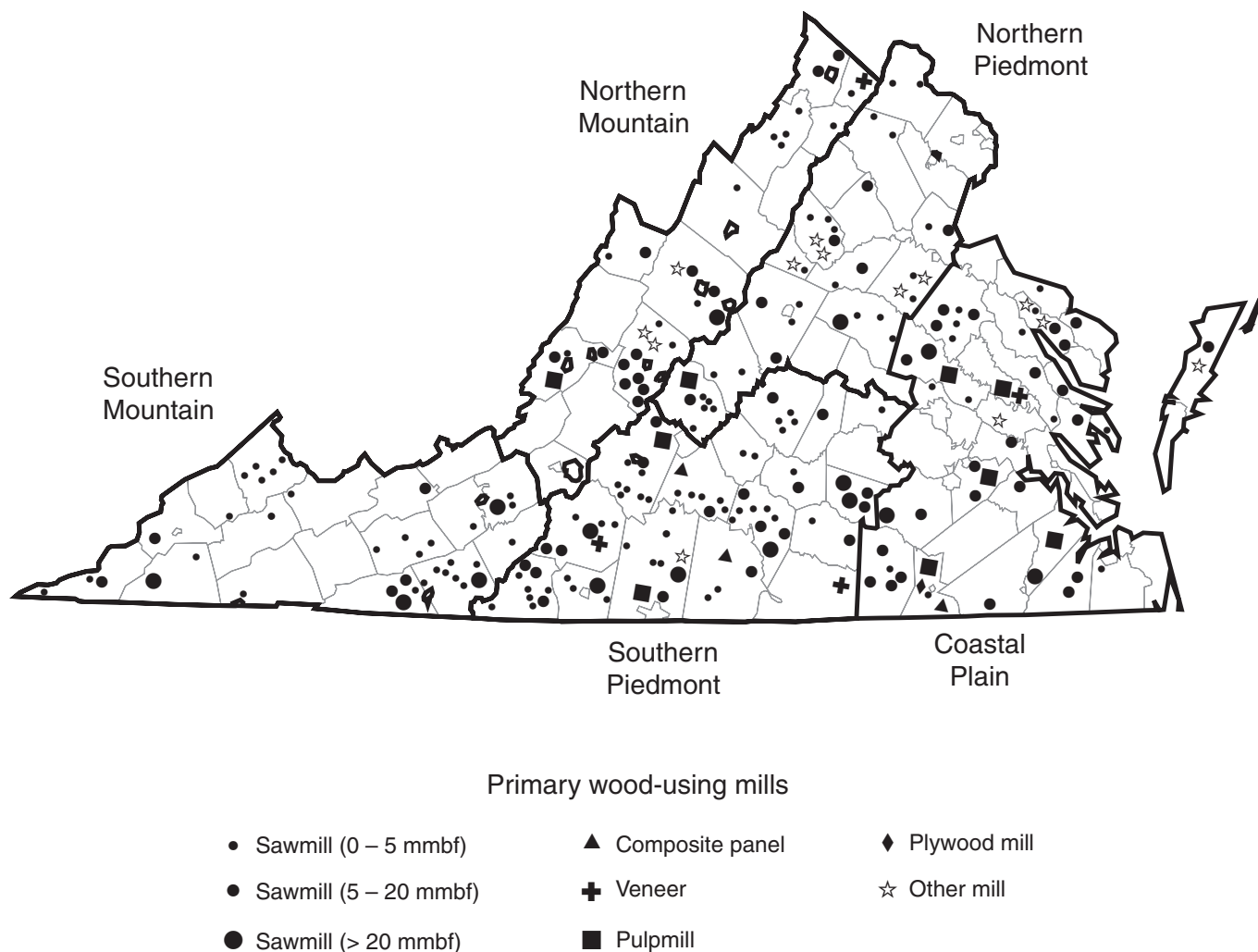


Figure 13—Primary wood-using mills by region, 2003.

- In the Northern Mountain region, 31 primary wood-using plants were operating during 2003: 26 sawmills, 1 veneer mill, 1 pulpmill, and 3 other miscellaneous mills.

Southern Mountain Region

- Roundwood output from the Southern Mountain region totaled 54 million cubic feet, an 11 percent decrease.
- Saw-log production decreased 17 percent to 38 million cubic feet and accounted for 72 percent of the region's total roundwood output. Pulpwood production was up 26 percent and accounted for 19 percent of the region's total TPO. Composite panel production decreased 19 percent to 2 million cubic feet.

- In the Southern Mountain region, 35 sawmills were operating during 2003.

Total Roundwood Output

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

Source

- In addition to the 488 million cubic feet of roundwood output for industrial roundwood, an estimated 47 million cubic feet was harvested for domestic fuelwood, bringing Virginia's total roundwood output to 535 million cubic feet.

- An estimated 92 percent of total roundwood output was considered growing-stock volume (sawtimber and poletimber) from timberland sources. Other sources (such as saplings; stumps, tops, and limbs of trees on timberland; and trees on nonforestland) contributed an estimated 41 million cubic feet, or 8 percent of total roundwood output (fig. 14).

Ownership

- An estimated 456 million cubic feet, or 85 percent, of the total roundwood output came from nonindustrial private forest lands. Forest industry lands contributed 69 million cubic feet, or 13 percent of the output. Public lands made up the remaining 2 percent, or 10 million cubic feet (fig. 15).

Species

- The loblolly and shortleaf pine group provided the most volume of any softwood species group, accounting for 67 percent of the total softwood output. The other yellow pine types accounted for 29 percent of the softwood output (fig. 16). In hardwoods, the red oak and white oak groups combined accounted for 131 million cubic feet, or 47 percent of total hardwood output (fig. 17). Yellow-poplar accounted for another 53 million cubic feet, or 19 percent of total hardwood output.

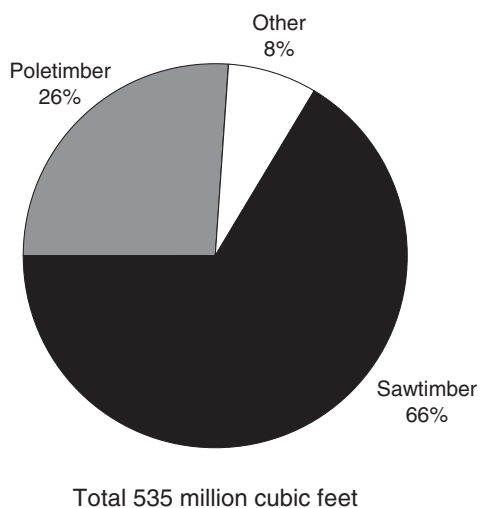


Figure 14—Roundwood output by source, 2003.

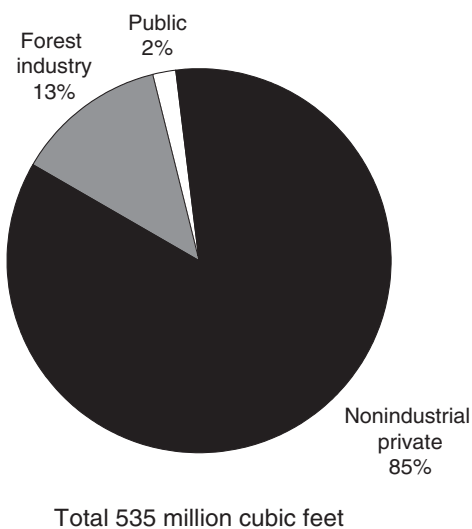


Figure 15—Roundwood output by ownership, 2003.

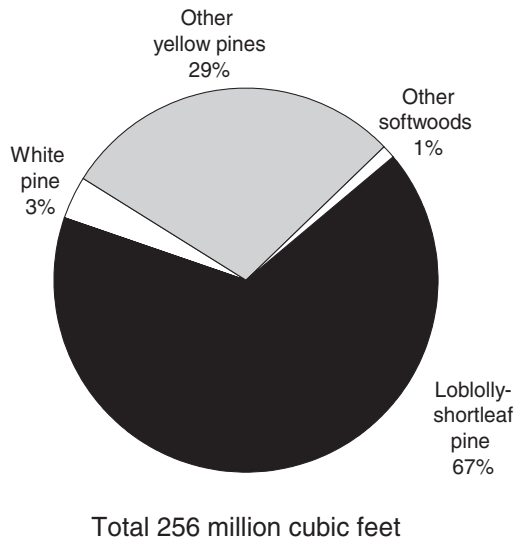


Figure 16—Roundwood output by softwood species group, 2003.

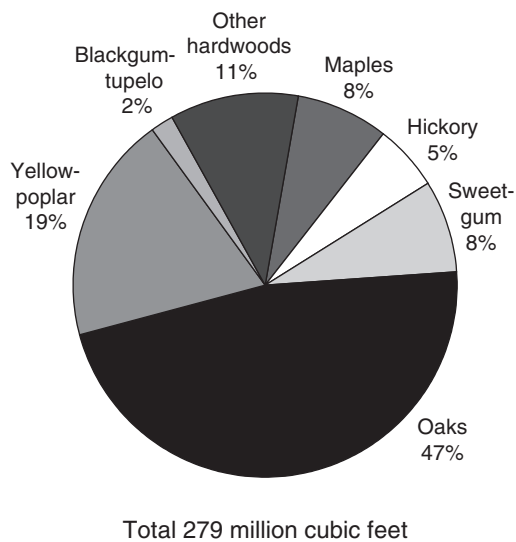


Figure 17—Roundwood output by hardwood species group, 2003.

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Glossary

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

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

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

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

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

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

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

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

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

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

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

Hardwoods. Dicotyledonous trees, usually broadleaf and deciduous.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

National 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 1/4-inch rule).

Seedlings. Trees <1.0 inch d.b.h. and >1 foot tall for hardwoods, >6 inches tall for softwoods, and >0.5 inch in diameter at ground level for longleaf pine.

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

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

Softwoods. Coniferous trees, usually evergreen, having leaves that are needles or scale like.

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

Standard unit. A unit measure applied to roundwood timber products. Board feet (International 1/4-inch rule) is the standard unit used for saw logs and veneer; cords are used for pulpwood, composite panel, and fuelwood; hundred pieces for poles; thousand pieces for posts; and thousand cubic feet for all other miscellaneous forest products.

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

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

Timber products. Roundwood products and byproducts.

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

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

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

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

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

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

Metric Equivalents

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

Conversion Factors^a

Saw logs	
Softwood	0.18282 cubic foot = 1 board foot 5.47 board feet = 1 cubic foot
Hardwood	0.16393 cubic foot = 1 board foot 6.10 board feet = 1 cubic foot
Veneer logs	
Softwood	0.16129 cubic foot = 1 board foot 6.20 board feet = 1 cubic foot
Hardwood	0.16000 cubic foot = 1 board foot 6.25 board feet = 1 cubic foot
Pulpwood ^b	
Softwood	73.3 cubic feet per cord
Hardwood	76.1 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 Virginia during the most recent survey period.

^b Cubic feet of solid wood per cord.

Species List^a

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

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

^b Nomenclature (Little 1979).

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

Product and species group	Year		Change	Change
	2001	2003		
	-----thousand cubic feet-----			percent
Saw logs				
Softwood	115,703	108,085	-7,618	-6.6
Hardwood	136,729	121,180	-15,549	-11.4
Total	252,432	229,265	-23,167	-9.2
Veneer logs				
Softwood	13,075	8,401	-4,674	-35.7
Hardwood	5,810	8,448	2,638	45.4
Total	18,885	16,849	-2,036	-10.8
Pulpwood ^a				
Softwood	89,200	89,198	-2	0.0
Hardwood	81,246	97,264	16,018	19.7
Total	170,446	186,462	16,016	9.4
Composite panels				
Softwood	34,066	44,584	10,518	30.9
Hardwood	13,779	9,125	-4,654	-33.8
Total	47,845	53,709	5,864	12.3
Other industrial				
Softwood	1,878	1,443	-435	-23.2
Hardwood	429	429	0	—
Total	2,307	1,872	-435	-18.9
All industrial				
Softwood	253,922	251,711	-2,211	-0.9
Hardwood	237,993	236,446	-1,547	-0.7
Total	491,915	488,157	-3,758	-0.8
Byproduct output				
Softwood	86,534	83,135	-3,399	-3.9
Hardwood	94,939	88,238	-6,701	-7.1
Total	181,473	171,373	-10,100	-5.6
Total output				
Softwood	340,456	334,846	-5,610	-1.6
Hardwood	332,932	324,684	-8,248	-2.5
Total	673,388	659,530	-13,858	-2.1

— = negligible; 0.0 = a value of < 0.0 but > 0.5 for the cell.

^a Includes roundwood delivered to nonpulp mills, then chipped and sold to pulpmills (2,734,000 cubic feet in 2001 and 2,782,000 cubic feet in 2003).

**Table A.2—Roundwood receipts by product and species group,
Virginia, 2001 and 2003**

Product and species group	Year		Change	Change
	2001	2003		
	----- <i>thousand cubic feet</i> -----			<i>percent</i>
Saw logs				
Softwood	114,580	104,009	-10,571	-9.2
Hardwood	138,492	122,537	-15,955	-11.5
Total	253,072	226,546	-26,526	-10.5
Veneer logs				
Softwood	16,519	14,069	-2,450	-14.8
Hardwood	1,399	5,864	4,465	319.2
Total	17,918	19,933	2,015	11.2
Pulpwood ^a				
Softwood	80,043	73,054	-6,989	-8.7
Hardwood	101,147	110,922	9,775	9.7
Total	181,190	183,976	2,786	1.5
Composite panels				
Softwood	29,670	51,395	21,725	73.2
Hardwood	8,029	8,301	272	3.4
Total	37,699	59,696	21,997	58.3
Other industrial				
Softwood	2,077	1,675	-402	-19.4
Hardwood	444	451	7	1.6
Total	2,521	2,126	-395	-15.7
Total output				
Softwood	242,889	244,202	1,313	0.5
Hardwood	249,511	248,075	-1,436	-0.6
Total	492,400	492,277	-123	0.0

0.0 = a value of < 0.0 but > 0.5 for the cell.

^a Includes roundwood delivered to nonpulp mills, then chipped and sold to pulp mills (4,283,000 cubic feet in 2001 and 3,579,000 cubic feet in 2003).

Table A.3—Number of primary wood-using plants by industry, Virginia, 1980 to 2003

Industry	Year							
	1980	1984	1987	1989	1995	1999	2001	2003
	<i>number</i>							
Sawmills	392	419	355	323	254	254	217	204
Veneer or plywood mills	12	12	10	10	8	7	5	5
Pulpmills	9	9	9	9	9	9	9	9
Composite panel mills	0	0	1	3	3	4	3	3
Other mills	24	22	19	24	15	16	14	13
All plants	437	462	394	369	289	290	248	234

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

Sawmill size class ^a	2001			2003		
	Mills	Volume		Mills	Volume	
<i>mmbf</i>	<i>number</i>	<i>mbf</i>	<i>percent</i>	<i>number</i>	<i>mbf</i>	<i>percent</i>
< 1.0	42	14,242	1	46	13,352	1
1.0 – 4.99	82	229,599	15	73	199,126	15
5.0 – 9.99	52	347,605	24	51	336,266	26
> 10	41	879,177	60	34	767,202	58
Total	217	1,470,623	100	204	1,315,946	100

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

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

Species	All mills	Sawmills	Veneer mills		OSB and panels	Pulpwood ^a	Other mills
			Pine plywood	Other veneer			
thousand cubic feet							
Softwood							
Yellow pine	160,782	93,646	13,837	229	51,395	NA	1,675
Eastern white pine	9,196	9,193	0	3	0	NA	0
Cedar	58	58	0	0	0	NA	0
Cypress	509	509	0	0	0	NA	0
Other softwood	603	603	0	0	0	NA	0
Unclassified	73,054	0	0	0	0	73,054	0
Total softwoods	244,202	104,009	13,837	232	51,395	73,054	1,675
Hardwood							
Blackgum and tupelo	638	635	0	3	0	NA	0
Soft maple	3,496	3,071	0	3	422	NA	0
Sweetgum	5,925	3,010	0	0	2,915	NA	0
Yellow-poplar	49,036	39,441	4,569	62	4,964	NA	0
Other soft hardwood	3,077	2,964	0	113	0	NA	0
Hickory	3,438	3,342	0	22	0	NA	74
Red oak	35,605	35,381	0	165	0	NA	59
White oak	24,045	23,732	0	275	0	NA	38
Other hard hardwood	11,893	10,961	0	652	0	NA	280
Unclassified	110,922	0	0	0	0	110,922	0
Total hardwoods	248,075	122,537	4,569	1,295	8,301	110,922	451
All species	492,277	226,546	18,406	1,527	59,696	183,976	2,126

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,
Virginia, 2001 and 2003**

Year	Production	Exported to other States	Retained	Imported from other States	Receipts
<i>thousand cubic feet</i>					
Softwood					
2001	253,922	43,422	210,500	32,389	242,889
2003	251,711	44,576	207,135	37,067	244,202
Hardwood					
2001	237,993	31,261	206,732	42,779	249,511
2003	236,446	35,437	201,009	47,066	248,075
All species					
2001	491,915	74,683	417,232	75,168	492,400
2003	488,157	80,013	408,144	84,133	492,277

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

Product and species group	Production	Exported to other States	Retained	Imported from other States	Receipts
<i>thousand cubic feet</i>					
Saw logs					
Softwood	108,085	15,919	92,166	11,843	104,009
Hardwood	121,180	9,323	111,857	10,680	122,537
Total	229,265	25,242	204,023	22,523	226,546
Veneer logs					
Softwood	8,401	84	8,317	5,752	14,069
Hardwood	8,448	5,543	2,905	2,959	5,864
Total	16,849	5,627	11,222	8,711	19,933
Pulpwood ^a					
Softwood	89,198	22,966	66,232	6,822	73,054
Hardwood	97,264	16,571	80,693	30,229	110,922
Total	186,462	39,537	146,925	37,051	183,976
Composite panels					
Softwood	44,584	5,562	39,022	12,373	51,395
Hardwood	9,125	4,000	5,125	3,176	8,301
Total	53,709	9,562	44,147	15,549	59,696
Other industrial					
Softwood	1,443	45	1,398	277	1,675
Hardwood	429	0	429	22	451
Total	1,872	45	1,827	299	2,126
All products					
Softwood	251,711	44,576	207,135	37,067	244,202
Hardwood	236,446	35,437	201,009	47,066	248,075
Total	488,157	80,013	408,144	84,133	492,277

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

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

Destination and source	All species	Species group	
		Softwood	Hardwood
<i>thousand cubic feet</i>			
Virginia (retained)	204,023	92,166	111,857
Exports to			
Kentucky	833	0	833
North Carolina	20,158	15,869	4,289
Tennessee	2,713	13	2,700
West Virginia	1,538	37	1,501
Total	25,242	15,919	9,323
Imports from			
Kentucky	2,024	439	1,585
Maryland	691	365	326
North Carolina	14,947	10,444	4,503
Pennsylvania	40	16	24
Tennessee	1,271	221	1,050
West Virginia	3,550	358	3,192
Total	22,523	11,843	10,680

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

Destination and source	All species	Species group	
		Softwood	Hardwood
<i>thousand cubic feet</i>			
Virginia (retained)	11,222	8,317	2,905
Exports to			
Georgia	1,864	84	1,780
Kentucky	8	0	8
North Carolina	3,710	0	3,710
West Virginia	45	0	45
Total	5,627	84	5,543
Imports from			
Foreign	2	0	2
Illinois	33	0	33
Indiana	91	2	89
Kentucky	107	0	107
Maine	7	0	7
Maryland	8	0	8
Michigan	33	0	33
New Hampshire	19	0	19
New York	21	0	21
North Carolina	7,700	5,744	1,956
Ohio	71	0	71
Pennsylvania	252	0	252
South Carolina	9	6	3
Tennessee	174	0	174
West Virginia	179	0	179
Wisconsin	5	0	5
Total	8,711	5,752	2,959

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

Destination and source	All species	Species group	
		Softwood	Hardwood
<i>thousand cubic feet</i>			
Virginia (retained)	146,925	66,232	80,693
Exports to			
Kentucky	3,579	0	3,579
Louisiana	29	0	29
Maryland	14,648	9,795	4,853
North Carolina	11,411	9,193	2,218
Pennsylvania	4,619	3,899	720
South Carolina	937	79	858
Tennessee	4,314	0	4,314
Total	39,537	22,966	16,571
Imports from			
Kentucky	48	0	48
Maryland	148	53	95
North Carolina	26,320	6,535	19,785
South Carolina	72	0	72
West Virginia	10,463	234	10,229
Total	37,051	6,822	30,229

^a Includes roundwood delivered to nonpulp mills, then chipped and sold to pulp mills.

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

Destination and source	All species	Species group	
		Softwood	Hardwood
<i>thousand cubic feet</i>			
Virginia (retained)	44,147	39,022	5,125
Exports to			
North Carolina	6,798	5,256	1,542
Tennessee	156	152	4
West Virginia	2,608	154	2,454
Total	9,562	5,562	4,000
Imports from			
North Carolina	15,549	12,373	3,176
Total	15,549	12,373	3,176

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

Destination and source	All species	Species group	
		Softwood	Hardwood
<i>thousand cubic feet</i>			
Virginia (retained)	1,827	1,398	429
Exports to			
Kentucky	30	30	0
North Carolina	15	15	0
Total	45	45	0
Imports from			
Alabama	139	139	0
Georgia	69	69	0
North Carolina	91	69	22
Total	299	277	22

^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, Virginia, 2003

Roundwood type and species group	All types	Residue type			
		Bark	Coarse	Sawdust	Shavings
thousand cubic feet					
Saw logs					
Softwood	58,641	6,933	25,677	18,314	7,717
Hardwood	71,933	12,771	34,217	24,796	149
Total	130,574	19,704	59,894	43,110	7,866
Veneer logs					
Softwood	7,941	1,067	5,107	1,767	0
Hardwood	2,160	629	1,012	519	0
Total	10,101	1,696	6,119	2,286	0
Pulpwood					
Softwood	7,330	7,330	0	0	0
Hardwood	13,838	13,838	0	0	0
Total	21,168	21,168	0	0	0
Composite panels					
Softwood	8,555	8,555	0	0	0
Hardwood	1,866	1,866	0	0	0
Total	10,421	10,421	0	0	0
Other industrial ^a					
Softwood	1,134	957	177	0	0
Hardwood	335	116	171	48	0
Total	1,469	1,073	348	48	0
Total					
Softwood	83,601	24,842	30,961	20,081	7,717
Hardwood	90,132	29,220	35,400	25,363	149
Total	173,733	54,062	66,361	45,444	7,866

^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, Virginia, 2001 and 2003

Product and species group	Residue type									
	All types		Bark		Coarse		Sawdust		Shavings	
	2001	2003	2001	2003	2001	2003	2001	2003	2001	2003
<i>thousand cubic feet</i>										
Fiber products										
Softwood	33,214	29,314	0	0	32,578	28,576	12	186	624	552
Hardwood	32,046	28,382	0	0	31,537	28,034	509	348	0	0
Total	65,260	57,696	0	0	64,115	56,610	521	534	624	552
Particleboard										
Softwood	6,321	7,213	0	0	180	205	2,389	3,405	3,752	3,603
Hardwood	2,641	2,866	0	0	1,301	1,198	1,311	1,653	29	15
Total	8,962	10,079	0	0	1,481	1,403	3,700	5,058	3,781	3,618
Charcoal/ chemical wood										
Softwood	109	64	0	0	0	0	109	64	0	0
Hardwood	1,260	655	0	0	419	419	841	236	0	0
Total	1,369	719	0	0	419	419	950	300	0	0
Sawn products										
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
Fuel										
Softwood	34,292	34,795	14,394	18,465	1,526	1,521	18,020	14,495	352	314
Hardwood	39,543	37,852	15,758	17,832	3,053	1,961	20,430	18,007	302	52
Total	73,835	72,647	30,152	36,297	4,579	3,482	38,450	32,502	654	366
Miscellaneous										
Softwood	12,598	11,749	7,821	6,341	487	527	1,506	1,633	2,784	3,248
Hardwood	19,449	18,483	12,535	11,095	2,417	3,124	4,374	4,182	123	82
Total	32,047	30,232	20,356	17,436	2,904	3,651	5,880	5,815	2,907	3,330
Not used										
Softwood	1,154	466	663	36	283	132	208	298	0	0
Hardwood	2,246	1,894	783	293	737	664	726	937	0	0
Total	3,400	2,360	1,446	329	1,020	796	934	1,235	0	0
All products										
Softwood	87,688	83,601	22,878	24,842	35,054	30,961	22,244	20,081	7,512	7,717
Hardwood	97,185	90,132	29,076	29,220	39,464	35,400	28,191	25,363	454	149
Total	184,873	173,733	51,954	54,062	74,518	66,361	50,435	45,444	7,966	7,866

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

Product and species group	Year		Change	Change
	2001	2003		
	----- <i>thousand cubic feet</i> -----			<i>percent</i>
Saw logs				
Softwood	62,061	51,835	-10,226	-16.5
Hardwood	33,707	28,670	-5,037	-14.9
Total	95,768	80,505	-15,263	-15.9
Veneer logs				
Softwood	9,745	7,071	-2,674	-27.4
Hardwood	743	3,430	2,687	361.6
Total	10,488	10,501	13	0.1
Pulpwood ^a				
Softwood	53,519	43,842	-9,677	-18.1
Hardwood	27,394	33,477	6,083	22.2
Total	80,913	77,319	-3,594	-4.4
Composite panels				
Softwood	11,885	5,615	-6,270	-52.8
Hardwood	7,245	2,154	-5,091	-70.3
Total	19,130	7,769	-11,361	-59.4
Other industrial				
Softwood	499	542	43	8.6
Hardwood	48	48	0	—
Total	547	590	43	7.9
All industrial				
Softwood	137,709	108,905	-28,804	-20.9
Hardwood	69,137	67,779	-1,358	-2.0
Total	206,846	176,684	-30,162	-14.6

— = negligible.

^a Includes roundwood delivered to nonpulp mills, then chipped and sold to pulpmills (950,000 cubic feet in 2001 and 1,389,000 cubic feet in 2003).

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

County	All products		Saw logs		Veneer logs		Pulpwood ^a		Composite panels		Other industrial	
	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood
<i>thousand cubic feet</i>												
Accomack	1,192	146	1,065	105	0	0	2	41	0	0	125	0
Brunswick	17,646	7,763	7,942	2,668	1,384	824	7,250	3,860	1,070	411	0	0
Caroline	6,825	3,969	2,584	1,869	0	0	4,238	2,082	0	0	3	18
Charles City	936	1,582	321	952	3	0	570	623	0	0	42	7
Chesapeake	1,403	3,346	1,307	473	0	0	96	2,873	0	0	0	0
Chesterfield	1,055	1,475	606	1,132	0	0	316	292	133	51	0	0
Dinwiddie	9,992	3,864	5,464	2,342	692	229	3,435	1,139	401	154	0	0
Essex	2,419	980	642	478	0	0	1,765	495	0	0	12	7
Gloucester	2,606	2,058	1,227	862	1	0	1,343	1,196	0	0	35	0
Greensville	7,221	2,974	1,800	700	969	707	3,114	1,054	1,338	513	0	0
Hampton	1	67	0	57	0	0	1	10	0	0	0	0
Hanover	2,190	918	1,337	602	0	0	850	313	0	0	3	3
Henrico	213	467	127	256	0	0	86	211	0	0	0	0
Isle of Wight	3,777	2,335	1,855	700	415	137	1,240	1,396	267	102	0	0
James City	537	875	250	107	0	0	287	768	0	0	0	0
King and Queen	5,886	2,673	2,525	1,134	0	0	3,311	1,539	0	0	50	0
King George	405	1,476	254	1,162	0	0	148	314	0	0	3	0
King William	1,533	1,569	965	1,034	0	5	546	530	0	0	22	0
Lancaster	949	797	399	305	0	0	500	492	0	0	50	0
Mathews	129	46	67	25	0	0	62	21	0	0	0	0
Middlesex	1,209	671	599	254	3	0	598	410	0	0	9	7
New Kent	1,644	2,085	358	1,089	0	0	1,270	993	0	0	16	3
Newport News	67	276	14	133	0	0	53	143	0	0	0	0
Northampton	579	279	266	208	0	0	260	71	0	0	53	0
Northumberland	679	754	452	452	0	0	182	302	0	0	45	0
Prince George	4,081	1,831	1,419	912	692	229	1,703	585	267	102	0	3
Richmond	1,652	1,517	799	670	0	0	826	847	0	0	27	0
Southampton	12,221	9,236	6,582	3,052	969	321	3,868	5,555	802	308	0	0
Suffolk	3,656	2,328	2,603	666	0	0	1,053	1,662	0	0	0	0
Surry	5,793	2,946	2,318	846	969	321	1,971	1,574	535	205	0	0
Sussex	9,473	4,393	5,120	1,946	974	657	2,577	1,482	802	308	0	0
Virginia Beach	58	260	0	57	0	0	58	203	0	0	0	0
Westmoreland	817	1,641	543	1,321	0	0	227	320	0	0	47	0
York	61	182	25	101	0	0	36	81	0	0	0	0
All counties	108,905	67,779	51,835	28,670	7,071	3,430	43,842	33,477	5,615	2,154	542	48

^a Includes roundwood delivered to nonpulp mills, then chipped and sold to pulpmills (1,389,000 cubic feet in 2003).

Table A.17—Roundwood timber product output by product and species group, Southern Piedmont region of Virginia, 2001 and 2003

Product and species group	Year		Change	Change
	2001	2003		
	----- thousand cubic feet -----			percent
Saw logs				
Softwood	32,737	38,383	5,646	17.2
Hardwood	38,399	34,625	-3,774	-9.8
Total	71,136	73,008	1,872	2.6
Veneer logs				
Softwood	3,246	1,246	-2,000	-61.6
Hardwood	683	1,511	828	121.2
Total	3,929	2,757	-1,172	-29.8
Pulpwood ^a				
Softwood	23,141	30,918	7,777	33.6
Hardwood	27,514	32,722	5,208	18.9
Total	50,655	63,640	12,985	25.6
Composite panels				
Softwood	19,963	38,437	18,474	92.5
Hardwood	3,528	4,184	656	18.6
Total	23,491	42,621	19,130	81.4
Other industrial				
Softwood	270	270	0	—
Hardwood	76	76	0	—
Total	346	346	0	—
All industrial				
Softwood	79,357	109,254	29,897	37.7
Hardwood	70,200	73,118	2,918	4.2
Total	149,557	182,372	32,815	21.9

— = negligible.

^a Includes roundwood delivered to nonpulp mills, then chipped and sold to pulp mills (1,547,000 cubic feet in 2001 and 1,119,000 cubic feet in 2003).

Table A.18—Roundwood timber product output by county, product, and species group, Southern Piedmont region of Virginia, 2003

County	All products		Saw logs		Veneer logs		Pulpwood ^a		Composite panels		Other industrial	
	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood
<i>thousand cubic feet</i>												
Amelia	6,494	4,111	3,935	1,361	0	0	2,559	2,750	0	0	0	0
Appomattox	4,223	2,684	822	1,170	0	5	2,017	1,256	1,384	253	0	0
Bedford	2,827	4,171	913	2,142	0	3	876	1,836	1,038	190	0	0
Buckingham	9,156	4,980	2,943	1,411	0	0	6,213	3,569	0	0	0	0
Campbell	6,144	4,753	1,802	1,876	0	2	1,746	2,400	2,596	475	0	0
Charlotte	8,781	6,980	3,042	3,961	0	0	1,937	2,695	3,802	317	0	7
Cumberland	3,866	2,778	1,040	712	1	0	1,869	1,929	692	126	264	11
Franklin	3,002	5,764	1,833	4,488	0	3	477	1,147	692	126	0	0
Halifax	13,827	6,176	5,844	2,423	0	357	538	2,955	7,445	419	0	22
Henry	4,354	5,112	1,933	2,155	0	5	1,719	2,373	702	572	0	7
Lunenburg	11,231	2,812	3,084	1,898	138	51	2,723	578	5,286	285	0	0
Mecklenburg	10,478	3,432	2,663	1,924	553	559	1,798	622	5,464	327	0	0
Nottoway	4,196	1,973	2,444	1,115	553	189	1,066	618	133	51	0	0
Patrick	1,920	5,250	714	4,003	0	0	375	717	825	530	6	0
Pittsylvania	12,826	7,887	4,108	2,449	0	337	2,655	4,724	6,063	355	0	22
Powhatan	1,571	2,404	588	705	1	0	982	1,692	0	0	0	7
Prince Edward	4,358	1,851	675	832	0	0	1,368	861	2,315	158	0	0
All counties	109,254	73,118	38,383	34,625	1,246	1,511	30,918	32,722	38,437	4,184	270	76

^a Includes roundwood delivered to nonpulp mills, then chipped and sold to pulp mills (1,119,000 cubic feet in 2003).

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

Product and species group	Year		Change	Change
	2001	2003		
	- - - - thousand cubic feet - - - -			percent
Saw logs				
Softwood	7,395	6,509	-886	-12.0
Hardwood	15,756	14,988	-768	-4.9
Total	23,151	21,497	-1,654	-7.1
Veneer logs				
Softwood	0	0	0	—
Hardwood	555	555	0	—
Total	555	555	0	—
Pulpwood ^a				
Softwood	9,715	12,102	2,387	24.6
Hardwood	9,153	12,494	3,341	36.5
Total	18,868	24,596	5,728	30.4
Composite panels				
Softwood	1,476	0	-1,476	-100.0
Hardwood	0	0	0	—
Total	1,476	0	-1,476	-100.0
Other industrial				
Softwood	930	502	-428	-46.0
Hardwood	248	248	0	—
Total	1,178	750	-428	-36.3
All industrial				
Softwood	19,516	19,113	-403	-2.1
Hardwood	25,712	28,285	2,573	10.0
Total	45,228	47,398	2,170	4.8

— = negligible.

^a Includes roundwood delivered to nonpulp mills, then chipped and sold to pulp mills (137,000 cubic feet in 2001 and 122,000 cubic feet in 2003).

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

County	All products		Saw logs		Veneer logs		Pulpwood ^a		Composite panels		Other industrial	
	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood
<i>thousand cubic feet</i>												
Albemarle	3,041	3,109	1,178	2,039	0	0	1,863	1,070	0	0	0	0
Amherst	1,367	3,227	217	1,693	0	0	1,098	1,534	0	0	52	0
Culpeper	1,199	1,870	302	959	0	0	848	816	0	0	49	95
Fairfax	186	552	2	384	0	5	184	163	0	0	0	0
Fauquier	566	790	183	440	0	0	383	350	0	0	0	0
Fluvanna	1,747	753	582	63	0	0	1,150	690	0	0	15	0
Goochland	901	892	317	143	0	0	584	749	0	0	0	0
Greene	161	716	5	569	0	0	43	110	0	0	113	37
Loudoun	34	2,092	3	600	0	530	31	962	0	0	0	0
Louisa	2,715	4,409	1,124	1,641	0	0	1,473	2,722	0	0	118	46
Madison	177	1,259	23	1,042	0	0	48	217	0	0	106	0
Nelson	1,805	3,407	182	2,514	0	0	1,623	893	0	0	0	0
Orange	1,938	1,182	1,082	752	0	7	807	385	0	0	49	38
Prince William	295	1,091	0	99	0	0	295	992	0	0	0	0
Rappahannock	55	543	0	522	0	13	55	8	0	0	0	0
Spotsylvania	2,334	1,225	1,017	654	0	0	1,317	539	0	0	0	32
Stafford	592	1,168	292	874	0	0	300	294	0	0	0	0
All counties	19,113	28,285	6,509	14,988	0	555	12,102	12,494	0	0	502	248

^a Includes roundwood delivered to nonpulp mills, then chipped and sold to pulpmills (122,000 cubic feet in 2003).

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

Product and species group	Year		Change	Change
	2001	2003		
	- - - - thousand cubic feet - - - -			percent
Saw logs				
Softwood	1,250	986	-264	-21.1
Hardwood	15,078	14,854	-224	-1.5
Total	16,328	15,840	-488	-3.0
Veneer logs				
Softwood	—	—	—	—
Hardwood	53	53	0	—
Total	53	53	0	—
Pulpwood ^a				
Softwood	2,632	2,221	-411	-15.6
Hardwood	9,212	8,427	-785	-8.5
Total	11,844	10,648	-1,196	-10.1
Composite panels				
Softwood	44	44	0	—
Hardwood	1,431	1,431	0	—
Total	1,475	1,475	0	—
Other industrial				
Softwood	79	87	8	10.1
Hardwood	57	57	0	—
Total	136	144	8	5.9
All industrial				
Softwood	4,005	3,338	-667	-16.7
Hardwood	25,831	24,822	-1,009	-3.9
Total	29,836	28,160	-1,676	-5.6

— = negligible.

^a Includes roundwood delivered to nonpulp mills, then chipped and sold to pulp mills (16,000 cubic feet in 2001 and 14,000 cubic feet in 2003).

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

County	All products		Saw logs		Veneer logs		Pulpwood ^a		Composite panels		Other industrial	
	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood
<i>thousand cubic feet</i>												
Alleghany	528	3,279	257	1,674	0	3	227	993	44	609	0	0
Augusta	431	2,308	278	1,585	0	0	153	704	0	0	0	19
Bath	414	2,067	19	989	0	0	391	1,078	0	0	4	0
Botetourt	444	2,777	117	1,211	0	2	327	1,564	0	0	0	0
Clarke	3	670	2	661	0	8	1	1	0	0	0	0
Craig	89	615	0	53	0	0	89	562	0	0	0	0
Frederick	469	2,301	35	1,846	0	10	434	445	0	0	0	0
Highland	133	2,829	0	1,362	0	0	129	645	0	822	4	0
Page	10	174	0	167	0	0	10	7	0	0	0	0
Roanoke	140	503	110	341	0	0	30	162	0	0	0	0
Rockbridge	346	3,887	110	2,693	0	16	157	1,159	0	0	79	19
Rockingham	121	1,215	39	830	0	0	82	366	0	0	0	19
Shenandoah	121	1,476	19	861	0	6	102	609	0	0	0	0
Warren	89	721	0	581	0	8	89	132	0	0	0	0
All counties	3,338	24,822	986	14,854	0	53	2,221	8,427	44	1,431	87	57

^a Includes roundwood delivered to nonpulp mills, then chipped and sold to pulp mills (14,000 cubic feet in 2003)

Table A.23—Roundwood timber product output by product and species group, Southern Mountain region of Virginia, 2001 and 2003

Product and species group	Year		Change	Change
	2001	2003		
	- - - - thousand cubic feet - - - -			percent
Saw logs				
Softwood	12,260	10,372	-1,888	-15.4
Hardwood	33,789	28,043	-5,746	-17.0
Total	46,049	38,415	-7,634	-16.6
Veneer logs				
Softwood	84	84	—	—
Hardwood	3,776	2,899	-877	-23.2
Total	3,860	2,983	-877	-22.7
Pulpwood ^a				
Softwood	193	115	-78	-40.4
Hardwood	7,973	10,144	2,171	27.2
Total	8,166	10,259	2,093	25.6
Composite panels				
Softwood	698	488	-210	-30.1
Hardwood	1,575	1,356	-219	-13.9
Total	2,273	1,844	-429	-18.9
Other industrial				
Softwood	100	42	-58	-58.0
Hardwood	0	0	0	—
Total	100	42	-58	-58.0
All industrial				
Softwood	13,335	11,101	-2,234	-16.8
Hardwood	47,113	42,442	-4,671	-9.9
Total	60,448	53,543	-6,905	-11.4

— = negligible.

^a Includes roundwood delivered to nonpulp mills, then chipped and sold to pulpmills (84,000 cubic feet in 2001 and 138,000 cubic feet in 2003).

Table A.24—Roundwood timber product output by county, product, and species group, Southern Mountain region of Virginia, 2003

County	All products		Saw logs		Veneer logs		Pulpwood ^a		Composite panels		Other industrial	
	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood
<i>thousand cubic feet</i>												
Bland	320	1,509	254	853	0	0	12	144	54	512	0	0
Buchanan	35	644	0	644	0	0	5	0	0	0	30	0
Carroll	4,564	4,975	4,270	3,980	0	426	60	412	228	157	6	0
Dickenson	280	9,475	275	1,568	0	0	5	7,907	0	0	0	0
Floyd	1,551	1,682	1,541	1,587	0	12	10	83	0	0	0	0
Giles	281	2,163	226	1,412	0	45	1	194	54	512	0	0
Grayson	1,107	3,588	1,100	2,761	0	474	1	353	0	0	6	0
Lee	418	3,491	334	2,376	84	1,115	0	0	0	0	0	0
Montgomery	174	1,214	153	828	0	0	21	386	0	0	0	0
Pulaski	24	235	24	152	0	0	0	83	0	0	0	0
Russell	0	1,058	0	1,045	0	0	0	13	0	0	0	0
Scott	815	3,233	663	3,163	0	0	0	66	152	4	0	0
Smyth	138	1,704	138	934	0	426	0	173	0	171	0	0
Tazewell	7	811	7	660	0	0	0	151	0	0	0	0
Washington	9	765	9	593	0	0	0	172	0	0	0	0
Wise	219	1,836	219	1,688	0	148	0	0	0	0	0	0
Wythe	1,159	4,059	1,159	3,799	0	253	0	7	0	0	0	0
All counties	11,101	42,442	10,372	28,043	84	2,899	115	10,144	488	1,356	42	0

^a Includes roundwood delivered to nonpulp mills, then chipped and sold to pulpmills (138,000 cubic feet in 2003).

Table A.25—Total roundwood output by product, species group, and source of material, Virginia, 2003

Product and species group	All sources	Total	Growing-stock trees		Other sources
			Sawtimber	Poletimber	
thousand cubic feet					
Saw logs					
Softwood	108,085	105,519	101,312	4,208	2,566
Hardwood	121,180	113,630	107,642	5,988	7,550
Total	229,265	219,149	208,953	10,196	10,116
Veneer logs and bolts					
Softwood	8,401	8,302	8,136	166	99
Hardwood	8,448	8,375	8,031	344	73
Total	16,849	16,677	16,167	510	172
Pulpwood					
Softwood	89,198	80,065	36,830	43,235	9,133
Hardwood	97,264	86,415	38,886	47,528	10,849
Total	186,462	166,480	75,716	90,763	19,982
Composite panels					
Softwood	44,584	40,019	18,409	21,610	4,565
Hardwood	9,125	8,107	3,648	4,459	1,018
Total	53,709	48,126	22,057	26,069	5,583
Poles and posts					
Softwood	1,404	1,153	1,053	100	251
Hardwood	69	58	42	16	11
Total	1,473	1,211	1,096	116	262
Other miscellaneous					
Softwood	39	39	28	11	0
Hardwood	360	328	234	94	32
Total	399	367	262	105	32
Total industrial products					
Softwood	251,711	235,097	165,767	69,330	16,614
Hardwood	236,446	216,913	158,484	58,429	19,533
Total	488,157	452,010	324,251	127,759	36,147
Fuelwood					
Softwood	4,695	4,272	3,078	1,195	423
Hardwood	42,065	37,818	27,247	10,571	4,247
Total	46,760	42,090	30,325	11,765	4,670
All products					
Softwood	256,406	239,369	168,844	70,525	17,037
Hardwood	278,511	254,731	185,731	69,000	23,780
Total	534,917	494,100	354,575	139,525	40,817

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

Table A.26—Total roundwood output by species group, survey region, and ownership class, Virginia, 2003

Species group and survey region	Total	Ownership class		
		Public	Forest industry	Nonindustrial private
<i>thousand cubic feet</i>				
Softwoods				
Coastal Plain	110,937	3,669	18,169	89,100
Southern Piedmont	111,291	1,169	19,486	90,636
Northern Piedmont	19,470	325	2,651	16,493
Northern Mountain	3,400	285	0	3,115
Southern Mountain	11,308	0	167	11,141
Total softwoods	256,406	5,448	40,473	210,485
Hardwoods				
Coastal Plain	79,835	1,674	9,372	68,789
Southern Piedmont	86,128	1,065	10,827	74,235
Northern Piedmont	33,317	0	2,853	30,464
Northern Mountain	29,238	1,829	1,555	25,854
Southern Mountain	49,993	253	3,863	45,877
Total hardwoods	278,511	4,822	28,471	245,219
All species	534,917	10,270	68,944	455,704

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

Table A.27—Total roundwood output by species group, detailed species group, and product, Virginia, 2003

Species group and detailed species group	Total	Product						
		Saw log	Veneer logs	Pulpwood	Composite panel	Poles and posts	Other miscellaneous	Fuel- wood
thousand cubic feet								
Softwood								
Cedar	1,438	566	20	510	311	6	0	26
White pine	8,839	6,407	0	1,070	1,182	17	0	162
Loblolly-shortleaf pine	170,495	72,523	8,184	60,246	25,691	721	9	3,121
Other yellow pines	74,000	27,160	188	27,311	17,329	656	0	1,356
Cypress	126	67	10	39	8	0	0	2
Hemlock	1,507	1,362	0	22	63	3	30	28
Total softwoods	256,406	108,085	8,401	89,198	44,584	1,404	39	4,695
Hardwood								
Soft maple	19,829	8,978	925	5,955	964	4	10	2,995
Hard maple	2,182	695	24	1,040	94	0	0	330
Other birch	2,529	1,145	21	824	156	1	0	382
Hickory	15,265	6,697	610	5,382	253	4	13	2,305
Beech	3,773	1,283	134	1,704	83	0	0	570
Ash	3,801	1,375	200	1,456	193	0	1	574
Black walnut	2,404	1,254	75	707	2	0	2	363
Sweetgum	21,585	7,541	634	9,633	492	10	16	3,260
Yellow-poplar	52,903	22,841	1,288	18,842	1,877	18	46	7,990
Blackgum-tupelo	5,862	2,175	243	2,384	147	1	27	886
Sycamore	2,701	1,224	111	875	81	1	1	408
Cottonwood	579	272	15	194	10	0	0	87
Black cherry	690	322	1	259	3	0	1	104
Select white oaks	45,393	17,776	1,527	17,802	1,311	12	109	6,855
Other white oaks	18,853	8,956	286	6,075	662	0	26	2,848
Select red oaks	18,070	8,453	276	5,465	1,132	2	13	2,729
Other red oaks	48,749	23,349	1,750	14,905	1,314	15	51	7,363
Basswood	1,569	640	10	678	0	0	4	237
Elm	1,405	455	38	668	32	0	0	212
Other Eastern hardwoods	10,370	5,748	281	2,416	318	1	39	1,566
Total hardwoods	278,511	121,180	8,448	97,264	9,125	69	360	42,065
All species	534,917	229,265	16,849	186,462	53,709	1,473	399	46,760

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

Table A.28—Total roundwood output by species group, detailed species group, and ownership class, Virginia, 2003

Species group and detailed species group	Total	Ownership class		
		Public	Forest industry	Nonindustrial private
thousand cubic feet				
Softwood				
Cedar	1,438	51	107	1,280
White pine	8,839	1	162	8,676
Loblolly-shortleaf pine	170,495	2,500	29,541	138,455
Other yellow pines	74,000	2,897	10,595	60,509
Cypress	126	0	40	86
Hemlock	1,507	0	28	1,479
Total softwoods	256,406	5,448	40,473	210,485
Hardwood				
Soft maple	19,829	524	1,767	17,538
Hard maple	2,182	0	55	2,128
Other birch	2,529	8	40	2,481
Hickory	15,265	197	1,677	13,391
Beech	3,773	0	234	3,539
Ash	3,801	101	508	3,192
Black walnut	2,404	17	23	2,364
Sweetgum	21,585	558	2,454	18,573
Yellow-poplar	52,903	379	5,750	46,774
Blackgum-tupelo	5,862	253	582	5,028
Sycamore	2,701	0	94	2,606
Cottonwood	579	0	53	525
Black cherry	690	3	107	581
Select white oaks	45,393	398	5,963	39,032
Other white oaks	18,853	711	2,609	15,533
Select red oaks	18,070	458	1,434	16,178
Other red oaks	48,749	1,120	4,315	43,315
Basswood	1,569	38	50	1,481
Elm	1,405	17	220	1,168
Other Eastern hardwoods	10,370	42	536	9,792
Total hardwoods	278,511	4,822	28,471	245,219
All species	534,917	10,270	68,944	455,704

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



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Howell, M.; Becker, C.W. 2006. Virginia's timber industry—an assessment of timber product output and use, 2003. Resour. Bull. SRS-108. Asheville, NC: U.S. Department of Agriculture Forest Service, Southern Research Station. 44 p.

In 2003, roundwood output from Virginia's forests decreased to 488 million cubic feet. Mill byproducts generated from primary manufacturers totaled 174 million cubic feet, 6 percent less than in 2001. Seventy-five percent of the plant residues were used primarily for fuel and fiber products. Saw logs were the leading roundwood product at 229 million cubic feet; pulpwood ranked second at 186 million cubic feet; composite panels were third at 54 million cubic feet. The number of primary processing plants decreased from 248 in 2001 to 234 in 2003. Total receipts remained stable at 492 million cubic feet.

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

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