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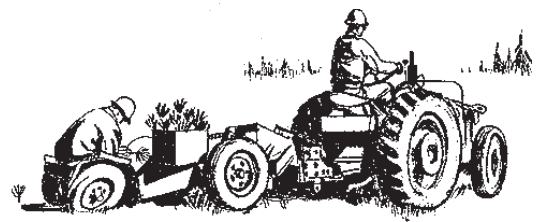
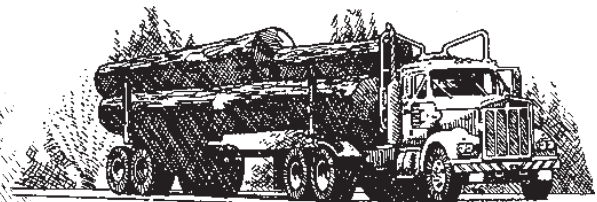
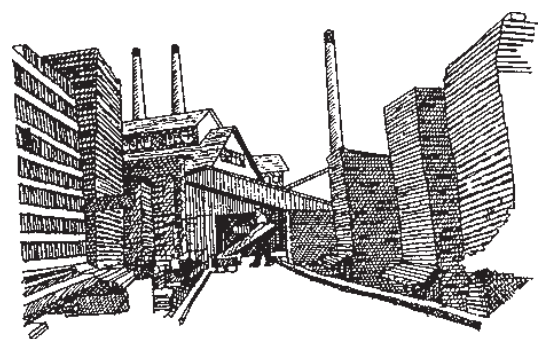
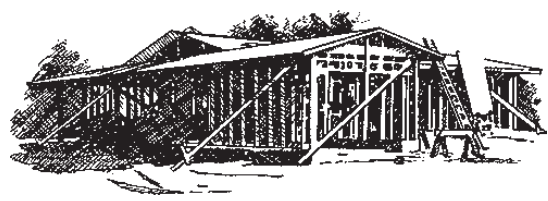


Southern
Research Station

Resource Bulletin
SRS-90

Kentucky's Timber Industry— An Assessment of Timber Product Output and Use, 2001

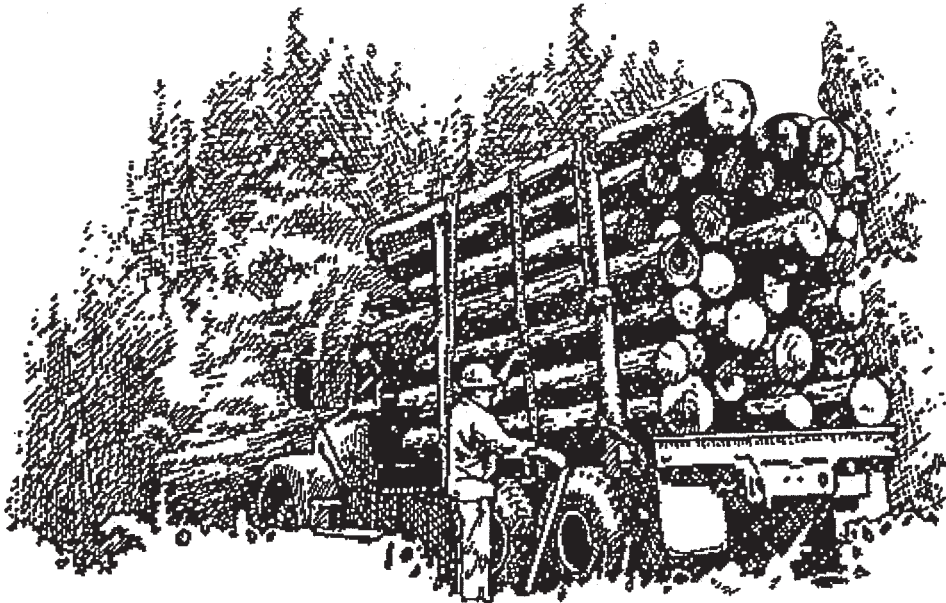
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Foreword

This report contains the findings of a 2001 sampled survey of all primary wood-using plants in Kentucky, and presents changes in product output and residue use since 1999. 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 2001 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 sampled canvass of certain wood processors in Kentucky was conducted in 2002 to obtain information for 2001. In addition, roundwood from out-of-State mills known to be using logs or bolts harvested from Kentucky timberland was incorporated into Kentucky 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 1948, 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 Eric Gracey for review and comments; Dumitru Salajanu for the maps; Anne Jenkins, Sharon Johnson, and Janet Griffin for tables, graphs, and statistical checking; and Paul Smith, 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 Kentucky Department of Forestry in collecting mill data. Appreciation is also extended to forest industry and mill managers for providing timber products information.

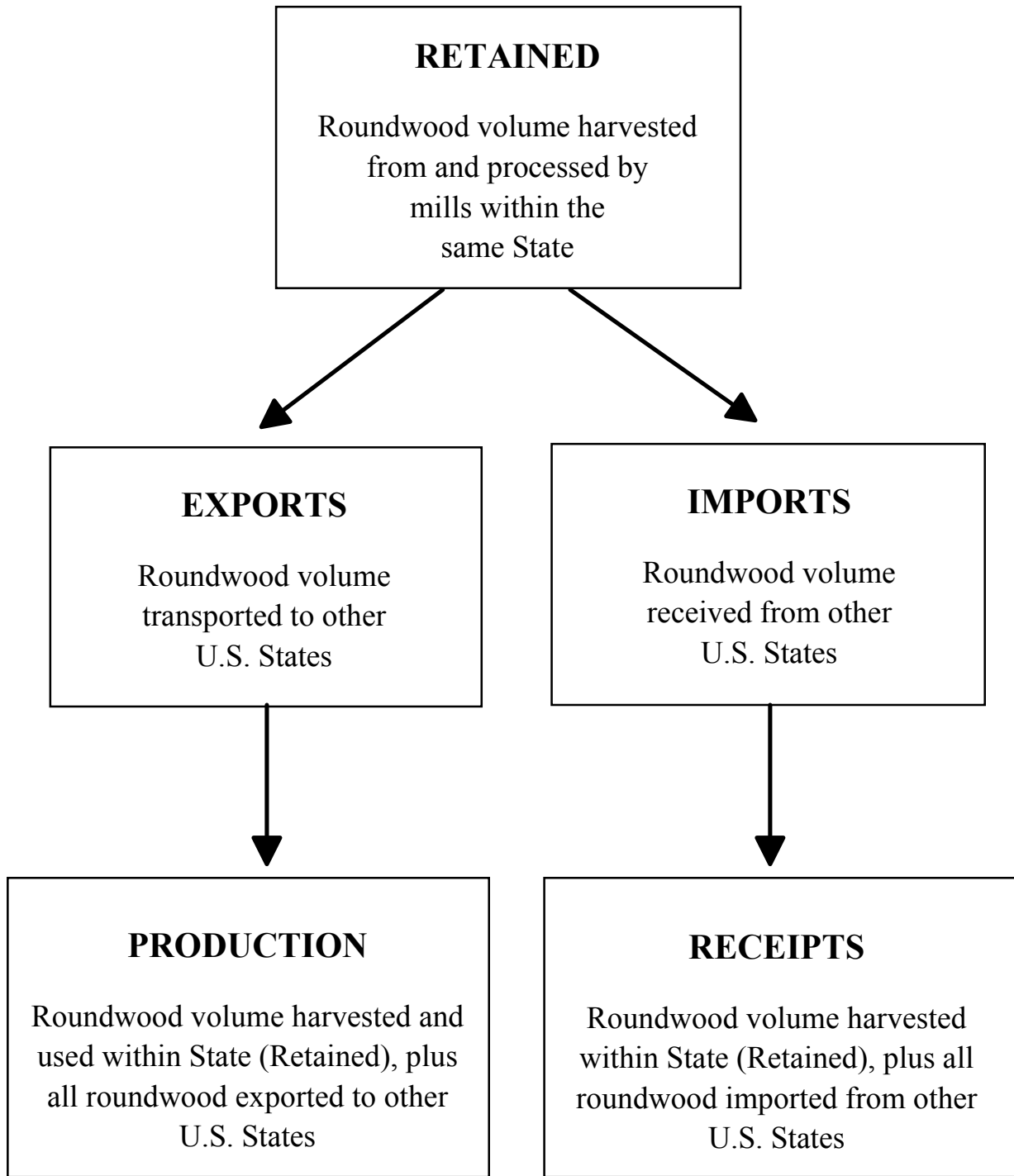


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^a All tables in this report are available in Microsoft® Excel workbook files. Upon request, these files will be supplied on 3½-inch diskettes.

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Production = Retained + Exports

Receipts = Retained + Imports

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

Kentucky's Timber Industry— An Assessment of Timber Product Output and Use, 2001

James W. Bentley and Larry Lowe

Output of Industrial Timber Products

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

All Products

- Between 1999 and 2001, the combined industrial timber products output (TPO) from roundwood and plant byproducts decreased by 13 percent, from 328 to 284 million cubic feet.
- Timber products output from roundwood was down 24 million cubic feet, or 11 percent, to 196 million cubic feet, while output of plant byproducts decreased 20 million cubic feet to 89 million cubic feet.

- Output of hardwood roundwood products decreased 11 percent to 186 million cubic feet, while output of softwood roundwood products was down 9 percent to 10 million cubic feet (fig. 2).

- Figures 3 and 4 display softwood and hardwood county-level intensity of roundwood production for all industrial products across Kentucky. 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 1.5 cubic feet of production per acre, while for hardwoods the darkest shade represents more than 20 cubic feet per acre.

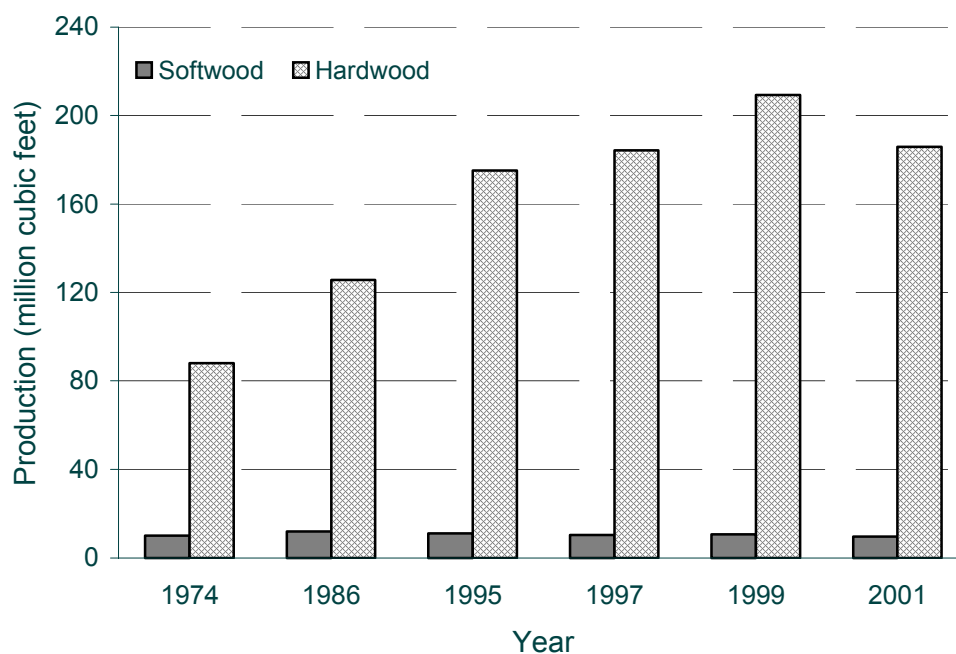


Figure 2—Roundwood production for all products by species group and year (see page 11 for references for individual years).

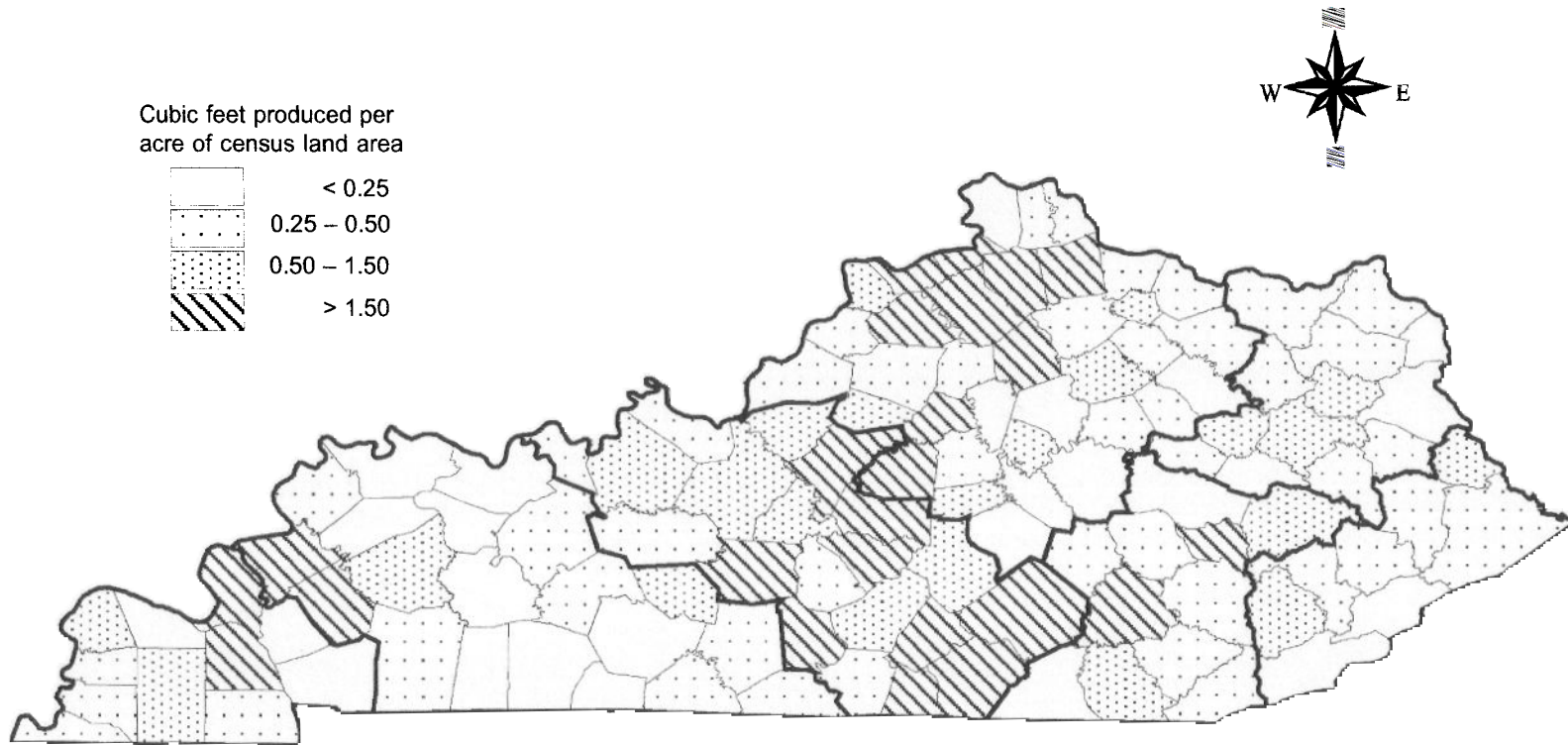


Figure 3 --Intensity of roundwood softwood output for all industrial products in Kentucky by county, 2001.

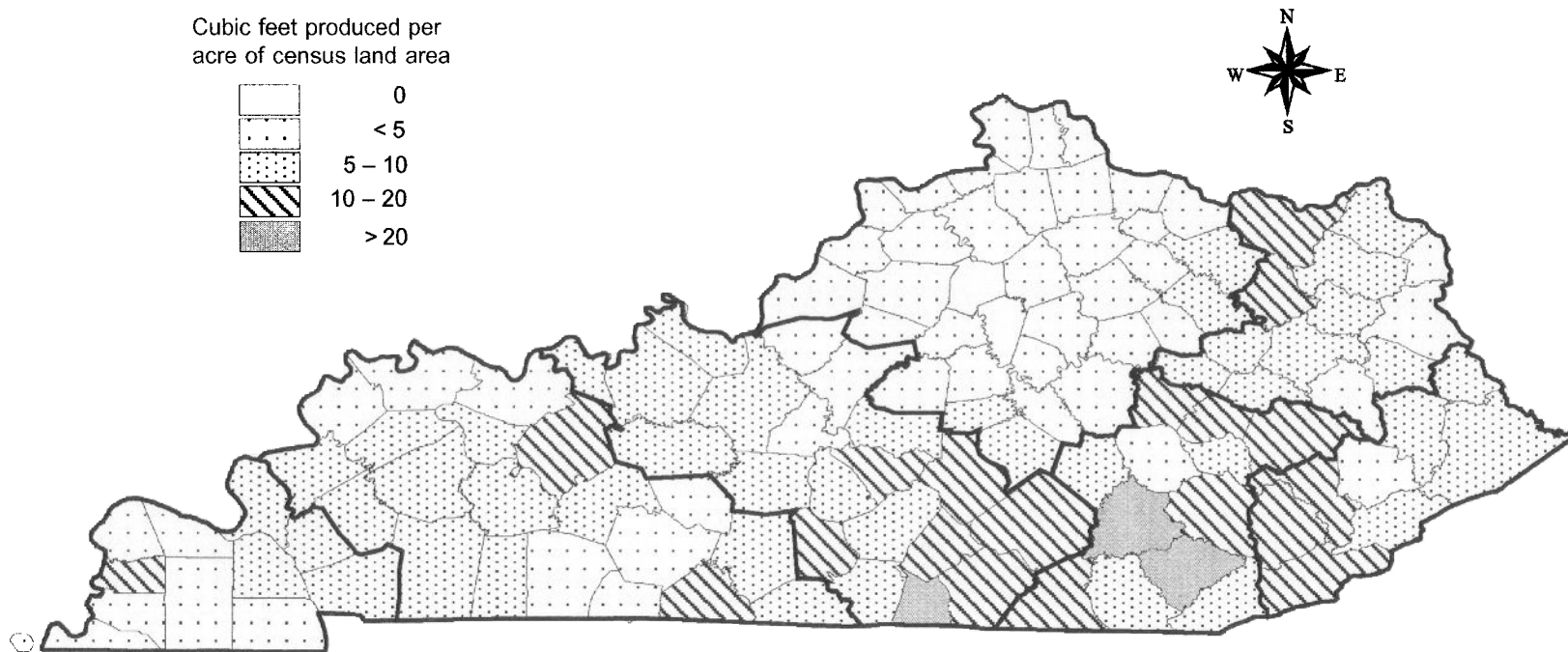


Figure 4 --Intensity of roundwood hardwood output for all industrial products in Kentucky by county, 2001.

- Saw logs and pulpwood were the principal roundwood products in 2001. Combined output of these products totaled 173 million cubic feet and accounted for 89 percent of Kentucky's total roundwood output (fig. 5).
- Total receipts at Kentucky mills, which included roundwood harvested and retained in the State, as well as roundwood imported from other States, decreased 7 percent to 220 million cubic feet. At the same time, the number of primary roundwood-using plants in Kentucky declined from 348 in 1999 to 337 in 2001.

Saw Logs

- Saw logs accounted for 80 percent of the State's total roundwood products. Output of hardwood saw logs decreased 13 percent to 150 million cubic feet (913 million board feet, International 1/4-inch rule), while that of softwood saw logs increased 2 percent to 6 million cubic feet (33 million board feet, International 1/4-inch rule) (fig. 6).

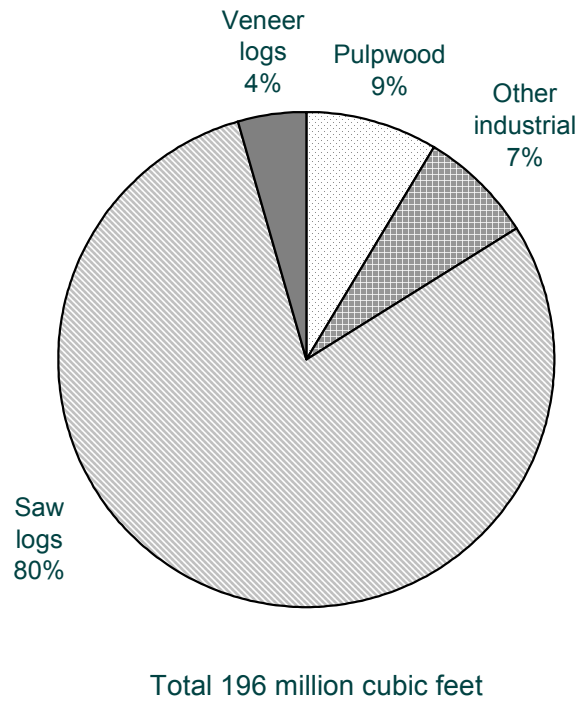


Figure 5—Roundwood production by type of product, 2001.

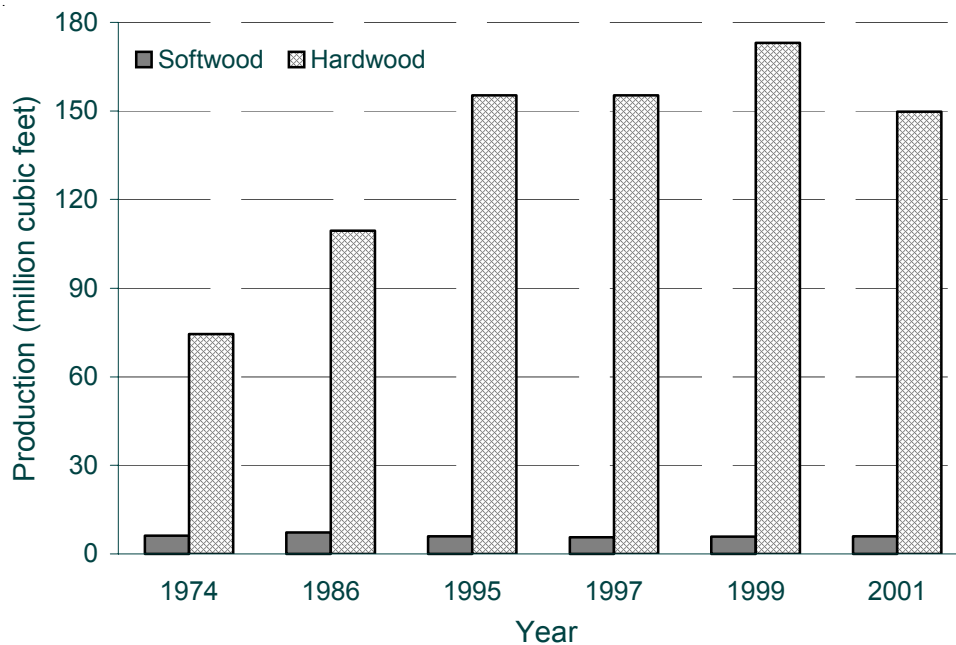


Figure 6—Roundwood saw-log production by species group and year (see page 11 for references for individual years).

- In 2001, Kentucky had 317 sawmills, a net loss of 13 mills since 1999. Total saw-log receipts were down 23 million cubic feet to 159 million cubic feet. Hardwood saw-log receipts decreased by 13 percent, to 154 million cubic feet, while those of softwoods decreased 16 percent to 6 million cubic feet. Of the operating mills, 41 percent had receipts of less than 1 million board feet, 41 percent had receipts of between 1 and 4.99 million board feet, while 18 percent had receipts of 5 million board feet or greater. Those 58 mills accounted for 58 percent of total saw-log receipts.
- Kentucky retained 95 percent of its saw-log production for domestic manufacture; saw-log imports exceeded exports by 3 million cubic feet in 2001.

Pulpwood

- Total pulpwood production, including chipped roundwood, decreased 2 million cubic feet to 17 million cubic feet and accounted for 9 percent of the State's total roundwood TPO. Hardwood output was down 8 percent to 16 million cubic feet (211 thousand cords); softwood output was down 50 percent to 1 million cubic feet (15 thousand cords) (fig. 7).

- Two pulpmill facilities were operating and receiving roundwood in Kentucky in 2001, the same as in 1999. Total pulpwood receipts for these mills increased 14 percent, or 5.4 million cubic feet, to 43 million cubic feet, accounting for 19 percent of total receipts for all mills.
- Eighty-six percent of roundwood cut for pulpwood was retained for processing at Kentucky pulpmills. Roundwood pulpwood accounted for 14 percent of total known exports and 68 percent of total imports. Roundwood pulpwood imports amounted to 28 million cubic feet, while exports amounted to 2.4 million cubic feet, making the State a net importer of pulpwood.

Veneer Logs

- Output of veneer logs was up 14 percent in 2001 and totaled 9 million cubic feet (54 million board feet, International ¼-inch rule), 99 percent of which was hardwood (fig. 8). Veneer-log production accounted for 4 percent of the State's total roundwood TPO volume.

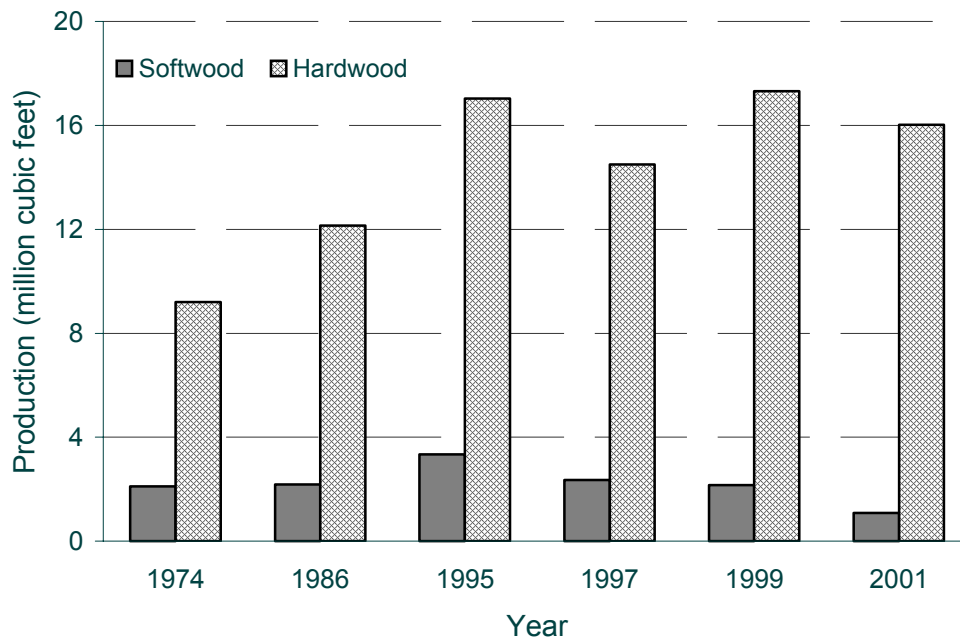


Figure 7—Roundwood pulpwood production by species group and year (see page 11 for references for individual years).

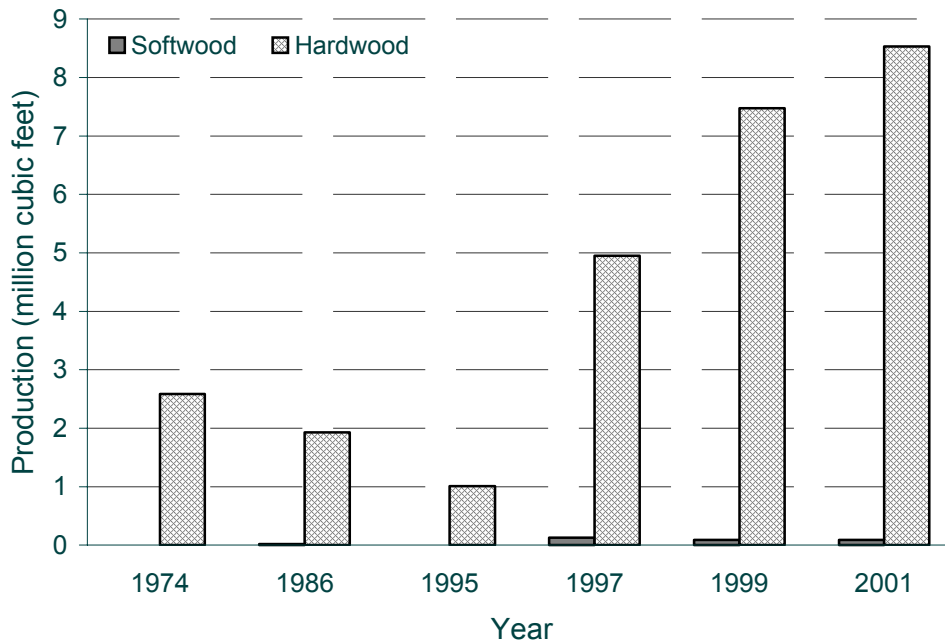


Figure 8—Roundwood veneer-log production by species group and year (see page 11 for references for individual years).

- Three veneer mills operated in Kentucky in 2001. Total receipts of veneer logs increased 16 percent from 5 million cubic feet to 6 million cubic feet.
- Kentucky retained 54 percent of its veneer-log production for processing at domestic veneer mills. Imports amounted to 1 million cubic feet, and exports totaled 4 million cubic feet, making the State a net exporter of roundwood veneer logs.

Other Industrial Products

- Roundwood harvested for other industrial uses, such as composite panels, poles, posts, mulch, firewood, and all other industrial products, totaled 14 million cubic feet (fig. 9) and accounted for 7 percent of the State's total timber products output. Hardwood made up 82 percent of the other industrial product volume.
- Between 1999 and 2001, the number of plants producing other industrial products increased from 12 to 14. Combined receipts of other industrial products from softwood and hardwood totaled 12 million cubic feet.
- Kentucky was a net exporter of roundwood used for other industrial products, with exports totaling 2.4 million

cubic feet, while imports amounted to 363 thousand cubic feet.

Plant Byproducts

- In 2001, processing of primary products in Kentucky mills generated 95 million cubic feet of wood and bark residues. Coarse residues from all primary products amounted to 39 million cubic feet, and bark volume totaled 22 million cubic feet. Sawdust and shavings made up 35 percent of total residues, or 33 million cubic feet (fig. 10).
- Ninety-four percent of the wood and bark residues were used for a product, with 29 percent of the residues used for fiber products (fig. 11). Twenty-seven million cubic feet, or 67 percent, of the coarse residues were used to manufacture fiber products. Most of the bark was used for other miscellaneous products or industrial fuel, and 48 percent of the sawdust and shavings was used for fuel.
- The processing of saw logs at sawmills generated 86 million cubic feet of mill residues, accounting for 91 percent of the total residues produced (fig. 12).

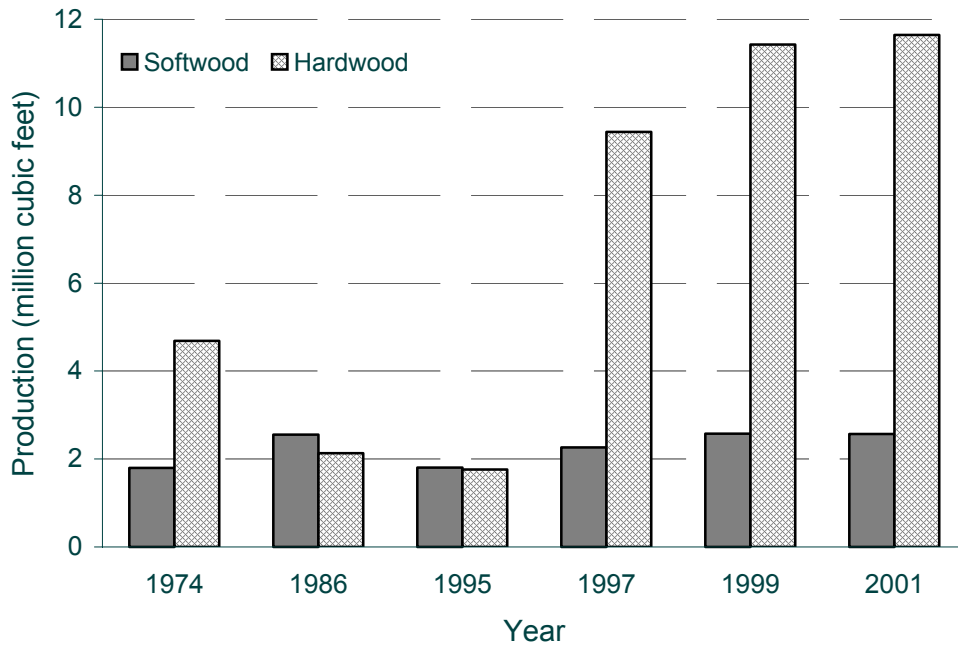


Figure 9—Roundwood production for other industrial products by species group and year (see page 11 for references for individual years).

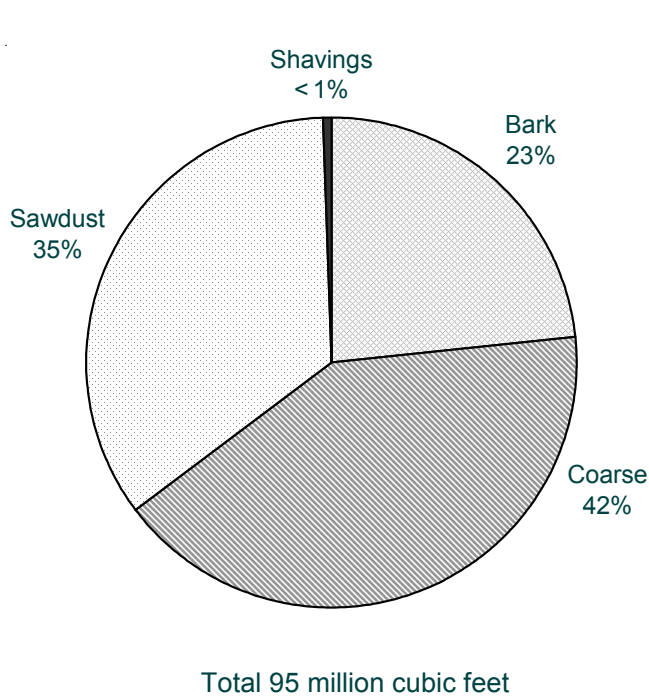


Figure 10—Primary mill residue by residue type, 2001.

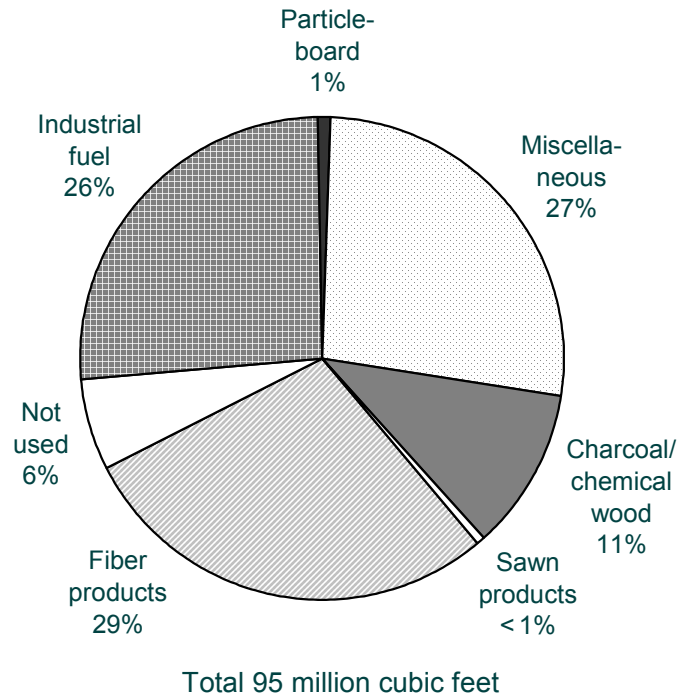


Figure 11—Disposal of residue by product, 2001.

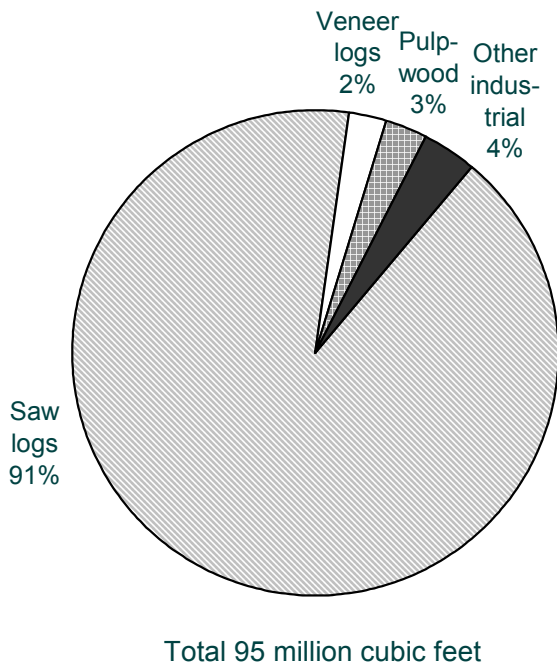


Figure 12—Primary mill residue produced by roundwood type, 2001.

Regional Trends

- Output of industrial roundwood products decreased across all regions of Kentucky except the Bluegrass region, which had an 18 percent increase. The largest output change occurred in the Western region (a 27-percent decrease) and the Southern Cumberland region (a 20-percent decrease).

Eastern Region

- Roundwood output from the Eastern region totaled 23 million cubic feet, a decrease of 961 thousand cubic feet since 1999.
- Saw logs accounted for 64 percent of the region's TPO and 9 percent of the State's roundwood saw-log output. Other industrial products accounted for another 29 percent of the volume for the region.
- In the Eastern region, 15 primary wood-using plants were operating during 2001: 14 sawmills and 1 other miscellaneous mill. These mills processed 12 percent of the State's total roundwood output.

Northern Cumberland Region

- Twenty-two million cubic feet of roundwood were produced in the Northern Cumberland region, a 15-percent decline since 1999.
- Saw-log production of 21 million cubic feet accounted for 96 percent of the region's total roundwood output. Production of other industrial products at 571 thousand cubic feet accounted for 3 percent of the region's total roundwood output.
- The 48 mills operating in the Northern Cumberland region in 2001 included 45 sawmills and 3 other miscellaneous mills. These mills accounted for 11 percent of the State's total roundwood output.

Southern Cumberland Region

- Roundwood output from the Southern Cumberland region totaled 41 million cubic feet, down 20 percent from 1999. This region accounted for 21 percent of the State's total roundwood TPO.
- Saw-log production of 26 million cubic feet accounted for 65 percent of the region's total TPO; production of pulpwood accounted for 14 percent. Other industrial products production of 4.7 million cubic feet accounted for another 11 percent of the region's total roundwood output.
- The 41 primary wood-using plants operating in the Southern Cumberland region included 36 sawmills, 2 plywood or veneer mills, and 3 other miscellaneous mills.

Bluegrass Region

- Roundwood output from the Bluegrass region totaled 13 million cubic feet, up 18 percent. Roundwood production from this region accounted for 6 percent of the State's total roundwood TPO.
- Saw-log production of 10 million cubic feet accounted for 78 percent of the region's total roundwood output; veneer production accounted for 11 percent. At 889 thousand cubic feet, production of other industrial products accounted for another 7 percent of the region's total roundwood TPO.
- In the Bluegrass region, 29 primary wood-using plants were operating during 2001: 26 sawmills, 1 veneer mill, and 2 other miscellaneous mills.

Pennyroyal Region

- Roundwood output from the Pennyroyal region declined 3 percent and totaled 49 million cubic feet. This region accounted for 25 percent of the State's total roundwood output.
- Saw-log production of 45 million cubic feet accounted for 91 percent of the region's total roundwood output and 29 percent of the State's roundwood saw-log output. Pulpwood production of 1.6 million cubic feet accounted for 3 percent of the region's total TPO.
- In the Pennyroyal region, 115 primary wood-using plants were operating during 2001: 109 sawmills, 1 pulpmill, and 5 other miscellaneous mills.

Western Coalfield Region

- Roundwood output from the Western Coalfield region decreased 14 percent to 38 million cubic feet.
- Saw-log production of 32 million cubic feet accounted for 83 percent of the region's total roundwood output, and 20 percent of the State's total saw-log output. At 6 million cubic feet, production of pulpwood accounted for 16 percent of the region's total roundwood output.
- In the Western Coalfield region, 61 primary wood-using plants were operating during 2001: 60 sawmills and 1 other miscellaneous mill. These mills processed 19 percent of the State's total roundwood output.

Western Region

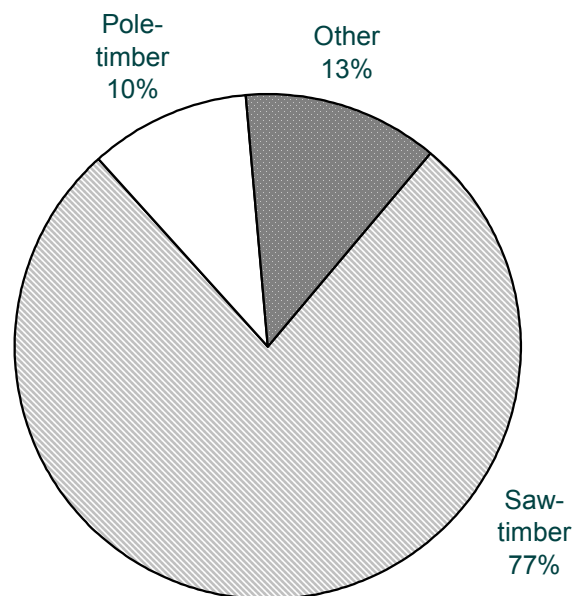
- Roundwood output from the Western region totaled 11 million cubic feet and accounted for 6 percent of the State's total roundwood output.
- Saw-log production of 8 million cubic feet accounted for 69 percent of the region's total roundwood output. At 3 million cubic feet, pulpwood production accounted for 29 percent of the region's total TPO.
- In the Western region, 28 primary wood-using plants were operating during 2001: 27 sawmills and 1 pulpmill.

Total Roundwood Output

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

Source

- In addition to the 196 million cubic feet of roundwood output for industrial roundwood, an estimated 7 million cubic feet were harvested for domestic fuelwood, bringing Kentucky's total roundwood output to 202 million cubic feet.
- Eighty-seven percent of total roundwood output was considered growing-stock volume (sawtimber and poletimber) from timberland sources. Other sources (such as saplings; stumps, tops, and limbs of trees on timberland; and trees on nonforest land) contributed an estimated 25 million cubic feet, or 13 percent of total roundwood output (fig. 13).



Total 202 million cubic feet

Figure 13—Roundwood output by source, 2001.

Ownership

- An estimated 191 million cubic feet, or 94 percent, of the total roundwood output in 2001 came from nonindustrial private forest lands. Forest Industry lands contributed 6 million cubic feet, or 3 percent of the output. Public lands made up the remaining 3 percent, or 5 million cubic feet (fig. 14).

Species

- The red oak and white oak groups combined accounted for 92 million cubic feet, or 48 percent of total hardwood output (fig. 15). Yellow-poplar and hickory accounted for 13 and 11 percent, respectively, of the total hardwood output. Other yellow pines provided more volume than any other softwood species group, accounting for 83 percent of the total softwood output (fig. 16). The loblolly and shortleaf pine types accounted for 8 percent of the softwood output.

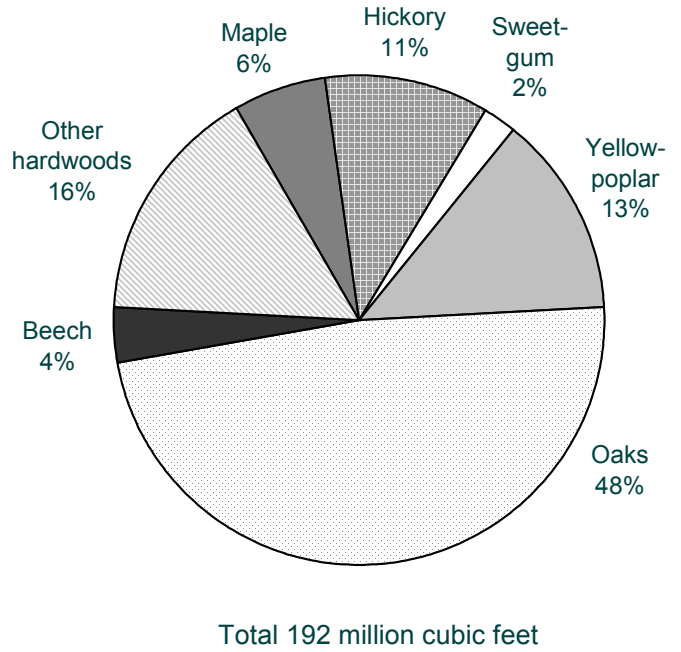


Figure 15—Roundwood output by hardwood species group, 2001.

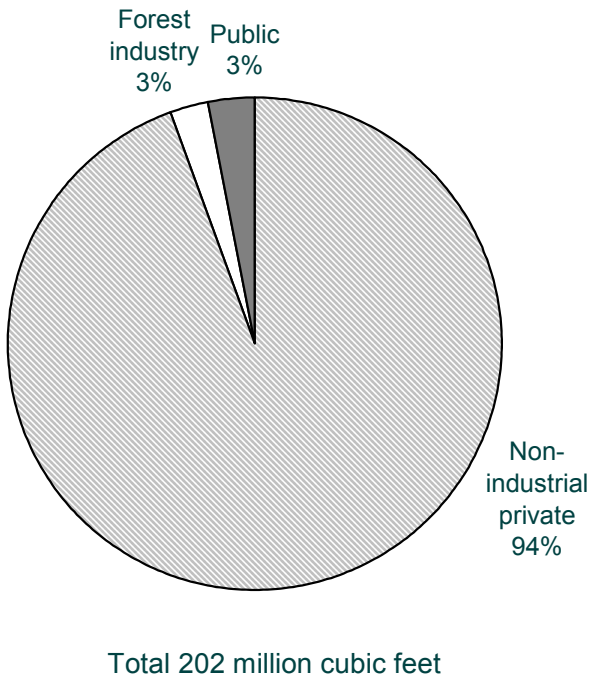


Figure 14—Roundwood output by ownership, 2001.

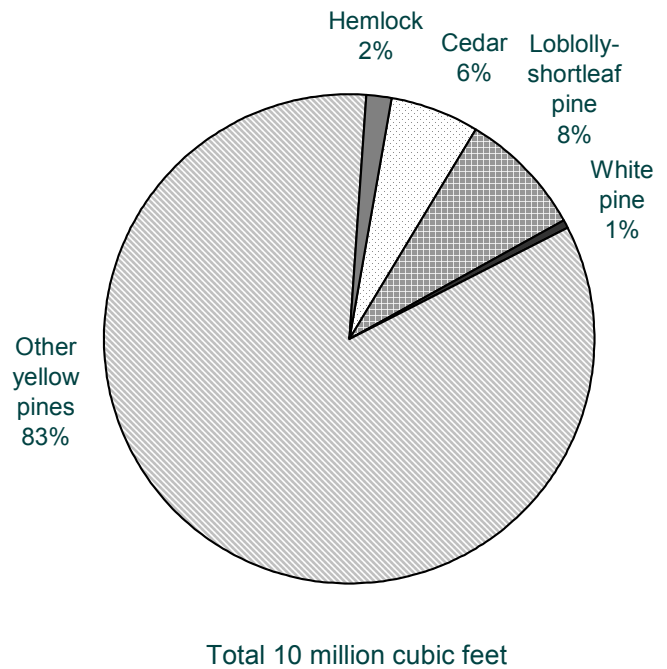


Figure 16—Roundwood output by softwood species group, 2001.

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Definition of Terms

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, 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 greater than 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.

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.

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

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

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

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 less than 1.0 inch d.b.h. and greater than 1 foot tall for hardwoods, greater than 6 inches tall for softwood, and greater than 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 scalelike.

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 products. Roundwood products and byproducts.

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

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 sawtimber 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	0.18282 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 Kentucky during the most recent survey period.

^b Cubic feet of solid wood per cord.

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Table 1—Output of industrial products by product and species group, Kentucky, 1999 and 2001

Product and species group	Year		Change	Percent change
	1999	2001		
<i>thousand cubic feet</i>				
Saw logs				
Softwood	5,855	5,942	87	1.5
Hardwood	173,019	149,754	-23,265	-13.4
Total	178,874	155,696	-23,178	-13.0
Veneer logs				
Softwood	88	88	0	--
Hardwood	7,472	8,529	1,057	14.1
Total	7,560	8,617	1,057	14.0
Pulpwood^a				
Softwood	2,162	1,074	-1,088	-50.3
Hardwood	17,322	16,022	-1,300	-7.5
Total	19,484	17,096	-2,388	-12.3
Other industrial				
Softwood	2,575	2,571	-4	-0.2
Hardwood	11,425	11,645	220	1.9
Total	14,000	14,216	216	1.5
All industrial				
Softwood	10,680	9,675	-1,005	-9.4
Hardwood	209,238	185,950	-23,288	-11.1
Total	219,918	195,625	-24,293	-11.0
Byproduct output				
Softwood	3,797	3,311	-486	-12.8
Hardwood	104,668	85,496	-19,172	-18.3
Total	108,465	88,807	-19,658	-18.1
Total output				
Softwood	14,477	12,986	-1,491	-10.3
Hardwood	313,906	271,446	-42,460	-13.5
Total	328,383	284,432	-43,951	-13.4

-- = negligible

^a Includes roundwood delivered to nonpulp mills, then chipped and sold to pulpmills (1,156,000 cubic feet in 1999 and 1,995,000 cubic feet in 2001).

Table 2—Roundwood receipts by product and species group, Kentucky, 1999 and 2001

Product and species group	Year		Change	Percent change
	1999	2001		
<i>thousand cubic feet</i>				
Saw logs				
Softwood	6,642	5,592	-1,050	-15.8
Hardwood	176,185	153,595	-22,590	-12.8
Total	182,827	159,187	-23,640	-12.9
Veneer logs				
Softwood	9	17	8	88.9
Hardwood	5,082	5,874	792	15.6
Total	5,091	5,891	800	15.7
Pulpwood^a				
Softwood	2,960	866	-2,094	-70.7
Hardwood	34,536	42,009	7,473	21.6
Total	37,496	42,875	5,379	14.3
Other industrial				
Softwood	1,465	1,938	473	32.3
Hardwood	10,204	10,208	4	--
Total	11,669	12,146	477	4.1
Total output				
Softwood	11,076	8,413	-2,663	-24.0
Hardwood	226,007	211,686	-14,321	-6.3
Total	237,083	220,099	-16,984	-7.2

-- = negligible

^a Includes roundwood delivered to nonpulp mills, then chipped and sold to pulp mills (1,215,000 cubic feet in 1999 and 2,284,000 cubic feet in 2001).

Table 3—Number of primary wood-using plants by industry, Kentucky, 1964-2001

Industry	Year							
	1964	1969	1974	1986	1995	1997	1999	2001
Sawmills	620	538	388	408	376	365	330	317
Veneer or plywood mills	3	4	4	3	3	4	3	3
Pulpmills	0	2	2	2	2	2	2	2
Composite panel mills	0	0	0	0	1	1	1	1
Other mills	30	45	26	22	19	19	12	14
All plants	653	589	420	435	401	391	348	337

Table 4—Roundwood receipts by sawmill size, Kentucky, 1999 and 2001

Sawmill size class ^a	1999			2001		
	Number of mills	Thousand board feet	Percent of volume	Number of mills	Thousand board feet	Percent of volume
<i>million board feet</i>						
<1.0	127	38,412	4	130	39,995	4
1.0 - 4.99	140	378,742	34	129	363,329	38
5.0 - 9.99	39	256,467	23	38	264,165	27
>10	24	436,966	39	20	299,473	31
Total	330	1,110,587	100	317	966,962	100

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

Table 5—Roundwood receipts by species and type of mill, Kentucky, 2001

Species	Type of mill					
	All mills	Sawmills	Veneer mills		Pulpmills ^a	Other mills
			Plywood	Other veneer		
<i>thousand cubic feet</i>						
Softwood						
Yellow pine	3,004	2,714	0	0	NA	290
White pine	599	593	0	0	NA	6
Cedar	3,109	1,966	0	0	NA	1,143
Cypress	181	181	0	0	NA	0
Other softwood	654	138	0	17	NA	499
Unclassified	866	0	0	0	866	0
Total softwoods	8,413	5,592	0	17	866	1,938
Hardwood						
Blackgum and tupelo	467	467	0	0	NA	0
Soft maple	4,119	3,565	0	0	NA	554
Sweetgum	666	666	0	0	NA	0
Yellow-poplar	44,270	32,031	14	4,183	NA	8,042
Other soft hardwood	2,307	2,106	0	17	NA	184
Hickory	7,107	7,090	0	17	NA	0
Red oak	44,092	42,736	3	1,314	NA	39
White oak	34,998	34,922	3	34	NA	39
Other hard hardwood	31,651	30,012	0	289	NA	1,350
Unclassified	42,009	0	0	0	42,009	0
Total hardwoods	211,686	153,595	20	5,854	42,009	10,208
All species	220,099	159,187	20	5,871	42,875	12,146

NA = not applicable.

^a Collected only by softwood and hardwood and includes roundwood chipped.**Table 6—Industrial roundwood movement by year and species group, Kentucky, 1999 and 2001**

Year	Production	Exported to other States	Retained	Imported from other States	Receipts
<i>thousand cubic feet</i>					
Softwood					
1999	10,680	2,326	8,354	2,722	11,076
2001	9,675	2,309	7,366	1,047	8,413
Hardwood					
1999	209,238	16,505	192,733	33,274	226,007
2001	185,950	14,942	171,008	40,678	211,686
All species					
1999	219,918	18,831	201,087	35,996	237,083
2001	195,625	17,251	178,374	41,725	220,099

Table 7—Industrial roundwood movement by product and species group, Kentucky, 2001

Product and species group	Production	Exported to other States	Retained	Imported from other states	Receipts
<i>thousand cubic feet</i>					
Saw logs					
Softwood	5,942	913	5,029	563	5,592
Hardwood	149,754	7,540	142,214	11,381	153,595
Total	155,696	8,453	147,243	11,944	159,187
Veneer logs					
Softwood	88	88	0	17	17
Hardwood	8,529	3,861	4,668	1,206	5,874
Total	8,617	3,949	4,668	1,223	5,891
Pulpwood^a					
Softwood	1,074	317	757	109	866
Hardwood	16,022	2,099	13,923	28,086	42,009
Total	17,096	2,416	14,680	28,195	42,875
Other industrial					
Softwood	2,571	991	1,580	358	1,938
Hardwood	11,645	1,442	10,203	5	10,208
Total	14,216	2,433	11,783	363	12,146
All products					
Softwood	9,675	2,309	7,366	1,047	8,413
Hardwood	185,950	14,942	171,008	40,678	211,686
Total	195,625	17,251	178,374	41,725	220,099

^a Includes roundwood chipped.

Table 8—Saw-log volume by destination, source, and species group, Kentucky, 2001

Destination and source	All species	Species group	
		Softwood	Hardwood
<i>thousand cubic feet</i>			
Kentucky (retained)	147,243	5,029	142,214
Exports to:			
Indiana	2,180	58	2,122
Missouri	138	0	138
Ohio	1,276	17	1,259
Tennessee	2,950	396	2,554
Virginia	1,909	442	1,467
Total	8,453	913	7,540
Imports from:			
Arkansas	1	0	1
Illinois	1,219	14	1,205
Indiana	1,085	0	1,085
Missouri	114	0	114
Tennessee	9,025	549	8,476
Virginia	253	0	253
West Virginia	247	0	247
Total	11,944	563	11,381

Table 9—Veneer volume by destination, source, and species group, Kentucky, 2001

Destination and source	All species	Species group	
		Softwood	Hardwood
<i>thousand cubic feet</i>			
Kentucky (retained)	4,668	0	4,668
Exports to:			
Georgia	2,063	88	1,975
Indiana	906	0	906
Michigan	145	0	145
Missouri	255	0	255
North Carolina	115	0	115
Ohio	146	0	146
Virginia	146	0	146
Wisconsin	173	0	173
Total	3,949	88	3,861
Imports from:			
California	17	17	0
Indiana	110	0	110
Michigan	25	0	25
New York	3	0	3
Ohio	334	0	334
Pennsylvania	106	0	106
Tennessee	212	0	212
Virginia	221	0	221
West Virginia	195	0	195
Total	1,223	17	1,206

Table 10—Pulpwood volume by destination, source, and species group, Kentucky, 2001^a

Destination and source	All species	Species group	
		Softwood	Hardwood
<i>thousand cubic feet</i>			
Kentucky (retained)	14,680	757	13,923
Exports to:			
Alabama	528	0	528
Louisiana	240	0	240
Mississippi	299	0	299
South Carolina	196	0	196
Tennessee	1,153	317	836
Total	2,416	317	2,099
Imports from:			
Georgia	2,620	0	2,620
North Carolina	5,586	0	5,586
Tennessee	15,382	109	15,273
Virginia	4,607	0	4,607
Total	28,195	109	28,086

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

Table 11—Other industrial volume by destination, source, and species group, Kentucky, 2001^a

Destination and source	All species	Species group	
		Softwood	Hardwood
<i>thousand cubic feet</i>			
Kentucky (retained)	11,783	1,580	10,203
Exports to:			
Ohio	10	10	0
Tennessee	941	912	29
West Virginia	1,482	69	1,413
Total	2,433	991	1,442
Imports from:			
Indiana	6	6	0
Missouri	33	33	0
Ohio	6	6	0
Tennessee	227	222	5
Virginia	91	91	0
Total	363	358	5

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

Table 12—Primary mill residue volume by roundwood type, species group, and residue type, Kentucky, 2001

Roundwood type and species group	All types	Residue type			
		Bark	Coarse	Sawdust	Shavings
<i>thousand cubic feet</i>					
Saw logs					
Softwood	2,855	365	1,489	984	17
Hardwood	83,459	16,003	36,012	31,069	375
Total	86,314	16,368	37,501	32,053	392
Veneer logs					
Softwood	9	1	6	2	0
Hardwood	2,186	636	1,025	525	0
Total	2,195	637	1,031	527	0
Pulpwood					
Softwood	90	90	0	0	0
Hardwood	2,614	2,614	0	0	0
Total	2,704	2,704	0	0	0
Other industrial^a					
Softwood	628	160	334	134	0
Hardwood	2,782	2,150	454	178	0
Total	3,410	2,310	788	312	0
Total					
Softwood	3,582	616	1,829	1,120	17
Hardwood	91,041	21,403	37,491	31,772	375
Total	94,623	22,019	39,320	32,892	392

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

Table 13—Disposal of residue at primary wood-using plants by product, species group, and type of residue, Kentucky, 1999 and 2001

Product and species group	All types		Bark		Coarse		Sawdust		Shavings	
	1999	2001	1999	2001	1999	2001	1999	2001	1999	2001
<i>thousand cubic feet</i>										
Fiber products										
Softwood	484	353	0	0	484	353	0	0	0	0
Hardwood	36,708	26,666	0	0	36,018	26,176	690	490	0	0
Total	37,192	27,019	0	0	36,502	26,529	690	490	0	0
Particleboard										
Softwood	43	38	5	5	20	20	18	13	0	0
Hardwood	1,266	832	50	50	837	685	379	97	0	0
Total	1,309	870	55	55	857	705	397	110	0	0
Charcoal/ chemical wood										
Softwood	239	158	5	0	21	40	213	112	0	6
Hardwood	10,087	9,929	177	364	2,108	1,672	7,802	7,811	0	82
Total	10,326	10,087	182	364	2,129	1,712	8,015	7,923	0	88
Sawn products										
Softwood	0	0	0	0	0	0	0	0	0	0
Hardwood	0	567	0	0	0	567	0	0	0	0
Total	0	567	0	0	0	567	0	0	0	0
Fuel										
Softwood	696	336	368	127	203	133	125	76	0	0
Hardwood	31,171	24,372	7,569	4,614	3,757	3,853	19,700	15,808	145	97
Total	31,867	24,708	7,937	4,741	3,960	3,986	19,825	15,884	145	97
Miscellaneous										
Softwood	2,335	2,426	469	448	1,082	1,144	776	828	8	6
Hardwood	25,436	23,130	15,936	14,261	3,054	2,835	6,011	5,846	435	188
Total	27,771	25,556	16,405	14,709	4,136	3,979	6,787	6,674	443	194
Not used										
Softwood	384	271	47	36	207	139	130	91	0	5
Hardwood	5,777	5,545	2,168	2,114	1,917	1,703	1,689	1,720	3	8
Total	6,161	5,816	2,215	2,150	2,124	1,842	1,819	1,811	3	13
All products										
Softwood	4,181	3,582	894	616	2,017	1,829	1,262	1,120	8	17
Hardwood	110,445	91,041	25,900	21,403	47,691	37,491	36,271	31,772	583	375
Total	114,626	94,623	26,794	22,019	49,708	39,320	37,533	32,892	591	392

Table 14—Roundwood timber products output by product and species group, Eastern Region of Kentucky, 1999 and 2001

Product and species group	Year		Change	Percent change
	1999	2001		
<i>thousand cubic feet</i>				
Saw logs				
Softwood	162	500	338	208.6
Hardwood	15,146	14,125	-1,021	-6.7
Total	15,308	14,625	-683	-4.5
Veneer logs				
Softwood	0	0	0	--
Hardwood	1,538	1,452	-86	-5.6
Total	1,538	1,452	-86	-5.6
Pulpwood^a				
Softwood	47	0	-47	-100.0
Hardwood	305	94	-211	-69.2
Total	352	94	-258	-73.3
Other industrial				
Softwood	334	332	-2	-0.6
Hardwood	6,232	6,300	68	1.1
Total	6,566	6,632	66	1.0
All industrial				
Softwood	543	832	289	53.2
Hardwood	23,221	21,971	-1,250	-5.4
Total	23,764	22,803	-961	-4.0

-- = negligible.

^a Includes roundwood delivered to nonpulp mills, then chipped and sold to pulp mills (60,000 cubic feet in 1999 and 94,000 cubic feet in 2001).

Table 15—Roundwood timber products output by county, product, and species group, Eastern Region of Kentucky, 2001

County	All products		Saw logs		Veneer logs		Pulpwood ^a		Other industrial	
	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>									
Floyd	35	1,486	18	899	0	211	0	0	17	376
Harlan	530	6,260	441	4,372	0	39	0	94	89	1,755
Knott	17	1,126	0	775	0	0	0	0	17	351
Leslie	67	3,149	1	1,411	0	422	0	0	66	1,316
Letcher	0	1,945	0	1,945	0	0	0	0	0	0
Martin	42	1,191	34	583	0	0	0	0	8	608
Perry	50	2,754	6	1,244	0	633	0	0	44	877
Pike	91	4,060	0	2,896	0	147	0	0	91	1,017
All counties	832	21,971	500	14,125	0	1,452	0	94	332	6,300

^a Includes roundwood delivered to nonpulpmills, then chipped and sold to pulpmills (94,000 cubic feet in 2001).

Table 16—Roundwood timber products output by product and species group, Northern Cumberland Region of Kentucky, 1999 and 2001

Product and species group	Year		Change	Percent change
	1999	2001		
<i>thousand cubic feet</i>				
Saw logs				
Softwood	736	447	-289	-39.3
Hardwood	21,618	20,286	-1,332	-6.2
Total	22,354	20,733	-1,621	-7.3
Veneer logs				
Softwood	0	0	0	--
Hardwood	133	171	38	28.6
Total	133	171	38	28.6
Pulpwood^a				
Softwood	209	0	-209	-100.0
Hardwood	2,489	51	-2,438	-98.0
Total	2,698	51	-2,647	-98.1
Other industrial				
Softwood	107	107	0	--
Hardwood	87	464	377	433.3
Total	194	571	377	194.3
All industrial				
Softwood	1,052	554	-498	-47.3
Hardwood	24,327	20,972	-3,355	-13.8
Total	25,379	21,526	-3,853	-15.2

-- = negligible.

^a Includes roundwood delivered to nonpulp mills, then chipped and sold to pulp mills (51,000 cubic feet in 1999 and 51,000 cubic feet in 2001).

Table 17—Roundwood timber products output by county, product, and species group, Northern Cumberland Region of Kentucky, 2001

County	All products		Saw logs		Veneer logs		Pulpwood ^a		Other industrial	
	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>									
Boyd	0	341	0	338	0	0	0	3	0	0
Carter	15	2,231	0	2,205	0	0	0	26	15	0
Elliott	50	1,137	0	1,129	0	0	0	8	50	0
Greenup	10	1,586	0	1,582	0	0	0	4	10	0
Johnson	15	956	15	655	0	0	0	0	0	301
Lawrence	0	533	0	347	0	110	0	0	0	76
Lewis	46	5,135	46	5,135	0	0	0	0	0	0
Magoffin	28	843	27	843	0	0	0	0	1	0
Menifee	63	1,268	60	1,268	0	0	0	0	3	0
Morgan	72	2,580	63	2,580	0	0	0	0	9	0
Powell	9	1,232	9	1,171	0	61	0	0	0	0
Rowan	22	2,392	6	2,295	0	0	0	10	16	87
Wolfe	224	738	221	738	0	0	0	0	3	0
All counties	554	20,972	447	20,286	0	171	0	51	107	464

^a Includes roundwood delivered to nonpulpmills, then chipped and sold to pulpmills (51,000 cubic feet in 2001).

Table 18—Roundwood timber products output by product and species group, Southern Cumberland Region of Kentucky, 1999 and 2001

Product and species group	Year		Change	Percent change
	1999	2001		
<i>thousand cubic feet</i>				
Saw logs				
Softwood	1,629	1,388	-241	-14.8
Hardwood	37,230	25,054	-12,176	-32.7
Total	38,859	26,442	-12,417	-32.0
Veneer logs				
Softwood	0	0	0	--
Hardwood	3,690	3,938	248	6.7
Total	3,690	3,938	248	6.7
Pulpwood^a				
Softwood	438	41	-397	-90.6
Hardwood	2,163	5,432	3,269	151.1
Total	2,601	5,473	2,872	110.4
Other industrial				
Softwood	1,667	1,199	-468	-28.1
Hardwood	3,676	3,451	-225	-6.1
Total	5,343	4,650	-693	-13.0
All industrial				
Softwood	3,734	2,628	-1,106	-29.6
Hardwood	46,759	37,875	-8,884	-19.0
Total	50,493	40,503	-9,990	-19.8

-- = negligible.

^a Includes roundwood delivered to nonpulpmills, then chipped and sold to pulpmills (120,000 cubic feet in 1999 and 1,513,000 cubic feet in 2001).

Table 19—Roundwood timber products output by county, product, and species group, Southern Cumberland Region of Kentucky, 2001

County	All products		Saw logs		Veneer logs		Pulpwood ^a		Other industrial	
	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>									
Bell	13	1,359	13	973	0	265	0	121	0	0
Breathitt	105	4,157	39	1,921	0	920	0	0	66	1,316
Clay	14	3,890	2	2,995	0	422	0	473	12	0
Estill	250	1,874	250	1,798	0	76	0	0	0	0
Jackson	40	1,040	13	618	0	422	0	0	27	0
Knox	12	5,270	5	3,967	0	451	0	852	7	0
Laurel	321	9,642	152	3,750	0	790	24	3,259	145	1,843
Lee	245	1,811	232	1,548	0	0	0	0	13	263
McCreary	1,420	3,128	486	2,551	0	196	12	352	922	29
Owsley	77	798	77	587	0	211	0	0	0	0
Rockcastle	23	1,856	16	1,856	0	0	0	0	7	0
Whitley	108	3,050	103	2,490	0	185	5	375	0	0
All counties	2,628	37,875	1,388	25,054	0	3,938	41	5,432	1,199	3,451

^a Includes roundwood delivered to nonpulp mills, then chipped and sold to pulpmills (1,513,000 cubic feet in 2001).

Table 20—Roundwood timber products output by product and species group, Bluegrass Region of Kentucky, 1999 and 2001

Product and species group	Year		Change	Percent change
	1999	2001		
<i>thousand cubic feet</i>				
Saw logs				
Softwood	1,421	1,670	249	17.5
Hardwood	7,921	8,059	138	1.7
Total	9,342	9,729	387	4.1
Veneer logs				
Softwood	0	0	0	--
Hardwood	873	1,339	466	53.4
Total	873	1,339	466	53.4
Pulpwood^a				
Softwood	0	0	0	--
Hardwood	0	588	588	--
Total	0	588	588	--
Other industrial				
Softwood	100	565	465	465.0
Hardwood	324	324	0	--
Total	424	889	465	109.7
All industrial				
Softwood	1,521	2,235	714	46.9
Hardwood	9,118	10,310	1,192	13.1
Total	10,639	12,545	1,906	17.9

-- = negligible.

^a Includes roundwood delivered to nonpulpmills, then chipped and sold to pulpmills (0 cubic feet in 1999 and 0 cubic feet in 2001).

Table 21—Roundwood timber products output by county, product, and species group, Bluegrass Region of Kentucky, 2001

County	All products		Saw logs		Veneer logs		Pulpwood ^a		Other industrial	
	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>									
Anderson	171	11	171	11	0	0	0	0	0	0
Bath	484	1,173	379	1,173	0	0	0	0	105	0
Boone	0	84	0	84	0	0	0	0	0	0
Bourbon	57	145	57	0	0	145	0	0	0	0
Boyle	50	904	0	904	0	0	0	0	50	0
Bracken	23	281	23	281	0	0	0	0	0	0
Campbell	4	39	4	39	0	0	0	0	0	0
Carroll	66	111	30	102	0	9	0	0	36	0
Clark	10	753	10	17	0	148	0	588	0	0
Fayette	0	76	0	0	0	76	0	0	0	0
Fleming	38	1,222	38	1,222	0	0	0	0	0	0
Franklin	32	0	14	0	0	0	0	0	18	0
Gallatin	64	9	28	0	0	9	0	0	36	0
Garrard	0	479	0	479	0	0	0	0	0	0
Grant	134	178	62	127	0	51	0	0	72	0
Harrison	4	91	4	0	0	91	0	0	0	0
Henry	139	89	67	2	0	87	0	0	72	0
Jefferson	24	201	24	176	0	25	0	0	0	0
Jessamine	38	77	38	0	0	77	0	0	0	0
Kenton	4	114	4	114	0	0	0	0	0	0
Lincoln	0	1,679	0	1,679	0	0	0	0	0	0
Madison	0	284	0	141	0	143	0	0	0	0
Mason	13	269	13	265	0	4	0	0	0	0
Mercer	38	159	38	159	0	0	0	0	0	0
Montgomery	14	218	14	170	0	48	0	0	0	0
Nicholas	17	45	17	45	0	0	0	0	0	0
Oldham	2	123	2	74	0	49	0	0	0	0
Owen	130	121	58	34	0	87	0	0	72	0
Pendleton	98	39	62	39	0	0	0	0	36	0
Robertson	27	45	27	45	0	0	0	0	0	0
Scott	258	174	258	99	0	75	0	0	0	0
Shelby	24	295	24	157	0	138	0	0	0	0
Spencer	59	11	59	11	0	0	0	0	0	0
Trimble	33	144	15	67	0	77	0	0	18	0
Washington	180	667	130	343	0	0	0	0	50	324
All counties	2,235	10,310	1,670	8,059	0	1,339	0	588	565	324

^a Includes roundwood delivered to nonpulpmills, then chipped and sold to pulpmills (0 cubic feet in 2001).

Table 22—Roundwood timber products output by product and species group, Pennyroyal Region of Kentucky, 1999 and 2001

Product and species group	Year		Change	Percent change
	1999	2001		
<i>thousand cubic feet</i>				
Saw logs				
Softwood	1,684	1,750	66	3.9
Hardwood	44,482	43,077	-1,405	-3.2
Total	46,166	44,827	-1,339	-2.9
Veneer logs				
Softwood	88	88	0	--
Hardwood	965	1,415	450	46.6
Total	1,053	1,503	450	42.7
Pulpwood^a				
Softwood	142	22	-120	-84.5
Hardwood	1,990	1,534	-456	-22.9
Total	2,132	1,556	-576	-27.0
Other industrial				
Softwood	367	368	1	0.3
Hardwood	972	972	0	--
Total	1,339	1,340	1	0.1
All industrial				
Softwood	2,281	2,228	-53	-2.3
Hardwood	48,409	46,998	-1,411	-2.9
Total	50,690	49,226	-1,464	-2.9

-- = negligible.

^a Includes roundwood delivered to nonpulp mills, then chipped and sold to pulp mills (548,000 cubic feet in 1999 and 74,000 cubic feet in 2001).

Table 23—Roundwood timber products output by county, product, and species group, Pennyroyal Region of Kentucky, 2001

County	All products		Saw logs		Veneer logs		Pulpwood ^a		Other industrial	
	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>									
Adair	108	2,809	62	2,809	0	0	0	0	46	0
Breckinridge	118	3,302	118	2,485	0	96	0	721	0	0
Bullitt	55	393	55	370	0	23	0	0	0	0
Casey	122	4,050	122	4,050	0	0	0	0	0	0
Clinton	189	3,259	101	2,081	88	888	0	290	0	0
Cumberland	48	2,077	48	2,061	0	0	0	16	0	0
Grayson	42	3,299	20	2,925	0	0	22	374	0	0
Green	29	1,193	29	1,193	0	0	0	0	0	0
Hancock	7	1,233	7	1,221	0	12	0	0	0	0
Hardin	107	2,162	107	1,955	0	207	0	0	0	0
Hart	186	2,642	186	2,635	0	0	0	7	0	0
Larue	51	646	1	630	0	16	0	0	50	0
Marion	146	1,803	77	1,479	0	0	0	0	69	324
Meade	9	1,371	9	1,241	0	130	0	0	0	0
Metcalfe	124	2,243	64	2,117	0	0	0	126	60	0
Nelson	167	807	167	440	0	43	0	0	0	324
Pulaski	325	4,998	291	4,998	0	0	0	0	34	0
Russell	86	2,373	40	2,373	0	0	0	0	46	0
Taylor	107	2,812	44	2,488	0	0	0	0	63	324
Wayne	202	3,526	202	3,526	0	0	0	0	0	0
All counties	2,228	46,998	1,750	43,077	88	1,415	22	1,534	368	972

^a Includes roundwood delivered to nonpulp mills, then chipped and sold to pulpmills (74,000 cubic feet in 2001).

Table 24—Roundwood timber products output by product and species group, Western Coalfield Region of Kentucky, 1999 and 2001

Product and species group	Year		Change	Percent change
	1999	2001		
<i>thousand cubic feet</i>				
Saw logs				
Softwood	125	126	1	0.8
Hardwood	37,145	31,634	-5,511	-14.8
Total	37,270	31,760	-5,510	-14.8
Veneer logs				
Softwood	0	0	0	--
Hardwood	180	70	-110	-61.1
Total	180	70	-110	-61.1
Pulpwood^a				
Softwood	626	525	-101	-16.1
Hardwood	5,898	5,619	-279	-4.7
Total	6,524	6,144	-380	-5.8
Other industrial				
Softwood	0	0	0	--
Hardwood	134	134	0	--
Total	134	134	0	--
All industrial				
Softwood	751	651	-100	-13.3
Hardwood	43,357	37,457	-5,900	-13.6
Total	44,108	38,108	-6,000	-13.6

-- = negligible.

^a Includes roundwood delivered to nonpulp mills, then chipped and sold to pulpmills (300,000 cubic feet in 1999 and 211,000 cubic feet in 2001).

Table 25—Roundwood timber products output by county, product, and species group, Western Coalfield Region of Kentucky, 2001

County	All products		Saw logs		Veneer logs		Pulpwood ^a		Other industrial	
	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>									
Allen	1	2,953	1	2,926	0	0	0	27	0	0
Barren	1	1,988	1	1,972	0	0	0	16	0	0
Butler	4	2,654	0	1,171	0	0	4	1,483	0	0
Caldwell	113	1,233	0	983	0	0	113	250	0	0
Christian	9	3,216	4	3,157	0	15	5	0	0	44
Crittenden	246	1,683	0	1,456	0	0	246	227	0	0
Daviess	0	990	0	990	0	0	0	0	0	0
Edmonson	96	629	84	528	0	0	12	101	0	0
Henderson	0	735	0	720	0	15	0	0	0	0
Hopkins	121	2,016	0	1,942	0	13	121	61	0	0
Logan	0	1,189	0	1,171	0	0	0	18	0	0
McLean	0	1,129	0	1,095	0	0	0	34	0	0
Monroe	24	2,277	24	2,250	0	0	0	27	0	0
Muhlenberg	0	2,841	0	2,644	0	0	0	151	0	46
Ohio	25	7,346	12	4,130	0	0	13	3,172	0	44
Simpson	0	310	0	297	0	0	0	13	0	0
Todd	0	1,486	0	1,473	0	0	0	13	0	0
Union	11	419	0	404	0	15	11	0	0	0
Warren	0	1,022	0	996	0	0	0	26	0	0
Webster	0	1,341	0	1,329	0	12	0	0	0	0
All counties	651	37,457	126	31,634	0	70	525	5,619	0	134

^a Includes roundwood delivered to nonpulp mills, then chipped and sold to pulpmills (211,000 cubic feet in 2001).

Table 26—Roundwood timber products output by product and species group, Western Region of Kentucky, 1999 and 2001

Product and species group	Year		Change	Percent change
	1999	2001		
<i>thousand cubic feet</i>				
Saw logs				
Softwood	98	61	-37	-37.8
Hardwood	9,477	7,519	-1,958	-20.7
Total	9,575	7,580	-1,995	-20.8
Veneer logs				
Softwood	0	0	0	--
Hardwood	93	144	51	54.8
Total	93	144	51	54.8
Pulpwood^a				
Softwood	700	486	-214	-30.6
Hardwood	4,477	2,704	-1,773	-39.6
Total	5,177	3,190	-1,987	-38.4
Other industrial				
Softwood	0	0	0	--
Hardwood	0	0	0	--
Total	0	0	0	--
All industrial				
Softwood	798	547	-251	-31.5
Hardwood	14,047	10,367	-3,680	-26.2
Total	14,845	10,914	-3,931	-26.5

-- = negligible.

^a Includes roundwood delivered to nonpulp mills, then chipped and sold to pulp mills (77,000 cubic feet in 1999 and 52,000 cubic feet in 2001).

Table 27—Roundwood timber products output by county, product, and species group, Western Region of Kentucky, 2001

County	All products		Saw logs		Veneer logs		Pulpwood ^a		Other industrial	
	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>									
Ballard	42	411	5	141	0	0	37	270	0	0
Calloway	50	897	0	796	0	0	50	101	0	0
Carlisle	19	1,391	14	660	0	0	5	731	0	0
Fulton	29	463	29	322	0	0	0	141	0	0
Graves	118	1,441	4	989	0	78	114	374	0	0
Hickman	9	356	9	214	0	0	0	142	0	0
Livingston	113	1,338	0	911	0	0	113	427	0	0
Lyon	0	874	0	582	0	0	0	292	0	0
Marshall	167	1,025	0	896	0	52	167	77	0	0
McCracken	0	681	0	620	0	0	0	61	0	0
Trigg	0	1,490	0	1,388	0	14	0	88	0	0
All counties	547	10,367	61	7,519	0	144	486	2,704	0	0

^a Includes roundwood delivered to nonpulpmills, then chipped and sold to pulpmills (52,000 cubic feet in 2001).

Table 28—Total roundwood output by product, species group, and source of material, Kentucky, 2001

Product and species group	All sources	Total	Growing-stock trees		Other sources
			Sawtimber	Poletimber	
<i>thousand cubic feet</i>					
Saw logs					
Softwood	5,942	5,724	5,632	92	218
Hardwood	149,754	126,991	122,556	4,435	22,763
Total	155,696	132,715	128,188	4,527	22,981
Veneer logs and bolts					
Softwood	88	82	78	4	6
Hardwood	8,529	8,233	8,007	226	296
Total	8,617	8,315	8,085	230	302
Pulpwood					
Softwood	1,074	988	667	321	86
Hardwood	16,022	15,144	5,429	9,715	878
Total	17,096	16,132	6,096	10,036	964
Poles and posts					
Softwood	356	328	261	67	28
Hardwood	0	0	0	0	0
Total	356	328	261	67	28
Other miscellaneous					
Softwood	2,215	2,038	1,376	662	177
Hardwood	11,645	11,126	6,123	5,003	519
Total	13,860	13,164	7,499	5,665	696
Total industrial products					
Softwood	9,675	9,160	8,014	1,146	515
Hardwood	185,950	161,494	142,115	19,379	24,456
Total	195,625	170,654	150,129	20,525	24,971
Fuelwood					
Softwood	23	17	17	0	6
Hardwood	6,499	6,027	5,953	75	472
Total	6,522	6,045	5,970	75	477
All products					
Softwood	9,698	9,177	8,031	1,146	521
Hardwood	192,449	167,521	148,068	19,454	24,928
Total	202,147	176,699	156,099	20,600	25,448

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

Table 29—Total roundwood output by species group, survey region, and ownership class, Kentucky, 2001

Species group and survey region	Total	Ownership class		
		Public	Forest industry	Nonindustrial private
<i>thousand cubic feet</i>				
Softwoods				
Eastern	834	0	19	815
Northern Cumberland	555	26	0	529
Southern Cumberland	2,636	78	0	2,558
Bluegrass	2,240	15	0	2,225
Pennyroyal	2,233	8	0	2,225
Western Coalfield	652	0	0	652
Western	548	0	0	548
Total softwoods	9,698	127	19	9,552
Hardwoods				
Eastern	22,739	50	1,801	20,888
Northern Cumberland	21,704	683	0	21,021
Southern Cumberland	39,199	1,787	0	37,412
Bluegrass	10,670	365	0	10,305
Pennyroyal	48,641	1,286	3,109	44,246
Western Coalfield	38,767	416	0	38,351
Western	10,729	401	1,046	9,282
Total hardwoods	192,449	4,988	5,956	181,505
All species	202,147	5,115	5,975	191,057

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

Table 30—Total roundwood output by species group, detailed species group, and product, Kentucky, 2001

Species group and detailed species group	Product						
	Total	Saw log	Veneer	Pulpwood	Poles and posts	Other miscellaneous	Fuel- wood
<i>thousand cubic feet</i>							
Softwood							
Cedar	575	452	0	0	21	100	2
White pine	65	64	0	0	1	0	0
Loblolly-shortleaf pine	797	317	0	136	45	298	1
Other yellow pines	8,097	5,053	88	937	288	1,712	19
Hemlock	164	56	0	1	1	105	1
Total softwoods	9,698	5,942	88	1,074	356	2,215	23
Hardwood							
Soft maple	6,165	5,215	80	578	0	84	208
Hard maple	5,447	4,170	46	669	0	378	184
Other birch	1,472	921	57	321	0	124	50
Hickory	21,150	16,953	952	1,385	0	1,146	714
Beech	7,086	5,468	267	583	0	530	239
Ash	4,592	3,588	232	517	0	100	154
Black walnut	2,342	1,990	89	125	0	59	79
Sweetgum	4,267	3,040	75	999	0	9	144
Yellow-poplar	25,539	18,942	1,059	1,809	0	2,868	862
Blackgum-tupelo	1,519	1,201	61	111	0	95	51
Sycamore	1,122	922	37	83	0	41	38
Cottonwood	721	527	19	151	0	0	24
Black cherry	1,127	873	45	170	0	1	38
Select white oaks	26,732	22,181	957	1,467	0	1,225	903
Other white oaks	13,849	11,165	497	642	0	1,077	468
Select red oaks	13,726	10,524	742	1,400	0	597	463
Other red oaks	38,056	28,930	1,939	3,493	0	2,409	1,286
Basswood	2,039	1,455	84	121	0	309	69
Elm	3,516	2,752	111	529	0	5	119
Other Eastern hardwoods	11,982	8,937	1,182	869	0	587	407
Total hardwoods	192,449	149,754	8,529	16,022	0	11,645	6,499
All species	202,147	155,696	8,617	17,096	356	13,860	6,522

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

Table 31—Total roundwood output by species group, detailed species group, and ownership class, Kentucky, 2001

Species group and detailed species group	Total	Ownership class		
		Public	Forest industry	Nonindustrial private
<i>thousand cubic feet</i>				
Softwood				
Cedar	575	23	0	552
White pine	65	8	0	58
Loblolly-shortleaf pine	797	27	9	761
Other yellow pines	8,097	64	10	8,023
Hemlock	164	6	0	158
Total softwoods	9,698	127	19	9,552
Hardwood				
Soft maple	6,165	70	216	5,878
Hard maple	5,447	136	633	4,678
Other birch	1,472	73	0	1,399
Hickory	21,150	762	374	20,013
Beech	7,086	242	348	6,496
Ash	4,592	100	0	4,492
Black walnut	2,342	34	4	2,303
Sweetgum	4,267	63	0	4,205
Yellow-poplar	25,539	448	664	24,428
Blackgum-tupelo	1,519	30	52	1,437
Sycamore	1,122	23	0	1,099
Cottonwood	721	0	0	721
Black cherry	1,127	29	33	1,065
Select white oaks	26,732	724	1,103	24,905
Other white oaks	13,849	351	726	12,772
Select red oaks	13,726	446	242	13,038
Other red oaks	38,056	1,131	1,142	35,783
Basswood	2,039	14	232	1,793
Elm	3,516	53	13	3,450
Other Eastern hardwoods	11,982	259	174	11,549
Total hardwoods	192,449	4,988	5,956	181,505
All species	202,147	5,115	5,975	191,057

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



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

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Bentley, James W.; Lowe, Larry. 2004. Kentucky's timber industry—an assessment of timber product output and use, 2001. Resour. Bull. SRS-90. Asheville, NC: U.S. Department of Agriculture, Forest Service, Southern Research Station. 45 p.

In 2001, roundwood output from Kentucky's forests totaled 196 million cubic feet, 11 percent less than in 1999. Mill byproducts generated from primary manufacturers decreased 18 percent to 89 million cubic feet. Ninety-four percent of plant residues were used, primarily for miscellaneous and fiber products. Saw logs were the leading roundwood product at 156 million cubic feet; pulpwood ranked a distant second at 17 million cubic feet; other industrial products were third at 14 million cubic feet. The number of primary processing plants declined from 348 in 1999 to 337 in 2001. Total receipts decreased 7 percent to 220 million cubic feet.

Keywords: Pulpwood, residues, roundwood, saw logs, veneer logs, wood movement.

United States
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Forest Service

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