

United States
Department of
Agriculture

Forest Service

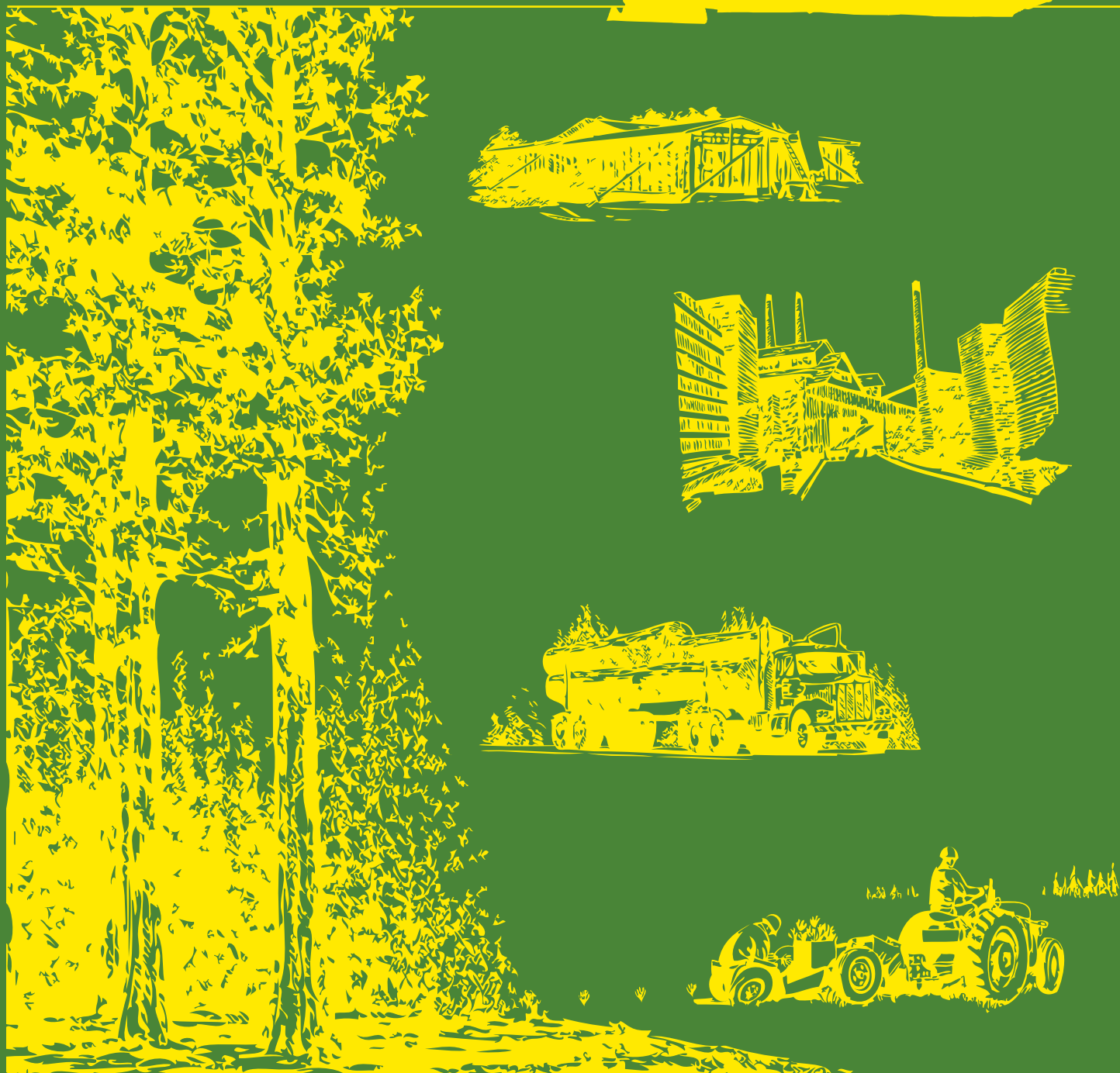


Southern
Research Station

Resource Bulletin
SRS-177

Kentucky's Timber Industry— An Assessment of Timber Product Output and Use, 2009

Jason A. Cooper,
Tony G. Johnson, and
Christopher G. Nevins

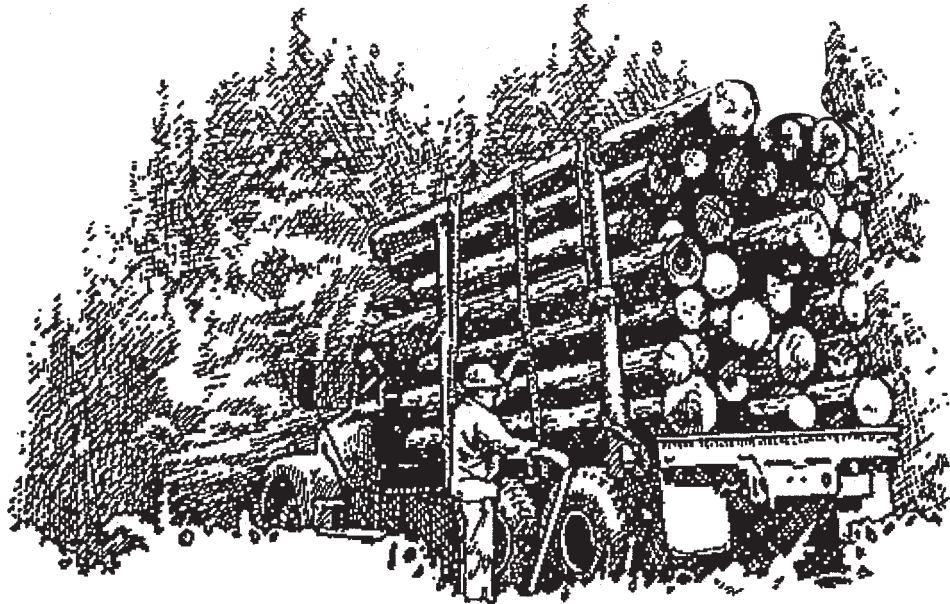


The Authors:

Jason A. Cooper, Forester, U.S. Forest Service,
Southern Research Station, Knoxville, TN 37919;

Tony G. Johnson, Forester, U.S. Forest Service,
Southern Research Station, Asheville, NC 28804; and

Christopher G. Nevins, Forester, Kentucky Division
of Forestry, Frankfort, KY 40601.



June 2011

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

Foreword

This report contains the findings of a 2009 canvass of all primary wood-using plants in Kentucky, and presents changes in product output and residue use since 2007. It complements the Forest Inventory and Analysis annual 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 2009 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 certain wood processors in Kentucky was conducted in 2010 to obtain information for 2009. 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 Southern Research Station (SRS) gratefully acknowledges the cooperation and assistance provided by the Kentucky Division of Forestry in collecting mill data. Appreciation is also extended to forest industry and mill managers for providing timber products information.

The authors thank Larry Lowe, Amos Stone, and Christopher Oswalt for review and comments; Carolyn Steppleton, Michael Howell, and James Bentley for their tireless efforts in processing and accuracy of the data; Helen Beresford for timber product output database maintenance and support; Anne Jenkins, Janet Griffin, Sharon Johnson, and Charlene Walker for tables, graphs, statistical checking, and styling; and the SRS Technical Publications Team for editorial review and publication of this report.



Timber Product Output Database Retrieval System

The Forest Inventory and Analysis (FIA) Research Work Unit of the USDA Forest Service developed the Timber Product Output (TPO) Database Retrieval System to help customers answer questions about timber harvesting and use in the Southern Region. This system acts as an interface to a standard set of consistently coded TPO data for each State and county in the region and Nation. This regional and national set of TPO data consists of 11 variables that describe for each county the roundwood products harvested, logging residues left in the woods, other timber removals (i.e. land clearing and reserved timber removals), and wood and bark residues generated by the county's primary wood-using mills. The system is available through the FIA Web site: <http://srsfia2.fs.fed.us/>.

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

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

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

Tony Johnson
Southern Research Station
USDA Forest Service
200 W.T. Weaver Blvd.
Asheville, NC 28804
tjohnson09@fs.fed.us
828-257-4888

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

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

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

Contents

	<i>Page</i>
Output of Industrial Timber Products	1
All Products	1
Saw Logs	2
Pulpwood	3
Veneer Logs	3
Other Industrial Products	3
Plant Byproducts	5
County Data	6
Total Roundwood Output	6
Source	6
Ownership	6
Species	6
References	7
Glossary	9
Conversion Factors	12
Species List	13
Appendix	15
Index of Tables	17
Tables A.1–A.17 ^a	18

^a All tables in this report are available in Microsoft® Excel workbook files. Upon request, these files will be supplied in the format the customer requests. The use of trade or firm names in this publication is for reader information and does not imply endorsement by the U.S. Department of Agriculture of any product or service.

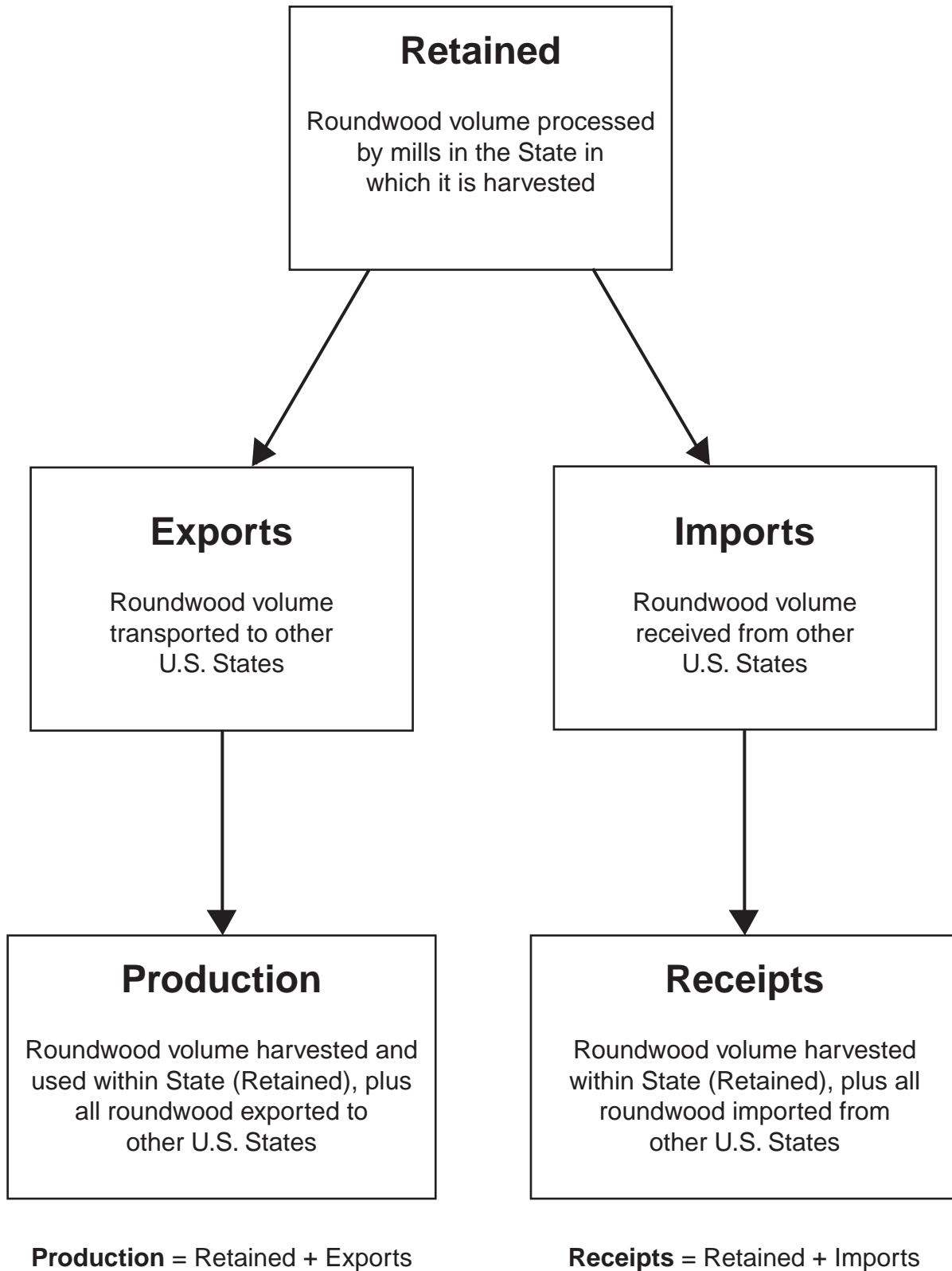


Figure 1—Movement of roundwood exports and imports within the United States.

Kentucky's Timber Industry— An Assessment of Timber Product Output and Use, 2009

Jason A. Cooper, Tony G. Johnson, and Christopher G. Nevins

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). Unless otherwise indicated, the context for production and receipts comparisons (increases, decreases, or stabilizations) throughout the report is the change from 2007 to 2009.

All Products

- Between 2007 and 2009, TPO from roundwood was down 49.4 million cubic feet, or 27 percent, to 136.3 million cubic feet.
- Output of hardwood roundwood products decreased 27 percent to 126.5 million cubic feet, while output of

softwood roundwood products was down 14 percent to 9.9 million cubic feet (fig. 2).

- Saw logs and pulpwood were the principal roundwood products in 2009. Combined output of these products totaled 130.5 million cubic feet and accounted for 96 percent of Kentucky's total roundwood output (fig. 3).
- Total receipts at Kentucky mills, which included roundwood harvested and retained in the State, as well as roundwood imported from other States, declined 27 percent to 146.7 million cubic feet, while output of utilized plant byproducts decreased 23.5 million cubic feet to 64.9 million cubic feet.
- At the same time, the number of primary roundwood-using plants in Kentucky declined from 253 in 2007 to 225 in 2009 (fig. 4).

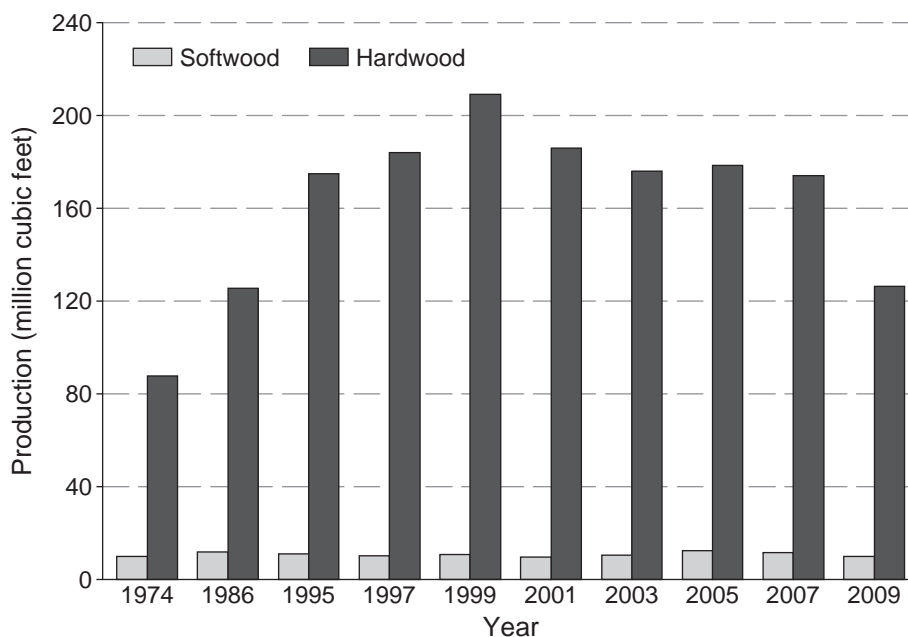


Figure 2—Roundwood production for all products by species group and year (see page 7 for references for individual years), Kentucky.

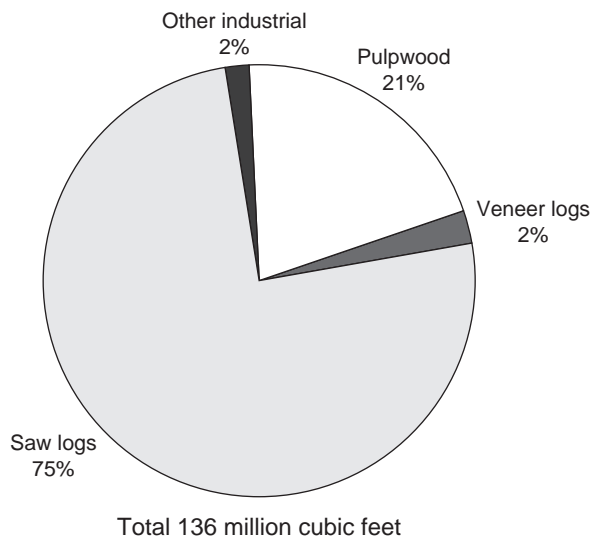


Figure 3—Roundwood production by type of product, Kentucky, 2009.

- Across all products, 85 percent of roundwood harvested was retained for processing at Kentucky mills. Exports of roundwood to other States amounted to 20.8 million cubic feet, while imports of roundwood amounted to 31.1 million cubic feet making the State a net importer of roundwood. Tables A.8 to A.10 show exports to and imports from other States by individual product type.

Saw Logs

- At 102.6 million cubic feet, saw logs accounted for 75 percent of the State’s total roundwood products. Output of hardwood saw logs decreased 29 percent to 99.9 million cubic feet (609.2 million board feet, International ¼-inch rule), while that of softwood saw logs decreased 34 percent to 2.8 million cubic feet (15.3 million board feet, International ¼-inch rule) (fig. 5).
- In 2009, Kentucky had 217 sawmills, a net loss of 24 mills since 2007. Total saw-log receipts were down 40.3 million cubic feet to 99.9 million cubic feet. Sawmill volume accounted for 68 percent of the State’s total receipts for all mills. Hardwood saw-log receipts declined by 29 percent to 96.9 million cubic feet while those of softwoods were down 28 percent to 3.0 million cubic feet.
- Of the operating mills, 43 percent had receipts of <1 million board feet, 40 percent had receipts of between 1 and 4.99 million board feet, while 17 percent had receipts of >5 million board feet. Those 38 mills accounted for 60 percent of total saw-log receipts.
- Kentucky retained 91 percent of its saw-log production for manufacture in State; saw-log exports exceeded imports by 2.7 million cubic feet in 2009.

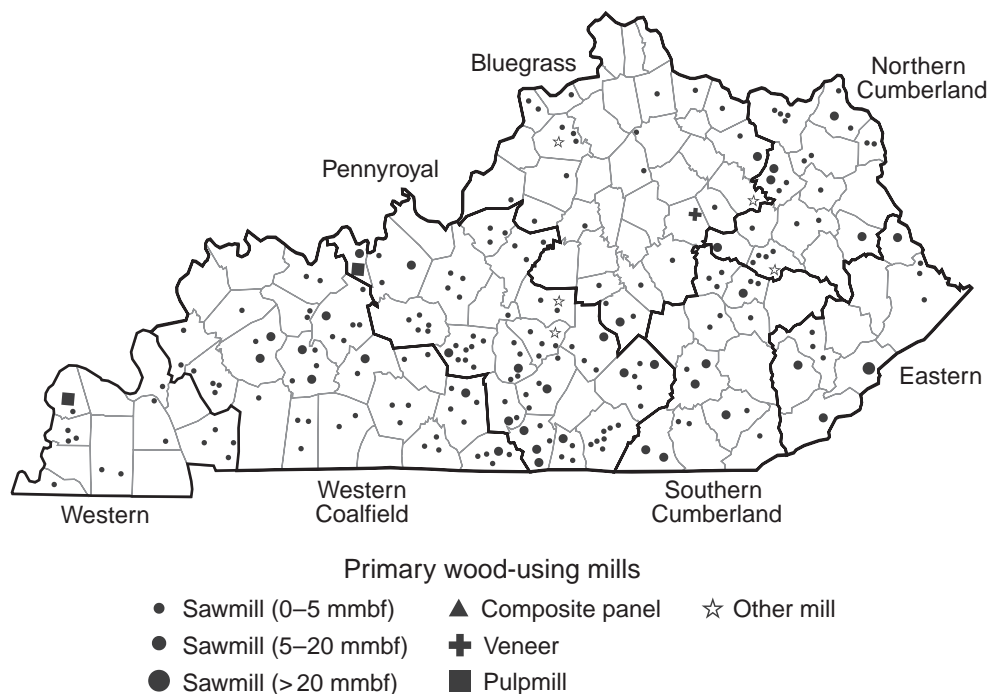


Figure 4—Primary wood-using mills by region, Kentucky, 2009.

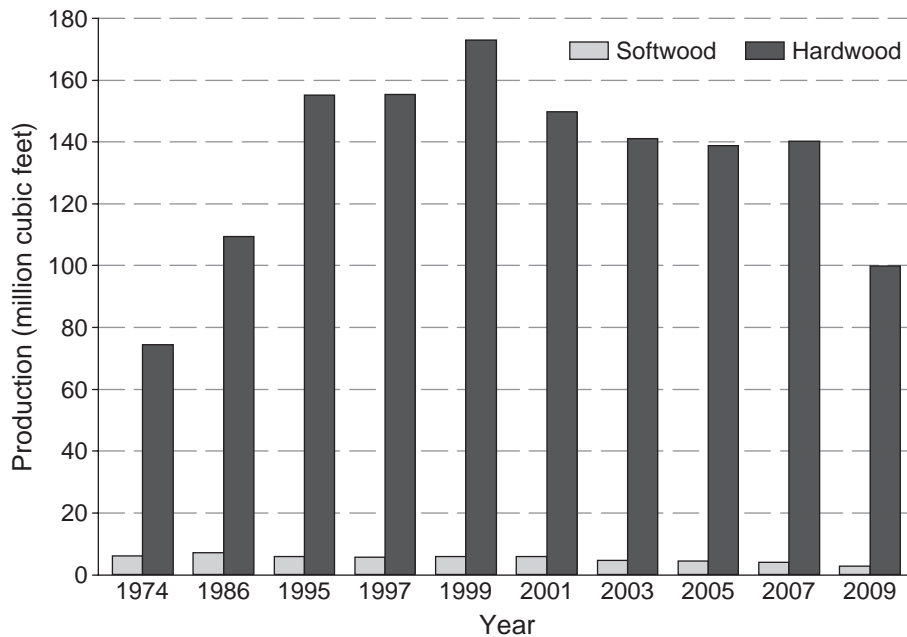


Figure 5—Roundwood saw-log production by species group and year (see page 7 for references for individual years), Kentucky.

Pulpwood

- Total pulpwood production, including chipped roundwood, increased 3.3 million cubic feet to 27.9 million cubic feet and accounted for 21 percent of the State's total roundwood TPO. Hardwood output increased 1.7 million cubic feet to 22.1 million cubic feet (291,000 cords); softwood output increased 1.6 million cubic feet to 5.8 million cubic feet (79,000 cords) (fig. 6).
- Two pulpmill facilities were operating and receiving roundwood in Kentucky in 2009, the same as in 2007. Total pulpwood receipts for these mills declined 16 percent, or 8.1 million cubic feet, to 43.3 million cubic feet, accounting for 30 percent of total receipts for all mills.
- Seventy percent of roundwood cut for pulpwood was retained for processing at Kentucky pulpmills. Roundwood pulpwood accounted for 40 percent of total known exports and 76 percent of total imports. Roundwood pulpwood imports amounted to 23.8 million cubic feet, while exports amounted to 8.4 million cubic feet, making the State a net importer of pulpwood.

Veneer Logs

- Output of veneer logs was down 49 percent in 2009 and totaled 3.4 million cubic feet (21.2 million board feet, International ¼-inch rule), 99.9 percent of which was hardwood (fig. 7). Veneer-log production accounted for 2 percent of the State's total roundwood TPO volume.
- With only one veneer mill operating in Kentucky receipt volume could not be shown. Imports and exports of veneer volume are incorporated into the other industrial product volume.

Other Industrial Products

- Roundwood harvested for other industrial uses, such as poles, posts, mulch, firewood, and all other industrial products, totaled 2.4 million cubic feet and accounted for nearly 2 percent of the State's total TPO. Hardwood other industrial products totaled 1.1 million cubic feet in 2009, while softwood other industrial output totaled 1.3 million cubic feet.

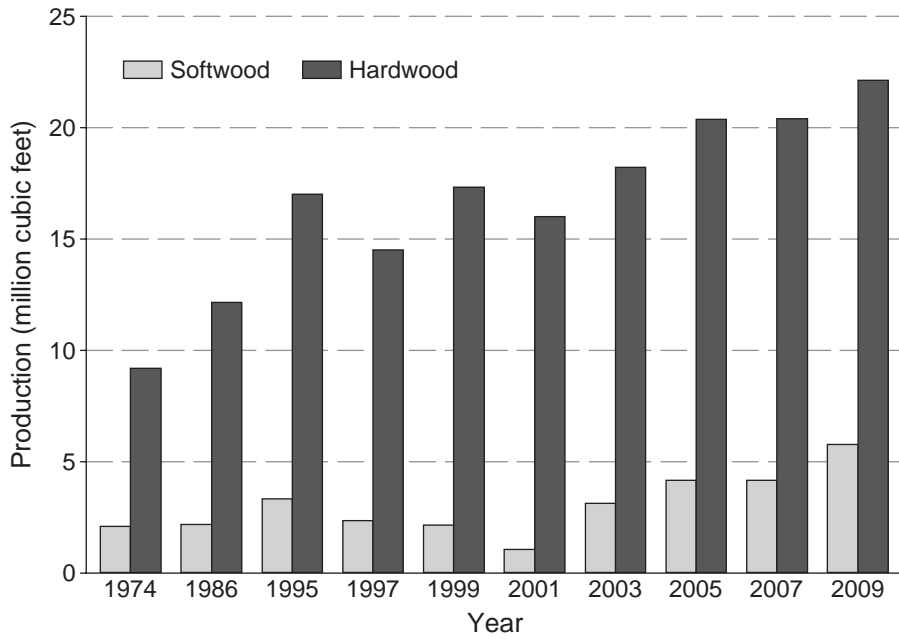


Figure 6—Roundwood pulpwood production by species group and year (see page 7 for references for individual years), Kentucky.

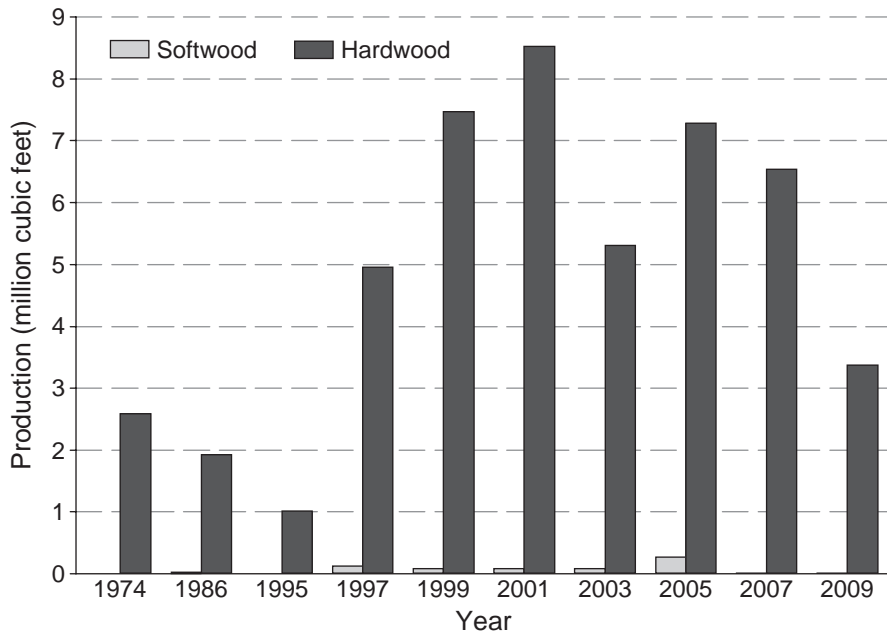


Figure 7—Roundwood veneer-log production by species group and year (see page 7 for references for individual years), Kentucky.

- Five facilities, two post mills and three shavings mills, were operating and receiving roundwood in Kentucky in 2009, one less than in 2007. Total other industrial receipts for these mills and the one veneer mill declined 58 percent, or 4.8 million cubic feet, to 3.5 million cubic feet, and accounted for 2 percent of total receipts for all mills.
- Forty-nine percent of roundwood cut for other industrial products was retained for processing at Kentucky mills. Roundwood for other industrial imports amounted to 627,000 cubic feet, while exports amounted to 3.0 million cubic feet, making the State a net exporter of other industrial products and veneer volume.

Plant Byproducts

- In 2009, processing of primary products in Kentucky mills generated 65.4 million cubic feet of wood and bark residues. Coarse residues from all primary products amounted to 29.2 million cubic feet, and bark volume totaled 15.7 million cubic feet. Sawdust and shavings made-up 31 percent of total residues, or 20.5 million cubic feet (fig. 8).
- The processing of saw logs at sawmills generated 59.7 million cubic feet of mill residues, accounting for 91 percent of the total residues produced (fig. 9).

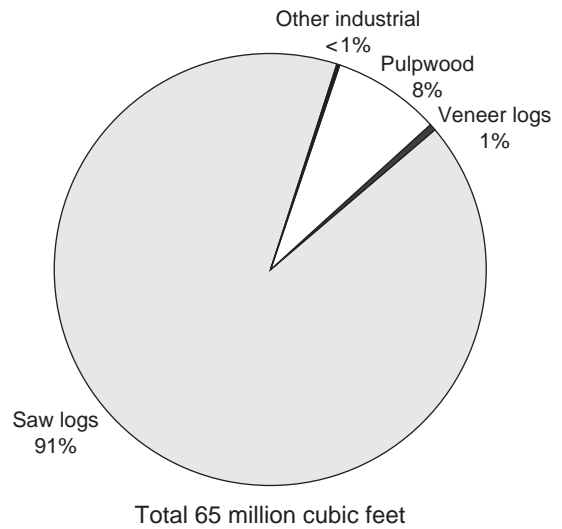


Figure 9—Primary mill residue produced by roundwood type, Kentucky, 2009.

- Ninety-nine percent of the wood and bark residues were used for a product, with 30 percent of the residues used for industrial fuel (fig. 10). Nearly 13.9 million cubic feet, or 48 percent, of the coarse residues were used to manufacture fiber products. Most of the bark was used for other miscellaneous products (41 percent) or industrial fuel (45 percent), and 47 percent of the sawdust and shavings were used for fuel.

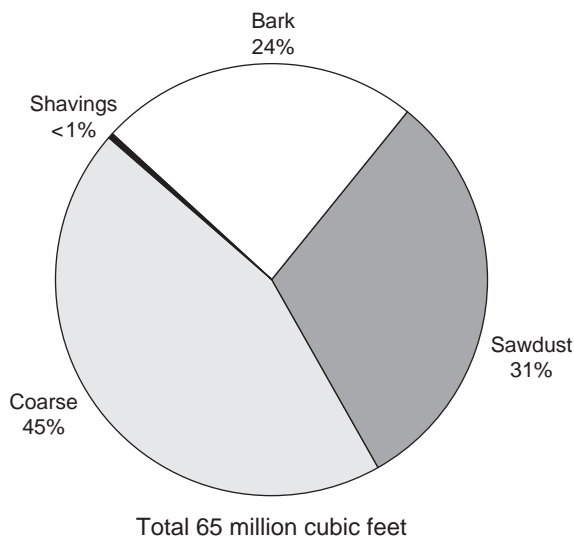


Figure 8—Primary mill residue by residue type, Kentucky, 2009.

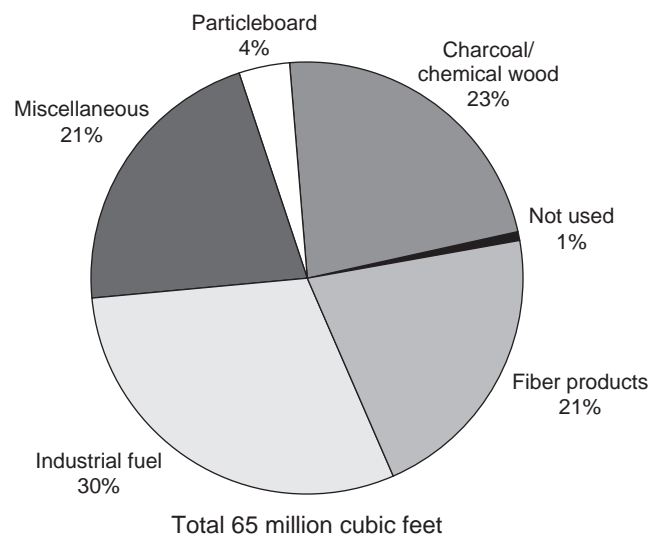


Figure 10—Disposal of residue by product, Kentucky, 2009.

County Data

- Table A.13 shows softwood and hardwood product output by county and individual product type. Eleven counties (Breckinridge, Casey, Cumberland, Greenup, Hopkins, Knox, Laurel, Lewis, Ohio, Pike, and Pulaski) had combined softwood and hardwood product output of >2.5 million cubic feet each. These 11 counties total product output amounted to nearly 45.8 million cubic feet and accounted for 34 percent of the State’s total product output.

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 136.3 million cubic feet of roundwood output for industrial roundwood, an estimated 30.1 million cubic feet were harvested for residential fuelwood, bringing Kentucky’s total roundwood output to 166.4 million cubic feet.
- Ninety-two percent of total roundwood output was considered growing-stock volume (sawtimber and pole-timber) from timberland sources. Other sources (such as saplings; stumps, tops, and limbs of trees on timberland; and trees on nonforest land) contributed an estimated 13.9 million cubic feet, or 8 percent of total roundwood output (fig. 11).

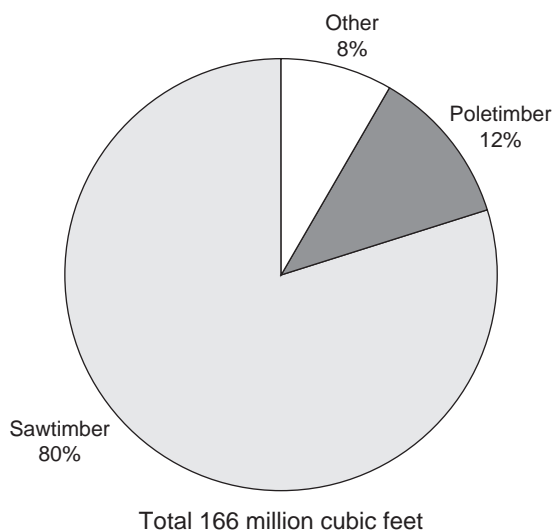


Figure 11—Roundwood output by source, Kentucky, 2009.

Ownership

- An estimated 158.0 million cubic feet, or 95 percent, of the total roundwood output in 2009 came from nonindustrial private forest lands. Forest industry lands contributed 5.8 million cubic feet, or 3 percent of the output. Public lands made-up the remaining 2 percent, or 3.0 million cubic feet (fig. 12).

Species

- The red oak and white oak groups combined accounted for 76.1 million cubic feet, or 49 percent of total hardwood output (fig. 13). Yellow-poplar and hickory accounted for 14 and 10 percent, respectively, of the total hardwood output. Other yellow pines provided more volume than any other softwood species group, accounting for 95 percent of the total softwood output (fig. 14). The loblolly-shortleaf pine type accounted for 3 percent of the softwood output.

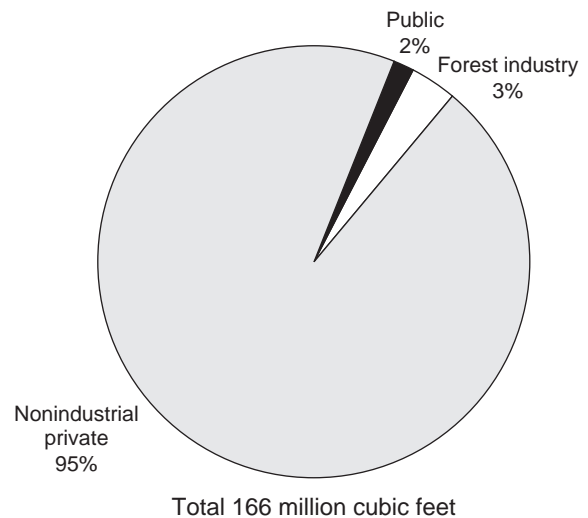


Figure 12—Roundwood output by ownership, Kentucky, 2009.

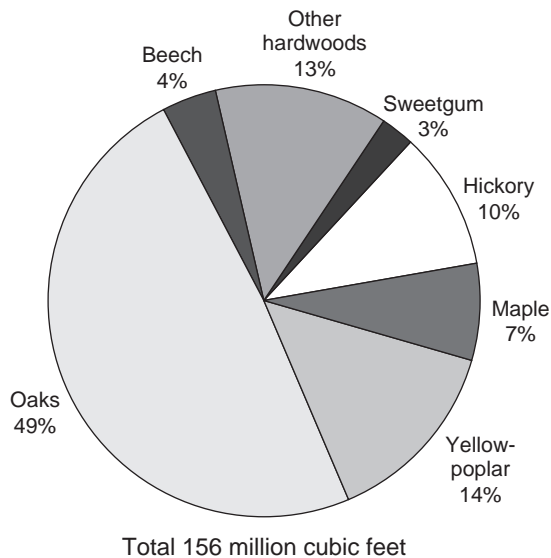


Figure 13—Roundwood output by hardwood species group, Kentucky, 2009.

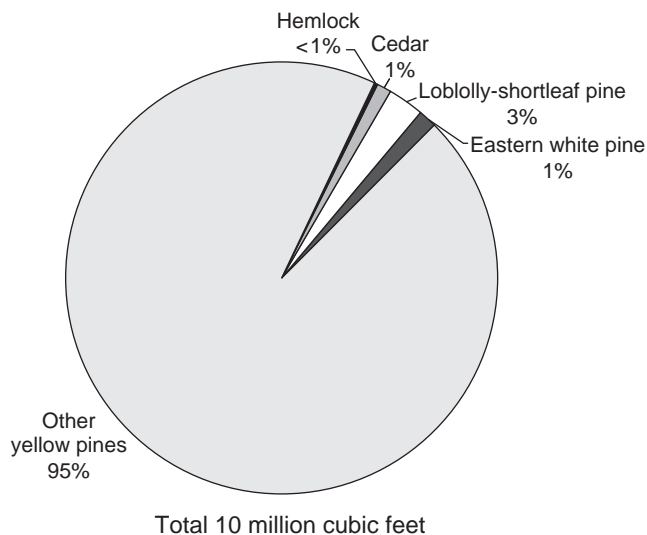


Figure 14—Roundwood output by softwood species group, Kentucky, 2009.

References

- Alerich, C.L. 1990. Forest statistics for Kentucky—1975 and 1988. Resour. Bull. NE-117. Radnor, PA: U.S. Department of Agriculture Forest Service, Northeastern Forest Experiment Station. 295 p. [1986].
- Bentley, J.W.; Lowe, L. 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. [2001].
- Bentley, J.W.; Lowe, L. 2006. Kentucky's timber industry—an assessment of timber product output and use, 2003. Resour. Bull. SRS-105. Asheville, NC: U.S. Department of Agriculture Forest Service, Southern Research Station. 50 p. [2003].
- Bentley, J.W.; Lowe, L. 2007. Kentucky's timber industry—an assessment of timber product output and use, 2005. Resour. Bull. SRS-124. Asheville, NC: U.S. Department of Agriculture Forest Service, Southern Research Station. 32 p. [2005].
- Bones, J.T.; Lohr, C.J. 1977. The timber industries of Kentucky. Resour. Bull. NE-50. Upper Darby, PA: U.S. Department of Agriculture Forest Service, Northeastern Forest Experiment Station. 26 p. [1974].
- Johnson, T.G.; Jenkins, A.; Lowe, L. 1997. Kentucky's timber industry—an assessment of timber product output and use, 1995. Resour. Bull. SRS-20. Asheville, NC: U.S. Department of Agriculture Forest Service, Southern Research Station. 33 p. [1995].
- Johnson, T.G.; Lowe, L. 2002. Kentucky's timber industry—an assessment of timber product output and use, 1999. Resour. Bull. SRS-71. Asheville, NC: U.S. Department of Agriculture Forest Service, Southern Research Station. 45 p. [1999].
- Little, E.L., Jr. 1979. Checklist of United States trees (native and naturalized). Agric. Handb. 541. Washington, DC: U.S. Department of Agriculture. 375 p.
- Mathison, R.M.; Nevins, C.G. 2009. Kentucky's timber industry—an assessment of timber product output and use, 2007. Resour. Bull. SRS-154. Asheville, NC: U.S. Department of Agriculture Forest Service, Southern Research Station. 31 p. [2007].
- Stratton, D.; Lowe, L. 1999. Kentucky's timber industry—an assessment of timber product output and use, 1997. Resour. Bull. SRS-40. Asheville, NC: U.S. Department of Agriculture Forest Service, Southern Research Station. 40 p. [1997].

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.

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 , 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 U.S. 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 portion of trees cut or destroyed during logging operations.

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

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

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

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

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

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

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

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

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

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

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

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

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

Corporate. Owned by corporations, including incorporated farm ownerships.

Individual. All lands owned by individuals, including farm operators.

Other public. An ownership class that includes all public lands except national forests.

Miscellaneous Federal land. Federal land other than national forests.

State, county, and municipal land. Land owned by States, counties, and local public agencies or municipalities, or land leased to these governmental units for 50 years or more.

Plant residues. Wood material generated in the production of timber products at primary manufacturing plants.

Coarse residues. Material, such as slabs, edgings, trim, veneer cores and ends, which is suitable for chipping.

Fine residues. Material, such as sawdust, shavings, and veneer residue, which is not suitable for chipping.

Plant byproducts. Residues (coarse or fine) used in the further manufacture of industrial products for consumer use, or as fuel.

Unused plant residues. Residues (coarse or fine) that are not used for any product, including fuel.

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

Posts, poles, and pilings. Roundwood products milled (cut or peeled) into standard sizes (lengths and circumferences) to be put in the ground to provide vertical and lateral support in buildings, foundations, utility lines, and fences. May also include nonindustrial (unmilled) products.

Primary wood-using plants. Industries that convert roundwood products (saw logs, veneer logs, pulpwood, etc.) into primary wood products, such as lumber, veneer or sheathing, wood pulp.

Production. The total volume of known roundwood harvested from land within a State, regardless of where it is consumed. Production is the sum of timber harvested and used within a State, and all roundwood exported to other States.

Pulpwood. A roundwood product that will be reduced to individual wood fibers by chemical or mechanical means. The fibers are used to make a broad generic group of pulp products that includes paper products, as well as fiberboard, insulating board, and paperboard.

Receipts. The quantity or volume of industrial roundwood received at a mill or by a group of mills in a State, regardless of the geographic source. Volume of roundwood receipts is equal to the volume of roundwood retained in a State plus roundwood imported from other States.

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

Retained. Roundwood volume harvested from and processed by mills within the same State.

Rotten trees. Live trees of commercial species not containing at least one 12-foot saw log, or two noncontiguous saw logs, each 8 feet or longer, now or prospectively, primarily because of rot or missing sections, and with less than one-third of the gross board-foot tree volume in sound material.

Rough trees. Live trees of commercial species not containing at least one 12-foot saw log, or two noncontiguous saw logs, each 8 feet or longer, now or prospectively, primarily because of roughness, poor form, splits, and cracks, and with less than one-third of the gross board-foot tree volume in sound material; and live trees of noncommercial species.

Roundwood (roundwood logs). Logs, bolts, or other round sections cut from trees for industrial manufacture or consumer uses.

Roundwood chipped. Any timber cut primarily for industrial manufacture, delivered to nonpulpmills, chipped, and then sold to pulpmills for use as fiber. Includes tops, jump sections, whole trees, and pulpwood sticks.

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

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

Salvable dead trees. Standing or downed dead trees that were formerly growing stock and considered merchantable. Trees must be at least 5.0 inches d.b.h. to qualify.

Saplings. Live trees 1.0 to 5.0 inches d.b.h.

Saw log. A roundwood product, usually 8 feet in length or longer, processed into a variety of sawn products such as lumber, cants, pallets, railroad ties, and timbers.

Saw-log portion. The part of the bole of sawtimber trees between a 1-foot stump and the saw-log top.

Saw-log top. The point on the bole of sawtimber trees above which a conventional saw log cannot be produced. The minimum saw-log top is 7.0 inches d.o.b. for softwoods and 9.0 inches d.o.b. for hardwoods for FIA standards.

Sawtimber-size trees. Softwoods 9.0 inches d.b.h. and larger and hardwoods 11.0 inches d.b.h. and larger.

Sawtimber volume. Growing-stock volume in the saw-log portion of sawtimber-sized trees in board feet (International ¼-inch rule).

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

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

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

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

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

Standard unit. A unit measure applied to roundwood timber products. Board feet (International ¼-inch rule) is the standard unit used for saw logs and veneer; cords are used for pulpwood, composite panel, and fuelwood; hundred pieces for poles; thousand pieces for posts; and thousand cubic feet for all other miscellaneous forest products.

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

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

Timber products. Roundwood products and byproducts.

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

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

Upper-stem portion. The part of the main stem of 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.

Species List^a

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

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

^b Little (1979).

Appendix

Index of Tables

Table A.1—Output of industrial products by product and species group, Kentucky, 2007 and 2009

Table A.2—Roundwood receipts by product and species group, Kentucky, 2007 and 2009

Table A.3—Number of primary wood-using plants by type of mill, Kentucky, 1969 to 2009

Table A.4—Roundwood receipts by sawmill size, Kentucky, 2007 and 2009

Table A.5—Roundwood receipts by species and type of mill, Kentucky, 2009

Table A.6—Industrial roundwood movement by year and species group, Kentucky, 2007 and 2009

Table A.7—Industrial roundwood movement by product and species group, Kentucky, 2009

Table A.8—Saw-log volume by destination, source, and species group, Kentucky, 2009

Table A.9—Pulpwood volume by destination, source, and species group, Kentucky, 2009

Table A.10—Other industrial volume by destination, source, and species group, Kentucky, 2009

Table A.11—Primary mill residue volume by roundwood type, species group, and residue type, Kentucky, 2009

Table A.12—Disposal of residue at primary wood-using plants by product, species group, and type of residue, Kentucky, 2007 and 2009

Table A.13—Roundwood timber product output by county, product, and species group, Kentucky, 2009

Table A.14—Total roundwood output by product, species group, and source of material, Kentucky, 2009

Table A.15—Total roundwood output by species group, survey region, and ownership class, Kentucky, 2009

Table A.16—Total roundwood output by species group, detailed species group, and product, Kentucky, 2009

Table A.17—Total roundwood output by species group, detailed species group, and ownership class, Kentucky, 2009

Table A.1—Output of industrial products by product and species group, Kentucky, 2007 and 2009

Product and species group	Year		Change	Change
	2007	2009		
	<i>----- thousand cubic feet -----</i>			<i>percent</i>
Saw logs				
Softwood	4,164	2,754	-1,410	-33.9
Hardwood	140,254	99,861	-40,393	-28.8
Total	144,418	102,615	-41,803	-28.9
Veneer logs				
Softwood	7	3	-4	-57.1
Hardwood	6,538	3,369	-3,169	-48.5
Total	6,545	3,372	-3,173	-48.5
Pulpwood ^a				
Softwood	4,187	5,788	1,601	38.2
Hardwood	20,420	22,139	1,719	8.4
Total	24,607	27,927	3,320	13.5
Composite panels				
Softwood	1,929	0	-1,929	-100.0
Hardwood	6,946	0	-6,946	-100.0
Total	8,875	0	-8,875	-100.0
Other industrial				
Softwood	1,251	1,332	81	6.5
Hardwood	0	1,092	1,092	100.0
Total	1,251	2,424	1,173	93.8
All industrial				
Softwood	11,538	9,877	-1,661	-14.4
Hardwood	174,158	126,461	-47,697	-27.4
Total	185,696	136,338	-49,358	-26.6

^a Includes roundwood delivered to nonpulp mills, then chipped and sold to pulpmills (140,000 cubic feet in 2007 and 88,000 cubic feet in 2009).

Table A.2—Roundwood receipts by product and species group, Kentucky, 2007 and 2009

Product and species group	Year		Change	Change
	2007	2009		
	----- thousand cubic feet -----			percent
Saw logs				
Softwood	4,225	3,054	-1,171	-27.7
Hardwood	135,976	96,886	-39,090	-28.7
Total	140,201	99,940	-40,261	-28.7
Pulpwood ^a				
Softwood	2,454	6,260	3,806	155.1
Hardwood	48,893	37,021	-11,872	-24.3
Total	51,347	43,281	-8,066	-15.7
Other industrial ^b				
Softwood	1,266	1,581	315	24.9
Hardwood	7,006	1,870	-5,136	-73.3
Total	8,272	3,451	-4,821	-58.3
Total output				
Softwood	7,945	10,895	2,950	37.1
Hardwood	191,875	135,777	-56,098	-29.2
Total	199,820	146,672	-53,148	-26.6

^a Includes roundwood delivered to nonpulp mills, then chipped and sold to pulpmills (143,000 cubic feet in 2007 and 93,000 cubic feet in 2009).

^b Includes poles, posts, pilings, veneer, and all other industrial products.

Table A.3—Number of primary wood-using plants by type of mill, Kentucky, 1969 to 2009

Type of mill	Year										
	1969	1974	1986	1995	1997	1999	2003	2005	2005	2007	2009
	number										
Sawmills	538	388	408	376	365	330	317	282	277	241	217
Veneer or plywood mills	4	4	3	3	4	3	3	3	3	3	1
Pulpmills	2	2	2	2	2	2	2	2	2	2	2
Composite panel mills	0	0	0	1	1	1	1	1	1	1	0
Other mills	45	26	22	19	19	12	14	9	9	6	5
All plants	589	420	435	401	391	348	337	297	292	253	225

Table A.4—Roundwood receipts by sawmill size, Kentucky, 2007 and 2009

Sawmill size class ^a	2007			2009		
	Mills	Volume		Mills	Volume	
	<i>number</i>	<i>mbf</i>	<i>percent</i>	<i>number</i>	<i>mbf</i>	<i>percent</i>
< 1.0	94	26,709	3	93	23,730	4
1.0–4.99	101	286,706	34	86	219,271	36
5.0–9.99	26	177,080	21	24	163,326	27
> 10	20	362,138	42	14	201,800	33
Total	241	852,633	100	217	608,127	100

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

Table A.5—Roundwood receipts by species and type of mill, Kentucky, 2009

Species	All mills	Type of mill		
		Sawmills	Pulpmills ^a	Other mills ^b
<i>thousand cubic feet</i>				
Softwood				
Yellow pine	1,713	1,146	NA	567
White pine	446	436	NA	10
Cedar	1,983	1,212	NA	771
Cypress	38	38	NA	0
Other softwood	455	222	NA	233
Unclassified	6,260	0	6,260	0
Total softwoods	10,895	3,054	6,260	1,581
Hardwood				
Blackgum and tupelo	330	330	NA	0
Soft maple	2,465	2,465	NA	0
Sweetgum	780	780	NA	0
Yellow-poplar	19,094	18,759	NA	335
Other soft hardwood	4,192	4,192	NA	0
Hickory	6,171	6,047	NA	124
Red oak	23,844	22,964	NA	880
White oak	21,668	21,599	NA	69
Other hard hardwood	20,212	19,750	NA	462
Unclassified	37,021	0	37,021	0
Total hardwoods	135,777	96,886	37,021	1,870
All species	146,672	99,940	43,281	3,451

NA = not applicable.

^a Collected only by softwood and hardwood and includes roundwood chipped.

^b Includes poles, posts, pilings, veneer, and all other industrial products.

Table A.6—Industrial roundwood movement by year and species group, Kentucky, 2007 and 2009

Year	Production	Exported to other States	Retained	Imported from other States	Receipts
<i>thousand cubic feet</i>					
Softwood					
2007	11,538	5,392	6,146	1,799	7,945
2009	9,877	2,409	7,468	3,427	10,895
Hardwood					
2007	174,158	23,135	151,023	40,852	191,875
2009	126,461	18,405	108,056	27,721	135,777
All species					
2007	185,696	28,527	157,169	42,651	199,820
2009	136,338	20,814	115,524	31,148	146,672

Table A.7—Industrial roundwood movement by product and species group, Kentucky, 2009

Product and species group	Production	Exported to other States	Retained	Imported from other States	Receipts
<i>thousand cubic feet</i>					
Saw logs					
Softwood	2,754	113	2,641	413	3,054
Hardwood	99,861	9,305	90,556	6,330	96,886
Total	102,615	9,418	93,197	6,743	99,940
Pulpwood ^a					
Softwood	5,788	2,293	3,495	2,765	6,260
Hardwood	22,139	6,131	16,008	21,013	37,021
Total	27,927	8,424	19,503	23,778	43,281
Other industrial ^b					
Softwood	1,335	3	1,332	249	1,581
Hardwood	4,461	2,969	1,492	378	1,870
Total	5,796	2,972	2,824	627	3,451
All products					
Softwood	9,877	2,409	7,468	3,427	10,895
Hardwood	126,461	18,405	108,056	27,721	135,777
Total	136,338	20,814	115,524	31,148	146,672

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

^b Includes poles, posts, pilings, veneer, and all other industrial products.

Table A.8—Saw-log volume by destination, source, and species group, Kentucky, 2009

Destination and source	All species	Species group	
		Softwood	Hardwood
<i>thousand cubic feet</i>			
Kentucky (retained)	93,197	2,641	90,556
Exports to			
Indiana	2,359	63	2,296
Missouri	611	0	611
Ohio	3,929	43	3,886
Tennessee	1,026	7	1,019
West Virginia	1,493	0	1,493
Total	9,418	113	9,305
Imports from			
Alabama	1	1	0
Illinois	111	29	82
Indiana	134	2	132
Maryland	13	0	13
Missouri	76	11	65
Ohio	2	2	0
Tennessee	5,526	368	5,158
Virginia	125	0	125
West Virginia	755	0	755
Total	6,743	413	6,330

Table A.9—Pulpwood volume by destination, source, and species group, Kentucky, 2009^a

Destination and source	All species	Species group	
		Softwood	Hardwood
<i>thousand cubic feet</i>			
Kentucky (retained)	19,503	3,495	16,008
Exports to			
Ohio	1,900	945	955
South Carolina	52	0	52
Tennessee	6,472	1,348	5,124
Total	8,424	2,293	6,131
Imports from			
Alabama	619	0	619
Arkansas	174	0	174
Illinois	1,010	518	492
Indiana	1,891	0	1,891
Mississippi	7,813	20	7,793
Missouri	2,676	263	2,413
Tennessee	9,595	1,964	7,631
Total	23,778	2,765	21,013

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

Table A.10—Other industrial volume by destination, source, and species group, Kentucky, 2009^a

Destination and source	All species	Species group	
		Softwood	Hardwood
<i>thousand cubic feet</i>			
Kentucky (retained)	2,824	1,332	1,492
Exports to			
Georgia	1,165	0	1,165
Indiana	296	1	295
Michigan	84	0	84
North Carolina	703	2	701
West Virginia	724	0	724
Total	2,972	3	2,969
Imports from			
Indiana	166	0	166
Michigan	109	0	109
New York	32	0	32
Ohio	8	0	8
Pennsylvania	41	0	41
Tennessee	251	249	2
Washington	2	0	2
West Virginia	18	0	18
Total	627	249	378

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

Table A.11—Primary mill residue volume by roundwood type, species group, and residue type, Kentucky, 2009

Roundwood type and species group	All types	Residue type			
		Bark	Coarse	Sawdust	Shavings
<i>thousand cubic feet</i>					
Saw logs					
Softwood	1,519	203	768	544	4
Hardwood	58,228	10,100	28,262	19,610	256
Total	59,747	10,303	29,030	20,154	260
Veneer logs					
Softwood	0	0	0	0	0
Hardwood	326	95	153	78	0
Total	326	95	153	78	0
Pulpwood					
Softwood	652	652	0	0	0
Hardwood	4,643	4,643	0	0	0
Total	5,295	5,295	0	0	0
Other industrial ^a					
Softwood	15	15	0	0	0
Hardwood	0	0	0	0	0
Total	15	15	0	0	0
Total					
Softwood	2186	870	768	544	4
Hardwood	63,197	14,838	28,415	19,688	256
Total	65,383	15,708	29,183	20,232	260

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

Table A.12—Disposal of residue at primary wood-using plants by product, species group, and type of residue, Kentucky, 2007 and 2009

Product and species group	All types		Bark		Coarse		Sawdust		Shavings	
	2007	2009	2007	2009	2007	2009	2007	2009	2007	2009
	<i>thousand cubic feet</i>									
Fiber products										
Softwood	190	92	0	0	190	92	0	0	0	0
Hardwood	19,801	13,795	0	0	19,801	13,795	0	0	0	0
Total	19,991	13,887	0	0	19,991	13,887	0	0	0	0
Particleboard										
Softwood	57	8	0	0	31	8	26	0	0	0
Hardwood	2,483	2,486	47	45	2,413	2,013	0	414	23	14
Total	2,540	2,494	47	45	2,444	2,021	26	414	23	14
Charcoal/ chemical wood										
Softwood	116	132	6	6	30	49	80	77	0	0
Hardwood	16,214	14,800	1,957	2,105	6,979	7,114	7,277	5,573	1	8
Total	16,330	14,932	1,963	2,111	7,009	7,163	7,357	5,650	1	8
Sawn products										
Softwood	4	0	0	0	4	0	0	0	0	0
Hardwood	43	0	0	0	43	0	0	0	0	0
Total	47	0	0	0	47	0	0	0	0	0
Industrial fuel										
Softwood	858	817	344	697	316	61	198	59	0	0
Hardwood	27,397	18,832	8,444	6,415	3,897	2,940	14,849	9,281	207	196
Total	28,255	19,649	8,788	7,112	4,213	3,001	15,047	9,340	207	196
Miscellaneous										
Softwood	1,686	1,086	326	159	789	525	563	398	8	4
Hardwood	19,633	12,897	10,929	6,206	3,648	2,334	4,816	4,319	240	38
Total	21,319	13,983	11,255	6,365	4,437	2,859	5,379	4,717	248	42
Not used										
Softwood	117	51	7	8	96	33	14	10	0	0
Hardwood	1,679	387	328	67	627	219	724	101	0	0
Total	1,796	438	335	75	723	252	738	111	0	0
All products										
Softwood	3,028	2,186	683	870	1,456	768	881	544	8	4
Hardwood	87,250	63,197	21,705	14,838	37,408	28,415	27,666	19,688	471	256
Total	90,278	65,383	22,388	15,708	38,864	29,183	28,547	20,232	479	260

Table A.13—Roundwood timber product output by county, product, and species group, Kentucky, 2009

County	All products		Saw logs		Veneer logs		Pulpwood ^a		Other industrial ^b	
	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	104	2,145	0	2,141	0	0	0	0	104	4
Allen	0	1,966	0	1,966	0	0	0	0	0	0
Anderson	70	43	70	43	0	0	0	0	0	0
Ballard	11	1,493	11	568	0	0	0	701	0	224
Barren	0	1,746	0	1,746	0	0	0	0	0	0
Bath	48	140	10	140	0	0	0	0	38	0
Bell	0	1,245	0	1,121	0	124	0	0	0	0
Boone	0	393	0	310	0	83	0	0	0	0
Bourbon	0	51	0	0	0	51	0	0	0	0
Boyd	6	735	6	518	0	217	0	0	0	0
Boyle	0	128	0	128	0	0	0	0	0	0
Bracken	10	777	10	777	0	0	0	0	0	0
Breathitt	36	1,042	35	899	0	143	0	0	1	0
Breckinridge	10	3,137	10	1,705	0	121	0	1,311	0	0
Bullitt	71	267	71	166	0	101	0	0	0	0
Butler	0	1,126	0	1,126	0	0	0	0	0	0
Caldwell	0	1,755	0	1,203	0	0	0	552	0	0
Calloway	800	243	0	113	0	0	800	130	0	0
Campbell	7	21	7	21	0	0	0	0	0	0
Carlisle	24	2,086	22	795	0	0	2	982	0	309
Carroll	0	104	0	104	0	0	0	0	0	0
Carter	102	2,065	91	1,836	0	195	11	34	0	0
Casey	170	4,473	0	4,473	0	0	0	0	170	0
Christian	940	1,604	0	1,547	0	0	940	57	0	0
Clay	0	482	0	482	0	0	0	0	0	0
Clinton	0	1,079	0	1,079	0	0	0	0	0	0
Crittenden	285	900	0	479	0	0	285	421	0	0
Cumberland	5	4,776	5	4,776	0	0	0	0	0	0
Daviess	22	1,146	4	1,131	0	0	18	15	0	0
Edmonson	37	868	37	868	0	0	0	0	0	0
Elliott	34	566	32	566	0	0	0	0	2	0
Estill	34	1,352	34	1,352	0	0	0	0	0	0
Fayette	0	44	0	0	0	44	0	0	0	0
Fleming	34	545	12	545	0	0	0	0	22	0
Floyd	6	1,074	6	1,074	0	0	0	0	0	0
Franklin	65	0	65	0	0	0	0	0	0	0
Fulton	11	222	9	155	0	0	2	67	0	0
Gallatin	0	312	0	312	0	0	0	0	0	0
Grant	28	224	23	224	0	0	0	0	5	0
Graves	78	897	33	542	0	0	45	355	0	0
Grayson	66	2,116	62	1,752	0	0	4	364	0	0
Green	94	785	47	781	0	0	0	0	47	4
Greenup	22	5,760	8	1,796	0	195	14	3,574	0	195
Hancock	4	614	4	614	0	0	0	0	0	0
Hardin	135	1,170	134	1,103	1	67	0	0	0	0
Harlan	0	2,359	0	2,242	0	117	0	0	0	0
Hart	129	1,863	129	1,863	0	0	0	0	0	0

continued

Table A.13—Roundwood timber product output by county, product, and species group, Kentucky, 2009 (continued)

County	All products		Saw logs		Veneer logs		Pulpwood ^a		Other industrial ^b	
	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>									
Henderson	0	47	0	47	0	0	0	0	0	0
Henry	116	13	93	13	0	0	0	0	23	0
Hickman	47	261	11	169	0	0	36	92	0	0
Hopkins	120	2,986	3	2,789	0	0	117	197	0	0
Jackson	24	744	24	744	0	0	0	0	0	0
Jefferson	10	25	10	25	0	0	0	0	0	0
Jessamine	0	50	0	0	0	50	0	0	0	0
Johnson	12	749	12	749	0	0	0	0	0	0
Kenton	0	269	0	269	0	0	0	0	0	0
Knott	0	179	0	179	0	0	0	0	0	0
Knox	10	3,596	8	1,036	0	93	2	2,467	0	0
Larue	116	578	3	578	0	0	0	0	113	0
Laurel	57	4,751	2	724	0	314	55	3,529	0	184
Lawrence	0	859	0	743	0	116	0	0	0	0
Lee	47	2,143	44	2,131	0	0	2	12	1	0
Leslie	19	2,054	19	1,885	0	169	0	0	0	0
Letcher	0	2,366	0	2,249	0	117	0	0	0	0
Lewis	15	3,653	9	3,147	0	0	6	506	0	0
Lincoln	13	500	13	500	0	0	0	0	0	0
Livingston	1,716	290	0	232	0	0	1,716	58	0	0
Logan	0	713	0	701	0	0	0	12	0	0
Lyon	125	616	0	442	0	0	125	174	0	0
Madison	12	33	12	33	0	0	0	0	0	0
Magoffin	27	797	27	797	0	0	0	0	0	0
Marion	240	675	13	675	0	0	0	0	227	0
Marshall	43	773	0	444	0	0	43	329	0	0
Martin	0	1,030	0	1,030	0	0	0	0	0	0
Mason	14	944	14	944	0	0	0	0	0	0
McCracken	0	173	0	150	0	0	0	23	0	0
McCreary	97	1,091	63	612	2	8	32	471	0	0
McLean	0	834	0	753	0	0	0	81	0	0
Meade	0	780	0	737	0	43	0	0	0	0
Menifee	77	649	46	649	0	0	0	0	31	0
Mercer	32	0	32	0	0	0	0	0	0	0
Metcalfe	29	2,017	29	1,979	0	0	0	38	0	0
Monroe	7	1,647	7	1,647	0	0	0	0	0	0
Montgomery	0	64	0	64	0	0	0	0	0	0
Morgan	118	559	93	509	0	50	0	0	25	0
Muhlenberg	51	2,065	4	2,006	0	0	47	59	0	0
Nelson	285	281	115	237	0	44	0	0	170	0
Ohio	12	5,769	0	2,180	0	29	12	3,397	0	163
Oldham	0	53	0	53	0	0	0	0	0	0
Owen	182	0	146	0	0	0	0	0	36	0
Owsley	0	674	0	666	0	0	0	8	0	0
Pendleton	14	0	14	0	0	0	0	0	0	0
Perry	17	1,867	17	1,018	0	0	0	849	0	0
Pike	0	2,658	0	2,347	0	311	0	0	0	0

continued

Table A.13—Roundwood timber product output by county, product, and species group, Kentucky, 2009 (continued)

County	All products		Saw logs		Veneer logs		Pulpwood ^a		Other industrial ^b	
	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>										
Powell	12	685	12	685	0	0	0	0	0	0
Pulaski	33	3,800	33	3,800	0	0	0	0	0	0
Robertson	0	389	0	389	0	0	0	0	0	0
Rockcastle	0	696	0	696	0	0	0	0	0	0
Rowan	47	857	47	857	0	0	0	0	0	0
Russell	0	1,209	0	1,209	0	0	0	0	0	0
Shelby	71	76	57	76	0	0	0	0	14	0
Simpson	0	23	0	19	0	0	0	4	0	0
Spencer	41	179	41	179	0	0	0	0	0	0
Taylor	311	1,029	24	1,020	0	0	0	0	287	9
Todd	0	738	0	738	0	0	0	0	0	0
Trigg	1,435	764	3	424	0	0	1,432	340	0	0
Trimble	70	0	56	0	0	0	0	0	14	0
Union	0	174	0	141	0	0	0	33	0	0
Warren	19	532	19	532	0	0	0	0	0	0
Washington	0	72	0	72	0	0	0	0	0	0
Wayne	6	1,230	5	1,219	0	0	1	11	0	0
Webster	501	143	501	143	0	0	0	0	0	0
Whitley	61	2,355	22	912	0	567	39	876	0	0
Wolfe	68	696	64	686	0	0	2	10	2	0
All counties	9,877	126,461	2,754	99,861	3	3,369	5,788	22,139	1,332	1,092

^a Includes roundwood delivered to nonpulpmills, then chipped and sold to pulpmills (88,000 cubic feet in 2009).

^b Includes poles and posts.

Table A.14—Total roundwood output by product, species group, and source of material, Kentucky, 2009

Product and species group	All sources	Total	Growing-stock trees		Other sources
			Sawtimber	Poletimber	
<i>thousand cubic feet</i>					
Saw logs					
Softwood	2,754	2,653	2,611	43	101
Hardwood	99,861	90,017	86,887	3,130	9,844
Total	102,615	92,670	89,498	3,173	9,945
Veneer logs and bolts					
Softwood	3	3	3	0	0
Hardwood	3,369	3,252	3,163	89	117
Total	3,372	3,255	3,165	89	117
Pulpwood					
Softwood	5,788	5,402	3,672	1,730	386
Hardwood	22,139	20,908	7,496	13,412	1,231
Total	27,927	26,310	11,168	15,142	1,617
Poles and posts					
Softwood	122	112	89	23	10
Hardwood	0	0	0	0	0
Total	122	112	89	23	10
Other miscellaneous					
Softwood	1,210	1,113	752	362	97
Hardwood	1,092	1,043	574	469	49
Total	2,302	2,157	1,326	831	145
Total industrial products					
Softwood	9,877	9,284	7,127	2,157	593
Hardwood	126,461	115,220	98,120	17,100	11,241
Total	136,338	124,505	105,247	19,258	11,834
Residential fuelwood					
Softwood	289	220	217	3	69
Hardwood	29,768	27,730	27,387	343	2,038
Total	30,057	27,950	27,604	346	2,107
All products					
Softwood	10,166	9,504	7,344	2,161	662
Hardwood	156,229	142,950	125,507	17,443	13,279
Total	166,395	152,454	132,851	19,604	13,941

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

Table A.15—Total roundwood output by species group, survey region, and ownership class, Kentucky, 2009

Species group and survey region	Total	Ownership class		
		Public	Forest industry	Nonindustrial private
<i>thousand cubic feet</i>				
Softwoods				
Eastern	43	0	3	40
Northern Cumberland	554	5	0	549
Southern Cumberland	378	6	0	372
Bluegrass	860	0	0	860
Pennyroyal	1,862	10	0	1,852
Western Coalfield	2,053	0	0	2,053
Western	4,416	0	0	4,416
Total softwoods	10,166	21	3	10,143
Hardwoods				
Eastern	16,784	22	927	15,835
Northern Cumberland	23,016	567	0	22,449
Southern Cumberland	24,917	602	0	24,315
Bluegrass	6,732	40	0	6,692
Pennyroyal	42,036	618	4,098	37,320
Western Coalfield	33,087	357	0	32,730
Western	9,657	792	800	8,065
Total hardwoods	156,229	2,998	5,825	147,405
All species	166,395	3,019	5,828	157,548

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

Table A.16—Total roundwood output by species group, detailed species group, and product, Kentucky, 2009

Species group and detailed species group	Total	Product					
		Saw logs	Veneer logs	Pulpwood	Poles and posts	Other miscellaneous	Residential fuelwood
<i>thousand cubic feet</i>							
Softwood							
Cedar	112	90	0	0	4	14	3
Eastern white pine	73	63	0	1	8	0	2
Loblolly-shortleaf pine	277	146	0	122	0	0	9
Other yellow pines	9,694	2,448	2	5,662	110	1,196	275
Hemlock	12	8	0	4	0	0	0
Total softwoods	10,166	2,754	3	5,788	122	1,210	289
Hardwood							
Soft maple	6,394	4,316	134	708	0	17	1,218
Hard maple	4,900	2,960	47	863	0	96	934
Other birch	974	402	23	346	0	18	186
Hickory	16,183	10,554	294	2,211	0	40	3,084
Beech	6,392	4,502	79	564	0	29	1,218
Ash	5,189	3,387	75	692	0	47	989
Black walnut	2,179	1,583	28	148	0	5	415
Sweetgum	3,925	2,188	10	895	0	85	748
Yellow-poplar	22,105	13,509	579	3,623	0	182	4,212
Blackgum-tupelo	1,619	977	30	289	0	15	309
Sycamore	1,058	749	8	96	0	4	201
Cottonwood	897	420	43	263	0	0	171
Black cherry	739	465	13	119	0	0	141
Select white oaks	20,856	14,179	556	2,093	0	54	3,974
Other white oaks	10,837	6,822	445	1,465	0	39	2,065
Select red oaks	12,477	7,423	332	2,161	0	184	2,377
Other red oaks	31,901	20,755	512	4,335	0	221	6,078
Basswood	1,473	869	57	267	0	0	281
Elm	3,126	1,801	47	637	0	45	596
Other eastern hardwoods	3,005	2,000	59	364	0	11	573
Total hardwoods	156,229	99,861	3,369	22,139	0	1,092	29,768
All species	166,395	102,615	3,372	27,927	122	2,302	30,057

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

Table A.17—Total roundwood output by species group, detailed species group, and ownership class, Kentucky, 2009

Species group and detailed species group	Total	Ownership class		
		Public	Forest industry	Nonindustrial private
<i>thousand cubic feet</i>				
Softwood				
Cedar	112	3	0	109
Eastern white pine	73	1	0	71
Loblolly-shortleaf pine	277	3	0	274
Other yellow pines	9,694	14	3	9,677
Hemlock	12	0	0	12
Total softwoods	10,166	21	3	10,143
Hardwood				
Soft maple	6,394	33	283	6,078
Hard maple	4,900	65	586	4,249
Other birch	974	24	0	950
Hickory	16,183	376	419	15,388
Beech	6,392	88	455	5,849
Ash	5,189	126	0	5,063
Black walnut	2,179	23	3	2,153
Sweetgum	3,925	189	0	3,736
Yellow-poplar	22,105	297	411	21,397
Blackgum-tupelo	1,619	51	43	1,525
Sycamore	1,058	16	0	1,042
Cottonwood	897	0	0	897
Black cherry	739	16	20	703
Select white oaks	20,856	439	1,165	19,252
Other white oaks	10,837	199	865	9,773
Select red oaks	12,477	270	166	12,041
Other red oaks	31,901	617	1,215	30,069
Basswood	1,473	3	104	1,365
Elm	3,126	129	11	2,986
Other eastern hardwoods	3,005	38	78	2,889
Total hardwoods	156,229	2,998	5,825	147,405
All species	166,395	3,019	5,828	157,548

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

Cooper, Jason A.; Johnson, Tony G.; Nevins, Christopher G. 2011. Kentucky's timber industry—an assessment of timber product output and use, 2009. Resour. Bull. SRS-177. Asheville, NC: U.S. Department of Agriculture Forest Service, Southern Research Station. 32 p.

In 2009, roundwood output from Kentucky's forests totaled 136.3 million cubic feet, 27 percent less than in 2007. Mill byproducts generated from primary manufacturers decreased 28 percent to 65.4 million cubic feet. Ninety-nine percent of plant residues were used for a product. Industrial fuel, charcoal/chemical wood, and miscellaneous were the primary uses of mill residue produced. Saw logs were the leading roundwood product at 102.6 million cubic feet; pulpwood ranked a distant second at 27.9 million cubic feet; veneer logs were third at 3.4 million cubic feet. The number of primary processing plants declined from 253 in 2007 to 225 in 2009. Total receipts declined 27 percent to 146.7 million cubic feet.

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



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

The USDA prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD).

To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, SW, Washington, DC 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.