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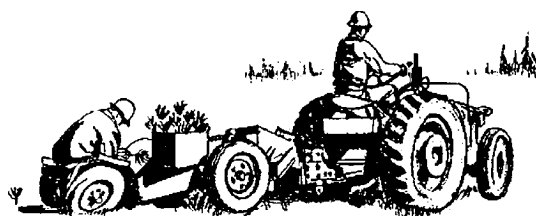
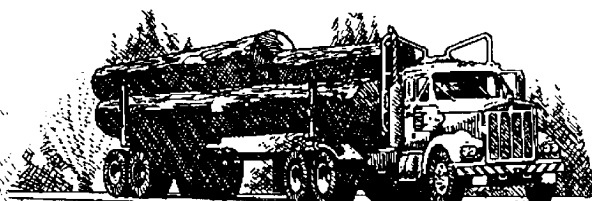
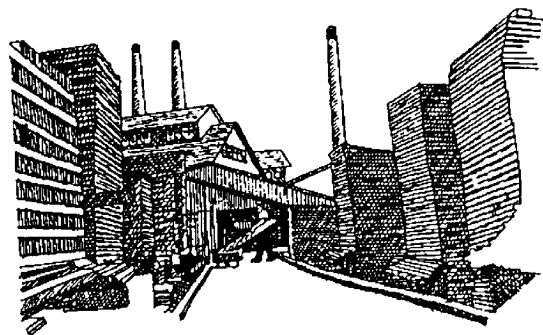
Forest Service

# Virginia's Timber Industry—An Assessment of Timber Product Output and Use, 1995

Southern  
Research Station

Resource Bulletin  
SRS-19

Tony G. Johnson, Anne Jenkins,  
John A. Scrivani, and  
J. Michael Foreman

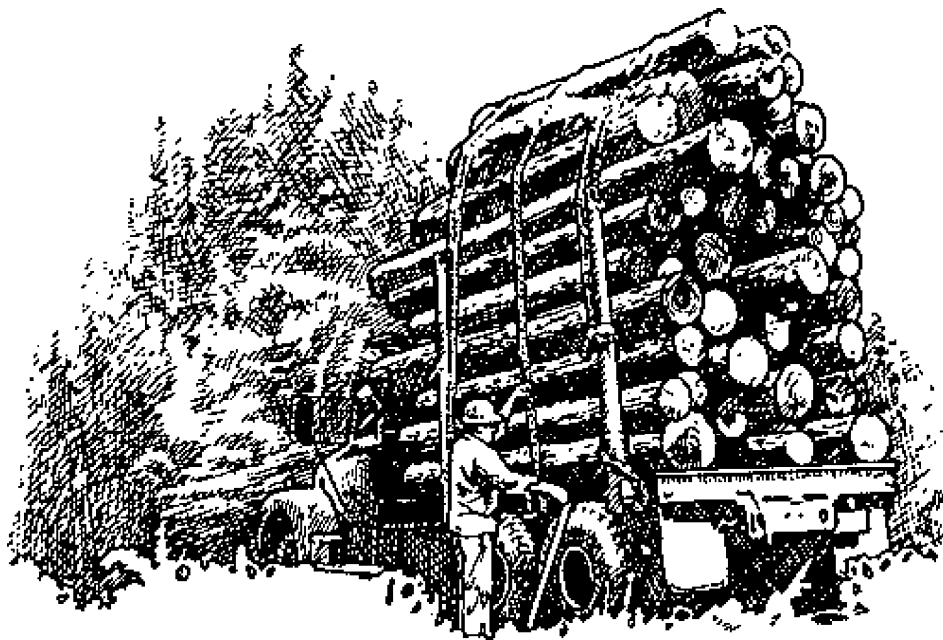


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## The Authors:

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## Foreword

This report contains the findings of a 1995 canvass of all primary wood-using plants in Virginia and presents changes in product output and residue use since 1992. It complements the Forest Inventory and Analysis (FIA) 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 1995 and to determine interstate and cross-regional movement of industrial roundwood. Only primary wood-using mills were canvassed. Primary mills are those that process roundwood in log or bolt form or as chipped roundwood. Examples of industrial roundwood products are saw logs, pulpwood, veneer logs, poles, and logs used for composite board products. Mills producing products from residues generated at primary and secondary processors were not canvassed. Trees chipped in the woods were included in the estimate of timber drain only if they were delivered to a primary domestic manufacturer.

A 100-percent canvass of all wood processors in Virginia was conducted in 1996 to obtain information for 1995. In addition, roundwood from out-of-State mills known to be using logs or bolts harvested from Virginia timberland was incorporated into Virginia production estimates. Each mill was canvassed by mail or through personal

contact at plant locations. Telephone contacts followed mailed questionnaire responses when additional information or clarification of response was necessary. In the event of a nonresponse, data collected in previous surveys were duplicated for processing purposes. Surveys for all timber products other than pulpwood began in 1965, and are currently conducted every 3 years.

Pulpwood production data were taken from an annual canvass of all southeastern pulpmills, conducted in cooperation with the American Pulpwood Association. Medium density fiberboard, insulating board, and hardboard plants were included in this survey.

The Southern Research Station gratefully acknowledges the cooperation and assistance provided by the Virginia Department of Forestry in collecting mill data. Appreciation is also extended to forest industry and mill managers for providing timber products information. The information in this report is based on responses from 49 percent of mills operating in 1995: 9 pulpmills, 7 of the 8 veneer mills, 3 of the 3 composite panel mills, 12 of the 15 mills manufacturing other industrial products, and 112 of the 254 sawmills. These mills accounted for 83 percent of the 1995 mill receipts.

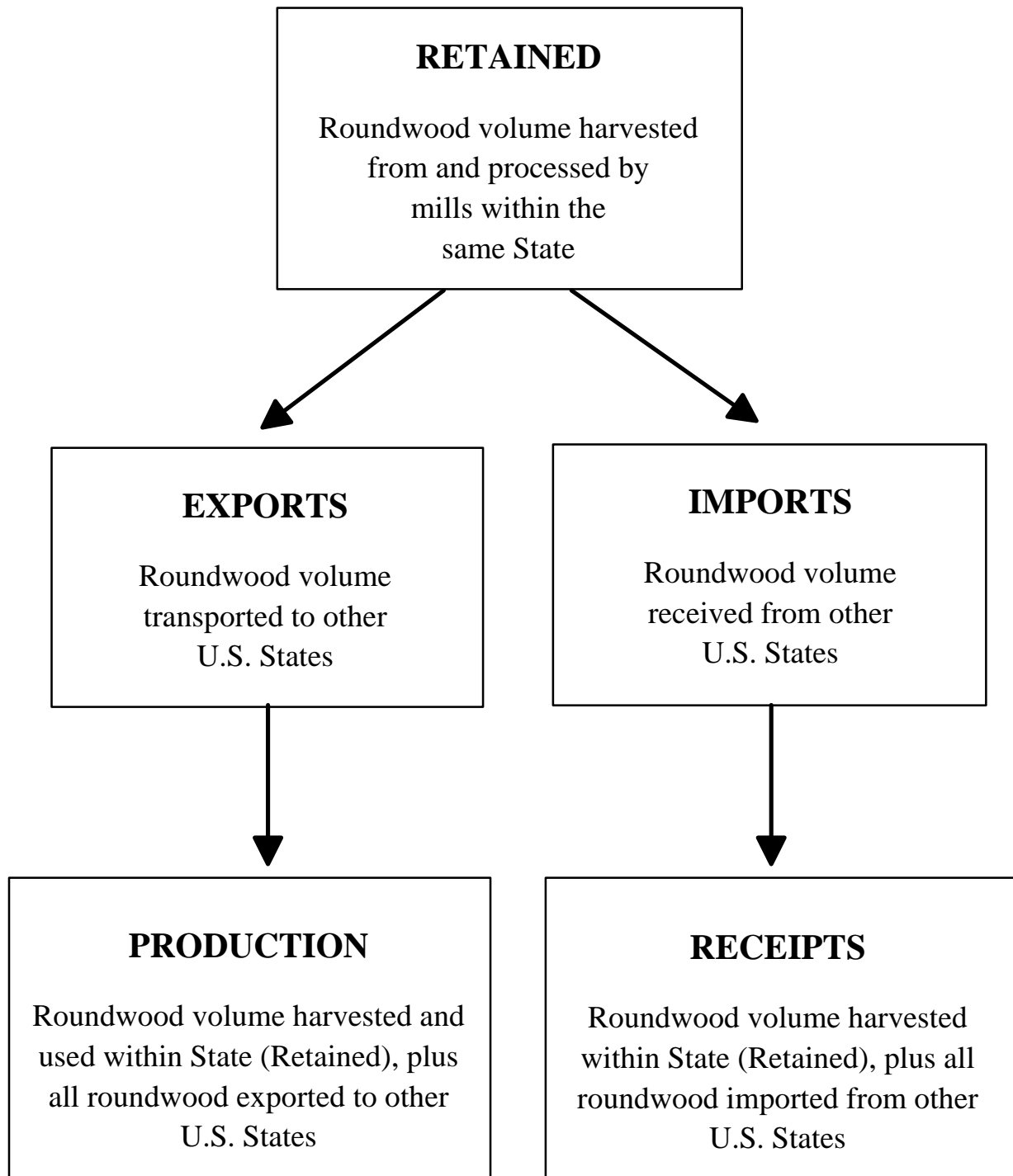


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<sup>a</sup> All tables in this report are available in Microsoft® Excel workbook files. Upon request, these files will be supplied on 3½-inch diskettes.

The use of trade or firm names in this publication is for reader information and does not imply endorsement by the U.S. Department of Agriculture of any product or service.



**Production** = Retained + Exports

**Receipts** = Retained + Imports

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

# Virginia's Timber Industry— An Assessment of Timber Product Output and Use, 1995

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## Output of Industrial Timber Products

Note: The reader must understand that certain terms, namely—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 products output (fig. 1).

- Between 1992 and 1995, the combined industrial timber products output (TPO) from roundwood and plant byproducts increased 4 percent from 599 to 622 million cubic feet.
- Timber products output from roundwood was up 19 million cubic feet, or 4 percent, to more than 455 million cubic feet, while output of plant byproducts increased 4 million cubic feet to 167 million cubic feet.
- Output of softwood roundwood products increased 5 percent to 232 million cubic feet, while output of hardwood roundwood products increased 4 percent to more than 223 million cubic feet (fig. 2).
- Saw logs and pulpwood were the principal roundwood products in 1995. Combined output of these two products totaled 414 million cubic feet and accounted for 91 percent of the State's total roundwood output (fig. 3).
- Total receipts at Virginia mills, which included roundwood harvested and retained in the State and roundwood imported from other States, increased 3 percent to 485 million cubic feet. At the same time, the number of primary roundwood-using plants in Virginia declined from 311 in 1992 to 289 in 1995.

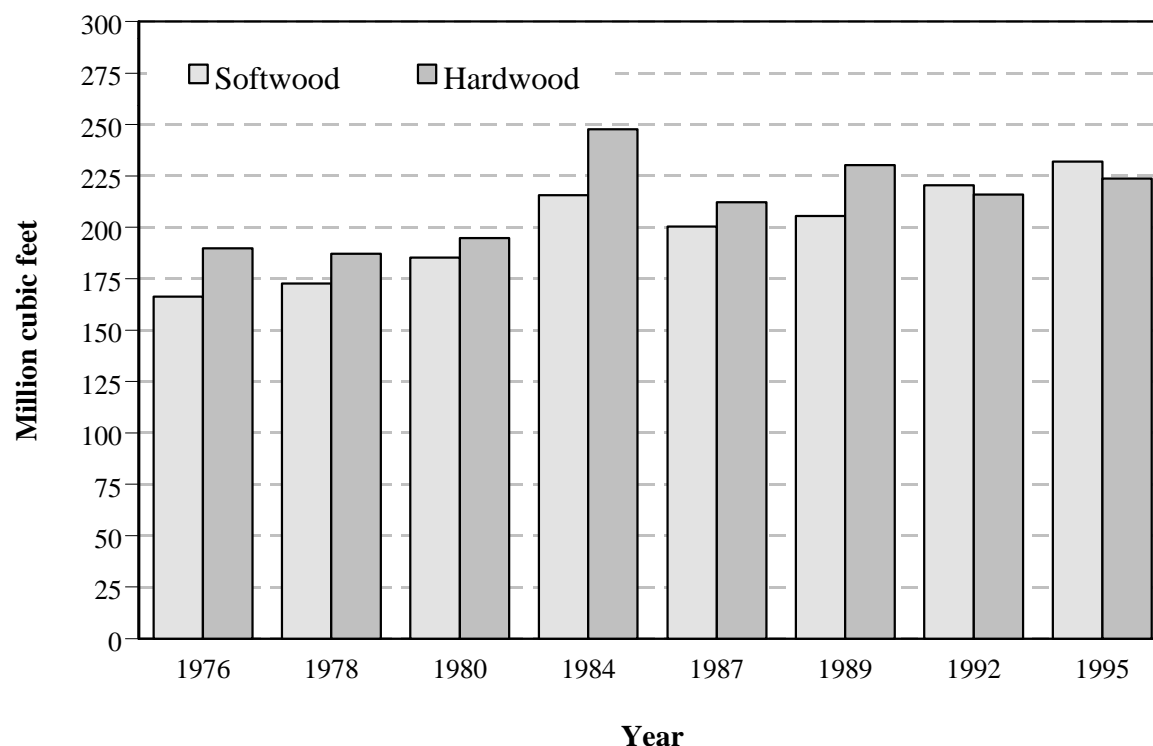


Figure 2—Roundwood production for all products by species group and year.

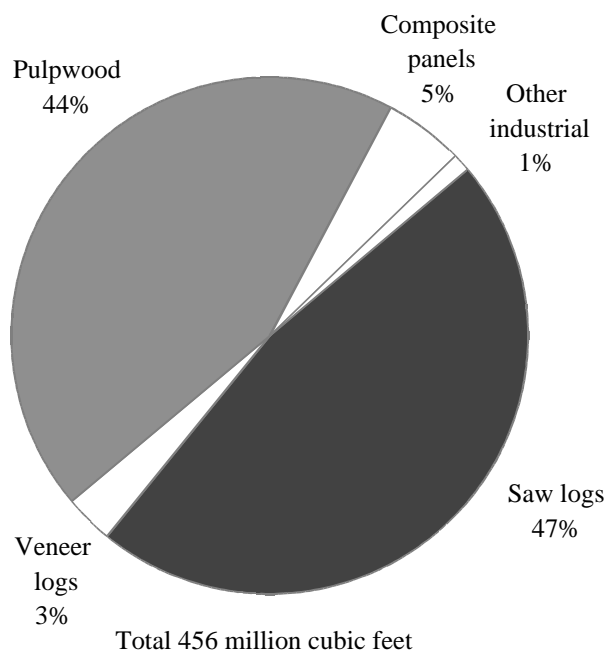


Figure 3—Roundwood production by type of product, 1995.

### Saw Logs

- Saw logs accounted for 47 percent of the State's total roundwood products. Output of softwood saw logs increased 1 percent to 94 million cubic feet (513 million board feet), while that of hardwood saw logs increased 5 percent to 119 million cubic feet (726 million board feet) (fig. 4).
- Virginia currently has 254 sawmills, a net loss of 22 mills since 1992. The total number of sawmills does not include several one-man sawmills not picked up in this survey. Despite this decline in sawmills, total saw-log receipts increased 10 million cubic feet to 220 million cubic feet. Softwood saw-log receipts increased 8 percent to 100 million cubic feet, while those of hardwoods increased 3 percent to 120 million cubic feet. Of the operating mills, 29 percent had receipts less than 1 million board feet, while 30 percent had receipts greater than 5 million board feet.
- Virginia retained 93 percent of its saw-log production for domestic manufacture, with saw-log imports exceeding exports by 7 million cubic feet in 1995.

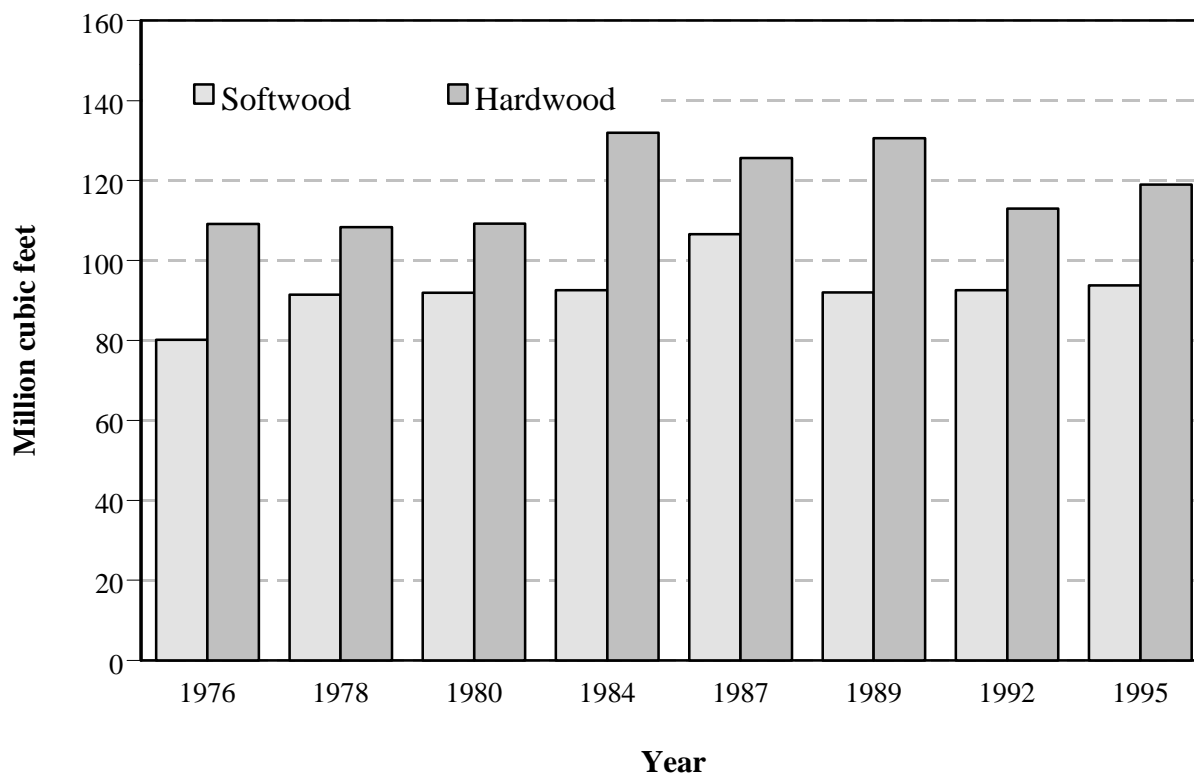


Figure 4—Roundwood saw-log production by species group and year.

## Pulpwood

- Pulpwood production, including chipped roundwood, increased 12 million cubic feet to 201 million cubic feet and accounted for 44 percent of the State's total roundwood TPO. Softwood output increased 8 percent to 114 million cubic feet (1.6 million cords), while hardwood output increased 4 percent to more than 87 million cubic feet (1.2 million cords) (fig. 5).
- Nine pulpmill facilities were operating and receiving roundwood in Virginia in 1995, the same as in 1992. Total pulpwood receipts for these mills increased 6 million cubic feet to 214 million cubic feet, accounting for 44 percent of total receipts for all mills.
- More than 81 percent of roundwood cut for pulpwood was retained for processing at Virginia pulpmills. Roundwood pulpwood accounted for 64 percent of total known exports and 57 percent of total imports. Roundwood pulpwood imports amounted to 50 million cubic feet, or 13 million cubic feet more than was exported.

## Veneer Logs

- Output of veneer logs in 1995 totaled 16 million cubic feet and accounted for 3 percent of the State's total roundwood TPO volume. Softwood veneer-log

production increased 2 percent to 13 million cubic feet (82 million board feet), while output of hardwood veneer-log production dropped 37 percent to 3 million cubic feet (20 million board feet) (fig. 6).

- The number of veneer mills operating in Virginia was down from nine to eight since 1992. Total receipts of veneer logs declined 2 percent from 19.1 to 18.8 million cubic feet.
- Virginia retained 87 percent of its veneer-log production for processing at domestic veneer mills. Imports amounted to 5 million cubic feet, while exports totaled 2 million cubic feet, making the State a net importer of roundwood veneer logs.

## Composite Panels

- Roundwood harvested from Virginia's forests for composite panels increased 36 percent and totaled 21 million cubic feet. Softwood output was up 54 percent to 10 million cubic feet, while hardwood production increased 22 percent to 11 million cubic feet (fig. 7).
- Three composite panel mills were operating in Virginia in 1995. Total receipts for these mills were 27 million cubic feet, or about 6 percent of the State's total receipts.

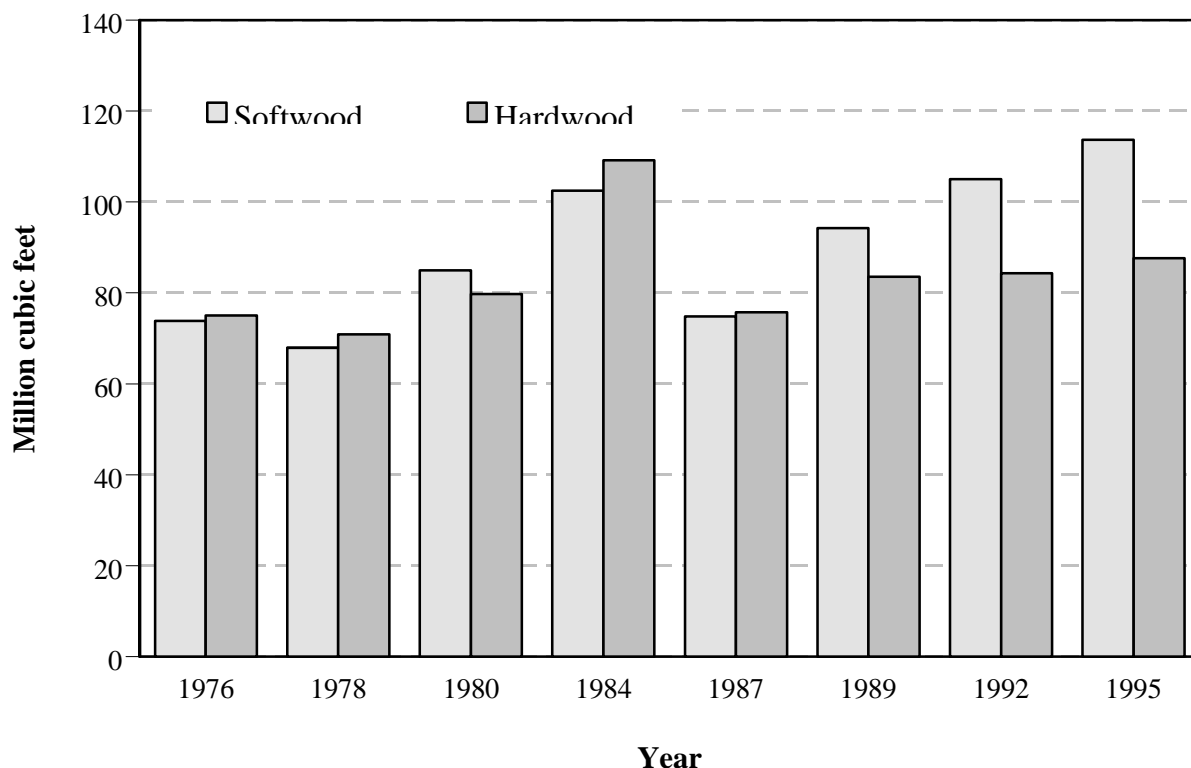


Figure 5—Roundwood pulpwood production by species group and year.



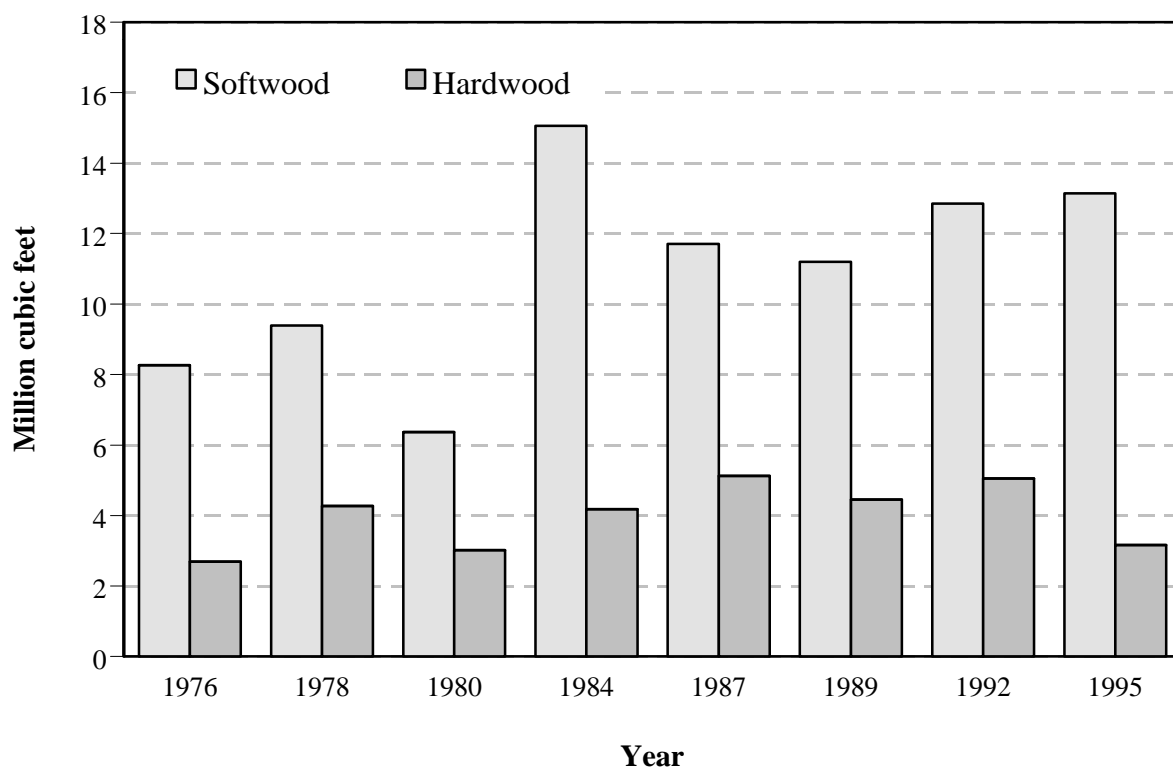


Figure 6—Roundwood veneer-log production by species group and year.

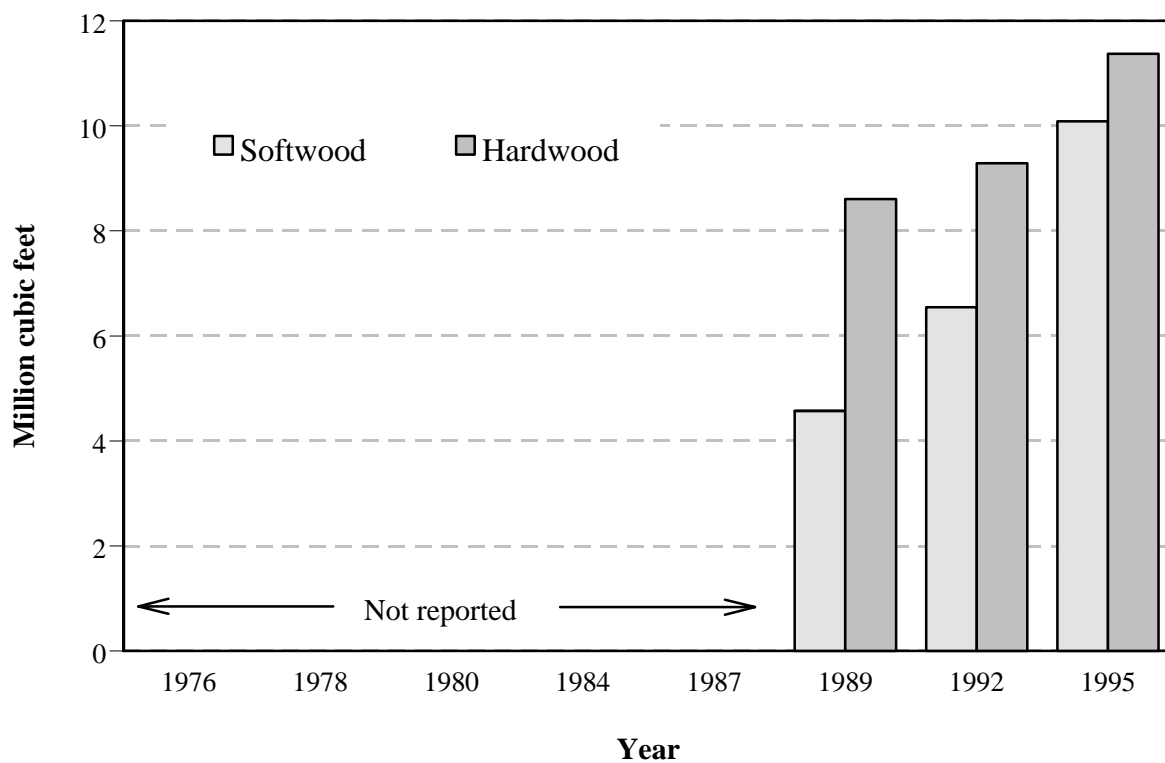


Figure 7—Roundwood production for composite panels by species group and year.

- Seventy-seven percent of the roundwood production harvested for composite panels was retained for processing at Virginia's mills. Imports amounted to 11 million cubic feet, while exports totaled 5 million cubic feet, making the State a net importer of logs used for composite panels.

### Other Industrial Products

- Roundwood harvested for other industrial uses such as poles, posts, mulch, firewood, logs for log homes, and all other industrial products totaled 4 million cubic feet and accounted for about 1 percent of the State's total timber products output. Hardwood made up 67 percent of the other industrial product volume.
- The number of plants producing other industrial products increased from 14 to 15 since 1992. Combined receipts of other industrial products from softwood and hardwood totaled 4 million cubic feet.
- Virginia was a net importer of roundwood used for other industrial products; all of the 657 thousand cubic feet imported was softwood.

### Plant Byproducts

- In 1995, processing of primary products in Virginia mills generated almost 172 million cubic feet of wood and bark residues. Coarse residues from all primary products amounted to 69 million cubic feet, while bark volume totaled 52 million cubic feet. Collectively, sawdust and shavings make up 30 percent of total residues, or 51 million cubic feet (fig. 8).
- Virtually all of the wood and bark residues were used for a product; about 3 percent was not used, while 40 percent of the residues were used for industrial fuel (fig. 9). More than 56 million cubic feet, or 82 percent, of the coarse residues were used for fiber products. Most of the bark was used for industrial fuel or other miscellaneous products, while 63 percent of the sawdust and shavings were used for industrial fuel.
- Sawmills generated 129 million cubic feet of mill residues, accounting for 75 percent of the total residues produced (fig. 10).

### Regional Trends

- Output of industrial roundwood products increased in all regions except the Northern Piedmont region; the Southern Mountain and Coastal Plain regions had the largest increases at 14 and 9 percent, respectively.

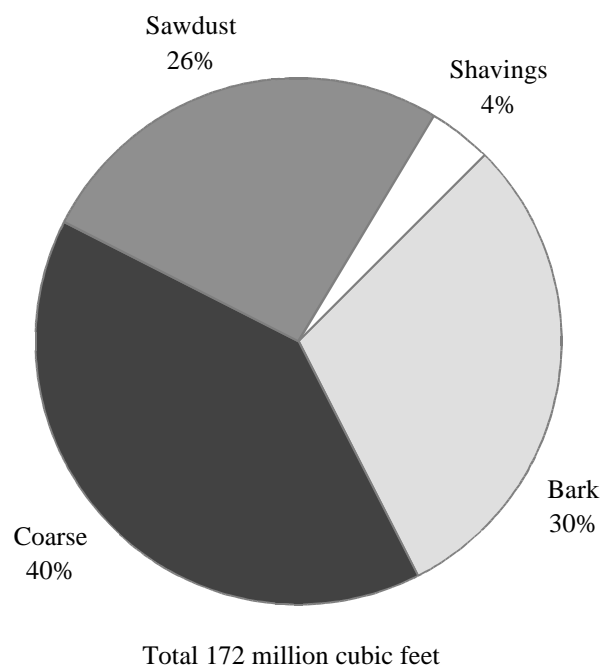


Figure 8—Primary mill residue by residue type, 1995.

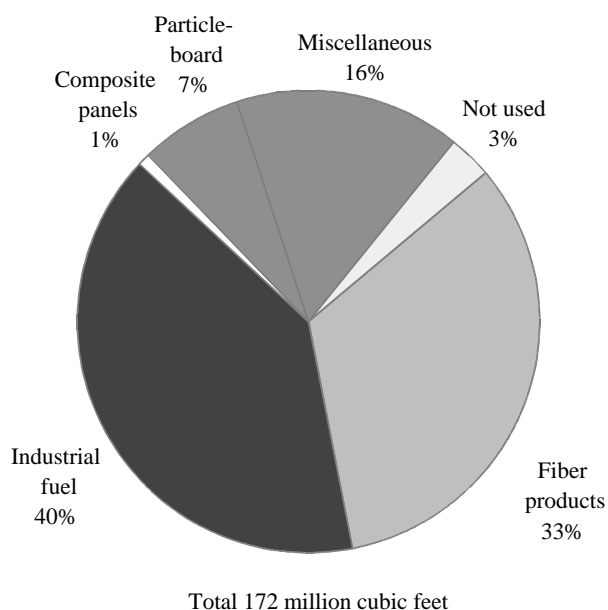


Figure 9—Disposal of residue by product, 1995.

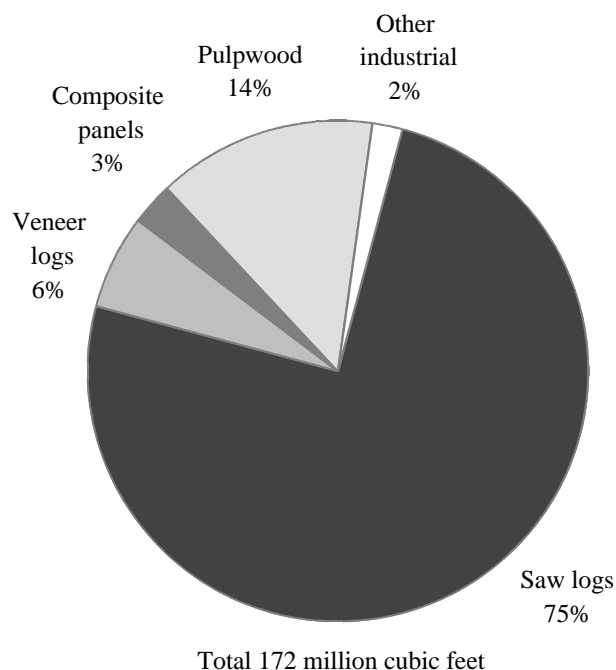


Figure 10—Primary mill residue produced by mill type, 1995.

### Coastal Plain Region

- Roundwood output from the Coastal Plain region totaled 190 million cubic feet, up 9 percent.
- Pulpwood accounted for 47 percent of the region's TPO and 44 percent of the State's roundwood pulpwood output. The 82 million cubic feet of saw logs accounted for 43 percent of the total roundwood output for the region.
- In the Coastal Plain region, 60 primary wood-using plants were operating during 1995, 5 less than in 1992: 45 sawmills, 5 pulpmills, 3 veneer or plywood mills, 1 composite panel mill, and 6 other miscellaneous mills (fig. 11). These mills processed 35 percent of the State's total roundwood output.

### Southern Piedmont Region

- Almost 143 million cubic feet of roundwood were produced in the Southern Piedmont region, an increase of 1 percent.
- Saw-log production of 58 million cubic feet accounted for 40 percent of the region's total roundwood output. Production of pulpwood remained stable at 71 million cubic feet and accounted for 50 percent of the region's total roundwood output.

- The 93 mills operating in the Southern Piedmont region in 1995 included 85 sawmills, 4 veneer or plywood mills, 2 pulpmills, 1 composite panel mill, and 1 other miscellaneous mill.

### Northern Piedmont Region

- Roundwood output from the Northern Piedmont region totaled 49 million cubic feet, down 11 percent. Roundwood production from this region accounted for 11 percent of the total roundwood TPO for the State.
- Pulpwood production declined by 12 percent to 22 million cubic feet, accounting for 45 percent of the region's total TPO. Saw-log production of 26 million cubic feet accounted for another 53 percent of the region's total roundwood output.
- The 45 primary wood-using plants operating in the Northern Piedmont region included 39 sawmills, 1 pulpmill, and 5 other miscellaneous mills.

### Northern Mountain Region

- Roundwood output from the Northern Mountain region totaled 28 million cubic feet, a 9-percent increase since 1992.
- Saw-log production increased 22 percent to 16 million cubic feet, accounting for 59 percent of the region's total roundwood output. Production of pulpwood declined 8 percent and accounted for 39 percent of the region's total roundwood output.
- In the Northern Mountain region, 37 primary wood-using plants were operating during 1995: 32 sawmills, 1 veneer mill, 1 pulpmill, and 3 other miscellaneous mills.

### Southern Mountain Region

- Roundwood output from the Southern Mountain region totaled 46 million cubic feet, an increase of 14 percent.
- Saw-log production increased 7 percent to 31 million cubic feet and accounted for 66 percent of the region's total roundwood output. Pulpwood production was up 19 percent and accounted for 19 percent of the region's total TPO.
- In the Southern Mountain region, 54 primary wood-using plants were operating during 1995: 53 sawmills and 1 composite panel mill.

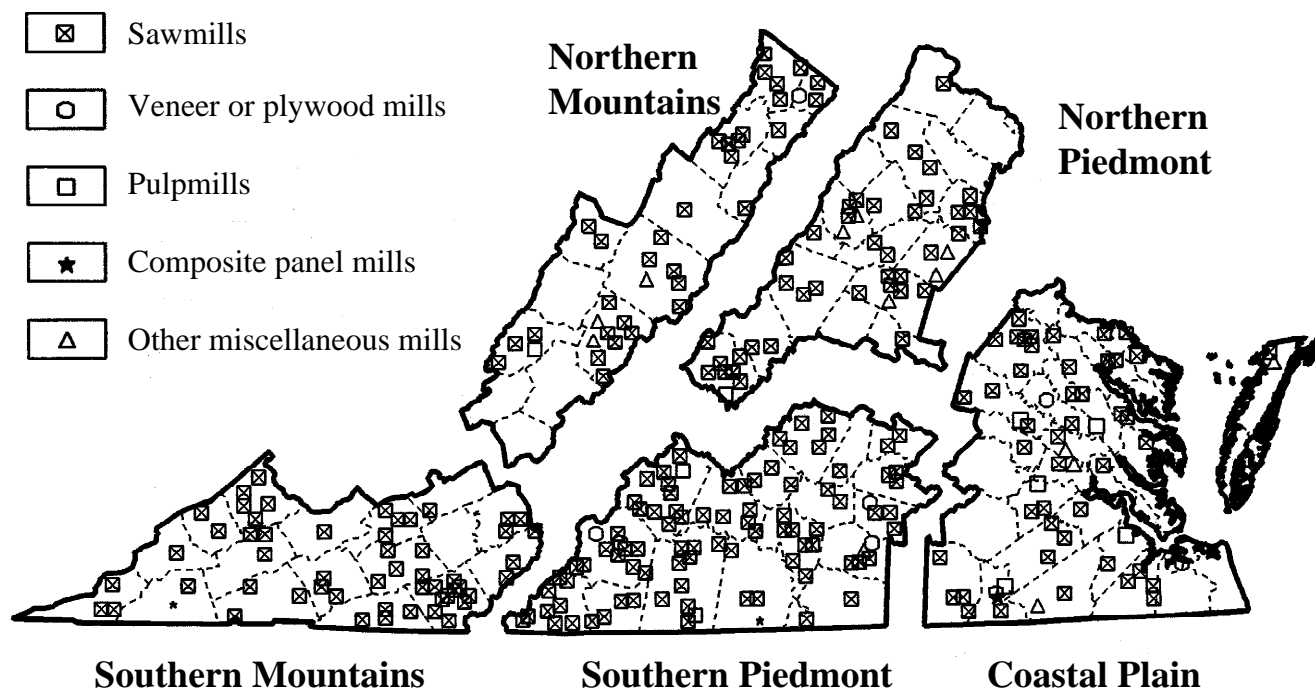


Figure 11—Primary wood-using mills by region, 1995.

### Total Roundwood Output

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

### Source

- In addition to the more than 455 million cubic feet of roundwood output for industrial roundwood, an estimated 104 million cubic feet was harvested for domestic fuelwood bringing Virginia's total roundwood output to 559 billion cubic feet.
- More than 85 percent of total roundwood output was considered growing-stock volume from timberland sources, with other sources contributing an estimated 83 million cubic feet, or 15 percent of total roundwood output (fig. 12).

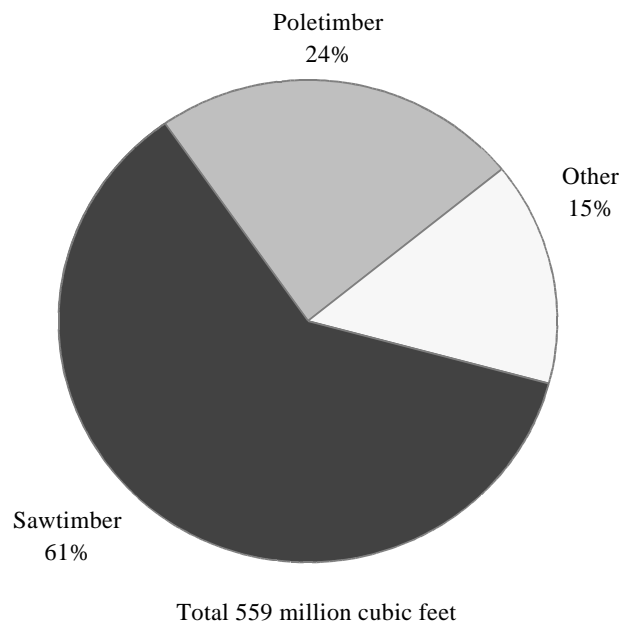


Figure 12—Roundwood output by source, 1995.

## Ownership

- An estimated 403 million cubic feet, or 72 percent, of the total roundwood output came from nonindustrial private forest lands (NIPF). Forest industry lands contributed 124 million cubic feet, or 22 percent of the output. Public lands made up the remaining 6 percent, or 32 million cubic feet (fig. 13).

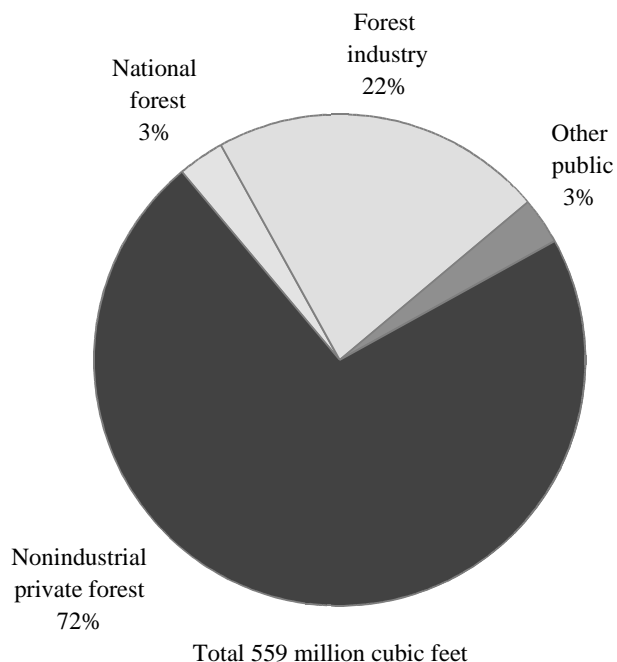


Figure 13—Roundwood output by ownership, 1995.

## Species

- The loblolly and shortleaf pine group provided the most volume of any softwood species group, accounting for 69 percent of the total softwood output. The other yellow pine types accounted for 26 percent of the softwood output (fig. 14). In hardwoods, the red oak and white oak groups combined accounted for 153 million cubic feet, or 49 percent of total hardwood output (fig. 15).

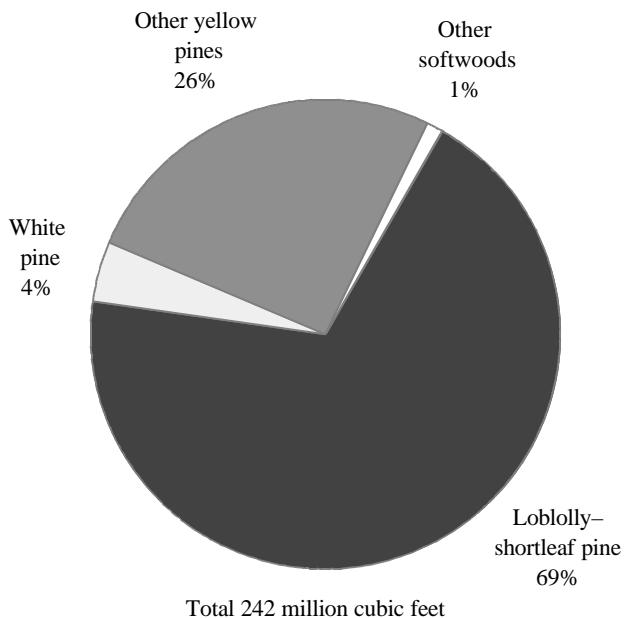


Figure 14—Roundwood output by softwood species group, 1995.

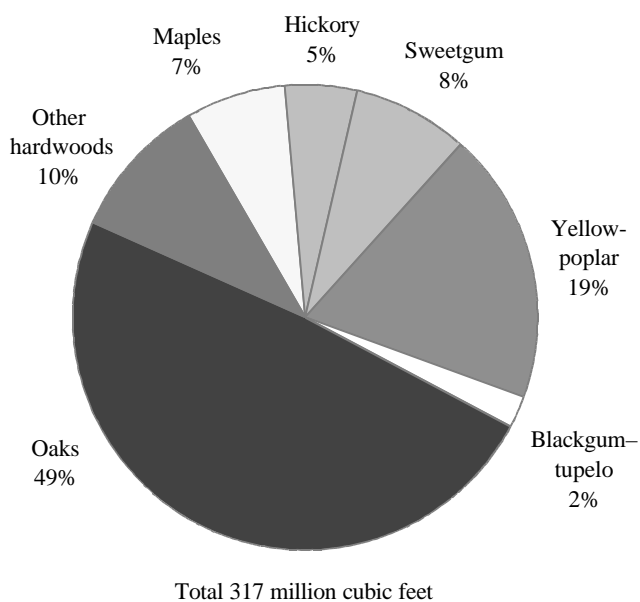


Figure 15—Roundwood output by hardwood species group, 1995.

## Definitions

**Board feet.** Unit of measure applied to roundwood. It relates to lumber that is 1-foot long, 1-foot wide, and 1-inch thick (or its equivalent).

**Composite panels.** Consists of structural panels (oriented strand board or waferboard) or particleboard (industrial underlayment, thin panelboard).

**Consumption.** The quantity of a commodity, such as pulpwood, utilized.

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

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

**Imports.** The volume of 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, poles, pilings, veneer logs, pulpwood, posts, or cooperage logs.

**Log.** A primary forest product harvested in long, primarily 8-, 10-, 12-, 14-, and 16-foot, lengths.

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

*Coarse residues.* Suitable for chipping such as slabs, edgings, trim, veneer cores, and ends.

*Fine residues.* Not suitable for chipping such as sawdust, shavings, and veneer clippings.

**Primary wood-using plants.** Industries that receive roundwood or chips from roundwood for the manufacture of products such as veneer, pulp, and lumber.

**Production.** The total volume of roundwood harvested from land within the specified State, regardless of where consumed. Production is the sum of timber harvested and used within the State, plus all roundwood exported to other U.S. 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 chipboard, 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 in the United States.

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

**Roundwood.** Logs, bolts, or other round sections cut from trees for industrial manufacture or consumer use.

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

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

**Saw log.** A log meeting minimum standards of diameter, length, and defect, including logs at least 8 feet long, sound and straight, and with minimum diameter inside bark of 6 inches for softwoods and 8 inches for hardwoods.

**Standard cord.** A unit measure applied to roundwood, usually bolts or split wood. It relates to a stack of wood 4 feet high, 4 feet wide, and 8 feet long encompassing 128 cubic feet of wood, bark, and air space. In the South, this usually translates to approximately 75.0 cubic feet of solid wood, excluding bark and air space.

**Timber products output.** Roundwood production in an area's forests (equals roundwood product drain).

**Timber removals.** The merchantable volume of trees removed from the timberland inventory by harvesting, cultural operations such as stand improvement, land clearing, or changes in land use.

**Veneer log.** A log used in the production of plywood, finished panels, or veneer sheets, both rotary cut and sliced.

## **Conversion Factors<sup>a</sup>**

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### **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<sup>b</sup>**

Softwood	73.3 cubic feet per cord
Hardwood	76.1 cubic feet per cord

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<sup>a</sup> Conversion factors vary with stem size (d.b.h.) and species.

The factors shown are for trees of average diameters removed in Virginia during the most recent survey period.

<sup>b</sup> Cubic feet of solid wood per cord.

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**Table 1—Output of industrial products by product and species group, Virginia, 1992 and 1995**

Product and species group	Year		Change	Percent change
	1992	1995		
Thousand cubic feet				
Saw logs				
Softwood	92,552	93,769	1,217	1.3
Hardwood	113,003	119,000	5,997	5.3
Total	205,555	212,769	7,214	3.5
Veneer logs				
Softwood	12,851	13,134	283	2.2
Hardwood	5,054	3,163	-1,891	-37.4
Total	17,905	16,297	-1,608	-9.0
Pulpwood <sup>a</sup>				
Softwood	105,052	113,741	8,689	8.3
Hardwood	84,359	87,624	3,265	3.9
Total	189,411	201,365	11,954	6.3
Composite panels				
Softwood	6,546	10,089	3,543	54.1
Hardwood	9,288	11,373	2,085	22.4
Total	15,834	21,462	5,628	35.5
Other industrial				
Softwood	3,441	1,229	-2,212	-64.3
Hardwood	4,248	2,498	-1,750	-41.2
Total	7,689	3,727	-3,962	-51.5
All industrial				
Softwood	220,442	231,962	11,520	5.2
Hardwood	215,952	223,658	7,706	3.6
Total	436,394	455,620	19,226	4.4
Byproduct output				
Softwood	72,196	79,284	7,088	9.8
Hardwood	90,363	87,420	-2,943	-3.3
Total	162,559	166,704	4,145	2.5
Total output				
Softwood	292,638	311,246	18,608	6.4
Hardwood	306,315	311,078	4,763	1.6
Total	598,953	622,324	23,371	3.9

<sup>a</sup> Includes roundwood that was delivered to nonpulp mills and then chipped and sold to pulp mills (10,031,000 cubic feet in 1992 and 4,476,000 cubic feet in 1995).

**Table 2—Roundwood receipts by product and species group,  
Virginia, 1992 and 1995**

Product and species group	Year		Change	Percent change
	1992	1995		
Thousand cubic feet				
Saw logs				
Softwood	92,844	99,785	6,941	7.5
Hardwood	117,042	119,993	2,951	2.5
Total	209,886	219,778	9,892	4.7
Veneer logs				
Softwood	16,100	16,567	467	2.9
Hardwood	3,011	2,260	-751	-24.9
Total	19,111	18,827	-284	-1.5
Pulpwood <sup>a</sup>				
Softwood	98,198	106,437	8,239	8.4
Hardwood	110,146	107,753	-2,393	-2.2
Total	208,344	214,190	5,846	2.8
Composite panels				
Softwood	9,024	12,274	3,250	36.0
Hardwood	15,405	15,139	-266	-1.7
Total	24,429	27,413	2,984	12.2
Other industrial				
Softwood	3,814	1,851	-1,963	-51.5
Hardwood	4,253	2,498	-1,755	-41.3
Total	8,067	4,349	-3,718	-46.1
Total output				
Softwood	219,980	236,914	16,934	7.7
Hardwood	249,857	247,643	-2,214	-0.9
Total	469,837	484,557	14,720	3.1

<sup>a</sup> Includes roundwood that was delivered to nonpulp mills and then chipped and sold to pulpmills (11,201,000 cubic feet in 1992 and 4,629,000 cubic feet in 1995).

**Table 3—Number of primary wood-using plants by industry, Virginia, 1976-1995**

Industry	Year							
	1976	1978	1980	1984	1987	1989	1992	1995
Sawmills	451	324	392	419	355	323	276	254
Veneer or plywood mills	10	12	12	12	10	10	9	8
Pulpmills	9	8	9	9	9	9	9	9
Composite panel mills	0	0	0	0	1	3	3	3
Other mills	15	18	24	22	19	24	14	15
All plants	485	362	437	462	394	369	311	289

**Table 4—Roundwood receipts by sawmill size, Virginia, 1992 and 1995**

Sawmill size class <sup>a</sup>	1992			1995		
	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	80	24,810	2	64	22,357	2
1.0 - 4.99	113	313,484	26	106	295,647	23
5.0 - 9.99	60	413,071	34	57	393,473	31
> 10	23	468,820	38	27	565,493	44
Total	276	1,220,185	100	254	1,276,970	100

<sup>a</sup> Based on volume received as opposed to actual capacity.

**Table 5—Roundwood receipts by species and type of mill, Virginia, 1995**

Species	Type of mill						
	All	Sawmills	Veneer mills		OSB <sup>a</sup> and panels	Pulpmills <sup>b</sup>	Other mills
	mills		Pine plywood	Other veneer			
Thousand cubic feet							
Softwood							
Yellow pine	118,774	88,276	16,215	352	12,087	NA	1,844
White pine	9,751	9,564	0	0	187	NA	0
Cedar	7	0	0	0	0	NA	7
Cypress	84	84	0	0	0	NA	0
Other softwood	1,861	1,861	0	0	0	NA	0
Unclassified	106,437	0	0	0	0	106,437	0
Total softwoods	236,914	99,785	16,215	352	12,274	106,437	1,851
Hardwood							
Blackgum and tupelo	1,153	1,085	0	3	65	NA	0
Soft maple	3,461	2,811	0	0	650	NA	0
Sweetgum	1,746	1,746	0	0	0	NA	0
Yellow-poplar	32,844	27,761	0	726	4,357	NA	0
Other soft hardwood	24,950	14,881	0	2	10,067	NA	0
Hickory	3,400	3,400	0	0	0	NA	0
Red oak	30,997	30,788	0	177	0	NA	32
White oak	17,979	17,559	0	388	0	NA	32
Other hard hardwood	23,360	19,962	0	964	0	NA	2,434
Unclassified	107,753	0	0	0	0	107,753	0
Total hardwoods	247,643	119,993	0	2,260	15,139	107,753	2,498
All species	484,557	219,778	16,215	2,612	27,413	214,190	4,349

NA = not applicable.

<sup>a</sup> OSB = oriented strand board.<sup>b</sup> Only collected by softwood and hardwood and includes roundwood chipped.**Table 6—Industrial roundwood movement by year and species group, Virginia, 1992 and 1995**

Year	Production	Exported to other States	Retained	Imported from other States	Receipts
<i>Thousand cubic feet</i>					
<b>Softwood</b>					
1992	220,442	33,599	186,843	33,137	219,980
1995	231,962	31,340	200,622	36,292	236,914
<b>Hardwood</b>					
1992	215,952	18,412	197,540	52,317	249,857
1995	223,658	26,963	196,695	50,948	247,643
<b>All species</b>					
1992	436,394	52,011	384,383	85,454	469,837
1995	455,620	58,303	397,317	87,240	484,557

**Table 7—Industrial roundwood movement by product and species group, Virginia, 1995**

Product and species group	Production	Exported to other States	Retained	Imported from other States	Receipts
<i>Thousand cubic feet</i>					
<b>Saw logs</b>					
Softwood	93,769	5,941	87,828	11,957	99,785
Hardwood	119,000	7,949	111,051	8,942	119,993
Total	212,769	13,890	198,879	20,899	219,778
<b>Veneer logs</b>					
Softwood	13,134	51	13,083	3,484	16,567
Hardwood	3,163	2,147	1,016	1,244	2,260
Total	16,297	2,198	14,099	4,728	18,827
<b>Pulpwood<sup>a</sup></b>					
Softwood	113,741	22,533	91,208	15,229	106,437
Hardwood	87,624	14,796	72,828	34,925	107,753
Total	201,365	37,329	164,036	50,154	214,190
<b>Composite panels</b>					
Softwood	10,089	2,780	7,309	4,965	12,274
Hardwood	11,373	2,071	9,302	5,837	15,139
Total	21,462	4,851	16,611	10,802	27,413
<b>Other industrial</b>					
Softwood	1,229	35	1,194	657	1,851
Hardwood	2,498	0	2,498	0	2,498
Total	3,727	35	3,692	657	4,349
<b>All products</b>					
Softwood	231,962	31,340	200,622	36,292	236,914
Hardwood	223,658	26,963	196,695	50,948	247,643
Total	455,620	58,303	397,317	87,240	484,557

<sup>a</sup> Includes roundwood chipped.

**Table 8—Saw-log volume by destination, source, and species group, Virginia, 1995**

Destination and source	All species	Species group	
		Softwood	Hardwood
Thousand cubic feet			
Virginia (retained)	198,879	87,828	111,051
Exports to:			
North Carolina	10,209	5,335	4,874
Tennessee	2,180	507	1,673
West Virginia	1,501	99	1,402
Total	13,890	5,941	7,949
Imports from:			
Delaware	49	0	49
Kentucky	585	0	585
Maryland	446	39	407
North Carolina	15,637	11,371	4,266
Tennessee	1,220	17	1,203
West Virginia	2,962	530	2,432
Total	20,899	11,957	8,942

**Table 9—Veneer volume by destination, source, and species group, Virginia, 1995**

Destination and source	All species	Species group	
		Softwood	Hardwood
<i>Thousand cubic feet</i>			
<b>Virginia (retained)</b>	14,099	13,083	1,016
<b>Exports to:</b>			
North Carolina	1,927	51	1,876
West Virginia	271	0	271
Total	2,198	51	2,147
<b>Imports from:</b>			
Illinois	25	0	25
Indiana	131	0	131
Kentucky	9	0	9
Louisiana	4	0	4
Michigan	46	0	46
New York	46	0	46
North Carolina	3,502	3,474	28
Ohio	178	0	178
Pennsylvania	571	10	561
Tennessee	106	0	106
West Virginia	93	0	93
Foreign	17	0	17
Total	4,728	3,484	1,244

**Table 10—Pulpwood volume by destination, source, and species group, Virginia, 1995<sup>a</sup>**

Destination and source	All species	Species group	
		Softwood	Hardwood
Thousand cubic feet			
Virginia (retained)	164,036	91,208	72,828
Exports to:			
Florida	1,123	1,123	0
Georgia	2,152	0	2,152
Maryland	6,579	4,833	1,746
North Carolina	17,646	13,009	4,637
Ohio	35	35	0
Pennsylvania	3,559	3,134	425
South Carolina	873	399	474
Tennessee	5,362	0	5,362
Total	37,329	22,533	14,796
Imports from:			
Delaware	998	662	336
Kentucky	7	0	7
Maryland	4,760	3,028	1,732
North Carolina	33,052	11,095	21,957
Tennessee	14	0	14
West Virginia	11,323	444	10,879
Total	50,154	15,229	34,925

<sup>a</sup> Includes roundwood chipped that was delivered to nonpulpmills and then chipped and sold to pulpmills.



**Table 11—Composite panel volume by destination, source, and species group, Virginia, 1995**

Destination and source	All species	Species group	
		Softwood	Hardwood
Thousand cubic feet			
Virginia (retained)	16,611	7,309	9,302
Exports to:			
North Carolina	4,851	2,780	2,071
Total	4,851	2,780	2,071
Imports from:			
Kentucky	1,039	70	969
North Carolina	9,179	4,856	4,323
Tennessee	584	39	545
Total	10,802	4,965	5,837

**Table 12—Other industrial volume by destination, source, and species group, Virginia, 1995<sup>a</sup>**

Destination and source	All species	Species group	
		Softwood	Hardwood
<i>Thousand cubic feet</i>			
<b>Virginia (retained)</b>	3,692	1,194	2,498
<b>Exports to:</b>			
West Virginia	35	35	0
Total	35	35	0
<b>Imports from:</b>			
Alabama	142	142	0
Georgia	78	78	0
North Carolina	437	437	0
Total	657	657	0

<sup>a</sup> Includes poles, posts, mulch, firewood, log homes, charcoal, and all other industrial mills.

**Table 13—Primary mill residue volume by roundwood type, species group, and residue type, Virginia, 1995**

Roundwood type and species group	All types	Residue type			
		Bark	Coarse	Sawdust	Shavings
Thousand cubic feet					
Saw logs					
Softwood	56,796	6,652	26,365	17,577	6,202
Hardwood	72,071	12,504	34,908	24,193	466
Total	128,867	19,156	61,273	41,770	6,668
Veneer logs					
Softwood	9,345	1,255	6,010	2,080	0
Hardwood	830	241	389	200	0
Total	10,175	1,496	6,399	2,280	0
Pulpwood					
Softwood	10,799	10,799	0	0	0
Hardwood	13,325	13,325	0	0	0
Total	24,124	24,124	0	0	0
Composite panels					
Softwood	1,970	1,970	0	0	0
Hardwood	3,400	3,400	0	0	0
Total	5,370	5,370	0	0	0
Other industrial <sup>a</sup>					
Softwood	1,482	1,243	239	0	0
Hardwood	1,498	373	823	302	0
Total	2,980	1,616	1,062	302	0
Total					
Softwood	80,392	21,919	32,614	19,657	6,202
Hardwood	91,124	29,843	36,120	24,695	466
Total	171,516	51,762	68,734	44,352	6,668

<sup>a</sup> Includes poles, pilings, posts, and other industrial products.

**Table 14—Disposal of residue at primary wood-using plants by product, species group, and type of residue, Virginia, 1992 and 1995**

Product and species group	All types		Bark		Coarse		Sawdust		Shavings	
	1992	1995	1992	1995	1992	1995	1992	1995	1992	1995
<i>Thousand cubic feet</i>										
<b>Fiber products</b>										
Softwood	25,722	29,240	0	0	25,439	29,228	208	12	75	0
Hardwood	28,118	27,887	0	0	27,522	27,162	596	725	0	0
Total	53,840	57,127	0	0	52,961	56,390	804	737	75	0
<b>Particleboard</b>										
Softwood	8,743	8,759	0	0	402	747	5,162	4,487	3,179	3,525
Hardwood	1,907	2,688	0	0	853	1,593	971	1,016	83	79
Total	10,650	11,447	0	0	1,255	2,340	6,133	5,503	3,262	3,604
<b>Composite panels</b>										
Softwood	120	141	0	0	0	41	114	94	6	6
Hardwood	3,621	618	0	27	3,571	534	49	49	1	8
Total	3,741	759	0	27	3,571	575	163	143	7	14
<b>Sawn products</b>										
Softwood	3,072	0	0	0	2,913	0	159	0	0	0
Hardwood	72	4	0	0	4	4	68	0	0	0
Total	3,144	4	0	0	2,917	4	227	0	0	0
<b>Fuel</b>										
Softwood	23,673	29,529	10,527	13,005	1,288	2,200	11,326	13,318	532	1,006
Hardwood	39,406	39,645	17,098	16,976	3,933	4,632	18,152	17,815	223	222
Total	63,079	69,174	27,625	29,981	5,221	6,832	29,478	31,133	755	1,228
<b>Miscellaneous</b>										
Softwood	9,455	11,615	7,058	8,527	17	72	1,180	1,420	1,200	1,596
Hardwood	15,626	16,578	10,190	11,986	1,686	1,247	3,594	3,217	156	128
Total	25,081	28,193	17,248	20,513	1,703	1,319	4,774	4,637	1,356	1,724
<b>Not used</b>										
Softwood	975	1,108	266	387	367	326	321	326	21	69
Hardwood	4,390	3,704	1,029	854	1,150	948	2,182	1,873	29	29
Total	5,365	4,812	1,295	1,241	1,517	1,274	2,503	2,199	50	98
<b>All products</b>										
Softwood	71,760	80,392	17,851	21,919	30,426	32,614	18,470	19,657	5,013	6,202
Hardwood	93,140	91,124	28,317	29,843	38,719	36,120	25,612	24,695	492	466
Total	164,900	171,516	46,168	51,762	69,145	68,734	44,082	44,352	5,505	6,668

**Table 15—Roundwood timber products output by product and species group, Coastal Plain of Virginia, 1992 and 1995**

Product and species group	Year		Change	Percent change
	1992	1995		
Thousand cubic feet				
Saw logs				
Softwood	49,110	49,350	240	0.5
Hardwood	31,474	33,044	1,570	5.0
Total	80,584	82,394	1,810	2.2
Veneer logs				
Softwood	9,626	9,780	154	1.6
Hardwood	1,116	490	-626	-56.1
Total	10,742	10,270	-472	-4.4
Pulpwood <sup>a</sup>				
Softwood	50,486	57,416	6,930	13.7
Hardwood	24,228	31,473	7,245	29.9
Total	74,714	88,889	14,175	19.0
Composite panels				
Softwood	3,696	3,753	57	1.5
Hardwood	3,542	3,632	90	2.5
Total	7,238	7,385	147	2.0
Other industrial				
Softwood	475	410	-65	-13.7
Hardwood	831	728	-103	-12.4
Total	1,306	1,138	-168	-12.9
All industrial				
Softwood	113,393	120,709	7,316	6.5
Hardwood	61,191	69,367	8,176	13.4
Total	174,584	190,076	15,492	8.9

<sup>a</sup> Includes roundwood that was delivered to nonpulpmills and then chipped and sold to pulpmills (5,889,000 cubic feet in 1992 and 2,319,000 cubic feet in 1995).

**Table 16—Roundwood timber products output by county, product, and species group, Coastal Plain of Virginia, 1995**

County	All products		Saw logs		Veneer logs		Pulpwood <sup>a</sup>		Composite panels		Other industrial	
	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood
<i>Thousand cubic feet</i>												
Accomack	2,237	844	980	155	0	0	1,132	689	0	0	125	0
Brunswick	15,555	10,008	3,631	2,746	1,297	35	10,140	6,437	458	473	29	317
Caroline	7,934	4,767	4,759	3,088	2	20	3,173	1,641	0	0	0	18
Charles City	1,887	882	683	223	0	4	1,162	634	0	0	42	21
Chesapeake	399	1,268	214	205	0	0	185	1,063	0	0	0	0
Chesterfield	4,053	1,426	1,851	872	810	20	1,209	359	183	175	0	0
Dinwiddie	8,021	3,842	3,123	2,018	810	8	3,630	1,060	458	439	0	317
Essex	2,253	1,756	1,393	1,050	2	0	858	699	0	0	0	7
Gloucester	2,117	1,792	974	1,084	0	0	1,136	701	0	0	7	7
Greensville	5,834	3,019	1,741	1,511	1,297	30	2,309	1,039	458	439	29	0
Hampton	72	0	65	0	0	0	7	0	0	0	0	0
Hanover	2,332	1,449	1,265	697	2	38	1,062	706	0	0	3	8
Henrico	724	434	309	210	0	4	415	218	0	0	0	2
Isle Of Wight	3,353	1,980	1,500	772	810	0	758	945	274	263	11	0
James City	652	629	509	250	0	20	142	357	0	0	1	2
King And Queen	5,355	1,884	2,159	672	2	66	3,191	1,146	0	0	3	0
King George	550	1,982	231	1,794	0	4	319	184	0	0	0	0
King William	3,744	2,948	1,082	2,055	47	55	2,614	838	0	0	1	0
Lancaster	1,324	878	683	326	0	0	641	552	0	0	0	0
Mathews	1,831	671	861	213	0	4	970	454	0	0	0	0
Middlesex	946	575	553	160	0	0	393	408	0	0	0	7
New Kent	3,091	2,776	728	1,579	2	12	2,345	1,168	0	0	16	17
Newport News	408	205	315	49	0	0	93	156	0	0	0	0
Northampton	684	336	521	248	0	0	110	88	0	0	53	0
Northumberland	978	491	876	375	0	0	101	116	0	0	1	0
Prince George	6,386	2,982	1,330	2,226	810	8	3,943	482	274	263	29	3
Richmond	1,782	709	938	308	0	0	844	401	0	0	0	0
Southhampton	10,845	6,815	5,033	2,425	1,297	74	4,033	3,877	458	439	24	0
Suffolk	6,283	2,054	2,769	454	810	72	2,235	1,089	458	439	11	0
Surry	4,906	1,442	1,733	771	810	4	2,065	404	274	263	24	0
Sussex	10,720	5,499	3,902	2,867	972	8	5,388	2,185	458	439	0	0
Virginia Beach	667	801	420	13	0	0	247	788	0	0	0	0
Westmoreland	2,196	1,849	1,894	1,428	0	0	301	421	0	0	1	0
York	590	374	325	200	0	4	265	168	0	0	0	2
<b>All counties</b>	<b>120,709</b>	<b>69,367</b>	<b>49,350</b>	<b>33,044</b>	<b>9,780</b>	<b>490</b>	<b>57,416</b>	<b>31,473</b>	<b>3,753</b>	<b>3,632</b>	<b>410</b>	<b>728</b>

<sup>a</sup> Includes roundwood that was delivered to nonpulp mills and then chipped and sold to pulpmills (2,319,000 cubic feet in 1995).

**Table 17—Roundwood timber products output by product and species group, Southern Piedmont of Virginia, 1992 and 1995**

Product and species group	Year		Change	Percent change
	1992	1995		
Thousand cubic feet				
Saw logs				
Softwood	24,299	23,617	-682	-2.8
Hardwood	31,701	34,051	2,350	7.4
Total	56,000	57,668	1,668	3.0
Veneer logs				
Softwood	3,220	3,354	134	4.2
Hardwood	856	423	-433	-50.6
Total	4,076	3,777	-299	-7.3
Pulpwood <sup>a</sup>				
Softwood	36,081	38,583	2,502	6.9
Hardwood	34,847	32,567	-2,280	-6.5
Total	70,928	71,150	222	0.3
Composite panels				
Softwood	2,346	5,261	2,915	124.3
Hardwood	4,055	3,154	-901	-22.2
Total	6,401	8,415	2,014	31.5
Other industrial				
Softwood	2,187	336	-1,851	-84.6
Hardwood	1,508	1,502	-6	-0.4
Total	3,695	1,838	-1,857	-50.3
All industrial				
Softwood	68,133	71,151	3,018	4.4
Hardwood	72,967	71,697	-1,270	-1.7
Total	141,100	142,848	1,748	1.2

<sup>a</sup> Includes roundwood that was delivered to nonpulp mills and then chipped and sold to pulp mills (2,793,000 cubic feet in 1992 and 1,731,000 cubic feet in 1995).

**Table 18—Roundwood timber products output by county, product, and species group, Southern Piedmont of Virginia, 1995**

County	All products		Saw logs		Veneer logs		Pulpwood <sup>a</sup>		Composite panels		Other industrial	
	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood
<i>Thousand cubic feet</i>												
Amelia	6,898	8,771	2,394	2,173	810	0	3,420	6,335	274	263	0	0
Appomattox	4,630	3,324	893	1,527	0	4	3,737	1,793	0	0	0	0
Bedford	1,565	4,543	771	2,793	0	8	607	1,742	187	0	0	0
Buckingham	9,836	3,977	2,007	1,649	0	4	7,829	2,324	0	0	0	0
Campbell	7,488	2,745	2,094	1,165	0	41	5,196	1,539	187	0	11	0
Charlotte	4,205	7,258	1,802	3,429	0	4	2,216	3,818	187	0	0	7
Cumberland	2,114	2,524	154	564	0	4	1,696	1,945	0	0	264	11
Franklin	2,567	4,353	628	3,389	63	21	1,606	885	270	58	0	0
Halifax	4,394	5,265	2,628	2,464	0	4	1,082	2,489	668	308	16	0
Henry	1,993	3,192	682	1,438	0	69	10	739	1,301	946	0	0
Lunenburg	4,770	3,081	1,483	1,336	810	4	2,187	1,056	274	263	16	422
Mecklenburg	4,466	5,753	2,201	2,595	810	61	781	1,991	645	473	29	633
Nottoway	4,573	2,496	1,836	707	810	8	1,653	1,096	274	263	0	422
Patrick	874	3,451	506	3,162	0	0	6	42	362	247	0	0
Pittsylvania	5,944	5,909	2,804	2,525	51	117	2,457	2,934	632	333	0	0
Powhatan	2,676	1,965	604	1,537	0	70	2,072	351	0	0	0	7
Prince Edward	2,158	3,090	130	1,598	0	4	2,028	1,488	0	0	0	0
All counties	71,151	71,697	23,617	34,051	3,354	423	38,583	32,567	5,261	3,154	336	1,502

<sup>a</sup> Includes roundwood that was delivered to nonpulp mills and then chipped and sold to pulpmills (1,731,000 cubic feet in 1995).

**Table 19—Roundwood timber products output by product and species group, Northern Piedmont of Virginia, 1992 and 1995**

Product and species group	Year		Change	Percent change
	1992	1995		
Thousand cubic feet				
Saw logs				
Softwood	10,526	9,899	-627	-6.0
Hardwood	16,361	15,880	-481	-2.9
Total	26,887	25,779	-1,108	-4.1
Veneer logs				
Softwood	3	0	-3	-100.0
Hardwood	433	289	-144	-33.3
Total	436	289	-147	-33.7
Pulpwood <sup>a</sup>				
Softwood	15,862	14,058	-1,804	-11.4
Hardwood	8,752	7,662	-1,090	-12.5
Total	24,614	21,720	-2,894	-11.8
Composite panels				
Softwood	63	278	215	341.3
Hardwood	45	39	-6	-13.3
Total	108	317	209	193.5
Other industrial				
Softwood	779	369	-410	-52.6
Hardwood	1,862	211	-1,651	-88.7
Total	2,641	580	-2,061	-78.0
All industrial				
Softwood	27,233	24,604	-2,629	-9.7
Hardwood	27,453	24,081	-3,372	-12.3
Total	54,686	48,685	-6,001	-11.0

<sup>a</sup> Includes roundwood that was delivered to nonpulp mills and then chipped and sold to pulp mills (499,000 cubic feet in 1992 and 340,000 cubic feet in 1995).



**Table 20—Roundwood timber products output by county, product, and species group, Northern Piedmont of Virginia, 1995**

County	All products		Saw logs		Veneer logs		Pulpwood <sup>a</sup>		Composite panels		Other industrial	
	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood
<i>Thousand cubic feet</i>												
Albemarle	4,470	2,621	1,970	1,574	0	8	2,500	1,039	0	0	0	0
Amherst	2,659	4,294	878	2,846	0	0	1,729	1,448	0	0	52	0
Arlington	14	80	0	0	0	0	14	80	0	0	0	0
Culpeper	1,155	1,063	149	626	0	10	981	332	0	0	25	95
Fairfax	683	418	0	79	0	0	683	339	0	0	0	0
Fauquier	293	1,236	101	961	0	18	192	257	0	0	0	0
Fluvanna	1,078	685	828	72	0	56	234	557	0	0	16	0
Goochland	1,838	877	441	362	0	16	1,397	499	0	0	0	0
Greene	152	809	97	776	0	0	0	33	0	0	55	0
Loudoun	102	945	8	932	0	0	94	13	0	0	0	0
Louisa	4,364	2,452	2,739	1,586	0	12	1,513	808	0	0	112	46
Madison	318	1,372	194	1,320	0	8	41	44	0	0	83	0
Nelson	1,813	2,158	341	1,493	0	37	1,194	589	278	39	0	0
Orange	1,550	1,802	906	972	0	45	618	747	0	0	26	38
Prince William	237	167	65	123	0	4	172	40	0	0	0	0
Rappahannock	25	982	25	946	0	30	0	6	0	0	0	0
Spotsylvania	3,103	1,153	754	513	0	16	2,349	592	0	0	0	32
Stafford	750	967	403	699	0	29	347	239	0	0	0	0
All counties	24,604	24,081	9,899	15,880	0	289	14,058	7,662	278	39	369	211

<sup>a</sup> Includes roundwood that was delivered to nonpulpmills and then chipped and sold to pulpmills (340,000 cubic feet in 1995).

**Table 21—Roundwood timber products output by product and species group, Northern Mountains of Virginia, 1992 and 1995**

Product and species group	Year		Change	Percent change
	1992	1995		
Thousand cubic feet				
Saw logs				
Softwood	1,368	2,205	837	61.2
Hardwood	11,846	13,974	2,128	18.0
Total	13,214	16,179	2,965	22.4
Veneer logs				
Softwood	2	0	-2	-100.0
Hardwood	283	370	87	30.7
Total	285	370	85	29.8
Pulpwood <sup>a</sup>				
Softwood	2,572	3,129	557	21.7
Hardwood	9,247	7,722	-1,525	-16.5
Total	11,819	10,851	-968	-8.2
Composite panels				
Softwood	0	0	0	--
Hardwood	0	0	0	--
Total	0	0	0	--
Other industrial				
Softwood	0	114	114	--
Hardwood	47	57	10	21.3
Total	47	171	124	263.8
All industrial				
Softwood	3,942	5,448	1,506	38.2
Hardwood	21,423	22,123	700	3.3
Total	25,365	27,571	2,206	8.7

-- = negligible.

<sup>a</sup> Includes roundwood that was delivered to nonpulpmills and then chipped and sold to pulpmills (438,000 cubic feet in 1992 and 13,000 cubic feet in 1995).

**Table 22—Roundwood timber products output by county, product, and species group, Northern Mountains of Virginia, 1995**

County	All products		Saw logs		Veneer logs		Pulpwood <sup>a</sup>		Composite panels		Other industrial	
	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood
<i>Thousand cubic feet</i>												
Alleghany	781	1,941	488	1,103	0	58	293	780	0	0	0	0
Augusta	515	2,805	335	2,017	0	4	180	765	0	0	0	19
Bath	250	2,351	61	1,155	0	54	154	1,142	0	0	35	0
Botetourt	609	2,022	106	846	0	58	503	1,118	0	0	0	0
Clarke	3	161	3	161	0	0	0	0	0	0	0	0
Craig	280	583	113	186	0	54	167	343	0	0	0	0
Frederick	904	1,757	9	993	0	17	895	747	0	0	0	0
Highland	55	1,848	7	1,106	0	54	48	688	0	0	0	0
Page	7	140	7	139	0	0	0	1	0	0	0	0
Roanoke	555	1,462	487	1,145	0	4	68	313	0	0	0	0
Rockbridge	846	4,428	287	3,183	0	4	480	1,222	0	0	79	19
Rockingham	146	1,054	64	703	0	0	82	332	0	0	0	19
Shenandoah	137	952	27	808	0	0	110	144	0	0	0	0
Warren	360	619	211	429	0	63	149	127	0	0	0	0
All counties	5,448	22,123	2,205	13,974	0	370	3,129	7,722	0	0	114	57

<sup>a</sup> Includes roundwood that was delivered to nonpulp mills and then chipped and sold to pulpmills (13,000 cubic feet in 1995).

**Table 23—Roundwood timber products output by product and species group, Southern Mountains of Virginia, 1992 and 1995**

Product and species group	Year		Change	Percent change
	1992	1995		
Thousand cubic feet				
Saw logs				
Softwood	7,249	8,698	1,449	20.0
Hardwood	21,621	22,051	430	2.0
Total	28,870	30,749	1,879	6.5
Veneer logs				
Softwood	0	0	0	--
Hardwood	2,366	1,591	-775	-32.8
Total	2,366	1,591	-775	-32.8
Pulpwood <sup>a</sup>				
Softwood	51	555	504	988.2
Hardwood	7,285	8,200	915	12.6
Total	7,336	8,755	1,419	19.3
Composite panels				
Softwood	441	797	356	80.7
Hardwood	1,646	4,548	2,902	176.3
Total	2,087	5,345	3,258	156.1
Other industrial				
Softwood	0	0	0	--
Hardwood	0	0	0	--
Total	0	0	0	--
All industrial				
Softwood	7,741	10,050	2,309	29.8
Hardwood	32,918	36,390	3,472	10.5
Total	40,659	46,440	5,781	14.2

-- = negligible.

<sup>a</sup> Includes roundwood that was delivered to nonpulp mills and then chipped and sold to pulp mills (412,000 cubic feet in 1992 and 73,000 cubic feet in 1995).

**Table 24—Roundwood timber products output by county, product, and species group, Southern Mountains of Virginia, 1995**

County	All products		Saw logs		Veneer logs		Pulpwood <sup>a</sup>		Composite panels		Other industrial	
	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood
<i>Thousand cubic feet</i>												
Bland	532	1,726	449	1,568	0	47	0	46	83	65	0	0
Buchanan	39	1,476	9	687	0	232	0	134	30	423	0	0
Carroll	4,535	3,706	4,066	2,331	0	60	386	1,251	83	64	0	0
Dickenson	57	2,492	0	1,216	0	4	0	486	57	786	0	0
Floyd	1,498	1,545	1,408	1,455	0	4	7	26	83	60	0	0
Giles	230	1,845	212	1,691	0	4	18	90	0	60	0	0
Grayson	2,117	2,461	1,956	1,579	0	0	78	840	83	42	0	0
Lee	17	3,051	0	1,520	0	95	0	1,194	17	242	0	0
Montgomery	159	1,359	99	855	0	4	60	461	0	39	0	0
Pulaski	116	436	28	320	0	0	5	115	83	1	0	0
Russell	8	1,913	0	1,270	0	249	0	274	8	120	0	0
Scott	81	4,318	11	1,782	0	172	0	1,397	70	967	0	0
Smyth	44	1,026	40	557	0	47	0	362	4	60	0	0
Tazewell	22	1,284	13	909	0	47	1	208	8	120	0	0
Washington	77	2,527	42	1,222	0	214	0	608	35	483	0	0
Wise	70	3,333	0	1,307	0	408	0	651	70	967	0	0
Wythe	448	1,892	365	1,782	0	4	0	57	83	49	0	0
All counties	10,050	36,390	8,698	22,051	0	1,591	555	8,200	797	4,548	0	0

<sup>a</sup> Includes roundwood that was delivered to nonpulp mills and then chipped and sold to pulp mills (73,000 cubic feet in 1995).

**Table 25—Total roundwood output by product, species group, and source of material, Virginia, 1995**

Product and species group	All sources	Total	Growing-stock trees		Other sources
			Sawtimber	Poletimber	
Thousand cubic feet					
Saw logs					
Softwood	93,769	91,543	87,893	3,650	2,226
Hardwood	119,000	111,586	105,705	5,881	7,414
Total	212,769	203,129	193,598	9,531	9,640
Veneer logs and bolts					
Softwood	13,134	12,979	12,719	260	155
Hardwood	3,163	3,136	3,007	129	27
Total	16,297	16,115	15,726	389	182
Pulpwood					
Softwood	113,741	102,095	46,964	55,131	11,646
Hardwood	87,624	77,850	35,032	42,818	9,774
Total	201,365	179,945	81,996	97,949	21,420
Composite panel					
Softwood	10,089	9,056	4,166	4,890	1,033
Hardwood	11,373	10,104	4,547	5,557	1,269
Total	21,462	19,160	8,713	10,447	2,302
Poles and posts					
Softwood	1,194	980	896	84	214
Hardwood	69	4	2	2	65
Total	1,263	984	898	86	279
Other miscellaneous					
Softwood	35	35	25	10	0
Hardwood	2,429	2,210	1,578	632	219
Total	2,464	2,245	1,603	642	219
Total industrial products					
Softwood	231,962	216,688	152,663	64,025	15,274
Hardwood	223,658	204,890	149,871	55,019	18,768
Total	455,620	421,578	302,534	119,044	34,042
Fuelwood					
Softwood	10,508	6,228	4,487	1,741	4,280
Hardwood	93,324	49,142	35,406	13,736	44,182
Total	103,832	55,370	39,893	15,477	48,462
All products					
Softwood	242,470	222,916	157,150	65,766	19,554
Hardwood	316,982	254,032	185,277	68,755	62,950
Total	559,452	476,948	342,427	134,521	82,504

**Table 26—Total roundwood output by species group, survey unit, and ownership, Virginia, 1995**

Species group and survey unit	Total	National forest	Other public	Forest industry	Nonindustrial private
<i>Thousand cubic feet</i>					
<b>Softwoods</b>					
Coastal Plain	126,178	0	8,106	48,787	69,284
Southern Piedmont	74,375	0	3,211	24,228	46,936
Northern Piedmont	25,719	0	0	6,120	19,599
Northern Mountains	5,694	247	0	156	5,292
Southern Mountains	10,504	46	154	0	10,304
Total softwoods	242,470	293	11,472	79,291	151,414
<b>Hardwoods</b>					
Coastal Plain	98,312	0	822	24,580	72,909
Southern Piedmont	101,612	0	453	18,314	82,845
Northern Piedmont	34,131	957	568	811	31,796
Northern Mountains	31,353	11,296	2,407	601	17,049
Southern Mountains	51,574	2,809	1,007	586	47,172
Total hardwoods	316,982	15,061	5,257	44,893	251,771
<b>All species</b>	559,452	15,354	16,729	124,184	403,185

**Table 27—Total roundwood output by species group, detailed species group, and product,  
Virginia, 1995**

Species group and detailed species group	Product							
	Total	Saw log	Veneer	Pulpwood	Composite	Fuelwood	Poles	Other
					panel		and posts	miscellaneous
Thousand cubic feet								
Softwood								
Cedar	1,408	249	29	971	91	62	6	0
White pine	9,013	6,720	16	1,282	602	391	2	0
Loblolly–shortleaf pin	167,910	62,275	12,487	78,902	6,287	7,277	646	35
Other yellow pines	62,288	23,011	589	32,426	3,026	2,698	539	0
Cypress	115	51	13	41	5	5	0	0
Hemlock	1,736	1,463	0	119	79	75	0	0
Total softwoods	242,470	93,769	13,134	113,741	10,089	10,508	1,194	35
Hardwood								
Soft maple	21,283	7,537	244	6,183	885	6,266	4	165
Hard maple	1,904	686	83	306	264	561	0	4
Other birch	2,918	1,072	27	936	23	859	1	0
Hickory	15,881	6,176	117	4,125	531	4,675	4	252
Beech	3,815	1,177	78	1,112	315	1,123	0	9
Ash	3,550	1,239	48	967	225	1,045	0	25
Black walnut	2,180	1,056	10	396	73	642	0	2
Sweetgum	26,628	8,147	154	9,233	971	7,840	10	274
Yellow-poplar	59,282	21,787	573	16,765	2,434	17,454	18	252
Blackgum–tupelo	5,725	1,984	30	1,779	210	1,685	1	35
Sycamore	3,215	1,199	29	840	138	946	1	61
Cottonwood	587	235	8	157	15	173	0	0
Black cherry	954	420	4	246	1	281	0	1
Select white oaks	53,703	18,777	388	16,713	1,428	15,811	12	574
Other white oaks	21,800	9,403	237	5,209	495	6,419	0	36
Select red oaks	21,444	8,754	361	5,122	823	6,313	2	69
Other red oaks	56,425	22,633	530	14,254	1,794	16,612	15	587
Basswood	1,535	664	34	259	123	452	0	4
Elm	1,452	472	7	452	69	427	0	25
Other Eastern hardwoods	12,703	5,582	202	2,568	557	3,740	1	54
Total hardwoods	316,982	119,000	3,163	87,624	11,373	93,324	69	2,429
All species	559,452	212,769	16,297	201,365	21,462	103,832	1,263	2,464



**Table 28—Total roundwood output by species group, detailed species group, and ownership, Virginia, 1995**

Species group and detailed species group	Total	National forest	Other public	Forest industry	Nonindustrial private
<i>Thousand cubic feet</i>					
<b>Softwood</b>					
Cedar	1,408	0	30	312	1,065
White pine	9,013	0	142	109	8,762
Loblolly–shortleaf pine	167,910	0	8,112	65,025	94,773
Other yellow pines	62,288	293	3,188	13,781	45,026
Cypress	115	0	0	64	51
Hemlock	1,736	0	0	0	1,736
Total softwoods	242,470	293	11,472	79,291	151,414
<b>Hardwood</b>					
Soft maple	21,283	1,448	152	3,016	16,666
Hard maple	1,904	11	0	95	1,798
Other birch	2,918	70	10	776	2,062
Hickory	15,881	521	135	1,648	13,578
Beech	3,815	0	4	461	3,350
Ash	3,550	32	12	541	2,965
Black walnut	2,180	230	41	217	1,692
Sweetgum	26,628	0	147	5,727	20,753
Yellow-poplar	59,282	1,381	664	10,186	47,052
Blackgum–tupelo	5,725	140	16	1,074	4,495
Sycamore	3,215	24	0	925	2,266
Cottonwood	587	0	0	89	498
Black cherry	954	79	129	83	664
Select white oaks	53,703	1,519	641	8,956	42,587
Other white oaks	21,800	3,133	1,166	1,322	16,179
Select red oaks	21,444	2,564	430	1,721	16,729
Other red oaks	56,425	3,008	1,442	6,698	45,277
Basswood	1,535	466	25	0	1,044
Elm	1,452	0	9	359	1,083
Other Eastern hardwoods	12,703	435	235	1,000	11,034
Total hardwoods	316,982	15,061	5,257	44,893	251,771
<b>All species</b>	<b>559,452</b>	<b>15,354</b>	<b>16,729</b>	<b>124,184</b>	<b>403,185</b>

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In 1995, roundwood output from Virginia's forests totaled more than 455 million cubic feet, 4 percent more than in 1992. Mill byproducts generated from primary manufacturers increased 3 percent to 167 million cubic feet. Almost 97 percent of the plant residues were used primarily for fuel and fiber products. Saw logs were the leading roundwood product at 213 million cubic feet; pulpwood ranked second at 201 million cubic feet; composite panels were third at 21 million cubic feet. The number of primary processing plants declined from 311 in 1992 to 289 in 1995. Total receipts increased 3 percent to almost 485 million cubic feet.

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

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