

United States
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Forest Service

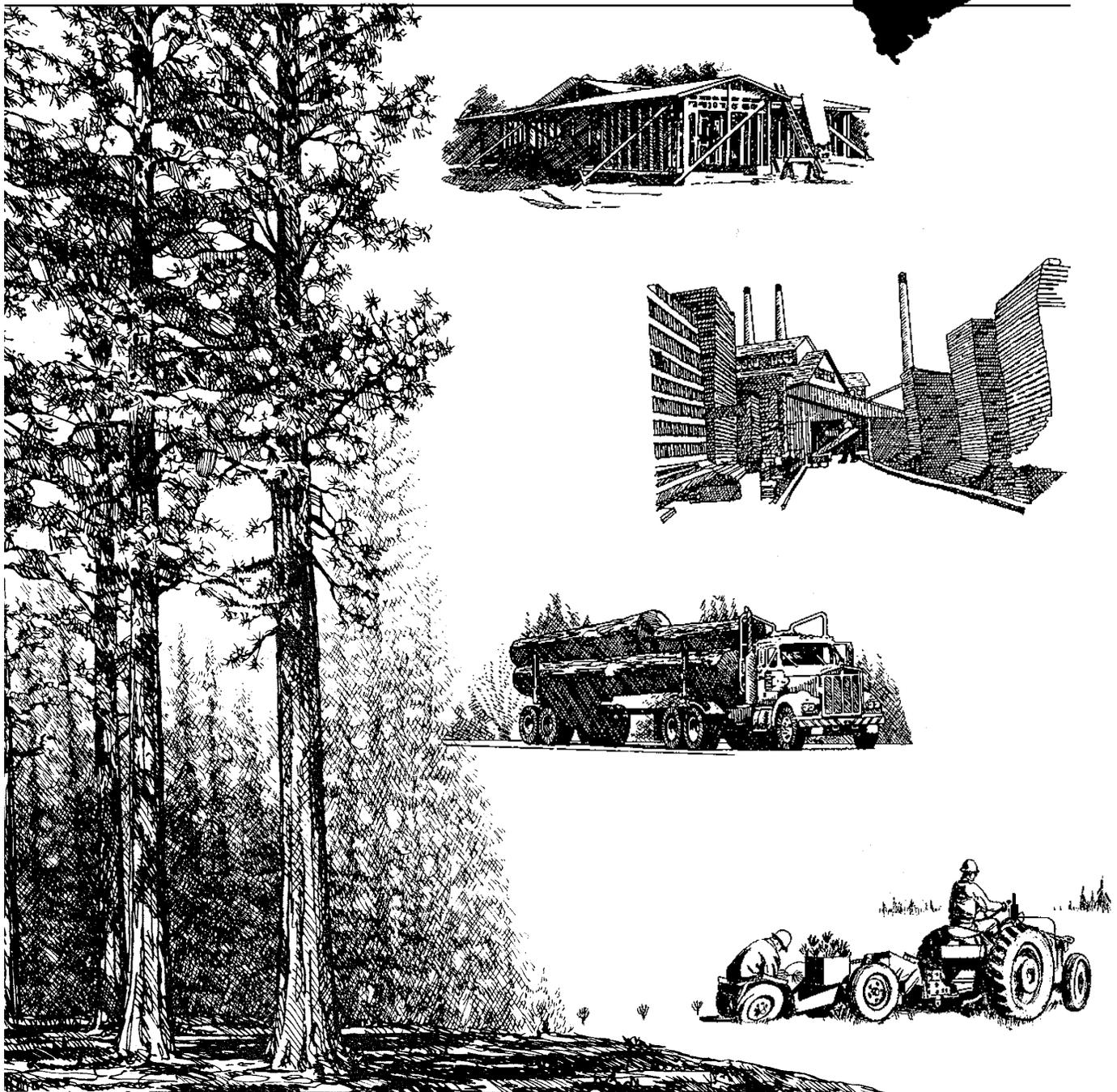


Southern
Research Station

Resource Bulletin
SRS-46

South Carolina's Timber Industry— An Assessment of Timber Product Output and Use, 1997

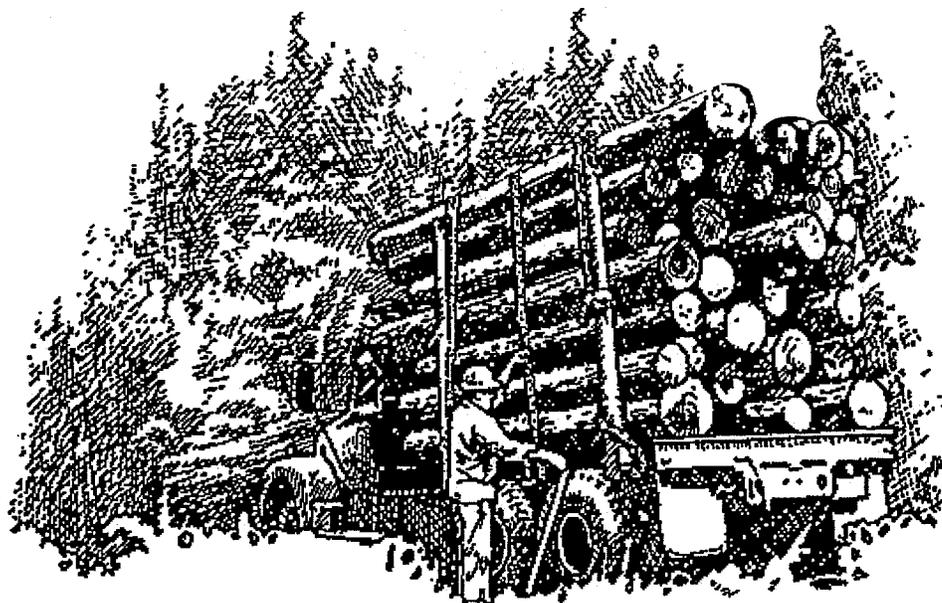
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Foreword

This report contains the findings of a 1997 canvass of all primary wood-using plants in South Carolina and presents changes in product output and residue use since 1995. 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 1997 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 South Carolina was conducted in 1998 to obtain information for 1997. In addition, roundwood from out-of-State mills known to be using logs or bolts harvested from South Carolina timberland was incorporated into South Carolina 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 updated by current data collected for mills of similar size, product type, and location. Surveys for all timber products other than pulpwood began in 1957, and are currently conducted every 2 years.

Pulpwood production data were taken from an annual canvass of all southeastern pulpmills. 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 South Carolina Forestry Commission 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 96 percent of mills operating in 1997: 8 pulpmills, 10 of the 12 veneer mills, 6 mills manufacturing other industrial products, and 64 of the 66 sawmills. These mills accounted for 92 percent of the 1997 mill receipts.



Dear Customer:

In addition to the timber product assessment reports generated for each of the 13 Southern States, the Timber Product Output (TPO) Database Retrieval System is available through the Starkville, MS, web site. That address is:

<http://www.srsfia.usfs.msstate.edu/rpa/tpo>

The database is well documented and very user friendly. This retrieval system allows you, the user, to select the TPO variables of interest and generate a standard set of timber removals and mill residue tables for the specified resource area or areas. The system has been logically divided into four sections to assist you in developing a database retrieval. In section one you will be asked to define the resource area, section two customizes the removals data for the area, section three customizes the mill residue data, and in section four you will generate the tables for the resource area you have defined. In each section you will be asked to supply specific inputs that will serve to customize your database retrieval.

There are four options available for defining the geographic area of interest. Each option provides an increasing level of detail. The area can be defined by region, subregion, State, or county level. Select the option that best suits the level of detail required to meet your needs. If you select "county" as your option, be aware that some counties may have been combined due to data sensitivity.

If additional explanation or clarification is needed, feel free to contact:

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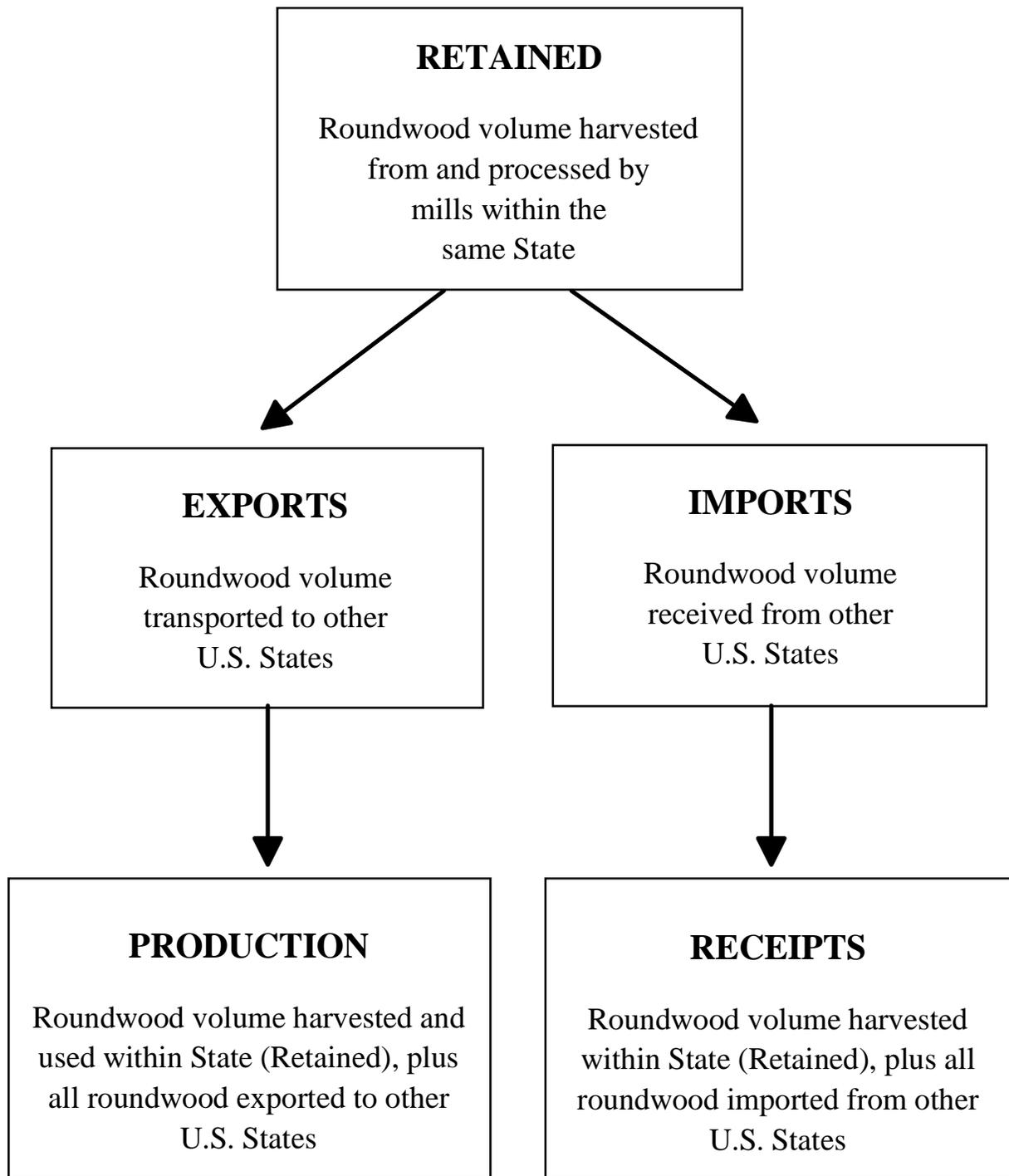
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^a All tables in this report are available in Microsoft® Excel workbook files. Upon request, these files will be supplied on 3½-diskettes.

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.

South Carolina's Timber Industry— An Assessment of Timber Product Output and Use, 1997

Tony G. Johnson and Peter S. Bischoff

Output of Industrial Timber Products

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

- Between 1995 and 1997, the combined industrial timber products output (TPO) from roundwood and plant byproducts increased 1 percent from 824 to 828 million cubic feet.
- Timber products output from roundwood was up 6 million cubic feet, or 1 percent, to 628 million cubic feet, while output of plant byproducts declined 2 million cubic feet to 200 million cubic feet.
- Output of softwood roundwood products declined 1 percent to 476 million cubic feet, while hardwood roundwood products increased 6 percent to 152 million cubic feet (fig. 2).
- Pulpwood and saw logs were the principal roundwood products in 1997. Combined output of these products totaled 573 million cubic feet and accounted for 91 percent of South Carolina's total roundwood output (fig. 3).
- Total receipts at South Carolina mills, which included roundwood harvested and retained in the State as well as roundwood imported from other States, increased slightly to 620 million cubic feet. At the same time, the number of primary roundwood-using plants in South Carolina was down from 99 in 1995 to 92 in 1997.

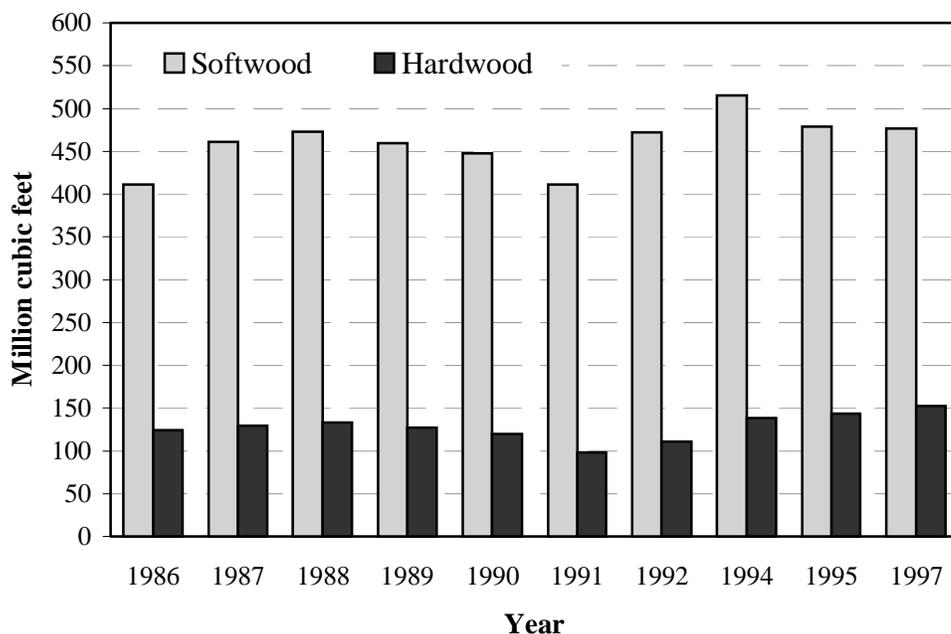


Figure 2—Roundwood production for all products by species group and year (see page 8 for references for individual years).

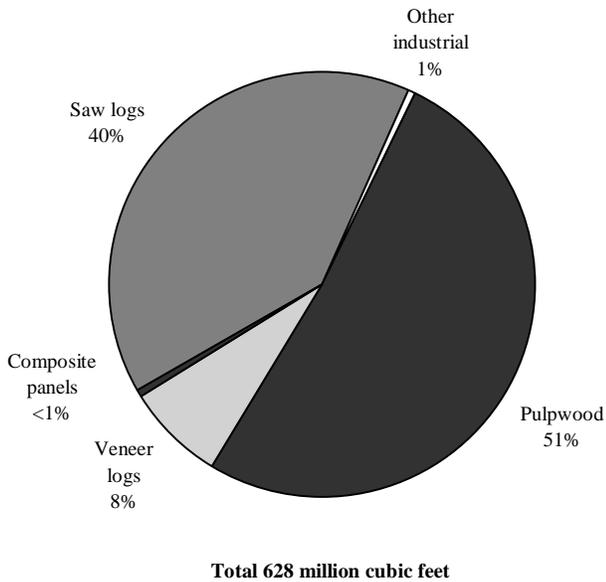


Figure 3—Roundwood production by type of product, 1997.

Pulpwood

- Pulpwood production, including chipped round wood, was up 2 million cubic feet to 322 million cubic feet and accounted for 51 percent of the State’s total roundwood TPO. Softwood output was down 1 percent to 210 million cubic feet (3.1 million cords), while hardwood output increased 4 percent to 112 million cubic feet (1.6 million cords) (fig. 4).

- Eight pulpmill facilities were operating and receiving roundwood in South Carolina in 1997, the same as in 1995. Total pulpwood receipts for these mills were up 4 million cubic feet to 328 million cubic feet, accounting for 53 percent of total receipts for all mills.
- Seventy-one percent of roundwood cut for pulpwood was retained for processing at South Carolina pulpmills. Roundwood pulpwood accounted for 71 percent of total known exports and 80 percent of total imports. Roundwood pulpwood imports amounted to 100 million cubic feet, or 6 million cubic feet more than was exported.

Saw Logs

- Saw logs accounted for 40 percent of the State’s total roundwood products. Output of softwood saw logs remained stable at 220 million cubic feet (1.2 billion board feet), while that of hardwood saw logs increased 16 percent to 32 million cubic feet (192 million board feet) (fig. 5).
- South Carolina currently has 66 sawmills, a net loss of 4 mills since 1995. Total saw-log receipts were up 3 million cubic feet to 244 million cubic feet. Softwood saw-log receipts declined 2 percent to 216 million cubic feet, while those of hardwoods rose 26

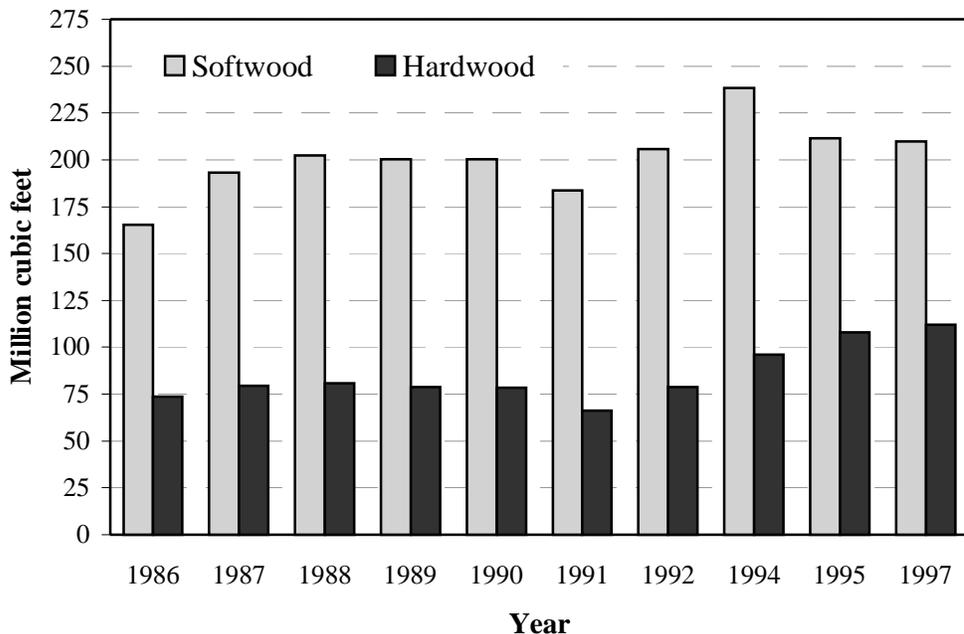


Figure 4—Roundwood pulpwood production by species group and year (see page 8 for references for individual years).

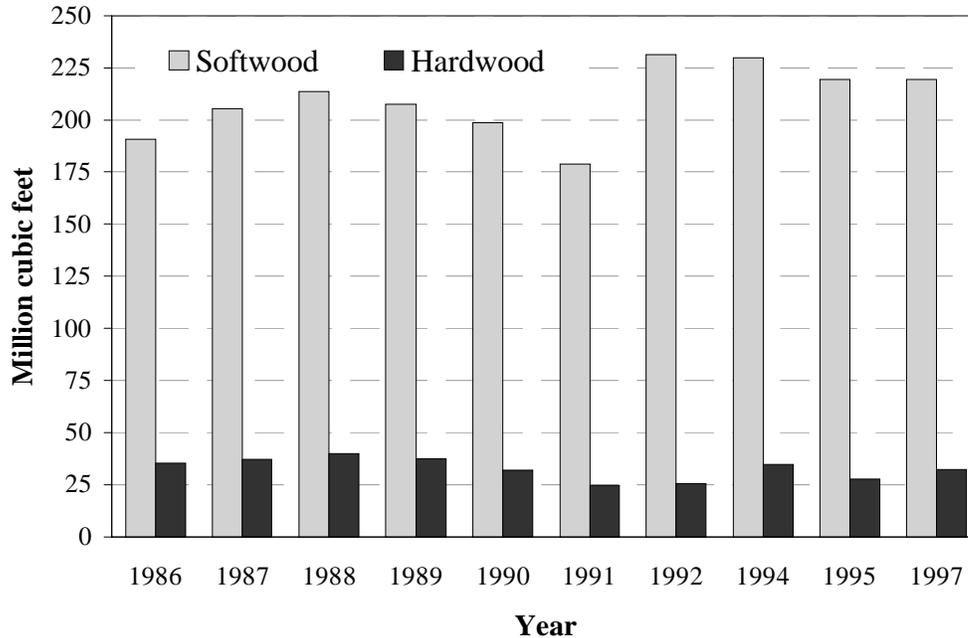


Figure 5—Roundwood saw-log production by species group and year (see page 8 for references for individual years).

percent to 28 million cubic feet. Of the 66 mills currently operating, 11 percent had receipts less than 1 million board feet, while 41 percent had receipts greater than 10 million board feet. Those 27 mills accounted for 89 percent of saw-log receipts.

- South Carolina retained 88 percent of its saw-log production for domestic manufacture, with saw-log exports exceeding imports by 8 million cubic feet in 1997.

Veneer Logs

- Output of veneer logs in 1997 totaled 48 million cubic feet and accounted for 8 percent of South Carolina's total roundwood TPO volume. Softwood veneer production was down 3 percent to 41 million cubic feet (231 million board feet); output of hardwood veneer logs declined 6 percent to 7 million cubic feet (46 million board feet) (fig. 6).
- The number of veneer mills operating in South Carolina fell to 12 since 1995. Receipts of veneer logs dropped 11 percent to 46 million cubic feet. Softwood veneer receipts were down 4 million cubic feet to 38 million cubic feet.

- South Carolina retained 92 percent of its veneer-log production for processing at domestic veneer mills. Imports amounted to 1 million cubic feet, while exports totaled 4 million cubic feet, making the State a net exporter of roundwood veneer logs.

Composite Panels

- Roundwood harvested from South Carolina's forests for composite panels increased substantially (144 percent) and totaled 3.3 million cubic feet. Two-thirds of the increase occurred in softwood output.
- All of the composite panel roundwood output was exported to Georgia mills.

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 3.5 million cubic feet. Softwood made up all of the other industrial product volume.
- The number of plants producing other industrial products totaled six in 1997. Receipts of other industrial products totaled 3.4 million cubic feet.

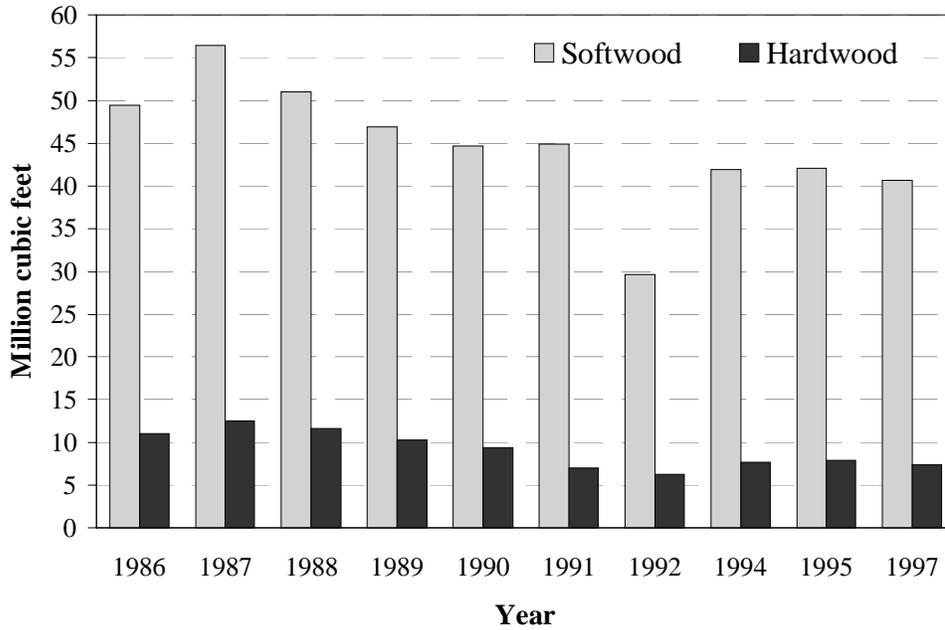


Figure 6—Roundwood veneer-log production by species group and year (see page 8 for references for individual years).

- South Carolina was a net exporter of roundwood used for other industrial products; all of the 450 thousand cubic feet imported (as well as the 500 thousand cubic feet exported) was softwood.

Plant Byproducts

- In 1997, processing of primary products in South Carolina mills generated 200 million cubic feet of wood and bark residues. Coarse residues from all primary products amounted to 74 million cubic feet, while bark volume totaled 61 million cubic feet. Sawdust and shavings made up 33 percent of total residues, or 65 million cubic feet (fig. 7).
- Almost all of the wood and bark residues were used for product manufacture. Forty-nine percent of the residue was used for industrial fuel (fig. 8). More than 62 million cubic feet, or 84 percent, of the coarse residues were used to manufacture fiber products. Most of the bark was used for industrial fuel or other miscellaneous products, while 65 percent of the sawdust and shavings were used for industrial fuel.

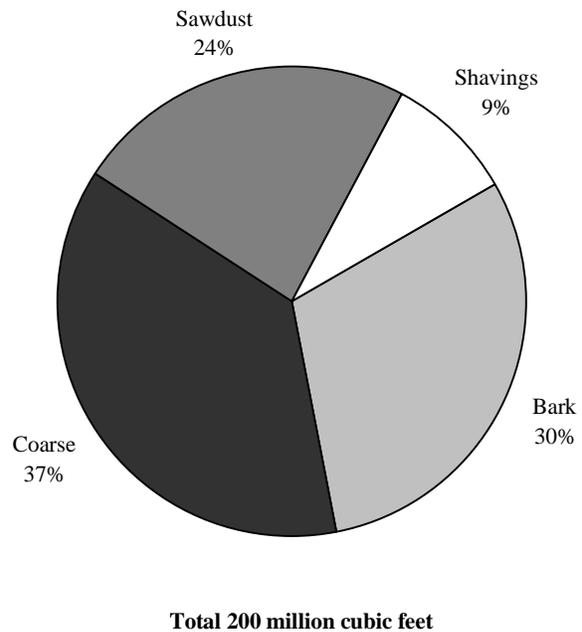


Figure 7—Primary mill residue by residue type, 1997.

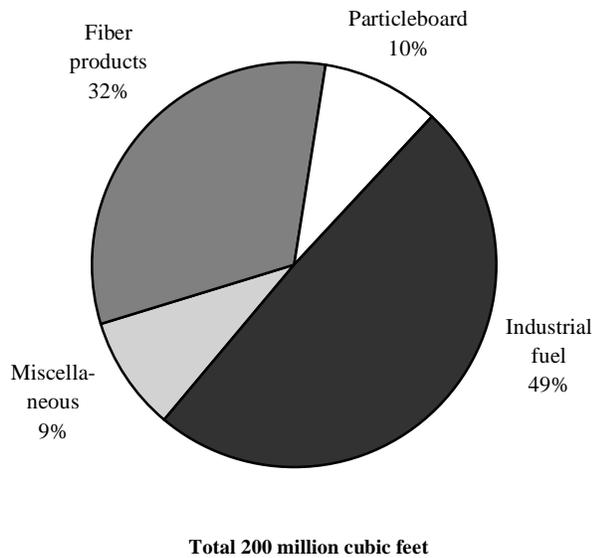


Figure 8—Disposal of residue by product, 1997.

- Sawmills generated 136 million cubic feet of mill residues, accounting for 68 percent of the total residues produced (fig. 9).

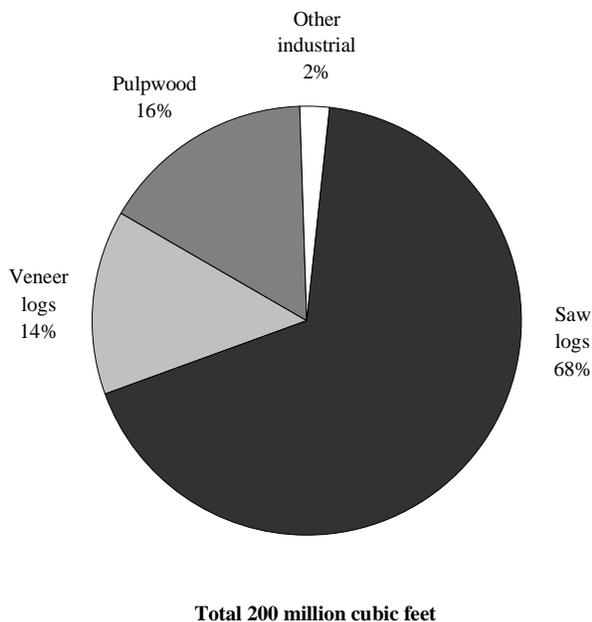


Figure 9—Primary mill residue produced by mill type, 1997.

Regional Trends

- Output of industrial roundwood products remained stable or increased slightly across all regions of South Carolina.
- The Northern Coastal Plain had the largest increase of 2 percent, with all of the increase occurring in softwood output.

Southern Coastal Plain Region

- Roundwood output from the Southern Coastal Plain region totaled 167 million cubic feet, up less than 1 percent since 1995. Both softwood and hardwood output remained relatively stable at 131 and 36 million cubic feet, respectively.
- Saw-log production of 81 million cubic feet accounted for 48 percent of the total roundwood output for the region. Pulpwood accounted for 46 percent of the region's TPO and 24 percent of the State's roundwood pulpwood output.
- In the Southern Coastal Plain region, 29 primary wood-using plants were operating during 1997: 18 sawmills, 6 veneer or plywood mills, and 5 other miscellaneous mills (fig. 10). These mills processed 27 percent of the State's total roundwood output.

Northern Coastal Plain Region

- More than 204 million cubic feet of roundwood were produced in the Northern Coastal Plain region, an increase of 2 percent.
- Production of pulpwood was down 1 percent, but still accounted for 52 percent of the region's total roundwood output and 33 percent of the State's total roundwood pulpwood output. Saw-log production of 81 million cubic feet accounted for 40 percent of the region's total roundwood output.
- The 27 mills operating in the Northern Coastal Plain region in 1997 included: 15 sawmills, 4 veneer or plywood mills, 7 pulpmills, and 1 other miscellaneous mill. These mills processed 32 percent of the State's total roundwood output.

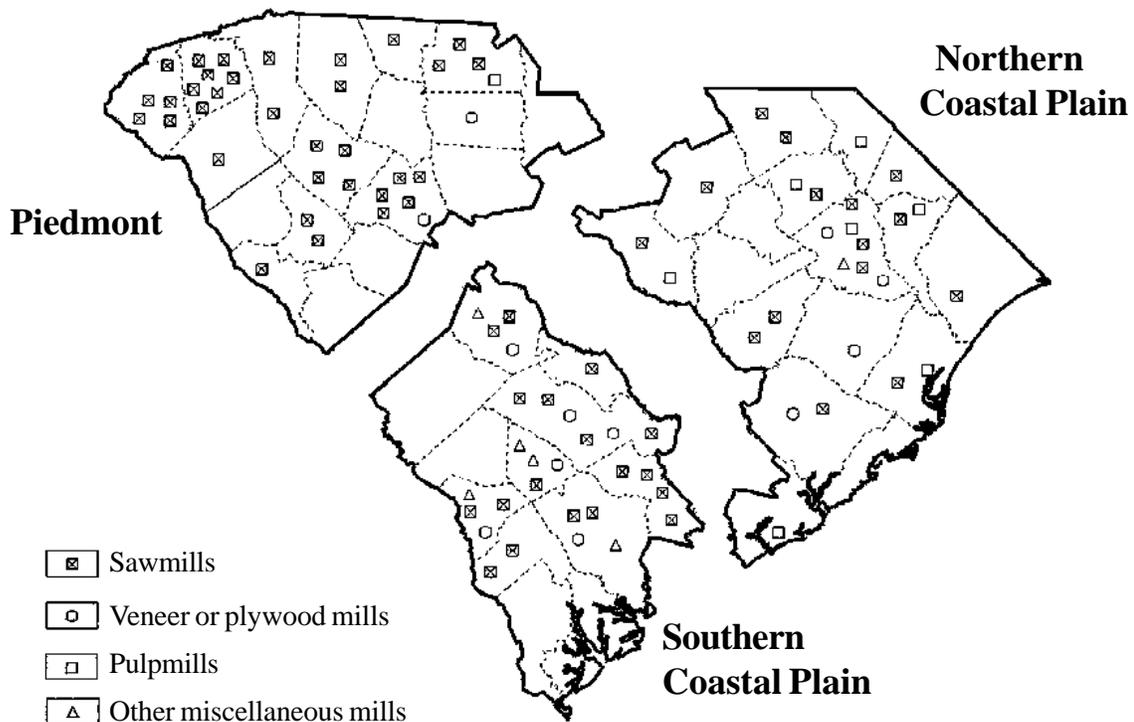


Figure 10—Primary wood-using mills by region, 1997.

Piedmont Region

- Roundwood output from the Piedmont region of South Carolina totaled 257 million cubic feet, an increase of 1 percent since 1995. Roundwood production from this region accounted for 41 percent of the total roundwood TPO for the State.
- Pulpwood production was down 1 percent to 137 million cubic feet, accounting for 53 percent of the region's total TPO. Saw-log production of 90 million cubic feet accounted for another 35 percent of the region's total roundwood output.
- The 36 primary wood-using plants operating in the Piedmont region included: 33 sawmills, 2 veneer or plywood mills, and 1 pulpmill.

Total Roundwood Output

Using the latest inventory data for South Carolina, product output was estimated by source, ownership, and detailed species group.

Source

- In addition to the 628 million cubic feet of roundwood output for industrial roundwood products, an estimated 56 million cubic feet was harvested for domestic fuelwood bringing South Carolina's total roundwood output to 684 million cubic feet.
- Ninety-two percent of total roundwood output was considered growing-stock volume (sawtimber and poletimber) from timberland sources. Other sources (such as saplings; stumps, tops, and limbs of trees on timberland; and trees on nonforest land) contributed an estimated 54 million cubic feet, or 8 percent of total roundwood output (fig. 11).

Ownership

- An estimated 459 million cubic feet, or 67 percent, of the total roundwood output came from nonindustrial private forest lands.

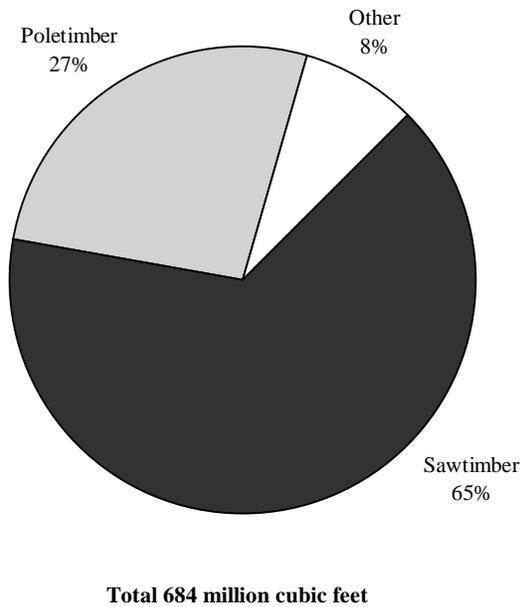


Figure 11—Roundwood output by source, 1997.

- Forest industry lands contributed 168 million cubic feet, or 25 percent of the output.
- Public lands made up the remaining 8 percent, or 57 million cubic feet (fig. 12).

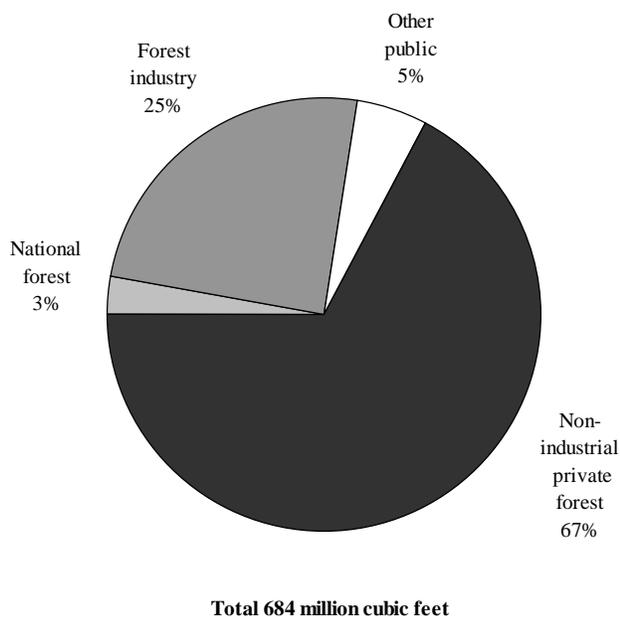


Figure 12—Roundwood output by ownership, 1997.

Species

- The loblolly and shortleaf pine group provided more volume than any other softwood species group, accounting for 75 percent of the total softwood output (fig. 13). Slash and longleaf pine type accounted for another 15 percent of the softwood output.

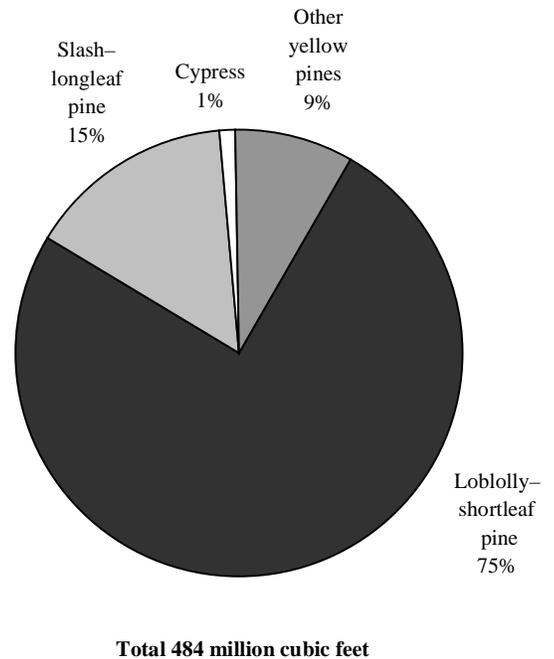


Figure 13—Roundwood output by softwood species group, 1997.

- The red oak and white oak groups combined accounted for 80 million cubic feet, or 40 percent of total hardwood output (fig. 14).

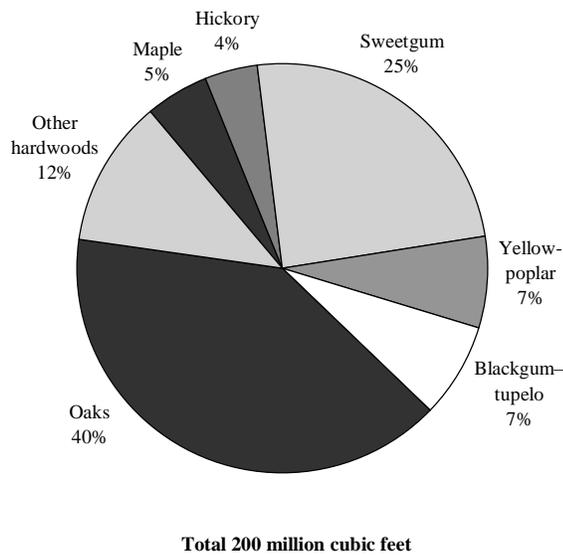


Figure 14—Roundwood output by hardwood species group, 1997.

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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-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 nonpulpmills, 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 for pulpwood, because pulpwood is more uniform.

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 to be used in the production of plywood, finished panels, or veneer sheets, both rotary cut and sliced.

Conversion Factors^a

Saw logs

Softwood	0.18018 cubic foot = 1 board foot 5.55 board feet = 1 cubic foot
Hardwood	0.16750 cubic foot = 1 board foot 5.97 board feet = 1 cubic foot

Veneer logs

Softwood	0.17601 cubic foot = 1 board foot 5.68 board feet = 1 cubic foot
Hardwood	0.16340 cubic foot = 1 board foot 6.12 board feet = 1 cubic foot

Pulpwood^b

Softwood	68.6 cubic feet per cord
Hardwood	70.5 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 South Carolina during the most recent survey period.

^b Cubic feet of solid wood per cord.

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Table 1—Output of industrial products by product and species group, South Carolina, 1995 and 1997

Product and species group	Year		Change	Percent change
	1995	1997		
<i>Thousand cubic feet</i>				
Saw logs				
Softwood	219,484	219,571	87	0.0
Hardwood	27,615	32,153	4,538	16.4
Total	247,099	251,724	4,625	1.9
Veneer logs				
Softwood	42,086	40,669	-1,417	-3.4
Hardwood	7,881	7,414	-467	-5.9
Total	49,967	48,083	-1,884	-3.8
Pulpwood^a				
Softwood	211,577	209,515	-2,062	-1.0
Hardwood	107,941	112,047	4,106	3.8
Total	319,518	321,562	2,044	0.6
Composite panels				
Softwood	1,302	2,593	1,291	99.2
Hardwood	70	748	678	968.6
Total	1,372	3,341	1,969	143.5
Other industrial				
Softwood	4,026	3,471	-555	-13.8
Hardwood	0	0	0	--
Total	4,026	3,471	-555	-13.8
All industrial				
Softwood	478,475	475,819	-2,656	-0.6
Hardwood	143,507	152,362	8,855	6.2
Total	621,982	628,181	6,199	1.0
Byproduct output				
Softwood	170,900	167,866	-3,034	-1.8
Hardwood	31,587	32,180	593	1.9
Total	202,487	200,046	-2,441	-1.2
Total output				
Softwood	649,375	643,685	-5,690	-0.9
Hardwood	175,094	184,542	9,448	5.4
Total	824,469	828,227	3,758	0.5

-- = negligible.

^a Includes roundwood that was delivered to nonpulp mills and then chipped and sold to pulp mills (7,131,000 cubic feet in 1995 and 9,957,000 cubic feet in 1997).

**Table 2—Roundwood receipts by product and species group,
South Carolina, 1995 and 1997**

Product and species group	Year		Change	Percent change
	1995	1997		
<i>Thousand cubic feet</i>				
Saw logs				
Softwood	219,003	215,783	-3,220	-1.5
Hardwood	21,971	27,695	5,724	26.1
Total	240,974	243,478	2,504	1.0
Veneer logs				
Softwood	42,432	38,359	-4,073	-9.6
Hardwood	8,955	7,401	-1,554	-17.4
Total	51,387	45,760	-5,627	-11.0
Pulpwood^a				
Softwood	222,044	219,710	-2,334	-1.1
Hardwood	101,244	108,076	6,832	6.7
Total	323,288	327,786	4,498	1.4
Composite panels				
Softwood	0	0	0	--
Hardwood	0	0	0	--
Total	0	0	0	--
Other industrial				
Softwood	3,815	3,411	-404	-10.6
Hardwood	0	0	0	--
Total	3,815	3,411	-404	-10.6
Total output				
Softwood	487,294	477,263	-10,031	-2.1
Hardwood	132,170	143,172	11,002	8.3
Total	619,464	620,435	971	0.2

-- = negligible.

^a Includes roundwood that was delivered to nonpulpmills and then chipped and sold to pulpmills (14,906,000 cubic feet in 1995 and 7,897,000 cubic feet in 1995).

Table 3—Number of primary wood-using plants by industry, South Carolina, 1977-1997

Industry	Year									
	1977	1979	1983	1985	1987	1989	1992	1994	1995	1995
Sawmills	119	128	113	118	99	87	79	76	70	66
Veneer mills	23	24	21	21	20	17	14	14	14	12
Pulpmills	7	7	8	8	8	8	9	8	8	8
Composite panel mills	0	0	0	0	0	0	0	0	0	0
Other mills	5	4	6	8	6	5	9	7	7	6
All plants	154	163	148	155	133	117	111	105	99	92

Table 4—Roundwood receipts by sawmill size, South Carolina, 1995 and 1997

Sawmill size class ^a	1995			1997		
	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	11	3,510	--	7	1,995	--
1.0 - 4.99	19	48,424	4	18	51,077	4
5.0 - 9.99	14	92,989	7	14	99,917	7
10.0 - 49.99	16	323,721	24	17	359,718	26
> 50	10	860,652	65	10	850,955	63
Total	70	1,329,296	100	66	1,363,662	100

-- = negligible.

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

Table 5—Roundwood receipts by species and type of mill, South Carolina, 1997

Species	Type of mill						
	All mills	Veneer mills			OSB ^a and panels		Other mills
		Sawmills	Pine plywood	Other veneer	Pulpmills ^b		
<i>Thousand cubic feet</i>							
Softwood							
Yellow pine	252,103	210,355	38,264	73	0	NA	3,411
Eastern white pine	363	363	0	0	0	NA	0
Cedar	1	1	0	0	0	NA	0
Cypress	1,234	1,212	0	22	0	NA	0
Other softwood	3,852	3,852	0	0	0	NA	0
Unclassified	219,710	0	0	0	0	219,710	0
Total softwoods	477,263	215,783	38,264	95	0	219,710	3,411
Hardwood							
Blackgum and tupelo	733	464	0	269	0	NA	0
Soft maple	666	595	0	71	0	NA	0
Sweetgum	5,483	2,289	1,661	1,533	0	NA	0
Yellow-poplar	6,161	3,402	1,741	1,018	0	NA	0
Other soft hardwood	4,284	4,229	0	55	0	NA	0
Hickory	549	460	0	89	0	NA	0
Red oak	8,308	7,748	93	467	0	NA	0
White oak	4,604	4,296	93	215	0	NA	0
Other hard hardwood	4,308	4,212	0	96	0	NA	0
Unclassified	108,076	0	0	0	0	108,076	0
Total hardwoods	143,172	27,695	3,588	3,813	0	108,076	0
All species	620,435	243,478	41,852	3,908	0	327,786	3,411

NA = not applicable.

^a OSB = oriented strand board.^b Only collected by softwood and hardwood and includes roundwood chipped.**Table 6—Industrial roundwood movement by year and species group, South Carolina, 1995 and 1997**

Year	Production	Exported to		Imported from	
		other States	Retained	other States	Receipts
<i>Thousand cubic feet</i>					
Softwood					
1995	478,475	73,925	404,550	82,744	487,294
1997	475,819	86,793	389,026	88,237	477,263
Hardwood					
1995	143,507	47,833	95,674	36,496	132,170
1997	152,362	45,782	106,580	36,592	143,172
All species					
1995	621,982	121,758	500,224	119,240	619,464
1997	628,181	132,575	495,606	124,829	620,435

Table 7—Industrial roundwood movement by product and species group, South Carolina, 1997

Product and species group	Production	Exported to other States	Retained	Imported from other States	Receipts
<i>Thousand cubic feet</i>					
Saw logs					
Softwood	219,571	24,176	195,395	20,388	215,783
Hardwood	32,153	7,161	24,992	2,703	27,695
Total	251,724	31,337	220,387	23,091	243,478
Veneer logs					
Softwood	40,669	2,993	37,676	683	38,359
Hardwood	7,414	636	6,778	623	7,401
Total	48,083	3,629	44,454	1,306	45,760
Pulpwood^a					
Softwood	209,515	56,519	152,996	66,714	219,710
Hardwood	112,047	37,237	74,810	33,266	108,076
Total	321,562	93,756	227,806	99,980	327,786
Composite panels					
Softwood	2,593	2,593	0	0	0
Hardwood	748	748	0	0	0
Total	3,341	3,341	0	0	0
Other industrial					
Softwood	3,471	512	2,959	452	3,411
Hardwood	0	0	0	0	0
Total	3,471	512	2,959	452	3,411
All products					
Softwood	475,819	86,793	389,026	88,237	477,263
Hardwood	152,362	45,782	106,580	36,592	143,172
Total	628,181	132,575	495,606	124,829	620,435

^a Includes roundwood chipped.

Table 8—Saw-log volume by destination, source, and species group, South Carolina, 1997

Destination and source	All species	Species group	
		Softwood	Hardwood
<i>Thousand cubic feet</i>			
South Carolina (retained)	220,387	195,395	24,992
Exports to:			
Florida	56	56	0
Georgia	19,278	19,207	71
North Carolina	11,930	4,842	7,088
Tennessee	73	71	2
Total	31,337	24,176	7,161
Imports from:			
Georgia	6,565	4,206	2,359
Kentucky	2	0	2
Mississippi	2	0	2
North Carolina	16,520	16,182	338
Tennessee	2	0	2
Total	23,091	20,388	2,703

Table 9—Veneer volume by destination, source, and species group, South Carolina, 1997

Destination and source	All species	Species group	
		Softwood	Hardwood
<i>Thousand cubic feet</i>			
South Carolina (retained)	44,454	37,676	6,778
Exports to:			
Georgia	202	0	202
North Carolina	3,427	2,993	434
Total	3,629	2,993	636
Imports from:			
Georgia	197	0	197
North Carolina	1,109	683	426
Total	1,306	683	623

Table 10—Pulpwood volume by destination, source, and species group, South Carolina, 1997^a

Destination and source	All species	Species group	
		Softwood	Hardwood
<i>Thousand cubic feet</i>			
South Carolina (retained)	227,665	159,846	67,819
Exports to:			
Alabama	425	78	347
Florida	1,121	1,121	0
Georgia	65,632	33,924	31,708
Louisiana	1,152	1,048	104
Mississippi	139	0	139
North Carolina	25,020	20,268	4,752
Tennessee	80	80	0
Texas	187	0	187
Total	93,756	56,519	37,237
Imports from:			
Georgia	1,420	411	1,009
Kentucky	2	2	0
Louisiana	2	0	2
North Carolina	98,425	66,170	32,255
Virginia	131	131	0
Total	99,980	66,714	33,266

^a Includes roundwood chipped that was delivered to nonpulp mills and then chipped and sold to pulpmills.

Table 11—Composite panel volume by destination, source, South Carolina, 1997

Destination and source	All species	Species group	
		Softwood	Hardwood
<i>Thousand cubic feet</i>			
South Carolina (retained)	0	0	0
Exports to:			
Georgia	3,341	2,593	748
Total	3,341	2,593	748

Table 12—Other industrial volume by destination, source, and species group, South Carolina, 1997^a

Destination and source	All species	Species group	
		Softwood	Hardwood
<i>Thousand cubic feet</i>			
South Carolina (retained)	2,959	2,959	0
Exports to:			
Florida	19	19	0
Georgia	153	153	0
North Carolina	340	340	0
Total	512	512	0
Imports from:			
Georgia	214	214	0
North Carolina	238	238	0
Total	452	452	0

^a 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, South Carolina, 1997

Roundwood type and species group	All types	Residue type			
		Bark	Coarse	Sawdust	Shavings
<i>Thousand cubic feet</i>					
Saw logs					
Softwood	121,060	18,379	54,486	30,587	17,608
Hardwood	14,971	2,973	6,455	5,460	83
Total	136,031	21,352	60,941	36,047	17,691
Veneer logs					
Softwood	22,565	3,342	10,116	9,107	0
Hardwood	5,104	819	2,168	2,117	0
Total	27,669	4,161	12,284	11,224	0
Pulpwood					
Softwood	20,241	20,241	0	0	0
Hardwood	12,152	12,152	0	0	0
Total	32,393	32,393	0	0	0
Composite panels					
Softwood	0	0	0	0	0
Hardwood	0	0	0	0	0
Total	0	0	0	0	0
Other industrial^a					
Softwood	4,205	2,921	1,284	0	0
Hardwood	0	0	0	0	0
Total	4,205	2,921	1,284	0	0
Total					
Softwood	168,071	44,883	65,886	39,694	17,608
Hardwood	32,227	15,944	8,623	7,577	83
Total	200,298	60,827	74,509	47,271	17,691

^a 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, South Carolina, 1995 and 1997

Product and species group	All types		Bark		Coarse		Sawdust		Shavings	
	1995	1997	1995	1997	1995	1997	1995	1997	1995	1997
<i>Thousand cubic feet</i>										
Fiber products										
Softwood	56,862	56,524	0	0	56,276	54,723	0	669	586	1,132
Hardwood	7,819	7,538	0	0	7,819	7,538	0	0	0	0
Total	64,681	64,062	0	0	64,095	62,261	0	669	586	1,132
Particleboard										
Softwood	15,817	18,694	0	0	4,777	6,287	2,809	5,239	8,231	7,168
Hardwood	895	246	0	0	848	203	0	0	47	43
Total	16,712	18,940	0	0	5,625	6,490	2,809	5,239	8,278	7,211
Charcoal/chemical wood										
Softwood	0	120	0	45	0	0	0	75	0	0
Hardwood	0	7	0	0	0	7	0	0	0	0
Total	0	127	0	45	0	7	0	75	0	0
Sawn products										
Softwood	296	1,626	0	0	296	1,626	0	0	0	0
Hardwood	0	119	0	0	0	119	0	0	0	0
Total	296	1,745	0	0	296	1,745	0	0	0	0
Fuel										
Softwood	80,374	76,905	39,747	39,178	2,611	2,458	35,674	31,130	2,342	4,139
Hardwood	21,675	21,827	14,028	14,611	1,134	562	6,441	6,623	72	31
Total	102,049	98,732	53,775	53,789	3,745	3,020	42,115	37,753	2,414	4,170
Miscellaneous										
Softwood	17,551	13,997	6,934	5,601	2,097	651	2,626	2,576	5,894	5,169
Hardwood	1,198	2,443	748	1,293	0	194	443	947	7	9
Total	18,749	16,440	7,682	6,894	2,097	845	3,069	3,523	5,901	5,178
Not used										
Softwood	68	205	7	59	55	141	5	5	1	0
Hardwood	205	47	194	40	2	0	8	7	1	0
Total	273	252	201	99	57	141	13	12	2	0
All products										
Softwood	170,968	168,071	46,688	44,883	66,112	65,886	41,114	39,694	17,054	17,608
Hardwood	31,792	32,227	14,970	15,944	9,803	8,623	6,892	7,577	127	83
Total	202,760	200,298	61,658	60,827	75,915	74,509	48,006	47,271	17,181	17,691

Table 15—Roundwood timber products output by product and species group, Southern Coastal Plain of South Carolina, 1995 and 1997

Product and species group	Year		Change	Percent change
	1995	1997		
<i>Thousand cubic feet</i>				
Saw logs				
Softwood	75,714	72,735	-2,979	-3.9
Hardwood	5,803	7,769	1,966	33.9
Total	81,517	80,504	-1,013	-1.2
Veneer logs				
Softwood	5,498	4,933	-565	-10.3
Hardwood	4,037	2,937	-1,100	-27.2
Total	9,535	7,870	-1,665	-17.5
Pulpwood^a				
Softwood	47,672	51,503	3,831	8.0
Hardwood	26,274	25,748	-526	-2.0
Total	73,946	77,251	3,305	4.5
Composite panels				
Softwood	0	0	0	--
Hardwood	0	0	0	--
Total	0	0	0	--
Other industrial				
Softwood	1,260	1,313	53	4.2
Hardwood	0	0	0	--
Total	1,260	1,313	53	4.2
All industrial				
Softwood	130,144	130,484	340	0.3
Hardwood	36,114	36,454	340	0.9
Total	166,258	166,938	680	0.4

-- = negligible.

^a Includes roundwood that was delivered to nonpulpmills and then chipped and sold to pulpmills (2,910,000 cubic feet in 1995 and 2,566,000 cubic feet in 1997).

**Table 16—Roundwood timber products output by county, product, and species group,
Southern Coastal Plain of South Carolina, 1997**

County	All products		Saw logs		Veneer logs		Pulpwood ^a		Composite panels		Other industrial	
	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood
	<i>Thousand cubic feet</i>											
Aiken	12,416	1,381	4,935	241	0	102	7,271	1,038	0	0	210	0
Allendale	9,837	2,890	5,099	751	1,205	350	3,520	1,789	0	0	13	0
Bamberg	6,236	1,776	4,364	507	0	132	1,801	1,137	0	0	71	0
Barnwell	7,384	1,392	5,904	241	0	499	1,473	652	0	0	7	0
Beaufort	6,517	861	4,266	104	0	0	2,198	757	0	0	53	0
Calhoun	4,895	1,859	2,613	391	602	135	1,579	1,333	0	0	101	0
Colleton	24,973	5,707	13,937	3,212	1,446	231	9,427	2,264	0	0	163	0
Dorchester	11,855	3,268	7,126	241	361	119	4,221	2,908	0	0	147	0
Hampton	14,820	4,044	9,100	136	0	477	5,553	3,431	0	0	167	0
Jasper	12,734	4,682	6,804	104	0	308	5,854	4,270	0	0	76	0
Lexington	5,189	630	3,220	175	355	15	1,386	440	0	0	228	0
Orangeburg	13,628	7,964	5,367	1,666	964	569	7,220	5,729	0	0	77	0
All counties	130,484	36,454	72,735	7,769	4,933	2,937	51,503	25,748	0	0	1,313	0

^a Includes roundwood that was delivered to nonpulpmills and then chipped and sold to pulpmills (2,566,000 cubic feet in 1997).

Table 17—Roundwood timber products output by product and South Carolina, 1995 and 1997

Product and species group	Year		Change	Percent change
	1995	1995		
<i>Thousand cubic feet</i>				
Saw logs				
Softwood	66,844	70,268	3,424	5.1
Hardwood	9,753	10,664	911	9.3
Total	76,597	80,932	4,335	5.7
Veneer logs				
Softwood	13,961	13,978	17	0.1
Hardwood	1,754	998	-756	-43.1
Total	15,715	14,976	-739	-4.7
Pulpwood^a				
Softwood	73,239	73,056	-183	-0.2
Hardwood	34,281	33,881	-400	-1.2
Total	107,520	106,937	-583	-0.5
Composite panels				
Softwood	0	0	0	--
Hardwood	0	0	0	--
Total	0	0	0	--
Other industrial				
Softwood	1,537	1,522	-15	-1.0
Hardwood	0	0	0	--
Total	1,537	1,522	-15	-1.0
All industrial				
Softwood	155,581	158,824	3,243	2.1
Hardwood	45,788	45,543	-245	-0.5
Total	201,369	204,367	2,998	1.5

-- = negligible.

^a Includes roundwood that was delivered to nonpulpmills and then chipped and sold to pulp mills (1,820,000 cubic feet in 1995 and 4,441,000 cubic feet in 1997).

**Table 18—Roundwood timber products output by county, product, and species group,
Northern Coastal Plain of South Carolina, 1997**

County	All products		Saw logs		Veneer logs		Pulpwood ^a		Composite panels		Other industrial	
	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood
	<i>Thousand cubic feet</i>											
Berkeley	8,929	1,603	3,961	375	844	0	4,124	1,228	0	0	0	0
Charleston	7,146	359	3,108	0	361	0	3,628	359	0	0	49	0
Chesterfield	12,708	4,588	4,272	926	430	57	8,006	3,605	0	0	0	0
Clarendon	3,853	1,278	1,853	626	361	0	1,639	652	0	0	0	0
Darlington	3,050	3,957	1,528	2,247	7	51	1,515	1,659	0	0	0	0
Dillon	5,745	3,367	1,827	769	959	0	2,808	2,598	0	0	151	0
Florence	13,269	6,660	6,552	971	2,330	94	4,190	5,595	0	0	197	0
Georgetown	20,123	2,126	8,188	0	1,333	2	10,360	2,124	0	0	242	0
Horry	25,929	5,471	15,043	437	1,775	102	8,514	4,932	0	0	597	0
Kershaw	12,305	2,342	2,866	624	1,435	166	7,898	1,552	0	0	106	0
Lee	1,232	507	567	0	0	0	665	507	0	0	0	0
Marion	11,249	4,287	7,510	1,385	521	51	3,128	2,851	0	0	90	0
Marlboro	8,339	2,638	3,694	662	1,435	332	3,210	1,644	0	0	0	0
Richland	7,965	2,334	3,151	394	482	108	4,332	1,832	0	0	0	0
Sumter	3,579	1,426	1,383	670	359	0	1,837	756	0	0	0	0
Williamsburg	13,403	2,600	4,765	578	1,346	35	7,202	1,987	0	0	90	0
All counties	158,824	45,543	70,268	10,664	13,978	998	73,056	33,881	0	0	1,522	0

^a Includes roundwood that was delivered to nonpulp mills and then chipped and sold to pulpmills (4,441,000 cubic feet in 1997).

Table 19—Roundwood timber products output by product and species group, Piedmont of South Carolina, 1995 and 1997

Product and species group	Year		Change	Percent change
	1995	1997		
<i>Thousand cubic feet</i>				
Saw logs				
Softwood	76,926	76,568	-358	-0.5
Hardwood	12,059	13,720	1,661	13.8
Total	88,985	90,288	1,303	1.5
Veneer logs				
Softwood	22,627	21,758	-869	-3.8
Hardwood	2,090	3,479	1,389	66.5
Total	24,717	25,237	520	2.1
Pulpwood^a				
Softwood	90,666	84,956	-5,710	-6.3
Hardwood	47,386	52,418	5,032	10.6
Total	138,052	137,374	-678	-0.5
Composite panels				
Softwood	1,302	2,593	1,291	99.2
Hardwood	70	748	678	968.6
Total	1,372	3,341	1,969	143.5
Other industrial				
Softwood	1,229	636	-593	-48.3
Hardwood	0	0	0	--
Total	1,229	636	-593	-48.3
All industrial				
Softwood	192,750	186,511	-6,239	-3.2
Hardwood	61,605	70,365	8,760	14.2
Total	254,355	256,876	2,521	1.0

-- = negligible.

^a Includes roundwood that was delivered to nonpulp mills and then chipped and sold to pulp mills (2,401,000 cubic feet in 1995 and 2,950,000 cubic feet in 1997).

Table 20—Roundwood timber products output by county, product, and species group, Piedmont of South Carolina, 1995

County	All products		Saw logs		Veneer logs		Pulpwood ^a		Composite panels		Other industrial	
	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood
<i>Thousand cubic feet</i>												
Abbeville	9,646	13,271	6,898	762	0	40	2,453	12,321	219	148	76	0
Anderson	7,174	3,394	4,204	2,266	355	40	2,149	866	390	222	76	0
Cherokee	5,871	2,304	756	409	1,310	481	3,805	1,414	0	0	0	0
Chester	14,852	4,305	3,390	385	2,626	725	8,750	3,195	0	0	86	0
Edgefield	8,032	653	5,220	360	237	0	2,540	293	0	0	35	0
Fairfield	21,735	3,801	7,028	0	2,976	332	11,633	3,469	0	0	98	0
Greenville	5,163	1,809	1,603	902	0	40	3,560	867	0	0	0	0
Greenwood	11,555	1,806	6,110	698	1,141	146	4,304	962	0	0	0	0
Lancaster	8,038	1,552	1,977	426	717	166	5,374	960	0	0	0	0
Laurens	11,680	4,624	6,565	1,528	2,209	99	2,906	2,997	0	0	0	0
McCormick	8,898	303	6,158	0	474	0	2,235	303	0	0	31	0
Newberry	14,836	10,972	7,201	625	2,446	99	5,115	10,248	0	0	74	0
Oconee	11,206	4,363	2,882	1,337	0	40	7,027	2,645	1,297	341	0	0
Pickens	7,806	2,730	3,762	1,721	474	40	2,883	932	687	37	0	0
Saluda	11,083	1,638	6,703	36	1,185	34	3,089	1,568	0	0	106	0
Spartanburg	10,205	3,031	2,108	1,165	954	391	7,143	1,475	0	0	0	0
Union	10,294	6,644	2,821	308	2,028	92	5,408	6,244	0	0	37	0
York	8,407	3,165	1,182	792	2,626	714	4,582	1,659	0	0	17	0
All counties	186,481	70,365	76,568	13,720	21,758	3,479	84,956	52,418	2,593	748	636	0

^a Includes roundwood that was delivered to nonpulp mills and then chipped and sold to pulp mills (2,950,000 cubic feet in 1997).

Table 21—Total roundwood output by product, species group, and South Carolina, 1997

Product and species group	All sources	Total	Growing-stock trees		Other sources
			Sawtimber	Poletimber	
<i>Thousand cubic feet</i>					
Saw logs					
Softwood	219,571	214,526	211,583	2,943	5,045
Hardwood	32,153	30,237	29,662	575	1,916
Total	251,724	244,764	241,245	3,519	6,960
Veneer logs and bolts					
Softwood	40,669	39,221	38,749	472	1,448
Hardwood	7,414	7,329	7,329	0	85
Total	48,083	46,550	46,078	472	1,533
Pulpwood					
Softwood	209,515	194,209	88,082	106,127	15,306
Hardwood	112,047	102,602	39,752	62,849	9,445
Total	321,562	296,811	127,834	168,977	24,751
Composite panel					
Softwood	2,593	2,404	1,090	1,313	189
Hardwood	748	685	265	420	63
Total	3,341	3,089	1,355	1,733	252
Poles and posts					
Softwood	3,300	2,740	2,669	70	560
Hardwood	0	0	0	0	0
Total	3,300	2,740	2,669	70	560
Other miscellaneous					
Softwood	171	140	102	38	31
Hardwood	0	0	0	0	0
Total	171	140	102	38	31
Total industrial products					
Softwood	475,819	453,240	342,276	110,964	22,579
Hardwood	152,362	140,854	77,009	63,844	11,508
Total	628,181	594,093	419,285	174,808	34,088
Fuelwood					
Softwood	7,810	3,715	2,031	1,684	4,095
Hardwood	47,545	31,806	25,391	6,415	15,739
Total	55,355	35,521	27,422	8,099	19,834
All products					
Softwood	483,629	456,955	344,307	112,648	26,674
Hardwood	199,907	172,660	102,400	70,260	27,247
Total	683,536	629,614	446,707	182,907	53,922

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

Table 22—Total roundwood output by species group, survey unit, and ownership, South Carolina, 1997

Species group and survey unit	Total	National forest	Other public	Forest industry	Nonindustrial private
<i>Thousand cubic feet</i>					
Softwoods					
Southern Coastal Plain	132,625	0	7,704	31,430	93,491
Northern Coastal Plain	161,432	3,144	10,628	49,172	98,489
Piedmont	189,572	9,683	5,956	48,904	125,030
Total softwoods	<u>483,629</u>	<u>12,827</u>	<u>24,288</u>	<u>129,505</u>	<u>317,010</u>
Hardwoods					
Southern Coastal Plain	47,830	0	278	11,839	35,714
Northern Coastal Plain	59,754	312	3,323	10,538	45,582
Piedmont	92,323	6,570	9,287	15,818	60,649
Total hardwoods	<u>199,907</u>	<u>6,881</u>	<u>12,887</u>	<u>38,195</u>	<u>141,944</u>
All species	<u>683,536</u>	<u>19,708</u>	<u>37,175</u>	<u>167,699</u>	<u>458,953</u>

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

Table 23—Total roundwood output by species group, detailed species group, and product, South Carolina, 1997

Species group and detailed species group	Total	Product						
		Saw log	Veneer	Pulpwood	Composite panel	Fuelwood	Poles and posts	Other miscellaneous
<i>Thousand cubic feet</i>								
Softwood								
Cedar	3,389	1,344	443	1,505	24	55	10	8
Longleaf-slash pine	72,228	35,555	3,867	31,055	0	1,166	576	8
White pine	545	130	15	348	44	9		0
Loblolly-shortleaf pine	360,506	164,239	32,677	153,056	2,150	5,822	2,409	153
Other yellow pines	41,303	15,464	3,164	21,388	375	667	243	2
Cypress	5,659	2,839	503	2,165	0	91	61	0
Total softwoods	483,629	219,571	40,669	209,515	2,593	7,810	3,300	171
Hardwood								
Soft maple	10,148	1,812	342	5,564	16	2,414	0	0
Other birch	804	150	59	404	0	191	0	0
Hickory	8,053	1,514	252	4,346	25	1,915	0	0
Beech	570	161	33	240	1	136	0	0
Ash	7,301	1,016	259	4,267	23	1,736	0	0
Black walnut	55	0	4	38	0	13	0	0
Sweetgum	48,943	6,295	1,667	29,250	90	11,640	0	0
Yellow-poplar	14,508	2,896	643	7,467	51	3,451	0	0
Blackgum-tupelo	14,827	2,390	510	8,388	13	3,526	0	0
Sycamore	2,002	171	192	1,163	0	476	0	0
Cottonwood	598	113	53	289	0	142	0	0
Black cherry	622	99	23	346	6	148	0	0
Select white oaks	21,081	3,395	480	12,041	151	5,014	0	0
Other white oaks	46,231	8,219	2,091	24,642	284	10,995	0	0
Select red oaks	5,542	847	178	3,188	11	1,318	0	0
Other red oaks	7,329	1,111	252	4,187	36	1,743	0	0
Elm	5,130	604	153	3,142	10	1,220	0	0
Other Eastern hardwoods	6,164	1,359	223	3,086	30	1,466	0	0
Total hardwoods	199,907	32,153	7,414	112,047	748	47,545	0	0
All species	683,536	251,724	48,083	321,562	3,341	55,355	3,300	171

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

Table 24—Total roundwood output by species group, detailed species group, and ownership, South Carolina, 1997

Species group and detailed species group	Total	National forest	Other public	Forest industry	Nonindustrial private
<i>Thousand cubic feet</i>					
Softwood					
Cedar	3,389	181	172	1,048	1,987
Longleaf-slash pine	72,228	491	8,432	17,646	45,659
White pine	545	72	13		460
Loblolly-shortleaf pine	360,506	11,519	14,019	102,780	232,188
Other yellow pines	41,303	563	1,489	6,811	32,440
Cypress	5,659	0	163	1,220	4,276
Total softwoods	483,629	12,827	24,288	129,505	317,010
Hardwood					
Soft maple	10,148	139	524	2,319	7,166
Other birch	804	136	147	181	341
Hickory	8,053	312	1,076	1,358	5,306
Beech	570	10	68	33	459
Ash	7,301	191	727	911	5,473
Black walnut	55	0	0	21	34
Sweetgum	48,943	1,485	3,237	8,077	36,143
Yellow-poplar	14,508	453	549	3,214	10,292
Blackgum-tupelo	14,827	71	593	3,201	10,961
Sycamore	2,002	474	10	624	893
Cottonwood	598		38	139	420
Black cherry	622	23	35	67	497
Select white oaks	21,081	948	1,565	3,994	14,574
Other white oaks	46,231	1,562	2,223	9,626	32,820
Select red oaks	5,542	288	237	1,716	3,300
Other red oaks	7,329	414	974	1,073	4,869
Elm	5,130	285	358	741	3,747
Other Eastern hardwoods	6,164	90	526	899	4,649
Total hardwoods	199,907	6,881	12,887	38,195	141,944
All species	683,536	19,708	37,175	167,699	458,953

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



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In 1997, roundwood output from South Carolina's forests totaled 628 million cubic feet, 1 percent more than in 1995. Mill byproducts generated from primary manufacturers declined 1 percent to 200 million cubic feet. Almost all plant residues were used primarily for fuel and fiber products. Pulpwood was the leading roundwood product at 322 million cubic feet; saw logs ranked second at 252 million cubic feet; veneer logs were third at 48 million cubic feet. The number of primary processing plants declined from 99 in 1995 to 92 in 1997. Total receipts increased slightly to 620 million cubic feet.

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

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