



---

**The Author:**

---

**Edgar L. Davenport is a Resource Technician  
with the Forest Inventory and Analysis group,  
Southeastern Forest Experiment Station,  
Asheville, NC.**

August 1993

Southeastern Forest Experiment Station  
P.O. Box 2680  
Asheville, North Carolina 28802

## Foreword

This report presents the findings of a 1991 canvass of all primary wood-using plants in Florida, and presents changes in product output and residue use since 1989. It complements the Forest Inventory and Analysis (FIA) periodic inventory of volume and removals from the State's timberland. The canvass was made to determine the amount and source of wood receipts and annual timber product drain by county in 1991. In addition, interstate and cross-regional movement of industrial roundwood were determined. Only primary wood-using mills were canvassed. Primary mills are those that process roundwood in the form of logs, bolts, or chips. 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.

All known wood processors in Florida were contacted in 1992 and asked for information about their operations in 1991. Out-of-State mills known to be using logs or bolts harvested from Florida timberland were also contacted. Each mill was canvassed by mail or through personal contact at plant locations. Telephone contact was made as a followup to 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 based on current data collected for mills of similar size, product type, and location.

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 pulpwood production survey is conducted annually in cooperation with the American Pulpwood Association. Previous surveys for all other timber products began in 1958, and are currently conducted every 2 years.

These studies are a cooperative project of the Southeastern Forest Experiment Station and the Florida Department of Agriculture and Consumer Services, Division of Marketing and Utilization. The Southeastern Station gratefully acknowledges the cooperation and assistance provided by the Florida Forest Service in collecting mill data. Appreciation is also expressed to forest industry and mill managers for providing timber products information. The information presented in this report is based on responses from 97 percent of mills operating in 1991. These mills accounted for over 99 percent of the 1991 mill receipts. Nine pulpmills, 5 veneer mills, 29 of the 30 mills manufacturing other industrial products, and 69 of the 71 sawmills operating in 1991 provided current data.

For inventory and reporting purposes, FIA divides Florida into four survey units: Northeast, Northwest, Central, and South. Because output of industrial roundwood products from South Florida is much smaller than output from the other units, the Central and South Florida units were combined for reporting purposes in this Bulletin and are referred to as "Central-South Florida."

# Florida's Timber Industry— An Assessment of Timber Product Output and Use, 1991

## Output of Industrial Roundwood Products

Between 1989 and 1991, the combined output of industrial timber products from roundwood and plant byproducts increased 10 percent from 644 to 708 million cubic feet. Output from roundwood products was up 50 million cubic feet to 533 million cubic feet. Output from plant byproducts increased nearly 15 million cubic feet to 175 million cubic feet and accounted for nearly a quarter of total output (tables 1 and 11). Output of softwood roundwood products increased 10 percent to 497 million cubic feet. Softwoods accounted for 93 percent of Florida's output of roundwood products, the largest share for any State in the Southeast. Hardwood roundwood production also was up by 10 percent but totaled only 36 million cubic feet.

Pulpwood and saw logs were the principal roundwood products in 1991. Combined output for these two products totaled nearly 486 million cubic feet and accounted for 91 percent of the State's roundwood output.

### Pulpwood

Pulpwood remains the leading roundwood product in Florida, as in most of the Southeast. Output of pulpwood (including chipped roundwood) increased from 296 million cubic feet in 1989 to 329 million cubic feet in 1991. Pulpwood production accounted for 62 percent of the State's roundwood output. Since 1977, pulpwood has accounted for as much as 71 percent and as little as 56 percent of the annual roundwood output.<sup>1</sup> Both softwood and hardwood

<sup>1</sup> Davenport, Edgar L.; Tansey, John B. 1990. Changes in Florida's industrial roundwood products output, 1977-1987. Resour. Bull. SE-116. Asheville, NC: U.S. Department of Agriculture, Southeastern Forest Experiment Station. 21 pp.

output increased between 1989 and 1991 (fig. 1). Softwood output increased 10 percent to 298 million cubic feet, and hardwood output was up nearly 21 percent to 31 million cubic feet. Softwoods accounted for 91 percent of Florida's pulpwood production in 1991, about the same percentage as in 1989.

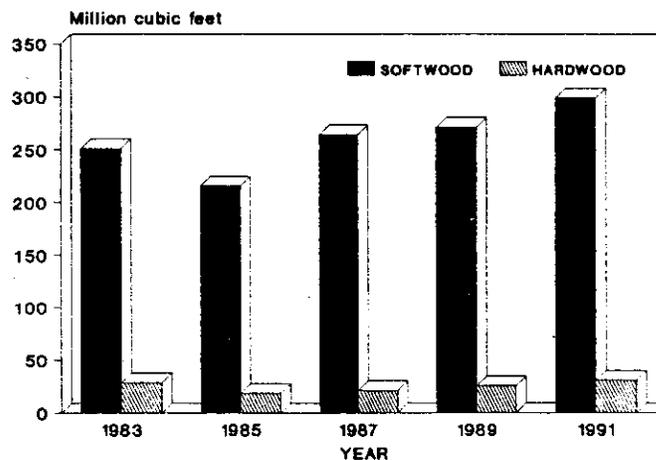


Figure 1--Round pulpwood production, by species group and year.

### Saw Logs

Saw logs accounted for 29 percent of the State's roundwood products output in 1991. This product ranked a distant second behind pulpwood in roundwood production. Combined output of softwood and hardwood saw-log production in 1991 totaled 156 million cubic feet, 10 percent more than in 1989 (table 1). Output of softwood saw logs increased 11 percent from 1989 and totaled almost 154 million cubic feet, whereas that of hardwood dropped nearly 37 percent to only 2 million cubic feet. Hardwood saw-log production has continued to decline.

Hardwoods accounted for 7 percent of the saw-log production in 1985, compared with only 1 percent in 1991 (fig. 2).

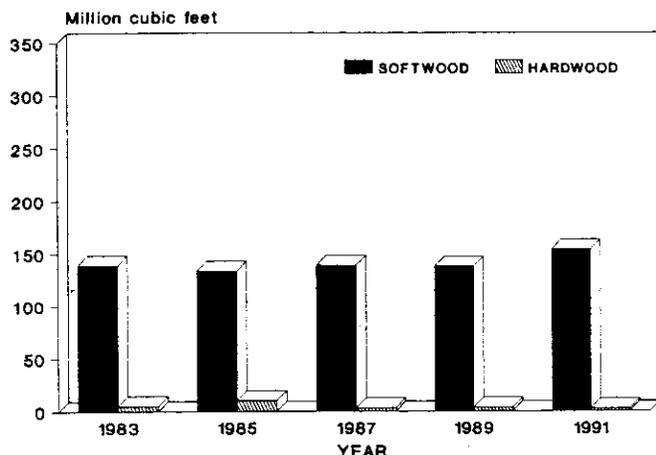


Figure 2--Roundwood saw-log production, by species group and year.

### Veneer Logs

Output of veneer logs in 1991 totaled 21 million cubic feet, which was 2 percent less than the 1989 total (table 1). Both softwood and hardwood output declined. Output of softwood veneer logs dropped 1 percent to 20 million cubic feet, and output of hardwood veneer logs dropped 8 percent to 2 million cubic feet. The veneer industry in Florida continues to be dominated by softwood, with pine plywood the principal product. Softwoods accounted for 92 percent of the State's veneer production, about the same as in 1989. Veneer accounted for 4 percent of the State's roundwood timber products output volume in 1991. This level of production is a decline from the peak in 1987 (fig. 3).

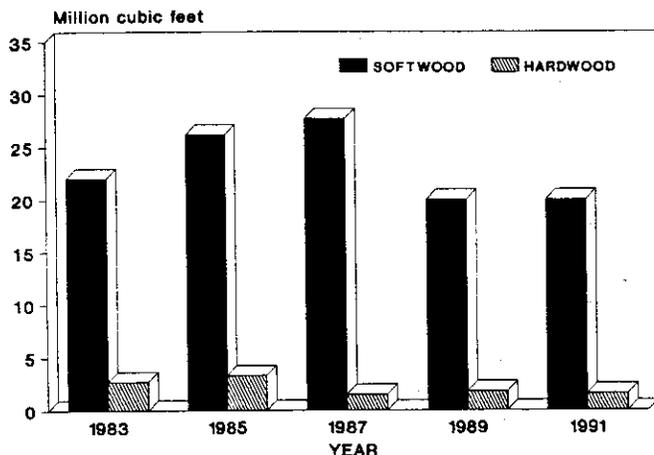


Figure 3--Roundwood veneer-log production, by species group and year.

### Composite Panels

In 1991 as in 1989, roundwood harvested from Florida's forests for composite panels totaled about 1 million cubic feet (table 1). There are no composite panel mills in Florida. All roundwood harvested for composite panels was exported to mills in Georgia (table 10). About 27 percent was hardwood and 73 percent softwood.

### Other Industrial

Roundwood produced for other industrial uses such as poles, posts, mulch, firewood, log homes, charcoal, and all other industrial products totaled 25 million cubic feet in 1991, up 13 percent since 1989 (table 1). Softwoods made up 98 percent of the other industrial product volume; softwood production increased 16 percent. Hardwood volume for other industrial products dropped to only one-half of the volume produced in 1989. Roundwood used for other industrial products in 1991 accounted for nearly 5 percent of the total volume of all products.

### Number of Mills and Receipts

The number of primary roundwood-using plants declined from 127 in 1989 to 115 in 1991 (table 2); in contrast, receipts at Florida mills increased by 11 percent to nearly 603 million cubic feet (table 3). Receipts of round pulpwood in 1991 exceeded 391 million cubic feet and accounted for nearly 65 percent of the receipts for all mills (table 4). All sawmill receipts, including roundwood harvested and retained in the State and roundwood imported from other States, totaled 156 million cubic feet in 1991. Receipts of veneer mills across the State totaled 28 million cubic feet, while those of other industrial mills totaled 26 million cubic feet.

There are nine pulpmills in Florida, the same number as in 1989 (table 2). The State's pulpwood receipts, primarily softwood, were up 15 percent in 1991 (table 3). Softwood receipts increased more than 51 million cubic feet and accounted for 89 percent of the pulpwood receipts.

Sawmill closings accounted for all of the decline in primary processing plants. The State lost 14 sawmills from 1989 to 1991 (table 2). In 1991, saw-log receipts increased by 9 million cubic feet and accounted for nearly 26 percent of the State's roundwood receipts of all products (table 3). Softwood

saw-log receipts increased 7 percent to 154 million cubic feet, while those of hardwoods fell 37 percent to only 2 million cubic feet. Yellow pine and cypress accounted for 98 percent of the State's saw-log receipts (table 4).

The number of veneer mills remained at five (table 2). Between 1989 and 1991, receipts of veneer logs dropped 3 percent to 28 million cubic feet (table 3). Most of the decline was in receipts of hardwood veneer logs, which fell 21 percent to just under 1 million cubic feet. All of the softwood veneer-log receipts were southern yellow pine used to manufacture plywood (table 4). Soft hardwood, mostly gum and yellow-poplar, made up the bulk of hardwood veneer logs. About 32 percent of these hardwood logs were used for the manufacture of plywood; the rest were used in the manufacture of furniture. Veneer receipts accounted for about 5 percent of the State's receipts of all products.

The number of plants producing other industrial products increased from 28 to 30 since 1989 (table 2). Total receipts of other industrial mills increased by nearly 10 percent to 26 million cubic feet in 1991 (table 3).

Cypress was the main species used for other industrial products, with mulch being the primary product (table 4). Receipts of cypress totaled 17 million cubic feet, while yellow pine was second with 8 million cubic feet.

## Roundwood Movement

The State continues to be a net importer of industrial roundwood (table 5). In 1991, receipts of all softwood products exceeded production by nearly 59 million cubic feet, whereas hardwood receipts exceeded production by nearly 11 million cubic feet. Imports totaled 125 million cubic feet, 56 percent more than was exported. The State retained 477 million cubic feet, or nearly 90 percent of its production (table 6).

In 1991, round pulpwood imports totaled nearly 104 million cubic feet, 62 million cubic feet more than was exported. Imports made up 26 percent of the pulpwood receipts. Most of the pulpwood imports came from Georgia, Alabama, and South Carolina.

Most of the pulpwood exported from Florida went to Georgia and Alabama (table 9). Softwood made up 79 percent of Florida's pulpwood exports.

In 1991, saw-log imports totaled 11 million cubic feet, or 7 percent of the receipts. Most of the imports were softwood and came from Alabama and Georgia. Small amounts came from North and South Carolina (table 7). Saw-log exports of nearly 11 million cubic feet made up almost 7 percent of the State's saw-log production. Nearly 7 million cubic feet were exported to Georgia, while the remainder went to Alabama.

Receipts of roundwood veneer logs exceeded production by 7 million cubic feet, making the State a net importer of roundwood veneer logs. Imports, which totaled more than 8 million cubic feet, made up 29 percent of the receipts (table 6). Imports of softwood veneer logs totaling nearly 8 million cubic feet came mostly from Georgia (table 8). All the 1 million cubic feet of exported veneer logs were hardwood. Nearly 87 percent of these exports went to mills in Georgia. Alabama received the remainder of Florida exports.

Florida also was a net importer of roundwood used for other industrial products (table 6). Receipts exceeded production by nearly 5 percent. All of the imports—more than 2 million cubic feet—were softwood (table 11). Almost 90 percent of the imports came from Georgia, 8 percent from Alabama, and 1 percent each from North and South Carolina. All of the exported roundwood (985,000 cubic feet) used for other industrial products was softwood. Most of these exports (71 percent) went to mills in Alabama, and the remainder went to mills in Georgia.

## Plant Byproducts

In 1991, processing of primary products in Florida mills generated more than 175 million cubic feet of mill residues (table 12). Bark volume from all primary products totaled nearly 68 million cubic feet, while coarse residues totaled more than 62 million cubic feet. Collectively, sawdust and shavings made up 26 percent of total residues, or 45 million cubic feet. Most of the bark was used for industrial fuel, mulch, or other miscellaneous products (table 13). Over 47 million cubic feet (76 percent) of the coarse residues were used for fiber products, while 8 million cubic feet were used for other miscellaneous uses. Most of the sawdust and shavings were used for industrial fuel and other miscellaneous products.

Bark is the only residue associated with roundwood pulpwood at most mills. Bark volumes reported from the nine pulpmills in Florida totaled 42 million cubic feet (table 12). Most of this bark was used for fuel in the mills where it was generated (table 13). Bark from roundwood pulpwood accounted for 62 percent of the bark volume at all primary mills.

In 1991, sawmills generated 44 million cubic feet of coarse residues (table 12). Most of this material was used for fiber products (table 13). Shavings from dressed lumber amounted to nearly 13 million cubic feet. Almost 37 percent of this material was used for industrial fuel; 27 percent for mulch, bedding, and other miscellaneous uses; 23 percent for the manufacture of particleboard, and the remainder for fiber products. Bark and sawdust were used mainly for industrial fuel and miscellaneous products.

Veneer mills generated 7 million cubic feet of coarse residues in 1991 (table 12). About 20 percent of the coarse residues were veneer cores, which were sawed into framing studs or landscape timbers (table 13). The slabs from these cores, along with other coarse residues, were used mostly for fiber products. Sawdust and bark, totaling 9 million cubic feet, were used mostly for industrial fuel. Veneer mills generated 17 million cubic feet of residues of all types, about 10 percent of the State's primary mill residue volume.

Residues of all types from other industrial products totaled 21 million cubic feet (table 12). Coarse residues of over 10 million cubic feet were used mainly for mulch, fuel, and fiber products (table 13). Sawdust and bark, totaling over 11 million cubic feet, were used mostly for industrial fuel and mulch.

## Regional Trends

### Northeast Region

Roundwood output from Northeast Florida totaled 352 million cubic feet in 1991, up 19 percent from 1989 (table 14). Increases in the production of softwood saw logs, softwood and hardwood pulpwood, and softwood used for other industrial products accounted for most of the overall increase. Nearly 95 percent of the region's roundwood timber products output was softwood. Output of hardwood saw logs dropped 29 percent to 1 million cubic feet, and hardwood veneer dropped 7 percent to 270,000 cubic feet.

Pulpwood is still the leading product in Northeast Florida, accounting for 62 percent of the region's timber products output and for 66 percent of the State's roundwood pulpwood output. Saw logs accounted for 30 percent of the region's roundwood output and for nearly 68 percent of the State's saw-log output. Almost 80 percent of the 21 million cubic feet of veneer logs harvested in Florida during 1991 came from the Northeast region. The northeastern region had 59 primary wood-using plants operating during 1991, 5 fewer than in 1989. There were 6 pulpmills, 39 sawmills, 2 veneer mills, and 12 other miscellaneous mills. These mills processed two-thirds of the State's roundwood output (fig. 4).

### Northwest Region

Roundwood timber products output in Northwest Florida was down in 1991. Exceptions were outputs of hardwood roundwood veneer logs and hardwood roundwood pulpwood, which rose 16 and 37 percent, respectively (table 15). Production of hardwood veneer logs increased to about 140,000 cubic feet, while that of hardwood pulpwood increased to 14 million cubic feet. The largest decrease in output was for hardwood saw logs; since 1989, their output fell by 51 percent to 700,000 cubic feet.

The region is the second in the State in the production of roundwood products, with 26 percent of the State's roundwood timber products output. In 1991, the region produced 141 million cubic feet of roundwood products, down 4 percent since 1989. Pulpwood and saw logs are the leading products in the

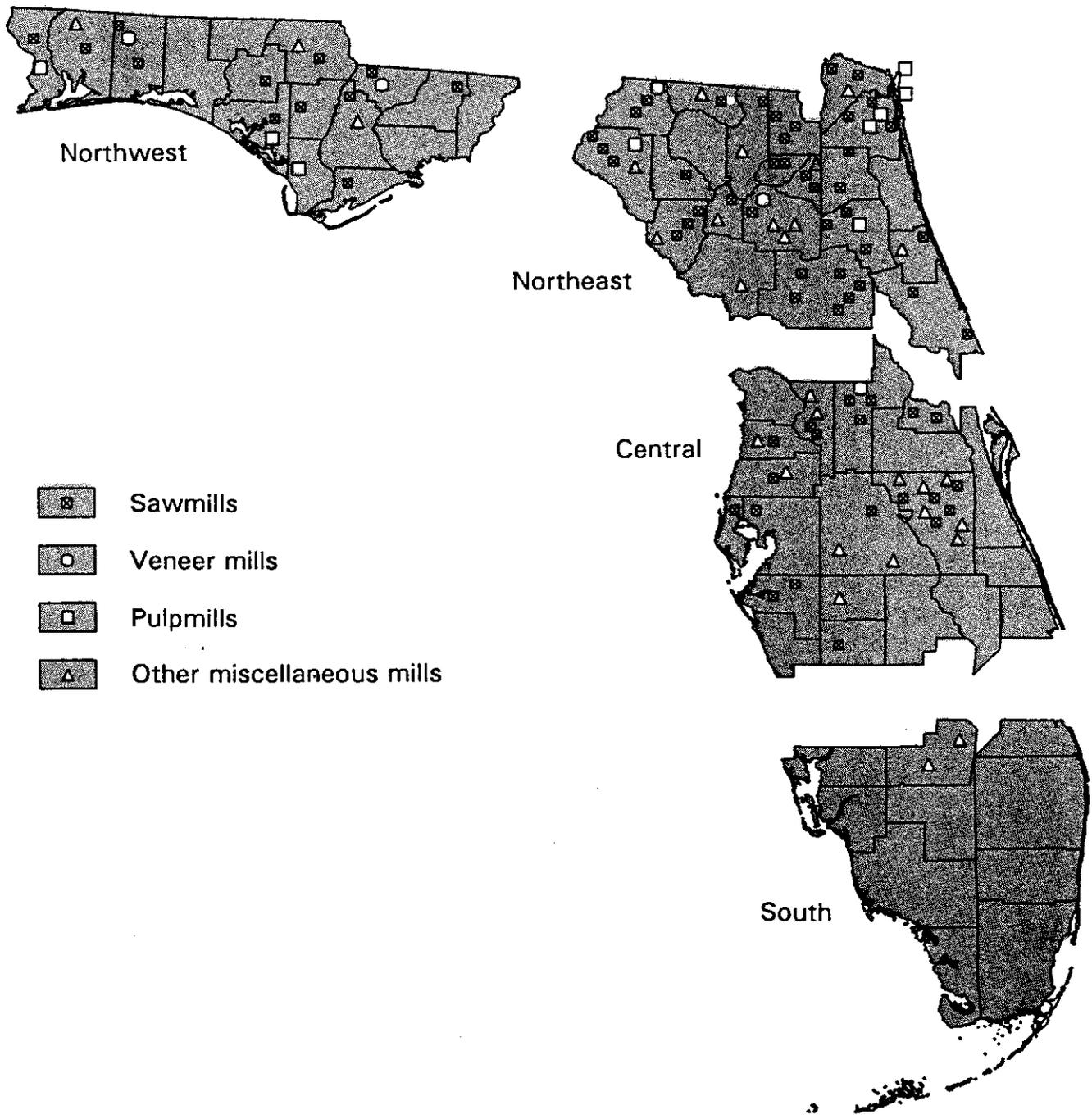


Figure 4—Primary wood-using mills by regions.

region. Pulpwood production dropped nearly 3 percent to 90 million cubic feet in 1991. This region accounted for about 27 percent of the State's pulpwood production, compared with 31 percent in 1989. Saw-log production in the region dropped 7 percent to 44 million cubic feet. In 1991, veneer output dropped by 13 percent to just under 4 million cubic feet. Only 19 percent of the State's veneer output came from the Northwest region. In 1991, the Northwest region exported 9 percent of its saw-log production, 3 percent of its veneer production, 6 percent of its pulpwood production, and 29 percent of the roundwood used for other miscellaneous products to mills in Alabama.

The Northwest region, which is made up of 16 counties (fig. 4), had 20 primary wood-using plants operating in 1991, including 3 pulpmills, 12 sawmills, 2 veneer mills, and 3 other miscellaneous mills. In 1989, 22 primary wood-using plants operated in this region.

### Central-South Region

Because output of industrial roundwood products from the two Southern regions of Florida is much smaller than output from the Northeast and Northwest regions, the Central and Southern regions were combined for reporting purposes in this Bulletin and are referred to as the "Central-South region." Although the number of mills declined from 41 in 1989 to 36 in 1991, output of all industrial timber products still totaled 40 million cubic feet, which is

about the same amount as in 1989 (table 16). Roundwood output used for pulpwood still dominated the product use in 1991. Although output of hardwood roundwood pulpwood dropped by 77 percent, the total pulpwood output increased by 25 percent. Softwood roundwood pulpwood increased nearly 57 percent from 13 million cubic feet in 1989 to 20 million cubic feet in 1991. Other industrial roundwood production dropped 6 percent to 12 million cubic feet. Most of this miscellaneous output was produced by the 12 mulch mills operating in 1991. Hardwood saw-log output increased about 11 percent, but still was not very great. The largest percentage change was in softwood saw-log output. It dropped from 9 million cubic feet in 1989 to 6 million cubic feet in 1991. Softwood saw-log output accounted for about 15 percent of the region's industrial timber products output. Output of roundwood used for veneer dropped to nearly half of the 1989 volume and amounted to only 355,000 cubic feet.

The 36 mills that were operating in this region in 1991 included 20 sawmills, 1 veneer mill, and 15 other miscellaneous mills (2 post, 1 pole, and 12 mulch). No pulpmills are in this region.

## Definitions

**Composite panels.** Consists of structural panels (oriented strand board or waferboard), 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 geographic area where timber was cut.

**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.

**Imports.** The volume of roundwood delivered to a mill or group of mills in a specific geographic area but harvested from outside that particular area.

**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.

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

**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 non-pulpmills, 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.

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

## Conversion Factors\*

### Saw Logs

Softwood                    0.19305 cubic foot = 1 board foot  
                                  5.18 board feet = 1 cubic foot

Hardwood                   0.17094 cubic foot = 1 board foot  
                                  5.85 board feet = 1 cubic foot

### Veneer Logs

Softwood                   0.19608 cubic foot = 1 board foot  
                                  5.10 board feet = 1 cubic foot

Hardwood                   0.16806 cubic foot = 1 board foot  
                                  5.95 board feet = 1 cubic foot

### Pulpwood<sup>b</sup>

Softwood                   74.00 cubic feet/cord  
Hardwood                   79.00 cubic feet/cord

---

\* Conversion factors vary with stem size (d.b.h.) and species. The factors shown are for trees of average diameters removed in Florida during the latest survey period.

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

**Table 1—Roundwood timber products output, by product and species group, Florida, 1989 and 1991**

Product and species group	Year		Change
	1989	1991	
	<i>Thousand cubic feet</i>		<i>Percent</i>
<b>Saw logs</b>			
Softwood	137,978	153,825	11.5
Hardwood	3,653	2,312	-36.7
Total	141,631	156,137	10.2
<b>Veneer logs</b>			
Softwood	19,868	19,698	-0.9
Hardwood	1,763	1,616	-8.3
Total	21,631	21,314	-1.5
<b>Pulpwood*</b>			
Softwood	270,713	298,454	10.3
Hardwood	25,600	30,936	20.8
Total	296,313	329,390	11.2
<b>Composite panels</b>			
Softwood	291	291	0
Hardwood	776	776	0
Total	1,067	1,067	0
<b>Other industrial</b>			
Softwood	21,245	24,609	15.8
Hardwood	811	395	-51.3
Total	22,056	25,004	13.4
<b>All industrial</b>			
Softwood	450,095	496,877	10.4
Hardwood	32,603	36,035	10.5
Total	482,698	532,912	10.4

\* Includes roundwood that was delivered to non-pulpmills and then chipped and sold to pulp mills (14,329,000 cubic feet in 1989 and 12,040,000 cubic feet in 1991).

**Table 2--Number of primary wood-using plants, by industry, Florida, 1989 and 1991**

Industry	Year		Change
	1989	1991	
	<i>Number</i>		<i>Percent</i>
Sawmills	85	71	-16.5
Veneer mills	5	5	0
Pulpmills	9	9	0
Composite panels	0	0	0
Other	28	30	7.1
All plants	127	115	-9.4

**Table 3--Roundwood receipts, by product and species group, Florida, 1989 and 1991**

Product and species group	Year		Change
	1989	1991	
	<i>Thousand cubic feet</i>		<i>Percent</i>
<b>Saw logs</b>			
Softwood	143,633	154,191	7.4
Hardwood	3,652	2,317	-36.6
Total	147,285	156,508	6.3
<b>Veneer logs</b>			
Softwood	28,295	27,580	-2.5
Hardwood	1,148	905	-21.2
Total	29,443	28,485	-3.3
<b>Pulpwood*</b>			
Softwood	296,726	348,091	17.3
Hardwood	43,313	43,394	0.2
Total	340,039	391,485	15.1
<b>Composite panels</b>			
Softwood	0	0	0
Hardwood	0	0	0
Total	0	0	0
<b>Other industrial</b>			
Softwood	23,018	25,799	12.1
Hardwood	811	395	-51.3
Total	23,829	26,194	9.9
<b>All industrial</b>			
Softwood	491,672	555,661	13.0
Hardwood	48,924	47,011	-3.9
Total	540,596	602,672	11.5

\* Includes roundwood that was delivered to non-pulpmills and then chipped and sold to pulpmills (16,132,000 cubic feet in 1989 and 13,182,000 cubic feet in 1991).

**Table 4--Roundwood receipts by species and type of mill, Florida, 1991**

Species	Type of mill					Other mills
	All mills	Sawmills	Veneer mills	Composite panels	Pulpmills <sup>a</sup>	
<i>Thousand cubic feet</i>						
<b>Softwood</b>						
Yellow pine	180,548	144,514	27,580	0	NA	8,454
White cedar	48	47	0	0	NA	1
Cypress	26,974	9,630	0	0	NA	17,344
Unclassified	348,091	0	0	0	348,091	0
<b>Total softwoods</b>	<b>555,661</b>	<b>154,191</b>	<b>27,580</b>	<b>0</b>	<b>348,091</b>	<b>25,799</b>
<b>Hardwood</b>						
Soft hardwoods	2,483	1,323	905	0	NA	255
Hard hardwoods	1,134	994	0	0	NA	140
Unclassified	43,394	0	0	0	43,394	0
<b>Total hardwoods</b>	<b>47,011</b>	<b>2,317</b>	<b>905</b>	<b>0</b>	<b>43,394</b>	<b>395</b>
<b>All species</b>	<b>602,672</b>	<b>156,508</b>	<b>28,485</b>	<b>0</b>	<b>391,485</b>	<b>26,194</b>

NA = not applicable.

<sup>a</sup> Only collected by softwood and hardwood and includes roundwood chipped.

**Table 5--Industrial roundwood movement, by year and species group, Florida, 1989 and 1991**

Year	Production	Exports	Retained	Imports	Receipts
<i>Thousand cubic feet</i>					
<b>SOFTWOOD</b>					
1989	450,095	33,659	416,436	75,236	491,672
1991	496,877	44,813	452,064	103,597	555,661
<b>HARDWOOD</b>					
1989	32,603	7,322	25,281	23,643	48,924
1991	36,035	10,723	25,312	21,699	47,011
<b>ALL SPECIES</b>					
1989	482,698	40,981	441,717	98,879	540,596
1991	532,912	55,536	477,376	125,296	602,672

**Table 6—Industrial roundwood movement by product and species group, Florida, 1991**

Product and species group	Production	Exports	Retained	Imports	Receipts
<i>Thousand cubic feet</i>					
<b>Saw logs</b>					
Softwood	153,825	10,441	143,384	10,807	154,191
Hardwood	2,312	322	1,990	327	2,317
Total	156,137	10,763	145,374	11,134	156,508
<b>Veneer logs</b>					
Softwood	19,698	0	19,698	7,882	27,580
Hardwood	1,616	956	660	245	905
Total	21,314	956	20,358	8,127	28,485
<b>Pulpwood<sup>a</sup></b>					
Softwood	298,454	33,096	265,358	82,733	348,091
Hardwood	30,936	8,669	22,267	21,127	43,394
Total	329,390	41,765	287,625	103,860	391,485
<b>Composite panels</b>					
Softwood	291	291	0	0	0
Hardwood	776	776	0	0	0
Total	1,067	1,067	0	0	0
<b>Other industrial</b>					
Softwood	24,609	985	23,624	2,175	25,799
Hardwood	395	0	395	0	395
Total	25,004	985	24,019	2,175	26,194
<b>All products</b>					
Softwood	496,877	44,813	452,064	103,597	555,661
Hardwood	36,035	10,723	25,312	21,699	47,011
Total	532,912	55,536	477,376	125,296	602,672

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

**Table 7--Saw-log volume by destination, source, and species group, Florida, 1991**

Destination and source	Species group		
	All species	Softwood	Hardwood
	<i>Thousand cubic feet</i>		
<b>Florida (retained)</b>	145,374	143,384	1,990
<b>Exports to:</b>			
Alabama	3,857	3,857	0
Georgia	6,906	6,584	322
<b>Imports from:</b>	145,374		
Alabama	4,978	4,971	7
Georgia	6,048	5,728	320
North Carolina	54	54	0
South Carolina	54	54	0

**Table 8--Veneer volume by destination, source, and species group, Florida, 1991**

Destination and source	Species group		
	All species	Softwood	Hardwood
	<i>Thousand cubic feet</i>		
<b>Florida (retained)</b>	20,358	19,698	660
<b>Exports to:</b>			
Alabama	126	0	126
Georgia	830	0	830
<b>Imports from:</b>			
Alabama	349	236	113
Georgia	7,778	7,646	132

**Table 9-- Pulpwood<sup>a</sup> volume by destination, source, and species group, Florida, 1991**

Destination and source	Species group		
	All species	Softwood	Hardwood
	<i>Thousand cubic feet</i>		
<b>Florida (retained)</b>	287,625	265,358	22,267
<b>Exports to:</b>			
Alabama	5,339	4,262	1,077
Georgia	36,426	28,834	7,592
<b>Imports from:</b>			
Alabama	32,126	18,182	13,944
Georgia	65,904	58,721	7,183
North Carolina	58	58	0
South Carolina	5,772	5,772	0

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

**Table 10-- Composite panel volume by destination, source, and species group, Florida, 1991**

Destination and source	Species group		
	All species	Softwood	Hardwood
	<i>Thousand cubic feet</i>		
<b>Florida (retained)</b>	0	0	0
<b>Exports to:</b>			
Georgia	1,067	291	776

**Table 11—Other industrial<sup>a</sup> volume by destination, source, and species group, Florida, 1991**

Destination and source	Species group		
	All species	Softwood	Hardwood
	<i>Thousand cubic feet</i>		
Florida (retained)	24,019	23,624	395
<b>Exports to:</b>			
Alabama	703	703	0
Georgia	282	282	0
<b>Imports from:</b>			
Alabama	174	174	0
Georgia	1,957	1,957	0
North Carolina	22	22	0
South Carolina	22	22	0

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

**Table 12—Primary mill residue volume by roundwood type, species group, and residue type, Florida, 1991**

Roundwood type and species group	Residue type				
	All types	Bark	Coarse	Sawdust	Shavings
<i>Thousand cubic feet</i>					
<b>Saw logs</b>					
Softwood	93,173	13,746	43,797	22,877	12,753
Hardwood	1,565	276	744	505	40
Total	94,738	14,022	44,541	23,382	12,793
<b>Veneer logs</b>					
Softwood	16,179	2,421	7,159	6,599	0
Hardwood	689	109	297	283	0
Total	16,868	2,530	7,456	6,882	0
<b>Pulpwood</b>					
Softwood	36,727	36,727	0	0	0
Hardwood	5,657	5,657	0	0	0
Total	42,384	42,384	0	0	0
<b>Composite panels</b>					
Softwood	0	0	0	0	0
Hardwood	0	0	0	0	0
Total	0	0	0	0	0
<b>Other industrial<sup>a</sup></b>					
Softwood	21,285	8,779	10,232	2,274	0
Hardwood	257	52	154	51	0
Total	21,542	8,831	10,386	2,325	0
<b>Total</b>					
Softwood	167,364	61,673	61,188	31,750	12,753
Hardwood	8,168	6,094	1,195	839	40
Total	175,532	67,767	62,383	32,589	12,793

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

Table 13—Disposal of residue at primary wood—using plants, by product, species group, and type of residue, Florida, 1989 and 1991

Product and species group	All types		Bark		Coarse		Sawdust		Shavings	
	1989	1991	1989	1991	1989	1991	1989	1991	1989	1991
<i>Thousand cubic feet</i>										
<b>Fiber products</b>										
Softwood	45,845	51,533	0	3,052	44,107	46,865	0	0	1,538	1,616
Hardwood	521	1,224	0	695	521	529	0	0	0	0
Total	46,166	52,757	0	3,747	44,628	47,394	0	0	1,538	1,616
<b>Particleboard</b>										
Softwood	2,299	3,956	0	79	0	736	223	160	2,076	2,981
Hardwood	0	0	0	0	0	0	0	0	0	0
Total	2,299	3,956	0	79	0	736	223	160	2,076	2,981
<b>Composite panels</b>										
Softwood	0	0	0	0	0	0	0	0	0	0
Hardwood	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
<b>Sawn products</b>										
Softwood	276	1,465	6	1	270	1,464	0	0	0	0
Hardwood	0	0	0	0	0	0	0	0	0	0
Total	276	1,465	6	1	270	1,464	0	0	0	0
<b>Fuel</b>										
Softwood	76,518	79,298	42,882	47,996	3,913	2,960	23,493	23,676	6,230	4,666
Hardwood	5,779	5,939	4,736	5,246	457	235	550	419	36	39
Total	82,297	85,237	47,618	53,242	4,370	3,195	24,043	24,095	6,266	4,705
<b>Miscellaneous</b>										
Softwood	26,624	29,355	9,978	9,955	8,503	7,999	6,359	7,911	1,784	3,490
Hardwood	2,975	976	1,588	152	758	404	621	419	8	1
Total	29,599	30,331	11,566	10,107	9,261	8,403	6,980	8,330	1,792	3,491
<b>Not used</b>										
Softwood	178	1,757	75	590	22	1,164	81	3	0	0
Hardwood	88	29	0	1	0	27	88	1	0	0
Total	266	1,786	75	591	22	1,191	169	4	0	0
<b>All products</b>										
Softwood	151,540	167,364	52,941	61,673	56,815	61,188	30,156	31,750	11,628	12,753
Hardwood	9,363	8,168	6,324	6,094	1,736	1,195	1,259	839	44	40
Total	160,903	175,532	59,265	67,767	58,551	62,383	31,415	32,589	11,672	12,793

**Table 14—Roundwood timber products output, by product and species group, Northeast Florida, 1989 and 1991**

Product and species group	Year		Change
	1989	1991	
	<i>Thousand cubic feet</i>		<i>Percent</i>
<b>Saw logs</b>			
Softwood	82,426	104,436	26.7
Hardwood	2,157	1,530	-29.1
Total	84,583	105,966	25.3
<b>Veneer logs</b>			
Softwood	16,152	16,719	3.5
Hardwood	292	270	-7.5
Total	16,444	16,989	3.3
<b>Pulpwood<sup>a</sup></b>			
Softwood	175,510	202,360	15.3
Hardwood	11,435	15,952	39.5
Total	186,945	218,312	16.8
<b>Composite panels</b>			
Softwood	192	192	0
Hardwood	512	512	0
Total	704	704	0
<b>Other industrial</b>			
Softwood	6,152	9,929	61.4
Hardwood	140	140	0
Total	6,292	10,069	60.0
<b>All industrial</b>			
Softwood	280,432	333,636	19.0
Hardwood	14,536	18,404	26.6
Total	294,968	352,040	19.3

<sup>a</sup> Includes roundwood that was delivered to non-pulpmills and then chipped and sold to pulpmills (10,925,000 cubic feet in 1989 and 10,463,000 cubic feet in 1991).

**Table 15—Roundwood timber products output, by product and species group, Northwest Florida, 1989 and 1991**

Product and species group	Year		Change
	1989	1991	
	<i>Thousand cubic feet</i>		<i>Percent</i>
<b>Saw logs</b>			
Softwood	46,076	43,496	-5.6
Hardwood	1,422	700	-50.8
Total	47,498	44,196	-7.0
<b>Veneer logs</b>			
Softwood	3,707	2,979	-19.6
Hardwood	851	991	16.5
Total	4,558	3,970	-12.9
<b>Pulpwood<sup>a</sup></b>			
Softwood	82,405	76,027	-7.7
Hardwood	10,255	14,086	37.4
Total	92,660	90,113	-2.8
<b>Composite panels</b>			
Softwood	99	99	0
Hardwood	264	264	0
Total	363	363	0
<b>Other industrial</b>			
Softwood	2,494	2,431	-2.5
Hardwood	0	0	0
Total	2,494	2,431	-2.5
<b>All industrial</b>			
Softwood	134,781	125,032	-7.2
Hardwood	12,792	16,041	25.4
Total	147,573	141,073	-4.4

<sup>a</sup> Includes roundwood that was delivered to non-pulpmills and then chipped and sold to pulpmills (3,099,000 cubic feet in 1989 and 1,280,000 cubic feet in 1991).

**Table 16--Roundwood timber products output, by product and species group, Central-South Florida, 1989 and 1991**

Product and species group	Year		Change
	1989	1991	
	<i>Thousand cubic feet</i>		<i>Percent</i>
<b>Saw logs</b>			
Softwood	9,476	5,893	-37.8
Hardwood	74	82	10.8
Total	9,550	5,975	-37.4
<b>Veneer logs</b>			
Softwood	9	0	-100.0
Hardwood	620	355	-42.7
Total	629	355	-43.6
<b>Pulpwood<sup>a</sup></b>			
Softwood	12,798	20,067	56.8
Hardwood	3,910	898	-77.0
Total	16,708	20,965	25.5
<b>Composite panels</b>			
Softwood	0	0	0
Hardwood	0	0	0
Total	0	0	0
<b>Other industrial</b>			
Softwood	12,599	12,249	-2.8
Hardwood	671	255	-62.0
Total	13,270	12,504	-5.8
<b>All industrial</b>			
Softwood	34,882	38,209	9.5
Hardwood	5,275	1,590	-69.9
Total	40,157	39,799	-0.9

<sup>a</sup> Includes roundwood that was delivered to non-pulpmills and then chipped and sold to pulpmills (305,000 cubic feet in 1989 and 297,000 cubic feet in 1991).

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

USDA policy prohibits discrimination because of race, color, national origin, sex, age, religion, or handicapping condition. Any person who believes he or she has been discriminated against in any USDA-related activity should immediately contact the Secretary of Agriculture, Washington, DC 20250.

**Davenport, Edgar L. 1993.** Florida's timber industry—an assessment of timber product output and use, 1991. Resour. Bull. SE-139. Asheville, NC:U.S. Department of Agriculture, Forest Service, Southeastern Forest Experiment Station. 21 pp.

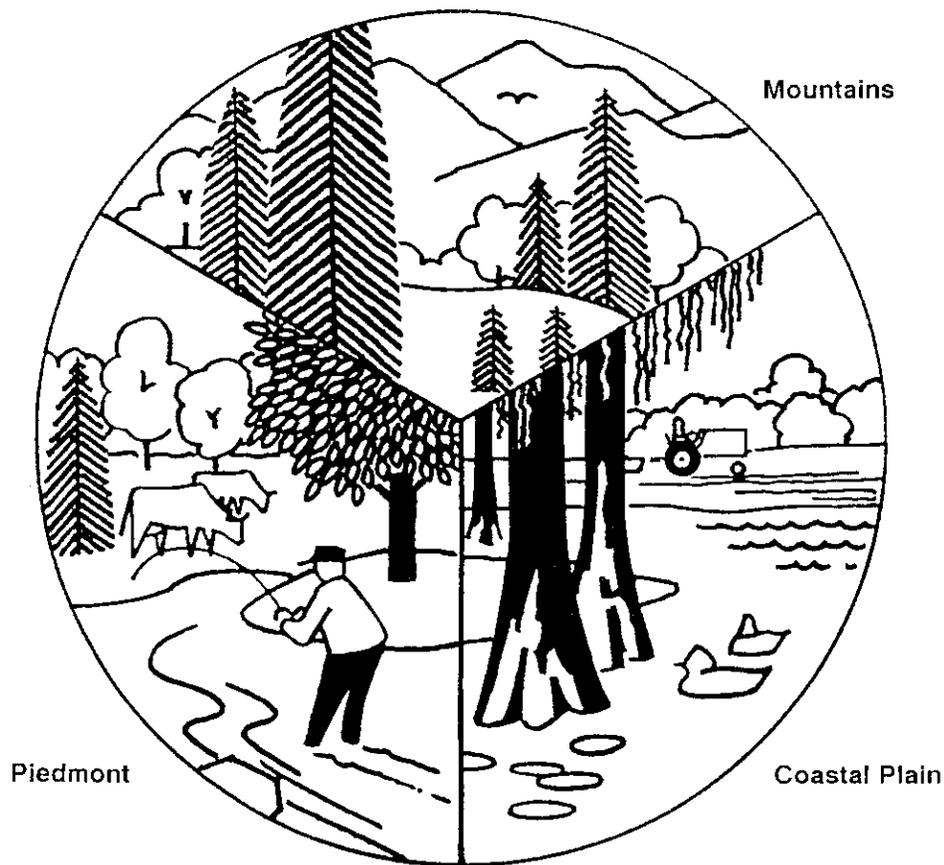
In 1991, roundwood output from Florida's forests totaled 533 million cubic feet—10 percent more than in 1989. Mill byproducts generated from primary manufactures increased 9 percent to 175 million cubic feet. Almost all of the plant residues (99 percent) were used, mostly for fuel and fiber products. Pulpwood was the leading roundwood product at 329 million cubic feet; saw logs ranked second at 156 million cubic feet; veneer logs were third with 21 million cubic feet. The number of primary processing plants declined from 127 in 1989 to 115 in 1991; however, total receipts increased 11 percent to 603 million cubic feet.

**KEYWORDS:** Roundwood, residues, pulpwood, saw logs, veneer logs, wood movement.

**Davenport, Edgar L. 1993.** Florida's timber industry—an assessment of timber product output and use, 1991. Resour. Bull. SE-139. Asheville, NC:U.S. Department of Agriculture, Forest Service, Southeastern Forest Experiment Station. 21 pp.

In 1991, roundwood output from Florida's forests totaled 533 million cubic feet—10 percent more than in 1989. Mill byproducts generated from primary manufactures increased 9 percent to 175 million cubic feet. Almost all of the plant residues (99 percent) were used, mostly for fuel and fiber products. Pulpwood was the leading roundwood product at 329 million cubic feet; saw logs ranked second at 156 million cubic feet; veneer logs were third with 21 million cubic feet. The number of primary processing plants declined from 127 in 1989 to 115 in 1991; however, total receipts increased 11 percent to 603 million cubic feet.

**KEYWORDS:** Roundwood, residues, pulpwood, saw logs, veneer logs, wood movement.



# Southeastern Forest Experiment Station

Established 1921

The Southeastern Forest Experiment Station, headquartered in Asheville, North Carolina, is one of the eight regional Experiment Stations, and the Forest Products Laboratory, that make up the Forest Service research organization.

## RESEARCH MISSION:

To acquire the knowledge, develop the technology, and disseminate the research findings required to manage the Southeast's forest resources in ways that satisfy demands of goods and services while maintaining a quality environment.

## RESEARCH LOCATIONS:

Blacksburg, VA  
 Research Triangle Park, NC  
 Franklin, NC  
 Clemson, SC  
 Charleston, SC  
 Athens, GA  
 Macon, GA  
 Olustee/Gainesville, FL

## EXPERIMENTAL FORESTS:

Chipola, Marianna, FL  
 Holt Walton, Vienna, GA  
 Coweeta, Otto, NC  
 Bent Creek, Asheville, NC  
 Santee, Moncks Corner, SC  
 Scull Shoals, Athens, GA  
 Hitchiti, Juliette, GA  
 Olustee, Olustee, FL