United States
Department of
Agriculture

Forest Service

Southeastern Forest
Experiment Station

Resource Bulletin
SE-129

Changes in Output of Industrial Timber Products in Virginia, 1987-1989

Cecil C. Hutchins, Jr.

The Author

Cecil C. Hutchins, Jr., is a Resource Technician, Forest Inventory and Analysis, Southeastern Forest Experiment Station, Asheville, NC.

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.

July 1992

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

Foreword

This report presents the findings of a 1989 canvass of all primary wood-using plants in Virginia and complements Forest Inventory and Analysis' periodic inventory of volume and removals from southeastern timberland. The canvass was made to determine the amount and source of wood receipts and annual timber product drain by county for a specific year. In addition, interstate and cross-regional movement of industrial roundwood are determined. Only primary wood-using mills are 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 panel products (oriented strand board/waferboard) or reconstituted lumber products (parallel strand lumber, laminated veneer lumber, particleboard). Mills producing products from residues generated at primary processors and secondary processors are not canvassed. Volume of whole trees chipped in the woods is not included in the estimate of timber drain, unless delivered to a primary domestic manufacturer.

A 100-percent canvass of all primary wood-processors in Virginia was conducted in 1990. Out-of-State mills known to be using logs or bolts harvested from Virginia 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, receipt data collected in previous surveys were updated based on current data collected for mills of similar size, product type, and location. These studies are a cooperative project involving the Southeastern Forest Experiment Station and the Commonwealth of Virginia, Department of Forestry.

Pulpwood production data are taken from an annual canvass of all eastern pulpmills. Medium-density fiberboard, insulating board, and hardboard plants are included in this survey. The pulpwood production survey is conducted annually in cooperation with the American Pulpwood Association. Previous surveys for other timber products have been conducted approximately every 3 years since 1965. This Bulletin reports the findings of the 1989 primary wood-users canvass and pulpwood production study in Virginia and presents changes in product output and residue use that have occurred since 1987.

The Southeastern Station gratefully acknowledges the cooperation and assistance provided by the Virginia Department of Forestry in collecting mill data. Appreciation is also expressed to forest industry and mill managers for providing timber products information.

Statewide Trends

Virginia's total roundwood timber product output was 435.7 million cubic feet in 1989, a 5.6-percent increase over 1987, but 6 percent less than the record output of 1984. Both softwood and hardwood volumes have increased since 1987, softwoods by 3 percent and hardwoods by 9 percent (table 1). Hardwood product output surpassed softwood output significantly, as it has for a decade. Saw logs account for 51 percent of the roundwood production and are the leading roundwood product, as they have been since the commodity drain surveys began in 1965. Pulpwood, the second leading roundwood product, makes up 41 percent of total production. Veneer accounts for 4 percent, composite panels 3 percent, and other industrial products 1 percent of the total. Composite panels was removed from the "other industrial roundwood" category in 1989, and this change accounts for the 50-percent reduction in that category.

There were 369 primary wood-using plants operating in Virginia during 1989 (fig. 1). This was a loss of 25 mills, or a 6-percent decline since 1987. The number of sawmills declined by 32, while the number of veneer mills remained at 10, and there were 9 pulp mills. There were 3 panel mills, and the number of other miscellaneous mills increased by 5 to a total of 24 (table 2).

Virginia continues to be a net importer of roundwood, as receipts exceeded production by 43.6 million cubic feet or 10 percent. Imports of 27.8 million cubic feet of roundwood pulpwood account for 57 percent of the roundwood imported into Virginia. Imports of roundwood saw logs exceeded in-State production by 4.7 million cubic feet (table 3). The only industry not importing roundwood was other industrial (table 4). Imports exceeded exports by a margin of 2-to-1 in 1989. This was a decrease from the 3-to-1 margin of 1987 (table 5).

Plant Byproduct Production and Use

Primary wood-using mills within the State produced 159.2 million cubic feet of residues during 1989 (table 6). Use of residues continues to improve, as 96 percent were utilized in 1989 versus 93 percent used in 1987. Ninety-seven percent of bark residues were used–60 percent for fuel and 37 percent for miscellaneous uses. Coarse residues were used mainly for fiber products (83 percent); other uses were fuel and particleboard. The proportion of sawdust that was not used (8 percent) was greater than the proportion of any other residue that went unused but amounted to only 3.4 million cubic feet. Sixty-eight percent was used for fuel, 12 percent for miscellaneous products, and 9 percent for particleboard (table 7).

Regional Trends

The Coastal Plain of Virginia (fig. 2) was the leading producer of roundwood in 1989, with 40 percent of the State's total of 435.7 million cubic feet. The Coastal Plain produced 172.9 million cubic feet of roundwood in 1989, a decline of 2 percent since 1987. Output of all products other than pulpwood declined significantly. Production of pulpwood increased by almost 29 percent. Saw logs were the leading roundwood product in both the softwood and hardwood categories. Most products came from softwood in this area (table 8).

Virginia's Southern Piedmont, with 137.4 million cubic feet of roundwood products, was second in total output. The leading product for this region is pulpwood, which makes up more than 50 percent of the total. More than half of the pulpwood was softwood. Saw logs accounted for 42 percent of the total roundwood production, with hardwoods dominating. Regional production increased by 11 percent since 1987 (table 9).

The Northern Piedmont of Virginia produced 10 percent more roundwood in 1989 than in 1987. Both saw logs and pulpwood production increased, with softwoods showing the largest gains. Table 10 shows that hardwoods continue to dominate roundwood production in this region (59 percent).

Industrial roundwood output of the Northern Mountains Region decreased 6 percent since the previous survey. This region produces less roundwood than does any other in the State. Eighty-six percent of the region's roundwood output is hardwood. Pulpwood increased by almost 7 percent to 11.9 million cubic feet and is the second leading product of the Northern Mountains (table 11).

The Southern Mountains Region saw nearly a 30-percent increase in roundwood production since 1987. Hardwood saw logs accounted for most of the increase. Output of all roundwood products other than pulpwood increased; pulpwood production fell nearly 14 percent. This region produced almost 11 percent of the State's total roundwood output in 1989 (table 12).

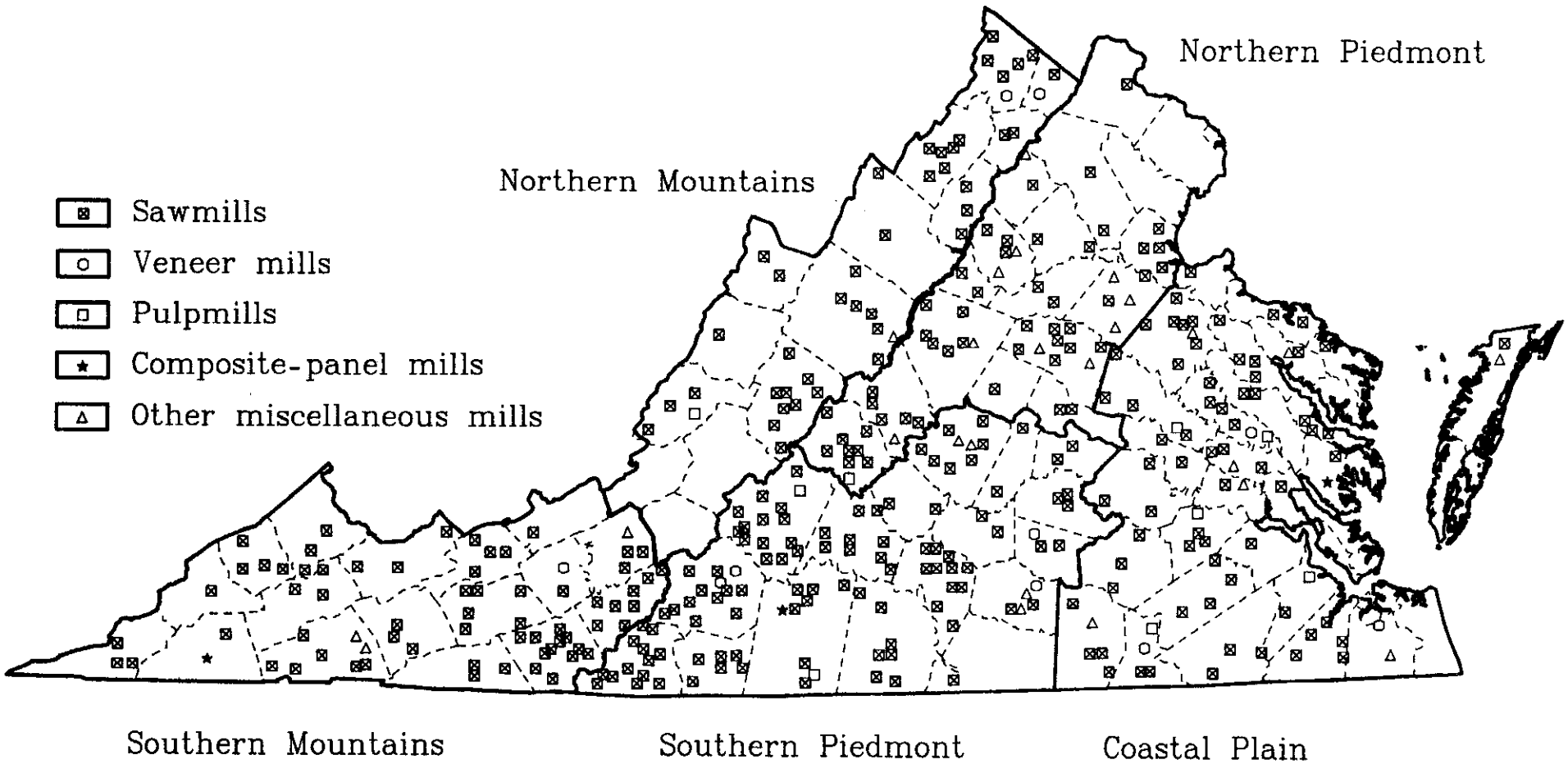


Figure 1—Location of primary wood-using plants in Virginia, 1989.

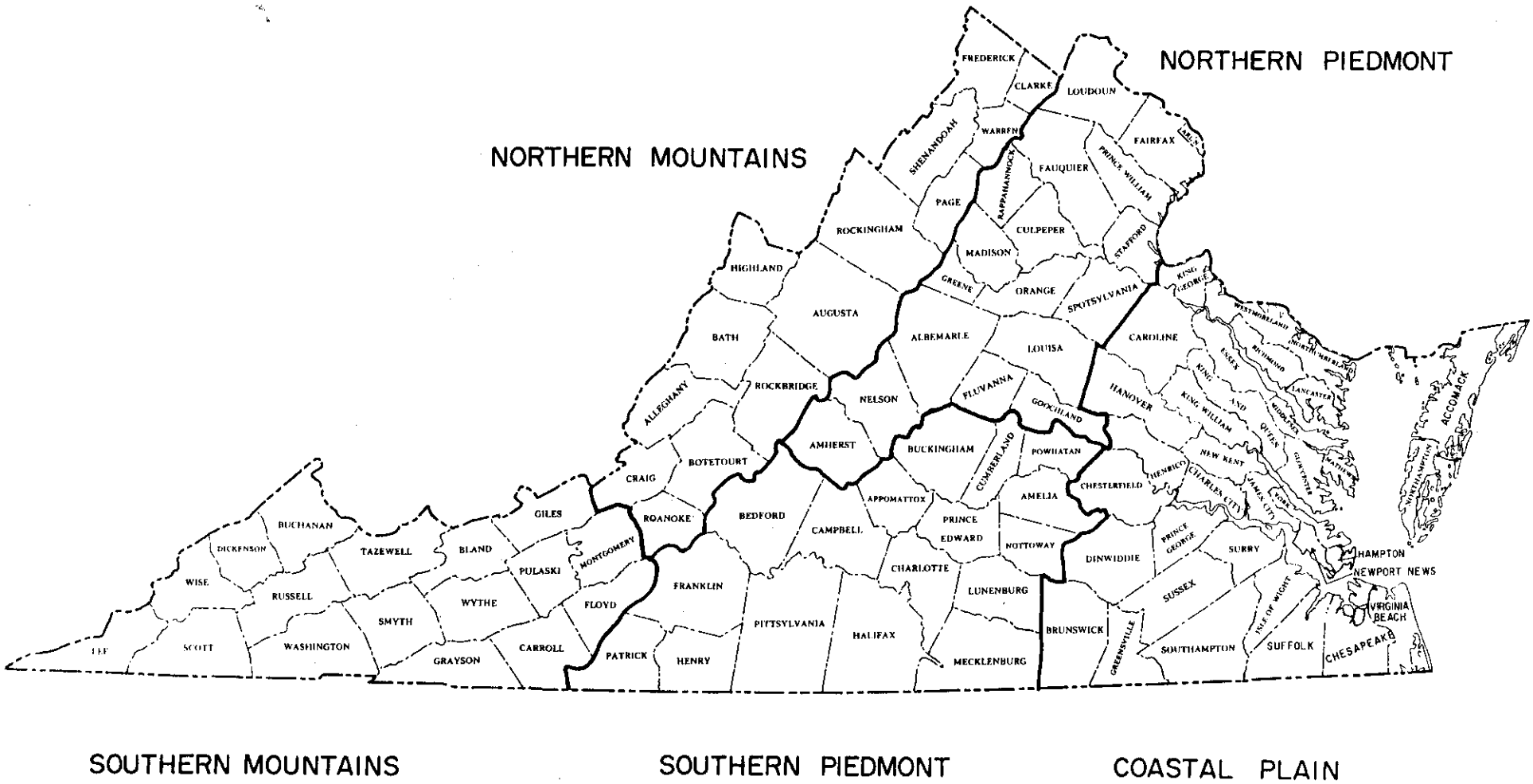


Figure 2—Forest survey regions in Virginia.

Definitions of Terms

Composite panels. Consists of structural panels (oriented strand board/waferboard), particleboard (industrial underlayment, thin panelboard), and fiberboard (medium-density fiberboard, insulation board).

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.

Industrial timber products. All timber products manufactured from either roundwood or plant byproducts, except firewood.

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 a 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.

Tables

Conversion Factors[a]

Saw logs	
Softwood	0.18793 cubic foot = 1 board foot
	5.32 board feet = 1 cubic foot
Hardwood	0.18594 cubic foot = 1 board foot
	5.38 board feet = 1 cubic foot
Veneer logs	
Softwood	0.16291 cubic foot = 1 board foot
	6.14 board feet = 1 cubic foot
Hardwood	0.14599 cubic foot = 1 board foot
	6.85 board feet = 1 cubic foot
Pulpwood[b]	
Softwood	73.07 cubic feet/cord
Hardwood	76.37 cubic feet/cord

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

[b]Cubic feet of solid wood per cord.

Table 1--Roundwood timber products output, by product and species group, Virginia, 1987 and 1989

Product and species group	Year 1987	Year 1989	Change
	Thousand cubic feet		Percent
Saw logs			
Softwood	106,536	92,035	-13.6
Hardwood	125,643	130,559	+3.9
Total	232,179	222,594	-4.1
Veneer logs			
Softwood	11,709	11,196	-4.4
Hardwood	5,122	4,448	-13.2
Total	16,831	15,644	-7.1
Pulpwood[a]			
Softwood	74,810	94,278	+26.0
Hardwood	75,762	83,555	+10.3
Total	150,572	177,833	+18.1
Composite panels[b]			
Softwood	0	4,572	NA
Hardwood	0	8,611	NA
Total	0	13,183	NA
Other industrial			
Softwood	7,329	3,421	-53.3
Hardwood	5,605	3,002	-46.4
Total	12,934	6,423	-50.3
All industrial			
Softwood	200,384	205,502	+2.6
Hardwood	212,132	230,175	+8.5
Total	412,516	435,677	+5.6

NA = not applicable.

[a]Includes roundwood that was delivered to non-pulpmills and then chipped and sold to pulpmills (11,903,000 cubic feet in 1987 and 12,129,000 cubic feet in 1989).

[b]Volume included with other industrial prior to 1989.

Table 2--Number of primary wood-using plants, by industry, Virginia, 1987 and 1989

Industry	Year		Change
	1987	1989	
	Number		Percent
Sawmills	355	323	-9.0
Veneer mills	10	10	0
Pulpmills	9	9	0
Composite-panel mills[a]	1	3	+200.0
Other	19	24	+26.3
All plants	394	369	-6.3

[a]Mills included with other prior to 1989.

Table 3--Roundwood receipts, by product and species group, Virginia, 1987 and 1989

Product and species group	Year 1987	Year 1989	Change
	Thousand cubic feet		Percent
Saw logs			
Softwood	107,506	92,998	-13.5
Hardwood	127,077	134,332	+5.7
Total	234,583	227,330	-3.1
Veneer logs			
Softwood	14,646	13,694	-6.5
Hardwood	4,858	3,559	-26.7
Total	19,504	17,253	-11.5
Pulpwood[a]			
Softwood	83,536	92,740	+11.0
Hardwood	94,664	112,896	+19.3
Total	178,200	205,636	+15.4
Composite panels[b]			
Softwood	0	8,326	NA
Hardwood	0	14,630	NA
Total	0	22,956	NA
Other industrial			
Softwood	8,950	3,357	-62.5
Hardwood	6,420	2,736	-57.4
Total	15,370	6,093	-60.4
All industrial			
Softwood	214,638	211,115	-1.6
Hardwood	233,019	268,153	+15.1
Total	447,657	479,268	+7.1

NA = not applicable.

[a]Includes roundwood that was delivered to non-pulpmills and then chipped and sold to pulpmills (15,327,000 cubic feet in 1987 and 14,374,000 cubic feet in 1989).

[b]Volume included with other industrial prior to 1989.

Table 4--Industrial roundwood movement by product and species group, Virginia, 1989

Product	Species group				
	Production	Exports	Retained	Imports	Receipts
	Thousand cubic feet				
Saw logs					
Softwood	92,035	8,246	83,789	9,209	92,998
Hardwood	130,559	6,457	124,102	10,230	134,332
Total	222,594	14,703	207,891	19,439	227,330
Veneer logs					
Softwood	11,196	270	10,926	2,768	13,694
Hardwood	4,448	1,813	2,635	924	3,559
Total	15,644	2,083	13,561	3,692	17,253
Pulpwood[a]					
Softwood	94,278	13,378	80,900	11,840	92,740
Hardwood	83,555	8,254	75,301	37,595	112,896
Total	177,833	21,632	156,201	49,435	205,636
Composite panels					
Softwood	4,572	0	4,572	3,754	8,326
Hardwood	8,611	0	8,611	6,019	14,630
Total	13,183	0	13,183	9,773	22,956
Other industrial					
Softwood	3,421	276	3,145	212	3,357
Hardwood	3,002	266	2,736	0	2,736
Total	6,423	542	5,881	212	6,093
All products					
Softwood	205,502	22,170	183,332	27,783	211,115
Hardwood	230,175	16,790	213,385	54,768	268,153
Total	435,677	38,960	396,717	82,551	479,268

[a]Includes roundwood chipped.

Table 5--Industrial roundwood movement, by year and species group, Virginia, 1987 and 1989

Year	Production	Exports	Retained	Imports	Receipts
			Thousand cubic feet		
			SOFTWOOD		
1987	200,384	8,104	192,280	22,358	214,638
1989	205,502	22,170	183,332	27,783	211,115
			HARDWOOD		
1987	212,132	8,131	204,001	29,018	233,019
1989	230,175	16,790	213,385	54,768	268,153
			ALL SPECIES		
1987	412,516	16,235	396,281	51,376	447,657
1989	435,677	38,960	396,717	82,551	479,268

Table 6--Primary mill residue by roundwood type, species group, and residue type, Virginia, 1989

Roundwood type and species group	Residue type				
	All types	Bark	Coarse	Sawdust	Shavings
	Thousand cubic feet				
Saw logs					
Softwood	50,629	6,021	23,323	16,092	5,193
Hardwood	71,738	12,391	34,980	23,764	603
Total	122,367	18,412	58,303	39,856	5,796
Veneer logs					
Softwood	7,617	1,023	4,900	1,694	0
Hardwood	1,437	418	674	345	0
Total	9,054	1,441	5,574	2,039	0
Pulpwood					
Softwood	8,486	8,486	0	0	0
Hardwood	13,823	13,823	0	0	0
Total	22,309	22,309	0	0	0
Composite panels					
Softwood	539	539	0	0	0
Hardwood	1,349	1,349	0	0	0
Total	1,888	1,888	0	0	0
Other industrial[a]					
Softwood	2,069	1,782	260	27	0
Hardwood	1,518	336	849	333	0
Total	3,587	2,118	1,109	360	0
Total					
Softwood	69,340	17,851	28,483	17,813	5,193
Hardwood	89,865	28,317	36,503	24,442	603
Total	159,205	46,168	64,986	42,255	5,796

[a]Includes poles, pilings, posts, and other industrial products.

Table 7--Disposal of residue at primary wood-using plants, by product, species group, and type of residue, Virginia, 1987 and 1989

Product and species group	All types		Bark		Coarse		Sawdust		Shavings	
	1987	1989	1987	1989	1987	1989	1987	1989	1987	1989
	Thousand cubic feet									
Fiber products										
Softwood	28,983	25,661	0	0	28,032	24,521	136	290	815	850
Hardwood	26,920	30,144	0	0	26,198	29,222	577	922	145	0
Total	55,903	55,805	0	0	54,230	53,743	713	1,212	960	850
Particleboard										
Softwood	8,370	5,674	8	0	2,345	235	3,331	2,470	2,686	2,969
Hardwood	3,337	1,953	4	0	2,225	576	688	1,195	420	182
Total	11,707	7,627	12	0	4,570	811	4,019	3,665	3,106	3,151
Strand/wafer board										
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
Sawn products										
Softwood	0	2,192	0	0	0	2,192	0	0	0	0
Hardwood	0	0	0	0	0	0	0	0	0	0
Total	0	2,192	0	0	0	2,192	0	0	0	0
Fuel										
Softwood	29,000	24,399	12,053	10,527	1,601	939	14,878	12,733	468	200
Hardwood	34,808	37,430	11,879	17,098	6,737	4,223	15,950	15,898	242	211
Total	63,808	61,829	23,932	27,625	8,338	5,162	30,828	28,631	710	411
Miscellaneous										
Softwood	8,325	10,013	5,505	7,058	34	19	1,756	1,762	1,030	1,174
Hardwood	18,686	14,871	12,362	10,190	846	956	5,157	3,515	321	210
Total	27,011	24,884	17,867	17,248	880	975	6,913	5,277	1,351	1,384
Not used										
Softwood	3,233	1,401	463	266	1,649	577	1,121	558	0	0
Hardwood	7,799	5,467	1,794	1,029	1,631	1,526	4,374	2,912	0	0
Total	11,032	6,868	2,257	1,295	3,280	2,103	5,495	3,470	0	0
All products										
Softwood	77,911	69,340	18,029	17,851	33,661	28,483	21,222	17,813	4,999	5,193
Hardwood	91,550	89,865	26,039	28,317	37,637	36,503	26,746	24,442	1,128	603
Total	169,461	159,205	44,068	46,168	71,298	64,986	47,968	42,255	6,127	5,796

Table 8--Output of industrial roundwood products, by product and species group, Coastal Plain of Virginia, 1987 and 1989

Product and species group	Year 1987	Year 1989	Change
	Thousand cubic feet		Percent
Saw logs			
Softwood	65,641	50,474	-23.1
Hardwood	40,803	36,681	-10.1
Total	106,444	87,155	-18.1
Veneer logs			
Softwood	8,750	8,453	-3.4
Hardwood	1,825	1,211	-33.6
Total	10,575	9,664	-8.6
Pulpwood[a]			
Softwood	32,163	41,333	+28.5
Hardwood	19,632	25,432	+29.5
Total	51,795	66,765	+28.9
Composite panels[b]			
Softwood	0	3,409	NA
Hardwood	0	3,116	NA
Total	0	6,525	NA
Other industrial			
Softwood	5,085	2,099	-58.7
Hardwood	3,185	707	-77.8
Total	8,270	2,806	-66.1
All industrial			
Softwood	111,639	105,768	-5.3
Hardwood	65,445	67,147	+2.6
Total	177,084	172,915	-2.4

NA = not applicable.

[a]Includes roundwood that was delivered to non-pulpmills and then chipped and sold to pulpmills (8,123,000 cubic feet in 1987 and 8,290,000 cubic feet in 1989).

[b]Volume included with other industrial prior to 1989.

Table 9--Output of industrial roundwood products, by product and species group, Southern Piedmont of Virginia, 1987 and 1989

Product and species group	Year 1987	Year 1989	Change
	Thousand cubic feet		Percent
Saw logs			
Softwood	23,396	24,185	+3.4
Hardwood	33,401	33,868	+1.4
Total	56,797	58,053	+2.2
Veneer logs			
Softwood	2,939	2,743	-6.7
Hardwood	940	930	-1.1
Total	3,879	3,673	-5.3
Pulpwood[a]			
Softwood	28,726	37,040	+28.9
Hardwood	30,606	33,039	+8.0
Total	59,332	70,079	+18.1
Composite panels[b]			
Softwood	0	1,163	NA
Hardwood	0	1,799	NA
Total	0	2,962	NA
Other industrial			
Softwood	1,474	923	-37.4
Hardwood	2,399	1,755	-26.8
Total	3,873	2,678	-30.9
All industrial			
Softwood	56,535	66,054	+16.8
Hardwood	67,346	71,391	+6.0
Total	123,881	137,445	+11.0

NA = not applicable.

[a]Includes roundwood that was delivered to non-pulpmills and then chipped and sold to pulpmills (2,861,000 cubic feet in 1987 and 2,355,000 cubic feet in 1989).

[b]Volume included with other industrial prior to 1989.

Table 10--Output of industrial roundwood products, by product and species group, Northern Piedmont of Virginia, 1987 and 1989

Product and species group	Year 1987	Year 1989	Change
	Thousand cubic feet		Percent
Saw logs			
Softwood	6,926	8,014	+15.7
Hardwood	18,616	20,833	+11.9
Total	25,542	28,847	+12.9
Veneer logs			
Softwood	0	0	0
Hardwood	751	556	-26.0
Total	751	556	-26.0
Pulpwood[a]			
Softwood	10,723	13,297	+24.0
Hardwood	9,683	8,972	-7.3
Total	20,406	22,269	+9.1
Composite panels[b]			
Softwood	0	0	0
Hardwood	0	0	0
Total	0	0	0
Other industrial			
Softwood	767	315	-58.9
Hardwood	0	346	NA
Total	767	661	-13.8
All industrial			
Softwood	18,416	21,626	+17.4
Hardwood	29,050	30,707	+5.7
Total	47,466	52,333	+10.3

NA = not applicable.

[a]Includes roundwood that was delivered to non-pulpmills and then chipped and sold to pulpmills (553,000 cubic feet in 1987 and 909,000 cubic feet in 1989).

[b]Volume included with other industrial prior to 1989.

Table 11--Output of industrial roundwood products, by product and species group, Northern Mountains of Virginia, 1987 and 1989

Product and species group	Year 1987	Year 1989	Change
	Thousand cubic feet		Percent
Saw logs			
Softwood	2,863	1,273	-55.5
Hardwood	13,749	12,995	-5.5
Total	16,612	14,268	-14.1
Veneer logs			
Softwood	0	0	0
Hardwood	425	226	-46.8
Total	425	226	-46.8
Pulpwood[a]			
Softwood	1,783	2,519	+41.3
Hardwood	9,314	9,347	+.4
Total	11,097	11,866	+6.9
Composite panels[b]			
Softwood	0	0	0
Hardwood	0	0	0
Total	0	0	0
Other industrial			
Softwood	0	0	0
Hardwood	19	102	+436.8
Total	19	102	+436.8
All industrial			
Softwood	4,646	3,792	-18.4
Hardwood	23,507	22,670	-3.6
Total	28,153	26,462	-6.0

[a]Includes roundwood that was delivered to non-pulpmills and then chipped and sold to pulpmills (251,000 cubic feet in 1987 and 395,000 cubic feet in 1989).

[b]Volume included with other industrial prior to 1989.

Table 12--Output of industrial roundwood products, by product and species group, Southern Mountains of Virginia, 1987 and 1989

Product and species group	Year 1987	Year 1989	Change
	Thousand cubic feet		Percent
Saw logs			
Softwood	7,710	8,089	+4.9
Hardwood	19,074	26,182	+37.3
Total	26,784	34,271	+28.0
Veneer logs			
Softwood	20	0	N/A
Hardwood	1,181	1,525	+29.1
Total	1,201	1,525	+27.0
Pulpwood[a]			
Softwood	1,415	89	-93.7
Hardwood	6,527	6,765	+3.6
Total	7,942	6,854	-13.7
Composite panels[b]			
Softwood	0	0	0
Hardwood	0	3,696	NA
Total	0	3,696	NA
Other industrial			
Softwood	3	84	+2,700.0
Hardwood	2	92	+4,500.0
Total	5	176	+3,420.0
All industrial			
Softwood	9,148	8,262	-9.7
Hardwood	26,784	38,260	+42.8
Total	35,932	46,522	+29.5

NA = not applicable.

[a]Includes roundwood that was delivered to non-pulpmills and then chipped and sold to pulpmills (115,000 cubic feet in 1987 and 180,000 cubic feet in 1989).

[b]Volume included with other industrial prior to 1989.

Hutchins, Cecil C., Jr., 1992. Changes in output of industrial timber products in Virginia, 1987-1989. Resour. Bull. SE-129. Asheville, NC: U.S. Department of Agriculture, Forest Service, Southeastern Forest Experiment Station. **18 pp.**

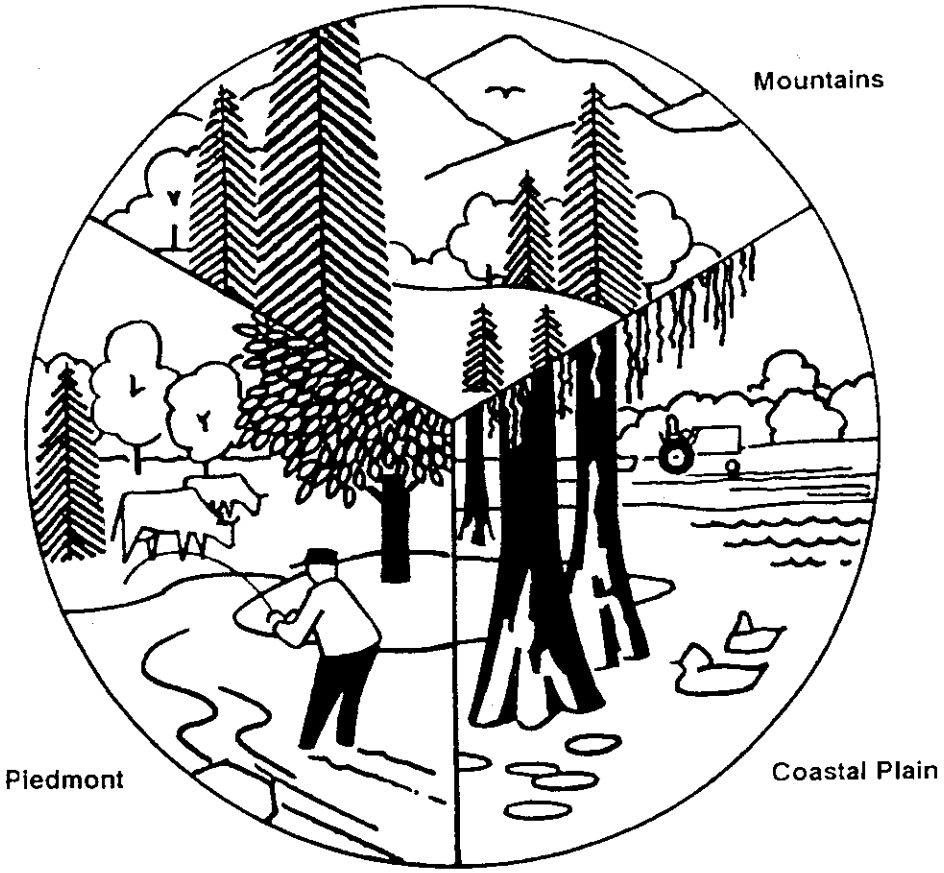
Roundwood timber product output was 435.7 million cubic feet in 1989, a 5.6-percent increase since 1987. Both softwood and hardwood volumes increased. Hardwood output was significantly greater than softwood output. Leading products were saw logs (51 percent) and pulpwood (41 percent). There were 369 primary wood-using plants operating in 1989, a decrease of 25 mills since 1987. Virginia continues to be a net importer of roundwood as imports exceeded production by 10 percent. Use of residues improved from 93 percent in 1987 to 96 percent in 1989.

Keywords: Roundwood, pulpwood, saw logs, veneer logs, drain, wood movement, mills.

Hutchins, Cecil C., Jr., 1992. Changes in output of industrial timber products in Virginia, 1987-1989. Resour. Bull. SE-129. Asheville, NC: U.S. Department of Agriculture, Forest Service, Southeastern Forest Experiment Station. **18 pp.**

Roundwood timber product output was 435.7 million cubic feet in 1989, a 5.6-percent increase since 1987. Both softwood and hardwood volumes increased. Hardwood output was significantly greater than softwood output. Leading products were saw logs (51 percent) and pulpwood (41 percent). There were 369 primary wood-using plants operating in 1989, a decrease of 25 mills since 1987. Virginia continues to be a net importer of roundwood as imports exceeded production by 10 percent. Use of residues improved from 93 percent in 1987 to 96 percent in 1989.

Keywords: Roundwood, pulpwood, saw logs, veneer logs, drain, wood movement, mills.



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
Cowetta, Otto, NC
Bent Creek, Asheville, NC
Santee, Moncks Corner, SC
Scull Shoals, Athens, GA
Hitchiti, Juliette, GA
Olustee, Olustee, FL