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Pulpwood Production in the Northeast--1988

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Abstract

The 1988 annual assessment of pulpwood production and receipts for the 14 states in the northeastern region shows that total pulpwood production increased by 3 percent. Total production in 1988 was 9,648,800 cords. The production of roundwood fell by less than 1 percent to 6,749,800 cords. This decline was more than offset by a 12 percent increase in the production of manufacturing residue chips. Chips produced from residues totaled 2,899,000 cord equivalents. Harvesting intensity for pulpwood was highest in Maine, where an average of 17 cubic feet of roundwood was harvested per acre of timberland.

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Introduction

This annual report is based on a canvass of all pulpmills in the Northeast that use wood as a basic raw material to make pulp for the production of paper, insulation board, and hardboard products. Shipments outside the Northeast are traced by exchanging information with neighboring forest experiment stations that conduct similar canvasses, and by canvassing provinces.

The statistics for production are based on mill receipts of roundwood and manufacturing residues.¹ These receipts are subject to year-to-year fluctuations in wood inventory. Mill receipts of pulpwood from roundwood are reported by county where harvested. However, pulpwood from manufacturing residues cannot be traced beyond the state where the residues were produced. Some of the logs from which the residues came probably were harvested in states other than the one in which they were processed.

Total Production

Pulpwood production in the Northeastern States continued to increase in 1988. Total pulpwood production reached 9,648,800 cords, surpassing the record high set the previous year. Compared to 1987, production increased by 3 percent in 1988. This was the third consecutive year that production rose (Fig. 1). Seventy percent of total production came from roundwood (6,749,800 cords) and 30 percent came from manufacturing residues (2,899,000 cord equivalents). In previous years, roundwood made up a slightly higher portion of the total; 72 percent in 1987 and 74 percent in 1986.

Maine was the only major pulpwood producing state to have a decline in total production. Here production fell by 1 percent. West Virginia had the largest change in production with a 156,300 cord, or 28 percent, increase.

¹Definitions of terms used in this report are in the Appendix. Note that whole-tree chips are included as roundwood.

Percent Change In Total Production Compared to 1987

	<i>Percent</i>		<i>Percent</i>
Connecticut	+61	New Jersey	- 8
Delaware	+ 3	New York	+ 8
Kentucky	+ 1	Ohio	+ 7
Maine	- 1	Pennsylvania	+ 2
Maryland	-14	Rhode Island	+11
Massachusetts	+45	Vermont	+ 3
New Hampshire	+ 2	West Virginia	+28

Roundwood Production

The production of roundwood in 1988 fell by less than 1 percent when compared to 1987. Softwood roundwood, which is 44 percent of all roundwood, decreased 206,400 cords (7 percent), whereas hardwood roundwood increased 159,500 cords (4 percent). This was the first year since 1965 that softwood production fell below 3 million cords. Most of the decrease in softwood production can be attributed to a 192,300 cord decline in the spruce and fir harvest in Maine. After an increase in 1987, the spruce and fir harvest fell below its 1986 level. Production from spruce and fir peaked in 1980 at 2,077,300 cords. Since then it has fallen, but is still the major source of softwood pulp. The 1,656,700 cords of spruce and fir currently produced represent 56 percent of the softwood roundwood harvested in the Northeastern States.

The hemlock and tamarack harvest fell by 3 percent to 626,200 cords. This species group had steadily increased and this is the first decrease since 1981. Pine production continued its upward trend with a 1 percent increase to 673,100 cords.

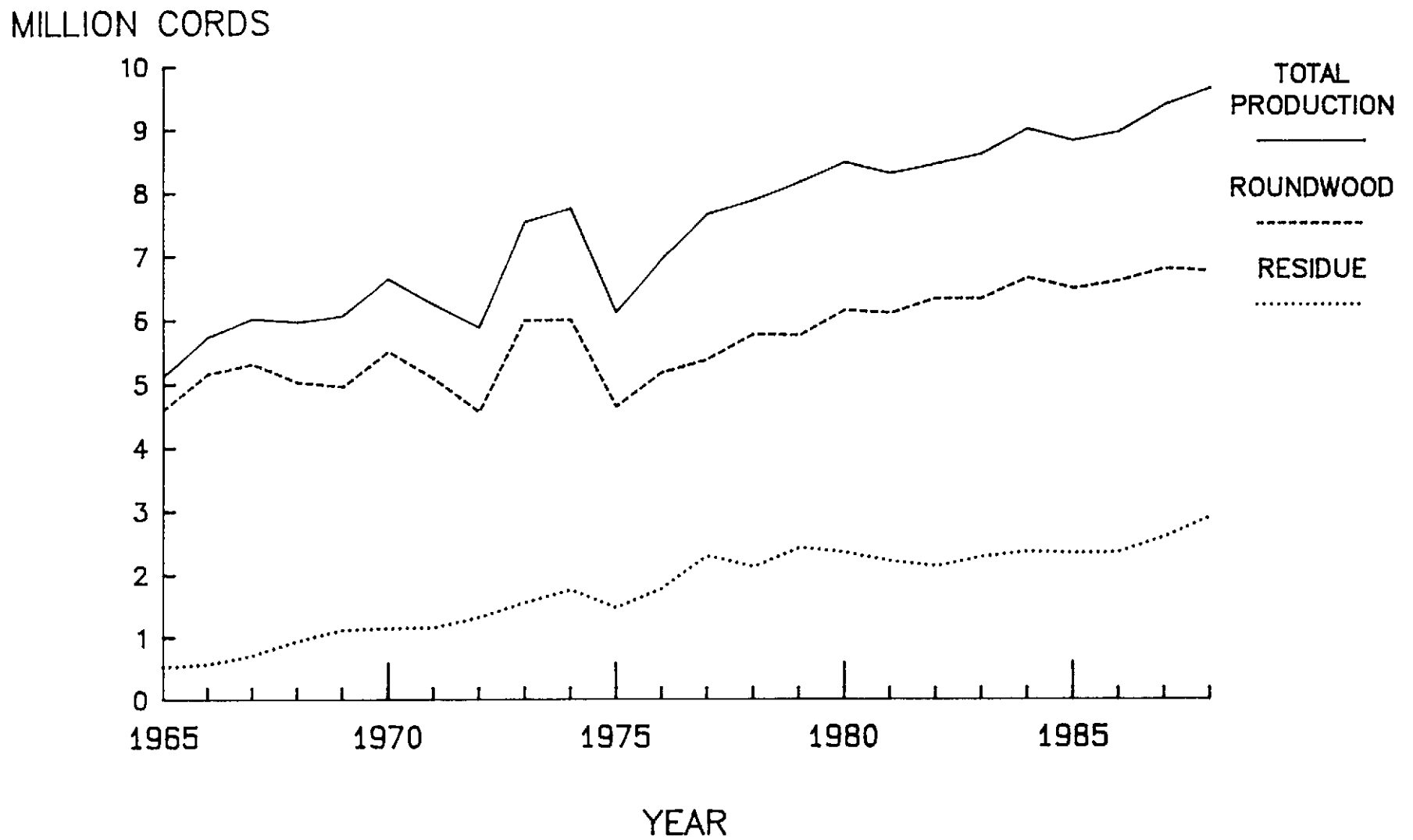


Figure 1.--Total roundwood, and manufacturing residue production in the Northeast.

Half the states in the Northeast had increases in roundwood production. Three states, New York, Vermont, and West Virginia, produced record high levels. Most significant was the 6 percent or 43,600 cord increases in New York. In West Virginia, production has steadily increased in recent years. At the present time, plans are underway to build a new pulp mill in the state. Further increases could occur if the mill is built.

In two states, Ohio and Maryland, roundwood production dropped by over 20 percent. In Ohio, the decrease in roundwood was more than offset by increases in the production of manufacturing residues, but in Maryland, the production of manufacturing residues also declined.

Manufacturing Residues

The production of pulpwood chips from manufacturing residues rose by 12 percent in the Northeastern States. These chips were generated from slabs and edgings at sawmills and from byproducts at other wood-using plants. The present record levels at which these chips are being produced can be attributed to high lumber production at Northeast mills which in turn generates larger quantities of residues. Also, a strong market for pulp has kept many pulp mills in the region running at near capacity. In 1988, production of softwood residue chips decreased by 10,800 cord equivalents and hardwood residue chips increased by 318,800 cord equivalents.

In West Virginia, the production of residue chips has doubled in the last 2 years and has now reached 434,900 cord equivalents. Other states where residue production has increased significantly since 1986 are Kentucky (up 52 percent), Maine (up 16 percent), New York (up 36 percent), and Ohio (up 42 percent).

Consumption

During 1988, 10.1 million cords of pulpwood were consumed by pulpmills in the Northeast. Consumption of pulpwood has increased slowly this was the first year consumption surpassed 10 million cords. In 1988, the Northeast pulpmills consumed almost 1/2 million cords more than the

region produced: 1.1 million cords were shipped into the region and 600,000 thousand cords were shipped out of the region. The majority of the imported wood was received by mills in Kentucky, Maine, and Maryland. Mills in these states are on the border of the region and draw wood from neighboring states and provinces outside the region. Most of the exported wood went to mills in Virginia and Canada. In 1988, Canada shipped 333,500 cords of pulpwood to mills in the Northeast while Canadian mills received 128,400 cords from Northeastern states.

Harvesting Intensity

An indication of harvesting intensity in a state is the average pulpwood removal per acre of timberland. Maine has the highest pulpwood harvest per acre of timberland in the Northeast with an average of 17 cubic feet of roundwood harvested per acre. New Hampshire and Vermont also have high harvest rates, each with approximately 7 cubic feet harvested per acre compared with Pennsylvania's 4 cubic feet and Kentucky's 2 cubic feet.

The average net annual growth on timberland in the Northeast is roughly 38 cubic feet of growing-stock volume per acre. Using this average, the portion of growth being used for pulpwood roundwood ranges from 44 percent in Maine to zero in Rhode Island. On average across the entire Northeast, 15.3 percent of the growth is harvested for pulp. These averages are broad measures of the growth and pulpwood removals in Northeast. The actual data for a specific area within a state may vary considerably.

Appendix

Definitions of Terms

Cord. See standard cord.

Cord equivalent. A unit of measure applied to forms of wood other than roundwood, such as chips, slabs, edgings, and other manufacturing residues and equal to 85 cubic feet of solid wood or 1 cord.

Hardwoods. Dicotyledonous trees, usually broad-leaved and deciduous.

Manufacturing plant residues. Wood materials, such as sawmill slabs and edgings, sawdust, veneer clippings and cores, post and pole trimming, and pulp screening generated from the manufacture of roundwood products.

Pulpwood. Roundwood, whole-tree chips, or manufacturing plant residues that are used for the production of woodpulp.

Pulpwood production. Roundwood, including whole-tree chips, and manufacturing plant residues used to make woodpulp. These are either harvested or generated in the state or region.

Pulpwood receipts. Pulpwood received at woodpulp mills. These can originate from outside the state or region.

Pulpwood imports. Pulpwood receipts originating from outside the Northeast (14-state region).

Roundwood products. Logs, bolts, total-tree chips, mine timbers, fenceposts, poles, and similar timber products generated by harvesting trees for industrial or consumer use.

Softwoods. Coniferous trees, usually evergreen, with needles or scalelike leaves.

Standard cord. A unit of measure for stacked bolts of wood, encompassing 128 cubic feet of wood, bark, and air space. In the Northeast, the measure refers to a stack of wood containing 85

cubic feet, or 2.41 cubic meters, of solid wood. A standard cord commonly is referred to as a cord, as in this report. This is not the same as a face cord, commonly used in firewood marketing.

Timber products output. Production total from timber harvest and plant byproducts.

Whole-tree chips. Unbarked wood chips generated from the aboveground portion of a tree, including bolewood, limbs, and leaves.

Metric Equivalents

One standard cord = 85 cubic feet (solid wood)
= 2.41 cubic meters (solid wood)

One cubic foot = 28,317 cubic centimeters =
0.028 cubic meter

Conversion Factors Used for Green Roundwood

1 ton spruce-fir = 0.5556 cord
1 ton hemlock-tamarack = 0.5000 cord
1 ton pine (New England, New York, and
Canada) = 0.5263 cord
1 ton aspen, yellow-poplar = 0.5263 cord
1 ton oak-hickory = 0.3571 cord
1 ton other hardwoods = 0.3846 cord

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Table 1.--Total production of pulpwood in the Northeast, by state and source, 1988

(In thousands of standard cords)^a

State	From roundwood	From manufacturing residues	From all sources
Connecticut	2.1	4.0	6.1
Delaware	13.0	2.6	15.6
Kentucky	230.1	323.3	553.4
Maine	3,389.1	863.9	4,253.0
Maryland	143.3	141.4	284.7
Massachusetts	15.1	19.6	34.7
New Hampshire	404.2	194.6	598.8
New Jersey	.1	.1	.2
New York	815.0	176.0	991.0
Ohio	373.0	239.1	612.1
Pennsylvania	715.3	420.9	1,136.2
Rhode Island	-	3.9	3.9
Vermont	369.7	74.7	444.4
West Virginia	279.8	434.9	714.7
Total	6,749.8	2,899.0	9,648.8

^aRough wood basis, equivalent to 85 ft³ solid wood.

Table 2.--Production and receipts of pulpwood in the Northeast, by state and softwood and hardwood, 1988

(In thousands of standard cords)

State	Produced in state		Received in state		Net export(+) import(-)
	Softwood	Hardwood	Softwood	Hardwood	
Connecticut	3.2	2.9	-	-	+6.1
Delaware	12.9	2.7	-	-	+15.6
Kentucky	32.4	521.0	150.7	882.9	-480.2
Maine	2,759.4	1,493.6	3,116.9	1,777.0	-640.9
Maryland	181.1	103.6	(D)	(D)	-190.9
Massachusetts	27.8	6.9	-	-	+34.7
New Hampshire	309.3	289.5	119.2	401.5	+78.1
New Jersey	.1	.1	-	-	+.2
New York	402.9	588.1	551.1	450.2	-10.3
Ohio	34.3	577.8	58.1	717.3	-163.3
Pennsylvania	55.7	1,080.5	195.5	1,222.1	-281.4
Rhode Island	.4	3.5	-	-	+3.9
Vermont	226.5	217.9	15.5	-	+428.9
West Virginia	74.7	640.0	(D)	(D)	+714.7
Total	4,120.7	5,528.1	4,400.8	5,732.8	-484.8

(D) Data withheld to avoid disclosure for individual mills.

Table 3.--Pulpwood production from roundwood in the Northeast, by state, softwood and hardwood, and destination of shipment, 1988

(In thousands of standard cords)

State	Softwood				Hardwood				All species
	Retained in state	Shipped to other states			Retained in state	Shipped to other states			
		In Northeast	Outside Northeast	Total		In Northeast	Outside Northeast	Total	
Connecticut	-	2.1	-	2.1	-	*	-	-	2.1
Delaware	-	11.1	1.6	12.7	-	0.3	-	0.3	13.0
Kentucky	7.9	5.5	10.5	23.9	159.5	46.7	-	206.2	230.1
Maine	1,952.9	8.8	2.3	1,964.0	1,393.9	31.2	-	1,425.1	3,389.1
Maryland	29.4	46.2	14.7	90.3	42.5	10.5	*	53.0	143.3
Massachusetts	-	13.3	-	13.3	-	1.8	-	1.8	15.1
New Hampshire	26.5	132.8	*	159.3	178.7	66.2	-	244.9	404.2
New Jersey	-	.1	-	.1	-	*	-	*	.1
New York	356.4	1.4	5.2	363.0	350.0	27.1	74.9	452.0	815.0
Ohio	32.1	2.0	-	34.1	332.8	6.1	-	338.9	373.0
Pennsylvania	24.5	18.2	-	42.7	634.1	38.5	-	672.6	715.3
Rhode Island	-	-	-	-	-	-	-	-	.0
Vermont	15.5	160.3	2.2	178.0	-	191.7	-	191.7	369.7
West Virginia	-	62.4	10.1	72.5	-	95.8	111.5	207.3	279.8
Total	2,445.2	464.2	46.6	2,956.0	3,091.5	515.9	186.4	3,793.8	6,749.8

*Less than 50 cords.

Table 4.--Pulpwood chip production from manufacturing residues in the Northeast,
by state, softwood and hardwood, and destination of shipment, 1988^a

(In thousands of standard-cord equivalents)

State	Softwood				Hardwood				All species
	Produced and retained in state	Shipped to other states		Total	Produced and retained in state	Shipped to other states		Total	
		In Northeast	Outside Northeast			In Northeast	Outside Northeast		
Connecticut	-	1.1	-	1.1	-	2.9	-	2.9	4.0
Delaware	-	.2	-	.2	-	2.4	-	2.4	2.6
Kentucky	0.5	5.8	2.2	8.5	242.0	46.8	26.0	314.8	323.3
Maine	760.3	-	35.1	795.4	63.9	4.6	-	68.5	863.9
Maryland	18.3	51.7	20.8	90.8	9.7	40.9	-	50.6	141.4
Massachusetts	-	14.5	-	14.5	-	5.1	-	5.1	19.6
New Hampshire	64.5	85.5	-	150.0	22.5	22.1	-	44.6	194.6
New Jersey	-	-	-	-	-	.1	-	.1	.1
New York	39.7	.2	-	39.9	49.3	83.3	3.5	136.1	176.0
Ohio	.2	-	-	.2	216.4	22.5	-	238.9	239.1
Pennsylvania	9.3	3.7	-	13.0	366.4	41.5	-	407.9	420.9
Rhode Island	-	.4	-	.4	-	3.5	-	3.5	3.9
Vermont	-	43.3	5.2	48.5	-	26.2	-	26.2	74.7
West Virginia	-	.4	1.8	2.2	-	116.9	315.8	432.7	434.9
Total	892.8	206.8	65.1	1,164.7	970.2	418.8	345.3	1,734.3	2,899.0

^aIncludes sawmill slabs and edgings, sawdust, veneer cores, and post and piling trimmings.

Table 5.--Pulpwood receipts from roundwood in the Northeast, by state, softwood and hardwood, and origin of shipment, 1988

(In thousands of standard cords)

State ^a	Softwood				Hardwood				All species
	Cut in state	Received from other states			Cut in state	Received from other states			
		In Northeast	Outside Northeast	Total		In Northeast	Outside Northeast	Total	
Kentucky	7.9	-	91.9	99.8	159.5	-	245.5	405.0	504.8
Maine	1,952.9	169.9	54.3	2,177.1	1,393.9	74.0	198.4	1,666.3	3,843.4
Maryland	29.4	(D)	(D)	(D)	42.5	(D)	(D)	(D)	(D)
New Hampshire	26.5	15.0	-	41.5	178.7	195.7	-	374.4	415.9
New York	356.4	133.0	2.1	491.5	350.0	25.2	*	375.2	866.7
Ohio	32.1	17.2	-	49.3	332.8	63.5	*	396.3	445.6
Pennsylvania	24.5	59.0	48.3	131.8	634.1	44.0	11.0	689.1	820.9
Vermont	15.5	(D)	(D)	(D)	-	(D)	(D)	(D)	(D)
Total	2,445.2	464.2	242.2	3,151.6	3,091.5	515.9	466.9	4,074.3	7,225.9

^aStates with no pulp mills are omitted.

(D)Data withheld to avoid disclosure for individual mills.

*Less than 50 cords.

Table 6.--Pulpwood chip receipts from manufacturing residues in the Northeast, by state, softwood and hardwood, and origin of shipment, 1988^a

(In thousands of standard cord equivalents)

State ^b	Softwood				Hardwood				All species
	Produced in state	Received from other states			Produced in state	Received from other states			
		In Northeast	Outside Northeast	Total		In Northeast	Outside Northeast	Total	
Kentucky	0.5	-	50.4	50.9	242.0	1.1	234.8	477.9	528.8
Maine	760.3	111.7	67.8	939.8	63.9	35.9	10.9	110.7	1,050.5
Maryland	18.3	(D)	(D)	(D)	9.7	(D)	(D)	(D)	(D)
New Hampshire	64.5	13.2	-	77.7	22.5	4.6	-	27.1	104.8
New York	39.7	19.9	-	59.6	49.3	25.7	-	75.0	134.6
Ohio	.2	8.6	-	8.8	216.4	103.1	1.5	321.0	329.8
Pennsylvania	9.3	52.0	2.4	63.7	366.4	149.9	16.7	533.0	596.7
Vermont	-	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)
Total	892.8	206.8	149.6	1,249.2	970.2	418.8	269.5	1,658.5	2,907.7

^aIncludes sawmill slabs and edgings, sawdust, veneer cores, and post and pole trimmings.

^bStates with no pulp mills are omitted.

(D)Data withheld to avoid disclosure of data from individual mills.

Table 7.--Pulpwood production from roundwood received from states outside the Northeast, by state (or province) of origin and softwood and hardwood, 1988

(In thousands of standard cords)

Receiving state ^a	State or province of origin	Softwood	Hardwood	All species
Kentucky.....	Alabama	0.6	1.5	2.1
	Illinois	10.4	48.4	58.8
	Indiana	-	9.8	9.8
	Mississippi	42.8	46.1	88.9
	Missouri	-	11.2	11.2
	Tennessee	38.1	128.5	166.6
Maine.....	New Brunswick	23.8	191.2	215.0
	Quebec	30.5	7.2	37.7
Maryland.....	Virginia	45.6	12.0	57.6
New York.....	Ontario	*	-	*
	Quebec	2.1	*	2.1
Pennsylvania.....	Virginia	48.3	11.0	59.3
All States		242.2	466.9	709.1

^aStates with no extraregional receipts are omitted.

*Less than 50 cords.

Table 8.--Pulpwood chip receipts from wood-using manufacturing plants outside the Northeast, by state (or province) of origin and softwood and hardwood, 1988^a

(In thousands of standard cord equivalents)

Receiving state ^b	State or province of origin	Softwood	Hardwood	All species
Kentucky.....	Arkansas	-	8.1	8.1
	Illinois	-	11.4	11.4
	Indiana	-	69.4	69.4
	Mississippi	46.3	28.2	74.5
	Missouri	4.1	61.2	65.3
	Tennessee	-	56.5	56.5
Maine.....	New Brunswick	11.3	6.7	18.0
	Quebec	56.5	4.2	60.7
Maryland.....	Virginia	29.0	5.6	34.6
Ohio.....	Indiana	-	1.5	1.5
Pennsylvania.....	Virginia	2.5	16.7	19.2
All states		149.7	269.5	419.2

^aIncludes sawmill slabs and edgings, sawdust, veneer cores, and post and piling trimmings.

^bStates with no extraregional receipts are omitted.

Table 9.--Pulpwood production from roundwood in the Northeast, by state and species group, 1988

(In thousands of standard cords)

State	Softwood				Hardwood			Total	All species
	Spruce and fir	Hemlock and tamarack	Pine	Total	Aspen and yellow-poplar	Oak and hickory	Other hardwood		
Connecticut	-	2.1	-	2.1	-	-	*	*	2.1
Delaware	-	-	12.7	12.7	-	0.3	-	0.3	13.0
Kentucky	-	-	23.9	23.9	21.8	130.8	53.6	206.2	230.1
Maine	1,391.0	340.2	232.8	1,964.0	251.5	-	1,173.6	1,425.1	3,389.1
Maryland	-	-	90.3	90.3	.6	34.4	18.0	53.0	143.3
Massachusetts	1.7	3.9	7.7	13.3	*	-	1.8	1.8	15.1
New Hampshire	67.3	44.5	47.5	159.3	3.2	-	241.7	244.9	404.2
New Jersey	-	-	.1	.1	-	*	-	*	.1
New York	98.7	183.8	80.5	363.0	43.5	6.4	402.1	452.0	815.0
Ohio	-	-	34.1	34.1	30.8	160.2	147.9	338.9	373.0
Pennsylvania	-	.5	42.2	42.7	30.8	215.7	426.1	672.6	715.3
Vermont	98.0	51.2	28.8	178.0	2.8	-	188.9	191.7	369.7
West Virginia	-	-	72.5	72.5	13.7	46.3	147.3	207.3	279.8
Total	1,656.7	626.2	673.1	2,956.0	398.7	594.1	2,801.0	3,793.8	6,749.8

*Less than 50 cords.

Table 10.--Pulpwood production from roundwood in Kentucky and Ohio, by county and species group, 1988

(In thousands of standard cords)

County ^a	Softwood				Hardwood				All species
	Spruce and fir	Hemlock and tamarack	Pine	Total	Aspen and yellow-poplar	Oak and hickory	Other hardwood	Total	
KENTUCKY									
Ballard	-	-	0.6	0.6	1.9	2.2	0.8	4.9	5.5
Butler	-	-	-	-	-	11.5	-	11.5	11.5
Caldwell	-	-	.6	.6	-	2.0	.6	2.6	3.2
Calloway	-	-	.9	.9	.4	2.1	2.4	4.9	5.8
Carlisle	-	-	-	-	3.9	3.1	3.6	10.6	10.6
Casey	-	-	-	-	-	1.6	-	1.6	1.6
Crittenden	-	-	.8	.8	-	1.7	1.2	2.9	3.7
Graves	-	-	3.0	3.0	.6	12.3	5.1	18.0	21.0
Greenup	-	-	.9	.9	5.1	13.4	15.4	33.9	34.8
Hickman	-	-	-	-	2.2	.9	.8	3.9	3.9
Hopkins	-	-	-	-	-	.2	-	.2	.2
Knox	-	-	4.6	4.6	-	-	-	-	4.6
Laurel	-	-	2.8	2.8	-	19.5	-	19.5	22.3
Lewis	-	-	-	-	1.9	5.1	5.9	12.9	12.9
Livingston	-	-	.4	.4	1.4	2.2	3.7	7.3	7.7
Lyon	-	-	1.6	1.6	.7	6.0	5.9	12.6	14.2
McCracken	-	-	-	-	-	1.9	2.8	4.7	4.7
McCreary	-	-	2.5	2.5	-	-	-	-	2.5
Marshall	-	-	-	-	3.0	1.8	2.1	6.9	6.9
Ohio	-	-	-	-	-	39.5	-	39.5	39.5
Trigg	-	-	-	-	.7	3.8	3.3	7.8	7.8
Whitley	-	-	5.2	5.2	-	-	-	-	5.2
Total	-	-	23.9	23.9	21.8	130.8	53.6	206.2	230.1

Continued

Table 10.--Continued

County ^a	Softwood				Hardwood			Total	All species
	Spruce and fir	Hemlock and tamarack	Pine	Total	Aspen and yellow-poplar	Oak and hickory	Other hardwood		
OHIO									
Adams	-	-	*	*	0.5	1.1	1.3	2.9	2.9
Ashland	-	-	-	-	-	.6	.4	1.0	1.0
Ashtabula	-	-	-	-	-	.1	2.7	2.8	2.8
Athens	-	-	0.9	0.9	.8	6.3	4.6	11.7	12.6
Belmont	-	-	*	*	-	-	-	-	*
Carroll	-	-	.9	.9	-	8.1	5.4	13.5	14.4
Columbiana	-	-	.1	.1	-	.9	1.9	2.8	2.9
Coshocton	-	-	-	-	-	20.2	13.4	33.6	33.6
Cuyahoga	-	-	-	-	-	3.0	2.0	5.0	5.0
Fairfield	-	-	-	-	.1	.4	.5	1.0	1.0
Franklin	-	-	-	-	*	.1	.1	.2	.2
Gallia	-	-	3.5	3.5	2.9	7.8	9.0	19.7	23.2
Geauga	-	-	-	-	-	.2	.2	.4	.4
Guernsey	-	-	-	-	-	.7	.4	1.1	1.1
Harrison	-	-	.7	.7	-	3.0	2.0	5.0	5.7
Highland	-	-	-	-	.7	1.9	2.1	4.7	4.7
Hocking	-	-	2.1	2.1	.9	3.7	2.9	7.5	9.6
Holmes	-	-	-	-	-	3.5	2.3	5.8	5.8
Jackson	-	-	3.4	3.4	3.5	9.7	11.0	24.2	27.6
Knox	-	-	-	-	-	.7	.4	1.1	1.1
Lake	-	-	-	-	-	1.0	.9	1.9	1.9
Lawrence	-	-	1.1	1.1	4.7	12.4	14.4	31.5	32.6
Licking	-	-	-	-	-	.2	.2	.4	.4
Mahoning	-	-	.3	.3	-	-	-	-	.3
Medina	-	-	-	-	-	.5	.4	.9	.9
Meigs	-	-	2.1	2.1	.4	1.2	1.3	2.9	5.0
Morgan	-	-	-	-	-	.2	.1	.3	.3
Muskingum	-	-	.7	.7	*	3.8	2.6	6.4	7.1
Noble	-	-	-	-	-	11.2	7.4	18.6	18.6

Continued

Table 10.--Continued

County ^a	Softwood				Hardwood				All species
	Spruce and fir	Hemlock and tamarack	Pine	Total	Aspen and yellow-poplar	Oak and hickory	Other hardwood	Total	
OHIO									
Perry	-	-	0.5	0.5	0.5	5.4	2.8	8.7	9.3
Pickaway	-	-	-	-	*	.1	*	.1	.1
Pike	-	-	.7	.7	2.5	6.5	7.5	16.5	17.2
Portage	-	-	-	-	-	*	*	*	*
Richland	-	-	-	-	-	.5	.3	.8	.8
Ross	-	-	4.3	4.3	2.5	6.6	7.6	16.7	21.0
Scioto	-	-	1.4	1.4	7.8	20.8	24.0	52.6	54.0
Stark	-	-	-	-	-	1.4	.9	2.3	2.3
Summit	-	-	-	-	-	1.3	.9	2.2	2.2
Trumbull	-	-	-	-	-	-	.1	.1	.1
Tuscarawas	-	-	7.7	7.7	.4	8.0	5.9	14.3	22.0
Vinton	-	-	.8	.8	2.5	6.5	7.5	16.5	17.3
Washington	-	-	2.9	2.9	.1	.1	.1	.3	3.2
Wayne	-	-	-	-	-	.5	.4	.9	.9
Total	-	-	34.1	34.1	30.8	160.2	147.9	338.9	373.0

^aCounties with no production are omitted.

*Less than 50 cords.

Table 11.--Pulpwood production from roundwood in southern New England, by state, county, and species group, 1988

(In thousands of standard cords)

County ^a	Softwood				Hardwood				All species
	Spruce and fir	Hemlock and tamarack	Pine	Total	Aspen and yellow-poplar	Oak and hickory	Other hardwood	Total	
CONNECTICUT									
Hartford	-	0.1	-	0.1	-	-	*	*	0.1
Litchfield	-	1.8	-	1.8	-	-	*	*	1.8
Middlesex	*	*	-	*	-	-	-	-	*
New London	-	.1	-	.1	-	-	-	-	.1
Tolland	-	.1	-	.1	-	-	-	-	.1
Windham	-	-	-	-	-	-	*	*	*
Total	-	2.1	-	2.1	-	-	*	*	2.1
MASSACHUSETTS									
Barnstable	-	-	0.3	0.3	-	-	*	*	0.3
Berkshire	1.7	1.5	.4	3.6	-	-	0.1	0.1	3.7
Bristol	-	-	-	-	-	-	*	*	*
Essex	-	-	1.3	1.3	-	-	.1	.1	1.4
Franklin	-	1.2	.5	1.7	*	-	.1	.1	1.8
Hampden	-	*	.1	.1	-	-	*	*	.1
Hampshire	-	.9	.1	1.0	-	-	*	*	1.0
Middlesex	-	*	1.4	1.4	*	*	.1	.1	1.5
Norfolk	-	-	-	-	-	-	.1	.1	.1
Plymouth	-	-	-	-	-	-	1.0	1.0	1.0
Suffolk	-	-	*	*	-	-	-	-	*
Worcester	-	.3	3.6	3.9	-	-	.3	.3	4.2
Total	1.7	3.9	7.7	13.3	*	*	1.8	1.8	15.1

^aCounties with no production are omitted.

*Less than 50 cords.

Table 12.--Pulpwood production from roundwood in northern New England, by state, county, and species group, 1988

(In thousands of standard cords)

County ^a	Softwood				Hardwood			Total	All species
	Spruce and fir	Hemlock and tamarack	Pine	Total	Aspen and yellow-poplar	Oak and hickory	Other hardwood		
MAINE									
Androscoggin	3.0	4.8	18.6	26.4	5.5	-	29.2	34.7	61.1
Aroostook	267.4	26.6	1.3	295.3	4.7	-	89.7	94.4	389.7
Cumberland	3.0	4.0	19.2	26.2	1.2	-	8.4	9.6	35.8
Franklin	62.7	11.3	12.3	86.3	23.9	-	117.0	140.9	227.2
Hancock	36.9	18.9	2.1	57.9	4.2	-	31.3	35.5	93.4
Kennebec	10.3	17.9	26.7	54.9	9.9	-	28.0	37.9	92.8
Knox	8.8	2.1	3.5	14.4	.6	-	1.6	2.2	16.6
Lincoln	13.1	5.8	13.5	32.4	1.8	-	2.9	4.7	37.1
Oxford	57.8	26.8	30.8	115.4	26.4	-	147.0	173.4	288.8
Penobscot	211.4	110.3	20.9	342.6	28.9	-	179.7	208.6	551.2
Piscataquis	271.8	28.6	7.5	307.9	32.7	-	131.2	163.9	471.8
Sagadahoc	1.9	1.8	6.9	10.6	.8	-	.4	1.2	11.8
Somerset	361.3	29.2	23.6	414.1	77.2	-	164.1	241.3	655.4
Waldo	37.9	13.2	10.1	61.2	10.2	-	15.8	26.0	87.2
Washington	43.5	35.5	1.9	80.9	23.5	-	218.3	241.8	322.7
York	.2	3.4	33.9	37.5	*	-	9.0	9.0	46.5
Total	1,391.0	340.2	232.8	1,964.0	251.5	-	1,173.6	1,425.1	3,389.1

Continued

Table 12.--Continued

County ^a	Softwood				Hardwood				All species
	Spruce and fir	Hemlock and tamarack	Pine	Total	Aspen and yellow-poplar	Oak and hickory	Other hardwood	Total	
NEW HAMPSHIRE									
Belknap	0.1	0.5	1.9	2.5	-	-	4.2	4.2	6.7
Carroll	1.3	13.0	24.0	38.3	*	-	40.5	40.5	78.8
Cheshire	*	3.8	0.8	4.6	-	-	.1	.1	4.7
Coos	56.1	8.6	1.6	66.3	3.0	-	139.4	142.4	208.7
Grafton	7.9	16.3	7.0	31.2	.1	-	54.1	54.2	85.4
Hillsborough	-	.4	1.6	2.0	-	-	.3	.3	2.3
Merrimack	*	.3	.4	.7	-	-	1.3	1.3	2.0
Rockingham	*	.2	4.9	5.1	-	-	.8	.8	5.9
Strafford	.1	.3	4.9	5.3	.1	-	.7	.8	6.1
Sullivan	1.8	1.1	.4	3.3	-	-	.3	.3	3.6
Total	67.3	44.5	47.5	159.3	3.2	-	241.7	244.9	404.2

Continued

Table 12.--Continued

County ^a	Softwood				Hardwood			Total	All species
	Spruce and fir	Hemlock and tamarack	Pine	Total	Aspen and yellow-poplar	Oak and hickory	Other hardwood		
VERMONT									
Addison	0.8	0.1	0.5	1.4	0.1	-	0.4	0.5	1.9
Bennington	.7	.6	1.7	3.0	.1	-	7.5	7.6	10.6
Caledonia	24.9	6.3	4.4	35.6	.1	-	29.7	29.8	65.4
Chittenden	.6	.4	2.4	3.4	.2	-	.4	.6	4.0
Essex	34.3	5.6	2.5	42.4	.7	-	118.4	119.1	161.5
Franklin	1.3	3.8	3.1	8.2	.7	-	.5	1.2	9.4
Grand Isle	-	-	*	*	-	-	-	-	*
Lamoille	4.1	2.0	.4	6.5	.2	-	.5	.7	7.2
Orange	4.4	8.3	3.1	15.8	*	-	8.5	8.5	24.3
Orleans	19.5	17.5	2.6	39.6	*	-	15.5	15.5	55.1
Rutland	1.4	1.5	4.3	7.2	.3	-	2.2	2.5	9.7
Washington	3.2	.5	.9	4.6	.1	-	.7	.8	5.4
Windham	1.5	3.0	1.5	6.0	.1	-	1.6	1.7	7.7
Windsor	1.3	1.6	1.4	4.3	.2	-	3.0	3.2	7.5
Total	98.0	51.2	28.8	178.0	2.8	-	188.9	191.7	369.7

^aCounties with no production are omitted.

*Less than 50 cords.

Table 13.--Pulpwood production from roundwood in New York, by county and species group, 1988

(In thousands of standard cords)

County ^a	Softwood				Hardwood				All species
	Spruce and fir	Hemlock and tamarack	Pine	Total	Aspen and yellow-poplar	Oak and hickory	Other hardwood	Total	
Albany	0.1	0.7	0.6	1.4	0.1	-	0.6	0.7	2.1
Alleghany	-	-	.3	.3	-	0.2	.5	.7	1.0
Broome	*	2.7	.1	2.8	.2	1.2	4.8	6.2	9.0
Cattaraugus	-	-	-	-	-	.6	6.6	7.2	7.2
Cayuga	.2	-	-	.2	-	-	-	-	.2
Chautauqua	-	-	-	-	-	*	4.3	4.3	4.3
Chemung	-	-	1.1	1.1	.1	.2	.7	1.0	2.1
Chenango	5.7	5.1	.1	10.9	.4	1.4	5.3	7.1	18.0
Clinton	8.2	4.2	7.6	20.0	6.0	-	17.8	23.8	43.8
Columbia	-	.4	*	.4	-	.1	-	.1	.5
Cortland	.5	.2	-	.7	*	.2	.5	.7	1.4
Delaware	.5	3.1	.1	3.7	.1	.7	2.8	3.6	7.3
Dutchess	*	.1	*	.1	-	-	-	-	.1
Essex	1.4	18.5	17.5	37.4	4.1	-	63.1	67.2	104.6
Franklin	31.6	10.6	4.7	46.9	1.9	-	70.2	72.1	119.0
Fulton	.9	14.9	5.5	21.3	1.1	-	12.8	13.9	35.2
Greene	.1	.9	*	1.0	-	*	-	*	1.0
Hamilton	12.4	16.1	.6	29.1	.7	-	50.6	51.3	80.4
Herkimer	7.6	4.2	.5	12.3	-	-	4.6	4.6	16.9
Jefferson	.7	3.7	.2	4.6	5.9	-	.4	6.3	10.9
Lewis	5.6	10.6	3.6	19.8	9.2	-	21.2	30.4	50.2
Madison	.3	.1	.1	.5	*	-	*	*	.5
Montgomery	2.6	1.4	.4	4.4	.5	-	.4	.9	5.3
Oneida	4.1	4.2	.1	8.4	1.3	-	6.0	7.3	15.7
Onondaga	.4	*	*	.4	.1	-	-	.1	.5
Orange	-	*	-	*	-	-	-	-	*
Oswego	*	5.2	-	5.2	-	-	.1	.1	5.3
Otsego	1.1	7.1	.1	8.3	.1	.3	1.0	1.4	9.7

Continued

Table 13.--Continued

County ^a	Softwood				Hardwood			Total	All species
	Spruce and fir	Hemlock and tamarack	Pine	Total	Aspen and yellow-poplar	Oak and hickory	Other hardwood		
Rensselaer	0.2	2.4	0.4	3.0	*	-	1.3	1.3	4.3
St. Lawrence	8.5	20.2	4.7	33.4	6.6	-	66.3	72.9	106.3
Saratoga	.1	15.7	13.9	29.7	1.2	-	23.2	24.4	54.1
Schenectady	-	.5	.4	.9	.3	-	.4	.7	1.6
Schoharie	5.3	4.0	.4	9.7	.3	-	.1	.4	10.1
Schuyler	.3	-	-	.3	-	-	-	-	.3
Sullivan	-	1.9	-	1.9	*	0.3	1.0	1.3	3.2
Tioga	-	.1	*	.1	.4	1.2	5.2	6.8	6.9
Tompkins	-	-	-	-	.2	.1	1.1	1.4	1.4
Ulster	*	1.0	*	1.0	*	-	*	*	1.0
Warren	.3	19.3	14.5	34.1	2.4	-	22.4	24.8	58.9
Washington	-	4.7	3.0	7.7	.3	-	6.4	6.7	14.4
Total	98.7	183.8	80.5	363.0	43.5	6.4	402.1	452.0	815.0

^aCounties with no production are omitted.

*Less than 50 cords.

Table 14.--Pulpwood production from roundwood in Pennsylvania, by county and species group, 1988

(In thousands of standard cords)

County ^a	Softwood				Hardwood			Total	All species
	Spruce and fir	Hemlock and tamarack	Pine	Total	Aspen and yellow-poplar	Oak and hickory	Other hardwood		
Adams	-	-	2.8	2.8	-	2.1	-	2.1	4.9
Armstrong	-	-	-	-	-	*	0.2	.2	.2
Beaver	-	-	-	-	-	-	.1	.1	.1
Bedford	-	-	3.7	3.7	0.9	25.6	23.0	49.5	53.2
Berks	-	-	.1	.1	-	*	-	*	.1
Blair	-	-	.2	.2	*	1.2	1.0	2.2	2.4
Bradford	-	-	1.2	1.2	6.2	5.9	23.5	35.6	36.8
Butler	-	-	-	-	.4	1.5	7.9	9.8	9.8
Cambria	-	-	*	*	-	.7	.7	1.4	1.4
Cameron	-	-	*	*	-	4.7	3.4	8.1	8.1
Centre	-	-	.9	.9	.4	3.0	3.8	7.2	8.1
Chester	-	-	*	*	-	-	-	*	*
Clarion	-	-	.5	.5	-	.4	3.1	3.5	4.0
Clearfield	-	-	4.2	4.2	.1	22.3	35.6	58.0	62.2
Clinton	-	-	1.8	1.8	.2	6.0	1.2	7.4	9.2
Columbia	-	-	.1	.1	.1	1.0	1.4	2.5	2.6
Crawford	-	-	-	-	-	*	1.7	1.7	1.7
Cumberland	-	-	.4	.4	-	3.3	-	3.3	3.7
Dauphin	-	-	1.3	1.3	*	5.9	.3	6.2	7.5
Elk	-	-	1.0	1.0	-	1.2	35.4	36.6	37.6
Erie	-	-	-	-	-	*	8.3	8.3	8.3
Fayette	-	-	.1	.1	.1	.9	.8	1.8	1.9
Forest	-	-	.3	.3	-	18.1	30.9	49.0	49.3

Continued

Table 14.--Continued

County ^a	Softwood				Hardwood			Total	All species
	Spruce and fir	Hemlock and tamarack	Pine	Total	Aspen and yellow-poplar	Oak and hickory	Other hardwood		
Lackawanna	-	-	-	-	0.2	0.2	1.5	1.9	1.9
Lancaster	-	-	-	-	-	.2	-	.2	.2
Lawrence	-	-	-	-	-	-	.4	.4	.4
Lebanon	-	-	-	-	-	*	-	*	*
Luzerne	-	-	0.2	0.2	.4	6.5	5.9	12.8	13.0
Lycoming	-	-	.4	.4	1.2	7.4	8.7	17.3	17.7
McKean	-	-	-	-	-	.8	52.1	52.9	52.9
Mercer	-	-	-	-	-	*	.9	.9	.9
Mifflin	-	-	*	*	-	.2	-	.2	.2
Monroe	-	-	-	-	.1	2.8	1.7	4.6	4.6
Northampton	-	-	-	-	-	*	-	*	*
Northumberland	-	-	1.8	1.8	-	2.1	.5	2.6	4.4
Perry	-	-	1.4	1.4	-	2.5	-	2.5	3.9
Pike	-	-	-	-	*	.1	*	.1	.1
Potter	-	-	-	-	4.6	2.2	38.7	45.5	45.5
Schuylkill	-	-	1.6	1.6	-	17.3	3.5	20.8	22.4
Snyder	-	-	.3	.3	-	1.5	-	1.5	1.8
Somerset	-	-	.4	.4	.2	2.6	2.3	5.1	5.5
Sullivan	-	*	.5	.5	3.9	3.2	24.6	31.7	32.2
Susquehanna	-	0.2	1.3	1.5	2.1	4.3	17.5	23.9	25.4
Tioga	-	-	.1	.1	6.6	4.6	15.9	27.1	27.2
Union	-	-	-	-	*	*	*	*	*
Venango	-	-	.1	.1	-	3.5	9.9	13.4	13.5
Warren	-	-	-	-	-	1.7	26.2	27.9	27.9
Wayne	-	*	-	*	.2	.8	2.8	3.8	3.8
Westmoreland	-	-	*	*	-	-	-	-	*
Wyoming	-	.3	-	.3	2.7	4.3	15.1	22.1	22.4
York	-	-	1.0	1.0	-	6.2	-	6.2	7.2
Total	-	0.5	42.2	42.7	30.8	215.7	426.1	672.6	715.3

^aCounties with no production are omitted.

*Less than 50 cords.

Table 15.--Pulpwood production from roundwood in Delaware, Maryland, and New Jersey,
by county and species group, 1988

(In thousands of standard cords)

County ^a	Softwood				Hardwood				All species
	Spruce and fir	Hemlock and tamarack	Pine	Total	Aspen and yellow-poplar	Oak and hickory	Other hardwood	Total	
DELAWARE									
Kent	-	-	1.6	1.6	-	-	-	-	1.6
Sussex	-	-	11.1	11.1	-	0.3	-	0.3	11.4
Total	-	-	12.7	12.7	-	0.3	-	0.3	13.0
NEW JERSEY									
Burlington	-	-	0.1	0.1	-	-	-	-	0.1
Cape May	-	-	*	*	-	*	-	*	*
Gloucester	-	-	*	*	-	*	-	*	*
Total	-	-	0.1	0.1	-	*	-	*	0.1

Continued

Table 15.--Continued

County ^a	Softwood				Hardwood			Total	All species
	Spruce and fir	Hemlock and tamarack	Pine	Total	Aspen and yellow-poplar	Oak and hickory	Other hardwood		
MARYLAND									
Allegany	-	-	6.7	6.7	0.6	22.6	16.2	39.4	46.1
Anne Arundel	-	-	21.2	21.2	-	1.4	.2	1.6	22.8
Baltimore	-	-	.4	.4	-	3.4	-	3.4	3.8
Calvert	-	-	1.1	1.1	-	.1	-	.1	1.2
Caroline	-	-	-	-	-	-	-	-	-
Carroll	-	-	.1	.1	-	.1	-	.1	.2
Cecil	-	-	.2	.2	-	*	-	*	.2
Charles	-	-	8.4	8.4	-	2.1	-	2.1	10.5
Dorchester	-	-	4.9	4.9	-	-	*	*	4.9
Frederick	-	-	1.6	1.6	-	.6	-	.6	2.2
Garrett	-	-	3.9	3.9	*	1.6	1.1	2.7	6.6
Harford	-	-	.4	.4	-	.6	-	.6	1.0
Kent	-	-	.4	.4	-	-	-	-	.4
Prince Georges	-	-	2.0	2.0	*	.3	.1	.4	2.4
St. Marys	-	-	8.1	8.1	*	.1	*	.1	8.2
Somerset	-	-	4.1	4.1	-	-	-	-	4.1
Talbot	-	-	.1	.1	-	-	-	-	.1
Washington	-	-	.8	.8	*	1.5	.4	1.9	2.7
Wicomico	-	-	24.1	24.1	-	-	-	-	24.1
Worcester	-	-	1.8	1.8	-	-	*	*	1.8
Total	-	-	90.3	90.3	0.6	34.4	18.0	53.0	143.3

^aCounties with no production are omitted.

*Less than 50 cords.

Table 16.--Pulpwood production from roundwood in West Virginia, by county and species group, 1988

(In thousands of standard cords)

County ^a	Softwood				Hardwood			Total	All species
	Spruce and fir	Hemlock and tamarack	Pine	Total	Aspen and yellow-poplar	Oak and hickory	Other hardwood		
Barbour	-	-	-	-	-	*	0.1	0.1	0.1
Berkeley	-	-	6.0	6.0	0.3	0.8	.6	1.7	7.7
Cabell	-	-	.2	.2	.1	.3	.4	.8	1.0
Calhoun	-	-	*	*	-	-	-	-	*
Doddridge	-	-	*	*	.1	.2	.2	.5	.5
Fayette	-	-	.3	.3	-	-	19.8	19.8	20.1
Grant	-	-	1.9	1.9	2.0	6.5	4.7	13.2	15.1
Greenbrier	-	-	3.1	3.1	.1	.1	58.0	58.2	61.3
Hampshire	-	-	13.8	13.8	2.5	8.3	6.1	16.9	30.7
Hardy	-	-	2.5	2.5	1.3	4.4	3.3	9.0	11.5
Jackson	-	-	3.4	3.4	-	-	-	-	3.4
Jefferson	-	-	.1	.1	-	-	-	-	.1
Mason	-	-	12.8	12.8	.2	.7	.7	1.6	14.4
Mineral	-	-	4.0	4.0	2.3	7.7	5.6	15.6	19.6
Monroe	-	-	3.7	3.7	-	-	5.3	5.3	9.0
Morgan	-	-	3.5	3.5	.5	1.4	1.1	3.0	6.5
Nicholas	-	-	.4	.4	-	-	7.7	7.7	8.1
Pendleton	-	-	2.3	2.3	.6	1.9	10.2	12.7	15.0
Pleasants	-	-	.2	.2	-	2.5	1.6	4.1	4.3
Pocahontas	-	-	1.7	1.7	*	.1	11.0	11.1	12.8
Preston	-	-	.3	.3	.6	2.0	1.4	4.0	4.3
Putnam	-	-	6.9	6.9	1.1	2.9	3.4	7.4	14.3
Raleigh	-	-	.2	.2	-	-	.2	.2	.4
Randolph	-	-	.5	.5	1.0	3.3	2.4	6.7	7.2
Ritchie	-	-	1.3	1.3	.3	1.0	1.1	2.4	3.7
Roane	-	-	.3	.3	*	*	*	*	.3
Summers	-	-	.1	.1	-	-	.7	.7	.8
Wirt	-	-	2.0	2.0	.6	2.1	1.6	4.3	6.3
Wood	-	-	1.0	1.0	.1	.1	.1	.3	1.3
Total	-	-	72.5	72.5	13.7	46.3	147.3	207.3	279.8

^aCounties with no production are omitted.

*Less than 50 cords.

Table 17.--Bark generated from roundwood pulpwood in the Northeast, by state and species group, 1988

(In million cubic feet)

State ^a	Softwood			Hardwood			All species		
	Used	Unused	Total	Used	Unused	Total	Used	Unused	Total
Kentucky	0.9	-	0.9	5.0	-	5.0	5.9	-	5.9
Maine	20.1	0.1	20.2	14.0	1.2	15.2	34.1	1.3	35.4
Maryland	1.4	-	1.4	1.9	-	1.9	3.3	-	3.3
New Hampshire	.4	-	.4	3.4	-	3.4	3.8	-	3.8
New York	3.7	.9	4.6	3.2	.2	3.4	6.9	1.1	8.0
Ohio	.5	-	.5	4.4	-	4.4	4.9	-	4.9
Pennsylvania	1.2	-	1.2	6.0	1.3	7.3	7.2	1.3	8.5
Vermont	-	.1	.1	-	-	-	-	.1	.1
Total	28.2	1.1	29.3	37.9	2.7	40.6	66.1	3.8	69.9

^aStates with no pulp mills are omitted.

Table 18.--Pulpwood removals per acre of timberland in the Northeast, 1988

State	Pulpwood harvest	Timberland	Harvest ^b per acre
	Cords	Acres ^a	Cubic feet
Connecticut	2,100	1,777,300	0.10
Delaware	13,000	388,200	2.85
Kentucky	230,100	12,346,500	1.58
Maine	3,389,100	17,060,200	6.89
Maryland	143,300	2,424,000	5.02
Massachusetts	15,100	2,952,000	0.43
New Hampshire	404,200	4,812,100	7.14
New Jersey	100	1,857,000	*
New York	815,000	15,405,800	4.50
Ohio	373,000	6,917,100	4.58
Pennsylvania	715,300	15,923,700	3.82
Rhode Island	-	371,700	-
Vermont	369,700	4,422,100	7.11
West Virginia	279,800	11,917,600	2.00
Total	6,749,800	98,575,300	5.82

^aMost recent estimates of timberland by U. S. Department of Agriculture, Forest Service.^bConversion factor of 85 cubic feet per cord used.

Widmann, Richard H. 1990. **Pulpwood production in the Northeast--1988**. Resour. Bull. NE-116. Radnor, PA: U.S. Department of Agriculture, Forest Service, Northeastern Forest Experiment Station. 26 p.

This annual report contains 1988 information compiled from a canvass of all pulpmills that use pulpwood produced in the 14 Northeastern states. In 1988, total production reached 9,648,800 cords, an increase of 3 percent since 1987. Pulpwood from roundwood was 6,749,800 cords and pulpwood from manufacturing residues was 2,899,000 cord equivalents. Receipts of pulpwood at mills in the region were 10,133,600 cords.

Headquarters of the Northeastern Forest Experiment Station is in Radnor, Pennsylvania. Field laboratories are maintained at:

Amherst, Massachusetts, in cooperation with the University of Massachusetts

Berea, Kentucky, In cooperation with Berea College

Burlington, Vermont, In cooperation with the University of Vermont

Delaware, Ohio

Durham, New Hampshire, in cooperation with the University of New Hampshire

Hamden, Connecticut, in cooperation with Yale University

Morgantown, West Virginia, in cooperation with West Virginia University

Orono, Maine, in cooperation with the University of Maine

Parsons, West Virginia

Princeton, West Virginia

Syracuse, New York, In cooperation with the State University of New York, College of Environmental Sciences and Forestry at Syracuse University

University Park, Pennsylvania, in cooperation with The Pennsylvania State University

Warren, Pennsylvania

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