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Pulpwood Production in the Northeast: 1991, 1992, and 1993

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Abstract

This assessment of pulpwood production and receipts for the 14 states in the Northeast Region includes information for 1991, 1992, and 1993. During this period, annual roundwood production used for pulp averaged 6.9 million cords, while production of manufacturing residues used for pulp averaged 2.7 million cords annually. The production of pulpwood over the last 7 years in the Northeastern States has been relatively flat except for a slight rise in production in 1992. Consumption of pulpwood at mills in the Northeast continued at a high level, averaging 10 million cords annually. The harvesting of trees (roundwood) for pulp averaged 6 cubic feet per acre of timberland across the region.

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Introduction

This report presents data on annual pulpwood production and consumption for the 14 Northeastern States during 1991, 1992, and 1993. The data were obtained by canvassing pulpmills in the Northeast Region (Fig. 1) 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 pulpmills in adjacent Canadian provinces.

These statistics are based on mill receipts of roundwood (which includes whole-tree chips) and manufacturing plant residues. The 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 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. Therefore, the volume of pulpwood produced from residues in a state may not be linked directly to the sawlog harvest for that state.

Total Production

Total pulpwood production for the 14 Northeastern States rose to a record 9.9 million cords in 1992, and then decreased in 1993 to 9.6 million cords, slightly above the 1991 level (Table 1). High levels of production of both roundwood and pulpwood produced from manufacturing residues contributed to the rise in 1992. Roundwood includes logs, bolts, and whole-tree chips generated from harvesting trees. Typically, roundwood used for pulp is from poor-quality trees or from the tops and branches of trees harvested for sawlogs. Manufacturing residues are byproducts generated in the conversion of logs to lumber and other products. These include chips made from sawmill slabs and edgings and veneer cores. During the 3 years covered in this report, roundwood averaged 72 percent of total production and manufacturing residues averaged 28 percent. During the last 7 years, pulpwood production has risen slowly in the Northeastern States except for a slight spurt in production in 1992 (Fig. 2).

This high level of production has occurred despite an environment of weak prices for many paper products during the period 1991-93. Significant price increases for paper products have occurred since this period. The effect of these price increases on production will be determined by subsequent assessments of pulpwood production.

Roundwood

Roundwood production averaged 6.9 million cords annually from 1991 to 1993 (Table 2). This was a continuation of the high level of production that has been maintained over the past 7 years in the Northeast. In New England, roundwood production was stable but the percentage from softwoods fell as the portion from hardwoods rose (Fig. 3). Higher softwood lumber prices during this period may have drawn low-quality logs to sawmills that previously would have gone to pulp mills. Also, tight supplies in the softwood resource in some areas has led to a shift from softwoods to higher utilization of hardwood species. In Maine, pulpwood production from spruce and fir has decreased as the use of hardwoods has increased. Pulpwood produced from spruce and fir has been declining since 1980, yet these two species still account for more than one-quarter of the roundwood produced for pulp in the New England States. Red maple, an abundant species with limited markets, is increasingly being used for pulp. It is included in the "other hardwood" species group (Tables 6-8).

Pulpwood from Manufacturing Residues

The high level of hardwood lumber production in the Northeast has resulted in more manufacturing residues being made available for use as pulpwood. During 1991-93, pulpmills received the equivalent of 2.7 million cords of wood annually from sawmills and other primary processors of logs in the Northeastern States (Table 3). Sixty-two percent of these residues were produced from hardwood species. As production of hardwood lumber has increased, pulp mills have come to rely more heavily on residues as a source of wood. In Kentucky, manufacturing residues accounted for 63 percent of the pulpwood produced in that state.



- | | |
|--|--|
| 1. Hawesville, KY Willamette Industries, Inc. | 18. Corinth, NY International Paper Co. |
| 2. Wickliffe, KY Westvaco Corp. | 19. Deferiet, NY Champion International Corp. |
| 3. Bucksport, ME Champion International Corp. | 20. Deposit, NY Norbord Industries |
| 4. E. Millinocket, ME Great Northern Paper, Inc. | 21. Glens Falls, NY Finch-Pruyn and Company |
| 5. Jay, ME International Paper Co. | 22. Lyons Falls, NY Lyons Falls Pulp and Paper, Inc. |
| 6. Lincoln, ME Lincoln Pulp and Paper Co. | 23. Ticonderoga, NY International Paper Co. |
| 7. Lisbon Falls, ME Masonite Corp. | 24. Chillicothe, OH The Mead Corp. |
| 8. Madison, ME Madison Paper Industries | 25. Circleville, OH Jefferson Smurfit Corp. |
| 9. Millinocket, ME Great Northern Paper, Inc. | 26. Coshocton, OH Stone Container Corp. |
| 10. Old Town, ME James River Corp. | 27. Milan, OH Certainteed Corp. |
| 11. Rumford, ME Boise Cascade Corp. | 28. Erie, PA International Paper Co. |
| 12. Hinckley, ME S.D Warren Company | 29. Johnsonburg, PA Willamette Industries, Inc. |
| 13. Westbrook, ME S.D. Warren Company | 30. Mehoopany, PA Proctor and Gamble Co. |
| 14. Woodland, ME Georgia-Pacific Corp. | 31. Roaring Spring, PA Appleton Papers, Inc. |
| 15. Luke, MD Westvaco Corp. | 32. Spring Grove, PA The P. H. Glatfelter Co. |
| 16. Berlin, NH James River Corp. | 33. Sunbury, PA Jim Walter Corp. |
| 17. Groveton, NH Groveton Paper Board, Inc. | 34. Towanda, PA Masonite Corp. |

Figure 1.-- Locations and names of mills receiving pulpwood in the Northeastern States.

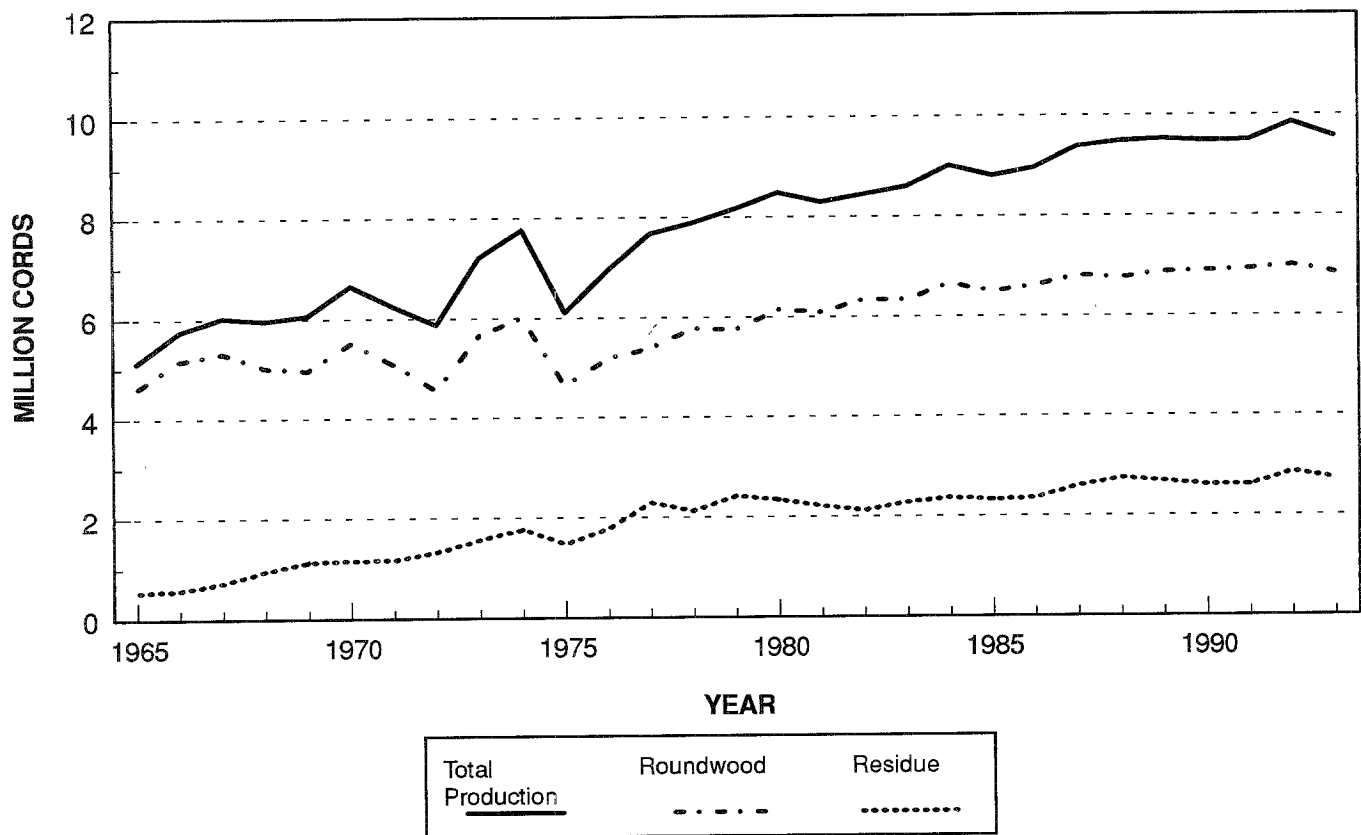


Figure 2.-- Total pulpwood, roundwood, and manufacturing residue production in the Northeast, 1965-93.

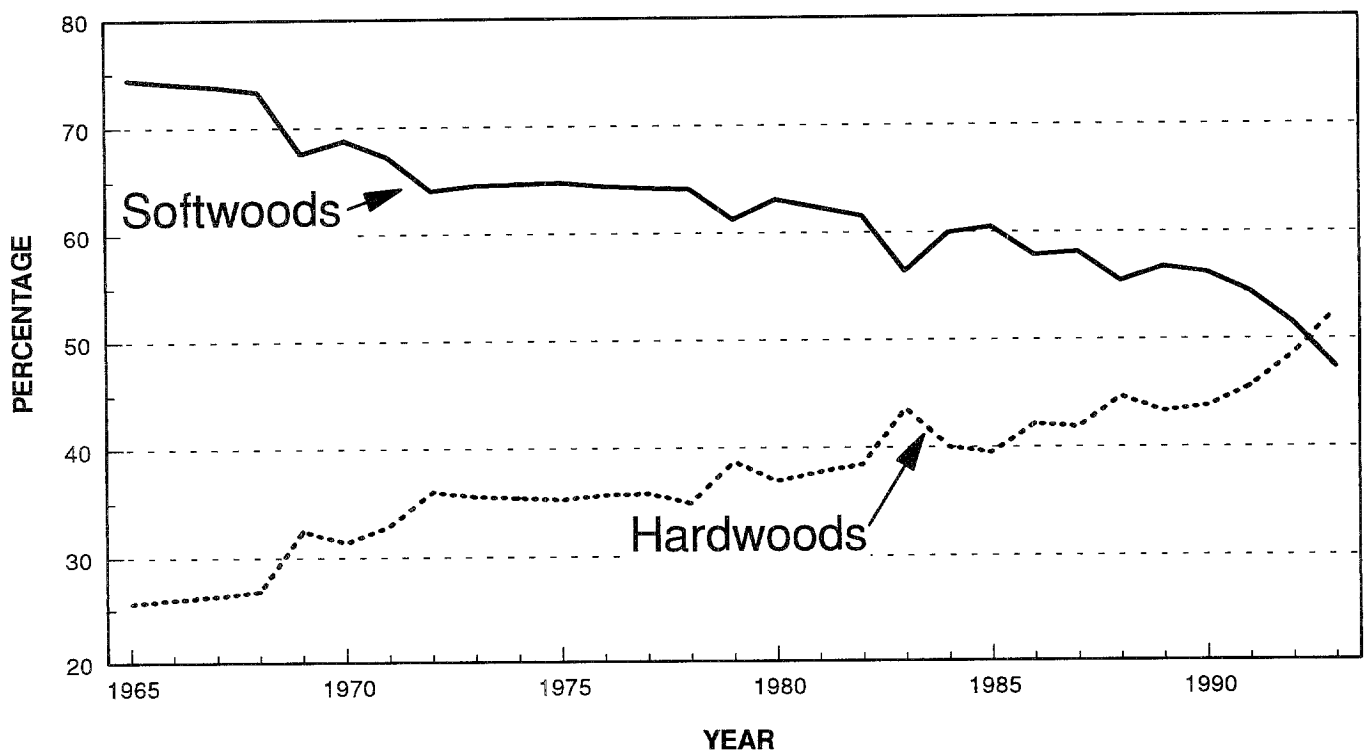


Figure 3.-- Percentage of roundwood produced from softwood and hardwood species in New England, 1965-93.

Consumption

Northeast mills continued high levels of pulpwood consumption (Tables 4, 5, and 17). Since 1987, receipts have been steady, with approximately 10 million cords consumed each year. In 1993, Northeast pulpmills received 3.0 million cords of softwood roundwood, 4.2 million cords of hardwood roundwood, and the equivalent of 2.8 million cords of chips produced from manufacturing residues. These receipts were 444,000 cords more than the region produced. Mills in Kentucky and Maryland received most of the shipments into the region.

Harvesting Intensity

Looking at the average annual pulpwood harvest per acre of timberland gives an indication of the intensity of pulpwood harvesting (Table 19). The highest harvesting rates were in Maine. There, harvesting averaged nearly 17 cubic feet of roundwood per acre of timberland. New Hampshire and Vermont also have high harvest rates, with averages of 9 cubic feet and 8.5 cubic feet harvested per acre per year, respectively, compared with Pennsylvania's 4 cubic feet and Kentucky's 1.5 cubic feet.

The average annual net growth on timberland in the Northeast is roughly 38 cubic feet of growing-stock volume per acre. The percentage of this average growth being used for pulpwood roundwood ranges from 44 in Maine to zero in Rhode Island. Harvesting pulpwood averages 15.6 percent of the growth across the entire Northeast. These averages are broad measures of the growth and pulpwood harvesting in the region. Actual data for a specific area within a state may vary considerably. Pulpwood represents only part of the total harvest; it does not include the harvesting of sawlogs that also varies across the region.

Definition 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.

Manufacturing 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 residues that are used for the production of wood pulp.

Pulpwood production. Roundwood and manufacturing plant residues that are used for the production of wood pulp.

Pulpwood receipts. Pulpwood received at wood pulp 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.

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.

Whole-tree chip. 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, 1991, 1992, and 1993

(In thousands of standard cords)^a

State	From roundwood			From manufacturing residues			From all sources		
	1991	1992	1993	1991	1992	1993	1991	1992	1993
Connecticut	3.4	2.9	4.0	5.1	4.1	3.2	8.5	7.0	7.2
Delaware	30.6	50.9	31.0	4.5	3.5	3.6	35.1	54.4	34.6
Kentucky	184.7	240.1	223.9	337.9	376.7	376.4	522.6	616.8	600.3
Maine	3,346.8	3,539.6	3,265.1	679.2	859.0	814.8	4,026.0	4,398.6	4,079.9
Maryland	191.9	175.9	188.7	100.3	114.2	114.8	292.2	290.1	303.5
Massachusetts	23.1	17.1	19.4	15.3	10.3	9.2	38.4	27.4	28.6
New Hampshire	444.9	451.7	632.9	175.9	177.6	173.6	620.8	629.3	806.5
New Jersey	1.0	1.5	1.6	--	--	.3	1.0	1.5	1.9
New York	723.6	666.4	635.5	138.4	137.5	152.9	862.0	803.9	788.4
Ohio	394.4	320.7	313.1	349.2	272.7	270.4	743.6	593.4	583.5
Pennsylvania	770.9	770.2	705.0	433.1	450.3	422.4	1,204.0	1,220.5	1,127.4
Rhode Island	--	--	--	4.8	3.7	1.8	4.8	3.7	1.8
Vermont	483.2	418.0	429.2	89.8	95.8	72.1	573.0	513.8	501.3
West Virginia	313.0	340.4	385.2	267.2	355.6	310.3	580.2	696.0	695.5
Total	6,911.5	6,995.4	6,834.6	2,600.7	2,861.0	2,725.8	9,512.2	9,856.4	9,560.4

^a Cords are on a rough-wood basis, equivalent to 85 cubic feet of solid wood.

Table 2. - Pulpwood production from roundwood in the Northeast, by state and softwood and hardwood, 1991, 1992, and 1993

(In thousands of standard cords)

State	Softwood			Hardwood			Total		
	1991	1992	1993	1991	1992	1993	1991	1992	1993
Connecticut	3.4	2.9	4.0	--	--	--	3.4	2.9	4.0
Delaware	28.8	44.8	24.5	1.8	6.1	6.5	30.6	50.9	31.0
Kentucky	25.3	39.3	35.1	159.4	200.8	188.8	184.7	240.1	223.9
Maine	1,841.3	1,895.2	1,549.4	1,505.5	1,644.4	1,715.7	3,346.8	3,539.6	3,265.1
Maryland	101.9	87.9	101.6	90.0	88.0	87.1	191.9	175.9	188.7
Massachusetts	22.7	17.0	19.2	.4	.1	.2	23.1	17.1	19.4
New Hampshire	208.3	121.9	218.4	236.6	329.8	396.0	444.9	451.7	614.4
New Jersey	1.0	1.5	1.5	--	--	.1	1.0	1.5	1.6
New York	343.2	347.2	322.9	380.4	319.2	339.4	723.6	666.4	662.3
Ohio	78.3	50.5	47.8	316.1	270.2	265.3	394.4	320.7	313.1
Pennsylvania	61.5	62.6	57.4	709.4	707.6	647.6	770.9	770.2	705.0
Rhode Island	--	--	--	--	--	--	--	--	--
Vermont	264.3	242.6	260.8	218.9	175.4	168.4	483.2	418.0	429.2
West Virginia	73.7	94.5	93.9	239.3	245.9	291.3	313.0	340.4	385.2
Total	3,053.7	3,007.9	2,736.5	3,857.8	3,987.5	4,106.4	6,911.5	6,995.4	6,842.9

Table 3. - Pulpwood chip production from manufacturing residues in the Northeast, by state and softwood and hardwood, 1991, 1992, and 1993

(In thousands of standard cords)

State	Softwood			Hardwood			Total		
	1991	1992	1993	1991	1992	1993	1991	1992	1993
Connecticut	.3	--	--	4.8	4.1	3.2	5.1	4.1	3.2
Delaware	2.0	.9	.9	2.5	2.6	2.7	4.5	3.5	3.6
Kentucky	15.0	20.3	11.2	322.9	356.4	365.2	337.9	376.7	376.4
Maine	633.8	775.8	758.9	45.4	83.3	55.9	679.2	859.1	814.8
Maryland	59.1	73.8	74.8	41.2	40.4	40.0	100.3	114.2	114.8
Massachusetts	6.5	1.5	2.8	8.8	8.8	6.4	15.3	10.3	9.2
New Hampshire	132.6	120.9	155.1	43.3	56.7	18.5	175.9	177.6	173.6
New Jersey	--	--	--	--	--	.3	--	--	.3
New York	28.9	25.3	36.8	109.5	112.2	116.1	138.4	137.5	152.9
Ohio	3.0	1.2	1.4	346.2	271.5	269.0	349.2	272.7	270.4
Pennsylvania	10.0	11.4	8.5	423.1	438.9	413.9	433.1	450.3	422.4
Rhode Island	--	--	--	4.8	3.7	1.8	4.8	3.7	1.8
Vermont	43.0	39.7	47.2	46.8	56.2	24.9	89.8	95.9	72.1
West Virginia	1.3	25.2	4.1	265.9	330.4	306.2	267.2	355.6	310.3
Total	935.5	1,096.0	1,101.7	1,665.2	1,765.2	1,624.1	2,600.7	2,861.2	2,725.8

Table 4. - -Pulpwood receipts from roundwood in the Northeast, by state and softwood and hardwood, 1991, 1992, and 1993

(In thousands of standard cords)									
State	Softwood			Hardwood			Total		
	1991	1992	1993	1991	1992	1993	1991	1992	1993
Kentucky	97.1	102.2	84.5	350.3	368.4	388.8	447.4	470.6	473.3
Maine	2,121.5	2,108.9	1,841.3	1,763.2	1,929.0	2,022.5	3,884.7	4,037.9	3,863.8
Maryland	D	D	D	D	D	D	D	D	D
New Hampshire	D	D	D	D	D	D	D	D	D
New York	502.1	525.2	562.9	345.3	292.7	269.8	847.4	817.9	832.7
Ohio	89.7	97.3	99.1	365.1	354.1	345.7	454.8	451.4	444.8
Pennsylvania	144.4	152.1	139.6	685.6	702.0	672.4	830.0	854.1	812.0
Total	3,189.5	3,199.2	2,956.7	4,034.4	4,158.2	4,239.1	7,223.9	7,357.4	7,195.8

D = Data withheld to avoid disclosure for individual mills.

Table 5. - -Pulpwood chip receipts from manufacturing residues in the Northeast, by state and softwood and hardwood, 1991, 1992, and 1993

(In thousands of standard cords)									
State	Softwood			Hardwood			Total		
	1991	1992	1993	1991	1992	1993	1991	1992	1993
Kentucky	8.0	6.7	6.0	524.8	496.9	494.9	532.8	503.6	500.9
Maine	701.3	837.3	880.2	59.3	90.3	71.9	760.6	927.6	952.1
Maryland	D	D	D	D	D	D	D	D	D
New Hampshire	D	D	D	D	D	D	D	D	D
New York	50.3	46.5	66.0	76.1	81.8	85.6	126.4	128.3	151.6
Ohio	4.8	4.9	3.9	342.4	349.8	361.6	347.2	354.7	365.5
Pennsylvania	52.2	59.2	58.7	502.7	518.0	489.9	554.9	577.2	548.6
Total	925.1	1,057.7	1,173.2	1,663.9	1,697.9	1,644.0	2,589.0	2,755.6	2,817.2

D = Data withheld to avoid disclosure for individual mills.

Table 6. - - Pulpwood production from roundwood in the Northeast, by state and species group, 1991

(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	*	3.4	*	3.4	--	--	--	--	3.4
Delaware	--	--	28.8	28.8	--	1.2	0.6	1.8	30.6
Kentucky	--	--	25.3	25.3	7.5	115.0	36.9	159.4	184.7
Maine	1145.5	442.2	253.6	1841.3	208.6	--	1296.9	1505.5	3346.8
Maryland	--	--	102.0	102.0	--	24.5	65.4	89.9	191.9
Massachusetts	1.6	5.3	15.8	22.7	--	--	0.4	0.4	23.1
New Hampshire	99.5	45.3	63.5	208.3	3.2	--	233.4	236.6	444.9
New Jersey	--	--	1.0	1.0	--	--	--	--	1.0
New York	104.9	169.3	69.0	343.2	46.1	7.9	326.4	380.4	723.6
Ohio	--	--	78.3	78.3	1.2	77.5	237.4	316.1	394.4
Pennsylvania	--	0.5	61.0	61.5	43.4	279.1	386.9	709.4	770.9
Vermont	159.1	65.3	39.9	264.3	6.8	--	212.1	218.9	483.2
West Virginia	--	--	73.7	73.7	--	127.8	111.5	239.3	313.0
Total	1,510.6	731.3	811.9	3,053.8	316.8	633.0	2,907.9	3,857.7	6,911.5

* Less than 50 cords.

Table 7. - - Pulpwood production from roundwood in the Northeast, by state and species group, 1992

(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	--	2.9	--	2.9	--	--	--	--	2.9
Delaware	--	--	44.8	44.8	--	--	6.1	6.1	50.9
Kentucky	--	--	39.3	39.3	9.1	99.3	92.4	200.8	240.1
Maine	1180.6	467.0	247.6	1895.2	211.5	--	1432.9	1644.4	3539.6
Maryland	--	--	87.9	87.9	--	11.0	77.0	88.0	175.9
Massachusetts	1.2	6.3	9.5	17.0	*	--	0.1	0.1	17.1
New Hampshire	34.0	51.7	36.2	121.9	4.8	--	325.0	329.8	451.7
New Jersey	--	--	1.5	1.5	--	--	--	0.0	1.5
New York	96.9	173.1	77.3	347.3	21.3	6.4	291.4	319.1	666.4
Ohio	--	--	50.5	50.5	24.0	56.1	190.1	270.2	320.7
Pennsylvania	--	0.2	62.4	62.6	28.7	221.9	457.0	707.6	770.2
Vermont	126.9	82.3	33.4	242.6	3.5	--	171.9	175.4	418.0
West Virginia	--	--	94.6	94.6	0.9	2.2	242.7	245.8	340.4
Total	1439.6	783.5	785.0	3008.1	303.8	396.9	3286.6	3987.3	6995.4

* Less than 50 cords.

Table 8. - - Pulpwood production from roundwood in the Northeast, by state and species group, 1993

(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	--	3.8	0.2	4.0	--	--	--	--	4.0
Delaware	--	--	24.5	24.5	--	--	6.5	6.5	31.0
Kentucky	--	--	35.1	35.1	12.4	64.3	112.1	188.8	223.9
Maine	867.8	475.2	206.4	1549.4	156.8	--	1558.9	1715.7	3265.1
Maryland	--	--	101.6	101.6	--	9.1	78.0	87.1	188.7
Massachusetts	1.4	7.8	10.0	19.2	0.1	--	0.1	0.2	19.4
New Hampshire	102.3	67.7	57.7	227.7	6.2	--	399.0	405.2	632.9
New Jersey	--	--	1.5	1.5	--	--	0.1	0.1	1.6
New York	74.5	174.7	73.7	322.9	18.7	4.7	289.2	312.6	635.5
Ohio	--	--	47.8	47.8	22.8	38.8	203.7	265.3	313.1
Pennsylvania	--	1.1	56.3	57.4	23.7	175.5	448.4	647.6	705.0
Vermont	134.8	92.7	33.3	260.8	4.5	--	163.9	168.4	429.2
West Virginia	--	--	93.9	93.9	1.5	3.7	286.1	291.3	385.2
Total	1180.8	823.0	742.0	2745.8	246.7	296.1	3546.0	4088.8	6834.6

* Less than 50 cords.

Table 9.--Pulpwood production from roundwood in northern New England by state, county, and softwood and hardwood, 1991, 1992, 1993

(In thousands of standard cords)									
County	Softwood			Hardwood			Total all species		
	1991	1992	1993	1991	1992	1993	1991	1992	1993
MAINE									
Androscoggin	49.0	107.4	4.4	14.2	16.5	10.3	63.2	123.9	14.7
Aroostook	183.8	221.4	107.7	128.8	101.2	98.3	312.6	322.6	206.0
Cumberland	32.0	35.3	31.2	12.1	14.4	8.7	44.1	49.7	39.9
Franklin	95.1	126.8	97.5	145.3	167.6	209.1	240.4	294.4	306.6
Hancock	79.1	78.6	63.4	52.6	12.3	57.8	131.7	90.9	121.2
Kennebec	97.9	130.9	158.0	40.9	57.9	48.2	138.8	188.8	206.2
Knox	22.1	18.9	73.3	4.1	5.2	13.6	26.2	24.1	86.9
Lincoln	30.3	34.4	31.0	5.8	6.3	4.6	36.1	40.7	35.6
Oxford	121.1	128.6	130.4	190.4	219.0	214.9	311.5	347.6	345.3
Penobscot	280.8	307.1	252.7	159.9	173.2	191.6	440.7	480.3	444.3
Piscataquis	258.7	253.0	168.8	171.0	221.0	183.7	429.7	474.0	352.5
Sagadahoc	7.1	7.1	13.6	2.0	2.4	2.2	9.1	9.5	15.8
Somerset	372.3	252.5	297.1	293.5	296.8	312.5	665.8	549.3	609.6
Waldo	63.2	50.8	34.3	38.3	29.4	23.7	101.5	80.2	58.0
Washington	105.9	102.6	46.8	234.7	311.2	329.4	340.6	413.8	376.2
York	42.9	39.8	39.2	11.9	10.0	7.1	54.8	49.8	46.3
Total	1,841.3	1,895.2	1,549.4	1,505.5	1,644.4	1,715.7	3,346.8	3,539.6	3,265.1
NEW HAMPSHIRE									
Belknap	5.7	6.2	9.1	3.1	3.5	27.2	8.8	9.7	36.3
Carroll	41.8	43.0	47.2	41.6	82.1	70.9	83.4	125.1	118.1
Cheshire	10.0	7.3	7.9	.1	.1	27.1	10.1	7.4	35.0
Coos	81.8	25.9	94.5	128.8	164.5	229.1	210.6	190.4	323.6
Grafton	44.4	31.2	30.2	56.6	76.5	45.4	101.0	107.7	75.6
Hillsborough	2.9	.7	6.2	.1	.2	.2	3.0	.9	6.4
Merrimack	3.0	7.9	8.3	3.9	8.6	4.8	6.9	16.5	13.1
Rockingham	11.8	.2	10.8	.7	*	.2	12.5	.2	11.0
Strafford	4.2	1.9	4.8	1.5	1.7	.2	5.7	3.6	5.0
Sullivan	2.7	3.5	8.7	.2	.1	.1	2.9	3.6	8.8
Total	208.3	127.8	227.7	236.6	337.3	405.2	444.9	465.1	632.9
VERMONT									
Addison	1.8	1.2	1.6	3.0	3.0	2.9	4.8	4.2	4.5
Bennington	2.2	4.0	3.4	8.8	8.5	7.4	11.0	12.5	10.8
Caledonia	48.3	44.6	52.4	39.6	32.0	54.6	87.9	76.6	107.0
Chittenden	4.1	4.1	4.0	.3	1.5	1.4	4.4	5.6	5.4
Essex	70.7	48.5	50.3	127.4	100.4	53.7	198.1	148.9	104.0
Franklin	5.8	8.8	6.1	.8	1.0	1.0	6.6	9.8	7.1
Grand Isle	--	*	*	--	--	--	--	*	*
Lamoille	11.8	7.8	5.6	.5	.5	.6	12.3	8.3	6.2
Orange	38.8	38.4	30.2	9.4	7.0	13.3	48.2	45.4	43.5
Orleans	45.2	42.8	60.2	16.9	11.6	13.3	62.1	54.4	73.5
Rutland	9.7	11.7	13.4	5.6	5.1	4.7	15.3	16.8	18.1
Washington	10.3	11.3	12.2	.9	.3	10.2	11.2	11.6	22.4
Windham	8.6	12.8	12.9	1.9	2.4	2.6	10.5	15.2	15.5
Windsor	7.0	8.0	8.5	3.8	2.8	2.7	10.8	10.8	11.2
Total	264.3	244.0	260.8	218.9	176.1	168.4	483.2	420.1	429.2

* Less than 50 cords. Counties with no reported production are not listed.

Table 10.--Pulpwood production from roundwood in southern New England, by state, county, and softwood and hardwood, 1991, 1992, and 1993

(In thousands of standard cords)

County	Softwood			Hardwood			Total all species		
	1991	1992	1993	1991	1992	1993	1991	1992	1993
CONNECTICUT									
Fairfield	*	--	*	--	--	--	--	--	--
Hartford	.1	.1	.1	--	--	--	.1	.1	.1
Litchfield	3.1	2.8	3.9	--	--	--	3.1	2.8	3.9
Middlesex	--	--	*	--	--	--	--	--	--
Tolland	.1	--	--	--	--	--	.1	--	--
Windham	.1	--	*	--	--	--	.1	--	--
Total	3.4	2.9	4.0	--	--	--	3.4	2.9	4.0
MASSACHUSETTS									
Barnstable	*	--	.2	--	--	*	--	--	.2
Berkshire	2.3	2.5	3.0	.4	.1	.1	2.7	--	3.1
Bristol	--	*	*	*	--	--	--	--	--
Essex	1.3	1.4	1.5	--	--	--	1.3	1.4	1.5
Franklin	.8	.5	2.8	--	--	.1	.8	.5	2.9
Hampden	3.7	4.2	2.3	*	--	--	3.7	4.2	2.3
Hampshire	.2	.2	.8	--	--	--	.2	.2	.8
Middlesex	2.5	1.3	1.4	--	--	--	2.5	1.3	1.4
Nantucket	*	--	--	--	--	--	--	--	--
Norfolk	.1	--	--	--	--	--	.1	--	--
Plymouth	--	--	*	--	--	--	--	--	*
Worcester	11.8	6.9	7.2	--	--	--	11.8	6.9	7.2
Total	22.7	17.0	19.2	.4	.1	.2	23.1	17.1	19.4

* Less than 50 cords. Counties with no reported production are not listed.

Table 11.--Pulpwood production from roundwood in New York, by county and softwood and hardwood, 1991, 1992, and 1993

(In thousands of standard cords)

County	Softwood			Hardwood			Total all species		
	1991	1992	1993	1991	1992	1993	1991	1992	1993
Albany	1.1	1.3	.9	.4	.1	.1	1.5	1.4	1.0
Alleghany	.3	--	--	*	1.0	2.3	.3	1.0	2.3
Broome	4.9	2.3	3.1	5.0	--	8.1	9.9	2.3	11.2
Cattaraugus	.1	2.5	.0	2.7	5.5	--	2.8	8.0	--
Cayuga	.6	--	--	--	2.7	*	.6	2.7	--
Chautauqua	1.1	.8	1.1	5.1	5.1	7.5	6.2	5.9	8.6
Chemung	.3	.2	.2	--	.6	2.4	.3	.8	2.6
Chenango	3.8	7.1	6.4	5.0	5.7	3.8	8.8	12.8	10.2
Clinton	18.9	18.0	15.1	19.1	17.6	19.4	38.0	35.6	34.5
Columbia	.1	.2	.2	*	.1	.2	.1	.3	.4
Cortland	5.6	8.2	5.3	1.0	--	.1	6.6	8.2	5.4
Delaware	3.4	5.0	4.2	5.0	4.7	6.0	8.4	9.7	10.2
Dutchess	*	*	.7	.1	--	--	.1	*	.7
Essex	35.2	39.8	36.6	31.0	25.1	28.3	66.2	64.9	64.9
Franklin	37.2	41.2	35.0	56.2	53.4	50.0	93.4	94.6	85.0
Fulton	17.9	15.1	13.7	10.6	9.4	6.6	28.5	24.5	20.3
Greene	2.7	4.1	3.6	*	.3	--	2.7	4.4	3.6
Hamilton	20.3	14.7	10.7	53.5	51.4	40.9	73.8	66.1	51.6
Herkimer	7.9	6.7	6.0	8.0	3.8	3.9	15.9	10.5	9.9
Jefferson	6.2	1.9	2.6	2.9	2.1	*	9.1	4.0	2.6
Lewis	22.8	22.1	20.0	22.1	18.9	5.8	44.9	41.0	25.8
Madison	1.1	.3	.8	.0	*	*	1.1	.3	.8
Montgomery	2.9	2.7	3.9	2.0	.3	.4	4.9	3.0	4.3
Onida	7.1	9.2	5.1	3.6	2.4	4.8	10.7	11.6	9.9
Onondaga	3.0	2.3	2.0	--	.9	.9	3.0	3.2	2.9
Orange	.1	--	.1	--	*	.1	.1	*	.2
Oswego	10.2	5.1	7.6	.9	.3	.1	11.1	5.4	7.7
Otsego	5.4	7.4	12.7	5.1	4.0	4.2	10.5	11.4	16.9
Rensselaer	4.1	5.0	5.7	1.0	3.4	1.2	5.1	8.4	6.9
St. Lawrence	39.5	28.3	25.4	68.4	45.8	42.1	107.9	74.1	67.5
Saratoga	20.8	28.6	24.4	20.4	18.8	17.2	41.2	47.4	41.6
Schenectady	.4	.2	.3	.3	.2	.2	.7	.4	.5
Schoharie	7.8	6.6	7.3	*	.2	.9	7.8	6.8	8.2
Schuyler	--	.3	.4	--	--	--	--	.3	.4
Seneca	--	--	--	--	--	7.5	--	--	7.5
Stueben	--	.1	.1	--	.1	.1	--	.2	.2
Sullivan	1.5	1.1	2.0	4.9	4.1	3.7	6.4	5.2	5.7
Tioga	--	--	.4	--	4.1	2.8	--	4.1	3.2
Tompkins	.1	.4	.5	5.0	3.1	3.7	5.1	3.5	4.2
Ulster	.3	.5	.3	--	.1	.4	.3	.6	.7
Warren	38.6	46.3	42.6	29.3	30.0	28.1	67.9	76.3	70.7
Washington	9.9	13.7	15.9	11.8	9.8	8.8	21.7	23.5	24.7
Total	343.2	349.3	322.9	380.4	335.1	312.6	723.6	684.4	635.5

* Less than 50 cords. Counties with no reported production are not listed.

Table 12.--Pulpwood production from roundwood in Delaware, Maryland, and New Jersey, by county and softwood and hardwood, 1991, 1992, and 1993

(In thousands of standard cords)

County	Softwood			Hardwood			Total all species		
	1991	1992	1993	1991	1992	1993	1991	1992	1993
DELAWARE									
Kent	--	6.3	--	--	0.2	0.1	--	6.5	0.1
Sussex	28.8	38.5	24.5	1.8	5.9	6.4	30.6	44.4	30.9
Total	28.8	44.8	24.5	1.8	6.1	6.5	30.6	50.9	31.0
MARYLAND									
Allegany	4.5	4.6	2.6	28.4	29.9	28.8	32.9	34.5	31.4
Anne Arundel	7.9	8.6	10.0	1.0	3.2	1.0	8.9	11.8	11
Baltimore	2.6	2.6	.7	.6	2.9	2.6	3.2	5.5	3.3
Calvert	2.1	2.0	.1	.2	*	.1	2.3	2.0	0.2
Caroline	6.0	2.3	.8	.3	1.1	.1	6.3	3.4	0.9
Carroll	.8	1.1	1.0	.4	.1	.1	1.2	1.2	1.1
Cecil	.3	.2	.2	*	--	--	.3	.2	0.2
Charles	8.3	4.2	4.2	.2	1.3	1.3	8.5	5.5	5.5
Dorchester	12.0	17.4	25.3	.2	.7	3.5	12.2	18.1	28.8
Frederick	.1	.1	.4	2.4	3.9	2.5	2.5	4.0	2.9
Garrett	3.5	1.3	.8	37.5	23.1	18.3	41.0	24.4	19.1
Harford	--	.1	.1	*	.1	*	--	.2	0.1
Howard	*	.1	.1	.1	.1	.1	.1	.2	0.2
Montgomery	--	*	*	--	*	*	--	--	0
Prince Georges	7.0	6.8	11.2	.5	1.0	1.4	7.5	7.8	12.6
Queen Annes	--	--	--	--	--	1.1	--	--	1.1
St. Marys	.2	4.4	4.4	.0	.2	.2	.2	4.6	4.6
Somerset	20.4	6.9	6.4	11.1	7.5	7.4	31.5	14.4	13.8
Talbot	.3	--	.1	--	--	*	.3	--	0.1
Washington	.3	.8	.8	1.2	1.5	1.5	1.5	2.3	2.3
Wicomico	6.4	13.8	15.2	2.6	4.4	8.7	9.0	18.2	23.9
Worcester	19.2	10.6	17.2	3.3	7.0	8.4	22.5	17.6	25.6
Total	101.9	87.9	101.6	90.0	88.0	87.1	191.9	175.9	188.7
NEW JERSEY									
Atlantic	1.0	1.2	1.2	--	--	--	1.0	1.2	1.2
Camden	*	--	--	--	--	--	.*	--	--
Cumberland	--	*	*	--	--	--	--	*	*
Sussex	--	--	--	--	--	0.1	--	--	0.1
Ocean	*	--	--	--	--	--	*	--	--
Warren	--	0.2	0.2	--	--	--	--	0.2	0.2
Total	1.0	1.4	1.4	--	--	0.1	1.0	1.4	1.5

* Less than 50 cords. Counties with no reported production are not listed.

Table 13.--Pulpwood production from roundwood in Pennsylvania, by county and softwood and hardwood, 1991, 1992, and 1993

(In thousands of standard cords)									
County	Softwood			Hardwood			Total all species		
	1991	1992	1993	1991	1992	1993	1991	1992	1993
Adams	.4	.3	.3	4.8	2.1	2.0	5.2	2.4	2.3
Allegheny	--	--	--	--	--	2.1	--	--	2.1
Armstrong	--	--	--	1.8	1.9	10.2	1.8	1.9	10.2
Bedford	4.0	4.8	5.5	45.7	25.8	37.2	49.7	30.6	42.7
Berks	*	.5	.5	.1	1.4	1.3	.1	1.9	1.8
Blair	.3	.2	.1	3.7	3.2	3.2	4.0	3.4	3.3
Bradford	2.8	3.3	3.3	34.8	77.0	28.0	37.6	80.3	31.3
Bucks	--	--	--	--	--	5.5	--	--	5.5
Butler	*	--	--	4.9	5.2	--	4.9	5.2	--
Cambria	.4	.1	.2	3.0	6.0	4.6	3.4	6.1	4.8
Cameron	.1	--	--	7.8	8.1	6.9	7.9	8.1	6.9
Carbon	--	--	--	1.5	--	1.5	1.5	--	1.5
Centre	.7	1.4	1.7	14.3	11.0	25.5	15.0	12.4	27.2
Chester	*	*	*	--	11.3	*	*	11.3	*
Clarion	.4	.2	.3	7.4	7.1	5.6	7.8	7.3	5.9
Clearfield	13.2	11.2	9.9	77.9	79.2	33.1	91.1	90.4	43.0
Clinton	2.9	1.4	1.4	15.8	13.3	34.8	18.7	14.7	36.2
Columbia	*	--	--	1.6	1.7	6.0	1.6	1.7	6.0
Crawford	.4	--	--	1.6	3.2	.5	2.0	3.2	.5
Cumberland	.4	.4	.4	5.1	3.2	3.1	5.5	3.6	3.5
Dauphin	.6	1.0	1.0	3.3	3.6	3.3	3.9	4.6	4.3
Delaware	.1	.2	.2	*	*	*	.1	.2	.2
Elk	2.4	2.6	1.0	27.8	26.7	17.1	30.2	29.3	18.1
Erie	.1	--	.5	4.9	4.6	4.1	5.0	4.6	4.6
Fayette	.1	.2	*	1.3	1.7	1.1	1.4	1.9	1.1
Forest	2.1	1.2	1.0	51.2	49.9	20.9	53.3	51.1	21.9
Franklin	.3	1.0	1.0	15.2	16.5	15.9	15.5	17.5	16.9
Fulton	6.6	8.7	8.1	16.2	14.6	15.0	22.8	23.3	23.1
Huntingdon	6.3	4.5	4.4	24.1	17.2	18.1	30.4	21.7	22.5
Indiana	.1	*	.2	*	--	*	.1	--	.2
Jefferson	4.8	5.5	2.3	5.7	6.9	12.2	10.5	12.4	14.5
Juniata	1.6	2.2	2.2	1.5	2.6	2.5	3.1	4.8	4.7
Lackawanna	--	--	*	1.3	1.2	2.7	1.3	1.2	2.7
Lancaster	*	*	*	.4	1.1	1.1	.4	1.1	1.1
Lawrence	--	--	--	1.3	1.1	.3	1.3	1.1	.3
Lebanon	*	.1	.1	1.9	1.7	1.7	1.9	1.8	1.8
Lehigh	--	*	*	--	--	--	*	*	*
Luzerne	--	.1	.1	13.4	11.2	17.3	13.4	11.3	17.4
Lycoming	.2	.7	.7	26.8	32.8	23.5	27.0	33.5	24.2
McKean	--	.1	--	18.7	18.9	16.7	18.7	19.0	16.7
Mercer	.1	--	--	.2	.4	.6	.3	.4	.6
Mifflin	.3	1.2	.6	1.1	3.8	9.2	1.4	5.0	9.8
Monroe	--	--	--	6.1	--	6.3	6.1	--	6.3
Montour	.1	.3	.3	.3	2.9	--	.4	3.2	.3

(Continued)

Table 13.--Continued

County	Softwood			Hardwood			Total all species		
	1991	1992	1993	1991	1992	1993	1991	1992	1993
Northumberland	1.6	1.2	1.1	8.0	4.4	2.2	9.6	5.6	3.3
Perry	.8	1.6	1.6	2.4	1.9	1.8	3.2	3.5	3.4
Pike	--	--	--	.7	3.5	.6	.7	3.5	.6
Potter	*	*	*	45.1	44.0	46.9	45.1	44.0	46.9
Schuylkill	.9	.8	.9	12.4	20.5	23.9	13.3	21.3	24.8
Snyder	.1	.8	.7	.1	.1	.1	.2	.9	.8
Somerset	.1	.5	.6	8.3	8.2	11.2	8.4	8.7	11.8
Sullivan	1.0	.9	.9	32.8	22.4	29.5	33.8	23.3	30.4
Susquehanna	.5	.4	1.2	18.2	28.2	31.7	18.7	28.6	32.9
Tioga	--	.2	.2	46.8	26.0	24.9	46.8	26.2	25.1
Union	.4	.1	.1	2.1	2.7	2.5	2.5	2.8	2.6
Venango	.3	--	*	17.6	18.3	15.8	17.9	18.3	15.8
Warren	1.4	--	*	26.0	25.7	25.0	27.4	25.7	25.0
Washington	.4	--	--	3.9	--	--	4.3	--	--
Wayne	.6	*	.3	9.5	6.9	7.0	10.1	6.9	7.3
Westmoreland	--	--	--	.3	--	*	.3	--	--
Wyoming	.2	.5	.3	15.8	10.3	19.6	16.0	10.8	19.9
York	1.4	2.2	2.2	4.9	4.4	4.2	6.3	6.6	6.4
Total	61.5	62.6	57.4	709.4	707.6	647.6	770.9	770.2	705.0

* Less than 50 cords. Counties with no reported production are not listed.

Table 14.--Pulpwood production from roundwood in West Virginia, by county and softwood and hardwood, 1991, 1992, and 1993

(In thousands of standard cords)

County	Softwood			Hardwood			Total all species		
	1991	1992	1993	1991	1992	1993	1991	1992	1993
Berkeley	.5	1.9	1.9	*	4.4	4.4	.5	6.3	6.3
Boone	--	--	--	--	--	*	--	--	*
Brooke	--	--	--	--	--	.1	--	--	.1
Cabell	--	2.6	2.7	--	.3	.4	--	2.9	3.1
Calhoun	.1	--	.1	.1	--	.0	.2	--	.1
Clay	--	--	--	--	--	.1	--	--	.1
Doddridge	--	--	--	--	--	.1	--	--	.1
Fayette	.7	.4	.4	15.0	22.3	17.9	15.7	22.7	18.3
Grant	.7	1.8	1.0	14.0	16.3	13.1	14.7	18.1	14.1
Greenbrier	2.4	1.8	4.0	41.1	38.4	59.4	43.5	40.2	63.4
Hampshire	19.3	9.7	13.5	14.2	8.3	8.2	33.5	18.0	21.7
Hardy	1.5	1.4	.6	9.7	5.6	9.1	11.2	7.0	9.7
Jackson	4.6	5.2	5.1	--	.1	.1	4.6	5.3	5.2
Jefferson	--	.2	.7	--	*	.3	--	.2	1.0
Kanawha	*	*	*	--	--	--	--	*	*
Lincoln	*	.5	.5	--	--	--	--	.5	.5
McDowell	--	.2	--	--	.2	--	--	.4	.0
Marshall	--	--	--	--	--	.2	--	--	.2
Mason	6.3	15.7	12.5	*	2.5	2.0	6.3	18.2	14.5
Mercer	.1	--	--	.3	.4	--	.4	.4	--
Mineral	8.1	7.0	2.6	17.1	16.1	18.7	25.2	23.1	21.3
Monongalia	.3	*	--	.7	5.5	3.3	1.0	5.5	3.3
Monroe	1.9	2.2	2.6	7.8	6.8	7.2	9.7	9.0	9.8
Morgan	2.8	4.0	3.5	3.9	2.5	3.1	6.7	6.5	6.6
Nicholas	2.2	2.0	.6	21.7	29.6	28.1	23.9	31.6	28.7
Pendleton	5.5	2.6	4.7	16.1	10.7	9.2	21.6	13.3	13.9
Pleasants	*	1.9	.1	*	.1	.4	--	2.0	.5
Pocahontas	1.7	1.0	2.1	8.5	5.8	7.3	10.2	6.8	9.4
Preston	1.8	1.4	1.8	7.2	7.9	16.7	9.0	9.3	18.5
Putnam	2.8	10.1	13.1	16.7	8.5	9.2	19.5	18.6	22.3
Raleigh	.3	1.2	.2	4.9	11.1	12.9	5.2	12.3	13.1
Randolph	.1	*	.1	16.5	19.2	24.0	16.6	19.2	24.1
Ritchie	1.8	6.8	4.8	5.8	4.9	3.4	7.6	11.7	8.2
Roane	.2	.1	.1	--	--	--	.2	.1	.1
Summers	*	.1	--	3.9	3.0	1.2	3.9	3.1	1.2
Taylor	--	--	--	--	--	.5	--	--	.5
Tucker	*	1.4	.5	5.1	9.9	15.0	5.1	11.3	15.5
Webster	.1	*	--	--	.6	--	.1	.6	--
Wetzel	.1	--	--	*	--	--	.1	--	--
Wirt	3.1	1.3	2.4	.2	.3	2.5	3.3	1.6	4.9
Wood	4.7	10.0	11.7	8.8	4.6	13.2	13.5	14.6	24.9
Total	73.7	94.5	93.9	239.3	245.9	291.3	313.0	340.4	385.2

* Less than 50 cords. Counties with no reported production are not listed.

Table 15.--Pulpwood production from roundwood in Ohio by county and softwood hardwood, 1991, 1992, and 1993

(In thousands of standard cords)

County	Softwood			Hardwood			Total all species		
	1991	1992	1993	1991	1992	1993	1991	1992	1993
Adams	4.6	.4	.7	13.0	9.6	9.2	17.6	10.0	9.9
Ashland	--	*	--	--	.6	*	--	.6	--
Ashtabula	--	--	--	.2	.2	.3	.2	.2	.3
Athens	4.8	1.4	.9	16.3	4.6	3.6	21.1	6.0	4.5
Belmont	--	--	--	4.5	2.3	*	4.5	2.3	--
Brown	--	.4	.4	--	2.0	2.5	--	2.4	2.9
Carroll	--	--	--	15.2	10.6	3.1	15.2	10.6	3.1
Champaign	--	--	--	*	--	--	--	--	--
Clermont	--	--	--	--	*	*	--	--	--
Clinton	--	--	--	--	.5	.5	--	.5	.5
Columbiana	--	*	--	.5	.8	2.3	.5	.8	2.3
Coshocton	--	--	--	24.5	22.6	24.1	24.5	22.6	24.1
Crawford	--	--	--	.6	--	.0	.6	.0	--
Cuyahoga	--	--	--	.6	.5	2.2	.6	.5	2.2
Delaware	--	.2	--	--	*	.1	--	.2	.1
Fairfield	--	--	--	1.0	--	.1	1.0	--	.1
Fayette	4.6	--	--	9.8	.1	--	14.4	.1	--
Franklin	--	--	--	.5	.2	.4	.5	.2	.4
Gallia	5.9	5.5	5.7	15.0	16.1	15.3	20.9	21.6	21.0
Geauga	--	--	--	.2	--	.5	.2	--	.5
Guernsey	--	*	--	5.3	13.9	7.1	5.3	13.9	7.1
Hamilton	--	--	--	--	--	.4	--	--	.4
Hancock	--	.1	.1	--	1.1	1.2	--	1.2	1.3
Harrison	--	1.9	.5	4.1	2.7	5.3	4.1	4.6	5.8
Highland	4.5	--	--	9.9	1.3	1.4	14.4	1.3	1.4
Hocking	8.0	4.3	3.6	24.3	14.5	8.9	32.3	18.8	12.5
Homes	--	--	--	5.0	2.7	3.8	5.0	2.7	3.8
Huron	--	--	--	3.2	.3	--	3.2	.3	--
Jackson	7.0	5.0	5.2	20.5	27.8	29.1	27.5	32.8	34.3
Jefferson	--	--	--	.9	--	--	.9	--	--
Knox	--	.3	.4	3.0	3.1	.3	3.0	3.4	.7
Lake	--	--	--	.4	.3	.3	.4	.3	.3
Lawrence	6.2	3.4	2.7	15.8	18.5	14.2	22.0	21.9	16.9
Licking	.1	*	.1	3.2	4.5	1.2	3.3	4.5	1.3
Lorain	--	.0	--	1.3	.8	.7	1.3	.8	.7
Mahoning	--	--	--	--	.1	--	--	.1	--
Medina	--	--	--	1.3	.5	.7	1.3	.5	.7
Meigs	6.8	2.8	2.2	10.6	.2	.3	17.4	3.0	2.5
Monroe	--	2.0	--	.4	.0	--	.4	2.0	.0
Morgan	--	.1	.1	5.3	7.2	4.0	5.3	7.3	4.1
Morrow	--	--	2.1	--	--	--	--	--	2.1
Muskingum	--	--	--	4.8	2.5	4.5	4.8	2.5	4.5
Noble	1.0	.3	.1	3.8	1.7	2.4	4.8	2.0	2.5
Perry	--	*	.1	5.3	3.1	.2	5.3	3.1	.3

(Continued)

Table 15.-continued

County	Softwood			Hardwood			Total all species		
	1991	1992	1993	1991	1992	1993	1991	1992	1993
Pickaway	4.8	--	--	11.2	--	1.0	16.0	--	1.0
Pike	4.8	4.9	6.3	11.1	12.4	16.5	15.9	17.3	22.8
Portage	--	--	--	1.2	.2	1.6	1.2	.2	1.6
Richland	--	--	--	1.7	3.4	.9	1.7	3.4	.9
Ross	5.5	10.1	9.3	14.9	12.5	14.6	20.4	22.6	23.9
Scioto	4.6	1.9	1.9	15.7	21.7	26.5	20.3	23.6	28.4
Stark	--	--	--	2.4	3.5	5.2	2.4	3.5	5.2
Summit	--	--	--	--	--	2.7	--	--	2.7
Trumbull	--	--	--	.8	.8	4.3	.8	.8	4.3
Tuscarawas	--	--	--	13.9	16.0	14.2	13.9	16.0	14.2
Vinton	4.8	3.9	3.6	12.9	20.4	22.8	17.7	24.3	26.4
Washington	.3	1.6	1.8	--	.6	2.7	.3	2.2	4.5
Wayne	--	--	--	*	1.2	2.1	--	1.2	2.1
Wood	--	*	--	--	--	--	--	--	--
Total	78.3	50.5	47.8	316.1	270.2	265.3	394.4	320.7	313.1

* Less than 50 cords. Counties with no reported production are not listed.

Table 16.--Pulpwood production from roundwood in Kentucky, by county and softwood and hardwood, 1991, 1992, and 1993

(In thousands of standard cords)									
	Softwood			Hardwood			Total all species		
County	1991	1992	1993	1991	1992	1993	1991	1992	1993
Adair	--	--	.3	--	--	--	--	--	.3
Ballard	--	--	--	3.9	5.2	4.6	3.9	5.2	4.6
Bath	--	--	.1	--	--	--	--	--	.1
Boyd	--	--	*	--	.2	.3	--	.2	.3
Breckenridge	--	--	--	4.9	5.4	4.2	4.9	5.4	4.2
Butler	--	.1	--	11.8	12.7	11.6	11.8	12.8	11.6
Caldwell	.3	.2	.2	3.3	2.9	2.4	3.6	3.1	2.6
Calloway	.2	.1	.3	2.0	2.6	2.3	2.2	2.7	2.6
Carlisle	.2	.2	.3	3.9	5.2	4.6	4.1	5.4	4.9
Carter	2.4	3.1	2.6	4.1	28.4	26.9	6.5	31.5	29.5
Casey	--	--	--	1.3	1.0	.6	1.3	1.0	.6
Clark	1.8	--	--	2.6	--	--	4.4	--	--
Crittenden	.9	3.8	.5	3.2	5.3	2.0	4.1	9.1	2.5
Daviess	--	*	--	.1	.3	.2	.1	.3	.2
Edmonson	.2	*	*	--	.1	*	.2	.1	.0
Estill	--	--	.2	--	--	--	--	--	.2
Fulton	--	--	--	1.0	1.3	1.1	1.0	1.3	1.1
Graves	1.8	1.1	2.1	3.9	5.2	4.6	5.7	6.3	6.7
Grayson	.5	1.0	2.1	2.6	5.5	6.5	3.1	6.5	8.6
Greenup	2.8	3.9	4.0	3.8	37.7	34.2	6.6	41.6	38.2
Hardin	--	--	--	2.0	5.2	3.4	2.0	5.2	3.4
Harlan	--	--	--	24.0	--	--	24.0	--	--
Hopkins	.6	.5	.6	1.0	.8	5.2	1.6	1.3	5.8
Knox	2.7	7.8	7.8	2.7	--	--	5.4	7.8	7.8
Laural	--	.1	2.2	20.0	21.5	25.5	20.0	21.6	27.7
Lecher	--	--	--	--	2.5	--	--	2.5	--
Lewis	--	--	--	--	.6	.6	--	.6	.6
Livingston	.7	1.6	3.6	3.6	4.1	3.1	4.3	5.7	6.7
Lyon	*	.4	*	6.1	6.5	4.6	6.1	6.9	4.6
McCracken	--	--	--	1.9	2.6	2.3	1.9	2.6	2.3
McCreary	2.9	5.5	4.0	--	--	--	2.9	5.5	4.0
Marshall	.1	.1	.1	2.9	3.9	3.5	3.0	4.0	3.6
Muhlenberg	*	.9	.1	.5	.3	.7	.5	1.2	.8
Ohio	1.4	1.4	1.3	29.7	28.3	28.1	31.1	29.7	29.4
Powell	--	--	.5	--	--	--	--	--	.5
Rowan	1.5	--	--	6.9	--	--	8.4	--	--
Trigg	--	--	--	5.5	4.9	5.1	5.5	4.9	5.1
Union	*	--	*	.2	.6	.6	.2	.6	.6
Whitley	4.3	7.5	2.2	--	--	--	4.3	7.5	2.2
Total	25.3	39.3	35.1	159.4	200.8	188.8	184.7	240.1	223.9

* Less than 50 cords. Counties with no reported production are not listed.

Table 17. - -Production and receipts of pulpwood in the Northeast, softwood and hardwood by state 1993, and totals for 1992 and 1991

(In thousands of standard cords)				
State	Produced in state		Received in state	
	Softwood	Hardwood	Softwood	Hardwood
Connecticut	4.0	3.2	0	0
Delaware	25.4	9.2	0	0
Kentucky	46.3	554	90.5	883.7
Maine	2308.3	1771.6	2721.5	2094.4
Maryland	176.4	127.1	218.2	355.2
Massachusetts	22	6.6	0	0
New Hampshire	373.5	414.5	169.5	324.8
New Jersey	1.5	0.4	0	0
New York	359.7	455.5	628.9	355.4
Ohio	49.2	534.3	103	707.3
Pennsylvania	65.9	1061.5	198.3	1162.3
Rhode Island	--	1.8	0	0
Vermont	308	193.3	0	0
West Virginia	98	597.5	0	0
Total 1993	3,838.2	5,730.5	4,129.9	5,883.1
Total 1992	4,104.9	5,752.7	4,256.9	5,856.1
Total 1991	3,989.2	5,523.0	4,114.6	5,698.3

Table 18. - - Balance of pulpwood shipments into and out of states, 1991, 1992, and 1993

(In thousands of standard cords)			
State	1991 Net export (+) import(--)	1992 Net export (+) import(--)	1993 Net export (+) import(--)
Connecticut	+8.4	+7.0	+7.2
Delaware	+35.1	+54.4	+34.6
Kentucky	-457.6	-357.5	-373.9
Maine	-619.4	-567.0	-736.0
Maryland	-224.4	-226.9	-269.9
Massachusetts	+38.4	+27.4	+28.6
New Hampshire	+110.6	+156.7	+293.6
New Jersey	+1.0	+1.5	+1.9
New York	-111.9	-142.3	-169.1
Ohio	-58.4	-212.6	-226.8
Pennsylvania	-179.0	-210.8	-233.1
Rhode Island	+4.8	+3.7	+1.8
Vermont	+573.0	+513.8	+501.3
West Virginia	+580.1	+696.0	+695.5
Northeast	-299.3	-256.6	-444.3

Table 19. - Harvest intensity: average annual pulpwood roundwood removals per acre of timberland in the Northeast, 1991-93

State	Timberland ^a	Average pulpwood harvest	Average harvest per acre ^b
	Acres	Cords	Cubic feet
Connecticut	1,777,300	3,433	0.16
Delaware	376,400	37,500	8.47
Kentucky	12,347,400	216,233	1.49
Maine	17,060,200	3,383,833	16.86
Maryland	2,424,000	185,500	6.50
Massachusetts	2,952,000	19,867	0.57
New Hampshire	4,812,100	509,833	9.01
New Jersey	1,857,000	1,367	0.06
New York	15,405,500	675,167	3.73
Ohio	7,567,400	342,733	3.85
Pennsylvania	15,872,800	748,700	4.01
Rhode Island	371,700	0	0.0
Vermont	4,422,100	443,467	8.52
West Virginia	11,917,700	346,200	2.47
Total	99,163,600	6,913,833	5.93

^a Most recent estimates of timberland by USDA, Forest Service.

^b Conversion factor is 85 cubic feet per cord.

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This report contains information for the years 1991-93 compiled from a canvass of all pulpmills that use pulpwood produced in the 14 Northeastern States. Included are data on pulpwood production and consumption from roundwood by county, and on pulpwood chip production from manufacturing residues by state. Trends in pulpwood production are shown graphically.

Keywords: Residue, timber output, harvest

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