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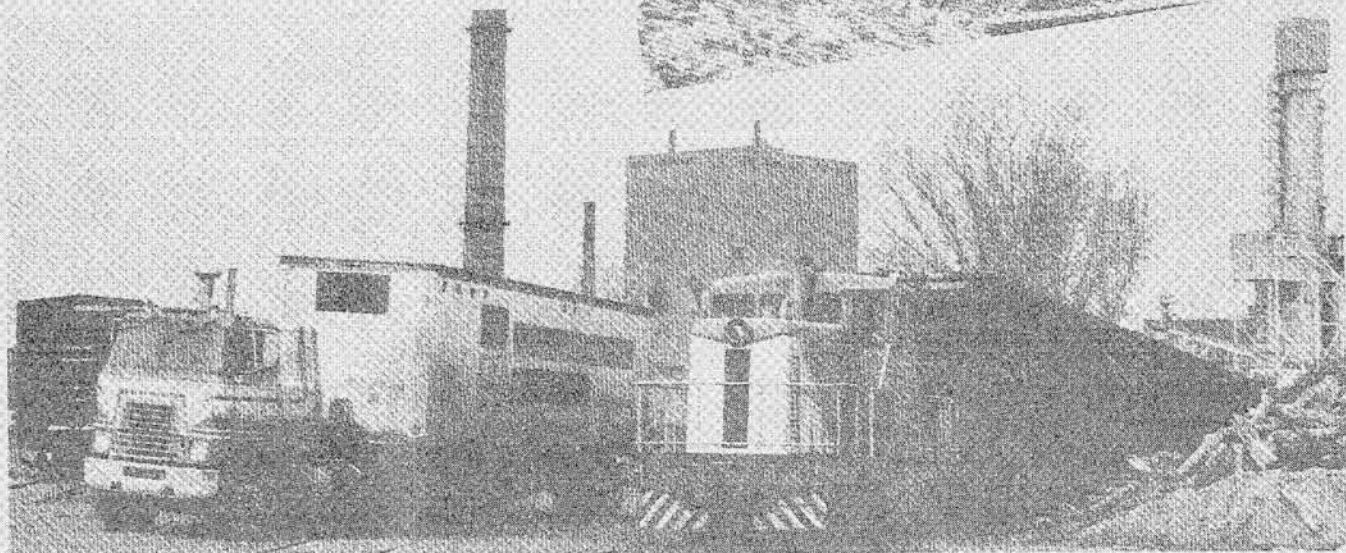
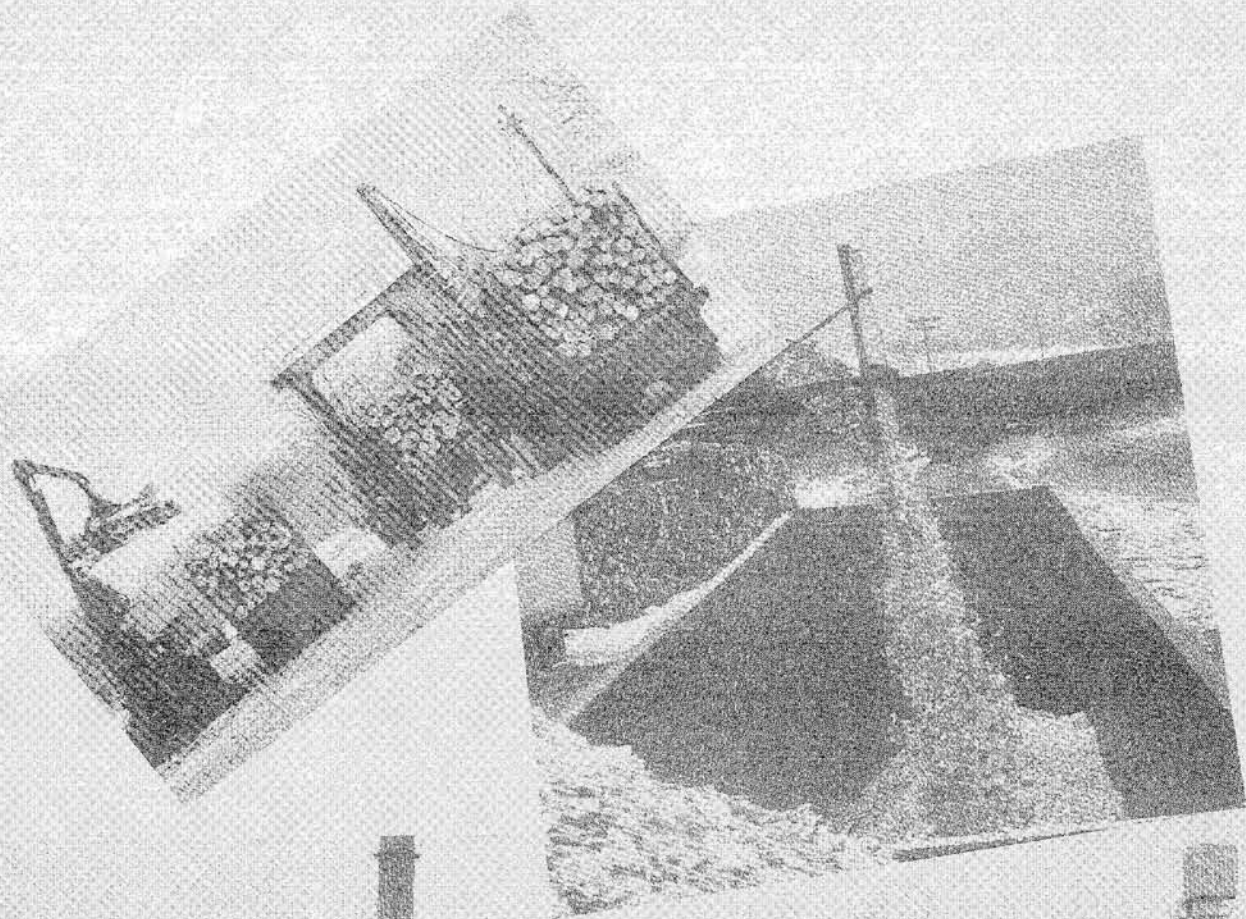
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Northeastern Pulpwood, 1979: An Annual Assessment of Regional Timber Output

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Cover Photos

As in these operations in northwestern Pennsylvania, traditional transportation methods are combined with newer ways to get pulpwood to northern pulpmills. Traditionally, pulpwood has been shipped in the form of bolts, primarily by rail; today, longer logs and pulpwood chips are delivered either by rail or truck. Often, these logs are bole or tree length; the chips may be made from bolts or logs at or near the harvest site or they may be from the wood residue of a secondary manufacturing plant. The volume of roundwood delivered by rail has been relatively constant over the last five years while both the volume of roundwood hauled by trucks and the volume of pulpwood chips delivered by rail cars and trucks has been increasing. Quite often, as shown on the cover, pulpwood in either log or chip form is being transported by a truck alongside a train carrying chips.

Cover Photo: Courtesy Hammermill Paper Company

Errata Sheet

Page 7--Under the heading "Bark Utilization"

4th paragraph, 6th line--856,000 should read 268,000

5th paragraph, 3rd line--fuel and should be deleted

5th line--should read charcoal and fuel

Page 10--Under the list "Woodpulp mills..."

the total for firm number 27--825 should read 285

Page 19--Figure 3, Vinton County, Ohio, should be dark blue and Harlan County, Kentucky, should be light green in color.

Abstract

This annual assessment of regional timber output is based on a canvass of the pulpmills in the Northeast that use roundwood or wood residue as a basic raw material for paper, insulation, and hardboard products. Contained in the report are a discussion and tabular data on roundwood and chips from plant residues produced and received in the 14 Northeastern states in 1979. This includes pulpwood production by state, county, and species group; pulpwood receipts from roundwood by state and species group; pulpwood chip receipts by state and species group; and production of total-tree chips. From 1978 to 1979, total pulpwood production increased by nearly 4 percent; roundwood production remained about the same, while chipped residue production jumped 14 percent. Current record levels are discussed and trends in pulpwood production for the past 17 years are illustrated. A list of the woodpulp mills that received northeastern pulpwood during 1979 also is presented.

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Introduction

THIS ANNUAL REPORT is based on a canvass of all pulp-mills in the Northeast that use roundwood or wood residue¹ as a basic raw material for paper, insulation board, and hard-board products. Cross-boundary shipments are traced by exchanging information with neighboring experiment stations that conduct similar canvasses.

The statistics for production from roundwood are based on mill receipts, which are subject to year-to-year fluctuations in wood inventory. Most plant residues are received at the pulpmill in chip form. Mill receipts of pulpwood from roundwood are reported by county where harvested. However, pulpwood from plant residue can be traced only to the state where the residue was produced. Some of the logs from which the residue came were probably harvested in states other than the one in which they were processed.

Demand for Domestic Pulpwood Reached All-Time High

The recession predicted for 1979 failed to materialize; and heavy demand for domestic woodpulp and pulpwood continued throughout most of the year. According to American Pulpwood Association data, national pulpwood consumption in 1979 was up by 3 percent over 1978, with the largest increase in the Northeast (15 percent). Demand remained high and relatively level throughout 1979, declining only slightly at year-end. Inventory levels declined until late summer, then increased appreciably until 1980. Inventory levels at the end of 1979 were about 12 percent below those at the end of 1978 and about 800,000 cords less than average for the previous five years. The 77.8 million cords of pulpwood produced in the United States in 1979 represented a record high, exceeding the lofty prerecession level of 1974 by about 1.6 million cords.

During the first half of 1980, domestic demand for pulpwood remained favorable. Pulpwood consumption increased slightly, while inventory levels declined slightly. According to leading indicators, the economic slowdown of 1980 will have affected the national demand for pulpwood and woodpulp through 1980.

Pulpwood Production Up 3-1/2 Percent to Record High

During 1979, pulpwood production in the 14 Northeastern states (Connecticut, Delaware, Kentucky, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York,

¹ Definitions of roundwood, wood residue, and other terms used in this report are located in the Appendix.

Ohio, Pennsylvania, Rhode Island, Vermont, and West Virginia) rose by 3-1/2 percent over the previous year's total, from 7,884,800 to 8,164,000 cords (Table 1). This increase was a continuation of the recovery that began in 1976 after the decline of 1975 (Fig. 1).

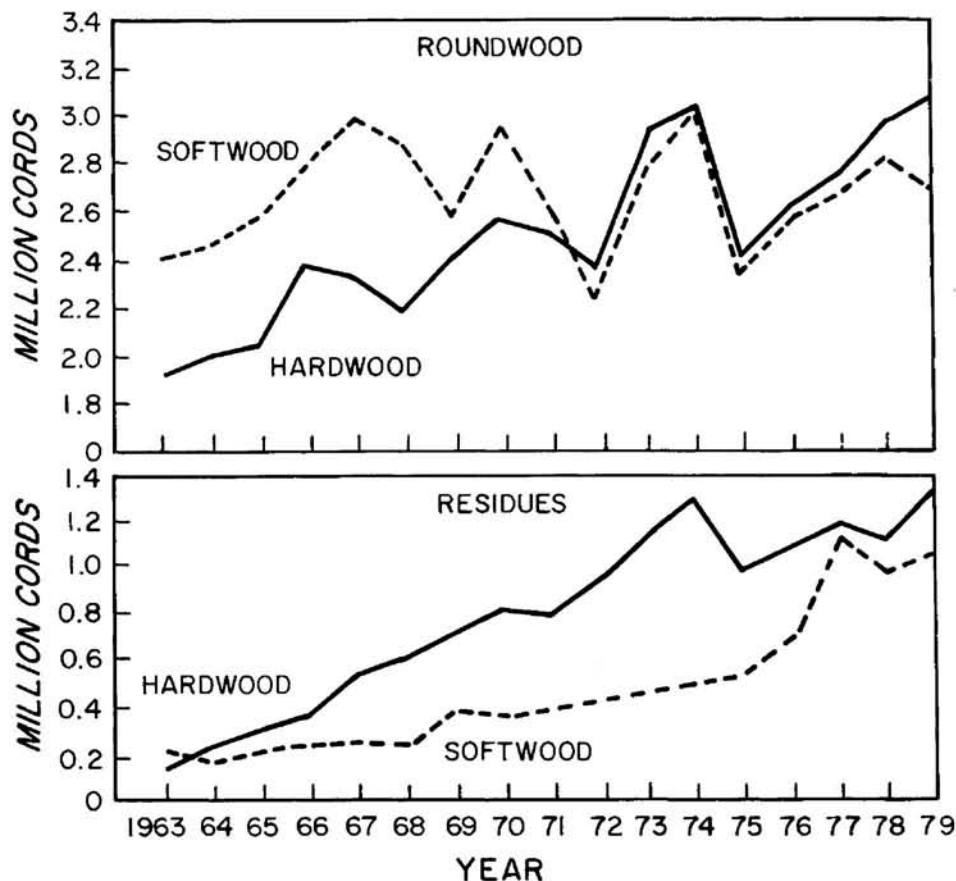
Northeastern pulpwood production for 1979 exceeded the prerecession record level of 1974. Total northeastern production for 1979 was 403,400 cords—or 5 percent—higher than the 7,760,600 cords reported in 1974. As in 1978, hardwood chip production from manufacturing residues increased more than the other components of total production; and the 22 percent rise was responsible for most of the increase in both total chip production and total pulpwood production. The production of chipped softwood residue and hardwood roundwood also rose from 1978 to 1979, by 6 and 4 percent, respectively. Total roundwood production remained relatively unchanged because the increased hardwood production was offset by a drop in softwood roundwood production.

American Pulpwood Association statistics show that demand for pulpwood in the Northeast was high through most of 1979. During most of the first half of the year, both monthly pulpwood use and woodyard inventories declined generally and consumption exceeded receipts. During most of the second half, both monthly use and inventory levels rose with receipts exceeding consumption.

Monthly pulpwood use fluctuated more in 1979 than during the years prior to 1975, but much less than during 1978. In 1978, monthly pulpwood use went from a record high to a near-record low; and prior to 1975, monthly use remained at a lower and fairly constant level. Since the recession low levels of 1975, pulpwood use in the Northeast continued to rise to a record level in the spring of 1979.

Throughout 1979, monthly pulpwood use generally was ahead of 1978 levels. The highest use occurred during the first and last quarters of the year, and the lowest occurred in the third quarter.

Figure 1.—Pulpwood production for the Northeastern States, by year and sources of wood.



Except for the last quarter of 1979, monthly inventory levels in the Northeast were higher than for similar periods in 1978. Since woodyards had been filled to nearly record levels during the end of 1978, inventory levels for 1979 peaked in the middle of the first quarter when pulpwood consumption dropped. Levels quickly bottomed in the middle of the second quarter, gaining appreciably through the third, then dropping slightly in the fourth to end the year at lower than those at the end of 1978.

The production of hardwood pulpwood has exceeded the production from softwoods since 1968. The production of pulpwood from hardwood roundwood has surpassed the production from softwoods for the last 8 years—by 394,700 cords or about 15 percent in 1979. The production of pulpwood from chipped hardwood residues has exceeded production from softwoods for the last 16 years—by 321,300 cords or 31 percent in 1979. In 1979, increases in both hardwood roundwood and plant residues caused a 2 percent rise in total hardwood production. Hardwoods accounted for 53 percent of the roundwood production, 57 percent of the chipped residue production, and 54 percent of the total 1979 pulpwood production.

The production of softwood pulpwood has remained relatively constant since 1977. Small yearly increases or decreases in softwood roundwood have been largely countered by changes in chipped softwood residue. In 1979, softwood roundwood decreased by 5 percent, or 140,100 cords, while residue chips from softwood increased nearly 6 percent, 56,800 cords.

Pulpwood receipts at woodpulp mills in the Northeast rose more than production in 1979, setting a record high. Including wood harvested in the Northeast and pulpwood imported from other regions, receipts totaled 8,988,400 cords, up 5 percent over the previous record of 8,544,400 cords reached a year earlier. Softwood receipts remained about the same, while hardwood receipts rose by 11 percent, exceeding softwood by 511,400 cords. Total receipts exceeded total production by 824,400 cords (Table 2).

Five of the 14 Northeastern states (Connecticut, Delaware, Massachusetts, Vermont, and West Virginia) produced more wood than they received. Connecticut's only pulpmill closed early in 1979 and three states—Delaware, Massachusetts, and West Virginia had no operating mill, so all of their production was shipped to other states. Vermont had only one operating pulpmill. For the second year in a row, pulpwood production declined in six of the Northeastern states:

	<i>Percent</i>
Connecticut	-25
Delaware	-33
Maryland	-4
New Jersey	-17
Pennsylvania	-14
Rhode Island	-100

The decline in production in Connecticut also was due to the closure of its only pulpmill. The decline in Rhode Island to zero production is attributed to the closing of its only pulpmill a year earlier. Total pulpwood production in Delaware dropped for the third consecutive year as a result of large drops in both hardwood and softwood production. Pulpwood production rose in each of the other eight Northeastern states, increasing by 20 percent or more in four of them:

	<i>Percent</i>
Kentucky	+23
Massachusetts	+56
Ohio	+20
Vermont	+32

The large gains for Massachusetts and Ohio followed drops of more than 20 percent for 1978. The remaining four states—Maine, New Hampshire, New York, and West Virginia—each experienced increases of less than 10 percent. Having increased by only a very nominal amount (3,600 cords) over the record high of 1978, pulpwood production in Maine reached 3,958,600 cords—almost half of the Northeast's 1979 total production. Pulpwood production in West Virginia was up 5 percent over 1978 after declining slightly in each of the previous 5 years.

Total pulpwood receipts increased in half of the states and decreased in five. Receipts increased by more than 10 percent in Kentucky, New York, and Ohio; and decreased by 10 percent or more in Maryland, New Jersey, and Vermont. Decreases of 100 percent were registered in Connecticut and Rhode Island as a result of mill closings.

In recent years, northeastern pulpmills have been using more pulpwood from outside the region and less Canadian softwood came into the region. Of the 1,203,900 cords of

imported pulpwood, 83 percent was about equally divided between Canada and the South. This volume represents 13 percent of the Northeast's total receipts. The remaining 17 percent shipped into the region came from the north-central states:

Region	Round- wood	Residues	All Pulpwood
	----- percent -----		
Canada	40	44	42
Southern U.S.	53	30	41
North-Central U.S.	7	26	17

For the third year in a row, southern roundwood made up over half of the roundwood imported into the Northeast; up from 44 percent in 1976. The volume of softwood imports remained about the same and the volume of hardwood increased by 11 percent. As the volume of hardwood entering the region continues to increase, the proportion of hardwood to softwood imports has increased to 1.1 to 1. The proportion of softwood roundwood to hardwood roundwood dropped 50 percent since 1978 to 1.1 to 1; and the ratio of hardwood chipped residue to softwood residue increased to 1.3 to 1.

Production from Roundwood Remains Unchanged

In 1979, the production of pulpwood from roundwood was 5,746,900 cords—exceeding the 5 million-cord level for the eleventh time since 1966. Compared to 1978, the 1979 roundwood production remained relatively unchanged, decreasing by less than 20,000 cords. This leveling of production is indicative of the many problems confronting the harvesting of pulpwood in the Northeast. These are due to the current economic recession, the removal of timber from small woodlots, timber availability, regionwide environmental considerations, and raw material allocation.

From 1978 to 1979, pulpwood production from roundwood increased significantly in only 3 of the 14 states:

	Percent	Cords
Kentucky	+19	+ 9,700
New York	+18	+45,000
Vermont	+37	+78,900

The increases in New York and Vermont account for most of the increase in total pulpwood production in these states.

Roundwood production was essentially unchanged for New Hampshire and Maine. As in 1978, the Maine harvest accounted for more than 55 percent of the total pulpwood cut in the region. Roundwood production declined by less than 20 percent in only three of the other nine states—Maryland,

New Hampshire, and Pennsylvania. Except for Connecticut and Rhode Island, which dropped to little or no roundwood production, the roundwood harvest dropped by 20 percent or more in the remaining states:

	Percent
Delaware	-20
Massachusetts	-63
New Jersey	-29
West Virginia	-20

The largest declines in volume were in New Hampshire and Pennsylvania with drops of 46,000 and 38,000 cords, respectively. In West Virginia, the decline in roundwood production has continued since 1975, with a record low of 126,200 cords produced in the state in 1979.

Eighteen Counties Top 50,000 Cords

More than 50,000 cords of roundwood pulpwood were produced in each of 18 counties in 6 states in 1979, the same number as in 1978:

County	Production (thousand cords)
Aroostook, Maine	615.5
Piscataquis, Maine	580.7
Somerset, Maine	477.1
Penobscot, Maine	388.8
Washington, Maine	315.9
Oxford, Maine	243.9
Franklin, Maine	203.9
Coos, New Hampshire	181.3
Essex, Vermont	160.8
Kennebec, Maine	126.8
Franklin, New York	103.6
Essex, New York	103.3
Hancock, Maine	83.4
Hamilton, New York	82.6
Wicomico, Maryland	66.8
Carroll, New Hampshire	62.3
St. Lawrence, New York	59.9
Centre, Pennsylvania	51.5

A record high of nearly 4.2 million cords were harvested from these counties, also representing a record 72 percent of the total roundwood production for the Northeast. The previous highest levels were in 1974 when 20 counties exceeding 50,000 cords in 6 states produced a total of 3.9 million cords or 66 percent, of the northeastern roundwood. The three top producing counties are in Maine and have maintained their ranking as the region's top producers since 1976. Maine continued to dominate the high-producer list with nine counties, two less than in 1976. The annual pulpwood harvest increase.

in Penobscot County, Maine, in 1979 as in 1978 following a 4-year decline. Roundwood production in New Hampshire exceeded 50,000 cords in two counties for the first time. Centre County Pennsylvania joined the list of high producers for the first time, while two counties in New York were dropped.

Total-Tree Utilization

Harvesting and chipping the entire above-ground portion of the tree continue to be acceptable practices in portions of the Northeast. This system, which utilizes unbarked bolewood and topwood and leaves, produces brown chips. As the costs of labor and pulpwood continue to rise, the system is an attractive alternative to conventional methods where the use of brown chips is acceptable. Most total- or whole-tree chips produced in the region are used to produce kraft pulp from hardwoods.

Following a slight decline from 1976 to 1977, the output of total-tree chips increased in the Northeast from 1977 to 1978 and then declined again in 1979:

State ^a	1977	1978	1979	1978-1979 change (percent)
	--- (thousand cords) ---			
Connecticut	—	—	0.1	+ ^b
Kentucky	3.2	2.4	—	-100
Maryland	5.7	20.0	23.1	+ 16
New Hampshire	75.1	49.5	30.9	- 38
New York	18.4	19.4	14.0	- 28
Ohio	132.4	195.9	98.5	- 50
Pennsylvania	6.6	71.7	63.6	- 11
Vermont	34.9	26.9	60.8	+126
West Virginia	9.0	.4	3.4	+ ^b
Total	285.3	386.2	294.4	- 24

^aMaine is not listed as only brown, unbarked chips from roundwood other than material from the entire tree is produced in the state.

^bGreater than 100 percent.

The recent minor fluctuations for the region indicate that the output of total-tree chips has generally leveled. The fluctuations also reflect the growing use of whole-tree chips in the Northeast for energy.

Between 1978 and 1979, the output of whole-tree chips increased in four states and decreased in five. Eight of the nine states produced total-tree chips in 1979. Except for Kentucky, which produced no chips in 1979, Ohio had the largest percentage decline as well as the largest decrease in volume, dropping by more than 97,000 cords, or 50 percent. New Hampshire and New York also registered declines over 20 percent, but without a large drop in volume. Record high levels of production for Maryland and Vermont were set in 1979, increasing by 16 and 126 percent respectively, over 1978. Vermont also had the largest volume gain—more than 34,000 cords.

Despite the large drop in the production of total-tree chips for woodpulp, the 98,500 cords produced in Ohio accounted for more than one-third of the 1979 total-tree chip production for the region, one-third of the state's roundwood production and more than one-fifth of its total pulpwood production—more than for any other state. Production from total-tree chips exceeded one-fifth of the total roundwood harvest in Vermont, and was 10 percent or more in four states—Connecticut, Maryland, New Hampshire, and Pennsylvania.

In 1979, 32,600 cords of total-tree chips were imported from Canada into Maine and less than 3,000 were shipped from Virginia into Pennsylvania. Although Maine is a user of total-tree chips, none are produced in the state. Most Maine pulpmills prefer brown, unbarked chips from bole- and tree-length material to total-tree chips, and almost all of the region's tree-length chips are produced in Maine. In 1979, nearly 665,000 cords of tree-length chips came from Maine, accounting for more than one-fifth of the total roundwood production and 17 percent of the total pulpwood production in Maine. Less than 13,000 cords were produced in other states—12,000 in New Hampshire and the remainder in Kentucky and Vermont.

Roundwood Harvest Related to Growing-Stock Inventory

While Figures 3, 4, and 5 show the total roundwood harvest by production class and county in the Northeast, they do not relate the volume harvested to the growing-stock volume. Growing-stock volume is the net volume in cubic feet of sound live trees of commercial species 5.0 inches in diameter at breast height (dbh) or larger, from a 1-foot stump to a minimum 4.0-inch top diameter outside bark of the central bole, or to the point where the bole breaks into limbs. To determine harvesting intensity, growing-stock volumes were taken from the 1977 Forest Statistics of the United States.

Harvesting intensities for softwoods and hardwoods in thousand cubic feet of growing stock present for each cord of pulpwood harvested in 1979 were:

Softwoods

Maryland	6.2
Delaware	7.0
Maine	7.9
Average	12.1
New Jersey	12.8
New York	26.7
New Hampshire	33.0
West Virginia	36.5
Ohio	69.6
Kentucky	119.0
Connecticut	708.3
Massachusetts	a
Rhode Island	a

Hardwoods

Maine	5.9
Ohio	15.5
Vermont	18.1
New York	19.3
New Hampshire	22.0
Average	27.4
Pennsylvania	37.5
Maryland	55.8
Delaware	74.8
West Virginia	135.6
Kentucky	209.3
New Jersey	1,282.1
Massachusetts	1,443.7
Connecticut	a
Rhode Island	a

^aHarvesting intensity—the ratio of growing stock to harvest—is very high or undeterminable as very little or no pulpwood was cut.

The states have been ranked (top to bottom) from the state in which the roundwood harvest was most intensive to the state in which the harvest was least intensive. These rankings and the regional averages should not be viewed as an index

or standard for harvesting, but simply as a means of directing individuals engaged in pulpwood procurement from several alternative areas toward the most promising one.

On the average for 1979, there were 21,100 cubic feet (142 cords) of softwood growing stock and 27,400 cubic feet (322 cords) of hardwood growing stock for each cord of pulpwood harvested in the Northeast. Harvesting intensity for softwoods was greater than the regional average in three states: Delaware, Maine, and Maryland. The relative intensity of the pulpwood harvest has been above the regional average in these states since the intensity was first reported in 1971. In New Jersey, softwood harvesting intensity was only slightly less than the regional average; it has been higher in recent years. The hardwood harvest was more intensive than the regional average in five states—Maine, Ohio, New Hampshire, New York, and Vermont—and has continued to be above or slightly below the regional average since 1971. Harvesting intensity was relatively low in the urbanized states and in those states that had few or no operating pulp mills.

Wood Chip Production Jumped by 14 Percent to Record High

During 1979, the production of wood chips and sawdust from plant residues for use as pulpwood rose by 29 percent, from 2,115,200 to a record 2,417,100 cord equivalents. This increase resulted from the continuation of the upturn in primary wood manufacturing that began in late 1975, and from the increased demand for residues for pulp chips throughout the Northeast.

In 1978, chip production declined by 176,000 cords only to rebound with an equivalent of 301,900 cords in 1979. The chip production in 1979 made up 30 percent of the total pulpwood production, up 3 percent from 1978. Softwood chip production increased by 6 percent, but the 22-percent rise in hardwood chipped residues was responsible for most of the increase in both total chip production and total pulpwood production. As recently as 1977, softwood chips were used more and contributed heavily to increases in both chip and pulpwood production. These shifts in usage are indicative of the increased demand for hardwood residue to make woodpulp coupled with the increased use of softwood chips to replace other sources of industrial energy.

Since 1978, pulpwood chip production increased in almost all of the 14 Northeastern states:

State	1978 (thousand cord equivalents)	1979	Change (percent)
Connecticut	6.1	7.7	+ 26
Delaware	9.2	1.3	- 86
Kentucky	229.5	283.8	+ 24
Maine	770.2	780.7	+ 1
Maryland	127.1	125.1	- 2
Massachusetts	23.1	42.1	+ 82
New Hampshire	83.9	241.8	+188
New Jersey	4.1	7.0	+ 71
New York	152.5	207.4	+ 36
Ohio	119.8	149.5	+ 25
Pennsylvania	294.3	318.8	+ 8
Rhode Island	a	—	-100
Vermont	75.7	87.6	+ 16
West Virginia	119.3	164.3	+ 38
Total	2,115.2	2,417.1	+ 14

^aLess than 50 cord equivalents.

Little or no chips came from Delaware and Rhode Island in 1979, where production dropped as much as 100 percent. The slight decline in Maryland resulted from a slight drop in hardwood chip production.

Production records were set in 7 of the 11 states where production increased—Maine, New Jersey, Ohio, and West Virginia excepted. Only Maine and Vermont experienced production increases of less than 24 percent.

Chip production from manufacturing residues exceeded 200,000 cords in five of the gaining states—Kentucky, Maine, New Hampshire, New York, and Pennsylvania. The production total of these states exceeded 1,625,000 cords to account for two-thirds of all the chips produced in the Northeast in 1979. New Hampshire experienced the largest gains in chip production, both in absolute volume (83,900 cords) and percent (86). Although Maine's production increased only by 1 percent, its volume of 780,700 cords was nearly 2 1/2 times that of Pennsylvania, the next largest producing state. Kentucky was the region's third largest producer of residue chips with almost 284,000 cords—82 percent of its total pulpwood production.

Bark Utilization

The heavy use of roundwood by northeastern pulpmills has resulted in the annual production of large amounts of bark residues. Until the 1970's, the main concern was disposing

of the bark as a waste by-product. Since then, new economic and environmental considerations, such as energy crises, pollution control, and inflation have rendered former disposal methods unsatisfactory. Previously infeasible uses for the bulky, low-value bark residues have become acceptable and profitable.

In the Northeast, the pulp and paper industry is using bark in part to replace fuel oil as an energy source. Industry sources indicate that its use of bark in the fuel mix has doubled between 1972 and 1979.

In 1979, over half of the 3.5 million dry tons of bark residue generated in the Northeast was used for fuel by the region's pulpmills:

Use of bark residue	Softwood bark	Hardwood bark	All species
-----percent-----			
Agricultural	*	2	2
Charcoal	3	*	3
Fuel	32	21	53
Other uses	8	3	11
All uses	43	26	69
No use	21	10	31
Total	64	36	100

*Less than 0.5 percent

A total of 16 percent, or 560,000 dry tons, was used for purposes other than fuel, mostly to control erosion or to treat sewage. Over three-fourths of the bark that was used went into fuel. Nearly 1.1 million dry tons, or 31 percent of the total bark residue, went unused. About one-fourth of the unused bark, or 856,000 dry tons, was added to present stockpiles for future energy production.

Nearly two-thirds (2.2 million dry tons) of the bark residue came from softwood roundwood. Hardwood bark was used more than softwood for fuel and agricultural purposes such as animal bedding and litter, garden and nursery mulch, soil conditioners, and potting soil. Bark used to make charcoal came mostly from softwood roundwood.

In the Northeast, a total of 3 million dry tons of bark residue produced by regional pulpmills in 1979 was available for fuel. Nearly two-thirds, or 1.9 million dry tons of the available residue, was used by regional pulpmills to obtain 32 trillion Btu of higher heat value. The energy potential of the stockpiled and other unused bark residue totaled about 18.4 trillion higher heat Btu of energy.

Appendix

Definition of Terms

British Thermal Unit (Btu). The quantity of heat required to raise the temperature of 1 pound of water 1 degree Fahrenheit.

Commercial species. Tree species suitable for industrial wood products at present or in the future.

Diameter of breast height (dbh). The diameter outside bark of a standing tree measured at 4 1/2 feet, or 1.3716 meters, above the ground.

Growing-stock trees. Live trees of commercial species classified as sawtimber, poletimber, saplings, and seedlings; that is, all live trees of commercial species except rough and rotten trees.

Growing-stock volume. The net volume in cubic feet of growing-stock trees 5.0 inches dbh or larger, from a 1-foot stump to a minimum 4.0-inch top diameter outside bark of the central stem, or to the point where the bole breaks into limbs. Net volume equals gross volume less deduction for cull.

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

Harvest. The aggregate volume of timber produced for industrial or consumer uses.

Harvesting intensity. The growing-stock volume present in an area for each unit of timber production from the area, such as cubic feet of trees per cord of pulpwood.

Higher heat value. The maximum potential energy in dry fuel. For wood and bark, this ranges from about 7,900 to more than 10,000 Btu/lb.

Manufacturing plant residues. Wood materials, such as saw-mill slabs and edgings, sawdust, veneer clippings and cores, post and pole trimmings, and pulp screening generated from the manufacture of wood products.

Pulpwood. Roundwood converted into 4- or 5-foot lengths or chips and chipped plant residues that are used to make woodpulp.

Pulpwood receipts. Pulpwood received at woodpulp mills.

Pulpwood imports. Pulpwood receipts originating from outside the region.

Roundwood products. Logs, bolts, total-tree chips, and other round timber generated by harvesting trees for industrial or consumer use.

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

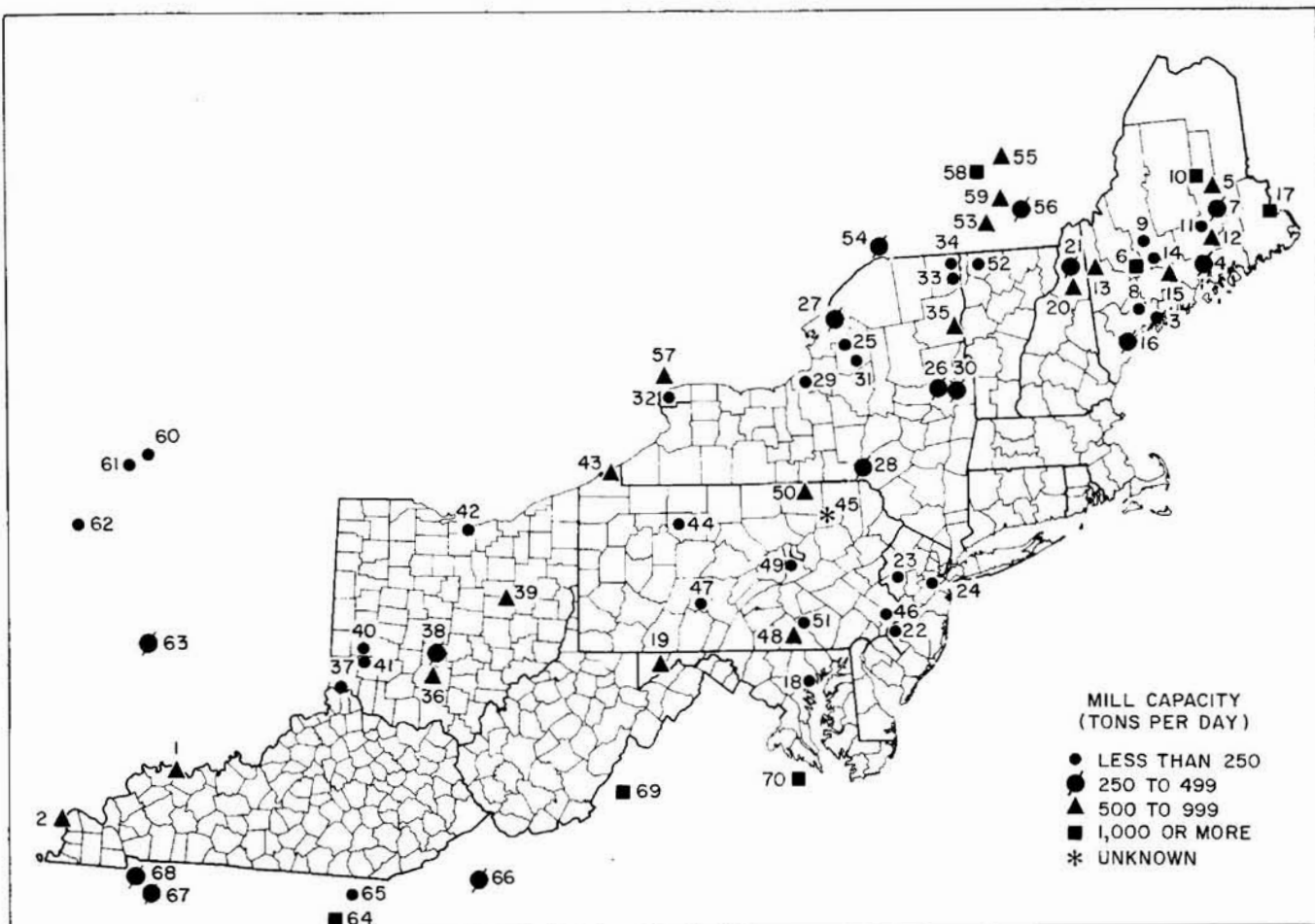
Standard cord. A unit of measure for stacked bolts of wood, encompassing 128 cubic feet of wood, bark, and air space. In the Northeast, the measure refers to a stack of wood containing 85 cubic feet, or 2.41 cubic meters, of solid wood.

Timber products output. Production total from timber harvesting and plant byproduct recovery.

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

Tree-length chips. Unbarked wood chips generated from the aboveground portion of a tree, excluding limbs, leaves, and top above 4 inches top diameter outside the bark.

Figure 2.—Mills using northeastern pulpwood in 1979.



**Woodpulp mills using northeastern pulpwood by location, type of pulp produced,
and oven-dry capacity, in tons per 24 hours, 1979.**

Location	Company name	Type of pulp produced					
		Total	Sulfate	Ground-wood	Semi-chemical	Sulfite	Miscellaneous ^a
WITHIN THE NORTHEAST							
Kentucky:							
1. Hawesville	Western Kraft Paper Group	620	320	—	300	—	—
	Willamette Industries, Inc. ^b						
2. Wickliffe	Westvaco Corp.	600	600	—	—	—	—
Total (3 mills)		1,220	920	—	300	—	—
Maine:							
3. Brunswick	Pejepscot Paper Co.	175	—	175	—	—	—
4. Bucksport	St. Regis Paper Co.	500	—	350	—	—	150
5. East Millinocket	Great Northern Nekoosa Corp.	800	—	800	—	—	—
6. Jay	International Paper Co. ^b	1,350	1,200	150	—	—	—
7. Lincoln	Preco Corp.	360	360	—	—	—	—
8. Lisbon Falls	United States Gypsum Co.	100	—	100	—	—	—
9. Madison	Madison Paper Corp.	120	—	120	—	—	—
10. Millinocket	Great Northern Nekoosa Corp. ^b	1,500	—	900	—	600	—
11. Old Town	Lily Tulip Corp.	50	—	50	—	—	—
12. Old Town	Diamond International Corp. ^b	575	575	—	—	—	—
13. Rumford	Boise Cascade Corp. ^b	705	595	110	—	—	—
14. Shawmut	Keyes Fibre Co.	120	—	120	—	—	—
15. Skowhegan	Scott Paper Co.	850	850	—	—	—	—
16. Westbrook	Scott Paper Co.	300	300	—	—	—	—
17. Woodland	Georgia-Pacific Corp. ^b	1,040	800	240	—	—	—
Total (21 mills)		8,545	4,680	3,115	—	600	150
Maryland:							
18. Finksburg	Congeleum Corp.	45	—	—	—	—	45
19. Luke	Westvaco Corp.	789	789	—	—	—	—
Total (2 mills)		834	789	—	—	—	45
New Hampshire:							
20. Berlin	Brown Co. ^b	925	725	—	200	—	—
21. Groveton	Diamond International Corp.	250	—	—	250	—	—
Total (3 mills)		1,175	725	—	450	—	—
New Jersey:							
22. Gloucester City	GAF Corp.	192	—	—	—	—	192
23. Manville	Johns-Manville Products Corp.	81	—	—	—	—	81
24. Perth Amboy	Jim Walter Corp.	100	—	—	—	—	100
Total (3 mills)		373	—	—	—	—	373
New York:							
25. Beaver Falls	Boise Cascade Corp.	70	—	70	—	—	—
26. Corinth	International Paper Co.	255	—	225	—	—	—
27. Deferiet	St. Regis Paper Co.	825	—	285	—	—	—
28. Deposit	Jim Walter Corp.	300	—	—	—	—	300
29. Fulton	Armstrong Cork Co.	130	—	—	—	—	130
30. Glens Falls	Finch, Pruyn & Co., Inc.	220	—	—	—	220	—
31. Lyons Falls	Georgia-Pacific Corp.	120	—	—	120	—	—
32. Niagara Falls	Nitec Paper Corp.	100	—	100	—	—	—
33. Plattsburgh	Diamond International Corp.	50	—	50	—	—	—
34. Plattsburgh	Georgia-Pacific Corp.	100	—	—	100	—	—
35. Ticonderoga	International Paper Co.	500	500	—	—	—	—
Total (11 mills)		2,130	500	760	220	220	430

Woodpulp Mills — continued

Location	Company name	Type of pulp produced					
		Total	Sulfate	Ground-wood	Semi-chemical	Sulfite	Miscellaneous ^a
Ohio:							
36. Chillicothe	The Mead Corp.	654	650	—	—	—	—
37. Cincinnati	Jim Walter Corp.	100	—	—	—	—	100
38. Circleville	Container Corp. of America	300	—	—	300	—	—
39. Coshocton	Stone Container Corp. ^b	650	—	—	650	—	—
40. Franklin	Bird & Son, Inc.	80	—	—	—	—	80
41. Franklin	Georgia-Pacific Corp.	85	—	—	—	—	85
42. Milan	Certain-Teed Corp.	90	—	—	—	—	90
Total (8 mills)		1,955	650	—	950	—	355
Pennsylvania:							
43. Erie	Hammermill Paper Co.	700	—	—	700	—	—
44. Johnsonburg	Penntech Papers, Inc.	190	190	—	—	—	—
45. Mehoopany	Procter & Gamble Co.	c	—	—	—	c	—
46. Philadelphia	Jim Walter Corp.	160	—	—	—	—	160
47. Roaring Spring	Appleton Papers, Inc.	180	180	—	—	—	—
48. Spring Grove	The P.H. Glafelter Co.	525	525	—	—	—	—
49. Sunbury	Jim Walter Corp.	240	—	—	240	—	—
50. Towanda	Masonite Corp.	500	—	—	—	—	500
51. York	Certain-Teed Corp.	50	—	—	—	—	50
Total (9 mills)		2,545	895	—	940	c	710
Vermont:							
52. Sheldon Springs	Saxon Industries	80	—	80	—	—	—
Total (1 mill)		80	—	80	—	—	—
All Northeast states (61 mills)		18,857	9,159	3,955	2,860	820	2,063
OUTSIDE THE NORTHEAST							
Canada:							
53. Bromptonville	Kruger Pulp & Paper, Ltd.	500	500	—	—	—	—
54. Cornwall	Domtar Woodlands, Ltd.	400	400	—	—	—	—
55. Donnacona	Domtar Forest Products, Ltd.	620	—	400	—	220	—
56. East Angus	Domtar Woodlands, Ltd. ^b	340	220	—	120	—	—
57. Thorold	Ontario Paper Co., Ltd.	900	—	650	—	250	—
58. Three Rivers	Kruger Pulp & Paper, Ltd. ^b	1,150	—	940	—	210	—
59. Windsor	Domtar Woodlands, Ltd.	500	500	—	—	—	—
Total (9 mills)		4,410	1,620	1,990	120	680	—
Illinois:							
60. Chicago	Bird & Son, Inc.	40	—	40	—	—	—
61. Joliet	GAF Corp.	100	—	100	—	—	—
62. Peoria	Jim Walter Corp.	165	—	—	—	—	165
Total (3 mills)		305	—	140	—	—	165
Indiana:							
63. Terre Haute	The Weston Paper & Mfg. Co.	270	—	270	—	—	—
Total (1 mill)		270	—	270	—	—	—
Tennessee:							
64. Calhoun	Bowater Southern Paper Corp. ^b	1,700	550	925	—	—	225
65. Harriman	Harriman Paperboard Corp.	190	—	—	190	—	—
66. Kingsport	The Mead Corp.	270	—	—	—	270	—
67. New Johnsonville	Inland Container Corp	450	—	—	450	—	—
68. Paris	Jim Walter Corp.	300	—	—	—	—	300
Total (7 mills)		2,910	550	925	640	270	525

(continued)

Woodpulp Mills — continued

Location	Company name	Type of pulp produced					
		Total	Sulfate	Ground-wood	Semi-chemical	Sulfite	Miscellaneous ^a
Virginia:							
69. Covington	Westvaco Corp. ^b	1,260	1,100	—	160	—	—
70. West Point	Chesapeake Corp. of Va.	1,150	1,150	—	—	—	—
Total (3 mills)		2,410	2,250	—	160	—	—
Total all other states (23 mills)		8,610	4,420	2,265	920	480	525
Total all states (84 mills)		27,417	13,429	6,285	3,780	1,300	2,623

^aRoofing, insulation board, and hard board plants.

^bMore than one pulpmill operating.

^cCapacity unknown.

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Metric Equivalents

One standard cord = 85 cubic feet (ft^3) = 24.1 cubic meters (m^3)

One cubic foot (ft^3) = 28,317 cubic centimeters (cm^3) = 0.028 cubic meters (m^3)

One inch = 2.540 centimeters (cm)

**Table 1.—Total production of pulpwood in the Northeast,
by state and source, 1979**
(In thousands of standard cords)^a

State	From roundwood	From manufacturing residues	From all sources
Connecticut	0.6	7.7	8.3
Delaware	30.0	1.3	31.3
Kentucky	60.5	283.8	344.3
Maine	3,177.9	780.7	3,958.6
Maryland	176.0	125.1	301.1
Massachusetts	1.7	42.1	43.8
New Hampshire	278.1	241.8	519.9
New Jersey	20.6	7.0	27.6
New York	650.8	207.4	858.2
Ohio	296.9	149.5	446.4
Pennsylvania	636.6	318.8	955.4
Rhode Island	—	—	—
Vermont	291.0	87.6	378.6
West Virginia	126.2	164.3	290.5
Total	5,746.9	2,417.1	8,164.0

^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, Northeast, 1979**
(In thousands of standard cords)

State	Produced in state		Consumed in state		Net export (+) import (-)
	Softwood	Hardwood	Softwood	Hardwood	
Connecticut	2.8	5.5	(D)	(D)	+ (D)
Delaware	24.9	6.4	—	—	+ 31.3
Kentucky	16.8	327.5	132.8	638.0	-426.5
Maine	2,733.9	1,224.7	3,207.3	1,371.3	-620.0
Maryland	205.9	95.2	105.3	207.5	- 11.7
Massachusetts	9.9	33.9	—	—	+ 43.8
New Hampshire	274.8	245.1	159.6	385.7	- 25.4
New Jersey	23.8	3.8	(D)	(D)	- (D)
New York	193.0	665.2	286.9	587.0	- 15.7
Ohio	2.7	443.7	17.1	559.4	-130.7
Pennsylvania	54.1	901.3	259.3	993.0	-296.9
Rhode Island	—	—	—	—	—
Vermont	145.9	232.7	(D)	(D)	+ (D)
West Virginia	35.5	255.0	—	—	+290.5
Total	3,724.0	4,440.0	4,238.5	4,749.9	- 824.4

(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, 1979
(In thousands of standard cords)

State	Softwood				Hardwood				All species
	Retained in state	Shipped to other states		Total	Retained in state	Shipped to other states		Total	
		In Northeast	Outside Northeast			In Northeast	Outside Northeast		
Connecticut	—	0.6	—	0.6	—	*	—	—	0.6
Delaware	—	16.7	7.2	23.9	—	6.1	—	6.1	30.0
Kentucky	*	—	7.7	7.7	32.9	7.2	12.7	52.8	60.5
Maine	2,027.9	34.3	10.1	2,072.3	1,061.2	44.4	—	1,105.6	3,177.9
Maryland	10.8	73.4	43.4	127.6	37.2	11.2	*	48.4	176.0
Massachusetts	—	*	—	*	—	1.7	—	1.7	1.7
New Hampshire	32.1	74.0	.9	107.0	133.5	37.6	—	171.1	278.1
New Jersey	19.6	—	—	19.6	.8	.2	—	1.0	20.6
New York	131.3	2.6	.9	134.8	376.0	29.5	110.5	516.0	650.8
Ohio	—	2.2	—	2.2	294.6	0.1	—	294.7	296.9
Pennsylvania	22.2	11.8	—	34.0	567.3	35.3	—	602.6	636.6
Rhode Island	—	—	—	—	—	—	—	—	—
Vermont	19.0	94.9	2.6	116.5	—	174.5	—	174.5	291.0
West Virginia	—	27.8	2.1	29.9	—	55.6	40.7	96.3	126.2
Total	2,262.9	338.3	74.9	2,676.1	2,503.5	403.4	163.9	3,070.8	5,746.9

*Less than 50 cords.

Table 4.—Pulpwood chip production from manufacturing residues in the Northeast, by state, softwood and hardwood, and destination of shipment, 1979^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	—	2.2	—	2.2	—	5.5	—	5.5	7.7
Delaware	—	1.0	—	1.0	—	.3	—	.3	1.3
Kentucky	0.1	8.6	0.4	9.1	196.2	48.5	30.0	274.7	283.8
Maine	660.4	1.2	—	661.6	110.6	8.5	—	119.1	780.7
Maryland	7.3	58.0	13.0	78.3	9.3	37.5	—	46.8	125.1
Massachusetts	—	9.9	—	9.9	—	32.2	—	32.2	42.1
New Hampshire	73.3	93.9	.6	167.8	49.9	24.1	—	74.0	241.8
New Jersey	2.2	2.0	—	4.2	.3	2.5	—	2.8	7.0
New York	41.5	16.7	—	58.2	72.3	67.9	9.0	149.2	207.4
Ohio	.3	—	.2	.5	147.7	1.3	—	149.0	149.5
Pennsylvania	12.8	7.3	—	20.1	262.1	36.6	—	298.7	318.8
Rhode Island	—	—	—	—	—	*	—	*	*
Vermont	—	28.7	.7	29.4	—	58.2	—	58.2	87.6
West Virginia	—	1.0	4.6	5.6	—	76.5	82.2	158.7	164.3
Total	797.9	230.5	19.5	1,047.9	848.4	399.6	121.2	1,369.2	2,417.1

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

*Less than 50 cords.

Table 5.—Pulpwood receipts from roundwood, in the Northeast, by state, softwood and hardwood, and origin of shipments, 1979

(In thousands of standard cords)

State ^a	Softwood				Hardwood				All species
	Cut in state	Received from other states		Total	Cut in state	Received from other states		Total	
		In Northeast	Outside Northeast			In Northeast	Outside Northeast		
Kentucky	*	—	89.5	89.5	32.9	—	160.6	193.5	282.0
Maine	2,027.9	70.0	126.0	2,223.9	1,061.2	42.5	107.7	1,211.4	3,435.3
Maryland	10.8	36.1	33.3	80.2	37.2	86.1	4.9	128.2	208.4
New Hampshire	32.1	47.5	—	79.6	133.5	180.0	—	313.5	393.1
New Jersey	19.6	(D)	(D)	(D)	.8	(D)	(D)	(D)	(D)
New York	131.3	86.3	.1	217.7	376.0	37.0	.2	413.2	630.9
Ohio	—	—	2.2	2.2	294.6	10.4	—	305.0	307.2
Pennsylvania	22.2	94.7	63.6	180.5	567.3	47.4	2.0	616.7	797.2
Vermont	19.0	(D)	(D)	(D)	—	(D)	(D)	(D)	(D)
Total	2,262.9	338.3	314.7	2,915.9	2,503.5	403.4	275.4	3,182.3	6,098.2

^a States with no pulpmills 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 shipments, 1979^a

(In thousands of standard-cord equivalents)

State ^b	Softwood				Hardwood				All species
	Produced in state	Received from other states		Total	Produced in state	Received from other states		Total	
		In Northeast	Outside Northeast			In Northeast	Outside Northeast		
Kentucky	0.1	—	43.2	43.3	196.2	—	248.3	444.5	487.8
Maine	660.4	99.0	224.0	983.4	110.6	25.6	23.7	159.9	1,143.3
Maryland	7.3	1.9	15.9	25.1	9.3	65.0	5.0	79.3	104.4
New Hampshire	73.3	6.1	.6	80.0	49.9	19.5	2.8	72.2	152.2
New Jersey	2.2	(D)	(D)	(D)	.3	(D)	—	(D)	(D)
New York	41.5	27.7	—	69.2	72.3	84.2	17.3	173.8	243.0
Ohio	.3	12.6	2.0	14.9	147.7	94.6	12.1	254.4	269.3
Pennsylvania	12.8	61.2	4.8	78.9	262.1	103.8	10.4	376.3	455.1
Vermont	—	(D)	(D)	(D)	—	(D)	—	(D)	(D)
Total	797.9	230.5	294.2	1,322.6	848.4	399.6	319.6	1,576.6	2,890.2

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

^b States with no pulpmills 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, 1979

(In thousands of standard cords)

Receiving state ^a	State or province of origin	Softwood	Hardwood	All species
Kentucky	Illinois	6.7	19.9	26.6
	Indiana	—	8.1	8.1
	Mississippi	72.9	91.5	164.4
	Missouri	.1	8.3	8.4
	Tennessee	9.7	32.6	42.3
Maine	New Brunswick	103.4	85.2	188.6
	Quebec	22.6	22.6	45.2
Maryland	Virginia	33.4	5.0	38.4
New York	Ontario	.1	.2	.3
Ohio	Tennessee	2.2	—	2.2
Pennsylvania	Virginia	63.6	2.0	65.6
All states		314.7	275.4	590.1

^aStates with no extraregional receipts are omitted.

Table 8.—Pulpwood chip receipts from wood-using manufacturing plants outside the Northeast, by state (or province) of origin and softwood and hardwood, 1979^a

(In thousands of standard-cord equivalents)

Receiving state ^b	State or province of origin	Softwood	Hardwood	All species
Kentucky	Alabama	—	2.4	2.4
	Arkansas	—	7.8	7.8
	Illinois	1.5	20.2	21.7
	Indiana	—	77.8	77.8
	Mississippi	39.2	30.1	69.3
	Missouri	2.0	47.7	49.7
	Tennessee	.5	62.3	62.8
Maine	New Brunswick	138.0	22.2	160.2
	Quebec	86.0	1.5	87.5
Maryland	Virginia	15.9	5.0	20.9
New Hampshire	Quebec	.6	2.8	3.4
New Jersey	Texas	1.2	—	1.2
	Virginia	2.5	—	2.5
New York	Ontario	—	17.2	17.2
	Quebec	—	.1	.1
Ohio	California	*	—	*
	Illinois	.3	—	.3
	Indiana	.2	11.8	12.0
	North Carolina	.5	—	.5
	Oregon	*	—	*
	Tennessee	.5	.3	.8
	Virginia	.5	—	.5
	Washington	*	—	*
Pennsylvania	Virginia	4.8	10.4	15.2
All states		294.2	319.6	613.8

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

^bStates with no extraregional receipts are omitted.

*Less than 50 cords.

Table 9.—Pulpwood production from roundwood in the Northeast, by state and selected species, 1979

(In thousands of standard cords)

State	Softwood				Hardwood				All species
	Spruce and fir	Hemlock and tamarack	Pine	Total	Aspen and yellow-poplar	Oak and hickory	Other hardwood	Total	
Connecticut	—	*	0.6	0.6	—	*	*	*	0.6
Delaware	—	—	23.9	23.9	—	1.4	4.7	6.1	30.0
Kentucky	—	—	7.7	7.7	9.1	33.9	9.8	52.8	60.5
Maine	1,647.2	226.9	198.2	2,072.3	72.1	20.9	1,012.6	1,105.6	3,177.9
Maryland	—	.4	127.2	127.6	—	21.2	27.2	48.4	176.0
Massachusetts	*	—	—	*	—	*	1.7	1.7	1.7
New Hampshire	63.6	13.4	30.0	107.0	16.2	.7	154.2	171.1	278.1
New Jersey	—	—	19.6	19.6	*	.2	.8	1.0	20.6
New York	52.5	25.8	56.5	134.8	71.3	81.6	363.1	516.0	650.8
Ohio	—	—	2.2	2.2	8.4	185.5	100.8	294.7	296.9
Pennsylvania	—	3.8	30.2	34.0	36.6	277.6	288.4	602.6	639.6
Rhode Island	—	—	—	—	—	—	—	—	—
Vermont	95.5	7.9	13.1	116.5	12.9	2.7	158.9	174.5	291.0
West Virginia	—	—	29.9	29.9	—	47.8	48.5	96.3	126.2
Total	1,858.8	278.2	539.1	2,676.1	226.6	673.5	2,170.7	3,070.8	5,746.9

*Less than 50 cords.

Figure 3.—Geographical pattern of pulpwood production from roundwood in Kentucky and Ohio, by county, 1979.

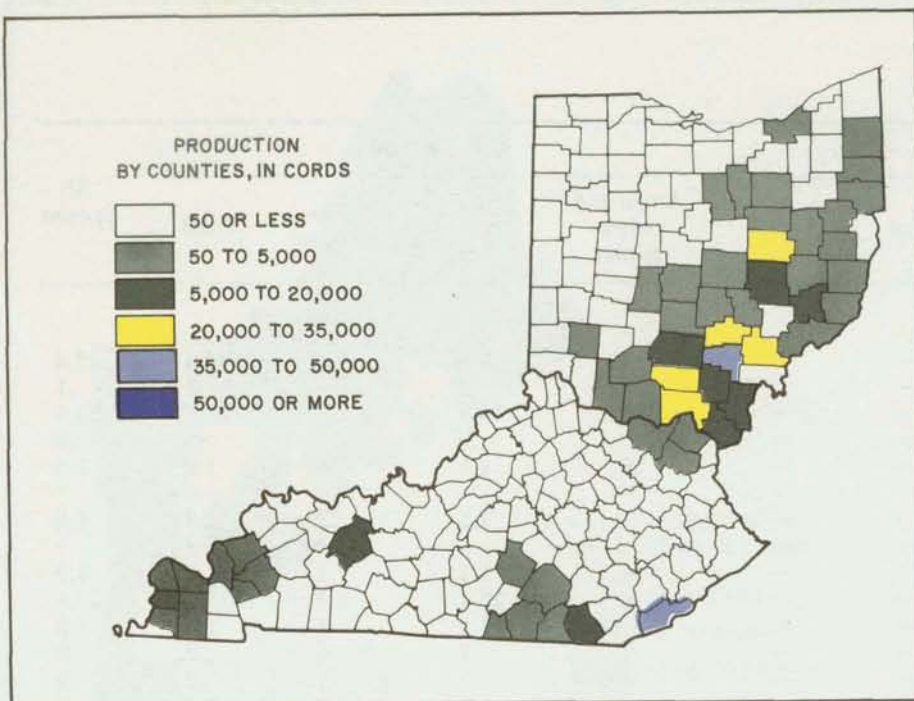


Table 10.—Pulpwood production from roundwood in Kentucky and Ohio, by county and selected species, 1979
(In thousands of standard cords)

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	—	—	—	—	0.8	1.6	1.3	3.7	3.7
Caldwell	—	—	—	—	.2	.4	.3	.9	.9
Calloway	—	—	—	—	—	—	*	*	*
Carlisle	—	—	—	—	4.5	.9	2.3	7.7	7.7
Carter	—	—	—	—	—	.7	—	.7	.7
Casey	—	—	—	—	—	4.1	—	4.1	4.1
Clinton	—	—	*	*	—	.9	.2	1.1	1.1
Crittenden	—	—	—	—	.1	.1	.1	.3	.3
Graves	—	—	—	—	.3	.5	.5	1.3	1.3
Greenup	—	—	—	—	.5	2.9	.4	3.8	3.8
Harlan	—	—	—	—	—	.1	.1	.2	.2
Hickman	—	—	—	—	—	—	.1	.1	.1
Hopkins	—	—	—	—	—	*	—	*	*
Lewis	—	—	—	—	.5	1.8	.4	2.7	2.7
Livingston	—	—	—	—	.2	.5	.4	1.1	1.1
Lyon	—	—	—	—	.7	1.7	1.3	3.7	3.7
McCracken	—	—	—	—	.1	.3	.2	.6	.6
McCreary	—	—	3.1	3.1	—	.9	.7	1.6	4.7
Ohio	—	—	—	—	—	9.5	—	9.5	9.5
Pulaski	—	—	—	—	—	1.3	.3	1.6	1.6
Wayne	—	—	—	—	—	1.9	.5	2.4	2.4
Whitley	—	—	4.6	4.6	1.2	3.8	.7	5.7	10.3
Total	—	—	7.7	7.7	9.1	33.9	9.8	52.8	60.5

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									
Adams	—	—	—	—	—	0.8	1.6	2.4	2.4
Ashland	—	—	—	—	—	.1	—	.1	.1
Athens	—	—	—	—	0.5	13.9	9.2	23.6	23.6
Belmont	—	—	—	—	—	.9	*	.9	.9
Brown	—	—	—	—	.5	1.1	—	1.6	1.6
Butler	—	—	—	—	—	—	*	*	*
Carroll	—	—	—	—	—	4.1	.2	4.3	4.3
Clinton	—	—	—	—	—	—	*	*	*
Columbiana	—	—	—	—	—	1.1	.1	1.2	1.2
Coshocton	—	—	—	—	—	22.1	1.3	23.4	23.4
Cuyahoga	—	—	—	—	—	1.2	.1	1.3	1.3
Fairfield	—	—	—	—	—	.7	.2	.9	.9
Franklin	—	—	—	—	—	.1	.1	.2	.2
Gallia	—	—	0.4	0.4	—	6.0	5.3	11.3	11.7
Guersney	—	—	—	—	—	1.8	.1	1.9	1.9
Harrison	—	—	—	—	—	1.8	.1	1.9	1.9
Highland	—	—	—	—	—	.4	—	.4	.4
Hocking	—	—	—	—	—	15.1	6.9	22.0	22.0
Holmes	—	—	—	—	—	2.6	.2	2.8	2.8
Jackson	—	—	*	*	2.1	8.5	5.4	16.0	16.0
Lawrence	—	—	.1	.1	.5	6.9	5.2	12.6	12.7
Licking	—	—	—	—	—	3.4	.2	3.6	3.6
Madison	—	—	—	—	—	.1	*	.1	.1
Mahoning	—	—	1.3	1.3	—	1.9	.1	2.0	3.3
Meigs	—	—	*	*	—	—	*	*	*
Monroe	—	—	—	—	—	.1	*	.1	.1
Muskingum	—	—	—	—	—	13.4	.8	14.2	14.2
Noble	—	—	—	—	—	6.2	.4	6.6	6.6
Perry	—	—	—	—	—	3.8	.6	4.4	4.4
Pickaway	—	—	—	—	—	.2	*	.2	.2
Pike	—	—	—	—	.5	12.3	13.0	25.8	25.8
Richland	—	—	—	—	—	1.0	.1	1.1	1.1
Ross	—	—	—	—	—	4.7	4.2	8.9	8.9
Scioto	—	—	—	—	1.1	13.2	13.6	27.9	27.9
Trumbull	—	—	.4	.4	—	—	—	—	.4
Tuscarawas	—	—	—	—	—	3.6	.2	3.8	3.8
Vinton	—	—	—	—	3.2	29.4	31.3	63.9	63.9
Warren	—	—	—	—	—	—	.1	.1	.1
Washington	—	—	—	—	—	2.0	.1	2.1	2.1
Wayne	—	—	—	—	—	1.0	.1	1.1	1.1
Total	—	—	2.2	2.2	8.4	185.5	100.8	294.7	296.9

^aCounties with no production are omitted.

*Less than 50 cords.

Figure 4.—Geographical pattern of pulpwood production from roundwood in the New England States, by county, 1979.

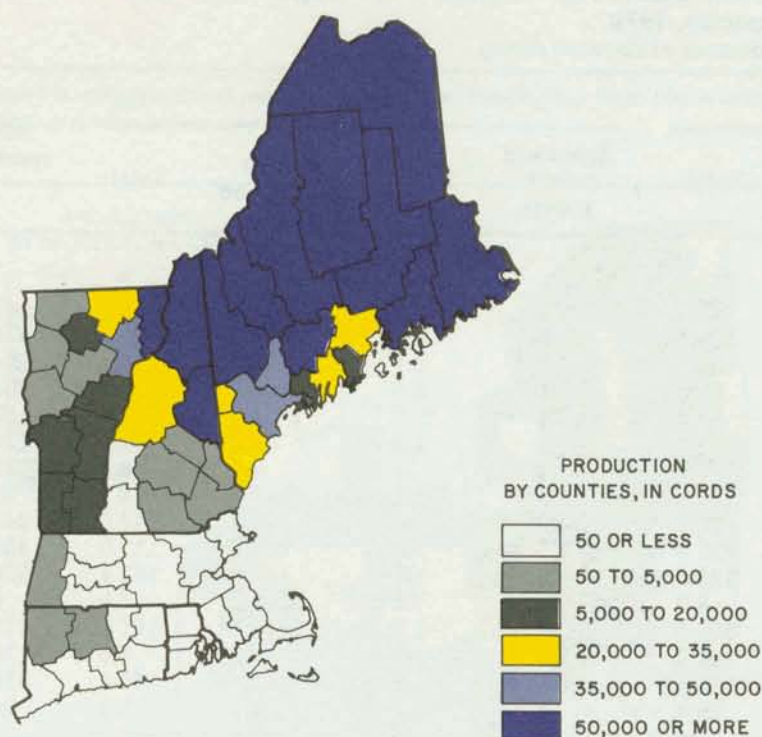


Table 11.—Pulpwood production from roundwood in southern New England, by state, county, and selected species, 1979

(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	—	—	0.2	0.2	—	*	*	*	0.2
Litchfield	—	*	.4	.4	—	*	*	*	.4
Total	—	*	.6	.6	—	*	*	*	.6
MASSACHUSETTS									
Berkshire	*	—	—	*	—	*	1.7	1.7	1.7
Total	*	—	—	*	—	*	1.7	1.7	1.7

^aCounties with no production are omitted.

*Less than 50 cords.

Table 12.—Pulpwood production from roundwood in northern New England, by state, county, and selected species, 1979

(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	
MAINE									
Androscoggin	6.5	5.1	11.7	23.3	0.4	0.8	15.5	16.7	40.0
Aroostook	483.7	16.2	5.2	505.1	13.9	1.0	95.5	110.4	615.5
Cumberland	4.4	6.0	17.7	28.1	1.0	2.1	13.1	16.2	44.3
Franklin	53.7	15.9	18.9	88.5	2.1	3.5	109.8	115.4	203.9
Hancock	33.7	2.8	.1	36.6	5.4	*	41.4	46.8	83.8
Kennebec	37.9	18.9	18.6	75.4	.9	1.4	49.1	51.4	126.8
Knox	5.1	1.7	2.7	9.5	.1	.1	3.7	3.9	13.4
Lincoln	8.9	3.1	11.0	23.0	.6	.1	5.4	6.1	29.1
Oxford	48.3	22.5	29.1	99.9	4.3	5.5	134.2	144.0	243.9
Penobscot	180.7	36.9	4.2	221.8	7.8	1.3	107.9	117.0	338.8
Piscataquis	376.9	37.0	14.4	428.3	4.0	1.8	146.6	152.4	580.7
Sagadahoc	1.9	.2	5.9	8.0	.4	.1	.4	.9	8.9
Somerset	297.0	33.7	25.4	356.1	2.2	1.7	117.1	121.0	477.1
Waldo	17.3	2.0	2.2	21.5	2.1	.1	6.3	8.5	30.0
Washington	90.8	22.3	13.4	126.5	26.5	.3	162.6	189.4	315.9
York	.4	2.6	17.7	20.7	.4	1.1	4.0	5.5	26.2
Total	1,647.2	226.9	198.2	2,072.3	72.1	20.9	1,012.6	1,105.6	3,177.9
NEW HAMPSHIRE									
Belknap	0.1	0.1	0.6	0.8	—	—	0.4	0.4	1.2
Carroll	2.5	9.7	18.1	30.3	0.5	—	31.5	32.0	62.3
Cheshire	—	—	—	—	—	—	*	*	*
Coos	57.6	1.9	1.6	61.1	13.8	0.5	105.9	120.2	181.3
Grafton	3.1	1.6	5.8	10.5	1.8	.2	15.3	17.3	27.8
Hillsboro	.3	*	.1	.4	.1	—	.7	.8	1.2
Merrimack	*	—	3.1	3.1	—	—	.3	.3	3.4
Rockingham	*	—	.2	.2	—	—	*	*	.2
Strafford	*	.1	.5	.6	—	—	.1	.1	.7
Sullivan	—	—	—	—	—	—	*	*	*
Total	63.6	13.4	30.0	107.0	16.2	0.7	154.2	171.1	278.1
VERMONT									
Addison	1.3	0.1	0.4	1.8	0.3	0.1	0.8	1.1	3.0
Bennington	1.0	.8	2.6	4.4	.4	.4	5.3	6.1	10.5
Caledonia	19.8	1.9	2.7	24.4	.9	.2	10.5	11.6	36.0
Chittenden	.1	.2	1.1	1.4	.1	*	.3	.4	1.8
Essex	37.3	1.2	1.8	40.3	6.4	.5	113.6	120.5	160.8
Franklin	.7	*	.1	.8	—	—	—	—	.8
Lamoille	4.9	.5	.1	5.5	.1	.1	1.9	2.1	7.6
Orange	2.9	.4	1.1	4.4	.7	*	1.2	1.9	6.3
Orleans	14.5	1.1	.9	16.5	1.4	.2	12.0	13.6	30.1
Rutland	3.0	1.2	1.8	6.0	.6	.4	4.7	5.7	11.7
Washington	3.4	.1	.2	3.7	.6	.1	.5	1.2	4.9
Windham	2.1	.3	.1	2.5	.2	.5	5.4	6.1	8.6
Windsor	4.5	.1	.2	4.8	1.2	.2	2.7	4.1	8.9
Total	95.5	7.9	13.1	116.5	12.9	2.7	158.9	174.5	291.0

^aCounties with no production are omitted

*Less than 50 cords.

Figure 5.—Geographical pattern of pulpwood production from roundwood in the Middle Atlantic States, by county, 1979.

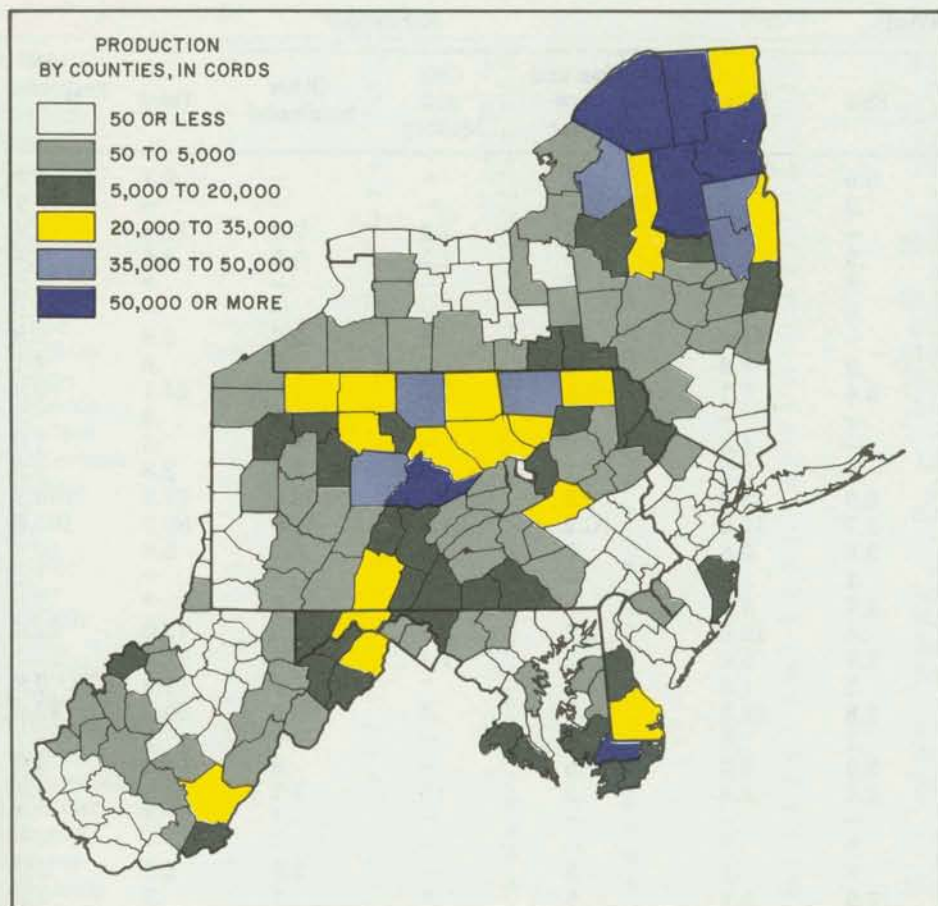


Table 13.—Pulpwood production from roundwood in New York, by county and selected species, 1979

(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		
Albany	0.1	—	0.6	0.7	0.1	—	—	0.1	0.8
Allegany	—	—	.2	.2	—	—	—	—	.2
Broome	*	—	—	*	1.4	3.2	7.0	11.6	11.6
Cattaraugus	—	—	.3	.3	—	1.5	2.5	4.0	4.3
Cayuga	.2	—	*	.2	*	—	—	*	.2
Chautaugua	—	—	.5	.5	—	—	—	—	.5
Chemung	—	—	—	—	.3	.8	2.7	3.8	3.8
Chenango	3.4	—	.2	3.6	.5	*	.3	.8	4.4
Clinton	3.2	0.1	3.4	6.7	8.5	7.9	7.7	24.1	30.8
Columbia	—	—	—	—	—	*	.3	.3	.3
Cortland	1.3	—	—	1.3	.3	—	—	.3	1.6
Delaware	1.5	—	.7	2.2	.1	.3	2.4	2.8	5.0
Essex	1.3	8.5	6.0	15.8	4.5	21.0	62.0	87.5	103.3
Franklin	10.7	.2	3.7	14.6	20.2	24.8	44.0	89.0	103.6
Fulton	.1	.9	2.8	3.8	.6	.2	6.1	6.9	10.7
Genesee	*	—	.1	.1	—	—	—	*	.1
Greene	.7	—	1.7	2.4	—	—	*	*	2.4
Hamilton	7.8	2.4	.4	10.6	3.3	2.1	66.6	72.0	82.6
Herkimer	2.8	.1	2.7	5.6	.2	1.4	16.5	18.1	23.7
Jefferson	1.1	—	.5	1.6	1.5	*	.4	1.9	3.5
Lewis	9.3	.2	2.8	12.3	4.3	.2	25.6	30.1	42.4
Madison	.5	—	.1	.6	.1	—	—	.1	.7
Montgomery	.3	—	3.3	3.6	.5	—	.3	.8	4.4
Oneida	.8	—	2.6	3.4	.2	*	3.7	3.9	7.3
Onondaga	—	—	—	—	—	—	*	*	*
Orleans	—	—	*	*	—	—	—	—	*
Oswego	.1	—	*	.1	.3	—	2.6	2.9	3.0
Otsego	.5	—	2.6	3.1	.2	*	*	.2	3.3
Putman	—	—	*	*	—	—	—	—	*
Rensselaer	.1	*	.3	.4	.1	.4	4.4	4.9	5.3
St. Lawrence	5.1	.1	2.6	7.8	15.9	12.7	23.5	52.1	59.9
Saratoga	.5	6.2	6.2	12.9	2.1	1.1	28.7	31.9	44.8
Schenectady	—	*	.6	.6	—	—	—	—	.6
Schoharie	.6	—	3.7	3.7	.1	*	.1	.2	3.9
Steuben	—	—	—	—	.5	.5	1.7	2.7	2.7
Sullivan	—	—	—	—	*	.1	.1	.2	.2
Tioga	—	—	—	—	1.1	2.2	4.8	8.1	8.1
Tompkins	*	—	—	—	—	—	—	—	*
Warren	.4	5.5	6.6	12.5	3.6	.9	31.4	35.9	48.4
Washington	.1	1.6	1.8	3.5	.8	.3	17.7	18.8	22.3
Wyoming	—	—	.1	.1	—	—	—	—	.1
Total	52.5	25.8	56.5	134.8	71.3	81.6	363.1	516.0	650.8

^aCounties with no production are omitted.

*Less than 50 cords.

Table 14.—Pulpwood production from roundwood in Pennsylvania, by county and selected species, 1979

(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	
Adams	—	—	1.0	1.0	—	6.1	1.5	7.6	8.6
Armstrong	—	—	—	—	—	.1	.1	.2	.2
Bedford	—	—	3.6	3.6	—	12.4	16.8	29.2	32.8
Blair	—	—	1.0	1.0	—	3.6	3.4	7.0	8.0
Bradford	—	—	1.3	1.3	9.3	7.6	20.6	37.5	38.8
Butler	—	—	—	—	—	—	1.2	1.2	1.2
Cambria	—	0.1	.2	.3	—	.4	1.2	1.6	1.9
Cameron	—	—	—	—	—	20.0	—	20.0	20.0
Carbon	—	—	—	—	—	.1	—	.1	.1
Centre	—	.9	.7	1.6	1.2	38.2	10.5	49.9	51.5
Clarion	—	—	—	—	—	2.2	1.0	3.2	3.2
Clearfield	—	2.6	3.2	5.8	—	21.9	9.8	31.7	37.5
Clinton	—	.1	.7	.8	1.5	19.7	5.7	26.9	27.7
Columbia	—	—	—	—	—	5.4	3.9	9.3	9.3
Crawford	—	—	—	—	—	—	.4	.4	.4
Cumberland	—	—	.3	.3	—	1.3	.6	1.9	2.2
Dauphin	—	—	*	*	*	.2	.3	.5	.5
Elk	—	—	*	*	—	8.8	17.7	26.5	26.5
Erie	—	—	—	—	—	—	.5	.5	.5
Fayette	—	—	*	*	—	.4	.7	1.1	1.1
Forest	—	—	—	—	—	4.8	7.3	12.1	12.1
Franklin	—	—	.3	.3	—	6.2	3.2	9.4	9.7
Fulton	—	—	2.7	2.7	—	3.5	2.9	6.4	9.1
Huntington	—	—	2.3	2.3	.5	8.5	5.6	14.6	16.9
Indiana	—	—	.5	.5	—	*	.7	.7	1.2
Jefferson	—	—	*	*	—	3.9	12.6	16.5	16.5
Juniata	—	—	.9	.9	—	2.7	1.4	4.1	5.0
Lackawanna	—	—	1.1	1.1	—	1.0	.8	1.8	2.9
Lancaster	—	—	*	*	—	.3	—	.3	.3
Lebanon	—	—	*	*	—	.4	.2	.6	.6
Luzerne	—	—	*	*	—	.9	.7	1.6	1.6
Lycoming	—	—	*	*	.8	15.6	11.8	28.2	28.2
McKean	—	—	—	—	—	.5	24.9	25.4	25.4
Mifflin	—	—	.4	.4	—	.7	.6	1.3	1.7
Monroe	—	—	.2	.2	—	1.0	.4	1.4	1.6
Northumberland	—	—	.7	.7	—	.9	.6	1.5	2.2
Perry	—	—	.4	.4	—	2.0	.9	2.9	3.3
Pike	—	—	2.1	2.1	—	1.9	1.4	3.3	5.4
Potter	—	—	—	—	5.3	2.1	38.0	45.4	45.4
Schuylkill	—	—	.2	.2	—	18.4	2.2	20.6	20.8
Snyder	—	—	.1	.1	—	.8	.4	1.2	1.3
Somerset	—	—	.3	.3	—	2.2	2.3	4.5	4.8
Sullivan	—	—	—	—	5.7	6.5	16.6	28.8	28.8
Susquehanna	—	—	.1	.1	5.3	6.9	17.6	29.8	29.9
Tioga	—	.1	—	.1	3.7	5.3	11.6	20.6	20.7
Union	—	—	*	*	—	.3	.2	.5	.5
Venango	—	—	—	—	—	8.0	—	8.0	8.0
Warren	—	—	—	—	—	9.2	12.2	21.4	21.4
Wayne	—	—	2.2	2.2	1.4	4.9	6.9	13.2	15.4
Westmoreland	—	—	—	—	—	.2	.3	.5	.5
Wyoming	—	—	.2	.2	1.9	4.0	5.9	11.8	12.0
York	—	—	3.5	3.5	—	5.6	2.3	7.9	11.4
Total	—	3.8	30.2	34.0	36.6	277.6	288.4	602.6	636.6

^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 selected species, 1979

(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	—	—	5.5	5.5	—	0.2	2.1	2.3	7.8
Sussez	—	—	18.4	18.4	—	1.2	2.6	3.8	22.2
Total	—	—	23.9	23.9	—	1.4	4.7	6.1	30.0
MARYLAND									
Alleghany	—	0.2	2.2	2.4	—	9.4	17.6	27.0	29.4
Anne Arundel	—	—	*	*	—	.7	—	.7	.7
Baltimore	—	—	—	—	—	*	—	*	*
Caroline	—	—	.8	.8	—	*	—	*	.8
Carroll	—	—	3.4	3.4	—	.3	.1	.4	3.8
Charles	—	—	5.6	5.6	—	1.3	.1	1.4	7.0
Dorchester	—	—	6.4	6.4	—	*	*	*	6.4
Frederick	—	—	—	—	—	—	.5	.5	.5
Garrett	—	.2	.6	.8	—	3.6	6.4	10.0	10.8
Hartford	—	—	*	*	—	—	—	—	*
Queen Annes	—	—	.1	.1	—	—	—	—	.1
St. Marys	—	—	11.0	11.0	—	1.5	.1	1.6	12.6
Somerset	—	—	19.2	19.2	—	—	—	—	19.2
Talbot	—	—	*	*	—	—	—	—	*
Washington	—	—	3.3	3.3	—	3.9	2.4	6.3	9.6
Wicomico	—	—	66.3	66.3	—	.5	—	.5	66.8
Worcester	—	—	8.3	8.3	—	*	—	*	8.3
Total	—	0.4	127.2	127.6	—	21.2	27.2	48.4	176.0
NEW JERSEY									
Camden	—	—	0.8	0.8	—	—	0.3	0.3	1.1
Gloucester	—	—	1.3	1.3	—	—	.5	.5	1.8
Ocean	—	—	17.5	17.5	—	—	—	—	17.5
Sussex	—	—	—	—	*	0.2	—	.2	.2
Total	—	—	19.6	19.6	*	0.2	0.8	1.0	20.6

^aCounties with no production are omitted.

*Less than 50 cords.

Table 16.—Pulpwood production from roundwood in West Virginia, by county and selected species, 1979

(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	
WEST VIRGINIA									
Berkeley	—	—	1.8	1.8	—	0.4	0.5	0.9	2.7
Cabell	—	—	.3	.3	—	—	*	*	.3
Calhoun	—	—	—	—	—	—	*	*	*
Fayette	—	—	—	—	—	.8	.8	1.6	1.6
Grant	—	—	1.3	1.3	—	4.3	5.6	9.9	11.2
Greenbrier	—	—	1.1	1.1	—	16.6	16.5	33.1	34.2
Hampshire	—	—	12.6	12.6	—	5.4	6.0	11.4	24.0
Hardy	—	—	2.7	2.7	—	3.6	4.7	8.3	11.0
Jackson	—	—	1.4	1.4	—	.2	.3	.5	1.9
Jefferson	—	—	*	*	—	—	*	*	*
Kanawha	—	—	.1	.1	—	—	—	—	.1
Lincoln	—	—	*	*	—	—	*	*	*
Marshall	—	—	—	—	—	.5	*	.5	.5
Mason	—	—	.5	.5	—	.1	.1	.2	.7
Mineral	—	—	1.6	1.6	—	3.9	2.8	6.7	8.3
Monroe	—	—	1.0	1.0	—	2.9	2.9	5.8	6.8
Morgan	—	—	2.0	2.0	—	.8	1.0	1.8	3.8
Nicholas	—	—	—	—	—	*	.1	.1	.1
Pendleton	—	—	.4	.4	—	1.1	1.4	2.5	2.9
Pleasants	—	—	*	*	—	.8	*	.8	.8
Pocahontas	—	—	.4	.4	—	.6	1.1	1.7	2.1
Preston	—	—	.3	.3	—	.1	.2	.3	.6
Putnam	—	—	1.0	1.0	—	*	.1	.1	1.1
Randolph	—	—	.2	.2	—	1.1	1.7	2.8	3.0
Ritchie	—	—	*	*	—	1.6	.1	1.7	1.7
Roane	—	—	*	*	—	—	.1	.1	.1
Summers	—	—	—	—	—	*	.1	.1	.1
Tucker	—	—	*	*	—	.1	.4	.5	.5
Wirt	—	—	*	*	—	—	*	*	*
Wood	—	—	1.2	1.2	—	2.9	2.0	4.9	6.1
Total	—	—	29.9	29.9	—	47.8	48.5	96.3	126.2

^aCounties with no production are omitted.

*Less than 50 cords.

Table 17.—Bark generated from roundwood, by state and selected species, Northeast, 1979

(In thousands of dry tons)

County ^a	Softwood				Hardwood			Total	All species
	Spruce and fir	Hemlock and tamarack	Pine	Total	Aspen and yellow-poplar	Oak and hickory	Other hardwood		
Kentucky	—	—	320.2	320.2	5.1	113.2	15.6	133.9	454.1
Maine	553.3	74.1	697.7	1,325.1	28.7	10.5	376.2	415.4	1,740.5
Maryland	—	.6	25.3	25.9	—	27.0	25.7	52.7	78.6
New Hampshire	16.3	3.6	25.0	44.9	9.9	.7	88.6	99.2	144.1
New Jersey	—	—	7.4	7.4	—	—	.3	.3	7.7
New York	357.1	9.6	68.4	435.1	11.9	19.6	130.6	162.1	597.2
Ohio	—	—	.8	.8	3.1	98.7	34.7	136.5	137.3
Pennsylvania	—	.8	56.8	57.6	13.3	145.4	100.0	258.7	316.3
Vermont	6.0	—	—	6.0	—	—	—	—	6.0
Total	932.7	88.7	1,201.6	2,223.0	72.0	415.1	771.7	1,258.8	3,481.8

^aStates with no pulpmill are omitted.

Nevel, Robert L., Jr., and James T. Bones.

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28 p., illus.

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This annual assessment of regional timber output is based upon a canvass of the pulpmills in the Northeast. Contained in the report are a discussion and tabular data on roundwood and chips from plant residues produced and received in the 14 Northeastern states in 1979. This includes pulpwood production by state, county, and species group; pulpwood receipts from roundwood by state and species group; pulpwood chip receipts by state and species group; and production of total-tree chips. From 1978 to 1979, pulpwood production increased by nearly 4 percent to a record high. Roundwood production remained about the same, while chipped residue production jumped by 14 percent. Current record levels are discussed and trends in pulpwood mills that received northeastern pulpwood during 1979 also is presented.

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Headquarters of the Northeastern Forest Experiment Station are in Broomall, Pa. Field laboratories and research units are maintained at:

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