WOODPULP MILLS IN THE UNITED STATES IN 1974

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Abstract

Report focuses on the capacity of woodpulp mills in the United States to produce pulp. The location, type, and capacity of each mill in 1974 is enumerated. Trends since 1920 are reported on number and capacity of mills, types of pulp produced, and regional distribution of mills, as well as levels of production of woodpulp and consumption of pulpwood.

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WOODPULP MILLS IN THE UNITED STATES IN 1974

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Introduction

Over the past half century the production of woodpulp in the United States has expanded rapidly and the industry has changed in many ways. Production of woodpulp in 1920 was 3.8 million tons, being produced by 323 mills. By 1974, 48.4 million tons of woodpulp were produced by 349 mills. Mills in 1920 were capable of producing an average of 47 tons of pulp per day. By 1974 the average daily capacity reached 426 tons, nine times the 1920 average.

A regional redistribution of pulping capacity has been taking place since 1920. At that time, the Northeast had 61 percent of all mills, which were capable of producing 64 percent of the Nation's woodpulp. Today the South, with 41 percent of the mills (more than any other region), can produce 62 percent of the Nation's woodpulp.

Significant changes in the use of different pulping processes have occurred. Sulfate pulping (kraft), which in 1920 accounted for only 5 percent of total production, now accounts for 68 percent of all woodpulp produced. Its growth has largely been in the South and at the expense of the sulfite, groundwood, and soda pulping processes. These changes have influenced the relative use of hardwoods and softwoods as raw material.

In 1974, 31 percent of all woodpulp was produced from roundwood mill residues. This differs markedly from 1920 when wood residues accounted for only 4 percent of total pulpwood consumption. The growth in residue consumption was most rapid between 1920 and 1965. Most major sources of roundwood mill residues are now being utilized and little increase in their proportion of total pulpwood consumption is expected in the future.

The environmental movement of the late 1960's and early 1970's has not been without impact on the woodpulp industry. Many of the marginal producers and the smaller, less efficient mills are being forced out of the market by mills incorporating the latest production and pollution control technologies. This trend should affect the types of woodpulp produced in the future. Groundwood mills, for example, are expected to increase in importance in the future due to the low level of pollutants produced and to the efficiency in pulpwood conversion. To produce a ton of groundwood pulp in 1974, less than 1 cord of pulpwood was required. Sulfite pulp production required over 2 cords of pulpwood per ton in 1974. Sulfite pulp is expected to lose much of its importance as a major pulp type in the future.

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[1] Maintained at Madison, Wis., in cooperation with the University of Wisconsin.

Number of Pulp Mills

Total

In 1974, 349 woodpulp mills in the United States included 15 idle mills and 4 mills under construction (tables 1 and 2). In this study, a woodpulp mill is defined as a manufacturing facility used to produce a specific type of woodpulp, such as sulfate or groundwood. A woodpulp plant is defined as a manufacturing facility used to produce woodpulp at a single location. Two or more mills operating as a unit at a single location would therefore be considered one plant. As such, 292 separate plants were in operation in 1974.

Table 2 and the production map near the back of the report show the woodpulp mills in the United States in 1974 by location, type of mill, and daily capacity.

Based on Lockwood's Directory of the Paper and Allied Trades, there were 11 more woodpulp mills in 1974 than in 1960; however, there were 9 fewer mills in 1974 than in 1970 (table 3).

By Type

Divergent trends in the number of woodpulp mills by type of pulp produced are evident. The number of sulfite, groundwood, and soda pulp mills has steadily declined since 1920 while the number of sulfate and defibrated/exploded mills has increased steadily (fig. 1). Over the past 14 years the number of semi-chemical pulp mills has remained relatively constant varying by only 2 from an average of 46 mills; the number of chemimechanical pulp mills has increased from 3 to 8.

By Region

Regionally, the number of woodpulp mills in the South has grown from 24 in 1920 to 144 in 1974; in the West the growth was from 16 in 1920 to 73 in 1974 (table 4). In the Northeast woodpulp mills have decreased from 197 in 1920 to 62 in 1974. In the North Central States mill numbers have varied from a high of 86 in 1920 to a low of 60 in 1950. Currently there are 70 mills in the North Central region.

In 1974, 41 percent of all woodpulp mills in the United States were in the South, 12 percent in the West, 20 percent in the North Central, and 18 percent in the Northeast (fig. 2). Since 1920, the South and West have increased their proportion of pulp mills while the Northeast and North Central regions have decreased.

Daily Capacity of Pulp Mills

Total

The total daily capacity of the 349 woodpulp producing mills in the United States in 1974 was 149,000 tons (table 1). In this study, daily capacity is

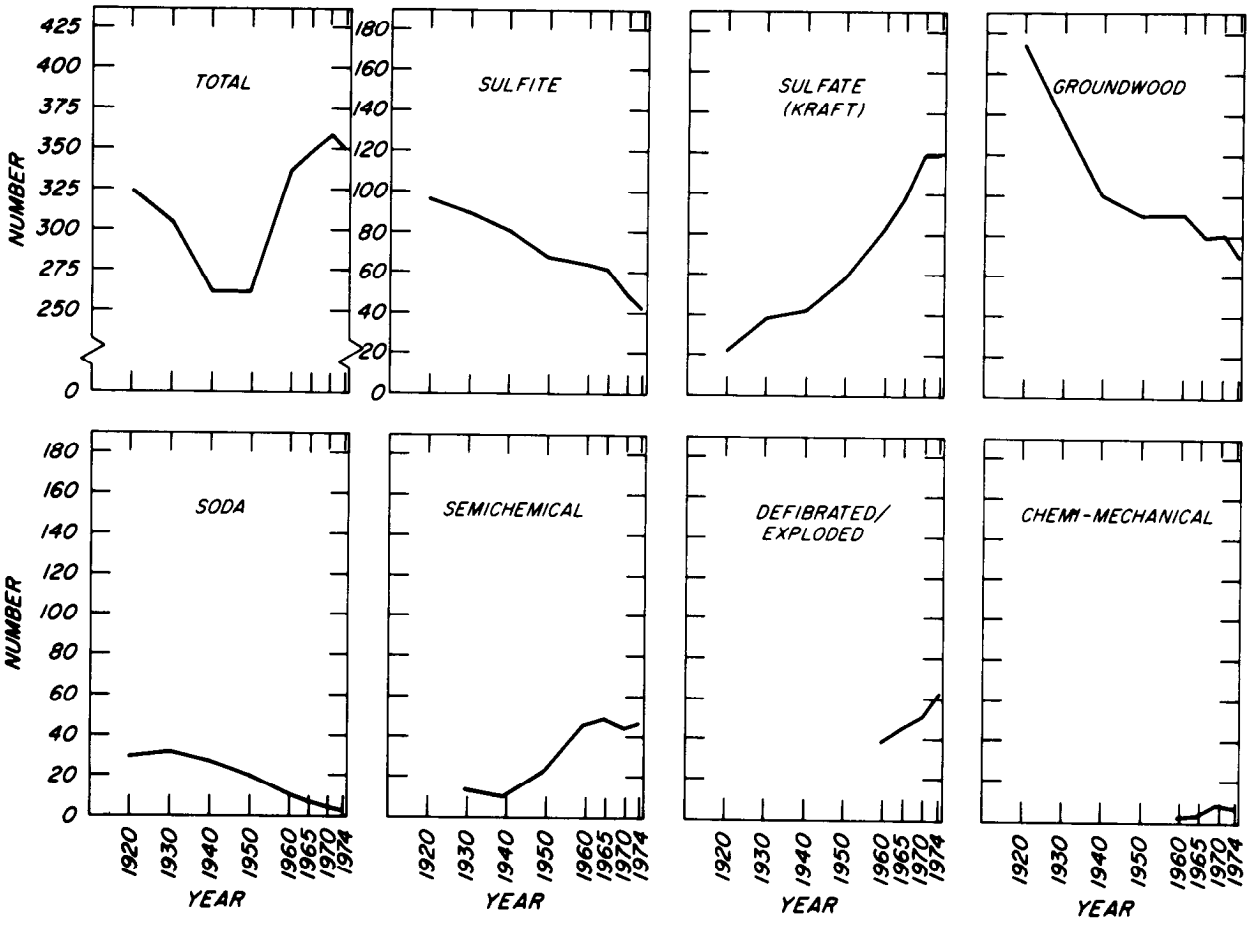

Figure 1.--Number of woodpulp mills in the United States, by type, 1920-74

(M 144 579)

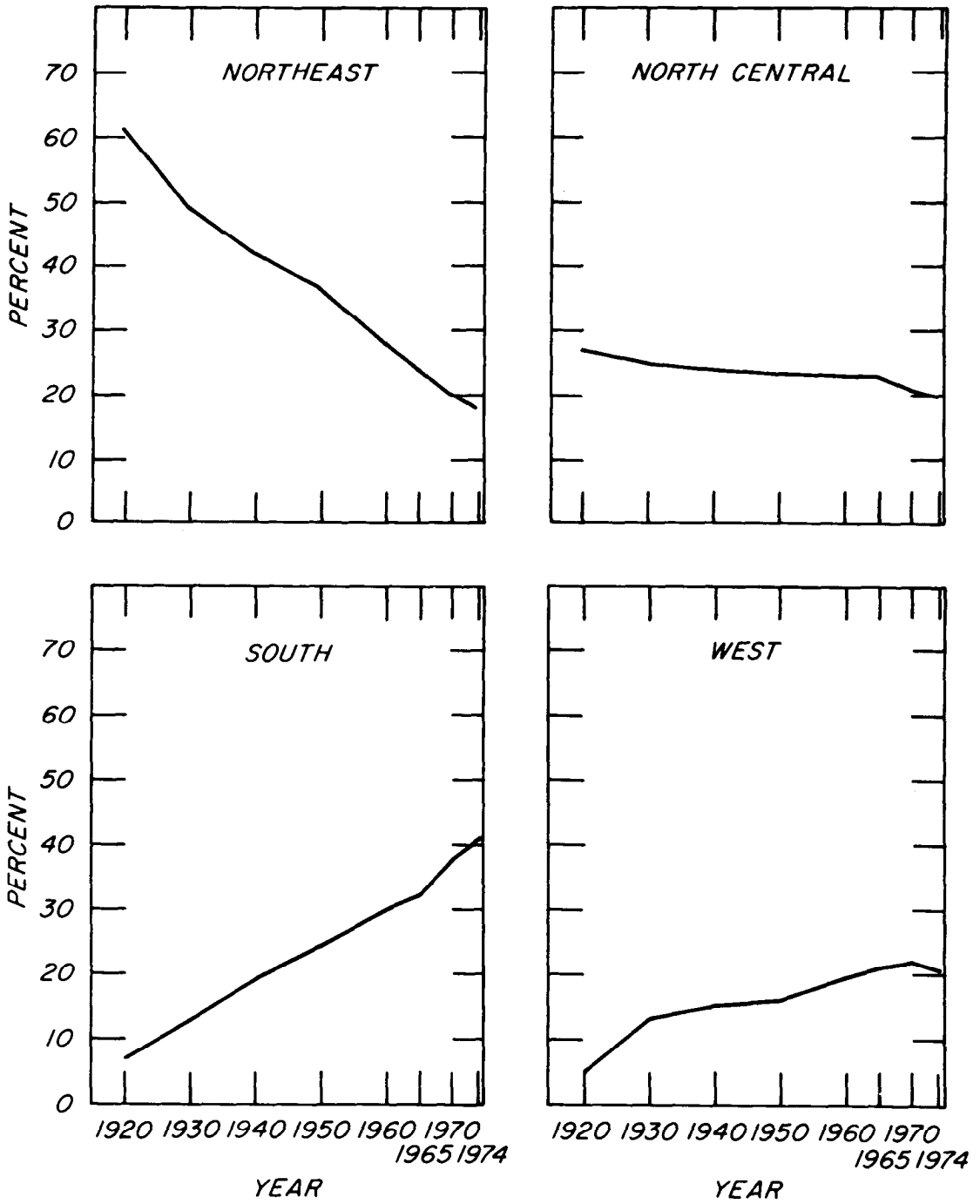

Figure 2.--Percentage of woodpulp mills in the United States, by region, 1920-74.

(M 144 577)

defined to be the amount of woodpulp that could be produced under normal conditions during a 24-hour time period with full use of equipment and an adequate supply of pulpwood and labor. Daily capacity increased from 137,000 tons in 1970 and from 83,000 tons in 1960 (table 3). The rate of growth in total daily capacity dropped to 2.1 percent for the period 1970 to 1974 from 5.2 percent for the 10-year period beginning in 1960.

By Type

In 1974, the 120 sulfate mills in the United States had a total daily capacity of nearly 99,000 tons, some 67 percent of total daily capacity. As recently as 1960, sulfate mills accounted for just 55 percent of total daily capacity (table 3). No other pulp type accounts for more than 10 percent of total daily capacity.

By Region

The South, the principal pulping region, accounted for 92,723 tons or 63 percent of total daily mill capacity in 1974 (table 4). Of this, 80 percent was the sulfate process. Total daily capacity in the West was 18 percent while the Northeast and North Central regions accounted for 10 percent and 9 percent respectively, of total daily capacity.

Average

Although the total number of woodpulp mills in the United States has fluctuated widely since 1920, the daily capacity of the average woodpulp mill has increased steadily from 47 tons in 1920 to 244 tons in 1960, reaching 426 tons per day in 1974 (table 4). Between 1960 and 1970 average mill capacity in the United States was growing at an average annual rate of 4.6 percent (fig. 3). Regional growth during this period was quite dramatic, being not less than 3.2 percent per year. Decreased growth was experienced in the 1970's as many mills, particularly those in the South, approached optimum operating size. The Northeast was the only region where a high growth rate was maintained.

The pulping capacity of the average mill in the South, 644 tons per day in 1974, far exceeds that of any other region. The West was second with an average mill size of 377 tons per day, the Northeast third at 249, and the North Central last with an average mill capacity of only 187 tons per day. These regional differences reflect when the capacities were installed and also different economies of scale between major pulping processes.

Annual Capacity of Pulp Mills

Total

Daily capacity, when multiplied by the number of scheduled days of operation for each mill, resulted in an estimated annual capacity for woodpulp mills in

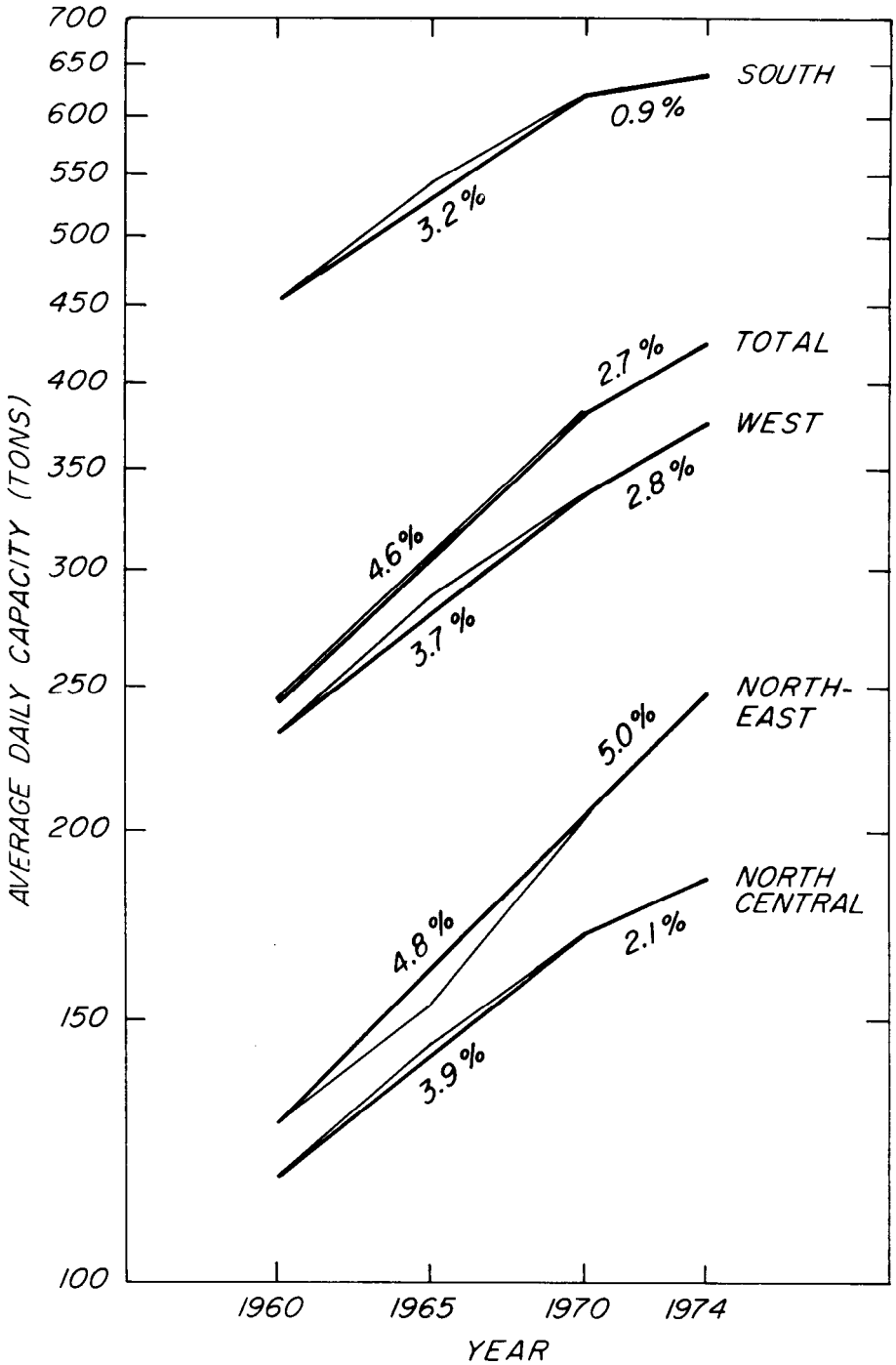

Figure 3.--Growth trends (heavy lines) in average daily capacity of wood-pulp mills in the United States by region, 1960-70 and 1970-74. The lighter lines indicate actual data points.

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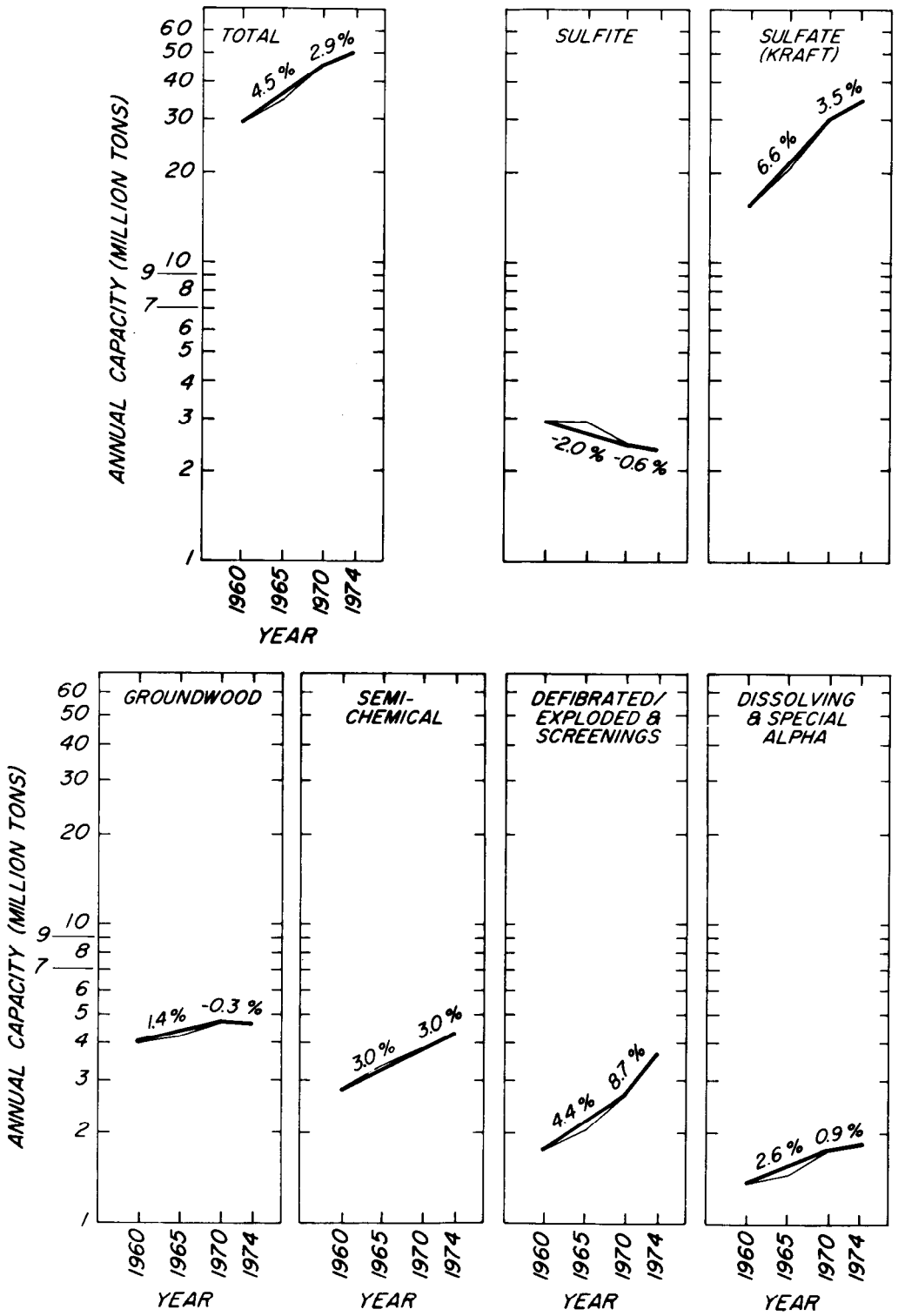

Figure 4.--Growth trends (heavy lines) in annual capacity of woodpulp mills in the United States, by type, 1960-70 and 1970-74. The light lines indicate actual data points.

(M 144 580)

1974 of 52 million tons (table 5). Between 1960 and 1970 annual capacity increased from 30 to 46 million tons, an average annual increase of 4.5 percent (fig. 4). Since 1970 capacity growth has dropped to 2.9 percent per year. This is well below the 6.2 percent growth trend that was experienced during the rapid postwar expansion years of 1945-1960.

Annual production of woodpulp has been consistently below annual capacity (fig. 5). Since 1960, annual production has averaged 91 percent of capacity.

By Type

During the period 1960 to 1970, sulfate pulp mills increased capacity at an average annual rate of 6.6 percent, the fastest rise of any mill type (fig 4.). Defibrated/exploded mills rose second fastest at 4.4 percent. Average annual rates of growth for other mill types ranged from 3.0 percent for semichemical pulp mills, 2.6 percent for dissolving and special alpha, 1.4 percent for groundwood to 2.0 percent for sulfite. From 1970 to 1974 the average annual growth rates for all mill types except defibrated/exploded either decreased or remained constant. Defibrated/exploded pulping capacity increased at the rate of 8.7 percent per year, followed by sulfate, semichemical, dissolving and special alpha, groundwood, and sulfite. Groundwood capacity actually decreased by 51 tons per year during this period.

In 1974 sulfate mills captured a record 67 percent of total annual woodpulp mill capacity, nearly twice the 1940 level (fig. 6). Sulfite capacity dropped from 27.7 to 4.6 percent of total pulp capacity. Groundwood, although nearly doubling capacity since 1940, dropped from 23.4 to 8.9 percent of total annual capacity in 1974. Soda pulp became virtually nonexistent, accounting for less than 1 percent of total annual capacity. All other types of pulp mills accounted for nearly 20 percent of total capacity in 1974, remaining fairly constant since 1960.

Pulpwood Consumption

Based on data from the U.S. Census Bureau and the American Paper Institute, consumption of pulpwood per ton of woodpulp produced has remained surprisingly constant over the past 54 years. In 1974, 1.54 cords of pulpwood were required, on the average, to produce 1 ton of woodpulp (table 6, fig. 7). Much variation between types of pulp produced was evident. Sulfite pulp and dissolving and special alpha pulp required over 2 cords of wood per ton of pulp produced, while groundwood, semichemical, and defibrated/exploded pulp required only 1 cord per ton. Sulfate pulp was intermediate at 1.7 cords per ton. In general, those pulp types with lower consumption/production ratios, i.e., sulfate, defibrated/exploded, and semichemical have been experiencing more rapid growth than those with higher ratios (fig. 5).

Total pulpwood consumption has been increasing steadily since 1920, keeping pace with woodpulp production. The average annual rate of increase for both

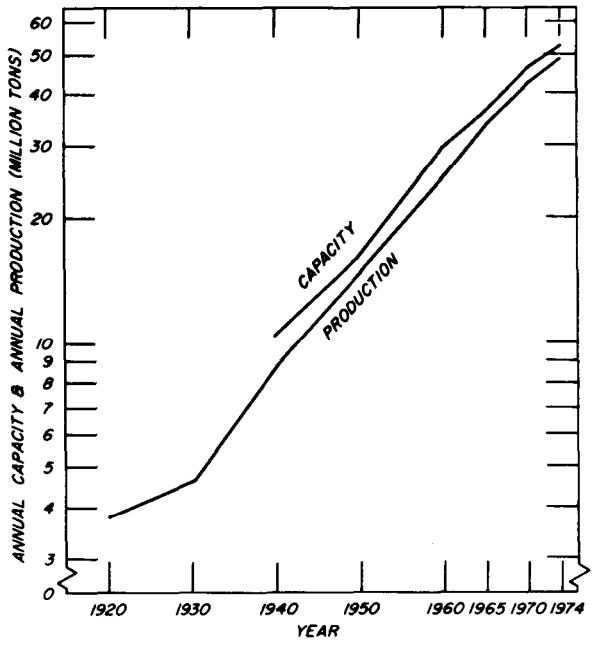

Figure 5. --Annual capacity and annual production of woodpulp mills in the United States, 1920-74

(M 144 573)

pulpwood consumption and woodpulp production since 1920 was about 4 percent. In 1974, 75 million cords of pulpwood were consumed. Of this, 69 percent was conventional roundwood pulp (table 7), with the remaining 31 percent being roundwood mill residues. From 1920 to 1965 the average annual rate of increase in the proportion of residues used in woodpulp production was 4.2 percent. Since 1965, this rate has dropped to 2.4 percent due to scarce additional sources of usable residues. The increase in the use of residues in woodpulp production has led to a decline in the relative importance of softwood roundwood. In 1974 softwood roundwood accounted for 51 percent of total consumption, well below a high of 88 percent in 1940. Since 1960, hardwood roundwood has remained around 17 percent of the pulpwood production.

Pulpwood Production

The domestic production of pulpwood in the United States, as a percentage of the total production of all roundwood timber products (excluding firewood), has increased steadily since 1920 (table 8, fig. 8). From 5 percent in 1920, pulpwood currently accounts for 37 percent of all roundwood timber products produced. Nearly half of all the wood fiber processed in the United States in 1974, including mill residues, went through pulpmills. Between 1920 and 1960, pulpwood as a percentage of total production increased at an average annual rate of 4.5 percent per year. Since 1960, the rate of growth has dropped to 1.8 percent per year.

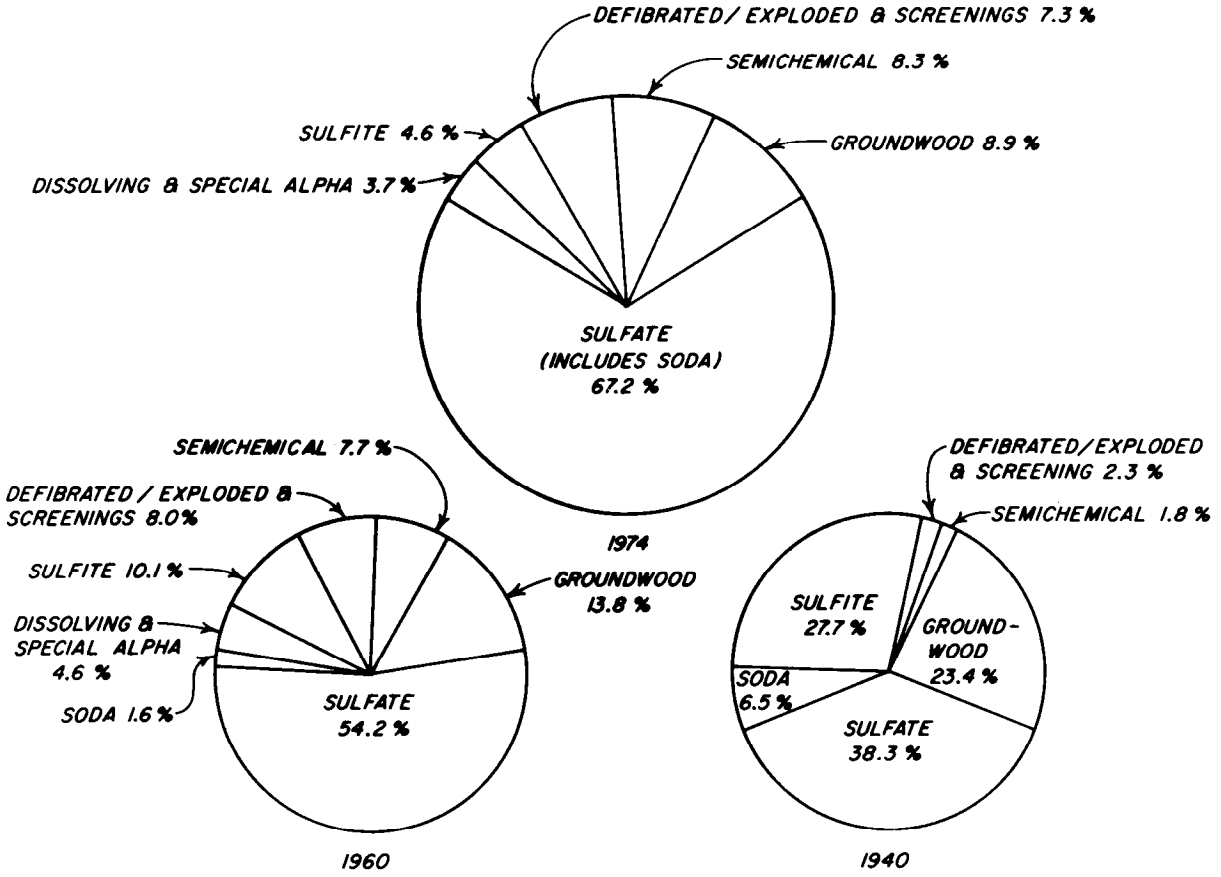

Figure 6.--Percentage of annual capacity of woodpulp mills, by type, 1974, 1960, 1940.

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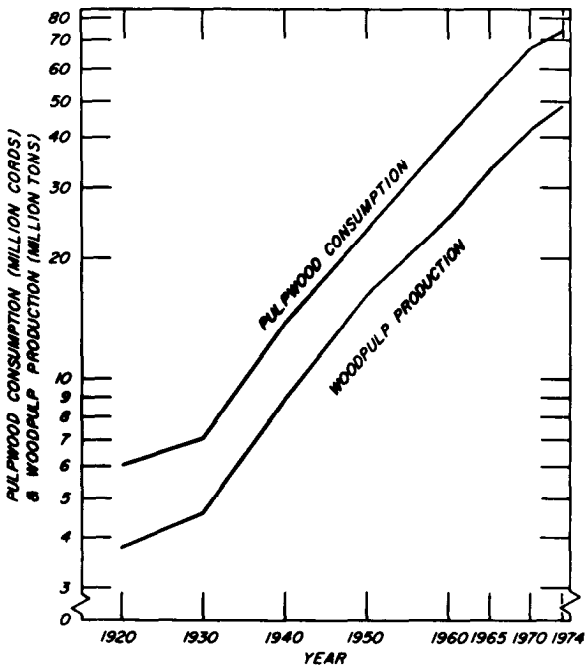

Figure 7.--Annual pulpwood consumption and annual pulpwood production in the United States, 1920-74.

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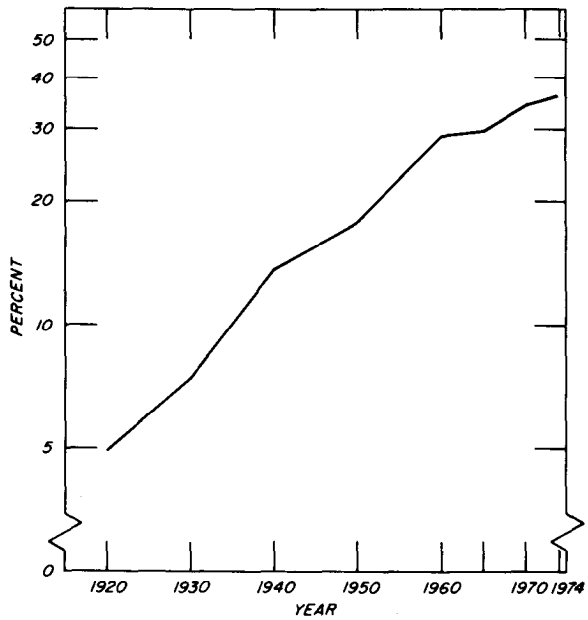

Figure 8.--Pulpwood production as a percentage of total timber products production in the United States, 1920-74

(M 144 575)

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Table 1.--Number and 24-hour daily capacity[1] of woodpulp mills in the United States, 1974

Region - State	Total		Sulfite		Sulfate		Groundwood[2]		Chemi-mechanical		Soda		Semi-chemical		Defibrated		Exploded		Total plants
	Mills	Daily capacity	Mills	Daily capacity	Mills	Daily capacity	Mills	Daily capacity	Mills	Daily capacity	Mills	Daily capacity	Mills	Daily capacity	Mills	Daily capacity	Mills	Daily capacity	
	No.	Tons	No.	Tons	No.	Tons	No.	Tons	No.	Tons	No.	Tons	No.	Tons	No.	Tons	No.	Tons	No.
Northeast																			
Connecticut	1	35	0	0	0	0	0	0	0	0	0	0	0	0	1	35	0	0	1
Maine	25	7,913	5	1,630	6	2,910	14	3,373	0	0	0	0	0	0	0	0	0	0	18
Maryland	2	819	0	0	1	719	0	0	0	0	0	0	0	0	1	100	0	0	2
New Hampshire	5	1,480	2	230	1	700	0	0	0	0	0	0	2	550	0	0	0	0	3
New Jersey	4	317	0	0	0	0	0	0	0	0	0	0	0	0	3	317	1[3]	0	4
New York	14	2,205	2	350	1	590	7	790	2	240	1	135	0	0	1	100	0	0	13
Pennsylvania	9	2,365	1[3]	0	3	870	0	0	0	0	0	0	2	790	3	705	0	0	9
Rhode Island	1	250	0	0	0	0	0	0	0	0	0	0	0	0	1	250	0	0	1
Vermont	1	50	0	0	0	0	1	50	0	0	0	0	0	0	0	0	0	0	1
Total	62	15,434	10	2,210	12	5,789	22	4,213	2	240	1	135	4	1,340	10	1,507	1	0	52
North Central																			
Illinois	7	587	0	0	0	0	1	30	0	0	0	0	1	200	5	357	0	0	7
Indiana	2	370	0	0	0	0	0	0	0	0	0	0	2	370	0	0	0	0	2
Iowa	2	230	0	0	0	0	0	0	0	0	0	0	1	140	1	90	0	0	2
Michigan	10	2,512	0	0	2	840	3	262	0	0	0	0	3	845	2	565	0	0	9
Minnesota	12	2,638	1	120	2	720	5	1,118	1	50	0	0	1	300	2	330	0	0	9
Missouri	2	150	0	0	0	0	0	0	0	0	0	0	0	0	2	150	0	0	2
Ohio	6	1,620	0	0	1	600	0	0	0	0	0	0	2	750	3	270	0	0	6
Wisconsin	29	4,990	11	1,567	4	1,284	10	1,067	1	200	0	0	2	820	1	52	0	0	26
Total	70	13,097	12	1,687	9	3,444	19	2,477	2	250	0	0	12	3,425	16	1,814	0	0	63
South																			
Alabama	19	12,608	0	0	13	10,395	3	1,440	0	0	0	0	2	725	1	48	0	0	16
Arkansas	9	4,554	0	0	6	3,980	1	400	0	0	0	0	0	0	2	174	0	0	8
Florida	11	9,695	1	420	8	8,975	0	0	0	0	0	0	1	200	1	100	0	0	10
Georgia	17	14,870	0	0	11	13,580	1	300	1	250	0	0	2	640	2	100	0	0	15
Kentucky	3	1,200	0	0	2	900	0	0	0	0	0	0	1	300	0	0	0	0	3
Louisiana	19	11,275	0	0	11	9,425	2	570	0	0	0	0	4	1,160	2	120	0	0	14
Mississippi	8	6,000	0	0	4	4,535	1	165	0	0	0	0	0	0	2	300	1	1,000	7
North Carolina	10	6,285	0	0	5	5,320	0	0	0	0	0	0	2	520	3	445	0	0	9
Oklahoma	4	2,300	0	0	1	1,300	0	0	0	0	0	0	1	500	2	500	0	0	3
South Carolina	10	7,620	0	0	4	5,430	2	650	0	0	0	0	2	880	2	660	0	0	8
Tennessee	10	3,220	0	0	2	1,200	2	545	1	200	1	250	3	725	1	300	0	0	8
Texas	12	6,205	0	0	6	4,660	3	1,180	0	0	0	0	0	0	3	365	0	0	9
Virginia	12	6,891	0	0	4	4,524	1	225	0	0	0	0	5	1,812	2[3]	330	0	0	10
Total	144	92,723	1	420	77	74,224	16	5,475	2	450	1	250	23	7,462	23	3,442	1	1,000	120
West																			
Alaska	2	1,240	2	1,240	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Arizona	2	820	0	0	1	600	1	220	0	0	0	0	0	0	0	0	0	0	1
California	11	3,215	0	0	4	2,190	0	0	1	75	0	0	1	450	3	175	2	325	10
Idaho	1	850	0	0	1	850	0	0	0	0	0	0	0	0	0	0	0	0	1
Montana	1	1,150	0	0	1	1,150	0	0	0	0	0	0	0	0	0	0	0	0	1
Oregon	26	8,640	5	870	7	4,995	6	1,490	0	0	0	0	3	625	5	660	0	0	21
Washington	30	11,593	11	4,062	8	5,700	6	876	1	80	0	0	3	815	1	60	0	0	21
Total	73	27,508	18	6,172	22	15,485	13	2,586	2	155	0	0	7	1,890	9	895	2	325	57
United States Total	349	148,762	41	10,489	120	98,942	70	14,751	8	1,095	2	385	46	14,117	58	7,658	4	1,325	292

[1] Includes idle mills and mills under construction.

[2] Includes chemi-groundwood.

[3] Includes one mill with capacity unknown.

Source: Lockwood's Directory of the Paper and Allied Trades - 1974.

Forest Products Laboratory
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Table 2.--Location and 24-hour daily capacity of woodpulp mills in the United States, 1974

Plant No.	Plant name	Plant location	Total	Mill capacity in tons/24 hours							
				Sulfite	Sulfate	Ground-wood[1]	Chemi-mechanical	Soda	Semi-chemical	Defibrated	Exploded
	Northeast										
	Connecticut:										
1	Tilo Co., Inc.	Stratford	35	0	0	0	0	0	0	35	0
	Total	1 plant(s)	35	0	0	0	0	0	0	35	0
	Maine:										
2	Eastern Fine Paper, Inc.	Brewer	200	[2]200	0	0	0	0	0	0	0
3	Georgia-Pacific Corp.	Woodland	1,040	0	800	240	0	0	0	0	0
4	Great Northern Paper Co.	Millinocket	1,350	500	0	850	0	0	0	0	0
5	Great Northern Paper Co.	East Millinocket	920	0	0	920	0	0	0	0	0
6	Hearst Corp.	Brunswick	200	0	0	200	0	0	0	0	0
7	International Paper Co.	Jay	775	0	600	175	0	0	0	0	0
8	International Paper Co.	Livermore Falls	100	0	0	[2]100	0	0	0	0	0
9	Kennebec River Pulp & Paper Co.	Madison	170	0	0	100	0	0	0	0	0
				0	0	70	0	0	0	0	0
10	Keyes Fibre Co.	Shawmut	100	0	0	100	0	0	0	0	0
11	Lincoln Pulp & Paper Co., Inc.	Lincoln	340	0	340	0	0	0	0	0	0
12	Old Town Pulp Products, Inc.	Old Town	50	0	0	50	0	0	0	0	0
13	Oxford Paper Co.	Rumford	670	0	550	120	0	0	0	0	0
14	Penobscot Co.	Old Town	550	200	350	0	0	0	0	0	0
15	Scott Paper Co.	Winslow	480	480	0	0	0	0	0	0	0
16	Statler Tissue Corp.	Augusta	270	[2]250	0	20	0	0	0	0	0
17	St. Regis Paper Co.	Bucksport	328	0	0	328	0	0	0	0	0
18	S. D. Warren Co.	Westbrook	270	0	270	0	0	0	0	0	0
19	United States Gypsum Co.	Lisbon Falls	100	0	0	100	0	0	0	0	0
	Total	18 plant(s)	7,913	1,630	2,910	3,373	0	0	0	0	0
	Maryland:										
20	Congoleum Industries, Inc.	Finksburg	100	0	0	0	0	0	0	100	0
21	Westvaco Corp.	Luke	719	0	719	0	0	0	0	0	0
	Total	2 plant(s)	819	0	719	0	0	0	0	100	0
	New Hampshire:										
22	Brown Co.	Berlin	950	0	700	0	0	0	250	0	0
23	Groveton Papers Co.	Groveton	430	[2]130	0	0	0	0	300	0	0
24	Profile Paper Corp.	Lincoln	100	[2]100	0	0	0	0	0	0	0
	Total	3 plant(s)	1,480	230	700	0	0	0	550	0	0

Table 2.--Location and 24-hour daily capacity of woodpulp mills in the United States, 1974--cont.

Plant No.	Plant name	Plant location	Total	Mill capacity in tons/24 hours							
				Sulfite	Sulfate	Groundwood[1]	Chemi-mechanical	Soda	Semi-chemical	Defibrated	Exploded
	New Jersey:										
25	Celotex Corp.	Perth Amboy	50	0	0	0	0	0	0	50	[5] 0
26	Conwed Corp.	Riverside	0	0	0	0	0	0	0	0	[5] 9,999
27	GAF Corp.	Gloucester City	192	0	0	0	0	0	0	192	0
28	Johns-Manville Products Corp.	Manville	75	0	0	0	0	0	0	75	0
	Total	4 plant(s)	317	0	0	0	0	0	0	317	0
	New York:										
29	Cellu Products Inc.	Niagara Falls	100	0	0	100	0	0	0	0	0
30	Celotex Corp.	Deposit	100	0	0	0	0	0	0	[4] 100	0
31	Diamond International Corp.	Ogdensburg	50	0	0	[4] 50	0	0	0	0	0
32	Diamond International Corp.	Plattsburgh	50	0	0	[4] 50	0	0	0	0	0
33	Finch, Pruyn & Co., Inc.	Glen Falls	250	250	0	0	0	0	0	0	0
34	Georgia-Pacific Corp.	Lyons Falls	120	0	0	0	120	0	0	0	0
35	Georgia-Pacific Corp.	Plattsburgh	120	0	0	0	120	0	0	0	0
36	Imperial Wallpaper Mill, Inc.	Plattsburgh	35	0	0	[2] 35	0	0	0	0	0
37	International Paper Co.	Corinth	255	0	0	255	0	0	0	0	0
38	International Paper Co.	North Tonawanda	135	0	0	0	0	135	0	0	0
39	International Paper Co.	Ticonderoga	590	0	590	0	0	0	0	0	0
40	Latex Fiber Industries Inc.	Beaver Falls	60	0	0	60	0	0	0	0	0
41	St. Regis Paper Co.	Deferiet	340	[2] 100	0	240	0	0	0	0	0
	Total	13 plant(s)	2,205	350	590	790	240	135	0	100	0
	Pennsylvania:										
42	Appleton Papers Inc.	Roaring Spring	180	0	180	0	0	0	0	0	0
43	Celotex Corp.	Philadelphia	160	0	0	0	0	0	0	160	0
44	Celotex Corp.	Sunbury	150	0	0	0	0	0	150	0	0
45	Certain-Teed Products Corp.	York	45	0	0	0	0	0	0	45	0
46	Charmin Paper Products Co.	Mehoopany	0	[5] 9,999	0	0	0	0	0	0	0
47	Hammermill Paper Co.	Erie	640	0	0	0	0	0	640	0	0
48	Masonite Corp.	Towanda	500	0	0	0	0	0	0	500	0
49	Penntech Papers Inc.	Johnsonburg	190	0	190	0	0	0	0	0	0
50	P. H. Glatfelter Co.	Spring Grove	500	0	500	0	0	0	0	0	0
	Total	9 plant(s)	2,365	0	870	0	0	0	790	705	0
	Rhode Island:										
51	Bird & Son, Inc.	Phillipsdale	250	0	0	0	0	0	0	[4] 250	0
	Total	1 plant(s)	250	0	0	0	0	0	0	250	0
	Vermont:										
52	Standard Packaging Corp.	Sheldon Spring	50	0	0	50	0	0	0	0	0
	Total	1 plant(s)	50	0	0	50	0	0	0	0	0
	Total, Northeast	52 plant(s)	15,434	2,210	5,789	4,213	240	135	1,340	1,507	0

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Table 2.--Location and 24-hour daily capacity of woodpulp mills in the United States, 1974--cont.

Plant No.	Plant name	Plant location	Total	Mill capacity in tons/24 hours							
				Sulfite	Sulfate	Ground-wood[1]	Chemi-mechanical	Soda	Semi-chemical	Defibrated	Exploded
	North Central										
	Illinois:										
53	Alton Box Board Co.	Alton	200	0	0	0	0	0	200	0	0
54	Bird & Son, Inc.	Chicago	42	0	0	0	0	0	0	42	0
55	Celotex Corp.	Peoria	90	0	0	0	0	0	0	90	0
56	Celotex Corp.	Wilmington	30	0	0	30	0	0	0	0	0
57	Certain-Teed Products Corp.	East St. Louis	85	0	0	0	0	0	0	[4]85	0
58	Flintkote Co.	Mount Carmel	40	0	0	0	0	0	0	40	0
59	GAF Corp.	Joliet	100	0	0	0	0	0	0	100	0
	Total	7 plant(s)	587	0	0	30	0	0	200	357	0
	Indiana:										
60	Container Corp. of America	Carthage	100	0	0	0	0	0	[2]100	0	0
61	Weston Paper & Mfg. Co.	Terre Haute	270	0	0	0	0	0	270	0	0
	Total	2 plant(s)	370	0	0	0	0	0	370	0	0
	Iowa:										
62	Celotex Corp.	Dubuque	90	0	0	0	0	0	0	90	0
63	Consolidated Packaging Corp.	Fort Madison	140	0	0	0	0	0	140	0	0
	Total	2 plant(s)	230	0	0	0	0	0	140	90	0
	Michigan:										
64	Abitibi Corp.	Alpena	430	0	0	0	0	0	0	[4]430	0
65	Celotex Corp.	L'Anse	135	0	0	0	0	0	0	[4]135	0
66	Escanaba Paper Co.	Escanaba	750	0	600	150	0	0	0	0	0
67	Hoerner Waldorf Corp.	Ontonagon	220	0	0	0	0	0	220	0	0
68	Manistique Pulp & Paper Co.	Manistique	90	0	0	90	0	0	0	0	0
69	Menasha Corp.	Otsego	225	0	0	0	0	0	225	0	0
70	Packaging Corp. of America	Filer City	400	0	0	0	0	0	400	0	0
71	Scott Paper Co.	Menominee	22	0	0	[2]22	0	0	0	0	0
72	S.D. Warren Co.	Muskegon	240	0	240	0	0	0	0	0	0
	Total	9 plant(s)	2,512	0	840	262	0	0	845	565	0
	Minnesota:										
73	Blandin Paper Co.	Grand Rapids	218	0	0	168	50	0	0	0	0
74	Boise Cascade Corp.	International Falls	770	0	320	450	0	0	0	0	0
75	Conwed Corp.	Cloquet	300	0	0	[4]300	0	0	0	0	0
76	Hennepin Paper Co.	Little Falls	75	0	0	75	0	0	0	0	0
77	Hoerner Waldorf Corp.	St. Paul	300	0	0	0	0	0	300	0	0
78	Northwest Paper Div.	Cloquet	520	120	400	0	0	0	0	0	0
79	St. Regis Paper Co.	Sartell	125	0	0	125	0	0	0	0	0
80	Superwood Corp.	Bemidji	90	0	0	0	0	0	0	90	0
81	Superwood Corp.	Duluth	240	0	0	0	0	0	0	240	0
	Total	9 plant(s)	2,638	120	720	1,118	50	0	300	330	0

Table 2.--Location and 24-hour daily capacity of woodpulp mills in the United States, 1974--cont.

Plant No.	Plant name	Plant location	Total	Mill capacity in tons/24 hours							
				Sulfite	Sulfate	Groundwood[1]	Chemi-mechanical	Soda	Semi-chemical	Defibrated	Exploded
	Missouri:										
82	GAF Corp.	Kansas City	90	0	0	0	0	0	0	90	0
83	Heubert Fiberboard Inc.	Booneville	60	0	0	0	0	0	0	60	0
	Total	2 plant(s)	150	0	0	0	0	0	0	150	0
	Ohio:										
84	Celotex Corp.	Cincinnati	100	0	0	0	0	0	0	100	0
85	Certain-Teed Products Corp.	Avery	110	0	0	0	0	0	0	110	0
86	Container Corp. of America	Circleville	300	0	0	0	0	0	300	0	0
87	Logan-Long Co.	Franklin	60	0	0	0	0	0	0	60	0
88	Mead Corp.	Chillicothe	600	0	600	0	0	0	0	0	0
89	Stone Container Corp.	Coshocton	450	0	0	0	0	0	450	0	0
	Total	6 plant(s)	1,620	0	600	0	0	0	750	270	0
	Wisconsin:										
90	American Can Co.	Green Bay	210	150	0	60	0	0	0	0	0
91	Appleton Papers Inc.	Combined Locks	200	0	0	0	200	0	0	0	0
92	Badger Paper Mills Inc.	Peshtigo	110	110	0	0	0	0	0	0	0
93	Brown Co.	Eau Claire	60	0	0	[2]60	0	0	0	0	0
94	Charmin Paper Products Co.	Green Bay	265	[4]180	0	[4]85	0	0	0	0	0
95	Consolidated Papers, Inc.	Appleton	175	175	0	0	0	0	0	0	0
96	Consolidated Papers, Inc.	Stevens Point	92	0	0	92	0	0	0	0	0
97	Consolidated Papers, Inc.	Wisconsin Rapids	625	0	400	225	0	0	0	0	0
98	Evans Products Co.	Phillips	52	0	0	0	0	0	0	[4]52	0
99	Flambeau Paper Co.	Park Falls	115	115	0	0	0	0	0	0	0
100	Flintkote Co.	Cornell	50	0	0	50	0	0	0	0	0
101	Green Bay Packaging, Inc.	Green Bay	200	0	0	0	0	0	200	0	0
102	Kimberly-Clark Corp.	Kimberly	115	0	0	115	0	0	0	0	0
103	Mosinee Paper Corp.	Mosinee	174	0	174	0	0	0	0	0	0
104	Nekoosa Edwards Paper Co., Inc.	Nekoosa	310	0	310	0	0	0	0	0	0
105	Nekoosa Edwards Paper Co., Inc.	Port Edwards	215	215	0	0	0	0	0	0	0
106	Niagara of Wisconsin Paper Corp.	Niagara	150	0	0	150	0	0	0	0	0
107	Owens-Illinois Inc.	Tomahawk	620	0	0	0	0	0	620	0	0
108	Scott Paper Co.	Marinette	50	[2]50	0	0	0	0	0	0	0
109	Scott Paper Co.	Oconto Falls	110	110	0	0	0	0	0	0	0
110	St. Regis Paper Co.	Rhinelander	120	120	0	0	0	0	0	0	0
111	Superior Fibre Products, Inc.	Superior	180	0	0	180	0	0	0	0	0
112	Thilmany Pulp & Paper Co.	Kaukauna	400	0	400	0	0	0	0	0	0
113	Tomahawk Power & Pulp Co., Inc.	Tomahawk	50	0	0	50	0	0	0	0	0
114	Wausau Paper Mills Co.	Brokaw	142	142	0	0	0	0	0	0	0
115	Weyerhaeuser Co.	Rothschild	200	200	0	0	0	0	0	0	0
	Total	26 plant(s)	4,990	1,567	1,284	1,067	200	0	820	52	0
	Total, North Central	63 plant(s)	13,097	1,687	3,444	2,477	250	0	3,425	1,814	0

Table 2.--Location and 24-hour daily capacity of woodpulp mills in the United States, 1974--cont.

Plant No.	Plant Name	Plant location	Total	Mill capacity in tons/24 hours							
				Sulfite	Sulfate	Ground-wood[1]	Chemi-mechanical	Soda	Semi-chemical	Defibrated	Exploded
	South										
	Alabama:										
116	Alabama Kraft Co.	Mahrt	1,000	0	1,000	0	0	0	0	0	0
117	Allied Paper Inc.	Jackson	500	0	500	0	0	0	0	0	0
118	American Can Co.	Butler	930	0	930	0	0	0	0	0	0
119	Champion International	Courtland	550	0	550	0	0	0	0	0	0
120	Container Corp. of America	Brewton	900	0	900	0	0	0	0	0	0
121	GAF Corp.	Mobile	48	0	0	0	0	0	0	48	0
122	Gulf States Paper Corp.	Demopolis	360	0	360	0	0	0	0	0	0
123	Gulf States Paper Corp.	Tuscaloosa	500	0	500	0	0	0	0	0	0
124	Hammermill Paper Co.	Selma	500	0	500	0	0	0	0	0	0
125	International Paper Co.	Mobile	1,600	0	1,300	300	0	0	0	0	0
126	Kimberly-Clark Corp.	Coosa Pines	1,525	0	585	940	0	0	0	0	0
127	Macmillan Bloedel Inc.	Pine Hill	1,000	0	1,000	0	0	0	0	0	0
128	Mead Corp.	Stevenson	575	0	0	0	0	0	[3]575	0	0
129	National Gypsum Co.	Mobile	350	0	0	200	0	0	150	0	0
130	Scott Paper Co.	Mobile	1,400	0	1,400	0	0	0	0	0	0
131	Union Camp Corp.	Montgomery	870	0	870	0	0	0	0	0	0
	Total	16 plant(s)	12,608	0	10,395	1,440	0	0	725	48	0
	Arkansas:										
132	Arkansas Kraft Corp.	Morrilton	360	0	360	0	0	0	0	0	0
133	Elk Roofing Co.	Stephens	24	0	0	0	0	0	0	24	0
134	Georgia-Pacific Corp.	Crossett	1,050	0	1,050	0	0	0	0	0	0
135	International Paper Co.	Camden	750	0	750	0	0	0	0	0	0
136	International Paper Co.	Pine Bluff	1,620	0	1,220	400	0	0	0	0	0
137	Nekoosa Edwards Paper Co., Inc.	Ashdown	400	0	400	0	0	0	0	0	0
138	Superwood Corp.	North Little Rock	150	0	0	0	0	0	0	150	0
139	Weyerhaeuser Co.	Pine Bluff	200	0	200	0	0	0	0	0	0
	Total	8 plant(s)	4,554	0	3,980	400	0	0	0	174	0
	Florida:										
140	Abitibi Corp.	Blountstown	100	0	0	0	0	0	0	100	0
141	Alton Box Board Co.	Jacksonville	675	0	675	0	0	0	0	0	0
142	Buckeye Cellulose Corp.	Foley	900	0	900	0	0	0	0	0	0
143	Container Corp. of America	Fernandina Beach	1,700	0	1,500	0	0	0	200	0	0
144	Hudson Pulp & Paper Corp.	Palatka	950	0	950	0	0	0	0	0	0
145	International Paper Co.	Panama City	1,400	0	1,400	0	0	0	0	0	0
146	ITT Rayonier Inc.	Fernandina Beach	420	420	0	0	0	0	0	0	0
147	St. Joe Paper Co.	Port St. Joe	1,300	0	1,300	0	0	0	0	0	0
148	St. Regis Paper Co.	Cantonment	900	0	900	0	0	0	0	0	0
149	St. Regis Paper Co.	Jacksonville	1,350	0	1,350	0	0	0	0	0	0
	Total	10 plant(s)	9,695	420	8,975	0	0	0	200	100	0

Table 2.--Location and 24-hour daily capacity of woodpulp mills in the United States, 1974--cont.

Plant No.	Plant name	Plant location	Total	Mill capacity in tons/24 hours							
				Sulfite	Sulfate	Ground-wood[1]	Chemi-mechanical	Soda	Semi-chemical	Defibrated	Exploded
	Georgia:										
150	Abitibi Southern Corp.	Augusta	300	0	0	300	0	0	0	0	0
151	Armstrong Cork Co.	Macon	250	0	0	0	[4]250	0	0	0	0
152	Brunswick Pulp & Paper Co.	Brunswick	1,550	0	1,550	0	0	0	0	0	0
153	Certain-Teed Products Corp.	Savannah	40	0	0	0	0	0	0	40	0
154	Continental Can Co., Inc.	Augusta	800	0	800	0	0	0	0	0	0
155	Continental Can Co., Inc.	Port Wentworth	625	0	625	0	0	0	0	0	0
156	GAF Corp.	Savannah	60	0	0	0	0	0	0	60	0
157	Georgia Kraft Co.	Krannert	1,550	0	1,550	0	0	0	0	0	0
158	Georgia Kraft Co.	Macon	900	0	900	0	0	0	0	0	0
159	Gilman Paper Co.	St. Marys	1,100	0	1,100	0	0	0	0	0	0
160	Great Northern Paper Co.	Cedar Springs	2,120	0	1,780	0	0	0	340	0	0
161	Interstate Paper Corp.	Riceboro	525	0	525	0	0	0	0	0	0
162	ITT Rayonier Inc.	Jesup	1,200	0	1,200	0	0	0	0	0	0
163	Owens-Illinois Inc.	Valdosta	950	0	950	0	0	0	0	0	0
164	Union Camp Corp.	Savannah	2,900	0	2,600	0	0	0	300	0	0
	Total	15 plant(s)	14,870	0	13,580	300	250	0	640	100	0
	Kentucky:										
165	Wescor Corp.	Hawesville	300	0	0	0	0	0	300	0	0
166	Western Kraft Corp.	Hawesville	300	0	300	0	0	0	0	0	0
167	Westvaco Corp.	Wickliffe	600	0	600	0	0	0	0	0	0
	Total	3 plant(s)	1,200	0	900	0	0	0	300	0	0
	Louisiana:										
168	Bird & Son, Inc.	Shreveport	60	0	0	0	0	0	0	60	0
169	Boise Southern Co.	Deridder	1,380	0	1,030	350	0	0	0	0	0
170	Calkraft Paper Co.	Elizabeth	300	0	300	0	0	0	0	0	0
171	Continental Can Co., Inc.	Hodge	1,650	0	1,400	0	0	0	250	0	0
172	Crown Zellerbach Corp.	Bogalusa	1,490	0	1,340	0	0	0	150	0	0
173	Crown Zellerbach Corp.	St. Francisville	500	0	500	0	0	0	0	0	0
174	Georgia-Pacific Corp.	Port Hudson	530	0	530	0	0	0	0	0	0
175	International Paper Co.	Bastrop	1,660	0	1,100	0	0	0	560	0	0
176	International Paper Co.	Springhill	1,000	0	1,000	0	0	0	0	0	0
177	Olinkraft Inc.	West Monroe	1,325	0	1,125	0	0	0	200	0	0
178	Pineville Kraft Corp.	Pineville	800	0	800	0	0	0	0	0	0
179	Southern Johns-Manville Prods.	New Orleans	60	0	0	0	0	0	0	60	0
180	St. Francisville Paper Co.	St. Francisville	220	0	0	220	0	0	0	0	0
181	Western Kraft Corp.	Campti	300	0	[3]300	0	0	0	0	0	0
	Total	14 plant(s)	11,275	0	9,425	570	0	0	1,160	120	0

Table 2.--Location and 24-hour daily capacity of woodpulp mills in the United States, 1974--cont.

Plant No.	Plant name	Plant location	Total	Mill capacity in tons/24 hours							
				Sulfite	Sulfate	Ground-wood[1]	Chemi-mechanical	Soda	Semi-chemical	Defibrated	Exploded
	Mississippi:										
182	Flintkote Co.	Meridian	225	0	0	165	0	0	0	60	0
183	International Paper Co.	Moss Point	715	0	715	0	0	0	0	0	0
184	International Paper Co.	Natchez	1,000	0	1,000	0	0	0	0	0	0
185	International Paper Co.	Vicksburg	1,200	0	1,200	0	0	0	0	0	0
186	Masonite Corp.	Laurel	1,000	0	0	0	0	0	0	0	1,000
187	St. Regis Paper Co.	Monticello	1,620	0	1,620	0	0	0	0	0	0
188	United States Gypsum Co.	Greenville	240	0	0	0	0	0	0	240	0
	Total	7 plant(s)	6,000	0	4,535	165	0	0	0	300	1,000
	North Carolina:										
189	Abitibi Corp.	Roaring River	100	0	0	0	0	0	0	100	0
190	Albermarle Paper Co.	Roanoke Rapids	830	0	830	0	0	0	0	0	0
191	Champion International	Canton	1,400	0	1,400	0	0	0	0	0	0
192	Evans Products Co.	Moncure	225	0	0	0	0	0	0	[4]225	0
193	Federal Paper Board Co., Inc.	Riegelwood	1,100	0	1,100	0	0	0	0	0	0
194	Georgia-Pacific Corp.	Conway	120	0	0	0	0	0	0	[4]120	0
195	Mead Corp.	Sylva	270	0	0	0	0	0	270	0	0
196	Weyerhaeuser Co.	New Bern	640	0	640	0	0	0	0	0	0
197	Weyerhaeuser Co.	Plymouth	1,600	0	1,350	0	0	0	250	0	0
	Total	9 plant(s)	6,285	0	5,320	0	0	0	520	445	0
	Oklahoma:										
198	Georgia-Pacific Corp.	Pryor	50	0	0	0	0	0	0	50	0
199	Weyerhaeuser Co.	Broken Bow	450	0	0	0	0	0	0	450	0
200	Weyerhaeuser Co.	Valliant	1,800	0	1,300	0	0	0	500	0	0
	Total	3 plant(s)	2,300	0	1,300	0	0	0	500	500	0
	South Carolina:										
201	Bowaters Carolina Corp.	Catawba	1,090	0	940	150	0	0	0	0	0
202	Catawba Newsprint Co.	Catawba	500	0	0	500	0	0	0	0	0
203	Celotex Corp.	Marion	360	0	0	0	0	0	0	[3]360	0
204	Champion International	Catawba	300	0	0	0	0	0	0	[4]300	0
205	International Paper Co.	Georgetown	2,310	0	1,830	0	0	0	480	0	0
206	Sonoco Products Co.	Hartsville	400	0	0	0	0	0	400	0	0
207	South Carolina Industries, Inc.	Florence	660	0	660	0	0	0	0	0	0
208	Westvaco Corp.	Charleston	2,000	0	2,000	0	0	0	0	0	0
	Total	8 plant(s)	7,620	0	5,430	650	0	0	880	660	0

Table 2.--Location and 24-hour daily capacity of woodpulp mills in the United States, 1974--cont.

Plant No.	Plant name	Plant location	Total	Mill capacity in tons/24 hours							
				Sulfite	Sulfate	Groundwood[1]	Chemi-mechanical	Soda	Semi-chemical	Defibrated	Exploded
	Tennessee:										
209	Bowaters Southern Paper Corp.	Calhoun	1,200	0	500	500	200	0	0	0	0
210	Celotex Corp.	Memphis	45	0	0	45	0	0	0	0	0
211	Celotex Corp.	Paris	300	0	0	0	0	0	0	300	0
212	Inland Container Corp.	New Johnsonville	395	0	0	0	0	0	395	0	0
213	Mead Corp.	Harriman	195	0	0	0	0	0	195	0	0
214	Mead Corp.	Kingsport	250	0	0	0	0	250	0	0	0
215	Southern Extract Co.	Knoxville	135	0	0	0	0	0	135	0	0
216	Tennessee River Pulp & Paper Co.	Counce	700	0	[4]700	0	0	0	0	0	0
	Total	8 plant(s)	3,220	0	1,200	545	200	250	725	300	0
	Texas:										
217	Celotex Corp.	Houston	25	0	0	0	0	0	0	25	0
218	Champion International	Pasadena	830	0	750	80	0	0	0	0	0
219	Eastex Inc.	Evadale	1,250	0	1,250	0	0	0	0	0	0
220	GAF Corp.	Dallas	40	0	0	0	0	0	0	40	0
221	International Paper Co.	Texarkana	610	0	610	0	0	0	0	0	0
222	Owens-Illinois Inc.	Orange	1,000	0	1,000	0	0	0	0	0	0
223	Southland Paper Mills, Inc.	Houston	950	0	650	300	0	0	0	0	0
224	Southland Paper Mills, Inc.	Lufkin	1,200	0	400	800	0	0	0	0	0
225	Temple Industries Inc.	Diboll	300	0	0	0	0	0	0	300	0
	Total	9 plant(s)	6,205	0	4,660	1,180	0	0	0	365	0
	Virginia:										
226	Chesapeake Corp. of Virginia	West Point	1,150	0	1,150	0	0	0	0	0	0
227	Continental Can Co., Inc.	Hopewell	1,063	0	896	0	0	0	167	0	0
228	Evans Products Co.	Doswell	0	0	0	0	0	0	0	[5]9,999	0
229	Mead Corp.	Lynchburg	190	0	0	0	0	0	190	0	0
230	Owens-Illinois Inc.	Big Island	550	0	0	0	0	0	550	0	0
231	Southern Johns-Manville Prods.	Jarratt	225	0	0	225	0	0	0	0	0
232	Union Camp Corp.	Franklin	1,430	0	1,430	0	0	0	0	0	0
233	United States Gypsum Co.	Danville	330	0	0	0	0	0	0	330	0
234	Virginia Fibre Corp.	Riverville	600	0	0	0	0	0	[3]600	0	0
235	Westvaco Corp.	Covington	1,353	0	1,048	0	0	0	305	0	0
	Total	10 plant(s)	6,891	0	4,524	225	0	0	1,812	330	0
	Total, South	120 plant(s)	92,723	420	74,224	5,475	450	250	7,462	3,442	1,000

Table 2.--Location and 24-hour daily capacity of woodpulp mills in the United States, 1974--cont.

Plant No.	Plant name	Plant location	Total	Mill capacity in tons/24 hours							
				Sulfite	Sulfate	Groundwood[1]	Chemi-mechanical	Soda	Semi-chemical	Defibrated	Exploded
	West										
	Alaska:										
236	Alaska Lumber & Pulp Co., Inc.	Sitka	600	600	0	0	0	0	0	0	0
237	Ketchikan Pulp Co.	Ketchikan	640	640	0	0	0	0	0	0	0
	Total	2 plant(s)	1,240	1,240	0	0	0	0	0	0	0
	Arizona:										
238	Southwest Forest Industries Inc.	Snowflake	820	0	600	220	0	0	0	0	0
	Total	1 plant(s)	820	0	600	220	0	0	0	0	0
	California:										
239	Certain-Teed Products Corp.	Richmond	30	0	0	0	0	0	0	30	0
240	Crown Simpson Pulp Co.	Arcata	550	0	550	0	0	0	0	0	0
241	Diamond International Corp.	Red Bluff	75	0	0	0	[4]75	0	0	0	0
242	Fibreboard Corp.	Antioch	1,340	0	890	0	0	0	450	0	0
243	Flintkote Co.	Vernon	35	0	0	0	0	0	0	35	0
244	Johns-Manville Products Corp.	Pittsburg	110	0	0	0	0	0	0	[4]110	0
245	Louisiana-Pacific Corp.	Samoa	600	0	600	0	0	0	0	0	0
246	Masonite Corp.	Ukiah	300	0	0	0	0	0	0	0	[4]300
247	Northwest Paper Div.	Pomona	25	0	0	0	0	0	0	0	25
248	Simpson-Lee Paper Co.	Anderson	150	0	150	0	0	0	0	0	0
	Total	10 plant(s)	3,215	0	2,190	0	75	0	450	175	325
	Idaho:										
249	Potlatch	Lewiston	850	0	850	0	0	0	0	0	0
	Total	1 plant(s)	850	0	850	0	0	0	0	0	0
	Montana:										
250	Hoerner Waldorf Corp.	Missoula	1,150	0	1,150	0	0	0	0	0	0
	Total	1 plant(s)	1,150	0	1,150	0	0	0	0	0	0

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Table 2.--Location and 24-hour daily capacity of woodpulp mills in the United States, 1974--cont.

Plant No.	Plant name	Plant location	Total	Mill capacity in tons/24 hours							
				Sulfite	Sulfate	Groundwood[1]	Chemi-mechanical	Soda	Semi-chemical	Defibrated	Exploded
	Oregon:										
251	American Can Co.	Halsey	300	0	300	0	0	0	0	0	0
252	Boise Cascade Corp.	Salem	275	275	0	0	0	0	0	0	0
253	Boise Cascade Corp.	St. Helens	850	0	850	0	0	0	0	0	0
254	Champion International	Dee	100	0	0	0	0	0	0	100	0
255	Coos Head Timber Co.	Coos Bay	90	[2]90	0	0	0	0	0	0	0
256	Crown Zellerbach Corp.	Clatskanie	790	0	520	270	0	0	0	0	0
257	Crown Zellerbach Corp.	Lebanon	105	105	0	0	0	0	0	0	0
258	Crown Zellerbach Corp.	West Linn	250	0	0	250	0	0	0	0	0
259	Evans Products Co.	Corvallis	100	0	0	0	0	0	0	100	0
260	Forest Fiber Products Co.	Forest Grove	100	0	0	[4]100	0	0	0	0	0
261	Georgia-Pacific Corp.	Coos Bay	100	0	0	[4]100	0	0	0	0	0
262	Georgia-Pacific Corp.	Toledo	1,325	0	1,075	0	0	0	250	0	0
263	International Paper Co.	Gardiner	600	0	600	0	0	0	0	0	0
264	Kaiser Gypsum Co., Inc.	St. Helens	180	0	0	0	0	0	0	180	0
265	Menasha Corp.	North Bend	175	0	0	0	0	0	175	0	0
266	Publishers Paper Co.	Newberg	520	200	0	320	0	0	0	0	0
267	Publishers Paper Co.	Oregon City	650	200	0	450	0	0	0	0	0
268	United States Gypsum Co.	Pilot Rock	130	0	0	0	0	0	0	130	0
269	Western Kraft Corp.	Albany	700	0	500	0	0	0	200	0	0
270	Weyerhaeuser Co.	Klamath Falls	150	0	0	0	0	0	0	150	0
271	Weyerhaeuser Co.	Springfield	1,150	0	1,150	0	0	0	0	0	0
	Total	21 plant(s)	8,640	870	4,995	1,490	0	0	625	660	0
	Washington:										
272	Boise Cascade Corp.	Steilacoom	300	0	0	300	0	0	0	0	0
273	Boise Cascade Corp.	Wallula	700	0	460	0	0	0	240	0	0
274	Crown Zellerbach Corp.	Port Angeles	297	0	0	297	0	0	0	0	0
275	Crown Zellerbach Corp.	Camas	1,200	420	780	0	0	0	0	0	0
276	Crown Zellerbach Corp.	Port Townsend	420	0	420	0	0	0	0	0	0
277	Fibreboard Corp.	Port Angeles	105	[2]65	0	[2]40	0	0	0	0	0
278	Georgia-Pacific Corp.	Bellingham	580	500	0	0	80	0	0	0	0
279	Inland Empire Paper Co.	Millwood	141	57	0	84	0	0	0	0	0
280	ITT Rayonier Inc.	Port Angeles	475	475	0	0	0	0	0	0	0
281	ITT Rayonier Inc.	Hoquiam	475	475	0	0	0	0	0	0	0

Table 2.--Location and 24-hour daily capacity of woodpulp mills in the United States, 1974--cont.

Plant No	Plant name	Plant location	Total	Mill capacity in tons/24 hours							
				Sulfite	Sulfate	Ground-wood[1]	Chemi-mechanical	Soda	Semi-chemical	Defibrated	Exploded
	Washington:--cont.										
282	Keyes Fibre Co.	Wenatchee	35	0	0	35	0	0	0	0	0
283	Longview Fibre Co.	Longview	2,100	0	1,800	0	0	0	300	0	0
284	Publisher's Forest Products Co.	Anacortes	60	0	0	0	0	0	0	60	0
285	Scott Paper Co.	Anacortes	135	135	0	0	0	0	0	0	0
286	Scott Paper Co.	Everett	835	835	0	0	0	0	0	0	0
287	Simpson Lee Paper Co.	Everett	140	0	[2]140	0	0	0	0	0	0
288	Simpson Timber Co.	Shelton	120	0	0	120	0	0	0	0	0
289	St. Regis Paper Co.	Tacoma	1,090	0	1,090	0	0	0	0	0	0
290	Weyerhaeuser Co.	Cosmopolis	400	400	0	0	0	0	0	0	0
291	Weyerhaeuser Co.	Everett	660	300	360	0	0	0	0	0	0
292	Weyerhaeuser Co.	Longview	1,325	400	650	0	0	0	275	0	0
	Total	21 plant(s)	11,593	4,062	5,700	876	80	0	815	60	0
	Total, West	57 plant(s)	27,508	6,172	15,485	2,586	155	0	1,890	895	325
	Total, United States	292 plant(s)	148,762	10,489	98,942	14,751	1,095	385	14,117	7,658	1,325

[1] Includes chemi-groundwood.

[2] Mill idle

[3] Mill under construction

[4] Capacity estimated

[5] No estimate of capacity available

Source: Lockwood's Directory of the Paper and Allied Trades - 1974

Table 3.--Number, daily and average daily capacity of woodpulp mills in the United States, by type of mill

Year	Total			Sulfite			Sulfate			Groundwood			Soda			Semichemical			Defibrated			Exploded			Chemi-mechanical		
	Mills	Capacity		Mills	Capacity		Mills	Capacity		Mills	Capacity		Mills	Capacity		Mills	Capacity		Mills	Capacity		Mills	Capacity		Mills	Capacity	
		Daily	Average		Daily	Average		Daily	Average		Daily	Average		Daily	Average		Daily	Average		Daily	Average		Daily	Average		Daily	Average
	No.	Tons	Tons	No.	Tons	Tons	No.	Tons	Tons	No.	Tons	Tons	No.	Tons	Tons	No.	Tons	Tons	No.	Tons	Tons	No.	Tons	Tons	No.	Tons	Tons
1920	323	15,340	47	96	5,490	57	23	765	33	175	7,430	42	29	1,655	57	---	---	---	---	---	---	---	---	---	---	---	---
1930	308	21,185	69	89	7,115	80	39	3,660	94	136	8,190	60	31	1,925	62	13	295	23	2	2	2	---	---	---	---	---	---
1940	259	29,840	115	80	8,675	108	43	11,240	261	100	7,425	74	26	1,815	70	10	685	69	2	2	2	---	---	---	---	---	---
1950	258	43,660	169	67	9,115	136	59	21,285	361	91	8,640	95	19	1,685	89	22	2,935	133	2	2	2	---	---	---	---	---	---
1960	338	82,601	244	64	11,699	183	84	45,720	544	92	12,351	134	11	1,425	130	46	7,578	165	38	3,450	91	3	378	126			
1965	[1]345	104,595	303	61	11,550	189	99	63,595	642	80	13,310	166	7	1,125	161	48	9,605	200	45	4,945	110	4	465	116			
1970	358	137,047	383	49	10,903	223	120	90,232	752	81	16,142	199	4	570	143	44	11,798	268	51	6,372	125	9	1,030	114			
1974	349	148,762	426	41	10,489	256	120	98,942	825	70	14,751	211	2	385	193	46	14,117	307	62	8,983	145	8	1,095	137			

[1] Includes one mill with type and capacity unknown.

[2] Included in semichemical.

Source: Woodpulp Mills in the United States, USDA Forest Service, 1961.
Lockwood's Directory of the Paper and Allied Trades, 1960, 1965, 1970, and 1974.
Woodpulp Mills in the United States and Canada, USDA Forest Service, 1965.

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Table 4.--Number, daily and average daily capacity of woodpulp mills in the United States, by region

Year	United States			Northeast			North Central			South			West		
	Mills	Capacity		Mills	Capacity		Mills	Capacity		Mills	Capacity		Mills	Capacity	
		Daily	Average		Daily	Average		Daily	Average		Daily	Average		Daily	Average
	No.	Tons	Tons	No.	Tons	Tons	No.	Tons	Tons	No.	Tons	Tons	No.	Tons	Tons
1920	323	15,340	47	197	9,890	50	86	3,425	40	24	995	41	16	1,030	64
1930	308	21,185	69	152	9,720	64	76	4,650	61	40	2,995	75	40	3,820	96
1940	259	29,840	115	110	8,585	78	61	4,655	76	49	11,115	227	39	5,485	141
1950	258	43,660	169	95	8,635	91	60	5,610	94	63	21,250	337	40	8,165	204
1960	338	82,601	244	95	12,206	128	78	9,116	117	102	46,556	456	63	14,723	234
1965	345	104,595	303	82	12,520	153	81	11,605	143	109	59,440	545	73	21,030	288
1970	358	137,047	383	73	14,956	205	74	12,745	172	134	83,396	622	77	25,950	337
1974	349	148,762	426	62	15,434	249	70	13,097	187	144	92,723	644	73	27,508	377

Source: Woodpulp Mills in the United States, USDA Forest Service, 1961.
Lockwood's Directory of the Paper and Allied Trades, 1960, 1965, 1970, and 1974.
Woodpulp Mills in the United States and Canada, USDA Forest Service, 1965.

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Table 5.--Annual production of woodpulp and annual capacity of woodpulp mills in the United States, by type of mill

Year	Total		Dissolving and special alpha		Sulfite		Sulfate		Groundwood		Soda		Semichemical		Defibrated/exploded		Screenings	
	Production	Capacity	Production	Capacity	Production	Capacity	Production	Capacity	Production	Capacity	Production	Capacity	Production	Capacity	Production	Capacity	Production	Capacity
	1,000 tons	1,000 tons	1,000 tons	1,000 tons	1,000 tons	1,000 tons	1,000 tons	1,000 tons	1,000 tons	1,000 tons	1,000 tons	1,000 tons	1,000 tons	1,000 tons	1,000 tons	1,000 tons	1,000 tons	1,000 tons
1920	3,822	---	1/	---	1,586	---	189	---	1,584	---	463	---	---	---	---	---	---	---
1930	4,630	---	1/	---	1,567	---	950	---	1,560	---	474	---	79	---	2/	---	2/	---
1940	8,961	10,421	1/288	1/	2,608	2,891	3,748	3,990	1,633	2,435	532	680	165	3/425	211	2/	64	2/
1950	14,849	16,167	479	479	2,370	2,571	7,501	7,671	2,216	2,871	522	541	620	3/2,034	997	2/	144	2/
1960	25,316	29,536	1,138	1,360	2,578	2,982	14,590	15,996	3,292	4,087	420	488	1,991	2,840	1,205	1,719	102	64
1965	33,296	35,758	1,486	1,493	2,789	2,907	20,514	21,454	3,920	4,301	229	220	2,885	3,323	1,303	1,977	171	83
1970	42,216	45,863	1,716	1,756	2,308	2,443	28,671	30,201	4,393	4,677	195	198	3,339	3,811	1,307	2,642	286	135
1974	48,417	51,509	1,723	1,817	2,209	2,390	33,010	34,613	4,711	4,626	200	4/	3,836	4,292	2,598	3,684	131	85

1/ Included in sulfite.

2/ Included in semichemical.

3/ Contains defibrated/exploded and screenings.

4/ Included in sulfate.

Source: Woodpulp Mills in the United States, USDA Forest Service, 1961.
Woodpulp and Fiber Statistics - American Paper Institute, 1975.
Current Industrial Reports - Pulp, Paper & Board, Series M26A, U.S. Department of Commerce, 1974.
Woodpulp Statistics - American Paper Institute, 1961, 1966, 1970, and 1971.

Table 6.--Annual production of woodpulp and annual consumption of pulpwood in the United States, by type of mill

Year	Total			Dissolving and special alpha			Sulfite			Sulfate			Groundwood		
	Woodpulp production	Pulpwood consumption		Woodpulp production	Pulpwood consumption		Woodpulp production	Pulpwood consumption		Woodpulp production	Pulpwood consumption		Woodpulp production	Pulpwood consumption	
		Total	Per ton of pulp produced		Total	Per ton of pulp produced		Total	Per ton of pulp produced		Total	Per ton of pulp produced		Total	Per ton of pulp produced
	1,000 tons	1,000 cords	Cords	1,000 tons	1,000 cords	Cords	1,000 tons	1,000 cords	Cords	1,000 tons	1,000 cords	Cords	1,000 tons	1,000 cords	Cords
1920	3,822	6,114	1.60	1	1	---	1,586	3,204	2.02	189	397	2.10	1,584	2	---
1930	4,630	7,196	1.55	1	1	---	1,567	3,137	2.00	950	1,691	1.78	1,560	2	---
1940	8,961	13,743	1.53	1 288	1	---	2,608	4,966	1.90	3,748	5,975	1.59	1,633	2	---
1950	14,849	23,627	1.59	1 479	1	---	2,485	5,716	2.30	7,865	13,288	1.70	2,216	2	---
1960	25,316	40,165	1.59	1,138	2,233	1.96	2,578	5,896	2.29	14,590	24,440	1.68	3,292	3,109	0.94
1965	33,296	52,236	1.57	1,486	3,313	2.23	2,789	5,472	1.96	20,514	35,194	1.72	3,920	3,644	.93
1970	42,216	67,524	1.60	1,716	3,673	2.14	2,308	4,959	2.15	28,671	49,368	1.72	4,393	4,286	.98
1974	48,417	74,459	1.54	1,723	3,953	2.30	2,209	4,722	2.14	33,010	55,301	1.68	4,711	4,413	.94

[1] Included in sulfite/sulfate.

[2] Included in "other".

(Page 1 of 2)

Table 6.--Annual production of woodpulp and annual consumption of pulpwood in the United States, by type of mill--continued

Year	Soda			Semichemical			Defibrated/exploded			Screenings			Other[3]		
	Woodpulp production	Pulpwood consumption		Woodpulp production	Pulpwood consumption		Woodpulp production	Pulpwood consumption		Woodpulp production	Pulpwood consumption		Woodpulp production	Pulpwood consumption	
		Total	Per ton of pulp produced		Total	Per ton of pulp produced		Total	Per ton of pulp produced		Total	Per ton of pulp produced		Total	Per ton of pulp produced
	1,000 tons	1,000 cords	Cords	1,000 tons	1,000 cords	Cords	1,000 tons	1,000 cords	Cords	1,000 tons	1,000 cords	Cords	1,000 tons	1,000 cords	Cords
1920	463	923	1.99	---	---	---	---	---	---	---	---	---	1,584	1,590	1.00
1930	474	849	1.79	79	[2]	---	---	---	---	---	---	---	1,639	1,518	.93
1940	532	979	1.84	165	[2]	---	211	[2]	---	64	[2]	---	2,071	1,822	.88
1950	522	1,018	1.95	620	[2]	---	997	[2]	---	144	[2]	---	3,977	3,606	.91
1960	420	---	---	1,991	2,073	1.04	1,205	1,165	0.97	102	---	---	---	1,249	---
1965	229	---	---	2,885	3,053	1.06	1,303	1,560	1.20	171	---	---	---	---	---
1970	195	---	---	3,339	3,437	1.03	1,307	1,802	1.38	286	---	---	---	---	---
1974	200	---	---	3,836	3,914	1.02	2,598	2,156	.83	131	---	---	---	---	---

[3] Includes groundwood, semichemical, defibrated/exploded, screenings, and unspecified pulpwood types.

Source: Woodpulp Mills in the United States, USDA Forest Service, 1961.
Current Industrial Reports, Pulp, Paper & Board, Series M26A, U.S. Department of Commerce, 1963, 1965, 1970, 1974.
Wood Pulp and Fiber Statistics, American Paper Institute, Inc., 1975.
Wood Pulp Statistics, American Paper Institute, Inc., 1961.

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Table 7.--Annual pulpwood consumption in the United States

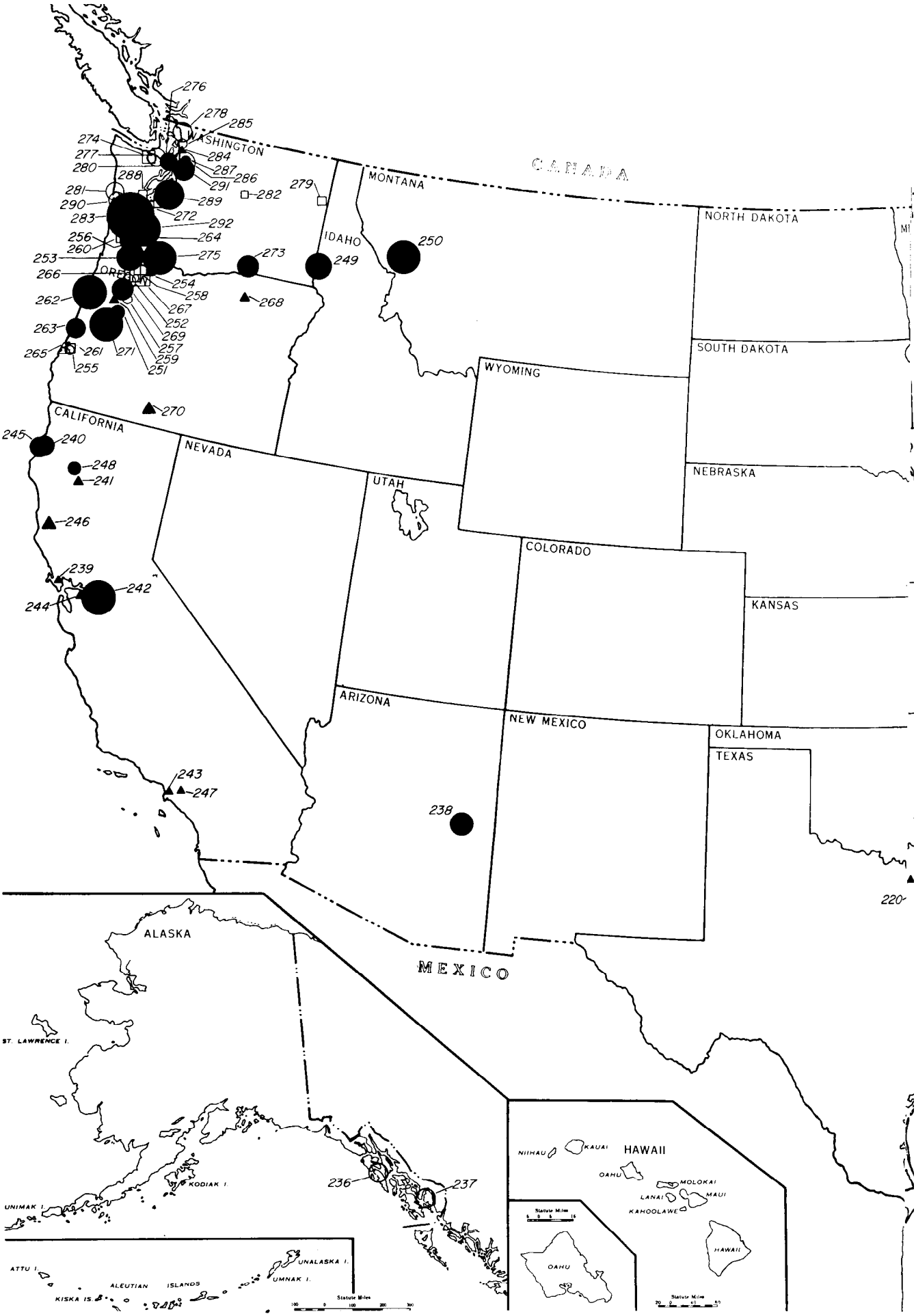
Year	Total pulpwood consumption	Roundwood		Residues
		Softwood	Hardwood	
	Million cords	Pct	Pct	Pct
1920	6.1	85	11	4
1930	7.2	79	13	8
1940	13.7	88	11	1
1950	23.6	80	14	6
1960	40.2	66	17	17
1965	52.2	58	17	25
1970	67.5	54	17	29
1974	74.5	51	18	31

Source: Woodpulp Mills in the United States, USDA Forest Service, 1961. Current Industrial Reports, Pulp Paper & Board, Series M26A, U.S. Department of Commerce, 1963, 1965, 1970, and 1974. Woodpulp and Fiber Statistics, American Paper Institute, 1975.

Table 8.--Production of pulpwood in the United States as a percent of total production of roundwood timber products

Year	Domestic production		
	Total	Pulpwood	
	Million ft^3	Million ft^3	Pct
1920	7,800	385	4.9
1930	6,385	470	7.4
1940	6,990	950	13.6
1950	8,525	1,500	17.6
1960	8,920	2,575	28.9
1965	10,540	3,095	29.4
1970	11,120	3,835	34.5
1974	11,395	4,200	36.9

Source: The Demand and Price Situation for Forest Products, USDA Forest Service, 1958.
The Demand and Price Situation for Forest Products 1974-75, USDA Forest Service, 1975.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OREGON
CALIFORNIA
NEVADA
IDAHO
MONTANA
WYOMING
UTAH
ARIZONA
COLORADO
NEW MEXICO
NORTH DAKOTA
SOUTH DAKOTA
NEBRASKA
KANSAS
OKLAHOMA
TEXAS
MEXICO
ALASKA
ST. LAWRENCE I.
KODIAK I.
UNIMAK I.
ATTU I.
ALEUTIAN ISLANDS
KISKA IS.
UNALASKA I.
UMNAK I.
Statute Miles
HAWAII
NIIHAU
KAUAI
OAHU
MOLOKAI
LANAI
MAUI
KAHOOLAWE
HAWAII
OAHU
Statute Miles
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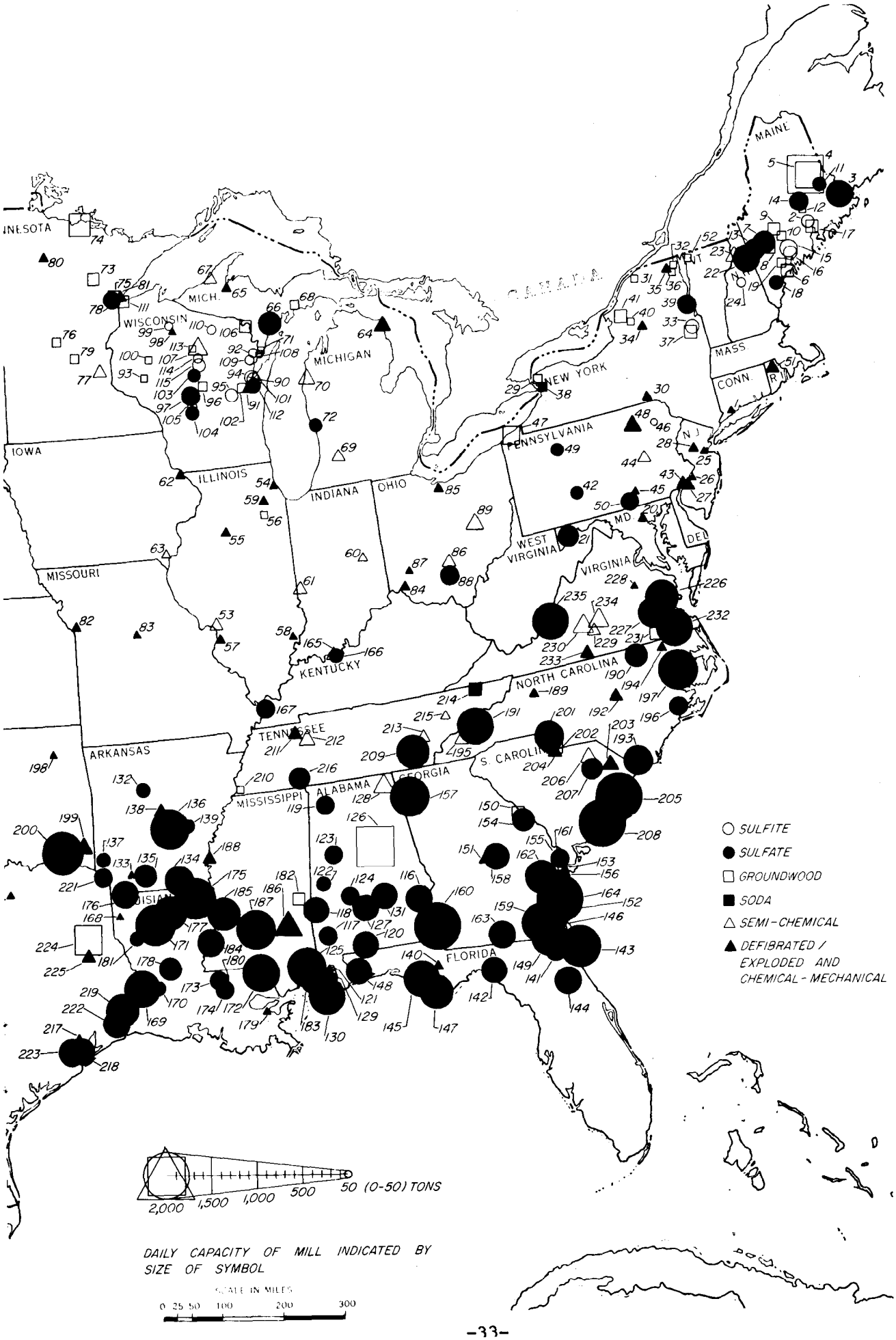
MAINE
MINNESOTA
WISCONSIN
MICH.
MICHIGAN
CANADA
NEW YORK
VT
N.H.
MASS
CONN.
R.I.
PENNSYLVANIA
N.J.
DEL.
MD.
WEST VIRGINIA
VIRGINIA
IOWA
ILLINOIS
INDIANA
OHIO
MISSOURI
KENTUCKY
NORTH CAROLINA
TENNESSEE
ARKANSAS
S. CAROLINA
GEORGIA
MISSISSIPPI
ALABAMA
LOUISIANA
FLORIDA
SULFITE
SULFATE
GROUNDWOOD
SODA
SEMI-CHEMICAL
DEFIBRATED / EXPLODED AND CHEMICAL-MECHANICAL
2,000
1,500
1,000
500
50 (0-50) TONS
DAILY CAPACITY OF MILL INDICATED BY SIZE OF SYMBOL
SCALE IN MILES
0 25 50 100 200 300

Glossary of Terms

Capacity. The tonnage that could be produced during a stated time period with full use of equipment and an adequate supply of pulpwood and labor, with each mill operating under normal conditions.

Chemimechanical pulp. A pulp produced primarily through mechanical fiberization. Mild chemical treatments are employed to improve the quality of the pulp. The pulp produced is usually coarse fibered.

Defibrated pulp. A pulp produced mechanically by means of a machine known as a defibrator. In this process, wood chips are continuously fed into a steam-heated chamber, and the mechanical separation of the fibers then takes place at elevated temperatures. Hardwoods or softwoods may be used in the manufacturing process. The yield is high, ranging from 90 to 95 percent on a bonedry basis. The resulting pulp is homogeneous and free and has good felting properties. Defibrated pulps are used principally in the manufacture of hardboard, insulating board, and roofing felt.

Dissolving pulp. Modified sulfite and sulfate pulp used in products which involve a chemical conversion of the cellulose fiber into a different physical form or to some cellulase derivative. High brightness, cleanliness, and freedom from metallic compounds are important.

Exploded pulp. A pulp produced from almost any kind of wood by subjecting the chips to a very high steam pressure for a short time, usually less than a minute. Sudden release of the pressure produces a violent internal explosion in the cell spaces of the wood, tearing the fibers apart and reactivating the lignin so that it can form a new bond with the fibers. The resulting pulp is brown in color and is used in the manufacture of a hardboard suitable for use as a building and insulating material and as a substitute for metals or lumber in the manufacture of a wide range of industrial products.

Groundwood pulp. The pulp produced by taking short logs after they have been barked and cleaned, and pressing these logs sideways against a revolving natural or artificial pulpstone, thereby reducing them to a fibrous mass of short fibers, which discolors in time on exposure to light and air. The wood is almost always from softwoods, although in certain pulp hardwoods are used. Freedom from pitch is desirable. Groundwood pulp is used in papers where permanence and strength are of minor importance, but where absorbency, bulk, opacity, and compressibility are the chief characteristics desired.

Pulp. See "Woodpulp."

Pulpwood. The wood used in the manufacture of woodpulp.

Screenings. Screenings are produced from the coarse fibers, fiber bundles, shives, partially cooked chips, and other materials removed from unbleached wood pulp in the screening operation. After separation by screening, it is the usual practice for the pulp mill partially to defiber this material by mechanical means, such as a jordan or other refiner, before running it into

laps or sheets. Screenings are used principally in the manufacture of coarse grades of paper and paperboard, such as mill wrapper, and as a substitute for chipboard, corrugating material, and insulation board. Screenings are produced in all the chemical pulping processes, but normally only the screenings from the sulfate, and acid and neutral sulfite processes are used commercially. Groundwood screenings are occasionally refined and admixed with virgin stock and may be used in the coarsest grades of board.

Semichemical pulp. Semichemical pulp is so called because only a part of the ligneous part of the wood is removed during cooking, and consequently, high yields are obtained from this process. The term "semichemical" indicates a relatively mild degree of cooking, such as a quick-cook sulfite or sulfate cook, and is not specific to any of the chemical pulping processes. After cooking, the softened chips are mechanically disintegrated by a suitable refiner. Although some semichemical pulp is now being bleached by the peroxide method for use in the manufacture of printing papers, this type of pulp is chiefly used in the unbleached state, and is characterized by a relatively low color (dependent upon the wood used) and yields a sheet of paper or board that has a dense formation and a high degree of stiffness and rigidity.

Soda pulp. The term used for the pulp in which the active cooking agent is caustic soda, the digestion taking place at fairly high temperatures. Soda pulp is made principally from broadleaf woods, such as aspen, birch, maple, gum, and tulip poplar. When bleached, it reaches a fairly white color. In general, owing to the natural shortness of the fiber (1 to 1.5 mm), it possesses very little physical strength but imparts the desirable properties of smoothness, bulk, opacity, and uniform formation for printing requirements. Some soda pulp is also made from coniferous woods. This pulp is soft in texture and is stronger than that reproduced from broadleaf woods.

Sulfate pulp. A term commonly used for all grades of pulp cooked by the process in which the makeup chemical is essentially sodium sulfate. Originally, sulfate pulps were used for the most part in the manufacture of various grades of paper and paperboard where physical strength was of primary importance. However, increasing amounts of sulfate pulps are being used for absorbent tissues, wadding, and for chemical conversion grades. Although the stronger grades are made from softwoods, very large quantities of hardwood kraft pulps are produced.

Sulfite pulp. Although some bleached sulfite is made from hardwoods, it is usually manufactured from coniferous woods of low resin content, such as spruce, balsam, fir, and hemlock, by dissolution of the ligneous material (lignin) with calcium bisulphite cooking acid. Dolomite limes, containing a fair percentage of magnesium along with the calcium, are sometimes used when economical. Sulfite pulp is used either bleached or unbleached in nearly all classes of papers, and bleached sulfite pulp is used in the manufacture of rayon and cellulose esters and ethers.

Wood pulp. Wood pulp is pulp manufactured either by mechanical or chemical means or both from softwood or hardwood trees. It is used as part or all of the fiber composition in practically every type of paper and constitutes approximately 90 percent of the virgin pulp fiber used by the world's paper and board industry. In addition to its use by the paper and board industry,

bleached and purified chemical wood pulp is widely employed for rayon and other products involving a chemical conversion of the cellulose fiber.

Woodpulp mill. The manufacturing facilities used to produce a specific type of woodpulp, such as sulfite or groundwood.

Woodpulp plant. The manufacturing facilities used to produce woodpulp at a single location. Two or more mills operating as a unit at a single location would be considered one plant.

Source: The Chemistry of Wood. B. L. Browning, 1975.

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