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Extension Circular 387

NEW HAMPSHIRE FOREST MARKET REPORT

1967

COOPERATIVE EXTENSION SERVICE UNIVERSITY OF NEW HAMPSHIRE

with the

NEW HAMPSHIRE DEPARTMENT OF RESOURCES AND ECONOMIC DEVELOPMENT COOPERATING

CORRECTION

NEW HAMPSHIRE FOREST MARKET REPORT 1987

The following correct volume figures should be substituted for New Hampshire or Blodgett Caliper rule:

Dia. (in.) Vol. (bd. ft.)

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The information in this bulletin covering prices, specifications, names and addresses was gathered by the New Hampshire County Foresters and the bulletin was prepared by Roger P. Sloan, Extension Forester, and Nicolas Engalichev, Forest Products Utilization and Marketing Specialist.

County Foresters

County	Name	Address
Belknap	Monahan, Daniel H.	County Extension Office Laconia 524-7011 Ext. 731
Carroll	Dodge, Arthur G.	County Extension Office Conway 447-5922
Cheshire	Ferguson, John	County Extension Office Keene 352-4550
Coos	Sargent, John E.	County Extension Office Lancaster 788-4961
Grafton	Sargent, Leslie B. *Kinder, Richard G.	County Extension Office Woodsville 747-2377
Hillsboro	Breck, Robert W.	County Extension Office Milford 673-2510
Merrimac k	Thompson, Wilbur E.	County Extension Office Concord 225-5505
Rockingham	Knowles, Stanley W.	County Extension Office, County Bldg. Exeter 772-4711 Ext. 37
Strafford	Leighton, Roger S.	County Extension Office Rochester 332-5808
Sullivan	Szymujko, Joseph A.	County Extension Office Claremont 543-3181

* Assistant County Forester

FOREST MARKET REPORT FOR 1967 THE NATIONAL MARKET SITUATION FOR FOREST PRODUCTS

Economic Activity

The depressed construction situation, particularly residential housing, has been the greatest source of concern in the timber products economy during 1966. Forecasters have suggested that the high interest rates and mortgage money shortage would ease during 1967. Also indicated were an increase in household formation and a backlog of demand which would combine with improved financing conditions to carry the recovery of construction into 1968 and 1969. Should the construction situation respond as expected, it would fill in the major gap in the forest industries market scene which has otherwise been advancing with the rest of the economy.

All Timber Products - Production & Consumption

Timber production from domestic forests in 1966 is estimated at 11.7 billion cubic feet. This is 3 percent above output in 1965 and 11 percent more than the annual average in the 1956-65 decade.

Stumpage prices for most species of timber sold from the National Forests have been moving up since 1962, and this trend continued in 1966. Stumpage prices for most species are now above the previous highs reached in the mid-1950's.

Log prices have been following the upward trend in stumpage prices. The rise has been largest for hardwoods and presumably reflects in part growing scarcities of the kinds and qualities of logs in demand by industry.

Trade statistics for 1966 indicate that total net imports of timber products, including the roundwood equivalent of lumber, plywood, veneer, wood pulp, and paper and board, amount to about 1.9 billion cubic feet. This is about 11 percent above 1965 imports, and the high in a trend that has been rising fairly rapidly in the last two decades.

Between 1959 and 1965 log exports rose from 0.2 billion board feet to 1.2 billion board feet, a sixfold increase. Trends in shipments during 1966 indicate that the total for the year may be about 1.3 billion board feet.

Consumption of industrial roundwood, i.e., saw logs, veneer logs, pulpwood, and all other products except fuelwood, amounted to about 12.3 billion cubic feet in 1966. This is 4 percent above the 1965 level and a high in the consumption of industrial timber products.

The total consumption of roundwood in 1966 - industrial wood

plus fuelwood — is estimated at 13.4 billion cubic feet. This is 3 percent more than in 1965 and slightly above the record levels attained in the early 1900's when lumber production was at a peak and large volumes of fuelwood were used for domestic cooking and heating and industrial and agricultural purposes.

Lumber

Apparent softwood lumber consumption in 1966 is estimated at 33.5 billion board feet. This is about the same as in 1965, but 7 percent higher than the annual average in the last 10 years.

Consumption of hardwood lumber in 1966 has reached 8.1 billion board feet. This is 3 percent higher than in 1965 and 19 percent more than the average annual consumption in the last 10 years.

Pulpwood

Because economic activity and income have increased much more rapidly than the projections available in the early 1960's indicated, pulpwood consumption is now substantially above the trend level projection in the recent Forest Service report Timber Trends in the United States. In view of the wave of expansion that is underway in the pulp and paper industry and the presently anticipated increases in population, economic activity, and income, further rapid growth is expected.

Growth in the demand for pulpwood is not likely to be uniformly distributed among the various sections of the county.

Growth in the demand for pulpwood in the South, along with the rising demands of other wood-using industries, may soon increase competition for wood to the point where more new wood pulp capacity will be located in other sections of the country. There are still large supplies of unused hardwood timber available in the North and of softwood timber in the Rocky Mountains. These sections, especially the North where most of the major pulp and paper markets are located, may be the areas where the next major wave of expansion in the pulp industry takes place.

When the pulpwood equivalent of the net imports of pulp, paper, and board is added to the volume of wood consumed in U.S. pulpmills, it appears that total pulpwood consumption in the U.S. is 66.8 million cords. This is the total amount of wood needed to meet the Nation's demand for paper and board; and for nonpaper products, such as rayon and cellophane, that are made from wood pulp. The volume in 1966 is 11 percent more than in 1965 and nearly 1.5 times consumption in 1956.

Softwood Plywood

Softwood plywood and consumption is roughly equal to domestic production. Consumption has increased at an annual rate of 9 percent in the last decade. But the rate of increase is expected to be somewhat lower in early 1967 because of the depressed housing market.

Hardwood Plywood

Consumption of hardwood plywood in 1966 is estimated to be 5 billion square feet. This exceeds 1965 use by 14 percent — about the same as the average annual rate of increase in the 1960's.

Veneer Logs

Fragmentary data in some State forest product price reports indicate that veneer log prices of other species, especially hardwoods, have also been moving upward. These increases and the rapid growth in hardwood plywood and veneer imports suggest that the veneer and plywood industries are having difficulty in obtaining veneer logs of the kinds and qualities needed.

OUTLOOK FOR THE FOREST PRODUCTS INDUSTRIES IN NEW HAMPSHIRE

"Generally optimistic" characterizes the outlook for the year ahead for the forest products industry in New Hampshire.

Softwood Lumber — Demand for softwood lumber will continue at favorable levels as reflected by volume of shipments. Some backlog of orders has developed, particularly for dry lumber. This demand should hold for the coming year in spite of the nationwide slowdown in housing construction. Pine furniture stock will find expanding markets with the growth in the popularity of pine furniture. Expanded demand should occur for low-grade box material due to the increased economic activity and requirements for military shipments to Vietnam.

Prices for softwood lumber have improved and should continue on the firm side through 1967.

Shortages of experienced labor in the sawmills will continue to encourage increased mechanization. There will continue to be a loss of less efficient mills, but larger, more modern mills will successfully remain in operation.

Hardwood Lumber — Demand for hardwood lumber will remain strong. The total cut of hardwood logs will continue to increase both for standard lumber and for dimension stock. Supplies of hardwood lumber will be met, assuming that woods labor is available. Prices for hardwood lumber will tend to continue to rise supported by strong demand.

Pulp and Paper Industry — The pulp and paper industry in the Northeast is involved in a major expansion of plant capacity, over 75 percent occurring in mills located in New Hampshire and Maine. This will result in an increase in consumption of about 1.5 million cords per year of pulpwood raw material by 1969. Some of this expansion is already in effect. Changes in procurement practices should be evident in New Hampshire pulpwood operations in 1967. For example, imports of Canadian wood, and trucking of pulpwood from more distant points can be expected to increase as mills draw from wider areas.

No alleviation of the woods labor shortage is foreseen. This condition will accelerate the substitution of capital for labor and will lead to increased mechanization in wood harvesting to meet industry demands. The trend toward chipping operations away from the paper mills will continue and roundwood from pulp-cutting operations will be marketed more frequently in longer lengths than the traditional 4 foot wood.

No substantial change in roundwood prices is indicated at this time, but stumpage and mill prices should remain firm with some upward tendencies.

Summary and General Outlook — A generally favorable demand for wood products is promoting more efficient utilization of timber resources in New Hampshire. Adjustments are being made to utilize in a balanced manner the quantities and qualities of timber which constitute the extensive forest resources of New Hampshire. The next five years will show signs of greater diversification in the forest products industries. The availability of the forest resource mix peculiar to New Hampshire and the advantage of proximity to the growing market of the Eastern megalopolis are powerful economic factors. These factors can be expected to attract plywood and particle board plants to the area to serve this future demand. These products, among others, have a future which ranks high in promise among forest products.

RECOMMENDATIONS TO PERSONS SELLING TIMBER

New Hampshire woodland owners who plan to sell stumpage, logs, pulpwood, and other forest products are urged to consider the following recommendations before selling:

1. If you are in doubt as to whether you have enough of the right sort of timber to attract a buyer and are interested in the sort of selective cutting operation that would benefit the remaining stand, contact the County Forester or a Consulting Forester.

2. Consider the possibility of retaining the services of a qualified forester to act as your agent in handling a timber sale in your behalf when you are not in the position to look after the details of a sale, such as marking the trees for cutting, negotiating a fair price for the marked trees, looking after the cutting operations, and making sure the terms of the contract or agreement are being followed. The names and addresses of Consulting Foresters that practice in New Hampshire are listed in this report. 3. Assuming you have enough timber to have selectively cut, find out what sort of operation would be involved — whether a thinning, or an improvement, or re-production, or harvest cut, or a combination of two or more of these.

4. Arrange to have the trees that are to be cut to be marked with paint or a blaze. If not in a position to do this yourself with help from the County Forester, hire a Consulting Forester for the purpose.

5. Find out from buyers of stumpage, logs, pulpwood, and other forest products the prices they offer in order that you may take advantage of the best market. Compare the local prices with those quoted from other sections of the state.

6. Thoroughly investigate all timber markets and prices since in many cases outside markets pay better prices than local markets because of special demands.

7. Before selling, consult your neighbors who have recently sold timber and use their experience as a guide. Ask your County Forester. In many instances, failure to do this has resulted in the woodland owner not getting full value of the product.

8. Advertise and secure competition among outside purchasers. The expense will be small and outside buyers will thus learn of chances to bid on timber in competition with local buyers.

9. Secure bids whenever possible, both by the lump sum sale based on closely estimated volume and by log scale measure. A choice is thus offered and a more profitable form of bid can be accepted.

10. Consider the responsibility of the prospective purchaser before making the sale in order to avoid slow payment, costly collections, and losses.

11. When there is quality timber to market, these trees are worth more than average or poor quality trees. Be sure the buyer takes the factor of tree quality into consideration when offering you a price for stumpage.

12. Remember that standing timber usually increases in values and generally can be sold at any time. The owner, therefore, is not obliged to place his produce on the market, if the price offered is not satisfactory. Sell only trees that should be cut. These trees should be marked by the owner or his agent with the help and advice of a qualified forester. Reliable operators will make partial cuttings by taking only the market trees, if the owner insists.

13. A written timber sale agreement between buyer and seller is more important before cutting starts on a lot. Sample sale agreement forms to fit different kinds of operations can be obtained from your County Forester.

ASSISTANCE RENDERED BY THE COUNTY FORESTER

The County Forester helps woodland owners to help themselves. Your County Forester will assist you in the examination of your woodlands and make recommendations for managing them. He will help you or your agent in marking trees for cutting in limited amounts, and advise you in the marketing of forest products.

There are thousands of acres of young growing trees, such as pine, spruce, fir, and desirable hardwood, that can be converted into desirable stands of trees if the overtopping weed and cull trees are cut or killed. It is profitable to prune young, fast-growing, well-formed trees, especially white pine, with the purpose of growing quality logs that will yield clear lumber. Your County Forester can assist you in getting a forest improvement program started in your woodlands. Under the provisions of the Agricultural Conservation Program, the Federal Government shares the cost of woodland improvement and tree planting with woodland owners. Your County Forester can provide you with the information about the cost-sharing programs.

1966 PRICE RANGE FOR FOREST PRODUCTS

Table I. Price Range Standing Timber (Stumpage) and Sawlogs Per MBF

Prices quoted are an average range for the county. Prices will vary from those quoted depending on market conditions. More specific prices can be obtained by con-Carefully the Recommendations for Selling on page 5 before disposing of stumpage, logs, and other forest products.

Species	Quality	Stumpage	Roadside	Delivered
White Pine	Low	\$ 8-10	\$30-32	\$36-38
	Medium	10-15	32-38	38-40
	High	15-20	38-41	40-47
Hemlock and ¹	Low	10	28	38
Spruce	Medium	14	33	40
Sprace	High	16	38	42
Beech	Low	6-8	30-32	30-35
Bed Maple	Medium	8-10	32-33	35-38
White Oak	High	10-12	33-34	38-40
White Ash1	111611	10 14	00 01	00 10
Received	Low	10-12	33-34	38-40
Dasswood-	Medium	10-12	34-35	40-49
Valless Direht	Ligh	15 19	25 26	10-12
Sugar Maple ¹ Red Oak ¹	rngn	13-16	55-50	42-40

Belknap County

¹ Higher prices are paid for these species when the grades are suitable for specialty items such as boltwood and veneer logs.

Carroll County				
Species	Quality	Stumpage	Roadside	Delivered
White Pine	Low	\$10-15	+ox 00	\$ 25-30
	Medium	15-20	\$35-38	40-48
TT	High	20-30	40 20.25	20-02
Hemlock	Medium	12-10	30-35	42
Samoo	Low	20-22		40
Spruce	Low	20	35	45
	High	20	00	50
Ach	Medium	15		60
4 1011	High	26		110
Basswood	111611	8		35-70
Beech	Low	7		
boot	Medium	10		43
	High	12		50
Beech-Boltwood				20-32/cord
Red Maple	Low to High	7-9		50
Sugar Maple	Low	12		50
°	Medium	17		
	High	26		100

Species	Quality	Stumpage	Roadside	Delivered
Sugar Maple Boltwood Paper Birch Paper Birch Boltwood Yellow Birch	Medium to High Low Medium	20-26 10-14/cord 12 38		20-32/cord 60-100 34-42/cord 60
Up to one half veneer	High	44 55		110
Oak Veneer	Low Medium High	26 33		80 100
Oak Boltwood	m	40 10-12		120 32

Carroll County (Continued)

Cheshire County 1

Species	Quality	Stumpage	Roadside	Delivered
Species White Pine Hemlock Spruce Red Oak ² Yellow (Silver) Birch Paper (White) ³ Birch Sugar (Rock) Maple Red (Soft) Maple Beech White Ash ²	Quality Low to Medium Medium to High Low to Medium Medium to High Medium to High Medium to High Medium to High Medium to High Medium to High	Stumpage \$10-15 15-20 8-15 15-18 8-15 15-18 10-15 15-25 10-15 15-25 10-15 15-25 10-15 15-25 10-15 15-25 10-15 15-25 10-15 15-25 10-15 15-25 10-15 15-25 10-15 15-25 10-15 15-25 8-15 15-20 8-15 (Network)	Roadside \$24-35 35-42 26-35 35-40 28-40 40-55 30-35 35-40 30-35 35-40 30-35 35-40 30-35 35-40 28-35 35-40 28-35 35-40 28-35 35-40 28-35 35-40 28-35 35-40 28-35 35-40 28-35 35-40 28-35 35-40 28-35 35-40 28-35 35-40 28-35 35-40 28-35 35-40 28-35 35-40 28-40 28-35 35-40 28-35 35-40 28-30 28-30	Delivered \$32-45 45-50 40-45 45 35-45 45-70 45-50 50-70 40-50 50-70 45-50 50-65 35-45 45-50 35-45
white Ash ²	Medium to High	(Not purchased separately ex- cept as logs)		40-45 45-100

¹ Prices for Brattleboro-Vernon Vermont areas are also included.

² Special markets in Southeastern, Vermont.

³ Special markets in Cheshire County, N.H.

Species	Quality	Stumpage	Roadside	Delivered
SAWLOGS	·····			
White Pine	Low	\$ <u>12</u>	\$35	\$ <u>50</u>
	Medium	17	45 50	55
White Spruce	Low	12	35	55
-	Medium	17	40	60
Rod Spruce	High	20	45	65
neu spruce	Medium	12	35 40	55 60
	High	20	$\tilde{45}$	65
Hemlock	Low	10	28	40
	Medium	12	32	45
Balsam Fir	High	20	30 45	65
Hard Maple	Low			80
	Medium			65-90
Soft Maple	Low No	Market for Sawlo	de	75-100
boit mapio		at this time	.g.,	
	Medium			
White Birch	High		60	105
Yellow Birch				110-150
Beech		5-15		45
Ash (White)			85	FF OF
Oak (neu)				75-85
VENEER				<i>.</i>
Snacias	Crada	Mill yd. Price/mhf	I on ath	(inches) Mim Diam
Yellow Birch	AA	\$300	8'6"	16
Yellow Birch	Aircraft	260	8'6''	14
Yellow Birch	Select	210 160	8'6'' - 7'6''	12
Yellow Birch	2	100	8/6" - 1'0"	12
Yellow Birch	3	120	8'6" - 7'6"	10
White Birch	Select	210	8'6" - 7'6"	12
White Birch Hard Maple		160	8'6" - 7'6"	12
Halu Maple	1	140	8/6/	12-13
- 1 - 1	2	110	8'6"	14+
Red Oak		120	9/4″ 0/4″	12-14
		120	9.4.	194

Coos County (Does not include pulpwood prices)

Species	Quality	Stumpage	Roadside	Delivered
White Pine	Low	No Morket		· · · · · · · · · · · · · · · · · · ·
	Medium	¢10 10	AD 4 40	
	Ligh	φ12-10 15 of	\$34-40	\$ 40-50
Hemlock	mgn	15-25	38-45	45-55
Sprice		10-16	26-35	36-45
Vollow Dirch	a 1	10-20	35-45	45-55
Tenow Birch	Sawlog	15-25	35	50-125
C	Veneer	25+	45+	120-300
Sugar or Hard Maple	Sawlog	12-25	35-45	50-90
	Veneer	20+	45+	100-140
White Birch	Sawlog	12-25	35-45	50-100
	Veneer	20+	45+	100 910
Soft (Red) Maple	Sawlog	8-12	30 +	20 00
Red Oak	Sawlog	10-16	30.40	32-00
	Veneer	20+	50-40	40-60
Beech	Sawlog	8.15	20.40	60-120
	Veneer	151	30-40	38-60
White Ash	Veneer			60-85
Basswood	Samlar			65-90
	Vanaan	10-15	30-40	40-50
	veneer	20+		60-120

Grafton County

Hillsboro County

Species	Quality	Stumpage	Roadside	Delivered
White Pine	Low	• 0	¢ 00	
	Medium	15	920 33	\$30
	High	25	38	30
Hemlock	Low	-8	25	40
	Medium	14	30	35
B-JOJ J	High	17	34	40
Red Oak and White Birch	Low	6	25	30
	Medium	15	35	40
Other Handress de	High	20	40	45
Other Hardwoods	Low	5	25	31
	Medium	12	30	37
	rugu	18	35	42

Species	Quality	Stumpage	Roadside	Delivered
White Pine	Low	\$ 8-12	\$25-30	\$30-35
	High	12-13 15+	35+	40-45 45+
Hemlock	Low	8-12	25-30	30-35
	High	12-14 14+	30-35	35-40 40 +
White Birch	Medium		001	45-50
	High Bolt (cord)			75
Hard Maple	Medium			32 45-50
-	High			73
Yellow Birch	Medium			32 45-50
	High			73
Red Oak	Bolt (cord) Medium	10 15	25 40	32
Heu Oak	High	12-13 15+	40+	43-50 50+
Mixed Hardwood	Logs	8-12	28-30	35-40
(Pallet Stock)	Bolt (cord)	2	14-15	18

Merrimack County

Rockingham County

Species	Quality	Stumpage	Roadside	Delivered
White Pine	Low	\$ 8-11	\$24-27	\$31-34
	Medium	12-15	28-31	35-38
	High	16-22	31-38	38-45
Hemlock	Low	8-11	24-27	31-34
	Medium			
	High	12-15	28-31	35-38
Oak	Low	8-12	24-28	31-35
	Medium	13-15	29-33	36-40
	High	16-25	32-41	39-48
Other Hardwoods	Low	5-10	21-26	28-33
	Medium	11-12	27-28	34-35
	High	13-15	29-31	36-38

Species	Quality	Stumpage	Roadside	Delivered
White Pine ²	Low Medium	\$10-12 12-18	\$28-32 32-38	\$32-36 38-40
Hemlock and Spruce	High Low Medium	20-27 10 12	40-45 28 32	45-50 35 38
Yellow Birch ¹ White Birch ¹ Sugar Maple ¹	Hign	18	35	40
Soft Maple Red Oak ¹ White Oak Beech White Ash ¹ Basswood ¹	Low Medium High	8 12 18	32 34 36	38 40 42

Strafford County 3

¹ Higher prices are paid for these species when the grades are suitable for specialty items such as boltwood and veneer logs.
 ² Occasionally higher prices paid for select logs.
 ³ Prices based on either International rule or sawmill tally of square edge lumber.

Species	Quality	Stumpage	Roadside	Delivered
White Pine	Low	\$ 8-10	\$98.30	695
	Medium	10-15	30-32	400 40 45
	High	15-18	32-38	40-40
Hemlock	Medium	6-12	26-32	35.40
	High	10-15	30-35	40-45
Spruce	Medium	10-15	30-37	45 49
	High	15-20	35-40	45.50
Yellow Birch	Medium	10-25	35-45	50-80
	High	25-60	45-80	70-110
White Birch	Medium	10-20	30-36	50-60
	High	20-30	36-47	60-75
Sugar Maple	Medium	15-30	35-45	45-80
	High	25-50	45-70	70-110
Red Oak	Medium	10-25	30-40	45-60
	High	15-35	35-55	60-75
White Ash	Medium	15-30	25-50	45-70
	High	20-50	40-70	70-130
Beech	Medium	15	30-35	40-45
	High	15-24	35-40	45-50
Mixed Hardwoods		8-10	25-30	35-40

Sullivan County

Species	Stumpage	Roadside	Mileage Zone	Mill Yard	C.W.T. 1
Spruce and Fir Peeled Rough	\$4.00-6.50	\$18.00-23.5(14.50-16.5() 0(0-20 mi.) (21-40 mi.) (40 and up) ²	\$25.00-32.00 21.00-21.25 22.00-22.25 23.00-25.00	• •
White Pine Rough	1.50-2.50		(0-20 mi.) (21-40 mi.) (41 mi. and up)	17.50-18.50 18.00-18.50 18.50	
Hemlock Rough	1.50 -2.0 0		(0-20 mi.) (20-40 mi.) (41-60 mi.) (61-80 mi.) (81 and up)	18.50 19.50-20.00 21.00 22.00 23.00	
Tamarack			(0-20 mi.)	18.00-18.50	
Red, Pitch, Scotch Pine	2.00-3.00		(21-40 mi.) (41-60 mi.) (61-80 mi.) (81 mi. and up)	20.00 21.00 22.00 23.00	
All Hardwoods Rough Peeled	1.50-2.00	\$4	.00/cd increase for (0-20 mi.) (21 mi. and up) (0-20 mi.) (21-40 mi.) (41 mi. and up)	r peeled wood 16.94 18.06 21.80 22.90 24.00	.3025 .3225
Poplar (if scaled) Rough Peeled	.50-1.50			14.00-15.00 18.00-20.00 2	

Table II.	Prices	Pulpwood	Per	Cord —	Northern	N.H.
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¹ When buying hardwood by weight, 5600 pounds equals one cord. ² Contact individual buyers for exact mileage allowance.

Prices	of	Pulpwood	Per	Cord		Southern	New	Hampshire
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Species	Stumpage	Roadside	Delivered at Mill
Hardwood Rough Peeled	\$1.50-2.00	\$11.00-12.00 16.00-19.00	\$24.25-27.75 *

¹ Price varies depending on distance from mill.

Table III. Price of Debarked Slabs and Edgings Per Green Ton Strapped

	Delivered to Chipping Plant
Softwood 1 (mixed)	\$5.25-7.00
Hardwood (mixed)	4.50-5.50 2

¹ Special prices are paid for slabs and edgings sorted by species (spruce and fir). ² Contact buyers for exact prices and mileage allowances.

Price of Pulp Chips Per Cord 1

	Delivered to Pulp Mill ²
Pine and Hemlock	\$20.00-24.00
Spruce and Fir	\$22.00-26.00
Hardwood (mixed)	\$20.00-25.00

¹ Chips are bought by weight or by volume.

² Contact buyers for exact prices and mileage allowances.

Species	Stumpage	Roadside	Delivered at Mill
Poplar Peolod	Excelsior Wo	ood Per Cord	
Rough			\$22.00-28.00 18.00
	Boltwood	Per Cord ²	10.00
White Birch	\$8.00-14.00	\$20.00-30.00	\$29.00- 43.00 per cord
Decel			60.00-105.00 per Mbf.
beech			20.00- 38.00 per cord
Sugar Manle			45.00- 60.00 per Mbf.
bugar mapie			20.00- 38.00 per cord
Yellow Birch	8 00 10 00		60.00-100.00 per Mbf.
Jenow Diten	0.00-12.00		28.00- 38.00 per cord
Mixed Hardwood (pallet)	2.00- 5.00	10.00-15.00	60.00-105.00 per Mbf. 18.00- 25.00 per cord

Table IV. Price Range of Excelsior Wood, Boltwood, Poles, and Posts1 and Railroad Cross Ties

¹Before cutting any posts and holes or piling, woodland owners should inquire of ² Price per bolt varies according to diameter and length of bolt. Some mills prefer

to buy by the Mbf.

Poles	1,	2
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Length	Class	Min. Circumference 6 feet from butt (inches)	Min. Top Diameter (under bark)	Price Roadside per pc.	Price Delivered Merrimack, N.H. per pc.
26'	6½″ top	No spec.		\$ 3.00	4.00
30′	6½" top	No spec.		4.00	5.00
35'	3 -	36.5 to 40	8″	9.00	1 2 .10
35′	4	34.0	7″	7.70	10.25
35′	5	31.5	7″	6.60	8.80
35'	6	29.0	6″	5.40	7.20
40′	3	38.5 to 42	8″	11.05	14.70
40'	4	36.0	7″	9.35	12.50
45′	3	40.5 to 45	8″	13.20	17.60
45'	4	37.5	7″	11.30	14.00
50′	3	43.0 to 45	7″	15.00	19.00

¹ Before cutting any posts and poles or piling, woodland owners should inquire of buyers concerning current specifications and purchasing program. ² Species: Red (Norway) pine.

Species	Length	Top Dia.	Roadside Price (Per Post)	Delivered at Mill (Price Per Post)
Red (Norway) Pi Pitch Pine	ne and	1		
Specifications	7'	3%"- 5%"		\$.25
-	7'	61/2"- 81/2"	\$.45	.7075
	7'	8%"-10%"	.90	1.40-1.55
	8′	31/2"- 41/2"		.30
	8′	4%"- 6"		.40

Posts 1

¹Before cutting any posts and poles, woodland owners should inquire of buyers concerning current specifications and purchasing program.

Grade	Size	Rail Prices Paid for Green Mixed Bearing Oak and Hardwood ¹ Ties at Face Rail Siding (MAINE CENTRAL)				Delivered at Mill	
No. 1 No. 2 No. 3 No. 4 No. 5	(6"x7"x8'6") (6"x7"x8'6") (6"x8"x8'6") (7"x8"x8'6") (7"x9"x8'6")	6" 7" 8" 8" 9"	\$1.45 2.00 2.25 2.95 3.10	MBF \$48.86 67.40 66.15 74.34 69.44	\$1.5 2.1 2.3 3.0 3.2	MBF 5 \$52.23 0 70.77 5 68.40 5 76.86 0 71.68	

Railroad Cross Ties

¹ Beech, Birch, Maple, Cherry.

Ta	ble	1	7.	Price	Range	of	Fuelwood	Per	Cord
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Species	Stumpage	Roadside	Delivered Buyers Premises
Hardwood ¹ 4' wood 12'', 14'', 16'' lengtl Slabs	\$1.00-3.00 ns	\$12.00-16.00 18.00-21.00 5.00-10.00	\$20.00-27.00 20.00 32.00

Fireplace white birch will be slightly higher than above when bought in bundles. Prices range up to 60.00 + per cord.

Formula for determining cords of fuelwood, pulpwood and boltwood in 4' lengths. Average height in inches times length of pile in feet divided by 384 equals the number of cords:

$$\frac{\text{EXAMPLE: } 48'' \times 8'}{384} = 1 \text{ cord}$$

If wood is longer or shorter than standard length, which is 48". divide by standard bolt length to get current percentage. (EXAMPLE: 39" divided by 48" equals 81%).

¹ \$3.00-8.00 asked for sawing 4' wood into stove length.

	Per Cord Green at Sawmill	Per Bale Air Dry
Sawdust	\$1.00-5.00	
Chautage	or \$.02 to .04 per cubic foot	ar 1 00
Snavings	مع:00-5.00 or \$.02 to .04 per cubic foot	00.1-60.

Table	VI.	Price	Range	of	Sawdust	and	Shavings
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1	Felling and Bucking per Mbf	Yarding per Mbf	Trucking ³ & 4 per Mbf
Logs			
Softwood1	\$ 6.00-13.00	\$6.00-15.00	\$5.00-15.00
Softwood ²	8.00-10.00	8.00-10.00	8.00 15.00
Hardwood1	7.00-13.00	7.00-18.00	6.00-25.00
Hardwood ²	9.00-12.00	8.00-12.00	9.00-24.00
Pulpwood	per cord	per cord	per cord
Softwood1	\$ 7.00- 9.00	\$2.00- 4.50	\$3.00- 7.00
Hardwood ¹	6.50- 8.50	2.50- 6.00	4.00- 8.00
Hardwood ²	6.00-12.00	4.00- 6.00	5.00-11.00
Fuelwood	6.00- 9.00	4.00- 6.00	
Horse Rental	\$ 1.00 per cord if t	he jobber feeds the	animal.
	\$ 1.50-2.00 per co	ord if the chopper	feeds the animal.
Twitching stump to roadside	\$ 8.00- 9.00 per co	ord, horse furnished	ł.
Chain Saw Rental	\$ 0.50- 2.00 per ho	ur	
Man with Chain Saw	\$ 2.50- 5.00 per ho	ur	
Stump to Stick	\$45.00-65.00 square	edge softwood lun	nber per Mbf.
	30.00-40.00 round	edge softwood lum	ber per Mbf.
	52.00-82.00 square	edge hardwood lu	mber per Mbf.
Stickings	4.00- 5.00 square	edge hardwood lu	mber per Mbf.
-	3.00- 4.00 round	edge softwood lum	ber per Mbf.
Custom Sawing	20.00-35.00 per M	bf for softwoods o	r \$15-20 per hour.
-	2.00- 5.00 more p	per Mbf for hardwo	ods.
Planing	10.00-15.00 per M	bf. \$6.00-16.00 per	hour.
Portable Planer	10.00 per M	bf one face.	
	15.00 per M	bf two faces.	

Table VII. Operating Costs (Contract Prices)

¹ For Northern New Hampshire ² For Southern New Hampshire

³ Intra-state and inter-state rates are sometimes used. ⁴ There are no established I.C.C. rates for trucking sawlogs and pulpwood. Rates are determined between the trucker and the party wanting the logs hauled on the basis of mileage involved. Average hauling prices are as follows:

Logs	0- 30 miles	\$10.00 per Mbf
	35- 50 miles	15.00 per Mbf
	50- 85 miles	20.00 per Mbf
	85-100 miles	25.00 per Mbf
Pulpwood	0- 15 miles	\$ 3.00 per cord
•	15- 30 miles	4.00 per cord
	30- 40 miles	5.00 per cord
	40- 60 miles	6.00 per cord

D. Select	& Btr.	No. 1 & No.	2 Common	No. 3	Common	No. 4	Common
1x3 1x4	\$160 160	1x3 1x4	\$130 140	1x3 1x4	\$ 80 95	1x3 1x4	\$55 55
1x5 1x6 1x7	160 200 200	1x5 1x6 1x7	140 145 145	1x5 1x6	95 100	1x5 1x6	55 55
1x8 1x9	210 210	1x8 1x9	145 145 145	1x7 1x8 1x9	100 100 100	1x7 1x8 1x9	65 65 65
1x10 1x11 1x12	240 240 280	1x10 1x11 1-19	145 145	1x10 1x11	100 100	1x10 1x11	65 65
1x13 5/4 to 8/	280 280 4 — No. 2	1x12 1x13 & No. 3 & D S	155 elect	1x12 1x13	110 110 Add \$5	lx12 lx13 per M	65 65
		Rough A	ir Dried Na	tive Hem	lock		
Board	S				Dimer	nsions	
1x4 & 1x5 1x6 & 1x7	\$85 87	2x3 & 2 2x6 & 2	6' (4 \$45	8' 75	10' 75	$ \begin{array}{ccc} 12' & 14' \\ 75 & 75' \\ 75$	16' 75
1x8 & up	90	2x0 & 2x 2x10	45 45	75 75 Spruce	75 75 e — add	75 75 75 75 \$5 per Mbf	75 75

 Table VIII.
 Wholesale Rough Air Dried Price for Graded Eastern White Pine 1

¹ Prices may vary somewhat from those quoted depending on market and quantities.

 Table IX.
 Wholesale Price List for White Pine Lumber per MBF at a New Hampshire Lumber Yard

 Dressed 1, 2, or 4 sides, Matched or Novelty Siding

Grades	D Select and Better (Clear)	No. 1 and No. 2 Common	No. 3 Common		No. 4 Common			
1x4 1x6 1x10 1x12	\$185 225 265 305	\$165 170 170 195	\$120 125 125 135	1	\$80 85 90 90	(Retail \$35-50 more tha wholesa	Prices in le)	
Single Clap Double Clap V Joint. Kn. Pickwick Pa No. 3 Knott	board siding – pboard siding – otty Pine, No. attern – A gra cy Pine – \$14	- 1x5 only — add : 1x8 — No. 3c — 2 and No. 3 — ad ide \$165 0	\$4 per M add \$4 pe d \$4 per 1	er M — No M	o. 4c —	- add \$7 j	per M	
D]		Eastern He	emlock					
Boards				Dimer	nsions			
1x2 & 1x3 1x4 1x5 1x6 & 1x7 1x8 & up	\$85 85 85 87 90	6 2x3 \$6 2x4 6 2x6 6 2x8 6 2x10 6	y 8' 0 90 0 90 0 90 0 90 0 90 0 90 0 90 0 90 0 90 0 90	10' 90 90 90 90 90	12' 90 90 90 90 90	14' 90 90 90 90 90	16' 90 90 90 90 90	

	Stur	npage	Roadside		
	Single	Bundle (2 or more)	Single	Bundle	
Pasture Run Balsam Fir Spruce	\$.3565 .2550	\$.75-1.25 .50-1.00	\$.75-1.50 .50-1.25	\$2.50-4.00 1.25-3.00	
Improved Trees Balsam Fir Spruce	.75-1.25 .3075	2.50-4.00 2.00	1.25-2.75 .75-1.50	3.00-4.50 2.75-3.00	
Plantation Grown Trees ²	1.00-3.50 o	r .50c per linear	foot.		
Boughs Balsam Fir Spruce	Per Bundl .50 .50	Per Bundle Roadside .50-1.75 .50-1.00		Roadside 0-75.00 0-64.00	

Table X. Price Range of Christmas Trees and Boughs 1

¹ Producers should contact buyers well in advance of cutting and arrange for deposits and specific prices, and use a written contract.

² Applies to Southern New Hampshire for buyers selected trees.

Companies and Individuals Buying Standing Timber and Logs and Doing Custom Sawing

Listed by County and Town

Names of buyers listed in this bulletin are those who have indicated to the County Foresters that they are in the market now or at a later date to purchase one or more of the following: stumpage. logs, pulpwood, bolts, excelsior wood, piling, posts, and other forest products. Many buyers and operators will give a preference to owners in the purchase of forest products who are interested in harvesting forest products from their holdings in accordance with cutting practices recommended by a County Forester or a private forester. Owners can well consider giving options for further cuts to operators who will make partial cuttings in stands operated according to good forest management.

The following abbreviations are used:

SW — Softwood Road — Roadside P — Portable	HW — Hardwood Cus. — Custom Sawing S — Stationary	Stump — Stumpage Del. — Delivered at mill B — Buyer only L — Logger
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Names of forest products, buyers, and other persons listed are offered without recommendations or preference. Omission is not a reflection on the integrity of any person. A list of registered sawmills and of secondary processors is available from the Department of Resources and Economic Development of Resource Development, Concord, New Hampshire.

Town & Operator	Type of Sawmill	Kind of Logs	Stump.	Road.	Del.	Cus.
Belmont						
Contigiani Lumber Co. LaPlante, Albert L. Tilton, N.H.	B&L&S	SW & HW	x	x	X	x
N.H. Lbr. Prod., Inc. Dickerson, Gene RFD 1, Laconia	B&S	SW & HW	x	x	x	x
Gilmanton						
Clairmont, Jos. Gilmanton Corner	S&L	SW & HW	х	x	x	x
Dawson, Robert RFD 1, Barnstead	S&L	SW & HW	х	X -	X	x
Potter, Robert RFD 1, Barnstead	S&L	SW & HW	X	.	x	x
Gilford						
Gardner, Walter Governors Island RFD, Laconia	B & L	SW & HW Veneer	X			

Belknap County

Belknap County (Continued)

Town & Operator	Type of Sawmill	Kind of Logs	Stump.	Road.	Del.	Cus.
Laconia Allen-Rogers Corp. Water St., Laconia	В	HW- Boltwood	x		x	
Banfill, Ernest 500 Union Avenue Laconia	B&L	SW & HW	х			
Page, Otto 260 Court Street Laconia	B&L	SW & HW	x			
Meredith						
Dow, Harold Parade Road	S&L	SW & HW	х			
Tilton						
Daniels, Thomas RFD, Tilton	S&L	SW	x	Х	x	x
	Carroll Co	ounty				
Bartlett						
Kearsarge Peg Co., W. F. Hodgkins and S. E. Davidson, Jr.	S	Birch Bolts	х		x	
Conway						
Conway Supply Co., Inc.	S	SW & HW	х	x	х	х
Cummings, C. B. & Sons c/o Howard Young, Sr.	S	Birch Bolts	x	x	x	
Heath Brothers Center Conway	B&L	SW & HW	х			
Morrill, Brewster Oak St., N. Conway	B&L	SW & HW	x			
North Conway Lumber Co. North Conway	S	SW & HW	х		x	
Rodrigue, Roland Box 463	B&L	SW & HW	x			
Smith. N. Hood Box 684	B&L	SW & HW	x			
Smith. Wilmer Fryeburg, Me.	B & L	SW & HW	x			
Valladares & Leavitt	B&L	SW & HW	x			

Town & Operator	Type of Sawmill	Kind of Logs	Stump.	Road.	Del.	Cus.
Eaton Center DeWitt, Sidney	B&L	SW & HW	x			
Jackson Dundee Mgmt. Corp. Box 101	B&L	SW & HW	x			
Kelley, Harold W.	B&L	SW & HW	x			
Madison Shackford, Jesse, Jr. Silver Lake	B&L	SW & HW	x			
Ossipee Libby, Albion RFD, Center Ossipee	B&L	SW & HW	x			
Portland Dowel Co., Inc. Center Ossipee	S	HW Bolts	х	х	x	
New England Lumber Co., West Ossipee	Inc. S	SW & HW			x	
Welch, Austin E. West Ossipee	B&L	SW & HW	х			
Sanbornville Hill, Wallace F. Phone 522-3308	B&L	SW & HW	x			
Rouleau, Samuel	B&L	SW & HW	x			
Sandwich Bellingham Lumber Co. North Sandwich	S	SW & HW	x	x	x	x
Bourroughs, Lester, Jr. & Plummer, James Center Sandwich	B & L	SW & HW	x			
Elliot, Sidney Bennett St. North Sandwich	B&L	SW & HW	X			
Tamworth						
Ames, Ronald South Tamworth	B&L	SW & HW	x			
Bickford, Fred, M., Jr. South Tamworth	B&L	SW & HW	х			
Hammond, Roy	SW &	ну х				

Carroll County (Continued)

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Town & Operator	Type of Sawmill	Kind of Logs	Stump.	Road.	Del.	Cus.
Saunders Brothers c/o Elton Perkins South Tamworth	B&L	Birch Bolts & HW	x	x	x	
Thomas, Bruce Silver Lake	B&L	SW & HW	x			
	Cheshi	ire County				
Alstead Branchflower Lbr. Corp. P.O. Box 235	S	SW & HW	x		x	
Chesterfield						
Stone, D. S. Lumber Co. Route 1, Keene	S	SW & HW	X	х	x	x
Welcome, Paul E.	S	SW & HW	х		x	x
Fitzwilliam						
Tommila Bros.	S	SW & HW	х			
Gilsum Lackey, Frank RFD, Keene	B&L	SW & HW	x			
Duffy, Arthur Gilsum	B&L	SW & HW	x			
Keene						
Rivers, Paul E. 334 Elm St., Keene	B&L	SW & HW	x			
Bardwell, Walter L. Lower Winchester Road Keene	P	SW & HW	x			
Marlboro						
Beauregard, Chas. & Sons, P.O. Box 395	Inc. S	SW & HW	Х	х	x	X
Cummings, F. T., Inc. Box 185, Troy	S	SW & HW	х		x	x
Swanzey Lane, C. L. Company East Swanzey	S	SW	x		x	
Stoddard						
Batchelder, Earl Peru, Vermont	P	HW	x		x	
Troy						
Jonas Damon Estate State Line	S	SW & HW	x	x	х	x

Carroll County (Continued)

Town & Operator	Type of Sawmill	Kind of Logs	Stump.	Road.	Del.	Cus.
Starkey, Eugene	Р	SW & HW	x			
Walpol e Kingsbury, Albert	S	SW & HW	x			x
Swanzey Frazier Furniture Co. West Swanzey	S	HW			x	x
Savard, Winfred	B&L	SW & HW	x			
Winchester						
New England Lbr. Co. Box 124	S	SW & HW	х		X	
Prouty, Leonard Old Chesterfield Road	B&L	SW & HW	х			
	Coo	s County				
Berlin						
White Mt. Lbr. Co., Inc. East Milan Road	S	SW			x	
Berlin Hardwood Products, I	nc. S	HW			x	
White Mountain Woodcraft Boucher, George, Buyer E. Milan Road	S	HW			x	
Colebrook						
Weir, Harlie	В	HW			x	
Dalton						
Saunders Bros., Clifford Wentworth, Buyer RFD, Whitefield	S	HW		х	х	
Errol						
Lemire, George	S	HW			х	
Groveton						
Crawford, Wilson	S	HW	x		x	
C. B. Cummings & Son, Co.	S	HW			x	
Lancaster						
Alden, Clayton M. RFD No. 1	S	SW & HW	x	x	x	
Alden. Harold B. RFD No. 1	S	SW	X	X	x	x

Cheshire County (Continued)

Town & Operator	Type of Sawmill	Kind of Logs	Stump.	Road.	Del.	Cus.
North Stratford						
Plywood Products, Div. of Brown Company	S	HW	х	х	х	
Washburn Lumber Co. Reuben Washburn, Buyer	S	SW & HW	х	X	X	
Shelburne Poretta Lumber Co.	S	sw			x	
Whitefield		-				
Savage, Roswell	S	SW			х	X
	Graf	ton County				
Alexandria Robie, Ernest S. RFD	P	SW & HW	x		x	x
Ashland Gallup Lumber Co. c/o B. Avery, Mgr. Ashland	S	SW	x	x	x	x
Simpson, Delma G.	в	SW & HW	х			
Benton Page Hill Farms Pike, N.H.	S	sw			x	x
Bristol Williams, R. P. & Son	S	SW & HW	x	x	X	
Campton Draper Corp. Beebe River	S	SW & HW	x	x	x	
Mardin, Robert RFD, Plymouth	S	SW & HW	х	x	x	x
Canaan Lary, A. C., Lbr. Co., Edward Lary	S	SW & HW	x			
Morris Lumber Co.	S	SW & HW	x	х	x	x
Enfield Cobb. Willis P.O. Box 128	B&L	SW & HW	x			
Grafton Braley, Maurice F.	S	SW & HW	x	x	x	
Hanover Lacoss, Niles P.O. Etna	S	sw	x	x	x	x

Coos County (Continued)

Town & Operator	Type of Sawmill	Kind of Logs	Stump.	Road.	Del.	Cus.
Haverhill						
Heberbrand, Arthur D. (N. Haverhill)	S	SW & HW		X	х	x
Newman Lbr. Co. & Transit Milling Co. Woodsville	S	SW	x	х	X	
Northeast Hardwoods, In N. Haverhill	c. S	HW	х	х	х	x
Landaff						
Davis, Jack RFD, Lisbon	S	SW & HW				x
Lebanon						
Laro, Leonard	S	SW & HW	х	х	х	х
Goodwin, Edmond RFD, W. Lebanon	В	SW & HW	х			
Lisbon						
Profile Lumber Co.	S	SW & HW	х	Х	х	
Littleton						
Poulsen Lumber Co.	S	SW & HW	х	х	x	
Schoff, Arthur	S	SW & HW	x	x	x	
Timber Products Laurence Bean	S	HW			x	
Lyme						
Wagner Woodlands	B&L	SW & HW	x			
Hammond F C & Sons	e					
Plumanth	3	SW & HW	X	Х	Х	
Ireland Lumber Co	e					
United Shank & Finding Division	S	SW&HW HW	x x	x x	X X	Х
Purpose or						
Forest Lands, Inc. c/o Roger A. Sanborn, Buy RFD, Rumney	B & L er	SW & HW	x			
Keniston, Raymond	S	SW & HW	x	x	v	
Sanborn, Richard	S	SW	x	A V	л v	
Tarr, Bert	S	HW	X	X	X	x

Grafton County (Continued)

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Town & Operator	Type of Sawmill	Kind of Logs	Stump.	Road.	Del.	Cus.
Thornton Benton, Bert RFD, Campton	S	SW				x
Warren Whitcher, Kenneth	S	SW & HW	x	x	x	x
Wentworth						
Forest Products, Inc.	S	HW	х	х	x	
King, John M.	B&L	SW & HW	х			
	Hills	oro County				
Amherst						
Converse & Peaslee RFD, Milford	S	SW & HW				X
Bennington						
Durgin, John D.	P	SW & HW	х	X	x	
Low, Forest	S	sw				x
Brookline						
Tapply, Wm. Lunenburg, Mass.	S	SW & HW	X	X	x	
Goffstown						
Upton, Gerald	S	SW & HW	х	х	Х	
Hebert, Lucien 29 College Road Manchester	S	SW & HW	x			
Hancock						
Pierce, W. H. & Son	В	SW				X
Upton, Karl G.	В	SW & HW	X			
Hollis						
Glover, Milton RFD 2, Milford	S	SW				X
Stateline Lbr. Co.	S	SW & HW	х	X	X	
Litchfield						
Venne, Leo C. Pelham	P	SW	x			
Yanis, Stanley Hudson	P	SW	x			

Grafton County (Continued)

Town & Operator	Type of Sawmill	Kind of Logs	Stump.	Road.	Del.	Cus.
Lyndeboro Ballou, C. Co. Douglas Street Uxbridge, Mass.	S	sw	x	x	x	<u> </u>
Manchester						
Bailey, Arthur D. 48 N. Adams Street	В	SW	x			
Plant, Marshall 248 Villa Street	P	sw	x			
Merrimack						
Heath, A. C. So. Merrimack	В	SW & HW	x			
Milford						
Lorden Lbr. Co.	S	SW & HW	х		х	
Matson, Theodore	P	SW & HW	х	х	х	
Whitten, Chester	S	sw	х	х	х	
Wilkins, Harold, Jr. Amherst, N. H.	S	SW	х	x	X	x
New Ipswich						
Dudar, John Box 56	S	sw				x
Kurth, Walter	S	SW	x			Y
Saari, George	S	sw				x
Weare						Л
Colburn, Robert	S	sw	х			
	Merrim	ack County				
Andover						
Dalphond Bros., Inc. RFD No. 1	S	SW & HW	x		x	х
Boscawen						
Colby Lumber Co. River Rd., Penacook	S	SW & HW	x	х	х	
Durant, Herbert B. 164 N. Main St. Penacook	S	SW & HW		X	x	x
Merrimack Mf. Co.	В	sw	x		x	
Steenbeke & Sons, Inc.	S	sw	x		x	

Hillsboro County (Continued)

Town & Operator	Type of Sawmill	Kind of Logs	Stump.	Road.	Del.	Cus.
Canterbury				<u>,,,,,,,,,,</u>		
Greenwood, George RFD No. 6, Concord	S	sw				x
Chichester Reed, Edgar	P	sw	x			
Concord						
Concord Lumber Co. Commercial Street	S	SW	х	X	x	X
Henniker						
Goss Lumber Co.	S	sw	х	х		
Henniker Lumber Co., Inc.	S	SW & HW	х	х	X	
Patenaude, Barry Rush Road	S	SW & HW	х	х	X	
Thelvicki Corp., Contoocook, N. H. Thomas Johnson, Buyer	B	HW	х	х	х	
Hooksett						
Smalley, John RFD No. 1, Manchester	S	sw				
Hopkinton						
Astles Lumber Co. Contoocook	S	sw	x		x	
Loudon						
Page Lumber Co. RFD No. 8, Concord	S	SW & HW	X	х	X	х
Sanborn Albin J. RFD No. 2, Pittsfield	S	SW	x			X
Pittsfield						
Barton Bros.	P	SW	x			
Pittsfield Box & Lumber Co.	P	sw	х			
Sutton						
Bushway, Leon South Newbury	P	SW & HW	x			
Warner						
Hill Box Co., Inc.	B	SW	X			
Sawyer, Clifford A.	B	SW SW & HW	X X		х	
Webster						
Jones, Paul S. RFD, Contoocook	S	SW & HW	х	X	х	X

Merrimack County (Continued)

Town & Operator	Type of Sawmill	Kind of Logs	Stump.	Road.	Del.	Cus.
Atkinson					-	
Feuer, Martin M. Main St.	S	SW & HW	х	х	х	x
Brentwood						
Lyford, Lawrence E. Deer Hill Rd.	L&B	SW		X		
Candia						
Brown, Alfred E. RFD 1, Manchester	S	None				
Perkins, Fletcher East Candia	P	SW & HW	x			
Deerfield						
Mathes, Roger V.	P	sw	x			
Derry						
Hayford Kimball Lumber Co., Inc. P.O. Box 24	S&P	SW & HW	X	X	Х	
True & Noyes East Derry	S	SW & HW	х		x	
East Kingston						
Sargent Lumber Co.	S	SW & HW	X		х	
Epping						
Johnson Lumber Co. 875 Elm St., Manchester, N	P&S .H.	SW	х	x	X	
Fremont						
Spaulding & Frost Co. Division of Johnson Lbr. Co Richard Wiggin, Mgr.	S 0.	sw	x	X	X	
Hampstead						
Collette, Alfred	S	SW	х			
Kensington						
Brown, Everett W. RFD, East Kingston	L&B	SW & HW	х	x		
Cole, George RFD, East Kingston	S	sw				x
Kingston						
Cheney, R. W. & Son RFD, East Kingston	S	SW & HW	X	X	x	
Nottingham						
Fernald, Frederick	Р	SW & HW	x		x	x

Rockingham County

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Town & Operator	Type of Sawmill	Kind of Logs	Stump.	Road.	Del.	Cus.
Rye Rand Lbr. Co., Inc. 511 Wallis Road	S	SW & HW	x	x	x	
	Strafi	ord County				
Barrington Clark, Melvin East Barrington	В	SW	x			
Green, George East Barrington	P	SW	x			
Dover Mathes, Valentine	В	sw	x			
Durham Woodward, William	S	sw	x	x	x	x
Farmington Mooney, G. F. & Sons, Inc.	в	HW (Birch)) X			
Littlefield Box Shop	S Bolts	SW & HW		х	х	
Middleton Diprizio, Charles & Sons, Inc (Middleton) RFD No. L, Union	. S	SW & HW	x	x	x	x
Milton Tibbetts Lbr. Co. Farmington	S	sw	x	x	x	x
Rochester Collins, Raymond 16 First Street	P	SW & HW	x	x	x	x
Leroy E. Allen Co. 153 Wakefield Street	Р	SW	x			
Tremblay, Gerard J. Maple St. Gonic, N.H.	В	HW Bolts	x	x		
	Sull	van County				
Claremont						
Atkinson-Davis Corp. Box 704	B & L	SW & HW Veneer	X			
Davis & Symonds Lbr. Co. Box 56	S	SW & HW	x		X	

Rockingham County (Continued)

Town & Operator	Type of Sawmill	Kind of Logs	Stump.	Road.	Del.	Cus.
Red Water Lumber Co. RFD No. 1	S	SW & HW	X	х	x	x
Grantham Cote & Reney Lbr. Co.	S	SW & HW	x		x	x
Langdon Porter, George RFD, Alstead	s	SW & HW			x	
Newport Hackwell Lbr. Co., Inc.	S	SW & HW	x	x	x	
Rowe Lumber Co. Box 383	S	SW & HW	x		X	
Wilcox, Stanley RFD No. 2	B&L	sw	x	x		
Plainfield						
Demers, Warren Sunapee	P					x
Trow, W. W. & Sons	S	SW & HW			x	x

Sullivan County (Continued)

	Kind of Logs	Stump.	Road.	Del.	Cus.
Maine					
Andover Wood Products, Inc. Andover, Tel. 34	Y. Birch H. Maple			x	
Crouse, Harry G. N. Fryeburg	SW & HW	Х	х	x	
Cummings, C. B. & Sons c/o Norman H. Gray Fryeburg	HW (Birch)	Х	X	х	
Currier, Owen G. East Fryeburg	SW & HW	Х			
Diamond National Corp. McGowan, Neil W., Forester Fryeburg	SW	X		х	
Gerry, E. C. Lovell	SW	x	X	X	
Graves, Aubrey M. Lovell	SW & HW	х			
Gray, Norman Fish Street Fryeburg	SW & HW	х			
Hall & Smith Fryeburg	HW	X	X	x	
Hammond & Son, Thomas E. Hiram	SW	Х	X	X by	Log / grades
Hanover Dowel Mill Bethel	HW			х	
Hurd, Irl & George E. Lebanon	SW & HW	х	х	x	x
Kendall Dowel Mill W. Bethel					
LaValley, Albert Sanford	SW (White pi	X ne roun	X dwood d	X for chip	oping)
Mann, Lewis & Son Bryant Pond	SW	X	х	x	x
Maine Woods Corporation Gunter, Steward W., Buyer Steep Falls	нw			x	
Newton Tebetts, Inc. W. Bethel	HW			х	
Paris Mfg. Co. Box 259 South Paris	HW			x	

Out-of-State Stumpage, Log, and Specialty Buyers Who Buy in New Hampshire

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	Kind of Logs	Stump.	Road.	Del.	Cus.
Parsons Lumber Co. York	SW	X (o	ver ½ mi d. ft. lot	llion s)	<u> </u>
Saunders Bros. Westbrook	HW	х		x	
Sewell Lumber Co. Lebanon	SW	Х			
Spang, Phillip RFD, Kennebunk	SW & HW	X (p	ulpwood)	
Stowel Silk Spool Co. Bryant Pond					
Massachusetts					
Bartlett, Edmund 240 Main St. Salisbury	Oak & Birch		x	X	
Brown Package Co., Inc. Winchendon	W. Pine	x		X	
Esty, Ralph A. & Sons, Inc. Main St. Groveland	SW & HW	х	X	X	x
Freys Lumber Co. Cross St. Bernardston	SW & HW	X			
Haskell, C. M. & Sons 400 Canal St. Bernardston	SW	x	X	х	x
Johnson Lumber Co. 304 Main St. Salisbury	SW & HW	x	x	x	x
Kelleher, John C., Jr.	HW (cordwo	od)		X	
Vermont					
Adams, Geo. F. Co., Inc. Lester Adams, Buyer Moscow	Birch			X	
Bradford Veneer & Panel Co. B. E. Faar, Buyer Bradford	HW (Veneer) X	x	X	
Britton Lumber Co. Hartland	SW & HW			X	÷
Brown, P. K. & Sons, Corp. Claremont, N.H. (Mill in Proctorville, Vt.)	HW	x	X	X	

Out-of-State Stumpage, Log, and Specialty Buyers Who Buy in New Hampshire (Continued)

	Kind of Logs	Stump.	Road.	Del.	Cus.
Carroll Snelling E. Thetford	SW & HW		x	X	
Cersosimo Lbr. Co., Inc. RFD No. 3 Brattleboro	SW & HW	x			
Clark Ash Mill V. L. Morse, Buyer Brattleboro	White Ash	X	х	X	
Clark, C. E. & Sons c/o Francis Clark 29 Western Ave. Brattleboro	SW & HW	х	x	х	
Colby Brothers Lunenburg	sw			х	X
Eaton Lbr. Co. Rochester	HW	х	х	X	
Emerson & Hahn Hardline Loggers Bradford	SW & HW	X	х		
Fournier, Arthur Chester (for Newport, N.H. mill)	SW	x	X	x	x
Green Mt. Box & Lbr. Corp. White River Junction	SW & HW	x	х	х	
Haniflin, Thomas E. Bellows Falls	SW & HW	x	х	x	
Indian Head Plywood Newport	HW (Veneer	r)		x	
Malmquist-Wood Products Co. Post Mills	SW & HW			x	
Miles Pond Wood Products, Inc. Miles Pond	HW			x	
National Lbr. Co. Chester	HW	x	х	x	
Peck Lbr. Co. Vernon Howard Mason, Buyer	SW & HW			x	
River Basket Corp. Putney	Pine, ash, oal logs 8′, 10′,	k 12'		x	
Sevigny L.br. Co. North Thetford (Box 389, Lebanon, N.H.)	SW & HW	x	x	х	x

Out-of-State Stumpage, Log, and Specialty Buyers Who Buy in New Hampshire (Continued)

	Kind of Logs	Stump.	Road.	Del.	Cus.
Smead Lumber Co. Vernon	SW & HW	x	х	x	x
Tenney's Lbr. Mill Saxton Claude Tenney, Buyer	SW & HW	x	x	x	
True Temper Corp. Wallingford and St. Johnsbury	HW		x	x	
Vermont Log Bldg., Inc. Hartland	W. Pine			x	
Weyerhaeuser Co.	HW (Venee	er)	х	X	
Quebec - Canada No. Troy & Hancock					
Garneau, Jack, Inc. Sawyerville	HW	x	x	x	
LaBranch & Son St. Isadore					
LaLiberte Coaticook					
Louzon & Son East Hereford	SW			X	
Vallee, Paul St. Isadore	HW			x	
Remillard, George A. 24 St. Joseph Blvd. St. Jean - Tel. 348-2535	Ash Logs		x	X	x

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Out-of-State Stumpage, Log, and Specialty Buyers Who Buy in New Hampshire (Continued)

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Portable Pulpwood Debarkers

Benjamin, Mariner Bullis, Russell Flagg, Ira Gregoire, Albert Lapierre, Victor Lee, John E. Littlefield, Richard T. Morrill, Kenneth Randall, Ralph T. Tardy, Donald Thelvicki, Inc. Tirell, Walter Tremblay, Bros. 40 East Main St., Merrimack, Mass. Wolfeboro Barre, Massachusetts RFD No. 2, Wells, Me. Chestnut Hill Rd., Farmington 49 Logging Hill Rd., Concord Kennebunk, Me. Londonderry RFD No. 1, Newmarket 73 Brown's Lane, Haverhill, Mass. Contoocook RFD No. 1, Goffstown RFD No. 1, Pickering Rd., Gonic

Planing Mills (Custom)

Astles Lumber Co. Chase. Benjamin Co. Cheney, Roland & Son Colby Bros. Cole, George Concord Lumber Co. Contigiani Lumber Co. Currier, P. L. Lumber Co. Davis, Jack Demers, Warren (Portable) Green Lumber Co. Kimball Lumber Co. Littlefield Box Co. Lyford, Lawrence E. N.H. Lumber Products, Inc. Rand Lumber Co. Steenbeke & Sons Inc. State Line Lumber Co. Transit Milling Co. Trow, W. W. & Sons Woodward, William

Contoocook Derry Kingston Danville RFD, East Kingston Commercial St., Concord Belmont RFD, Milford RFD. Lisbon Plainfield 1253 Hooksett Rd., Manchester P. O. Box 24, Derry Farmington RFD, Exeter Belmont 511 Wallis Rd., Rye Boscawen Box 35, Nashua Woodsville Sunapee Durham

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Shingle Mill Operators

Bailey, Howard D.	RFD 1, Bradford Rd., Newport
Dodge, James	Tilton
Littlefield Box Shop	Farmington

WOOD CHIPPING PLANTS IN NEW HAMPSHIRE

Location	Type
Northumberland	3
Woodsville	1 & la
Littleton	. 1
	-
Claremont	2
Fremont	2
Ashland	1
Errol	
Milford	- 2
Center Ossipee	1
North Stratford	- 2 & 20
Warren	9
Berlin	2
Berlin	- 2
	Location Northumberland Woodsville Littleton Claremont Fremont Ashland Errol Milford Center Ossipee North Stratford Warren Berlin Berlin

Chipping Plant Types

1. Central Chipping Plant (Stationary)

1a. Facilities available for roundwood debarking & chipping

Chipper at sawmill (Stationary)
 2a. Facilities available for roundwood debarking & chipping

3. Roundwood Debarking & Chipping Plant (Mobile)

Pulpwood Buyers

Company and Individual Buyers

Kinds of Wood Purchased

Hardwood

Benjamin, Mariner 40 East Main St. Merrimack, Mass.

Blair, Reginald E., RFD, West Street Winchendon, Mass.

Brown Company, Berlin Hamlin, Mark, Berlin Laurence Dyer, Colebrook Mountain, Claude, 15 - 2nd St., Cascade Ellis, George, Gorham

Hardwood (Peeled)

Spruce, fir, hemlock, tamarack, pine, beech, birch ,maple, oak, elm, ash, veneer, yellow birch, basswood, poplar, and green hardwood.

Company and Individual Buyers

Kinds of Wood Purchased

Pitman, Harold, Conway Monahan, Thomas, N. Stratford Schwartz, Charles, Wilder, Vt.

Bullis, Russell H., Wolfeboro

Connecticut Valley Chipping Co., Inc., Woodsville

Farwell, Thomas, Wells River, Vt.

Flagg, Ira, Barre, Mass.

Franconia Paper Corp., Lincoln Henry C. Waldo, Lincoln Elwin Macomber, RFD 1, Plymouth Glenn Stevens, Lincoln Philip Comeau, Star Route, Rumney

Gregoire, Albert, RFD No. 2, Wells, Maine

Groveton Paper Co., Groveton Mountain, Harold, Groveton Johnson, Kenneth, Groveton

International Paper Co. Sawyer, Rhodes, N. Stratford

Lapierre, Ulderic, Middleton

Lapierre, Victor, Farmington

Lee, John E., 49 Logging Hill Rd., Concord

Littlefield, Richard T. Kennebunk, Maine

Moore, George, Lebanon

Oxford Paper Co., Rumford, Maine and Lawrence, Mass. Hartranft, John L., Manager, Wood Dept., Rumford, Me. Mackay, Claude, Asst. Manager, Wood Procurement, Rumford, Me. Ashton, R. V., 158 School St., Concord

Poulin, Marc, 12 Sunset Drive, St. Johnsbury, Vt.

Randall, Ralph T., RFD 1, Newmarket

Roberts, John D., Canaan

Ryegate Paper Co., Ryegate, Vt.

Tardy, Donald, 73 Brown's Lane, Haverhill, Mass.

Thelvicki Corp., Thomas Johnson, Pres. Contoocook Write for specifications, loading instructions, and prices.

Spruce, fir, hemlock, pine, hardwood and poplar.

Hardwood

Spruce and fir; limited amount of hemlock, pine and peeled or rossed hardwood.

Hardwood

Spruce, fir, dry hemlock, and dry hard-wood.

Spruce, fir (inquire direct) wood

Softwood & hardwood

Softwood & hardwood

Hardwood

Hardwood

Hardwood

Hardwood

Hardwood

Softwood

Hardwood

Hardwood

Spruce, fir, hemlock, pine, peeled hardwood and rough or peeled poplar.

Spruce, fir, hemlock, and northern hard-wood.

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Pulpwood Buyers (Continued)

Company	and	Individual	Buyers
Fremblay Bro RFD No. 1	os. I, Pic	kering Rd.,	Gonic
Warman C D	C -	XX7 and and all	L 16.

Warren, S. D., Co., Westbrook, Me. Robert True Kinds of Wood Purchased Hardwood

Spruce, white pine and hardwood.

Excelsior Buyers*

American Excelsior Corp., Lebanon James L. Logan, Manager	Peeled and rough poplar and basswood.
Berry, O. P. Co., Wolfeboro F. Berry, Manager	Peeled poplar and basswood .

• Excelsior companies prefer peeled wood. The sticks must be 48 inches long and 4 inches minimum diameter at the small end.

Poles, Piling, and Post Buyers

Norway (Red) pine

Hill, Wallace F. Sanbornville, Tel. 522-3308

Koppers Co., Inc., Wood Preserving Div., Nashua

Merrill, Brewster Oak Street, North Conway

New England Pole and Wood Treating Corp., Box 36, Merrimack c/o William Footer Norway and pitch pine ,spruce, hardwood, oak, maple, hickory

Railroad Tie Buyers

Koppers Co., Inc., Wood Preserving

Oak, Birch, Beech, Maple, Cherry

Division, Nashua Mr. Roland Hoar, Agent

Specialty Product Buyers — Birch Bolts and Other Roundwood Products

Town and Operator

Species and Specifications

- Adams, Geo. F. & Co., Moscow, Vt. white and yellow birch bolts del. to mill. Write for prices and specifications.
- Allen-Rogers Corp., Laconia, N.H., Andover Division, E. Andover, N.H. buying white birch, hard maple and yellow birch bolts and logs. For prices and specifications contact mill or call Maurice Call, East Andover, N.H. or Richard Burt, Allen-Rogers Corp., Laconia.

Ames, Fred, Warren - Bobin, wood, maple, 10" min diam.

Bartlett, Edmund, Salisbury, Mass. - oak boat keel stock.

Bixby, Ivan, Rumney - red oak, 10" min., diam.

- Bradford Veneer & Panel Co., Bradford, Vt. B. E. Farr, Buyer Y. birch and other veneer logs. Write for specifications.
- Brock, Zack & Son, Inc., Bridgewater white ash and oak logs, 9" min. top diam. Write for prices and specifications.
- Concord Woodworking Co., Inc., Lyndonville, Vt. white cedar posts, poles and logs. Write for specifications.
- Cummings, C. B. & Sons, Conway and Groveton white and yellow birch, stumpage, bolts, roadside and delivered.

Crawford, Wilson, Groveton - white and yellow birch bolts and logs.

- Draper Corp., Beebe River yellow birch, sugar maple, hemlock, pine and spruce logs.
- Foote, Thomas, Marlow 49" hardwood bolts all species, 6"-24" in diameter.
- Forest Products, Inc., Wentworth white and yellow birch, sugar maple, soft (red) maple, beech, oak and white ash logs and boltwood.
- Frye, E. B. & Son, Wilton birch, beech & pine logs 12', min. diameter 6" veneer quality preferable.
- Heberbrand, Arthur D., North Haverhill, N.H. yellow birch, hard maple, basswood, white ash, cherry, oak, beech, soft maple on grade. Write for specifications and prices.

Hopkins, John, Jr., Milford — pine bolts — boxes. Kearsage Peg Co., Bartlett — straight grained white and yellow birch in 4' lengths, 6" top diam. Red heart not over 1/3 diam. of stick. Comparatively free from knots and burls.

- Klondike Box Co., Weare white pine bolts 40" and 48" min. 5" diam. Labree, Clifton, Wilson Hill Rd., New Boston, N.H. 50" hardwood bolts, all species, 6" to 20" diam.
- LeBlanc, Gerard, 150 River St., Franklin softwood bolts. Contact for specifications. (Mail RFD No. 1, Hill).

Specialty Product Buyers — Birch Bolts and Other Roundwood Products (Continued)

Town and Operator

Species and Specifications

Mooney, G. F., & Son, Farmington, N.H. - write for specifications.

Morse, V. L., Brattleboro, Vt. -- white ash logs.

Northeast Hardwoods, Inc., N. Haverhill — buys hardwoods in log and bolt form. Write for specifications.

Plywood Products, Brown Company, North Stratford, N.H. — Veneer logs; write for specifications.

Portland, Dowell Co., Center Ossipee, Fred Greenwood, Mgr. — hardwood stumpage, birch. beech, maple within 25 miles radius of mill and boltwood delivered to mill.

Saunders Bros., Westbrook, Me. — Concentration Yards at S. Tamworth, N.H., Dalton, N.H., Warren, N.H.; contact Mr. Elton Perkins, Box 34, S. Tamworth, N.H., or Mr. Hugh Hastings, Fryeburg, Me. — birch logs 39", 48", 59", lengths; min. 3" white wood around red heart, also beech, maple and elm.

Smead Basket Shop, West Swanzey - white ash logs.

Thelvicki Corp., Thomas Johnson, Mgr., Box 2, Contoocook, N.H. (yard in Henniker) — mixed hardwood bolts, log and pallet stock.

United Shank and Findings Div., Plymouth — white birch, length 10' to 24' min. top diam. 8". No more than 2 small knots per 4' section. Sound, no cracks or crooks.

Vermont Log Bldg. Inc., Hartland, Vt. — white and red pine, 8"-10" diam., 8'-16' length.

West River Basket Corp., Putney, Vt. — ash, oak and pine logs 8', 10', 12', 14'

White Mountain Lumber Co., Arthur Napert, Buyer, Berlin — No. 3 common hardwood lumber for pallets and skids.

White Pine Woodenware Corp., Leo Barlow, Milford, N.H. — 5' white pine bolts, 5"

Winham, Harold, Alstead — white birch logs.

The United States Situation

Christmas Tree Consumption

Consumption of Christmas trees from domestic forests and plantations in 1967 is expected to be between 35 and 36 million. Annual imports from Canada will remain in the 10 to 12 million range.

The ratio of plantation grown trees to forest grown trees will increase as large scale plantings of the 1950's are reaching harvesting size. Also the average quality of trees reaching the markets is expected to be higher.

Christmas Tree Production in New Hampshire

The 1966 Christmas tree marketing season was a good one for most growers. Because of excellent weather conditions in New England during the fall, many producers overcut their orders. This resulted in a surplus in the market with most of the wholesalers selling their trees but some growers and retailers were left with unsold trees The unsold portion of the harvest, however, was of low quality and probably should not have been graded as merchantable. The average price per tree was 10 to 15 cents higher in 1966 than last year. This is largely attributed to a higher average quality of trees produced. Also many producers are now dealing directly with retailers thus eliminating the middleman that existed for years. This has given both the grower and the retailer a better margin of profit.

The artificial tree seems to have cut into the natural tree market to a greater extent than was originally anticipated. It is estimated that artificial tree sales are approximately 25% of the total annual Christmas tree sales.

If the natural tree is to maintain or expand its share of the market, more cultural work aimed at quality improvement will have to be done by all growers. Poor quality seems to be one important reason why consumers switch to "tin trees." The only way to improve the quality of natural trees is through the practice of the many techniques that have been developed in Christmas tree management.

Christmas Tree Dealers and Producers

(c) Christmas Trees (b) Boughs Adair, Milton, RFD 2, N. Stratford (c) Anderson, Henry A., State Line (c) Arsenault, Oliver, RFD 1, N. Stratford Bacon, Claude, Beecher Falls, Vt. (c & b) Bacon, Sam, RFD 1, Dalton, P.O. RFD 1, Littleton (c) Ball, Harold, N. Stratford (c) Ball, D. T., RFD, Colebrook (c & b) Barbin, Romeo, 175 Park Street, Berlin (c) Batchelder, Stewart, Clarksville (P.O. Pittsburgh) (c & b) Beloin, Alcide, Hall Street, Pittsburgh (P.O. Beecher Falls, Vt.) (c) Beloin, Germain, RFD, Colebrook (c) Benoit, Hector, West Stewartstown (c) Bessett, Alex, RFD 2, N. Stratford Biron, Roland, West Stewartstown Biron, Roland, West Stewartstown Boothman, John, Randolph Bradley, Walter (Mrs.), Whitefield, RFD (c) Brissett, Alex, RFD, Colebrook (c & b) Brockleman, Curtis, Franconia (c) Brooks, Darwin, Stewartstown (P.O. RFD No. 1), Colebrook, (c) Brooks, Douglas, N. Haverhill (c) Brown, Peter, RFD 1, Bristol (c) Bryant, Walter, South Hill Road, Colebrook (c) Bunnell Holman, BED, 2, Colebrook (c) Bunnell, Holman, RFD 3, Colebrook (c) Carney, Howard, RFD, Colebrook Chaplick, Adolph, 131 Lowell Road, Hudson, N.H. Chappell, Colon, Pittsburg Chappell, Fay, Pittsburg (c & b) Chappell, Fonroe, Pittsburg (c) Conway, Raymond, RFD 1, Jefferson Cook, Roland, West Stewartstown (c) Couture, J. P., Colebrook Couture, Wilfred, P.O. RFD No. 1, Jefferson (c & b) Cree, Leighton, Colebrook (c) Danforth, Benjamin, Colebrook Day, M. Eva, West Stewartstown (c & b) Day, Louis, West Stewartstown (b) Dearborn, Richard, Buckland Avenue, Plymouth (c & b) Dubois, Paul, RFD No. 1, Colebrook (c & b) Ducret, Durward, RFD 1, Colebrook

Dunn, Red, Laconia (c) Emerson, Stephen, RFD No. 1, Lancaster (c & b) Ferguson, W. W., Colebrook (c) Fuller, Albert, RFD No. 1, Lancaster Gagnon, Conrad, Beecher Falls, Vt. (c) Geller, Frederick, F., 26 Hanover St., Keene (c) Giguere, Paul, RFD 3, Colebrook Girouz, Yvon, RFD 3, Colebrook Goodwin, Clyde, RFD 1, Colebrook (c) Goodrum, Hazen, RFD 1, Colebrook (c & b) Goodrum, Monty, Colebrook Gorman, Redmon, RFD, Colebrook (c) Gray, Tabor, Pittsburg (P.O. Beecher Falls, Vt.) (c) Grondin, Claude, Stewartstown (P.O. RFD No. 3, Colebrook) (c) Guay, Alex, West Stewartstown (c) Haynes, Moody, Bishop Brook (P.O. Beecher Falls, Vt.) (c) Haynes, Orville, RFD No. 1, Colebrook (c) Hayward, Robert, Sugar Hill (c & b Hensen, Everett, N. Haverhill, N.H. (c) Hibbard, Ellis, Stewartstown (P.O. RFD, Colebrook) (c) Hollingsworth, Schuyler, RFD 2, Peterborough (c) Hughes, Thomas and Wendall, RFD, North Stratford (c & b) Huggins, Harry, Pittsburg Hyde, John L., 6 Columbus Avenue, Concord (c) Jackson, Charles, Colebrook (c) Jackson, Frank, 59 Prospect Street, Lebanon (c & b) Jacques, Nelson, Plymouth (c) Jeffers, Clark, RFD 1, Colebrook Johnson, Arthur, Hampton (c) Keach, Douglas, RFD, Colebrook (c) Keller, John, Bethlehem (c) Ladd, Wayne, RFD 2, Colebrook Lakin, Calvin, RFD, Colebrook (c) Lamoureau, Peter F., Colebrook (c) Lang, Harry, RFD 1, Colebrook (c) LaPerle, Roland, Colebrook Larcomb, Charles, Meadows LaRochelle, Albert, Groveton, Box 513 Leigh, Robert, RFD 1, Colebrook Lewis, Darwin, Colebrook Lord, Henry, Pittsburg (c) Lynch, F. Robert, RFD 3, Colebrook (c) Lyons, Albion J., RFD 1, Colebrook (c) MacLean, Joseph, Colebrook (c) Mallery, Bayard, c/o John Keller, Bethlehem (c) Marchessault, Lorrainey, RFD, Colebrook (c) Marquis, Leon Pittsburg (P.O. Beecher Falls, Vt.) (c) Maurais, Adrien, RFD, Colebrook (c) McAllaster, Roger & Shirley, Stewartstown (P.O. RFD No. 3, Colebrook) (c) McKinnon, Frank C., South Hill Road, Colebrook (c) McMann, Harlan, RFD 1, Stratford (c) Merle Young & Son, Colebrook Merrill, Lee, RFD 1, Whitefield (c & b) Morrison, Scott, RFD 1, Colebrook Noyes, Chester, RFD 1, Colebrook (c & b) Olsen, Morris, N. Haverhill (c) Oleson, Norman, RFD 1, Jefferson (c) Olimette, Edgar, Colebrook Parker, B. W., Colebrook (c & b) Parker, George, Clarksville (c) Paul Crane Corporation, Lancaster Paquette, Aldege, RFD, Colebrook (c)

- Paquette, Antonio, Pittsburg (P.O. Beecher Falls, Vt.) (c)
- Paquette, Emile, Beecher Falls, Vt. (c) Paquette, Marcel, Twin Mountain (c) Paquette, Maurice, Colebrook Perry, Clenn, RFD 1, Colebrook

- Philbrick, Walter, 17a Clinton Street, Lakeport (c)
- Placey, Burleigh R., RFD, Colebrook (c & b)
- Placey, Claude, RFD No. 1, Lancaster (c & b)
- Putnam, Cortland, Winchester (c) Rainville Brothers Tree Company, Colebrook
- Rainville, Robert, Colebrook (c)
- Rancloes, Frank, RFD 3, Colebrook (c)
- Reed, Kenneth, RFD 1, Jefferson (c) Reynolds, William N., Stratford (c)
- Ricard, James, Canaan (c)
- Robertson, Phil, Prime Tree Co., Franconia (c) Robinson, Claude, Colebrook (c) Robitaille, Gerald, RFD, Colebrook (c & b)

- Robitalle, Geraid, Rf D, Colebrook (c & b) Rogers, Lawrence R., RFD 1, Whitefield (c) Russell, Lee, Farmington (c) Savage, Chester, RFD 1, Lancaster (c & b) Sawyer, Alfred, Jaffrey (c) Schander, John, Newmarket (c) Schwarz, George, Orford (c & b) Society for the Protection of New Hampshire Forests, State House, Concord Stiles Francet Milen (c)
- Stiles, Ernest, Milan (c)
- Struhsacker, Philip, Flintlock Lodge, Franconia (c)
- Tatham, Donald A., Orford (c & b)
- Thibeault, Joseph, Hall Stream (P.O. Beecher Falls, Vt.) (c)
- Thibeault, Raymond, Beecher Falls, Vt.
- Underhill, Oliver R., (see John C. Keller, Bethlehem, N.H.) c/o Standard Vacuum Oil Co., 6 Church Lane, Calcutta, India (c)
- Vaitl, Matthew, Jefferson
- Wagner Woodlands, Lyme (c & b)
- Wallace, Lew, RFD No. 1, Colebrook Warren, Richard, Barrington (c)
- Watson, Gail, Laconia (c) Watson, Lyle, Belmont (c) Webber, Carl, Dublin (c) Weir, Harlie, Colebrook (c)

- Wheeler, Claude, Hall Stream (P.O. Beecher Falls, Vt.) (c) Wheeler, Leonard, Beecher Falls, Vt. (Bishop Brook Road, N.H.) (c)
- Wheeler, Raymond, Pittsburg (P.O. Beecher Falls, Vt.) (c) Yale, William, Sandown, RFD 2, Chester (c)
- Yost, Karl, Gilmanton (c)
- Young, Merle & Son, Colebrook (c & b)
- Zalbielski, Joseph, Winchester (c)

Partial List of Consulting Foresters Practicing in New Hampshire

The services rendered by the Consulting Foresters are indicated by the numbers following their name. The service rendered is keyed to the numbers as follows:

- 1. Forest Management plan
- 2. Timber & timber land appraisal
- 3. Income tax assistance (timber depletion)
- 4. Timber sales & supervision
- 5. Timber marking
- 6. Timber stand improvement work (weeding, thinning, pruning)
- (weeding, thi 7. Tree planting

- Approved vendor for ACP Forestry practices
 Forest Land survey
- 10. Title and boundary search
- 11. Recreational development
- 12. Laying out and supervision of woods road construction
- 13. Owners or operators representative in trespass cases
- 14. Licensed real estate brokers
- Attridge, J. Milton, Antrim 1, 2, 3, 4, 5, 6, 7, 9, 10, 11, 12, 13. Berti, Robert J., RFD 1, Rumney - 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13. Boomer, Stephen E, Wt. Mountain Highway, Center Ossipee - 2, 9, 10. Breckenridge, Walter F., Bible Hill, Claremont - 2, 9, 10, 13. Brown, J. Wilcox, R.F.D. No. 2, Concord - 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 13, 14. Calhoun, John C., Jr., Gilsum - 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 13, 14. Catheron, Allison G. II, Box 197 Franconia-1, 2, 4, 5, 6, 7, 9, 10. Coville, Stanley, Tamworth - 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 13. Dearborn, Richard, Plymouth (contact directly for services rendered) Dickenson, Howard, Eaton Center - 1, 2, 3, 4, 5, 6, 7, 9, 10, 11, 12. Dundee Management Corp., P.O. Box 101, Jackson - 1, 2, 4, 5, 6, 7, 8, 9, 10, 12. Dwyer, Walter W., Jr., Briar Hill Road, Hopkinton Village - 4, 9, 14. Feuer, Martin M., Main Street, Atkinson - 2, 5, 12, 13. Hambrook, Francis G., R.F.D., Center Harbor - 1, 2, 4, 5, 6, 8, 9, 10, 12, 13. House, William P., R.F.D., Marlboro — 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14. Hyde, Gerald R., 73 South River Road, Bedford - 2, 9, 10, 11, 12, 13. Johnston, Richard B., R.F.D., Center Harbor (Sandwich) - 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 13, 14. Keller, John, Bethlehem — 1, 2, 3, 4, 5, 6, 7, 8, 9, 11, 12, 13. Knickerbocker, Gerald C., Lake Spofford Realty, Spofford Lake, N.H. - 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14. LaBree, Clifton, New Boston, N.H. - 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14. Lane, William, Crown Point Road, Rochester - 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 13, 14. Marshall, Raymond H., Mann's Hill Road, Littleton - 2, 4, 5, 6, 7, 8, 9, 10, 13. Morse, John H., P.O. Box 65, Wilmot, N.H. - 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13. Noyes, David, Box 143, Northwood - 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14. Plumb, Allan W., P.O. Box 206, Newport, N.H. - 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, Poppema Donald, R.F.D. No. 1, Center Barnstead, N.H. - 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13.
- Thorne, Thaddeus, Center Conway, N.H. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14. Woodward, Howard, 234 Main Street, Berlin, N.H. — 1, 2, 3, 4, 9, 10, 12, 13, 14.

Partial List of Industrial and Municipal Forester Employed in New Hampshire

Andora Forest, Stoddard William Dussault		
Brown Company, Berlin C. S. Kerr K. S. Scott M. E. Hamlin	J. D. Bates K. S. Norcott C. Schwartz	G. L. MacIntosh C. W. Rand D. Dyer
Dartmouth College, Hanove Robert S. Monahan	er	
Draper Corp., Beebe River John French	Richard Dearborn	
Franconia Paper Corp., Line Henry C. Waldo	coln Elwin Macomber	
Groveton Paper Company, Harold S. Mountain Laverne Ingersoll	Groveton Louis Ruch James Bryan	Kenneth Johnson
International Paper Co., N. Rhodes F. Sawyer	Stratford	
Manchester Water Works, M Aldis J. Christie	Manchester	
Davis & Symonds Lumber (Blynn Merrill	Co., Claremont	
Oxford Paper Co., School S Richard Ashton	treet, Concord	
St. Regis Paper Co., West S George D. Gates David B. Strathdee	tewartstown Frederick W. Cowan David K. Patrick	
Wagner Woodlands, Lyme Robert Berti		

Partial List of Timber Stand Improvement Contractors

These men offer the following forestry services; weeding, thinning, pruning, tree planting.

Bennett, Harry J., RFD No. 3, Winchester, N.H.

Carlson, Walter Jr., Timberland Improvement Co., Wolfeboro, N.H.

Day, Lewis C., High Street, West Stewartstown, N.H.

Garneau, Leo., Box 148, Lowell, Mass.

Page, Otto, 260 Court Street, Laconia, N.H.

Philbrick, Walter, 17a Clinton St., Lakeport, N.H.

Russell, Lee, Farmington, N.H.

Timberland Improvement Co.; Carlson, Walter, Jr., Mgr., Wolfeboro

Wagner Woodlands, Lyme, N.H.

WHITE PINE TRIAL LOG GRADES and RELATIONSHIP to LUMBER GRADE YIELDS

The steady rise in production costs and increased market competition over the years has brought about the need for evaluating the quality of logs coming into the sawmill. Since log quality is directly related to the quality of the lumber that may be produced, bucking logs according to prescribed techniques has become highly desirable.

The practices which were established in the past, in disregarding certain qualitative considerations of raw material, have no place in present day operations. Knowing the profit potential of a log, before it enters the mill, should be a very important consideration to sawmill operators. Good bucking practices, coupled with good supervision of the woods operation, will go a long way toward providing for a profitable operation.

The information presented hereafter is an interpretation of research conducted by the Northeastern Forest Experiment Station, U.S. Forest Service, at numerous sawmills throughout the northeast including New Hampshire and Maine.

Definition of Terms and Instructions for Using the Trial Eastern White Pine Log Grade Specifications READ CAREFULLY BEFORE USING SPECIFICATIONS IN LOG GRADING

- These trial white pine log grade specifications are the result of a series of research based log quality studies conducted by the Northern Softwood Log and Tree Grade Project of the U. S. Forest Service for the purpose of developing cut log grade specifications for Eastern white pine. Testing of these specifications has been completed throughout the range of the species and, although minor modifications may be found necessary before final approval, the specifications appear to perform adequately for the species throughout its range. Grade yields (Performance Table) based on a total of 1,366 logs processed at nine sawmills in the Northeast are presented.
- 2. Weevil Injury: Evidence of weevil injury can be recognized by moderate to severe crook at point of injury. Limbs at point of injury are usually large and acute angled. Crook is more severe in small logs and less evident in large logs. Logs showing none of these characteristics will be considered free of weevil injury.
- 3. Sweep: Is the greatest deviation of the longitudinal log axis from a straight line connecting centers of each end of log. It should be measured to the nearest whole inch, and is analogous to the middle ordinate of an arc. Expressed as percent it is: =

Total sweep in inches -2 for 16' logs and

Total sweep in inches -1 for 8' logs.

Differs from sweep in that it is a sudden curve or bend (deviation) from a straight line. (axis of log). The percent loss due to crook is determined by the formula: deviation in inches Length of log affected (feet)

х

Crook percent =

Log diameter inches

Total length of log (feet)

- 4. All deductions: This item includes sweep and crook deduction and that for scalable defect (rot, shake, etc.). Deductions for the the latter are made according to Standard Forest Service practice.
- 5. Face: A face is quarter-cylindrical, running full length of the log. A good face is one that is free of log knots of any type over $\frac{1}{2}$ " DOB, overgrowths indicating larger knots, and conks or punk knots. A half face is one that runs for one half the length of the length of the log. Good half faces can be in either half of a full face. Half faces in 10 foot logs must be at least 6 feet long.
- 6. Log knots: a. Definition Log knots are defined as branches, branch stubs, flush branch cross sections and branch sockets. They are visible and identifiable as such. Outside of weevil damage signs, these features are the only ones used in evaluating log surface character. They may be live (or recently alive) or dead. Sometimes, in either state, they have rotten centers surrounded by sound wood.

Sound red knots — Are any visible branches, stubs or sockets which result from living branches or branches that have been dead but a short time.

Dead or black knots — Are visible branches, stubs or sockets not conforming to definition of sound red (live) knots.

- b. Size Average diameter of knots should be measured at point where limb would normally be trimmed. Size to be considered is that portion of a knot that would drop out if it were loose; e.g., in live red knots only the red heart wood portion would be considered in determining knot size. In dead (black) knots the entire limb is considered. Disregard all knots less than ^{*}/_{*} in diameter in all grades.
- c. Position effect Dead log knots are often interspersed with live ones. In this case, (generally, where they are found above the first whorl of live log knots) they are classed as live.
- 7. Overgrown log knots: (Overgrowths). This is a disturbance in the bark that has a definite and distinctive pattern. Size of underlying branch stub can be estimated by observing adjacent visible log knots. Are considered the same as black knots in grading.
- 8. Conks and punk log knots: A conk is the fruiting body of a wood rotting fungus (generally *Trametes* pini). A punk log knot is one that is completely rotten and in which the brown mycelial mass of the rot fungus is visible.
- 9. Log end defects: Red rot (Incipient and advanced stages of Fomes pini) are commonly associated with over-mature or badly weeviled white pine trees. It can usually be recognized by its reddish brown to pink color. Do not confuse with brown cubical rot usually confined to butt of trees.

Ring shake — A separation of wood fibers along an annual ring. This condition is also usually associated with older trees.

The heart center — of a log will be defined as the central core of a log having a radius equal to 1/5 the diameter of the log.

10. Bark distortion: When a limbstub or other bark surface characteristic becomes deeply buried, the definition pattern of bark disturbance is lost. This type of noticeable bark break is called a bark distortion.

			Log Grade		
Gradi	ng Factor	No. 1	No. 2	No. 3	No. 4
Minimum log sca (inches)	aling diameter	12" or 14"	6″	6″	Includes all logs not qualifying for Grades
Minimum log ler	ngth [*] (feet)	With 4 good faces $8' + $ all others $-10' +$	8	8	1, 2, and 3 that are at least 6" in diameter, 8 feet long and judged
Maximum weevi	l injury ²	None permissible	None permissible	One (1) only in $8'$ logs; Two (2) only in $10' + \log s$	to have at least one- third of their gross scale volume in sound wood suitable for mon
Maximum sweep	or crook allowance	20%	30%	40%	ufacture into standard
Maximum total s	caling deduction ⁴	50%	50%	50%	lumper.
Minimum face requirements ⁵	12" & 13" diameter logs	Four (4) full length good faces	6" to 11" diameter logs meeting face re-	Not applicable	
	14" plus diameter logs	Two (2) full length or four (4) 50% length good faces	quirements of Grade I logs		
Maximum diame knots on 3 best f	ter of sound red log aces ⁶	Or: If sum of the diame-	Or: Not to exceed 1/6	Not to exceed 1/3 scaling diameter and	
Maximum diame log knots and ov ½" diameter on 3	ter of dead or black ergrown limbs over 3 best faces ⁶ ⁸	knots plus 2 times the sum of the diameters of dead black knots is equal to or less than the diameter of the log in inches	scaling diameter and no greater than 3 inches Butt logs — not to ex- ceed 1/12 scaling di- ameter and 1%" Upper logs — not to exceed 1/10 scaling diameter and 1%"	Not to exceed 1/6 scaling diameter and no greater than 2% inches	

White Pine Log Grades TRIAL SPECIFICATIONS (Revised)

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Conks and punk knots of any size ⁸	Degrade one grade if prese Degrade two grades if prese Degrade three grades if prese (In no case degrade below 1/3 sound).	nt on one face, ant on two faces. sent on three or more faces. No. 4 unless log is judged to be	e less than
Log end defects (red rot and ring shake) outside heart center of log ⁹	Degrade one grade if prese Degrade two grades if prese degrade three grades if pre (In no case degrade below 1/3 sound).	nt in 2 quarters of log ends. ent in 3 or 4 quarters of log end sent in 5 or more quarters. No. 4 unless log is judged to be	ls and e less than
Bark distortion ¹⁰	Ignore	Ignore	Ignore

*Plus Trim #References are made to definitions and instructions that follow:

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GENERAL GRADING PROCEDURES

Scaling

Scaling logs is the first step in grading. This not only gives estimate of contents, but gives some of the data needed for applying grade specifications. Scaling should be carefully done, according to standard practice, which practice should conform to that used in developing the rules. This is:

Diameter measurement: Average small end, inside bark. Length measurement: Longest included full foot.

Deduction for sweep calculated as follows (Rule 3):

- (a) Determine actual sweep in inches and subtract 2.
- (b) Divide by log diameter; answer is percent deduction for 16' log. For 8' logs subtract 1 from actual sweep determination and divide by diameter.

For intermediate log lengths subtract proportionate amount. Deductions for cull:

- (a) Interior cull.
 - 1. Deduction may be made by using the squaring system as follows: (Width '' + 1'') X (height '' + 1'') X length '

This gives deduction for Scribner Rule; for other rules modify deduction as follows:

		International	Doyle
Logs	8" - 14" multiply by	1.2	0.7
	15" - 20" multiply by	1.1	0.9
	21 + multiply by	1.0	1.0

- 2. It may be made by using the revised scaling practice developed by Grosenbaugh of the Southern Forest Experiment Station. This system works as follows (Rule 5):
 - (1) Enclosed defect in circle or ellipse (say, 7" x 9" on a 20" log).
 - (2) Measure short and long axis of this in inches and add 1" each measurement $(8'' \times 10'')$.
 - (3) Determine for each augmented length, the percent this is of log diameter in inches - minus 1, rounding off to nearest 10% (8/19 = 50%; 10/19 = 50%).
 - (4) Determine length of defect as % of log length (say, ¼ or 25%).
 - (5) Multiply long axis %, short axis %, and length % together; resulting answer is percent cull $(50 \times 50 \times 25 = 6\%)$.

(b) Other cull,

Procedures given in the National Forest Scaling Manual should be used for making these deductions. Grosenbaugh's rules 1, 2, and 4 cover these.

Relation of Cull to Log Defects

In general, it should be understood that making a cull deduction from the scale of a log up to the limits indicated in the grading rules does not up-grade the log, even though in some cases it may appear that eliminating a rotten heart center (culling) would raise the average grade of usable lumber produced. The culled portion itself, may or may not affect the average value of the merchantable lumber in the log. When it does it is a grade defect.

PREDICTED LUMBER GRADE YIELDS

Northeastern Conditions

Assuming that the Log Grading System is applied properly, logs in each log grade have a distinct and predictable lumber grade yield.

Any one particular log, within the grades described above, will not necessarily yield the predicted percentages of lumber grades but *the average yield of a number of logs*, in any one grade, will approximate the predicted values within a 5 percent accuracy.

			Lumber	Grade	Yield		Basis					
Log Grade	Log Diameter Class	D & Btr.	1 & 2C	3C	4C	5C	No. Logs	Lumber Volume	Overrun ¹			
	Inches			Pe	rcent			Bd. Ft.	Percent			
No. 1	12-13 14-15 16+	39 45 51	30 26 13	29 21 22	2 8 13	- 0 1	7 12 19	718 1,653 4,221	+2.6 -2.2 +1.0			
No. 2	Aver. 6-11 12-13 14-15 16+	48 13 17 16 18	18 33 26 11 9	22 41 41 42 36	11 13 15 29 36	$\begin{array}{c}1\\2\\1\\1\\2\end{array}$	38 98 32 15 28	6,592 4,621 2,898 2,111 5,323	+0.4 +1.4 +0.4 -1.4 -2.7			
No. 3	Aver. 6-11 12-13 14-15 16+	16 1 3 4 6	20 9 3 3 2	39 51 40 37 26	24 38 52 55 64	1 1 2 1 2	173 488 120 70 73	14,953 14,999 9,203 7,969 12,844	-0.8 + 4.1 - 1.4 + 0.4 - 1.7			
No. 4	Aver. 6-11 12-13 14-15 16+ Aver.	3 1 1 2 4 2	$\begin{array}{c} 4\\1\\2\\1\\2\\2\\2\end{array}$	39 20 14 11 7 12	53 74 78 75 74 74	1 4 7 11 18	751 245 52 48 59	45,015 6,898 3,214 4,799 9,707	+0.5 +5.3 +3.3 -1.1 -2.0			

Predicted Lumber Grade Yields (in percent) For White Pine Log Grades

¹ Based on International ¹/₄" Log Rule.

Ove	rrun by Di	ameter
+4.1% -1.4% -0.5% -1.5%	Logs	6"-11" 12"-13" 14"-15" 16+

² Less than one percent.

FOREST SERVICE HARDWOOD LOG GRADES

Historically, log quality has been evaluated by log grading systems based on judgment and experience. The hardwood log grades for standard lumber, as developed by the Forest Products Laboratory, are based on an analysis of the relationship between log characteristics and end product vield.

This system enables foresters, timber sellers, and timber buyers to separate, from woods-run hardwood logs, those logs suitable for manufacture into factory grade lumber and to rank the logs into categories of high-, medium-, and low- quality yields.

HARDWOOD LOG GRADES FOR STANDARD LUMBER

Three grades are considered sufficient for commercial evaluation of factory lumber logs. Analysis of the basic data made it possible to establish specifications so that each log grade attracts to itself logs having similar high, medium, and low - has corresponding lumber grade yields with high, medium, and low average values.

The log grade specifications are correlated closely with the specifications for standard hardwood lumber grades. A board is graded on the basis of clear-faced or sound cuttings of a minimum size to comprise a certain fraction of the area of the board; logs are similarly graded on the clear cuttings of a definite minimum size comprising a specified fraction of the area of one-quarter of the circumference of the log.

The log grade specifications are listed in figure 1.

HOW TO USE THE LOG GRADES

The grading of logs is not as difficult as it may first appear. The basic requirements are a knowledge of surface indicators of interior defect, and a knowledge of the log grade specifications. Knowledge of surface indicators can be gained by a careful study of Agriculture Handbook No. 244, "Grade Defects in Hardwood Timber and Logs"1 and observation in a sawmill. Knowledge of the log grade specifications and their interpretation can be gained by studying "A Guide to Hardwood Log Grading"² and by experience.

With experience, log grade can be determined in most cases in the process of scaling the log. Even in the logs where grade is not immediately apparent, it is seldom necessary to lay out the actual cuttings. Usually measurements to see whether the cuttings conform to the minimum size will be enough to determine the grade.

¹ Lockard, C. R., Putnam, J. A., and Carpenter, R. D. Grade defects in hardwood timber and logs. U.S. Dept. Agr., Agr. Handb. 244, 39 pp. 1963. ² Northeastern Forest Experiment Station. A guide to hardwood log grading. U.S.

Forest Serv., Northeastern Forest Exp. Sta., Upper Darby, Pa. Revised 1965.

Faces

After taking into account the size and soundness of the log, the first step in grading is to visually divide the surface of the log (full length) into four equal faces, so oriented as to give the greatest possible number of good faces. The influence of a given defect should be confined to one grading face wherever possible instead of permitting it to extend over two faces.

Clear Cuttings

The next step is to establish the grade of the best three faces on the basis of the clear cutting requirements. Only when two of these faces grade higher than the third is it necessary to examine the fourth face to be sure that the best faces have been selected. The grade of the log is that of the lowest of the faces chosen as the three grading faces.

The clear cuttings are taken as the portions of the length of the face that lie between defects or between the ends of the logs and defects and extend over the full width of the face. (Refer to Table 2 for the classification of defects)

Knots, overgrown knots, grub holes, etc., either projecting or recessed, are excluded from clear cuttings.

Sound end defects, such as medium-to-heavy mineral stain in hard maple and yellow-poplar and slight dote in yellow birch on the small end of the log, shall not exceed one-half the log diameter for Grade 1 logs and for Grade 2 logs under 16 inches, and not exceed three-fifths the log diameter on Grade 2 logs 16 inches and larger. Excess will lower the log one grade. When the defect is not concentrated in one spot, its extent is taken as the sum of the individual occurrences.

Slight stain is not a defect.

Full-length unsound end defect outside the heart zone (taken as onefifth of the diameter from the pith), when extending more than one-half the distance between the heart zone and the bark, prevents taking clear cuttings on the face surface overlying it. When it extends less than the full log length, cuttings can be taken over a third of its estimated length from the end tapering out.

	Grading Factors		Log Grades								
	F1				F3						
Position in tree		Butts Butts & only uppers		Butts & uppers				Butts &			
Diameter, scali	ing, inches	113-15	16-19	20+	211		12+		8+		
Length withou	t trim, feet		10+		10+	8-9	10-11	12+	8+		
	Length, min., feet	7	5	3	3	3	3	3	2		
Clear cuttings ³ on each 3 best faces	Number, maximum	2	2	2	2	2	2	3	No limit		
	Fraction of log length required in clear cutting4	5/6	5/6	5/6	2/3	3/4	2/3	2 /3	1/2		
Sweep and crook allowance (maximum)	For logs with less than ¼ of end in sound defects		15%			3	30%		50%		
(maximum) in percent gross volume	For logs with more than ¼ of end in sound defects	10%			20%				35%		
Total scaling deduction including sweep and crook		540%		650%				50%			
End defects:	See instructions page 61										

Forest Service Standard Specifications For Hardwood Factory Lumber Logs

¹ Ash and basswood butts can be 12 inches if otherwise meeting requirements for small No. 1's.

² Ten-inch logs of all species can be No. 2 if otherwise meeting requirements for small No. 1's.

⁸ A clear cutting is a portion of a face free of defects, extending the width of the face.

⁴ See table 1.

⁵ Otherwise No. 1 logs with 41-60% deductions can be No. 2.

⁶ Otherwise No. 2 logs with 51-60% deductions can be No. 3.



Nominal log length	Fracti	on of log length r	equired in clear c	utting
	5/6	3/4	2/3	1/2
Ft.	FtIn.	FtIn.	FtIn.	FtIn.
8		6-0		4-0
9		6-6		4-6
10	8-4		6-8	5-0
11	9-2	_	7-3	5-6
12	10-0	_	8-0	ě-0
13	10-10		8-8	6-6
14	11-8	—	9-4	7-0
15	12-6	-	10-0	7-6
16	13-4		10-8	8-0

Table 1 — Clear Cutting Requirements

 Table 2 — Classification of Log Surface Abnormalities
 In Grading Factory Logs

Abnormalities								
Bulges:								
Butt	(1)							
Stem	$\langle \bar{1} \rangle$							
Bumps:	(-)							
High	Defect							
Low	(3)							
Burl	Defect							
Butt scar	(1, 4)							
Butt swell	No defect							
Canker	(1)							
Conk	Defect							
Epicormic and adventitious								
bud clusters	(2, 4)							
Flanges	No defect							
Flutes	(4)							
Fork	(1)							
Gum lesions	(3)							
Holes:								
Large	Defect							
Medium								
Bark scarrer, fresh	No defect							
Bark scarrer, old	Defect							
Birds, light	No defect							
Birds, heavy	Defect							
Grub	Defect							
Increment borer	Defect							
Тар	Defect							
Small	(4)							
Log knots:								
Sound	Defect							
Unsound	Defect							
Limbs								
Overgrowths:								
Knots and bark pockets	Defect							
Insects	Detect							
Bird peck	Defect							
Bark distortions	Defect							
Seams	(4)							
Splits	(4)							

Surface rise	No defect
Wounds:	
New	No defect
Old	(4)
Dote	ได้ไ
Double pith	(1)
Grease spots	(7)
Grub channels	(7)
Gum spots	(3)
Loose heart	(ē)
Mineral streak and stain	$\langle \overline{7} \rangle$
Pin worm holes	Defect
Rot	(6)
Shake:	(•)
Ring	(6)
Wind	ÌŠ
Short worm holes	Defect
Soak	(7)
Spider heart	(Ġ)
Spot or flag worm holes	Defect

Key to Class

1. Defect if not cut off.

2. Defect if large.

3. Defect if certain species involved.

4. Defect if not superficial.

- 5. Defect if large and deep.
- 6. Defect if not confined to heart center.
- 7. Defect if concentrated.

End defects, such as bird peck, worm holes, spot wormhole stain, mineral spots or streaks, and such unsound defects as grub holes and bark pockets are considered when outside the heart zone, the heart zone being taken as extending one-fifth the diameter of the log from the pith. When these defects affect one-half the radial distance between the heart zone and the bark under three faces of the log at one end, or two faces at both ends, a log of Grade 1 or 2 shall be dropped one grade. When there is less than 3 inches either between the heart zone and the defect, or between defects, the portion will be included with the defect.

For seams, frost cracks, and fire or other scars whose depth exceeds one-fifth the diameter but not extending the full length of the log, clear cuttings can be taken over one-third of its length from the end tapering out.

Bird pecks are considered defects in cuttings of Grade 1 and Grade 2 logs when the area contains more than four bird pecks per square foot. Also when the depth of the bird peck on the end of the log is less than one-tenth of the log diameter, it is not considered a defect.

Sweep, Crook, and Cull Deductions

Logs that involve deductions in scale in excess of percentages allowed for each grade are dropped one grade. All deductions that are made by enclosing the defect in a rectangle are computed according to the National Forest Scaling Handbook³ by multiplying width, height, and length of defect together and dividing by 15. The maximum percentage deduction for this type of cull as provided for in log grade specifications will apply to Scribner Decimal C. Doyle, or International rules. However, the percentage deduction arrived at when Doyle or International scale is used in grading should be multiplied by the following factors to give the approximate percentage deduction for grading:

International Rule

(Inches)	(Factors)
Logs 8 to 14	1.2
Logs 15 to 19	1.1
Logs 20 to 36	1.05
Logs 37 and up	None

³ U.S. Forest Service. National Forest scaling handbook. U.S. Dept. Agr. Forest Serv. Handb. 2443. 71. 1964.

Doyle Rule

(Inches) (1	(Factors)					
Logs 8 to 11	0.6					
Logs 12 to 13	.8					
Logs 14 to 20	.9					
Logs 21 to 31	None					
Logs 32 to 40	1.1					

For sweep, the rule-of-thumb given in the Handbook is replaced by the provision that the percentage deduction is taken as the maximum sweep minus 2, divided by log diameter.

Measurement of Log Diameter and Length

Average diameter inside the bark on the small end of log is used in scaling and grading. The length for figuring the necessary clear cuttings is dropped to the full foot, but the cuttings are allowed to include the overlength.

LUMBER GRADE YIELDS

Detailed lumber grade yields by species, log grade, and diameter are given in "Hardwood Log Grades for Standard Lumber."⁴

Table 3 shows average lumber grade yields and respective lumber values obtainable per MBF of logs of different grades for three common hardwood species.

⁴ Vaughn, C. L., Wollin, A. C., McDonald, K. A., Bulgrin, E. H. Hardwood Log Grades for Standard Lumber. U.S. Forest Service Research Paper FPL 63. 1966.

Tor		Lumber Value				
Grade	FAS	SEL	1C	2C	3C	Feb. 11, 1967 (average)
			Yellow F	lirch		
1	36	7	27	11	19	\$218
2	8	5	30	21	33	146
3	1	1	12	19	67	91
			Hard M	aple	•••	
1	25	13	30	12	20	\$157
2	6	6	29	21	38	118
3	1-	1	14	25	60	85
			Beech	1		
1	25	5	37	13	20	\$117
2	8	4	35	20	33	
3	1	1	17	26	55	78

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 Table 3 — Average Lumber Grade Yields For Logs
 Of Selected Species, In Percent

* The Commercial Bulletin, Boston -- Northeastern Hardwoods

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UNITS OF MEASUREMENT FOR FOREST PRODUCTS

A knowledge of the common units of measure for the various forest products is of importance to persons involved in the marketing process. These units of measure form a basis for common understanding between buyer and seller. Familiarity with these units can mean a greater financial return and a reduction of the chances of misunderstanding of the terms of forest products sale agreements.

The Blodgett rule is the official standard in New Hampshire. Serveral other rules are also in use by mutual agreement between buyer and seller. However, the International Rule, 4" kerf, is most commonly accepted.

The volume of a standing tree or a log is determined using tree and log rules. These rules simply give the approximate number of board feet of sawed lumber that may be manufactured after allowing for milling losses in slabs, edgings and sawdust.

Tree Scale (Tree Volume Measurement)

To determine the board foot content of standing trees, tally the trees by:

- 1) D.B.H. (Diameter Breast Height = measurement of diameter of tree 4½ ft. above ground)
- 2) Estimate the number of 16 foot logs to 6 inch top diameter
- 3) Apply the scale given in Table below

D.B.H.		Number of 16 foot logs — to 6" top												
Inches	1	1½	2	2½	3	3½	4							
6	10	15												
8	20	35	50											
10	40	55	70	85	95									
12	60	75	95	110	125	145	165							
14	85	110	135	150	165	190	215							
16	110	150	190	215	240	260	285							
18	140	195	245	285	320	345	370							
20	180	245	310	355	400	435	465							
22	220	300	380	445	505	545	585							
24	270	365	460	540	615	670	730							
26	320	435	550	645	735	805	875							
28	370	515	655	760	870	950	1035							
30	430	595	760	885	1010	1110	1205							

Tree Scale — International Rule

Log Rule

To determine the board foot content of sawlogs, tally the logs by:

- 1) Average Diameters at the small end and inside the bark and by lengths
- 2) Apply volumes from the table given in Table below and total

Diameter (Small end	Length of Log in Feet											
Inches	8	10	12	14	16	18	20					
4 5 6 7 8 9 10 11 12 13 14 15 16 17 18	5 10 15 20 30 35 45 55 65 75 85 85 95	5 5 10 15 20 30 35 45 55 70 80 95 110 125	5 10 15 20 25 35 45 55 70 85 100 115 130 150	5 10 15 25 35 45 55 70 85 100 115 135 135 180	5 10 20 30 40 50 65 80 95 115 135 160 180 205	5 15 25 35 45 60 75 95 110 135 155 180 205 235	10 15 25 40 50 70 70 85 105 125 150 175 205 235 265					
19 20 21 22 23 24 25 26 27 28 29 30	$ \begin{array}{r} 110\\ 125\\ 135\\ 155\\ 170\\ 185\\ 205\\ 220\\ 240\\ 260\\ 280\\ 305\\ 325\\ \end{array} $	140 155 175 215 235 255 280 305 330 355 385 410	$170 \\ 190 \\ 210 \\ 235 \\ 260 \\ 285 \\ 310 \\ 340 \\ 370 \\ 400 \\ 430 \\ 465 \\ 495 $	200 225 250 285 305 335 370 400 435 470 510 545 585	230 260 290 320 355 390 425 460 500 540 585 630 675	265 300 330 405 445 485 525 570 615 665 715 765	300 335 370 410 455 545 545 545 640 690 745 800 860					

The International Log Rule ¹/₄-inch Saw Kerf

COMPARATIVE VOLUME TABLE¹ FOR LOG RULES COMMONLY USED IN THE NORTHEAST

Name of Rule			•	Volum	ie in Ł	oard ;	feet						
Diameter in inches										<u>-</u>			
	6	8	10	12	14	16	18	20	22	24	28	32	36
International (¼")	20	40	65	95	135	180	230	290	355	495	585	770	000
Scribner Decimal "C"	20	30	60	80	110	160	210	280	330	400	580	740	020
Scribner				79	114	159	213	280	334	404	582	736	020
Doyle or Ontario	4	16	36	64	100	144	196	256	324	400	576	784	1094
Bangor	2 3	41	69	100	137	182	238	300	369	444	600	709	1024
Holland or Maine	20	44	68	105	142	179	232	302	363	430	614	705	1098
Vermont	24	43	66	96	130	170	217	267	320	384	014	190	1020
New Hampshire or													
Blodgett Caliper	19	35	54	78	106	139	176	217	262	313	42 6	557	704

¹ The values given are for 16' logs.

RAILROAD TIE VOLUME TABLE

Grade	Dimensions	Bd. ft. volume per tie	No. of pcs per MBF
1 2 3 4 5	6" x 7" x 8' 6" 6" x 7" x 8' 6" 6" x 8" x 8' 6" 7" x 8" x 8' 6" 7" x 8" x 8' 6" 7" x 9" x 8' 6"	29.7 29.7 34.0 39.6 44.6	33.7 33.7 29.4 25.2 22.4