

Washington Mill Survey-1988

Series Report No. 11



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Land & Water Conservation

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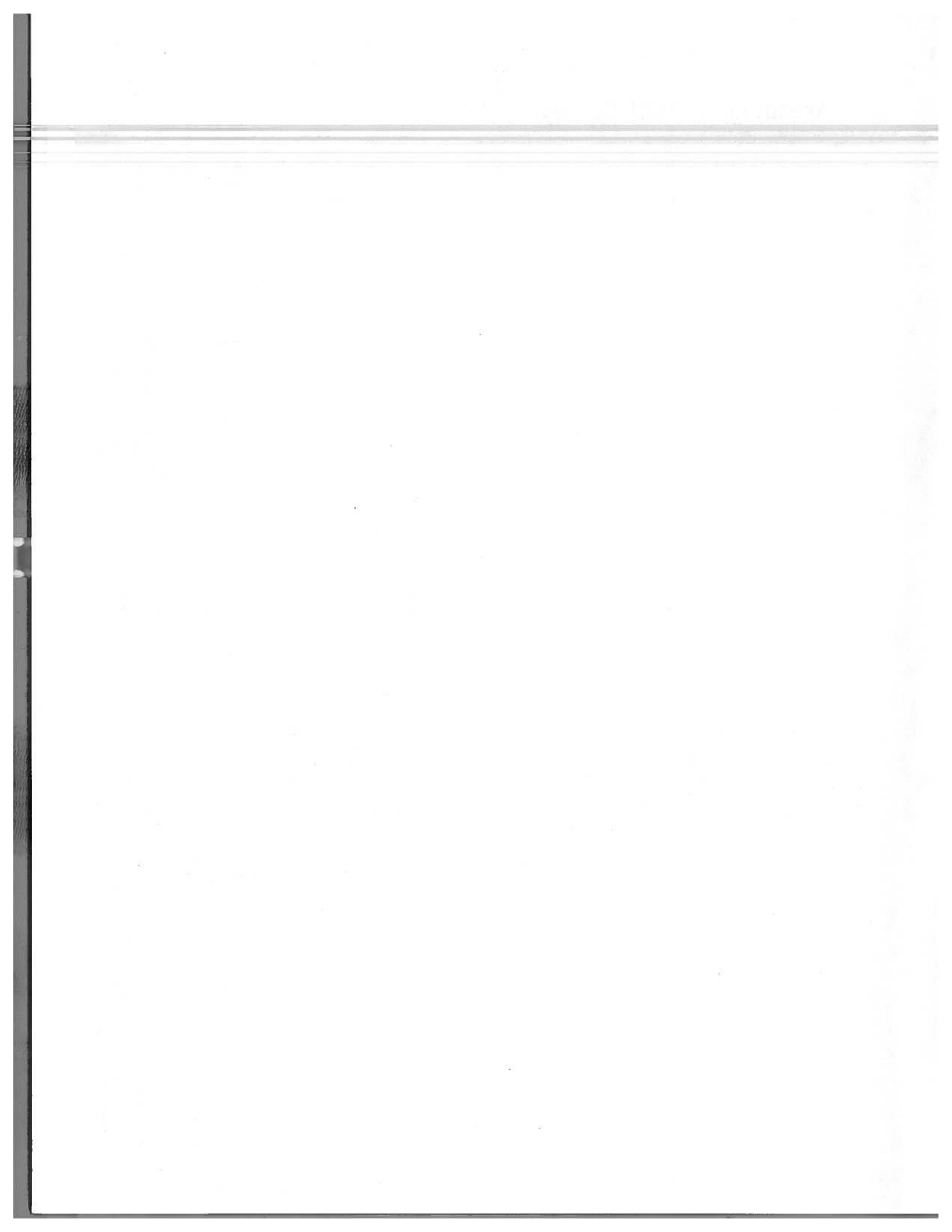
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Washington Mill Survey - 1988



Report Review

Comparison of Past Years

This section of the report reviews the Washington wood products industry during the past ten years. First the number of milling operations is reported by year for the six surveys sectors. This is followed by a brief discussion of the 1986-88 period. Then a 10-year review is provided.

Table 1
Number of Operations
Included in the Surveys*

<u>Sectors</u>	<u>1978</u>	<u>1980</u>	<u>1982</u>	<u>1984</u>	<u>1986</u>	<u>1988</u>
Sawmills	182	208	169	150	117	118
Veneer and Plywood	36	34	27	28	26	23
Pulp	26	23	21	20	20	21
Shake and shingle	337	267	195	131	117	92
Post, pole and piling	23	21	13	11	13	11
Log export	<u>160</u>	<u>134</u>	<u>124</u>	<u>102</u>	<u>101</u>	<u>86</u>
Totals	764	687	549	442	394	351

* Only primary wood processing mills and log export operations that operated during the survey year are included.

1986-1988 in review

The total number of operations in the forest products industry decreased 11 percent from 1986 to 1988. Sawmills increased 1 percent, the pulp sector increased 5 percent; shake and shingle dropped 21 percent; veneer and plywood decreased 12 percent; post pole and piling declined 15 percent; log export dropped 15 percent. In summary the sawmill and pulp sectors increased while four sectors declined.

Roundwood consumption of the sawmill sector increased 7 percent from 1986 to 1988. Lumber production increased 14 percent.

The log export sector share of total consumption increased from 37 percent in 1986 to 41 percent in 1988. Log export volume increased from 2.2 billion in 1988 to 2.8 billion board feet Scribner in 1988 (a 31 percent increase).

Douglas fir accounts for 48 percent of the harvest volume in 1988 an increase of 2 percent over 1986. Douglas fir increased as a percent of log export log consumption from 52 to 58 percent from 1986 to 1988.

Those mills -- more than two-thirds dependent on a single ownership class for log supply -- decreased from 216 in 1986 to 161 in 1988. The percent of all operating mills more than two-thirds dependent on a single owner class declined from 55 percent in 1986 to 46 percent in 1988. Mill more than two-thirds dependent on public ownership decreased 34 percent, private ownership decreased 24 percent.

Total residue volume increased from 5.7 million tons in 1986 to 6.2 million tons in 1988. Residue use also increased, going from 5.6 million tons in 1986 to 6.1 million tons in 1988. The percent of wood and bark residues being used remained the same in 1988 as in 1986 at 98 percent. The lumber sector increased use slightly to 98.3 percent. The veneer and plywood sector use level was reported at 100 percent. This is a record for residue use. The shake and shingle industry continues to lag substantially behind with the use of residues at 49 percent.

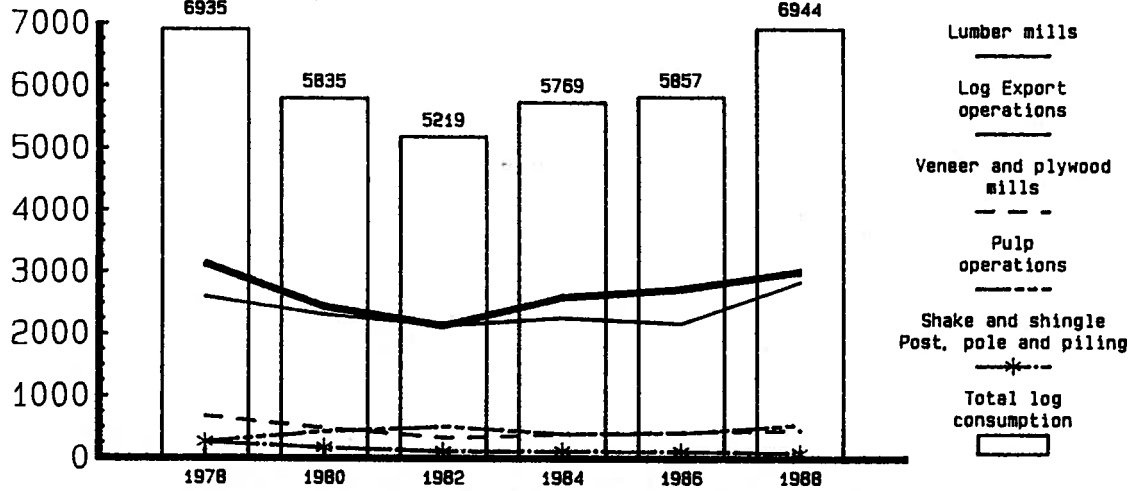
1978-1988 in Review

This section compares data developed from the 1978, 1980, 1982, 1984, 1986 and 1988 surveys. During this period the forest industry has undergone substantial change. Consumption peaked at slightly more than 6.9 billion board feet in 1988; and the low at 5.2 billion board feet in 1982. The lumber industry has followed the same cycle and is the primary consumer of logs, although slightly exceeded by log export during the 1982 recession. The sawmilling and log export sectors together have accounted for over four-fifths of the log consumption for the survey years 1978-1988.

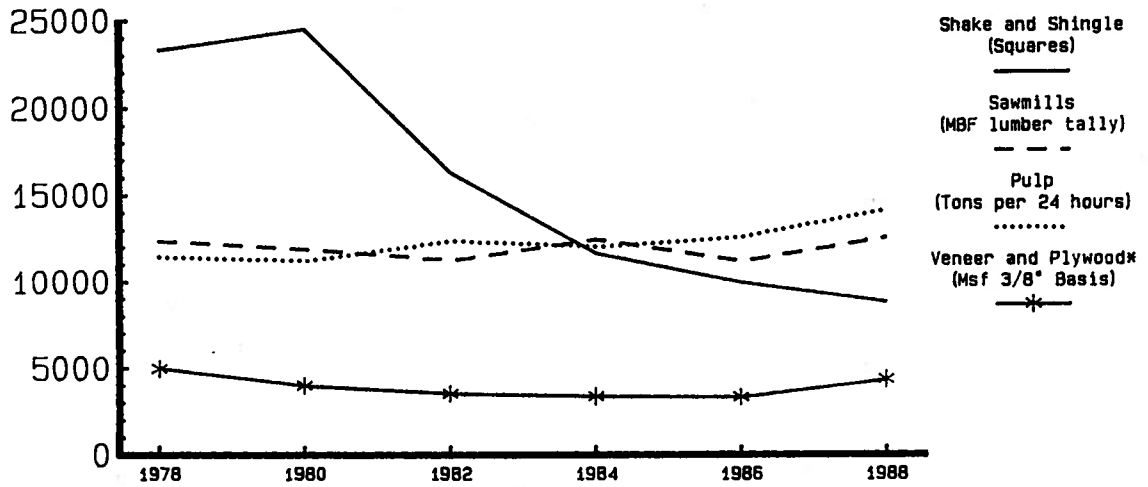
Installed shift capacity has fluctuated over time. For the lumber sector it peaked at 12.5 thousand board feet per eight-hour shift in 1988. The pulp industry has reached a new high for 24-hour capacity at 14,115 bone dry tons. This is an increase of 12 percent above 1986. For the veneer and plywood industry, the 10-year capacity high was in 1978 at 5.0 million square feet (3/8"basis) eight-hour veneer shift capacity and for 1988 it is 4.3 million square feet, about a 15 percent decline in capacity. The shake and shingle industry has sustained a major decline in capacity. In 1980 the capacity was at 24.5 thousand squares. It has declined to 8.8 thousand squares as of 1988, a capacity decline of nearly two-thirds. This is an industry which greatly depends on the use of old growth western redcedar and is expected to continue to decline.

Total Log Consumption by Year and Industry

Million Board Feet, Scribner



Installed Shift Capacity



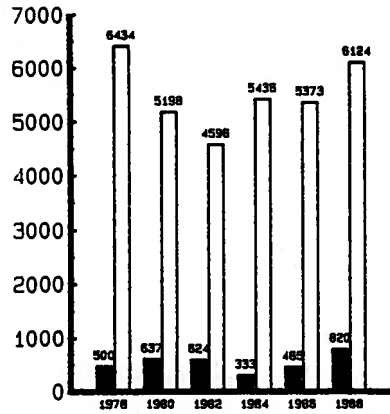
*Capacity includes total capacity for veneer-only and layup-only operations, but only the veneer in the veneer and layup plants.

Note

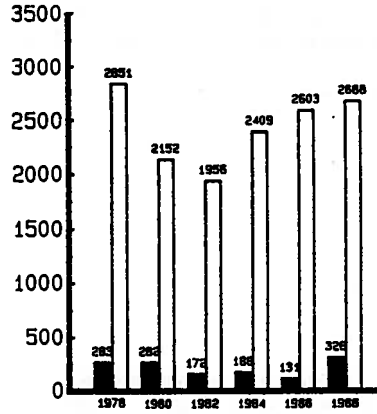
Roundwood consumption -- comparing sound and utility grades -- are shown in total and by sector. The use of utility grade logs has been on a strong upward trend. From 1984 to 1988 this upward trend has been especially strong for the pulp mills. Export of utility grade logs is at a very low level.

Roundwood Consumption of Sound and Utility logs (Million board feet, Scribner)

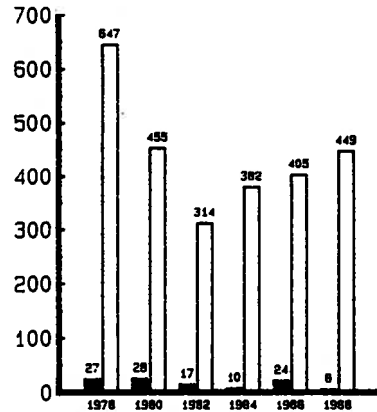
STATE TOTAL



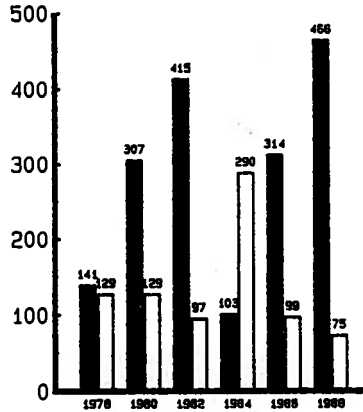
LUMBER



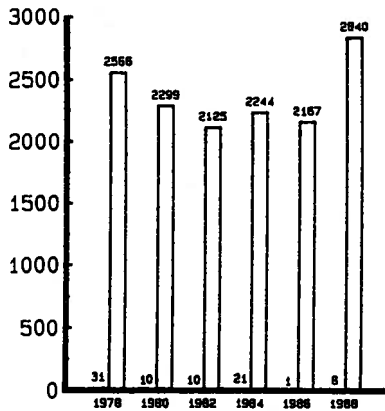
VENEER AND PLYWOOD



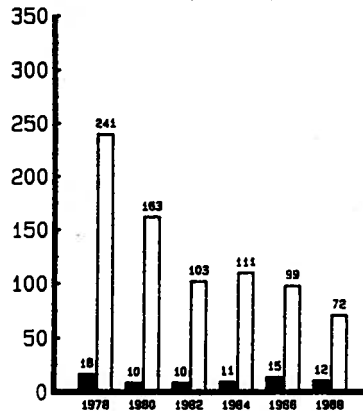
PULP



LOG EXPORT



SHAKE & SHINGLE; POST, POLE & PILING

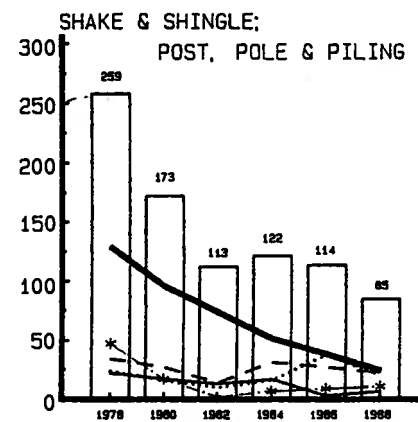
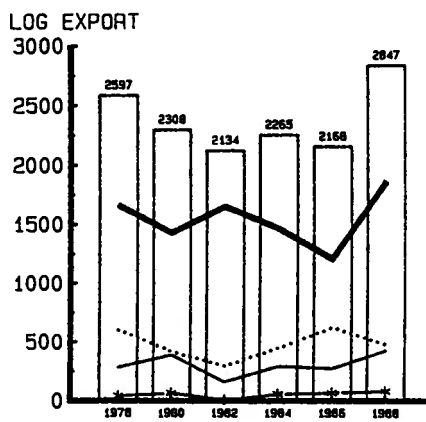
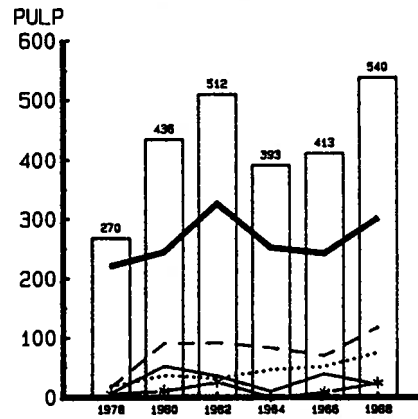
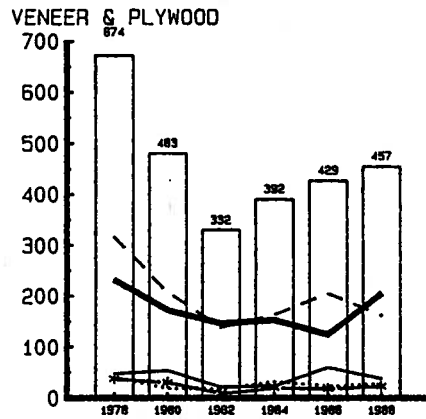
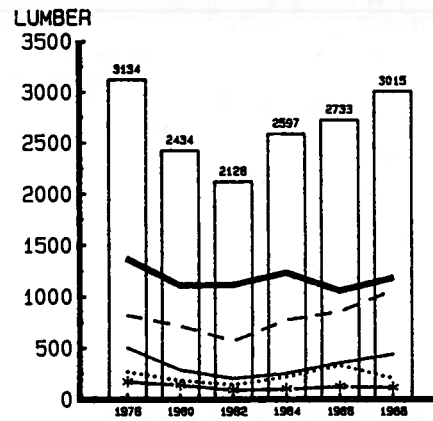
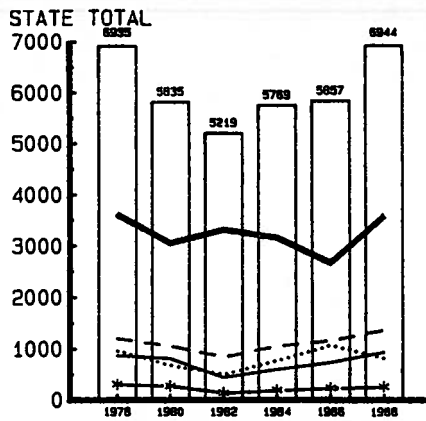


■ Utility Logs □ Sound logs

Note

Log consumption by owner class shows that forest industry is the single most important owner class in total. Forest industry's contribution peaked in 1978 at 3.6 billion board feet Scribner. Although it has since declined, in 1988 it rebounded to nearly 3.6 billion board feet. The national forests are an important source of logs for the veneer and plywood industry. In 1986 nearly half of this industry's consumption came from the national forests. In 1988, however, it had declined to about one-third. The forest industry was the most important single log source for the veneer and plywood sector in 1988. Forest industry timber going to the shake and shingle industry has steadily declined as the old-growth timber on their lands has been reduced.

Log Consumption by Ownership Class (Million board feet, Scribner)

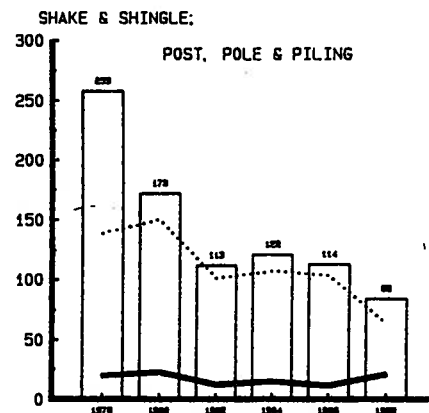
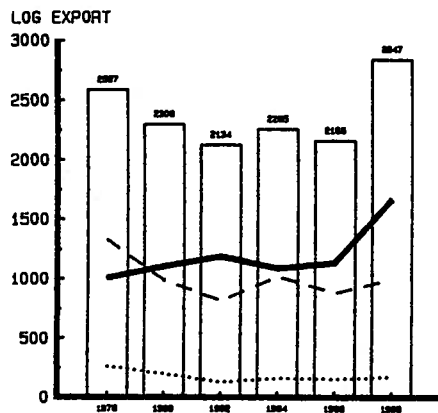
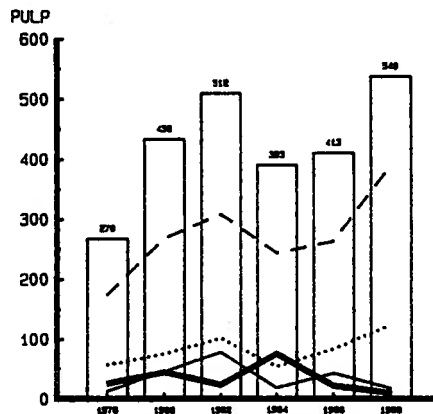
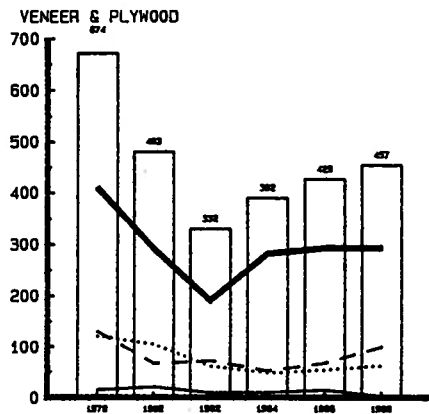
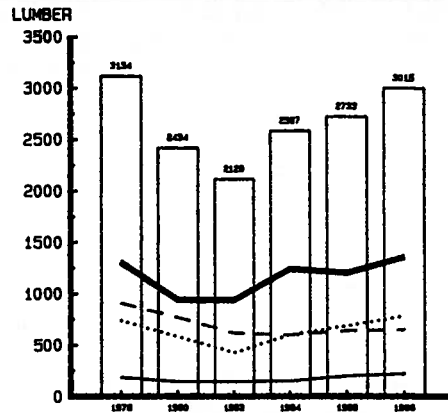
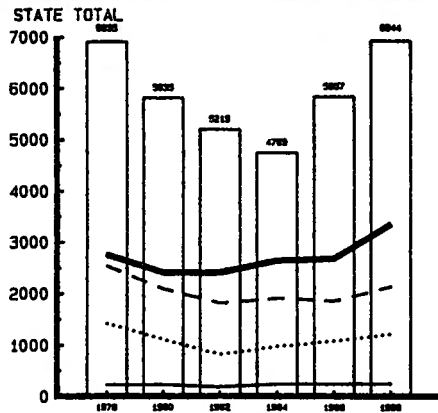


Forest Industry National Forest State Farmer & misc. private Other public Total log consumption

Note

Douglas fir was the most important single species throughout the 10 year period with nearly half the consumed volume. Hemlock has been a strong second place species with nearly one-third of the total. Together they account for nearly four-fifths of the log consumption. Douglas fir has been the dominant species for the lumber and the veneer and plywood industries. Hemlock has dominated the pulp industry. Western redcedar has been the primary species for the shake and shingle industry. For the log export market, hemlock was first in the 1970s, but Douglas fir has been first during the 1980s.

Log Consumption by Species (Million board feet, Scribner)

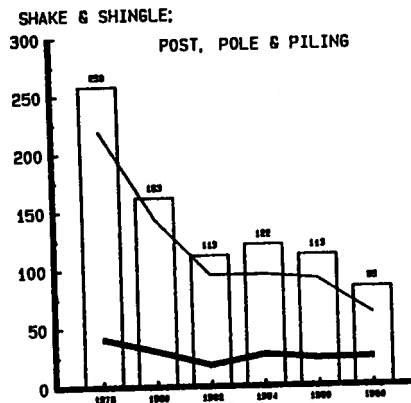
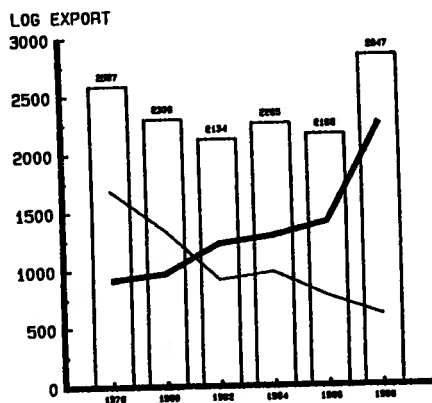
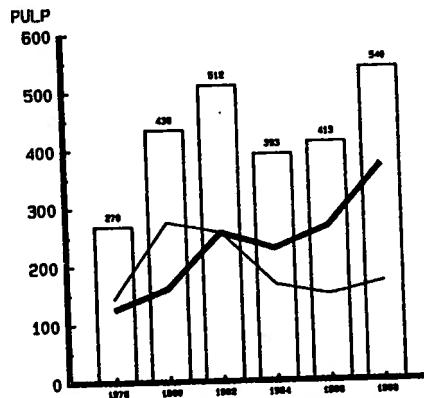
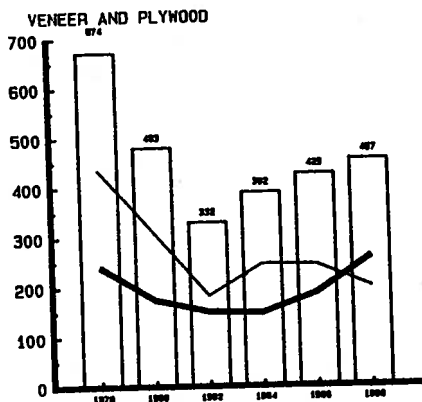
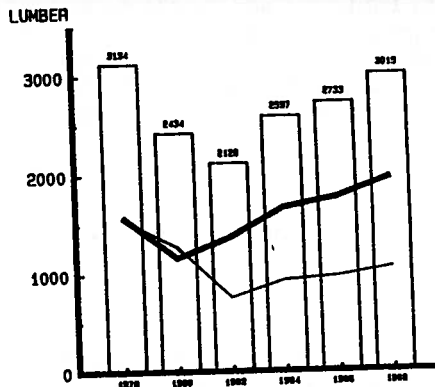
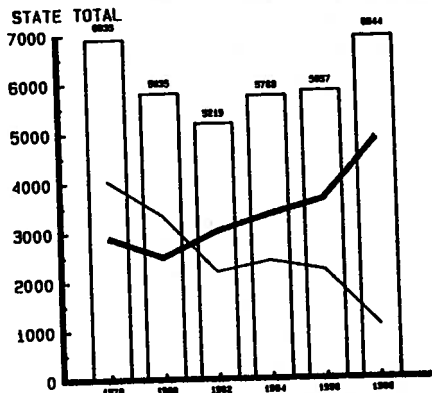


Douglas fir
 Hemlock
 Other softwoods
 Hardwoods
 Total log consumption

Note

Timber over 100 years of age was the dominant age class through 1980. With the old growth timber a declining resource, young growth timber has become more important. This is a trend which will continue because of current forest management silvicultural practices. Timber stand rotations are usually much shorter than 100 years. Although this mill survey does not deal with minimum harvest ages, some commercial thinnings occur at about 30 years of age and some final harvests at about 40 years of age.

Log Consumption by Timber Age Group (Million board feet, Scribner)

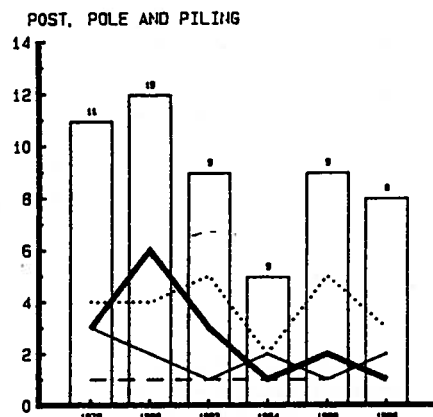
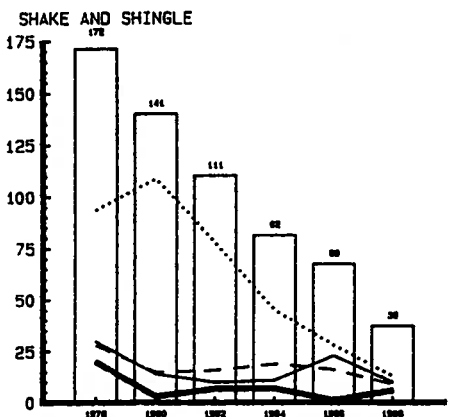
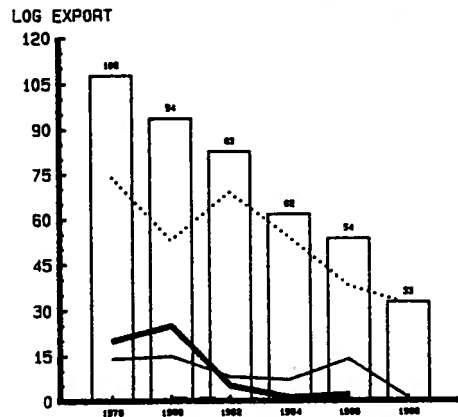
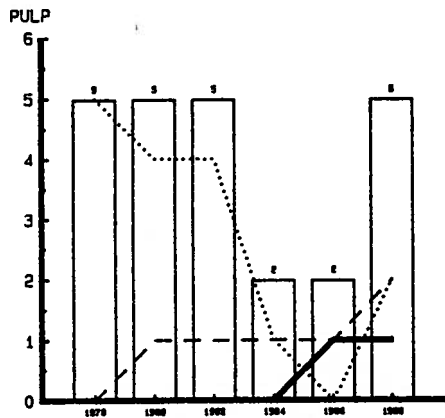
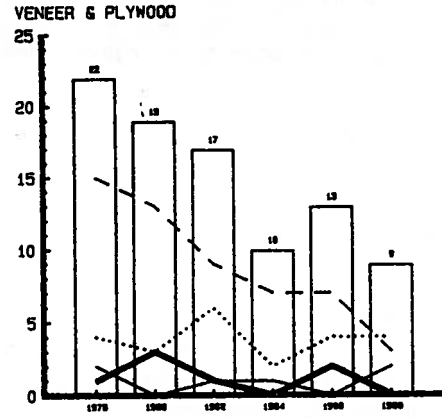
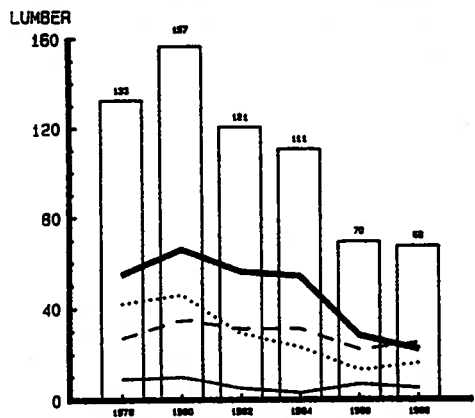


Old growth (100+ years)
 Young growth (less than 100 years)
 Total log consumption

Note

Mill dependency is shown by graphing mills more than two-thirds dependent on a single ownership. Surprisingly the farmer and miscellaneous private, with 13 percent of the harvest, until 1988 had been the most important owner class for the lumber industry. In 1988 the national forests which provided 20 percent of the log volume consumed became the land owner class with a greater number of highly dependent sawmills. In 1988 the forest industry for the first time became the most important source for the veneer and plywood industry.

Number of Mills More Than Two-Thirds Dependent on a Single Ownership for Logs



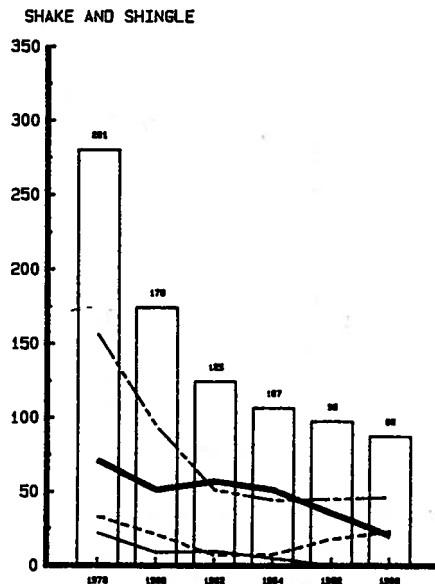
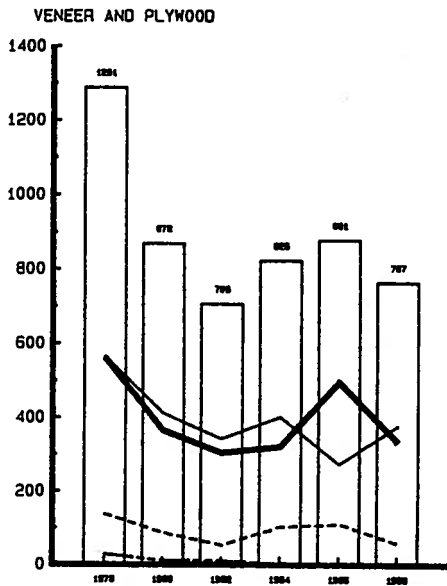
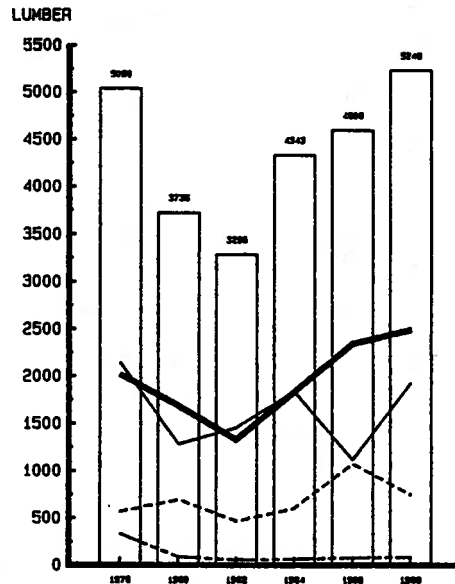
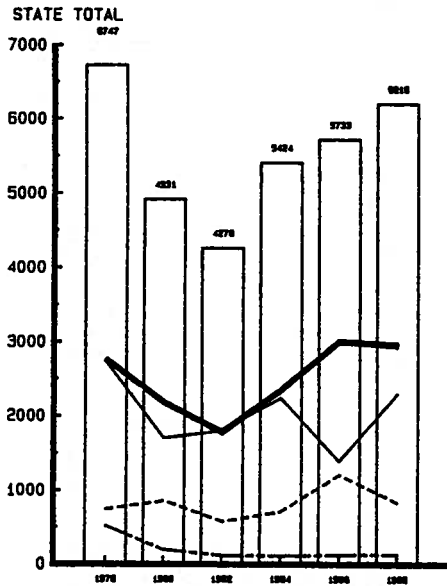
Farmer & misc. private National Forest Forest Industry State and other public Total Mills consumption

Note

Residue production has fluctuated from a high of 6.7 million tons in 1978 to a low of 4.3 million tons in 1982. The 1988 volume of 6.2 million tons is the second highest volume during the 10-year period.

Lumber is the primary source of residues with over 80 percent of the residues produced. Fuel use accounted for nearly half the total; pulp was second with over one-third of total residues. Although not shown, pulp use accounted for nearly half the wood residue total.

Production and Disposition of Wood and Bark Residue (Thousand tons, dry weight)



Fuel
 Pulp and board
 Other uses
 Unused
 Total residue

Table 2

Report Year-and Table Number-Cross-Index

(Between the 11 Washington mill survey reports [1])

1978 thru 1988	1976	1974	1970 and 1972	1968
1	1	1	1	1*
2	2,26*,76*	2,25,74*	2,24,72*	2*,23,67*
3	3	3	3	3*
4	4	4	4	4
5	5	5	81	--
6	6	6,47,60,72	4,45,58,70	5,42,55,66
7	7,61,77*	7,59,70	6,57,68	19,41,54,64
8	8,76*	8,74*,75	7,72*,73	6*,67*
9	9	9	8	7
10	10,60	18,44,58,69*	17,42,56,67*	16,39,53,63*
11	11	10	9	8
12	12	11	10	9
13	13	12	11	11
14	14	13	12	11
15	15	14	13	12
16	16	15	14	12
17	17	16	15	13
18	18	17	16	15
19	19	18	17	16
20	20	19	18	17
21	21	20	19	18
22	22	21	20	19
23	23	22	21	20
24	24	23	22	21
25	25	24	23	22
26	27	26	25	24
27	28	27	26	25
28	29	28	27	26
29	30	29	27	27
30	31	30	29	28
31	32	31	31	29
32	33	32	30	30
33	34	33	32	--
34	35	34	--	--
35	36	35	--	--
36	37	36	34	31
37	38	37	35	32
38	39	38	36	34
39	40	39	37	35
40	41	40	38	33

[1] Base year 1988

* Contains part of same information

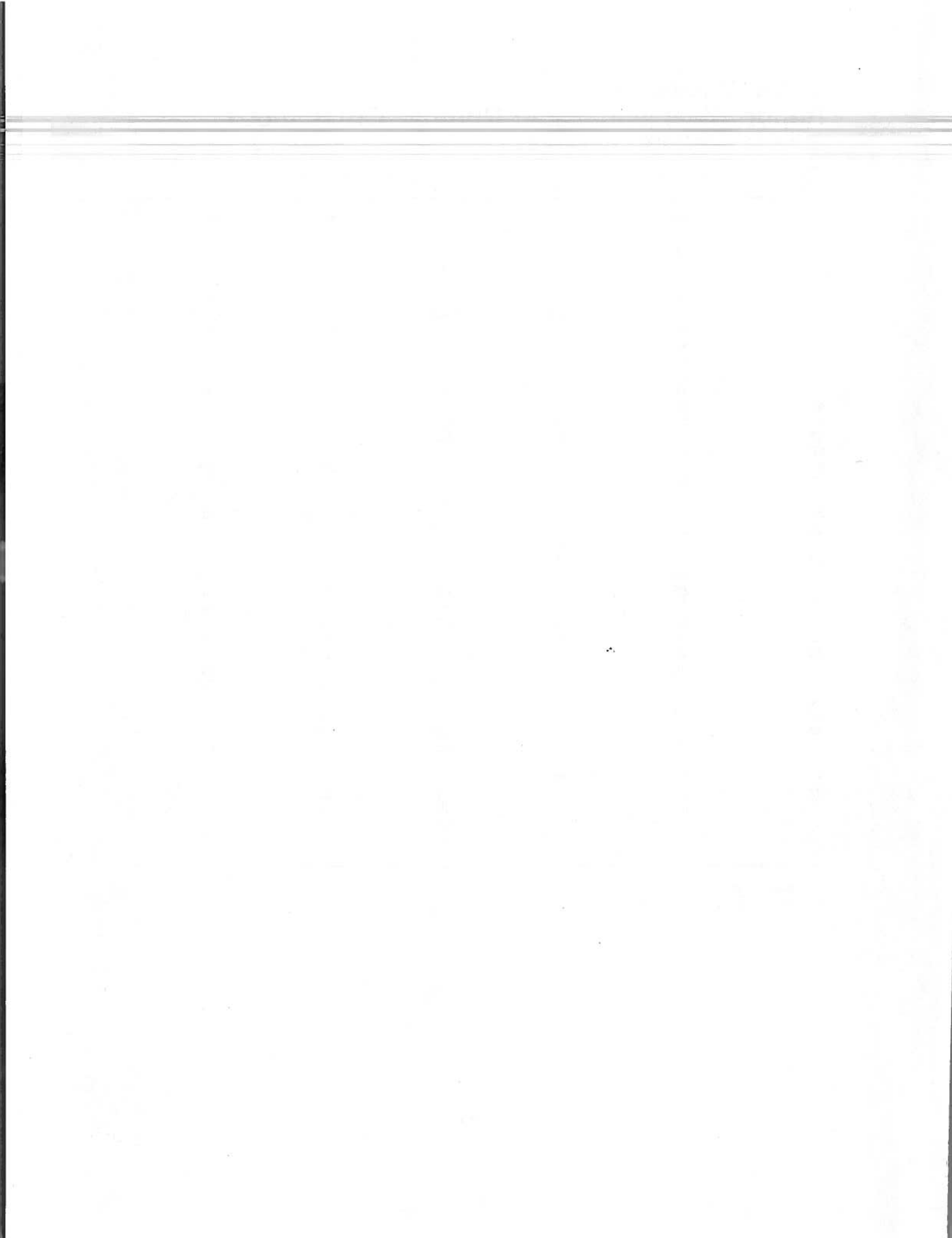
Table 2 (continued) Report Year and Table Number Cross Index

(Between the 11 Washington mill survey reports [1])

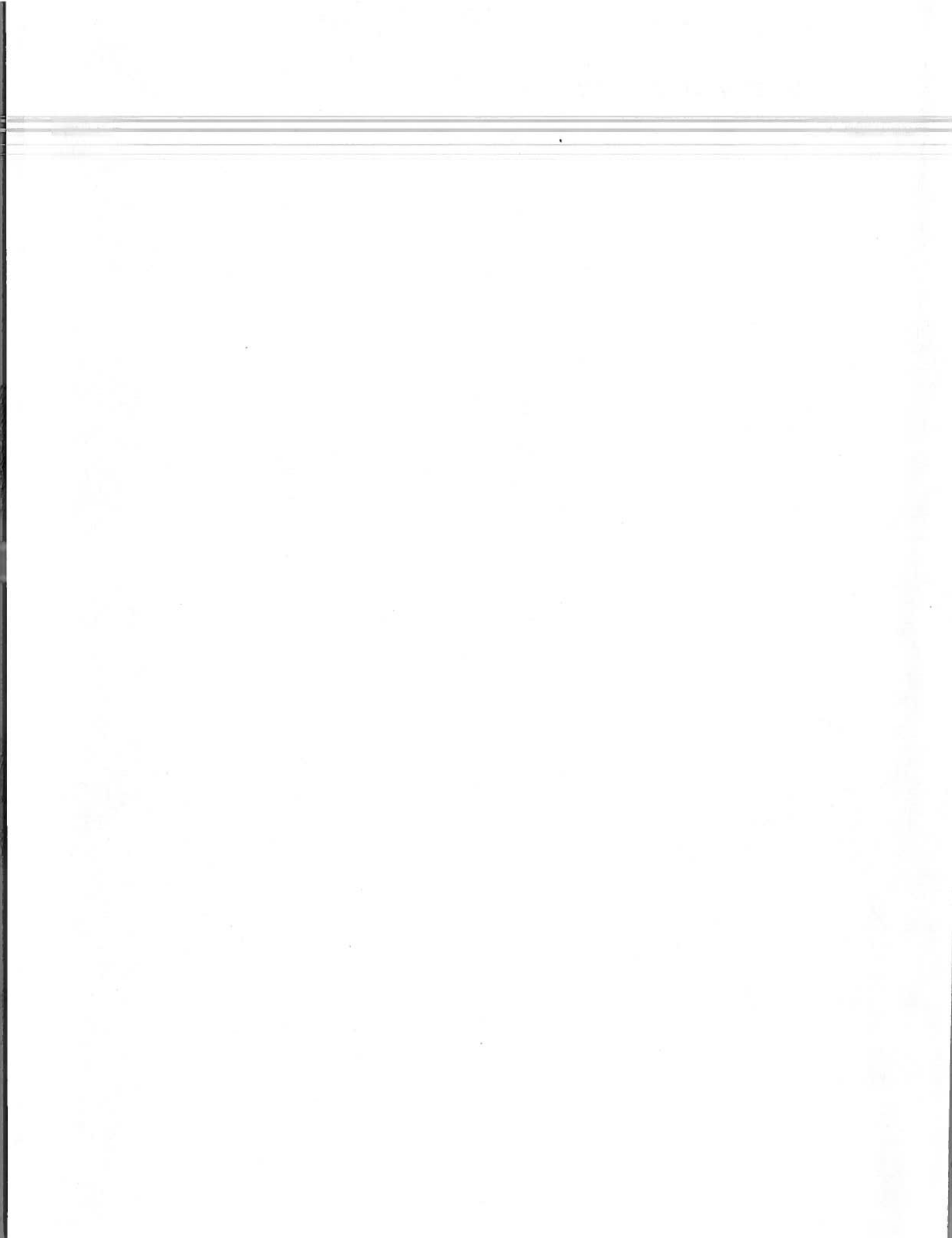
1982- 1988	1972 and 1980	1976	1974	1970 and 1972	1968
41	41	42	41	39	36
42	42	43	42	40	37
--	43	44	43	41	38
--	44	45	44	42	39
43	45	46	45	43	40
--	46	47	46	44	41
--	47	48,49	48,49*	46,47*	43,44*
--	48	50	50	48	45
44	49	51	51	49	46
--	50	52	52	50	47
45	51	53	--	--	--
46	52	54	53	51	48
47	53	55	54	52	49
48	54	56	55	53	50*
49	55	57	56	54	51
50	56	58	--	--	--
51	57	59	57	55*	52*
52	58	62	61	59	56
53	59	63	62	60	--
54	60	64	63,64,67	61,62,65	57,58,61
55	61	65	65*	63*	59*
56	62	66	66	64	60
57	63	67	68	66	62
58	64	68	71*	69*	65*
59	65	69	78	76	69
60	66	70	79	77	70
61	67	71	80	78	71
62	68	72	81*	79*	--
63	69	73	63,64,67	61,62,65	57,61
64	70	74	66	64	60
65	71	75	65*	63*	59*
66	--	--	--	--	--
67	72	78	81	79	--
68	73	79	68*	66*	62*
69	74	80	66	64	60
70	75	81	--	--	--
71	76	82	73*	71*	68*
72	77	7*	70*	68*	64*
--	--	--	76	74	--
--	--	--	77	75	--
--	--	--	82	80	72

[1] Base year 1988

* Contains part of same information



Industry Overview



1988 HIGHLIGHTS

Mills operating in Washington in 1988 totalled 351.
Analysis of single-shift capacity and number of mills by type shows:

Table 3
Mills by Type
and Single Shift Capacity

Type of <u>mill</u>	Number of <u>mills</u>	Single shift <u>capacity</u>
Sawmills	118	12.5 MMbf
Log export	86	not applicable
Veneer & plywood	23	4.3 MMsf (3/8" basis)
Pulp	21	14.1 M tons (daily)
Shake & shingle	92	8.8 M sq.
Post, pole & piling	11	57.6 MMbf (peeling-yearly)
Total	<u>351</u>	

Grays Harbor County led with 53 operations.

The 47 largest sawmills (Class A) had 76 percent of the total eight-hour shift sawmilling capacity. During 1988 the Class A sawmills consumed 77 percent of the logs processed and produced 79 percent of the lumber manufactured.

Wood Consumption

- ◆ 6.9 billion board feet of roundwood logs were consumed by the industry. Sawmills accounted for 43 percent of the volume; log export took 41 percent. These two sectors account for 84 percent of the consumption.
- ◆ 32 million board feet (log scale) of peeler cores, cants, blocks, bolts and miscellaneous peeled products were consumed.
- ◆ 7.0 million tons of chips, sawdust and shavings were consumed by the pulp industry.
- ◆ 87 percent of total wood used by the pulp sector was in the form of chips, sawdust, shavings and waste paper.
- ◆ 70 percent of timber consumption was young growth (less than 100 years old)
- ◆ 88 percent of all log volume used was from sound logs.
- ◆ 48 percent of roundwood volume was Douglas fir; 31 percent hemlock; 5 percent western redcedar and 4 percent ponderosa pine.
- ◆ 5 percent of all log volume consumed was imported; 84 percent of this volume came from Oregon.
- ◆ 52 percent of log volume came from forest industry timberlands; 20 percent from national forests; 12 percent from state-managed lands.
- ◆ 72 percent of national forest log volume statewide came from combined harvests on the Gifford Pinchot, Mt. Baker-Snoqualmie, and Olympic National forests; 27 percent from Gifford Pinchot; 23 percent from Mt. Baker-Snoqualmie and 21 percent from the Olympic.

**Table 4
Roundwood Use by Industry**

Industry	Volume (MMBf)	Percent
Sawmills	3,015	43
Log export	2,847	41
Pulp	540	8
Veneer & plywood	457	7
Shake & shingle	62	1
Post, pole & piling	23	<.5
	<u>6,944</u>	<u>100</u>

Leading counties in roundwood use were:

Grays Harbor	1,093 MMBf
Cowlitz	940 MMBf
Snohomish	832 MMBf
Pierce	826 MMBf

RESIDUES

- ♦ 6.2 million tons of wood and bark residues were generated. The sources by sector are shown in Table 5. Sawmills are the primary source.
- ♦ 77 percent of residue was wood; 23 percent was bark. Used residues were 98 percent wood and 97 percent bark. Unused were 134,869 tons of wood and bark.
- ♦ 48 percent of wood residue went for pulp; 41 percent for fuel; 9 percent other uses; 2 percent was unused.

**Table 5
Wood and Bark
Residue Production by Mill Type**

Mill Type	Million tons	Percent
Sawmills	5.2	84
Veneer & plywood	0.8	13
Shake & shingle	0.1	1
Other *	0.1	2
Total	<u>6.2</u>	<u>100</u>

* Other includes log export and post, pole and piling.

THE TIMBER ECONOMY

The Washington timber economy continues to adapt to a changing economic climate. Although the number of processing operations declined by about 10 percent from 1986 to 1988, log consumption was up 6 percent. Washington still remains one of the leading timber industry states, producing 10 percent of the nation's lumber, 5 percent of the nation's paper and board production, 4 percent of the nation's plywood and providing 59 percent of the nation's log exports.

The forest industry has become more efficient in lumber production. While log consumption for sawmills rose 10%, lumber output per worker also rose -- about 4 percent. Employment for the sawmilling sector, Standard Industrial Code (SIC) 24 increased from 37,692 in 1986 to 41,190 in 1988¹. The pulp industry also experienced modest employment growth, SIC 26 workers increasing from 16,660 in 1986 to 16,730 in 1988.

Washington's total timber harvest for 1988 was 7.0 billion board feet² (Figure 1). This is equal with 1987 harvest and up 7 percent from 1986. The mill survey for 1988 shows log consumption at 6.9 billion board feet in 1988. The mill survey timber harvest estimate is about 4 percent lower than the timber harvest report. This difference may be attributed to several factors. Nearly 2 million tons of chips went from roundwood chipping mills to the pulp mills. This volume was not included as roundwood in the mill survey. Other plausible contributing factors: logs being exported to other states and not being included in the survey process (only final consumers are surveyed), some mills were possibly missed in the survey, and maybe reported log consumption was lower than actual consumption.

The lumber, plywood and pulp information in Figure 1 is from the Washington Mill Survey series. Information for a 10-year period is shown.

Total wood use by Washington forest industry sectors is shown in Figure 2. This information is from the Washington Mill Survey series and shows log consumption for five of the six sectors. The post, pole and piling sector is not shown due to graphics limitations. This sector only consumes about 20 million board feet (a fraction of 1 percent of all roundwood consumed). It is, however, a sector which produces high value specialty products and is a valuable part of the Washington forest products industry.

¹Source: Employment and Payrolls in Washington State by County and Industry, 1986 and 1988.

² Source: Washington timber harvest 1988. Dept. of Natural Resources, Olympia, WA

Figure 1
Output of Major Timber Products for Washington

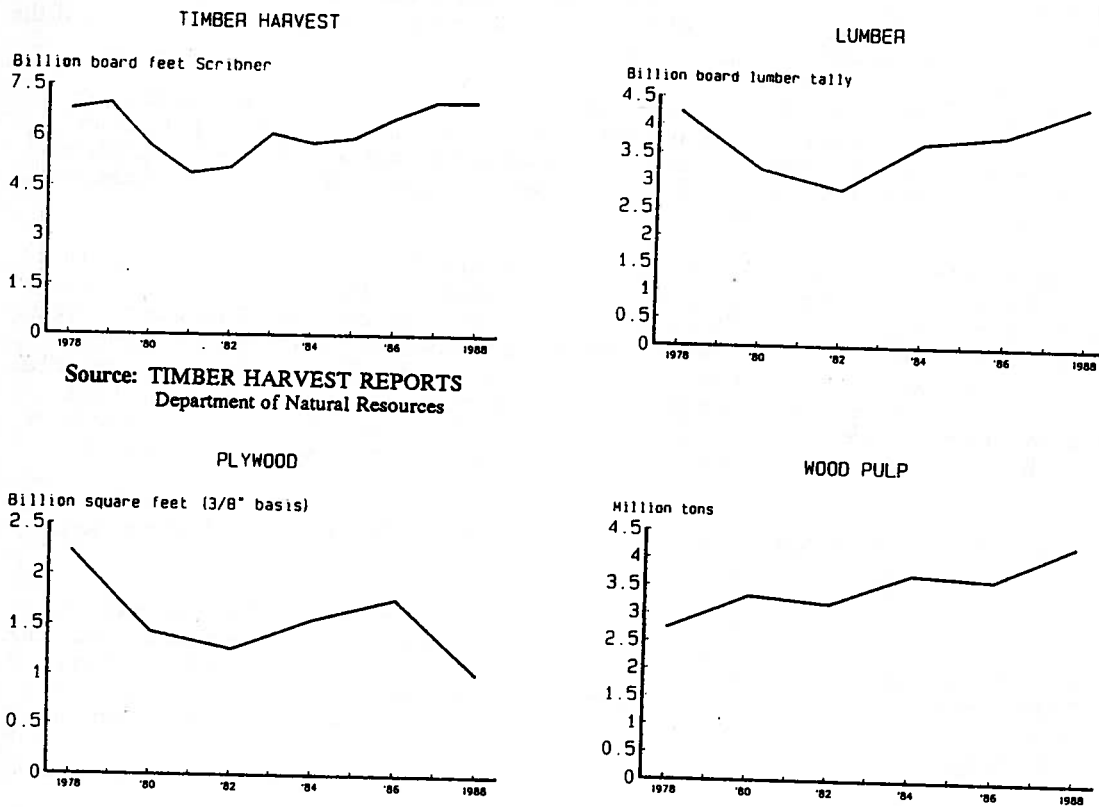
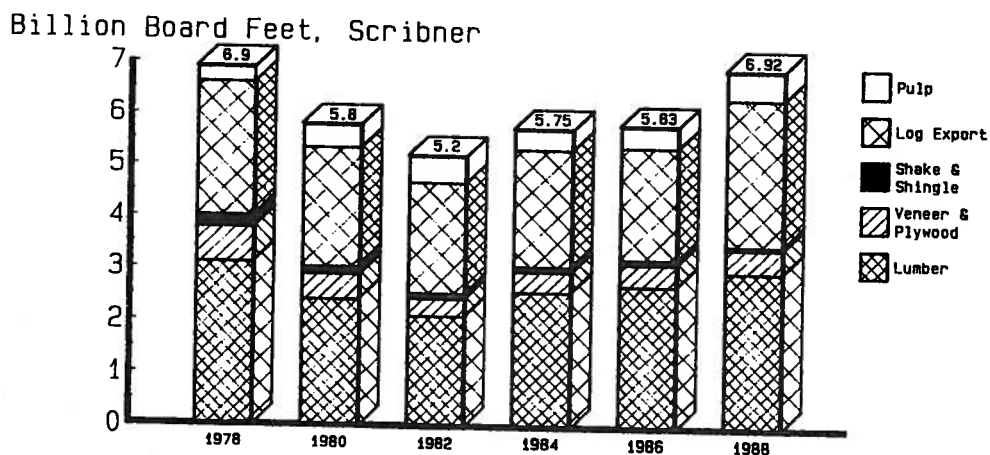
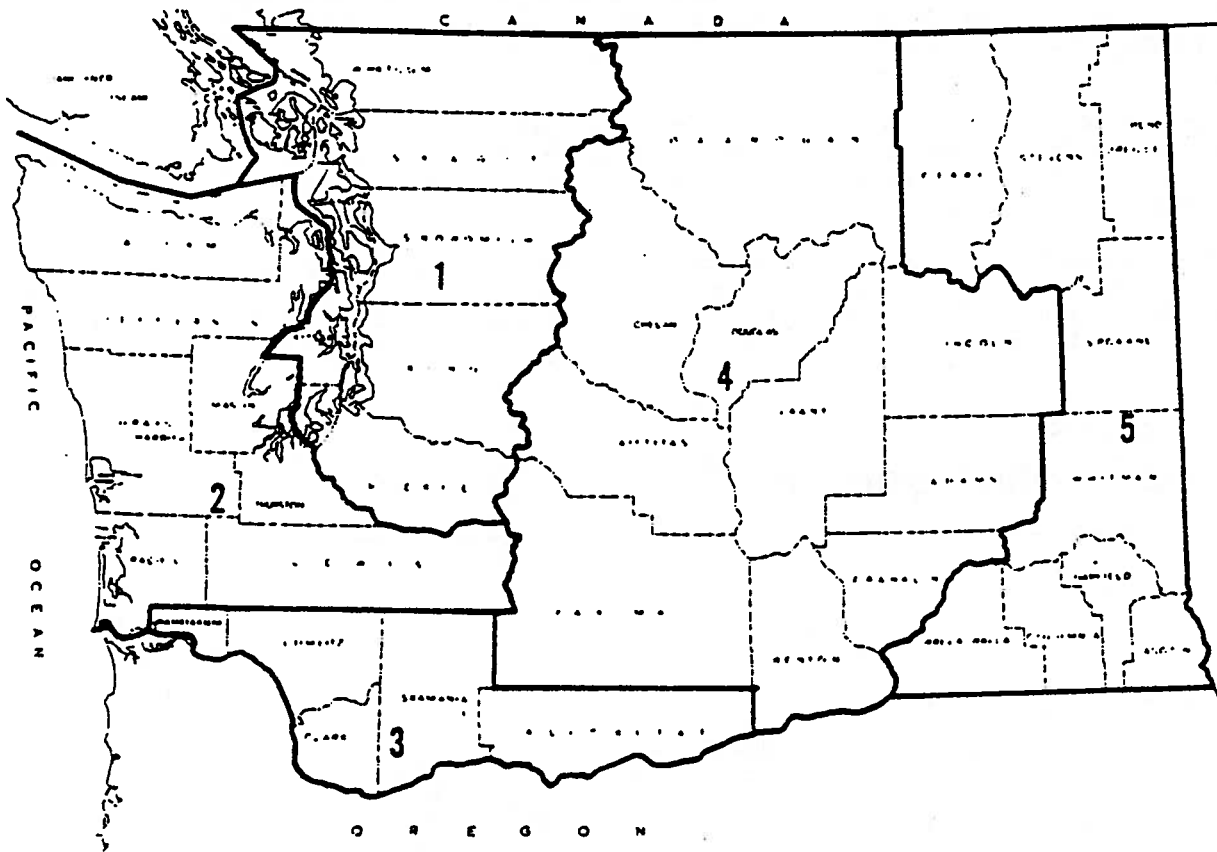


Figure 2
Washington Log Consumption
by Major Industries



Post, pole and piling industry volume is not shown because it is less than 100 million board feet.

Figure 3
The Five Economic Areas Encompassing 39 Counties



The five Economic Areas used in this report to show regional consumption of wood production of wood products are: (1) Puget Sound, (2) Olympic Peninsula, (3) Lower Columbia, (4) Central Washington and (5) Inland Empire.

INDUSTRY CHARACTERISTICS

The industry is divided into six segments in this report: lumber; veneer and plywood; pulp; log export; shake and shingles and post, pole and piling. Each sector is unique in its raw material requirements, production methods and marketing procedures. Efforts have been made to present data for each industry sector independently where data was sufficient to avoid disclosure of confidential information from individual operations. Counties which had fewer than three operations were combined with others. Economic areas are illustrated in Figure 3. In all cases data were grouped to maximize the identity of geographic origin. Where possible, these groupings have remained the same as those used in previous surveys to allow comparison. Comparisons between sectors and

Wood Consumption

During 1988, Washington's primary forest products industries consumed 6.9 billion board feet of logs, 32 million board feet of other wood and 7 million tons of chips and wood residue. Sound logs comprised 88 percent of the total roundwood; log export accounted for 46 percent, sawmills consumed 44 percent. Utility and cull logs accounted for 12 percent of total roundwood with the pulp industry consuming 57 percent of these materials. Figure 4 illustrates the total log consumption by industry sector.

The 7 million tons of chips and residues consumed by the pulp industry consisted of mill residues and material from roundwood chipping plants as well as other fiber residues. This volume is equivalent to about 3.5 billion board feet of roundwood logs. Most of the chips were by-products of manufacturing operations.

The forest products industry consumption (including log export) was met disproportionately from forest industry owners. The forestry industry, owning 28 percent of the commercial forest lands in the state, provided 52 percent of log consumption volume. Industry in 1986 provided 45 percent of the consumption volume.

Figure 4
Log Consumption by Type of Industry

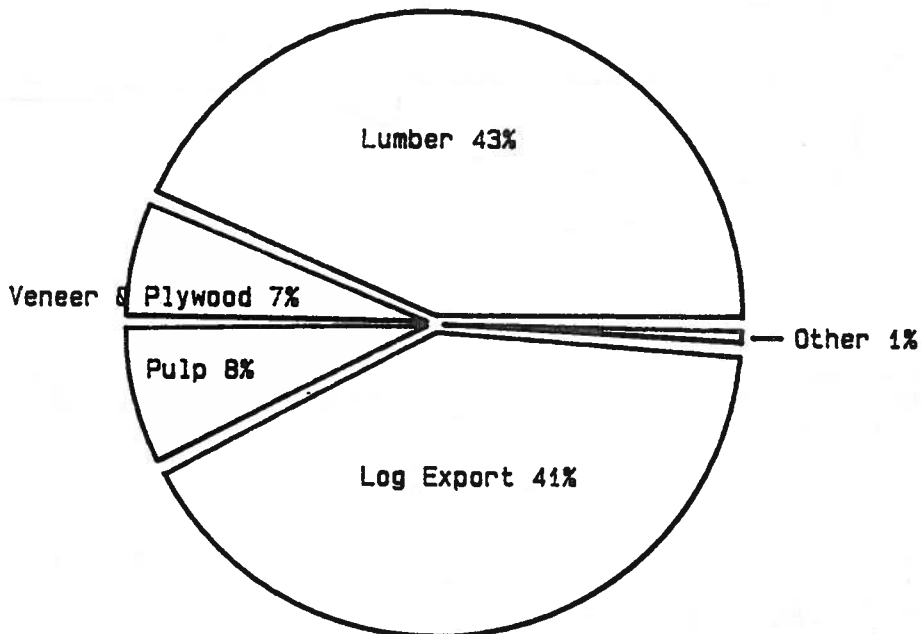


Table 6
Log Supply by Owner Source

<u>Ownership</u>	<u>Log Supply</u> (percent)
State	12
National forest	20
Bureau of Land Management	*
Other public	4
<hr/>	<hr/>
Total	36
Forest industry:	
Own wood supply	24
Other wood supply	27
Farmer & misc. private	13
<hr/>	<hr/>
Total	64
<hr/>	<hr/>
All owners	100

*Less than 0.5 percent

Table 7
Log Flows Measured from National Forests

<u>National Forest</u>	<u>Log flow</u> (Percent)
Gifford Pinchot	28
Mt. Baker-Snoqualmie	23
Olympic	21
Wenatchee	8
Okanagan	8
Colville	5
Other	7
<hr/>	<hr/>
All National Forests	100

Dependence for timber supply by ownership class is determined by totalling individual mills obtaining more than two-thirds of their logs from a single ownership class. Percents are taken as a share of 351 mills in the state.

Table 8 Dependence for Timber Supply

Mills Over Two-Thirds Dependent

<u>Ownership</u>	(Number)	(Percent)
State	11	3.1
National forest	41	11.7
Bureau of Land Management	--	--
Other public	9	2.6
<hr/>		
Total public	61	17.4
<hr/>		
Forest industry:		
Own wood supply	17	4.8
Other wood supply	53	15.1
Farmer & misc. private	30	8.6
<hr/>		
Total private	100	28.5
<hr/>		
All owners	161	45.9

At the state level, Douglas fir (48 percent) and hemlock³ (31 percent) were the dominate species consumed by the industry during 1988. In Western Washington the three major species (in order of importance) were Douglas fir, hemlock and western redcedar. Douglas fir and ponderosa pine were the major species in Eastern Washington.

Most sectors of the industry use several species. Four sectors, however, have a species preference. The post, pole and piling industry is 92 percent dependent and the veneer and plywood industry is 64 percent dependent on Douglas fir, the pulp industry's consumption of roundwood is 72 percent dependent on hemlock. The shake and shingle industry is almost exclusively dependent on western redcedar.

Washington supplied 95 percent of the industry's log consumption. Oregon contributed 4.2 percent, with most (89 percent of this volume) consumed in the Lower Columbia area.⁴

³ Western hemlock and mountain hemlock have been combined under the generic designation of hemlock in this report.

⁴Although Klickitat County lies east of the Cascades, it is included in the Lower Columbia Economic Area and is considered part of Western Washington in this report.

RESIDUES

Production

The sawmill; veneer and plywood; shake and shingle; post, pole and piling; and log export segments of the industry generated 6.2 million tons of wood and bark residues in 1988. Of this amount, the sawmill, and veneer and plywood sectors provided 97 percent of the total. Of their share, 98.5 percent was used.

Of all residues produced, 98 percent were used. Fuel use accounted for nearly 3 million tons (52 percent) of all residues while the pulp industry took 2.3 million tons (37 percent) of all residues.

Use

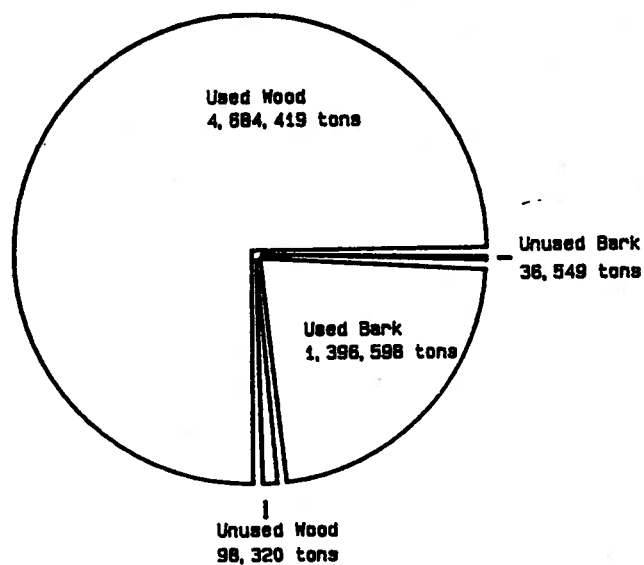
A significant achievement of the forest products industry is the relatively high use of wood residues, 4.7 million tons (98%). In addition, volume use increased from 1986 to 1988.

Table 9
Wood Residue Use by Industry

<u>Wood residue use</u>	<u>Volume (thousand tons)</u>	<u>Percent</u>
Pulp	2,292	48
Fuel	1,947	41
Other uses	445	9
Unused	98	2
<hr/>		
All wood residue	4,782	100

The relationship between wood and bark residues and the use relationship is shown graphically in Figure 5.

Figure 5
Relative and Absolute Residue Volume



HARDWOOD INDUSTRY

Hardwood processing is another segment of the Washington wood products industry. It accounts for 4 percent of total log consumption. The hardwood species used by this industry include red alder, bigleaf maple and black cottonwood. These species are used by sawmills, veneer and plywood mills, and pulp mills. The finished products are shipped throughout the United States and abroad for use in furniture, other specialty products and pulp.

In 1988, 15 sawmills, three veneer and plywood operations, and six pulp mills used hardwoods. Of the 15 sawmills, 11 used hardwoods for 90 percent-plus of their log consumption. Mills using hardwoods, with one exception, were located in western Washington.

Table 10
Number of Mills and
Dependency on Hardwoods

County	Sawmills		Veneer & Plywood		Pulp	
	Under 90%	90% +	Under 90%	90% +	Under 90%	90% +
Clallam	--	--	1	--	--	--
Clark	1	--	--	--	--	--
Cowlitz	--	2	--	--	2	--
Grays Harbor	--	1	--	--	1	--
King	1	--	--	--	--	--
Lewis	1	3	--	--	--	--
Mason	--	--	1	--	--	--
Okanogan	--	--	--	--	--	--
Pacific	--	1	--	--	--	--
Pierce	1	--	--	--	1	--
Skagit	--	1	--	--	--	--
Snohomish	--	2	--	--	2	--
Walla Walla	--	1	--	--	--	--
Whatcom	--	--	1	--	--	--
Total	4	11	3	--	6	--

WOOD CONSUMPTION

Total hardwood log consumption was 248 million board feet in 1988 (Table D-8). Of this volume, 233 million board feet were used in milling operations; 15 million board feet went for log export. Total hardwood consumption in 1988 is slightly above 1986 consumption. In addition, 196,323 bone dry tons of hardwood chips from roundwood chipping plants were consumed by the pulp industry.

Sawmills were the primary consumer using 223 million board feet of hardwoods in 1988. This was over 7 percent of sawmills all-species consumption, the same percent as in 1986. Of this amount, 90 percent of hardwood volume consumed was by those sawmills 90-percent-plus dependent on hardwoods. The four sawmills that were A or B class mills (80,000 board feet capacity per shift or greater) accounted for 70 percent of the total hardwood log consumption.

The veneer and plywood industry consumed 1.5 million board feet of hardwoods or .3 percent of their total log consumption (Table D-8). This was considerably less hardwood volume than was consumed in 1986.

The pulp industry used 8.6 million board feet of hardwood logs in 1988 (less than 2 percent of their all-species log consumption). In addition, this industry consumed 196 million bone dry tons from roundwood chipping plants (Table D-52).

Table 11
Hardwood Consumption

<u>Industry</u>	<u>Volume</u> (MMbf)	<u>Hardwood</u> <u>Consumption</u> (Percent)
Sawmills	222.8	90
Log export	15.3	6
Pulp	8.6	3
Veneer and plywood	1.5	1
Total Industry	<u>248.2</u>	<u>100</u>

HARDWOOD SUPPLY

Cowlitz, Lewis, Snohomish and Skagit counties accounted for more than half the hardwood log volume supplied to sawmills 90 percent-plus dependent upon hardwoods in 1988. These mills consumed 219 million board feet in 1988, an 18 percent increase over 1986. The hardwood volume is provided primarily in Western Washington counties; but with over 10 percent from out-of-state.

Table 12
Hardwood Volume by County

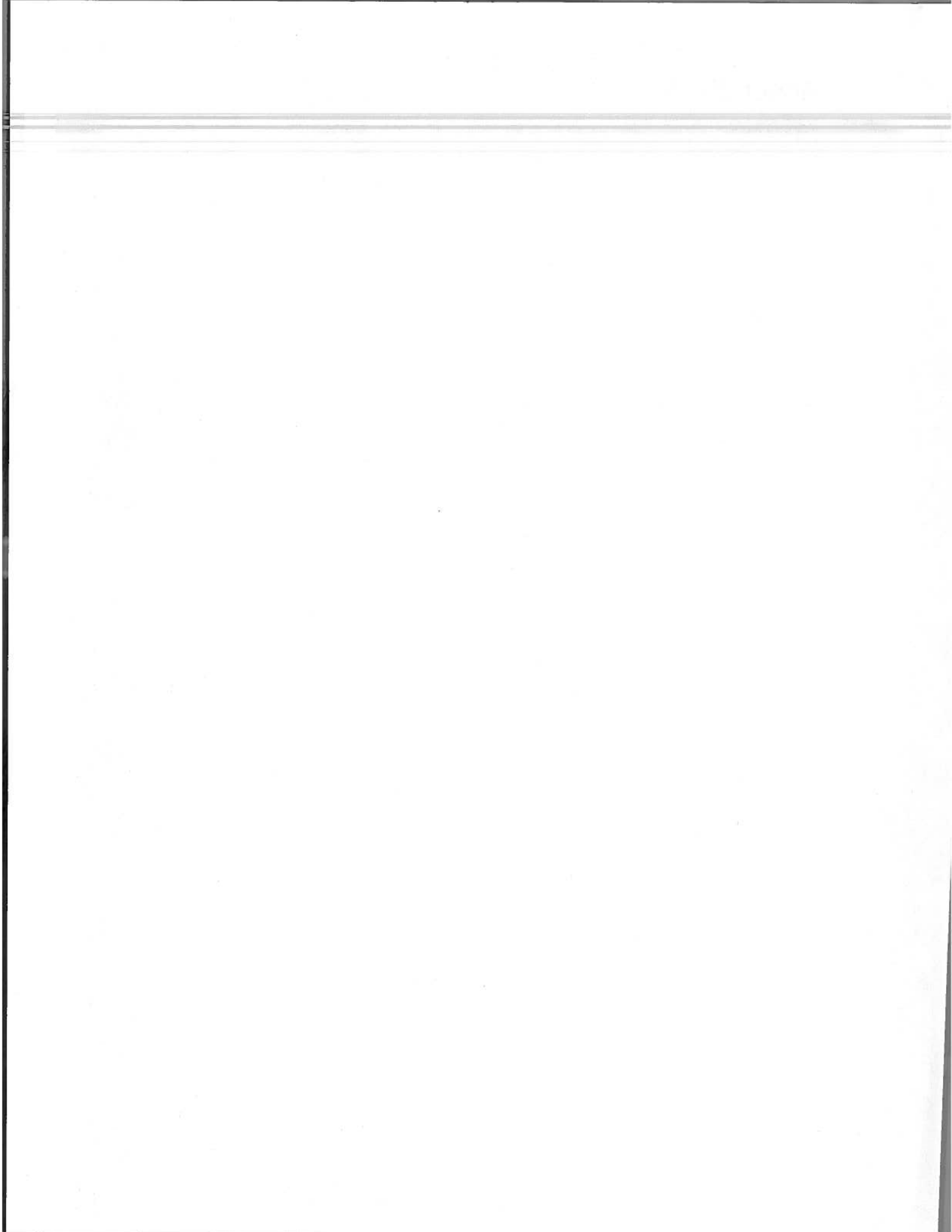
County of origin	Volume (MMbf)	Percent
Cowlitz	38.1	17
Lewis	37.2	17
Snohomish	26.7	12
Skagit	22.1	10
Pacific	17.3	8
Thurston	14.3	7
Grays Harbor	8.9	4
Kitsap	6.5	3
Whatcom	5.7	3
Pierce	3.4	2
Mason	2.9	1
Wahkiakum	2.8	1
Clallam	2.6	1
Others	3.8	2
Out-of-State	26.3	12
Total	218.6	100

OWNERSHIP

The hardwoods consumed by sawmills 90 percent-plus dependent on hardwoods came largely from private ownerships. Forest industry lands were the source for over half of the roundwood volume used.

Table 13
Sawmill Hardwood Log Consumption:
Mills 90% + Dependent on Hardwoods

<u>Ownership</u>	<u>Volume MMbf</u> <u>Scribner</u>	<u>Log supply</u> <u>(Percent)</u>
State	33.3	15
National forest	1.1	1
Other public	<u>4.9</u>	<u>2</u>
Total public	39.3	18
Forest industry		
Own wood supply	26.1	12
Other wood supply	100.9	46
Farmer & misc. private	<u>52.3</u>	<u>24</u>
Total private	179.3	82
All owners	218.6	100



MEASUREMENT UNITS

Scribner is the only board foot scale used in this report, but some mills use more than one scale. Others use cubic scale, although there appears to be no strong shift to using cubic measure.

Lumber, veneer and plywood mills relied almost entirely on Scribner scale. Pulp and board mills used tons, cords and cubic measure as well as board foot scale. Although the log export; shake and shingle ; and post, pole and piling mills made extensive use of Scribner scale, they also reported a variety of other measurement units: cords, bolts, pieces, shake blocks, squares, lineal feet, etc.

Board foot is the unit of measure used in this report for all wood consumption. An exception is allowed for purchased or transferred veneer consumed by plywood mills (square feet, 3/8-inch basis) and chips and other residue consumed by pulp mills (bone dry tons).

The following measurement units were used:

Board foot, Scribner log rule = log consumption.

Board foot lumber tally = lumber production.

Square feet 3/8-inch basis = plywood and veneer production.

Square = (10' x 10') area coverage for shake and shingle production.

Board foot Scribner = for log export shipments and for post, pole and piling production.

Bolt, pieces and shake blocks were generally converted to Scribner scale by the operator. Measurement equivalences are shown.

Unit conversion used in this report:

Lumber Industry

1.3 board feet lumber tally = 1 board foot, Scribner (approximately)

Veneer and Plywood (3/8-inch basis)

2.5 square feet = 1 board foot, Scribner

1 square foot = 0.885 square meters

1,130 square feet = 1 cubic meter

Pulp and Board

1 cord = 500 board feet = 2.41 cubic meters (S.W.E.)*

1 short ton = 500 board feet = 0.907 metric tons

200 cubic foot units = 1 bone dry ton = 0.907 metric tons

1 bone dry unit = 1.2 bone dry tons = 1.088 metric tons

Shake and Shingle

10 squares** = 1,000 board feet = 4.7 cubic meters (S.W.E.)*

Post, Pole and Piling

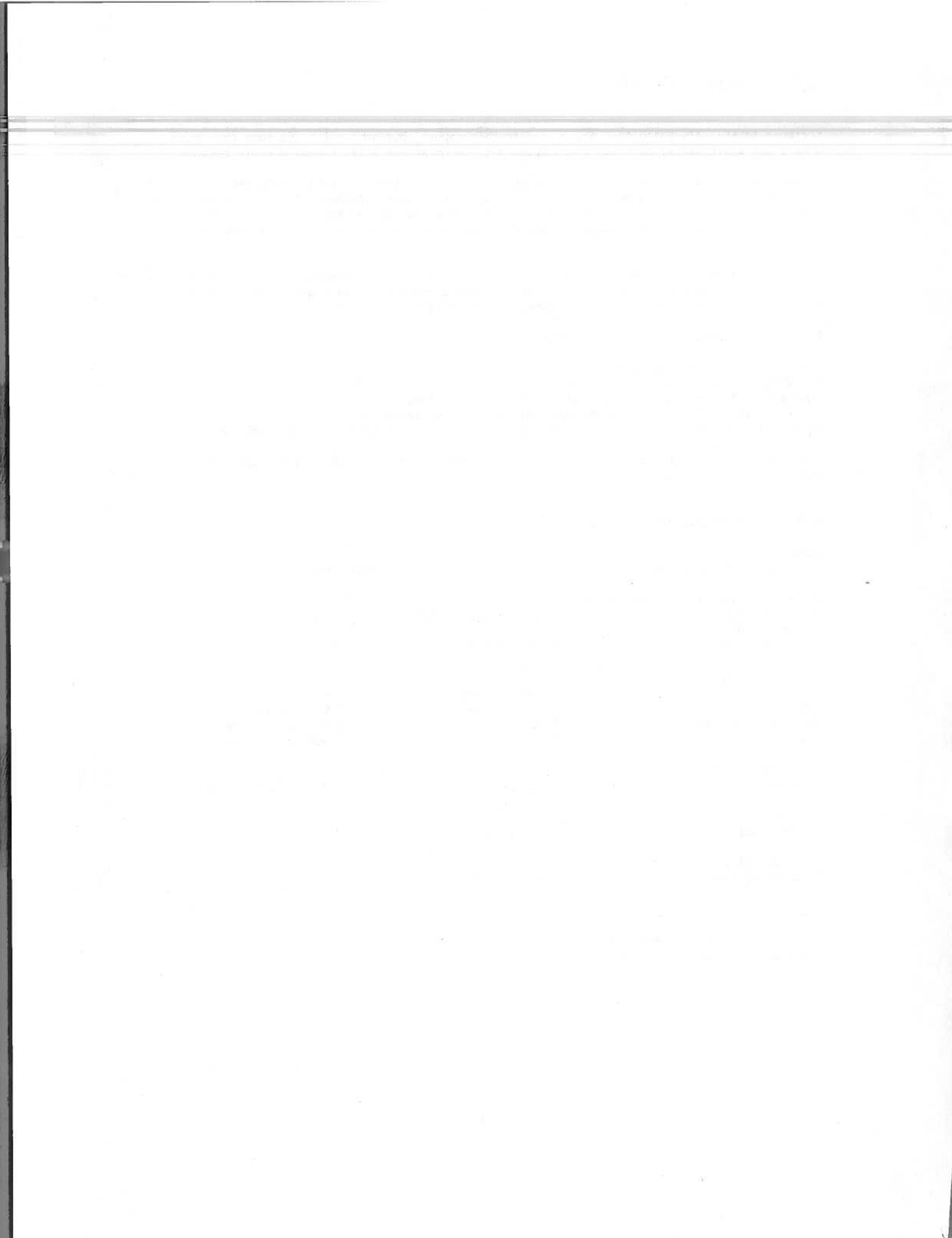
1 cubic foot = 6 board feet

All Industries

211.9 board feet = 1 cubic meter

*(S.W.E.) = solid wood equivalent

**One square covers 100 square feet



Appendix B

Mill Residues

Residue production figures in this report are calculated, not reported values. The mills were asked merely to indicate on a percent basis the uses made of their various residues. These percents were applied to residue estimates developed using the following residue factors:

Softwood Sawmill Residues *

Average quantity of residues developed from producing 1,000 board feet of lumber.

Item	Solid volume**		(Tons)	Residue Dry weight type
	(Cubic feet)	(Percent)		
Wood residue:				
Slabs, edgings, sawmill trim	36	24.8	0.486	Coarse
Planer trim	3	2.1	0.041	Coarse
Sawdust	16	11.0	0.216	Fine
Planer shavings	<u>16</u>	<u>11.0</u>	<u>0.216</u>	Medium
Total wood residue	71	48.9	0.959	
Bark	17	11.7	0.258	Bark
Lumber	<u>57</u>	<u>39.4</u>	<u>0.864</u>	
Whole log	145	100.0	2.081	

* Based on data from Oregon mills compiled by Oregon State University, School of Forestry, in 1967 and adjusted for changes in lumber standards by James O. Howard, Resource Analyst, Pacific Northwest Forest and Range Experiment Station. Dry weights adjusted for different species mix utilized in Washington.

** Green Volume

Softwood Plywood Residues *

Average quantity of residue developed in producing the equivalent of 1,000 square feet of 3/8-inch plywood (rough basis).

Plywood residue	Solid volume ** (Cubic feet)	Dryweight		Residue Type
		(Tons)	(Percent)	
Wood residue				
Log trim	3.4	0.048	4.2	Coarse
Cores	6.3	0.088	7.8	Coarse
Veneer clippings, roundup & Spur trim	19.3	0.270	23.7	Coarse
Dry trim & layup loss	6.3	0.088	7.8	Medium
Sander dust	<u>1.6</u>	<u>0.022</u>	<u>1.9</u>	Fine
Total wood residue	36.9	0.516	45.4	
Bark	<u>8.8</u>	<u>0.132</u>	<u>11.6</u>	
All residue	45.7	0.648	57.0	
Plywood	<u>34.9</u>	<u>0.489</u>	<u>43.0</u>	
Whole log	80.6	1.137	100.0	

* All residue factors except sander dust and bark from data collected via various mill studies by the Characterization and Utilization of Western Softwoods and Forest Residues Project, Pacific Northwest Forest and Range Experiment Station, and compiled by James O. Howard, Resource Analyst. Sander dust and bark factors based on data from Oregon mills compiled in 1967 by Oregon State University, School of Forestry. Because of the similarity of mills and species used, no adjustment was made in applying these data to Washington.

** Green Volume.

Shingle Mill Residues*

Average quantity of residue developed in utilizing 1,000 board feet of logs, Scribner scale, or in producing the equivalent volume of 10 squares.

<u>Shake and Shingle residue</u>	<u>Solid Volume</u>		<u>Dry Weight</u> (Tons)
	(Cubic feet)	(Percent)	
Shingles:			
Coarse	23	13.7	0.22
Fine	78	46.8	0.75
Bark	19	11.5	0.28
Shakes:			
Coarse	23	13.7	0.22
Fine	24	14.5	0.23
Bark	19	11.5	0.28

*From information provided by the Red Cedar Shingle Bureau

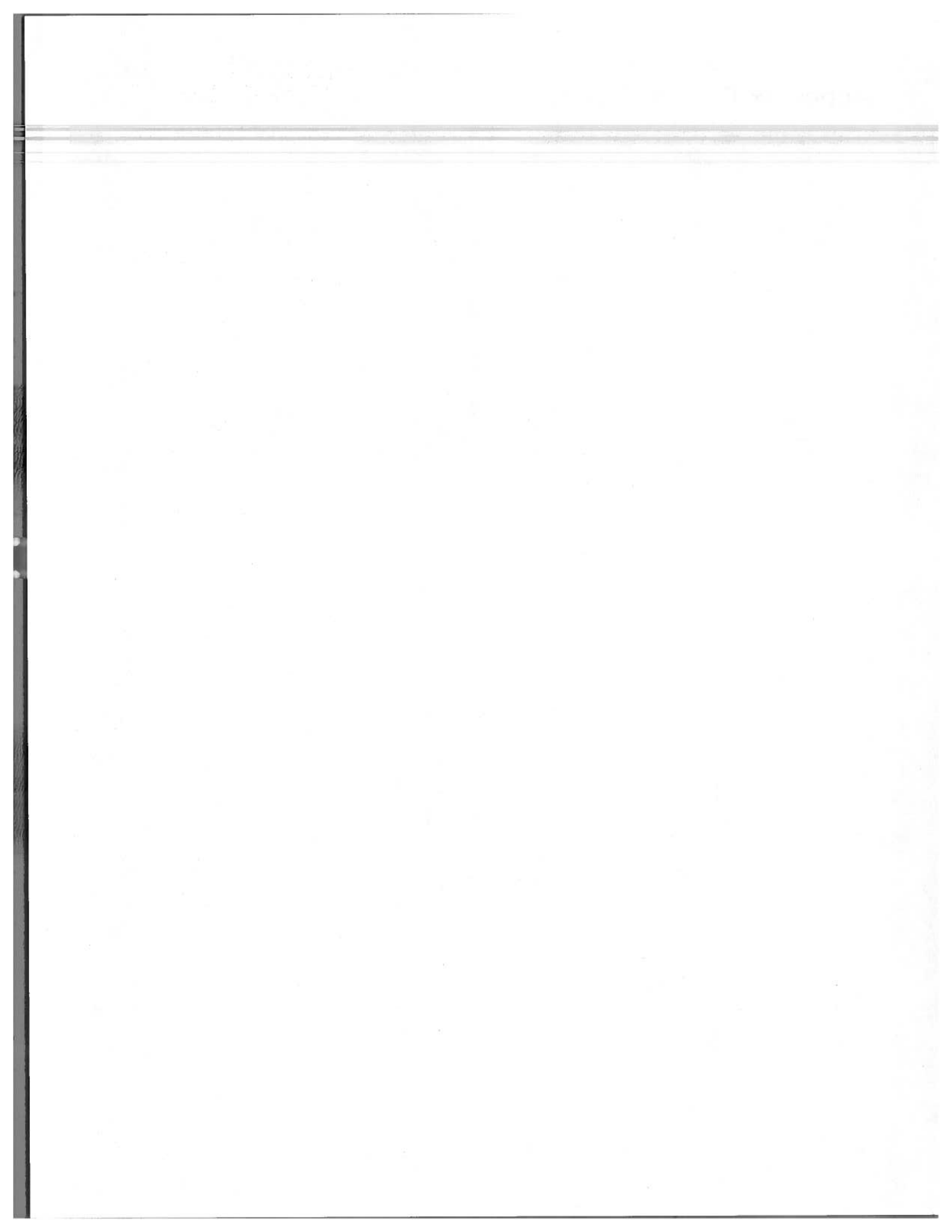
Hardwood Sawmill Residues*

Average residue developed from producing 1,000 board feet of lumber using a narrow kerf bandsaw.

<u>Item</u>	<u>200 cu. ft</u> (Units)	<u>Dry weight</u> (Tons)	<u>Residue Type</u>
Wood residue:			
Slabs, edgings, sawmill			
Trim & planer trim	0.71	0.60	Coarse
Planer shavings	0.26	0.22	Medium
Sawdust	0.27	0.23	Fine
Bark	0.40	0.34	Bark

* Based on information furnished by Northwest Hardwoods, Inc.

Appendix C



COMPUTER PROGRAM USED FOR THIS REPORT

The automated Mill Survey System was developed on an IBM 370/158 MVS computer at the Washington Data Processing Service Center, Olympia, WA.

The master file was built and edited by programs written in ANSI COBOL. Each mill type has its own independent edit program and was designed so that its own independent edit program and was designed so that data changes could be made by Department of Natural Resources staff using on-line terminals. The calculations for the various tables and summaries were produced by separate ANSI COBOL and SAS programs. There are two ANSI COBOL programs for each ANSI COBOL table. One selects the data from the master file; the other program summarized and formats the table.

The program package was designed to handle other states' data with minor modifications.

A complete documentation package for this system consists of:

- ◆ Warnier Diagram for each ANSI COBOL program
- ◆ Sample input documents
- ◆ Keypunch instructions
- ◆ File descriptions for each file
- ◆ Data descripton including edit criteria for each field
- ◆ Reasonableness edits for each input file
- ◆ Edit error message tables for each input file
- ◆ Report layouts of each output report
- ◆ Sample output reports
- ◆ Source Program listings
- ◆ Job Control Language listings for execution of system

DEPARTMENT OF THE ARMY

OFFICE OF THE ADJUTANT GENERAL
WASHINGTON, D. C.

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ADJUTANT GENERAL'S OFFICE

Appendix D

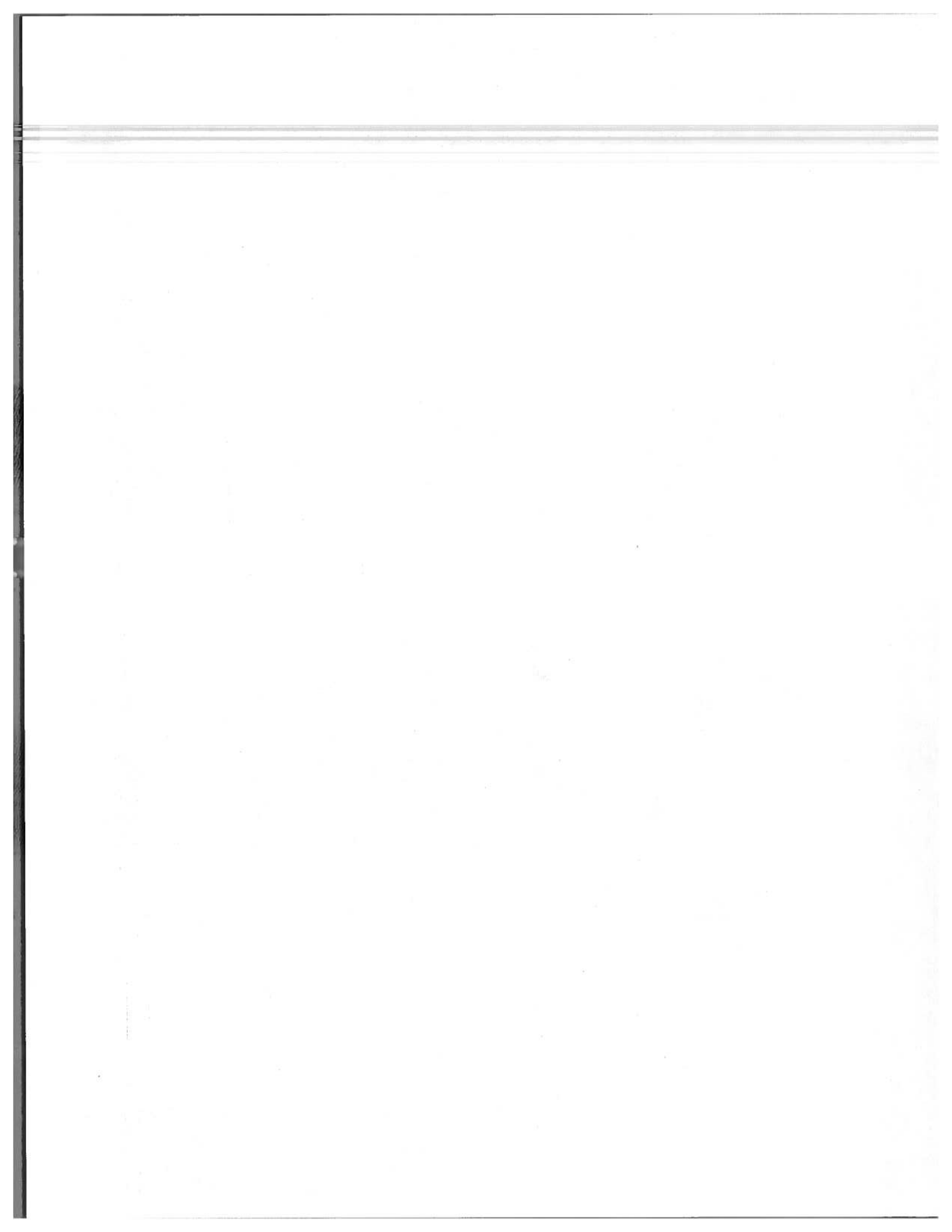


Table D-1
Number of Mills by Timber Industry

Economic area and county	Industry						
	All industries	Lumber	Veneer and plywood	Pulp [1]	Shake and shingle	Log Export [2]	Post, pole and piling
Puget Sound							
Island	1	1	--	--	--	--	--
King	12	7	1	--	2	1	1
Kitsap	1	1	--	--	--	--	--
Pierce	22	7	1	2	1	10	1
San Juan	--	--	--	--	--	--	--
Skagit	15	3	2	--	7	3	--
Snohomish	47	16	--	2	8	20	1
Whatcom	9	2	1	2	3	--	1
Total	107	37	5	6	21	34	4
Olympic Peninsula							
Clallam	45	11	2	2	18	11	1
Grays Harbor	53	7	3	2	27	14	--
Jefferson	6	2	--	1	3	--	--
Lewis	21	9	2	--	10	--	--
Mason	6	4	1	--	--	--	1
Pacific	5	2	--	--	3	--	--
Thurston	18	3	2	--	1	11	1
Total	154	38	10	5	62	36	3
Lower Columbia							
Clark	8	3	1	2	1	--	1
Cowlitz	35	8	1	5	5	16	--
Klickitat	5	4	1	--	--	--	--
Skamania	2	1	1	--	--	--	--
Wahkiakum	2	--	--	--	2	--	--
Total	52	16	4	7	8	16	1
Central Washington							
Adams	--	--	--	--	--	--	--
Chelan	2	2	--	--	--	--	--
Douglas	--	--	--	--	--	--	--
Franklin	--	--	--	--	--	--	--
Kittitas	1	--	1	--	--	--	--
Okanogan	4	3	1	--	--	--	--
Yakima	3	2	1	--	--	--	--
Total	10	7	3	--	--	--	--
Inland Empire							
Asotin	2	2	--	--	--	--	--
Columbia	--	--	--	--	--	--	--
Ferry	2	2	--	--	--	--	--
Garfield	--	--	--	--	--	--	--
Pend Oreille	1	1	--	--	--	--	--
Spokane	2	1	--	1	--	--	--
Stevens	17	12	1	--	1	--	3
Walla Walla	4	2	--	2	--	--	--
Whitman	--	--	--	--	--	--	--
Total	28	20	1	3	1	--	3
Total, State	351	118	23	21	92	86	11

[1] Each pulping process at a multplant location is counted as an individual mill.

[2] Represents the number of identifiable operations involved in the log export trade.

SUMMARY 1988

Table D-2
Primary Wood Consumption

Economic area and industry	Roundwood				
	All roundwood	Sound Logs	Utility logs	Other [1]	Residue [2]
	---Thousand board feet, Scribner log rule---				Bone dry tons
Puget Sound					
Lumber	924,903	878,356	46,547	--	--
Veneer & plywood	84,750	84,750	--	--	--
Pulp	133,175	586	132,589	--	2,001,482
Shake & shingle	14,705	11,490	3,215	2,805	--
Log export	985,538	981,200	4,338	--	--
Post, pole & piling	4,313	4,263	50	--	--
Total	2,147,384	1,960,645	186,739	2,805	2,001,482
Olympic Peninsula					
Lumber	823,722	650,258	173,464	15,000	--
Veneer & plywood	110,743	106,957	3,786	--	--
Pulp	330,862	71,293	259,569	--	1,095,978
Shake & shingle	42,092	34,315	7,777	13,218	--
Log export	1,362,988	1,360,046	2,942	--	--
Post, pole & piling [3]	18,125	18,063	62	--	--
Total	2,688,532	2,240,932	447,600	28,218	1,095,978
Lower Columbia					
Lumber	631,827	559,544	72,283	--	--
Veneer & plywood	89,802	87,153	2,649	--	--
Pulp [4]	76,020	2,644	73,376	--	3,896,151
Shake & shingle [5]	4,995	4,075	920	625	--
Log export	498,863	498,516	347	--	--
Post, pole & piling [3]	--	--	--	--	--
Total	1,301,507	1,151,932	149,575	625	3,896,151
Central Washington					
Lumber	217,367	209,009	8,358	--	--
Veneer & plywood [6]	172,044	170,099	1,945	--	--
Total	389,411	379,108	10,303	--	--
Inland Empire					
Lumber	417,016	391,349	25,667	--	--
Veneer & plywood [6]	--	--	--	--	--
Pulp [4]	--	--	--	--	--
Shake & shingle [5]	--	--	--	--	--
Post, pole & piling	330	36	294	--	--
Total	417,346	391,385	25,961	--	--
Total, State					
Lumber	3,014,835	2,688,516	326,319	15,000	--
Veneer & plywood	457,339	448,959	8,380	--	--
Pulp	540,057	74,523	465,534	--	6,993,611
Shake & shingle	61,792	49,880	11,912	16,648	--
Log export	2,847,389	2,839,762	7,627	--	--
Post, pole & piling	22,768	22,362	406	--	--
Total	6,944,180	6,124,002	820,178	31,648	6,993,611

[1] Includes peeler cores, lumber and cants used by sawmills (converted to log scale assuming 30 percent overrun), blocks, boards, bolts used by shake and shingle mills, and miscellaneous peeled products used by post, pole and piling mills.

[2] Includes residues from the sawmill, veneer and plywood, and shake and shingle industries plus chips from roundwood chipping plants, and wastepaper.

[3] Post, pole and piling for Lower Columbia combined with Olympic Peninsula to avoid disclosure.

[4] Pulp for Inland Empire combined with Lower Columbia to avoid disclosure.

[5] Shake and shingle for Inland Empire combined with Lower Columbia to avoid disclosure.

[6] Veneer and plywood for Inland Empire combined with Central Washington to avoid disclosure.

SUMMARY 1988

Table D-3

Log Use by Industry and Origin (Thousand Board Feet, Scribner Log Rule)

Economic area and industry	Origin					
	All	Washington	Oregon	Idaho	British Columbia	Other
Puget Sound						
Lumber	924,903	921,964	--	839	2,100	--
Veneer & plywood	84,750	84,750	--	--	--	--
Pulp	133,175	123,268	--	--	9,907	--
Shake & shingle	14,705	14,705	--	--	--	--
Log export	985,538	976,637	--	--	8,533	368
Post, pole & piling	4,313	4,228	--	--	85	--
Total	2,147,384	2,125,552	--	839	20,625	368
Olympic Peninsula						
Lumber	823,722	823,172	550	--	--	--
Veneer & plywood	110,743	110,743	--	--	--	--
Pulp	330,862	329,345	1,517	--	--	--
Shake & shingle	42,092	42,068	--	--	--	24
Log export	1,362,988	1,355,376	4,152	--	1,038	2,422
Post, pole & piling[1]	18,125	17,057	1,068	--	--	--
Total	2,688,532	2,677,761	7,287	--	1,038	2,446
Lower Columbia						
Lumber	631,827	481,310	144,245	6,272	--	--
Veneer & plywood	89,802	63,493	24,667	1,642	--	--
Pulp[2]	76,020	22,080	52,507	1,387	46	--
Shake & shingle[3]	4,995	4,067	441	487	--	--
Log export	498,863	452,484	41,874	4,505	--	--
Post, pole & piling[1]	--	--	--	--	--	--
Total	1,301,507	1,023,434	263,734	14,293	46	--
Central Washington						
Lumber	217,367	215,517	--	--	1,850	--
Veneer & plywood[4]	172,044	172,044	--	--	--	--
Pulp	--	--	--	--	--	--
Shake & shingle	--	--	--	--	--	--
Post, pole & piling	--	--	--	--	--	--
Total	389,411	387,561	--	--	1,850	--
Inland Empire						
Lumber	417,016	380,496	23,790	9,980	2,750	--
Veneer & plywood[4]	--	--	--	--	--	--
Pulp[2]	--	--	--	--	--	--
Shake & shingle[3]	--	--	--	--	--	--
Post, pole & piling	330	317	--	--	13	--
Total	417,346	380,813	23,790	9,980	2,763	--
Total, State						
Lumber	3,014,835	2,822,459	168,585	17,091	6,700	--
Veneer & plywood	457,339	431,030	24,667	1,642	--	--
Pulp	540,057	474,693	54,024	1,387	9,953	--
Shake & shingle	61,792	60,840	441	487	--	24
Log export	2,847,389	2,784,497	46,026	4,505	9,571	2,790
Post, pole & piling	22,768	21,602	1,068	--	98	--
Total	6,944,180	6,595,121	294,811	25,112	26,322	2,814

[1] Post, pole and piling for Lower Columbia combined with Olympic Peninsula to avoid disclosure.

[2] Pulp for Inland Empire combined with Lower Columbia to avoid disclosure.

[3] Shake and shingle for Inland Empire combined with Lower Columbia to avoid disclosure.

[4] Veneer and plywood for Inland Empire combined with Central Washington to avoid disclosure.

SUMMARY 1988

Table D-4

Log Consumption by County and Harvest Origin by County

(Thousand Board Feet, Scribner Log Rule)

Economic area and county of use	Economic area and county of origin							
	Total	Puget Sound						
		Island	King	Kitsap	Pierce	Skagit	Snohomish	Whatcom
Puget Sound								
Island/Kitsap/ and Whatcom[1]	178,314	3,649	3,551	23,520	--	26,739	5,346	45,122
King	217,362	--	110,919	--	51,351	115	15,737	--
Pierce	826,196	--	239,796	57,149	232,190	--	20,170	--
Skagit	93,432	4,616	320	--	--	52,140	14,921	19,435
Snohomish	832,080	2,935	95,477	180	13,852	200,555	333,967	67,654
Total	2,147,384	11,200	450,063	80,849	297,393	279,549	390,141	132,211
Olympic Peninsula								
Clallam	692,831	--	4,280	25	--	--	6,420	--
Grays Harbor	1,092,556	--	--	--	--	--	--	--
Jefferson/Pacific[1]	67,844	--	--	--	--	--	--	--
Lewis	336,763	--	2,000	--	22,010	--	--	--
Mason	186,794	--	--	--	--	7,600	--	--
Thurston	311,744	--	--	6,031	63,304	--	--	--
Total	2,688,532	--	6,280	6,056	85,314	7,600	6,420	--
Lower Columbia								
Clark/Wahkiakum[1]	139,590	--	--	--	--	--	--	--
Cowlitz	940,676	--	1	--	3	--	--	--
Klickitat/Skamania[1]	221,241	--	--	--	--	--	--	--
Total	1,301,507	--	1	--	3	--	--	--
Central Washington								
Chelan/Kittitas/ and Yakima[1]	150,086	--	--	--	--	--	--	--
Okanogan	239,325	--	--	--	--	--	--	--
Total	389,411	--	--	--	--	--	--	--
Inland Empire								
Asotin/Walla Walla[1]	61,034	--	--	--	--	--	--	--
Ferry/Pend Oreille/ and Spokane[1]	122,100	--	--	--	--	--	--	--
Stevens	234,212	--	--	--	--	--	--	--
Total	417,346	--	--	--	--	--	--	--
Total, State	6,944,180	11,200	456,344	86,905	382,710	287,149	396,561	132,211

[1] Combined to avoid disclosure.

NOTES FOR COUNTY OF USE:

Post, pole, and piling sector log volume for Lower Columbia transferred to Thurston County in the Olympic Peninsula economic area to avoid individual mill disclosure.

Shake and shingle sector log volume for Inland Empire transferred to Clark county in the Lower Columbia economic area to avoid individual mill disclosure.

Pulp sector log volume for Inland Empire transferred to Cowlitz county in the Lower Columbia economic area to avoid individual mill disclosure.

Veneer and Plywood sector log volume for Inland Empire transferred to Okanogan county in the Central Washington economic area to avoid individual mill disclosure.

SUMMARY 1988

Table D-4 (Continued) Log Consumption by County and Harvest Origin by County (Thousand Board Feet, Scribner Log Rule)

Economic area/ county of use	Economic area and county of origin											
	Olympic Peninsula					Lower Columbia						
	Clallam	Grays Harbor	Jefferson	Lewis	Mason	Pacific	Thurston	Clark	Cowlitz	Klickitat	Skamania	Wahkiakum
Puget Sound												
Island/Kitsap/ Whatcom [1]	5,880	--	37,800	--	16,800	--	--	--	--	--	--	--
King	2,620	100	5,067	27,735	--	--	--	--	--	--	--	--
Pierce	2,100	14,022	28,938	34,095	36,541	--	94,918	--	--	--	--	--
Skagit	0	--	--	--	--	--	--	--	--	--	--	2,000
Snohomish	20,647	--	4,508	--	1,871	--	--	--	--	--	--	--
Total	31,247	14,122	76,313	61,830	55,212	--	94,918	--	--	--	--	2,000
Olympic Peninsula												
Clallam	360,518	6,638	310,374	54	4,498	--	--	--	--	--	--	--
Grays Harbor	5,850	643,427	136,328	64,745	11,868	192,162	27,887	--	--	--	--	1,159
Jefferson/Pac. [1]	1,271	3,200	2,173	5,660	--	54,440	--	--	--	--	--	550
Lewis	--	10,625	--	236,998	3,340	8,863	14,727	--	1,850	--	35,950	400
Mason	1,200	25,552	1,633	--	145,961	324	4,524	--	--	--	--	--
Thurston	--	31,235	1,210	52,543	19,275	--	132,637	1,720	2,721	--	--	--
Total	368,839	720,677	451,718	360,000	184,942	255,789	179,775	1,720	4,571	--	35,950	2,109
Lower Columbia												
Clark/Wahkiakum [1]	--	--	--	--	--	9,320	--	20,080	--	--	35,890	3,800
Cowlitz	--	208	--	126,621	--	6,712	1,250	109,342	451,117	9,395	31,052	13,742
Klickitat/Skamania [1]	--	--	--	--	--	--	--	--	--	65,227	111,098	--
Total	--	208	--	126,621	--	16,032	1,250	129,422	451,117	74,622	178,040	17,542
Central Wash.												
Chelan/Kittitas and Yakima [1]	--	--	--	--	--	--	--	--	--	9,726	--	--
Okanogan	--	--	--	--	--	--	--	--	--	--	--	--
Total	--	--	--	--	--	--	--	--	--	9,726	--	--
Inland Empire												
Asotin/Walla Walla [1] Ferry/Pend Oreille/ and Spokane [1] Stevens	--	--	--	--	--	--	--	--	--	--	--	--
Total	--	--	--	--	--	--	--	--	--	--	--	--
Total State	400,086	735,007	528,031	548,451	240,154	271,821	275,943	131,142	455,688	84,348	213,990	21,651

SUMMARY 1988

Table D-4 (Continued)
Log Consumption by County and Harvest Origin by County
(Thousand Board Feet, Scribner Log Rule)

Economic area and county of use	Economic area and county of origin					
	Central Washington					
	Chelan	Douglas	Kittitas	Lincoln	Okanogan	Yakima
Puget Sound						
Island/Kitsap/ and Whatcom[1]	--	--	--	--	--	--
King	--	--	3,693	--	--	25
Pierce	--	--	63,253	--	--	--
Skagit	--	--	--	--	--	--
Snohomish	28,350	--	38,639	--	14,544	--
Total	28,350	--	105,585	--	14,544	25
Olympic Peninsula						
Clallam	--	--	--	--	--	0
Grays Harbor	--	--	--	--	--	0
Jefferson/Pacific[1]	--	--	--	--	--	0
Lewis	--	--	--	--	--	0
Mason	--	--	--	--	--	0
Thurston	--	--	--	--	--	0
Total	--	--	--	--	--	0
Lower Columbia						
Clark/Wahkiakum[1]	--	--	--	--	--	1,840
Cowlitz	--	--	--	--	--	9,752
Klickitat/Skamania[1]	--	--	--	--	--	16,915
Total	--	--	--	--	--	28,507
Central Washington						
Chelan/Kittitas/ and Yakima[1]	33,680	--	35,881	--	--	70,799
Okanogan	1,514	1,510	--	--	176,706	--
Total	35,194	1,510	35,881	--	176,706	70,799
Inland Empire						
Asotin/Walla Walla[1]	--	--	--	--	--	--
Ferry/Pend Oreille/ and Spokane[1]	--	--	--	13,200	5,500	--
Stevens	--	--	--	--	2,832	--
Total	--	--	--	13,200	8,332	--
Total, State	63,544	1,510	141,466	13,200	199,582	99,331

[1] Combined to avoid disclosure.

NOTES FOR COUNTY OF USE:

Post, pole, and piling sector log volume for Lower Columbia transferred to Thurston County in the Olympic Peninsula economic area to avoid individual mill disclosure.

Shake and shingle sector log volume for Inland Empire transferred to Clark county in the Lower Columbia economic area to avoid individual mill disclosure.

Pulp sector log volume for Inland Empire transferred to Cowlitz county in the Lower Columbia economic area to avoid individual mill disclosure.

Veneer and Plywood sector log volume for Inland Empire transferred to Okanogan county in the Central Washington economic area to avoid individual mill disclosure.

SUMMARY 1988

Table D-4 (Continued)

Log Consumption by County and Harvest Origin by County

(Thousand Board Feet, Scribner Log Rule)

Economic area and county of origin									
Inland Empire									
Asotin	Columbia	Ferry	Garfield	Pend Oreille	Spokane	Stevens	Walla Walla	Whitman	Out-of-state origin
--	--	--	--	--	--	--	--	--	9,907
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	3,024
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	8,901
--	--	--	--	--	--	--	--	--	21,832
--	--	--	--	--	--	--	--	--	24
--	--	--	--	--	--	--	--	--	9,130
--	--	--	--	--	--	--	--	--	550
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	1,068
--	--	--	--	--	--	--	--	--	10,772
--	--	4	--	3	--	63	--	--	68,590
--	--	--	--	--	--	--	--	--	181,481
--	--	--	--	--	--	--	--	--	28,001
--	--	4	--	3	--	63	--	--	278,072
--	--	--	--	--	--	--	--	--	--
--	--	42,328	--	3,333	--	12,084	--	--	1,850
--	--	42,328	--	3,333	--	12,084	--	--	1,850
8,130	11,200	--	11,160	--	--	--	4	--	30,540
--	--	42,370	--	29,275	14,825	10,880	--	2,970	3,080
--	--	55,314	--	41,726	5,800	125,627	--	--	2,913
8,130	11,200	97,684	11,160	71,001	20,625	136,507	4	2,970	36,533
8,130	11,200	140,016	11,160	74,337	20,625	148,654	4	2,970	349,059

SUMMARY 1988

Table D-5

Log Use From National Forests (Thousand Board Feet, Scribner Log Rule)

Economic area	All National Forests	Olympic	Gifford Pinchot	Mount Baker/Snoqualmie	Wenatchee	Okanogan	Colville	Umatilla	Out-of-State National Forests
Puget Sound	471,653	103,948	4,734	306,534	45,848	9,750	--	--	839
Olympic Peninsula	355,661	156,369	190,772	8,520	--	--	--	--	--
Lower Columbia	249,390	--	179,964	--	--	7	7	--	69,412
Central Washington	155,686	--	--	964	62,259	88,117	4,346	--	--
Inland Empire	133,641	31,680	--	--	--	6,153	66,368	29,440	--
Total	1,366,031	291,997	375,470	316,018	108,107	104,027	70,721	29,440	70,251
Industry									
Lumber	1,063,585	258,101	303,639	244,670	85,717	66,010	62,105	29,440	13,903
Veneer & plywood	162,198	8,988	64,532	7,079	22,390	38,010	8,503	--	12,696
Pulp	118,164	14,980	5,395	54,123	--	7	7	--	43,652
Shake & shingle	21,656	9,928	1,792	9,936	--	--	--	--	--
Log export	200	--	--	200	--	--	--	--	--
Post, pole & piling	228	--	112	10	--	--	106	--	--
Total	1,366,031	291,997	375,470	316,018	108,107	104,027	70,721	29,440	70,251

SUMMARY 1988

Table D-6
Number of Mills Dependent Upon Ownerships

Economic area and industry	National Forest				State				Bureau of Land Management				Other Public			
	Dependency percent															
	0	1-33	34-66	67-100	0	1-33	34-66	67-100	0	1-33	34-66	67-100	0	1-33	34-66	67-100
Puget Sound																
Lumber	13	9	5	10	20	16	1	--	37	--	--	--	30	7	--	--
Veneer & plywood	3	1	1	--	3	2	--	--	5	--	--	--	4	1	--	--
Pulp	3	2	1	--	3	3	--	--	6	--	--	--	6	--	--	--
Shake & shingle	14	--	2	5	19	1	1	--	21	--	--	--	21	--	--	--
Log export	33	1	--	--	2	28	4	--	34	--	--	--	21	12	--	1
Post, pole & piling	3	--	--	1	1	3	--	--	4	--	--	--	3	1	--	--
Total	69	13	9	16	48	53	6	--	107	--	--	--	85	21	--	1
Olympic Peninsula																
Lumber	16	6	8	8	14	20	2	2	38	--	--	--	33	5	--	--
Veneer & plywood	5	2	--	3	4	5	1	--	10	--	--	--	9	--	1	--
Pulp	4	1	--	--	2	3	--	--	5	--	--	--	2	3	--	--
Shake & shingle	46	5	8	3	43	5	9	5	62	--	--	--	48	5	4	5
Log export	36	--	--	--	2	29	5	--	36	--	--	--	20	16	--	--
Post, pole & piling[1]	3	1	--	--	3	--	1	--	4	--	--	--	4	--	--	--
Total	110	15	16	14	68	62	18	7	155	--	--	--	116	29	5	5
Lower Columbia																
Lumber	8	4	1	3	5	10	--	1	15	1	--	--	12	4	--	--
Veneer & plywood	2	2	--	--	1	--	--	3	4	--	--	--	4	--	--	--
Pulp[2]	6	1	1	2	7	3	--	--	7	3	--	--	7	3	--	--
Shake & shingle[3]	6	1	1	1	6	3	--	--	9	--	--	--	9	--	--	--
Log export	16	--	--	--	4	12	--	--	16	--	--	--	14	1	1	--
Post, pole & piling[1]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total	38	8	3	6	23	28	--	4	51	4	--	--	46	8	1	--
Central Washington																
Lumber	--	3	3	1	3	4	--	--	7	--	--	--	4	1	--	2
Veneer & plywood[4]	--	2	2	--	--	4	--	--	3	1	--	--	1	3	--	--
Pulp	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Shake & shingle	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Log export	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Post, pole & piling	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total	--	5	5	1	3	8	--	--	10	1	--	--	5	4	--	2
Inland Empire																
Lumber	8	6	3	3	9	11	--	--	18	2	--	--	14	6	--	--
Veneer & plywood[4]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pulp[2]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Shake & shingle[3]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Log export	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Post, pole & piling	1	1	--	1	3	--	--	--	3	--	--	--	2	--	--	1
Total	9	7	3	4	12	11	--	--	21	2	--	--	16	6	--	1
Total, State																
Lumber	45	28	20	25	51	61	3	3	115	3	--	--	93	23	--	2
Veneer & plywood	10	7	3	3	8	11	1	3	22	1	--	--	18	4	1	--
Pulp	13	4	2	2	12	9	--	--	18	3	--	--	15	6	--	--
Shake & shingle	66	6	11	9	68	9	10	5	92	--	--	--	78	5	4	5
Log export	85	1	--	--	8	69	9	--	86	--	--	--	55	29	1	1
Post, pole & piling	7	2	--	2	7	3	1	--	11	--	--	--	9	1	--	1
Total	226	48	36	41	154	162	24	11	344	7	--	--	268	68	6	9

[1] Post, pole and piling in Lower Columbia combined with Olympic Peninsula to avoid disclosure.

[2] Pulp in Inland Empire combined with Lower Columbia to avoid disclosure.

[3] Shake and shingle in Inland Empire combined with Lower Columbia to avoid disclosure.

[4] Veneer and plywood in Inland Empire combined with Central Washington to avoid disclosure.

Table D-6 (continued)

Forest Industry											
Own wood supply								Farmer & miscellaneous private			
Other wood supply											
Dependency Percent											
0	1-33	34-66	67-100	0	1-33	34-66	67-100	0	1-33	34-66	67-100
30	4	2	1	17	10	5	5	11	15	3	8
4	--	--	1	3	2	--	--	4	1	--	--
4	2	--	--	3	1	--	2	6	--	--	--
21	--	--	--	19	--	1	1	19	--	--	2
29	--	1	4	3	6	19	6	3	31	--	--
4	--	--	--	2	1	--	1	1	1	1	1
92	6	3	6	47	20	25	15	44	48	4	11
29	5	1	3	24	6	6	2	13	14	3	8
7	--	1	2	8	1	1	--	5	4	1	--
3	--	2	--	2	1	2	--	3	2	--	--
60	1	1	--	46	6	1	9	55	4	--	3
33	1	1	1	--	5	22	9	3	33	--	--
3	1	--	--	--	1	1	2	2	1	1	--
135	8	6	6	80	20	33	22	81	58	5	11
9	3	2	2	7	3	3	3	2	13	1	--
3	--	--	1	3	1	--	--	--	4	--	--
9	1	--	--	7	3	--	--	7	2	--	1
9	--	--	--	3	1	2	3	6	2	--	1
14	--	--	2	1	2	3	10	3	13	--	--
--	--	--	--	--	--	--	--	--	--	--	--
44	4	2	5	21	10	8	16	18	34	1	2
6	1	--	--	5	2	--	--	1	5	1	--
1	2	1	--	3	--	1	--	--	4	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
7	3	1	--	8	2	1	--	1	9	1	--
11	3	6	--	17	2	1	--	--	8	6	6
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
3	--	--	--	2	--	1	--	1	2	--	--
14	3	6	--	19	2	2	--	1	10	6	6
85	16	11	6	70	23	15	10	27	55	14	22
15	2	2	4	17	4	2	--	9	13	1	--
16	3	2	--	12	5	2	2	16	4	--	1
90	1	1	--	68	7	4	13	80	6	--	6
76	1	2	7	4	13	44	25	9	77	--	--
10	1	--	--	4	2	2	3	4	4	2	1
292	24	18	17	175	54	69	53	145	159	17	30

SUMMARY 1988

Table D-7
Log Consumption by Ownership (Thousand Board Feet, Scribner Log Rule)

Economic area and Industry	All Owners	State	National [1] Forest	Bureau of Land Management	Other Public	Forest Industry		Farmer & Miscellaneous Private
						Own wood supply	Other wood supply	
Puget Sound								
Lumber	924,903	65,771	406,849	--	5,553	114,489	226,429	105,812
Veneer & plywood	84,750	4,775	6,115	--	1,075	66,600	5,110	1,075
Pulp	133,175	13,320	47,703	--	--	4,953	67,199	--
Shake & shingle	14,705	1,638	10,776	--	--	--	1,641	650
Log export	985,538	164,978	200	--	40,175	282,350	335,809	162,026
Post, pole & piling	4,313	577	10	--	533	--	2,204	989
Total	2,147,384	251,059	471,653	--	47,336	468,392	638,392	270,552
Olympic Peninsula								
Lumber	823,722	72,632	300,743	--	8,916	166,088	180,833	94,510
Veneer & plywood	110,743	7,965	23,988	--	3,200	60,436	8,272	6,882
Pulp	330,862	58,582	21,400	--	15,964	154,982	67,955	11,979
Shake & shingle	42,092	15,340	9,418	--	10,571	480	4,602	1,681
Log export	1,362,988	286,012	--	--	28,855	332,651	530,068	185,402
Post, pole & piling [2]	18,125	2,246	112	--	--	1,350	11,157	3,260
Total	2,688,532	442,777	355,661	--	67,506	715,987	802,887	303,714
Lower Columbia								
Lumber	631,827	48,490	136,639	5	16,457	171,970	180,950	77,316
Veneer & plywood	89,802	3,202	62,228	--	--	16,666	1,519	6,187
Pulp [3]	76,020	3,452	49,061	4,134	3,497	45	6,909	8,922
Shake & shingle [4]	4,995	439	1,462	--	--	--	2,873	221
Log export	498,863	26,015	--	--	13,505	200,454	179,900	78,989
Post, pole & piling [2]	--	--	--	--	--	--	--	--
Total	1,301,507	81,598	249,390	4,139	33,459	389,135	372,151	171,635
Central Washington								
Lumber	217,367	7,161	93,319	--	59,970	9,932	11,725	35,260
Veneer & plywood [5]	172,044	12,705	69,867	416	18,403	40,266	6,216	24,171
Pulp	--	--	--	--	--	--	--	--
Shake & shingle	--	--	--	--	--	--	--	--
Post, pole & piling	--	--	--	--	--	--	--	--
Total	389,411	19,866	163,186	416	78,373	50,198	17,941	59,431
Inland Empire								
Lumber	417,016	14,671	126,035	565	23,129	83,536	38,000	131,080
Veneer & plywood [5]	--	--	--	--	--	--	--	--
Pulp [3]	--	--	--	--	--	--	--	--
Shake & shingle [4]	--	--	--	--	--	--	--	--
Post, pole & piling	330	--	106	--	160	--	24	40
Total	417,346	14,671	126,141	565	23,289	83,536	38,024	131,120
Total, State								
Lumber	3,014,835	208,725	1,063,585	570	114,025	546,015	637,937	443,978
Veneer & plywood	457,339	28,647	162,198	416	22,678	183,968	21,117	38,315
Pulp	540,057	75,354	118,164	4,134	19,461	159,980	142,063	20,901
Shake & shingle	61,792	17,417	21,656	--	10,571	480	9,116	2,552
Log export	2,847,389	477,005	200	--	82,535	815,455	1,045,777	426,417
Post, pole & piling	22,768	2,823	228	--	693	1,350	13,385	4,289
Total	6,944,180	809,971	1,366,031	5,120	249,963	1,707,248	1,869,395	936,452

[1] National Forest includes Canadian and British Columbia provincial forests.

[2] Post, pole and piling for Lower Columbia combined with Olympic Peninsula to avoid disclosure.

[3] Pulp for Inland Empire combined with Lower Columbia to avoid disclosure.

[4] Shake and shingle for Inland Empire combined with Lower Columbia to avoid disclosure.

[5] Veneer and plywood for Inland Empire combined with Central Washington to avoid disclosure.

SUMMARY 1988

Table D-8

Log Consumption by Species (Thousand Board Feet, Scribner Log Rule)

Economic Area and Industry	All Species	Douglas fir	Hemlock	True firs	Spruce	Ponderosa pine	Lodgepole pine
Puget Sound							
Lumber	924,903	445,851	274,113	28,777	1,079	480	--
Veneer & plywood	84,750	49,795	16,335	--	17,760	--	--
Pulp	133,175	1,426	80,838	40,224	--	--	--
Shake & shingle	14,705	--	--	--	--	--	--
Log export	985,538	635,432	283,514	23,309	13,928	3,671	841
Post, pole & piling	4,313	2,911	--	--	--	--	--
Total	2,147,384	1,135,415	654,800	92,310	32,767	4,151	841
Olympic Peninsula							
Lumber	823,722	370,892	250,754	43,580	322	18	259
Veneer & plywood	110,743	62,699	40,478	3,400	--	1,000	--
Pulp	330,862	6,137	262,940	55,848	5,937	--	--
Shake & shingle	42,092	--	--	--	--	--	--
Log export	1,362,988	620,731	642,512	28,057	40,862	--	1,042
Post, pole & piling[1]	18,125	18,112	--	--	--	--	--
Total	2,688,532	1,078,571	1,196,684	130,885	47,121	1,018	1,301
Lower Columbia							
Lumber	631,827	327,205	77,824	41,951	2	52,475	--
Veneer & plywood	89,802	42,838	40,386	6,578	--	--	--
Pulp[2]	76,020	9,340	46,554	12,504	2,505	--	108
Shake & shingle[3]	4,995	--	--	--	--	--	--
Log export	498,863	405,321	68,824	17,149	220	1,895	750
Post, pole & piling[1]	--	--	--	--	--	--	--
Total	1,301,507	784,704	233,588	78,182	2,727	54,370	858
Central Washington							
Lumber	217,367	49,995	13,096	10,360	14,372	113,130	6,694
Veneer & plywood[4]	172,044	137,576	2,856	9,454	504	--	--
Pulp	--	--	--	--	--	--	--
Shake & shingle	--	--	--	--	--	--	--
Log export	--	--	--	--	--	--	--
Post, pole & piling	--	--	--	--	--	--	--
Total	389,411	187,571	15,952	19,814	14,876	113,130	6,694
Inland Empire							
Lumber	417,016	161,339	37,198	20,658	21,100	116,181	34,595
Veneer & plywood[4]	--	--	--	--	--	--	--
Pulp[2]	--	--	--	--	--	--	--
Shake & shingle[3]	--	--	--	--	--	--	--
Log export	--	--	--	--	--	--	--
Post, pole & piling	330	--	--	--	--	--	290
Total	417,346	161,339	37,198	20,658	21,100	116,181	34,885
Total, State							
Lumber	3,014,835	1,355,282	652,985	145,326	36,875	282,284	41,548
Veneer & plywood	457,339	292,908	100,055	19,432	18,264	1,000	--
Pulp	540,057	16,903	390,332	108,576	8,442	--	108
Shake & shingle	61,792	--	--	--	--	--	--
Log export	2,847,389	1,661,484	994,850	68,515	55,010	5,566	2,633
Post, pole & piling	22,768	21,023	--	--	--	--	290
Total	6,944,180	3,347,600	2,138,222	341,849	118,591	288,850	44,579

[1] Post, pole and piling for Lower Columbia combined with Olympic Peninsula to avoid disclosure.

[2] Pulp for Inland Empire combined with Lower Columbia to avoid disclosure.

[3] Shake and shingle for Inland Empire combined with Lower Columbia to avoid disclosure.

[4] Veneer and plywood for Inland Empire combined with Central Washington to avoid disclosure.

SUMMARY 1988

Table D-8 -- (continued)

Western redcedar	Other softwoods	Hardwoods
106,871	180	67,552
--	--	860
7,125	--	3,562
14,699	6	--
8,156	4,754	11,933
1,402	--	--
138,253	4,940	83,907
76,309	8	81,580
2,213	306	647
--	--	--
41,869	223	--
24,312	2,084	3,388
13	--	--
144,716	2,621	85,615
56,206	2,460	73,704
--	--	--
--	9	5,000
4,995	--	--
2,352	2,352	--
--	--	--
63,553	4,821	78,704
1,177	8,543	--
--	21,654	--
--	--	--
--	--	--
--	--	--
1,177	30,197	--
15,366	10,575	4
--	--	--
--	--	--
--	--	--
40	--	--
15,406	10,575	4
255,929	21,766	222,840
2,213	21,960	1,507
7,125	9	8,562
61,563	229	--
34,820	9,190	15,321
1,455	--	--
363,105	53,154	248,230

SUMMARY 1988

Table D-9

Production and Disposition of Wood and Bark Residues (Tons, dry weight)

Economic area and residue-producing industry	Wood residues						
	All residues	All wood	Used[1]				Unused
			Total	Pulp	Fuel	Other	
Puget Sound							
Lumber	1,642,451	1,283,246	1,282,521	560,752	519,408	202,361	725
Veneer & plywood	82,631	69,303	69,303	34,641	28,309	6,353	--
Shake & shingle	26,455	20,017	13,675	--	2,972	10,703	6,342
Other [2]	9,047	--	--	--	--	--	--
Total	1,760,584	1,372,566	1,365,499	595,393	550,689	219,417	7,067
Olympic Peninsula							
Lumber	1,466,336	1,141,468	1,101,030	499,415	540,367	61,248	40,438
Veneer & plywood	200,000	161,864	161,864	101,326	51,995	8,543	--
Shake & shingle	57,493	43,152	16,412	400	9,165	6,847	26,740
Other [2,3]	46,663	--	--	--	--	--	--
Total	1,770,492	1,346,484	1,279,306	601,141	601,527	76,638	67,178
Lower Columbia							
Lumber	1,072,856	837,761	837,753	508,174	301,324	28,255	8
Veneer & plywood	170,770	137,399	137,399	97,775	31,192	8,432	--
Shake & shingle [4]	4,532	3,296	2,633	--	1,695	938	663
Other [2,3]	56,807	--	--	--	--	--	--
Total	1,304,965	978,456	977,785	605,949	334,211	37,625	671
Central Washington							
Lumber	351,691	276,782	253,788	45,192	158,854	49,742	22,994
Veneer & plywood [5]	313,882	249,093	249,093	142,260	90,337	16,496	--
Shake & shingle	--	--	--	--	--	--	--
Other [2]	--	--	--	--	--	--	--
Total	1,531,637	525,875	502,881	187,452	249,191	66,238	22,994
Inland Empire							
Lumber	714,170	559,358	558,948	302,306	211,074	45,568	410
Veneer & plywood [5]	--	--	--	--	--	--	--
Shake & shingle [4]	--	--	--	--	--	--	--
Other [2]	102	--	--	--	--	--	--
Total	714,272	559,358	558,948	302,306	211,074	45,568	410
Total, State							
Lumber	5,247,504	4,098,615	4,034,040	1,915,839	1,731,027	387,174	64,575
Veneer & plywood	767,283	617,659	617,659	376,002	201,833	39,824	--
Shake & shingle	88,480	66,465	32,720	400	13,832	18,488	33,745
Other [2]	112,619	--	--	--	--	--	--
Total	6,215,886	4,782,739	4,684,419	2,292,241	1,946,692	445,486	98,320

[1] Used residues were not necessarily consumed in the economic area in which they were produced.

[2] Other includes log export, and post, pole and piling operations.

[3] Post, pole and piling for Lower Columbia combined with Olympic Peninsula to avoid disclosure.

[4] Shake and shingle for Inland Empire combined with Lower Columbia to avoid disclosure.

[5] Veneer and plywood for Inland Empire combined with Central Washington to avoid disclosure.

SUMMARY 1988

Table D-9 (Continued)

Production and Disposition of Wood and Bark Residues (Tons, Dry Weight)

Bark residues					
All bark	Used[1]				
	Total	Pulp	Fuel	Other	Unused
359,205	359,153	--	183,844	175,309	52
13,328	13,328	--	3,798	9,530	--
6,438	3,803	--	1,313	2,490	2,635
9,047	8,996	--	4,955	4,041	51
388,018	385,280	--	193,910	191,370	2,738
324,868	303,672	306	236,478	66,888	21,196
38,136	38,136	--	29,525	8,611	--
14,341	5,415	--	3,878	1,537	8,926
46,663	46,663	--	46,482	181	--
424,008	393,886	306	316,363	77,217	30,122
235,095	235,092	4,644	139,781	90,667	3
33,371	33,371	--	33,371	--	--
1,236	1,006	--	720	286	230
56,807	56,807	--	56,435	372	--
326,509	326,276	4,644	230,307	91,325	233
74,909	71,683	--	50,196	21,487	3,226
64,789	64,789	--	64,789	--	--
--	--	--	--	--	--
--	--	--	--	--	--
139,698	136,472	--	114,985	21,487	3,226
154,812	154,632	--	148,529	6,103	180
--	--	--	--	--	--
--	--	--	--	--	--
102	52	--	52	--	50
154,914	154,684	--	148,581	6,103	230
1,148,889	1,124,232	4,950	758,828	360,454	24,657
149,624	149,624	--	131,483	18,141	--
22,015	10,224	--	5,911	4,313	11,791
112,619	112,518	--	107,924	4,594	101
1,433,147	1,396,598	4,950	1,004,146	387,502	36,549

SUMMARY 1988

Table D-10

Log Consumption by Timber Age (Thousand Board Feet, Scribner Log Rule)

Economic area and industry	All age groups	Old growth (100+ years)	Young growth (Less than 100 years)
Puget Sound			
Lumber	924,903	296,046	628,857
Veneer & plywood	84,750	16,000	68,750
Pulp	133,175	49,875	83,300
Shake & shingle	14,705	14,470	235
Log export	985,538	244,009	741,529
Post, pole & piling	4,313	75	4,238
Total	2,147,384	620,475	1,526,909
Olympic Peninsula			
Lumber	823,722	313,128	510,594
Veneer & plywood	110,743	27,953	82,790
Pulp	330,862	65,585	265,277
Shake & shingle	42,092	41,245	847
Log export	1,362,988	255,082	1,107,906
Post, pole & piling[1]	18,125	--	18,125
Total	2,688,532	702,993	1,985,539
Lower Columbia			
Lumber	631,827	131,722	500,105
Veneer & plywood	89,802	65,198	24,604
Pulp[2]	76,020	54,242	21,778
Shake & shingle[3]	4,995	4,785	210
Log export	498,863	100,245	398,618
Post, pole & piling[1]	--	--	--
Total	1,301,507	356,192	945,315
Central Washington			
Lumber	217,367	133,022	84,345
Veneer & plywood[4]	172,044	89,982	82,062
Pulp	--	--	--
Shake & shingle	--	--	--
Log export	--	--	--
Post, pole & piling	--	--	--
Total	389,411	223,004	166,407
Inland Empire			
Lumber	417,016	183,360	233,656
Veneer & plywood[4]	--	--	--
Pulp[2]	--	--	--
Shake & shingle[3]	--	--	--
Log export	--	--	--
Post, pole & piling	330	80	250
Total	417,346	183,440	233,906
Total, State			
Lumber	3,014,835	1,057,278	1,957,557
Veneer & plywood	457,339	199,133	258,206
Pulp	540,057	169,702	370,355
Shake & shingle	61,792	60,500	1,292
Log export	2,847,389	599,336	2,248,053
Post, pole & piling	22,768	155	22,613
Total	6,944,180	2,086,104	4,858,076

[1] Post, pole and piling for Lower Columbia combined with Olympic Peninsula to avoid disclosure.

[2] Pulp for Inland Empire combined with Lower Columbia to avoid disclosure.

[3] Shake and shingle for Inland Empire combined with Lower Columbia to avoid disclosure.

[4] Veneer and plywood for Inland Empire combined with Central Washington to avoid disclosure.

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Table D-11
Number of Sawmills by Mill Size-Class

Economic area and county	All classes	Industry			
		Mill size-class ¹			
		D	C	B	A
Puget Sound					
Island	1	--	1	--	--
King	7	3	1	--	3
Kitsap	1	--	--	--	1
Pierce	7	--	--	2	5
Skagit	3	1	1	--	1
Snohomish	16	5	4	1	6
Whatcom	2	1	1	--	--
Total	37	10	8	3	16
Olympic Peninsula					
Clallam	11	8	3	--	--
Grays Harbor	7	2	1	1	3
Jefferson	2	2	--	--	--
Lewis	9	2	2	1	4
Mason	4	--	1	--	3
Pacific	2	--	1	--	1
Thurston	3	1	--	--	2
Total	38	15	8	2	13
Lower Columbia					
Clark	3	1	1	--	1
Cowlitz	8	1	2	1	4
Klickitat	4	--	1	1	2
Skamania	1	--	--	--	1
Total	16	2	4	2	8
Central Washington					
Chelan	2	--	--	1	1
Okanogan	3	--	--	1	2
Yakima	2	--	--	1	1
Total	7	--	--	3	4
Inland Empire					
Asotin	2	1	--	1	--
Ferry	2	--	1	--	1
Pend Oreille	1	--	--	--	1
Spokane	1	--	1	--	--
Stevens	12	5	1	2	4
Walla Walla	2	1	--	1	--
Total	20	7	3	4	6
Total, State	118	34	23	14	47

[1] Mill size-classed identified as follows: Class D mills = less than 40,000 board feet of capacity per 8-hour shift; C = 40,000 - 79,999; B = 80,000 - 119,999; A = 120,000 +.

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Table D-12
Installed Eight-Hour Single-Shift Capacity (Thousand board feet, lumber tally)

Economic area and county	Total capacity	Mill size-class[1]			
		D	C	B	A
Puget Sound					
Island	42	--	42	--	--
King	840	15	50	--	775
Kitsap	400	--	--	--	400
Pierce	1,125	--	--	220	905
Skagit	310	20	40	--	250
Snohomish	1,462	91	245	80	1,046
Whatcom	77	2	75	--	--
Total	4,256	128	452	300	3,376
Olympic Peninsula					
Clallam	256	81	175	--	--
Grays Harbor	796	41	40	100	615
Jefferson	23	23	--	--	--
Lewis	1,034	9	125	100	800
Mason	835	--	50	--	785
Pacific	295	--	70	--	225
Thurston	293	3	--	--	290
Total	3,532	157	460	200	2,715
Lower Columbia					
Clark	236	6	70	--	160
Cowlitz	1,368	2	137	96	1,133
Klickitat	525	--	65	80	380
Skamania	180	--	--	--	180
Total	2,309	8	272	176	1,853
Central Washington					
Chelan	220	--	--	100	120
Okanogan	435	--	--	85	350
Yakima	250	--	--	90	160
Total	905	--	--	275	630
Inland Empire					
Asotin	104	4	--	100	--
Ferry	210	--	50	--	160
Pend Oreille	125	--	--	--	125
Spokane	75	--	75	--	--
Stevens	903	52	50	176	625
Walla Walla	109	4	--	105	--
Total	1,526	60	175	381	910
Total, State	12,528	353	1,359	1,332	9,484

[1] Mill size-classed identified as follows: Class D mills = less than 40,000 board feet of capacity per 8-hour shift; C = 40,000 - 79,999; B = 80,000 - 119,999; A = 120,000 +.

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Table D-13
Number of Sawmills with Selected Equipment by Mill Size-Class

Economic area and mill size-class[1]	Barker	Chipper	Planer	Burner	Kiln
Puget Sound					
D	4	4	6	--	1
C	8	8	6	1	3
B	3	3	2	--	1
A	16	16	15	1	6
Total	31	31	29	2	11
Olympic Peninsula					
D	1	4	6	1	2
C	8	6	5	1	4
B	2	2	2	--	2
A	13	12	12	2	9
Total	24	24	25	4	17
Lower Columbia					
D	--	--	1	--	1
C	4	4	3	--	2
B	2	2	1	--	1
A	8	6	7	--	4
Total	14	12	12	--	8
Central Washington					
D	--	--	--	--	--
C	--	--	--	--	--
B	3	3	3	1	2
A	4	4	4	--	4
Total	7	7	7	1	6
Inland Empire					
D	--	--	4	--	--
C	3	3	3	1	2
B	4	4	3	--	3
A	6	5	6	--	4
Total	13	12	16	1	9
Total, State					
D	5	8	17	1	4
C	23	21	17	3	11
B	14	14	11	1	9
A	47	43	44	3	27
Total	89	86	89	8	51

[1] Mill size-classed identified as follows: Class D mills = less than 40,000 board feet of capacity per 8-hour shift; C = 40,000 - 79,999; B = 80,000 - 119,999; A = 120,000 +.

SUMMARY 1988

Table D-14
Number of Sawmills With Selected Equipment by County

Economic area and county	Barker	Chipper	Planer	Burner	Kiln
Puget Sound					
Island	1	1	1	1	--
King	4	4	5	--	2
Kitsap	1	1	1	--	--
Pierce	7	7	6	--	2
Skagit	3	3	2	--	1
Snohomish	14	14	12	1	5
Whatcom	1	1	2	--	1
Total	31	31	29	2	11
Olympic Peninsula					
Clallam	3	4	3	1	1
Grays Harbor	6	5	7	1	3
Jefferson	--	1	--	--	--
Lewis	7	8	7	1	7
Mason	4	3	3	--	4
Pacific	2	1	2	1	2
Thurston	2	2	3	--	--
Total	24	24	25	4	17
Lower Columbia					
Clark	2	2	3	--	1
Cowlitz	7	5	5	--	3
Klickitat	4	4	3	--	3
Skamania	1	1	1	--	1
Total	14	12	12	--	8
Central Washington					
Chelan	2	2	2	--	2
Okanogan	3	3	3	1	2
Yakima	2	2	2	--	2
Total	7	7	7	1	6
Inland Empire					
Asotin	1	1	1	--	1
Ferry	2	2	2	--	1
Pend Oreille	1	--	1	--	1
Spokane	1	1	1	1	1
Stevens	7	7	9	--	4
Walla Walla	1	1	2	--	1
Total	13	12	16	1	9
Total, State	89	86	89	8	51

SUMMARY 1988

Table D-15
Number of Sawmills by Headrig Type and Size

Economic area and mill size-class[1]	Circular saw					Band saw			Gang saw		Chipping saw	Scragg	
	2 ft.	4 ft.	6 ft.	8 ft.	8+ ft.	4 ft.	6 ft.	8 ft.	2 ft.	3 ft.	2 ft.	2 ft.	3 ft.
Puget Sound													
D	1	6	2	--	--	1	--	--	--	--	--	--	--
C	--	--	--	--	--	7	1	--	--	--	1	--	--
B	--	1	--	--	--	2	--	--	--	--	--	2	--
A	--	1	--	--	--	8	6	--	1	--	3	1	--
Total	1	8	2	--	--	18	7	--	1	--	4	3	--
Olympic Peninsula													
D	1	8	1	2	2	2	--	--	--	--	--	1	--
C	--	3	--	--	--	2	3	--	--	--	1	--	--
B	--	--	--	--	--	1	1	--	--	--	--	--	--
A	1	--	--	--	--	7	3	1	--	--	3	1	--
Total	2	11	1	2	2	12	7	1	--	--	4	2	--
Lower Columbia													
D	--	1	--	--	1	--	--	--	--	--	--	--	--
C	--	1	--	--	--	1	2	--	--	--	1	1	--
B	--	--	--	--	--	1	1	--	--	--	--	--	--
A	--	--	--	--	--	4	3	1	--	1	1	1	--
Total	--	2	--	--	1	6	6	1	--	1	2	2	--
Central Washington													
D	--	--	--	--	--	--	--	--	--	--	--	--	--
C	--	--	--	--	--	--	--	--	--	--	--	--	--
B	--	--	--	--	--	1	2	--	--	--	1	--	--
A	--	--	--	--	--	--	3	--	--	--	1	--	1
Total	--	--	--	--	--	1	5	--	--	--	2	--	1
Inland Empire													
D	2	5	--	--	--	--	--	--	--	--	--	--	--
C	--	2	--	--	--	1	--	--	--	--	--	--	--
B	--	--	--	--	--	2	2	--	--	--	--	--	--
A	1	--	--	--	--	5	--	--	--	--	--	1	--
Total	3	7	--	--	--	8	2	--	--	--	--	1	--
Total, State													
D	4	20	3	2	3	3	--	--	--	--	--	1	--
C	--	6	--	--	--	11	6	--	--	--	3	1	--
B	--	1	--	--	--	7	6	--	--	--	1	2	--
A	2	1	--	--	--	24	15	2	1	1	8	4	1
Total	6	28	3	2	3	45	27	2	1	1	12	8	1

[1] Mill size-classed identified as follows: Class D mills = less than 40,000 board feet of capacity per 8-hour shift; C = 40,000 - 79,999; B = 80,000 - 119,999; A = 120,000 +.

Note: Sizes of headrigs are upper limits. This means the 6-foot size class includes saws 49 through 72 inches.

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Table D-16

Number of Sawmills by Tenure of Present Ownership by Site Occupancy

Present mill size-class[1]	Site occupancy (years)	All mills	Tenure of present mill ownership (years)				
			0-2	3-5	6-10	11-20	21+
D	0-2	1	--	--	--	1	--
	3-5	1	--	1	--	--	--
	6-10	5	--	--	5	--	--
	11-20	11	--	1	--	10	--
	21+	16	1	2	1	2	10
Total		34	1	4	6	13	10
C	0-2	--	--	--	--	--	--
	3-5	1	--	1	--	--	--
	6-10	4	1	--	2	1	--
	11-20	4	--	1	1	2	--
	21+	14	--	--	3	2	9
Total		23	1	2	6	5	9
B	0-2	--	--	--	--	--	--
	3-5	1	--	1	--	--	--
	6-10	--	--	--	--	--	--
	11-20	3	--	1	--	2	--
	21+	10	--	--	1	3	6
Total		14	--	2	1	5	6
A	0-2	1	1	--	--	--	--
	3-5	2	1	1	--	--	--
	6-10	6	--	2	4	--	--
	11-20	10	2	--	--	8	--
	21+	28	1	5	6	1	15
Total		47	5	8	10	9	15
Total, State	0-2	2	1	--	--	1	--
	3-5	5	1	4	--	--	--
	6-10	15	1	2	11	1	--
	11-20	28	2	3	1	22	--
	21+	68	2	7	11	8	40
Total		118	7	16	23	32	40

[1] Mill size-classed identified as follows: Class D mills = less than 40,000 board feet of capacity per 8-hour shift; C = 40,000 - 79,999; B = 80,000 - 119,999; A = 120,000 +.

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Table D-17
Average Number of Operating Days

Economic area and mill size-class[1]	Average number of operating days per year	Economic area and mill size-class[1]	Average number of operating days per year
Puget Sound		Central Washington	
D	154	D	---
C	230	C	---
B	246	B	209
A	241	A	230
Average	215	Average	221
Olympic Peninsula		Inland Empire	
D	164	D	80
C	239	C (Combined with B)	---
B (Combined with C)	---	B	236
A	235	A	233
Average	208	Average	181
Lower Columbia		State	
D (Combined with C)	---	D	136
C	180	C	233
B	243	B	233
A	236	A	237
Average	208	Average	206

[1] Mill size-classes are identified as follows: Class D mills = less than 40,000 board feet of capacity per 8-hour shift; C = 40,000 - 79,999; B = 80,000 - 119,999; A = 120,000 +.

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Table D-18
Type of Wood Consumed (Thousand Board Feet)

Economic area and mill size-class[1]	Roundwood			Other	
	All roundwood	Sound logs	Utility logs	Peeler cores	Cants
	-----Scribner log rule-----			-----Lumber tally-----	
Puget Sound					
D	14,265	13,050	1,215	--	--
C	75,951	72,889	3,062	--	--
B	49,166	48,206	960	--	--
A	785,521	744,211	41,310	--	--
Total	924,903	878,356	46,547	--	--
Olympic Peninsula					
C	124,924	115,062	9,862	--	15,000
B and D	92,632	72,772	19,860	--	--
A	606,166	462,424	143,742	--	--
Total	823,722	650,258	173,464	--	15,000
Lower Columbia					
C	39,324	39,253	71	--	--
B and D	82,809	46,021	36,788	--	--
A	509,694	474,270	35,424	--	--
Total	631,827	559,544	72,283	--	--
Central Washington					
D	--	--	--	--	--
C	--	--	--	--	--
B	60,582	53,324	7,258	--	--
A	156,785	155,685	1,100	--	--
Total	217,367	209,009	8,358	--	--
Inland Empire					
D	979	917	62	--	--
C	43,600	43,600	--	--	--
B	117,577	117,577	--	--	--
A	254,860	229,255	25,605	--	--
Total	417,016	391,349	25,667	--	--
Total, State					
D[2]	15,244	13,967	1,277	--	--
C	283,799	270,804	12,995	--	15,000
B[2]	402,766	337,900	64,866	--	--
A	2,313,026	2,065,845	247,181	--	--
Total	3,014,835	2,688,516	326,319	--	15,000

[1] Mill size-classed identified as follows: Class D mills = less than 40,000 board feet of capacity per 8-hour shift; C = 40,000 - 79,999; B = 80,000 - 119,999; A = 120,000 +.

[2] Class B includes Class D for Olympic Peninsula and Lower Columbia.

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Table D-19
Age of Logs Consumed By Mill Size-Class
 (Thousand Board Feet, Scribner Log Rule)

Economic area and mill size- class[1]	All age groups	Old growth (100 + years)	Young growth (less than 100 years)
Puget Sound			
D	14,265	1,128	13,137
C	75,951	44,944	31,007
B	49,166	1,600	47,566
A	785,521	248,374	537,147
Total	924,903	296,046	628,857
Olympic Peninsula			
C	124,924	63,780	61,144
B and D [2]	92,632	41,298	51,334
A	606,166	208,050	398,116
Total	823,722	313,128	510,594
Lower Columbia			
C	39,324	19,000	20,324
B and D [2]	82,809	0	82,809
A	509,694	112,722	396,972
Total	631,827	131,722	500,105
Central Washington			
D	0	0	0
C	0	0	0
B	60,582	38,391	22,191
A	156,785	94,631	62,154
Total	217,367	133,022	84,345
Inland Empire			
D	979	120	859
C	43,600	25,660	17,940
B	117,577	70,825	46,752
A	254,860	86,755	168,105
Total	417,016	183,360	233,656
Total, State			
D	15,244	1,248	13,996
C	283,799	153,384	130,415
B [3]	402,766	152,114	250,652
A	2,313,026	750,532	1,562,494
Total	3,014,835	1,057,278	1,957,557

[1] Mill size-classed identified as follows: Class D mills = less than 40,000 board feet of capacity per 8-hour shift; C = 40,000 - 79,999; B = 80,000 - 119,999; A = 120,000 +.

[2] Combined to avoid disclosure.

[3] Class B Statewide includes Class D for both the Olympic Peninsula and the Lower Columbia.

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Table D-20

Age of Log Consumption by County (Thousand Board Feet, Scribner Log Rule)

Economic area and county	All age groups	Old growth (100 + years)	Young growth (less than 100 years)
Puget Sound			
Island/Kitsap/ and Whatcom[1]	103,639	6,372	97,267
King	142,152	74,359	67,793
Pierce	274,911	56,668	218,243
Skagit	67,200	770	66,430
Snohomish	337,001	157,877	179,124
Total	924,903	296,046	628,857
Olympic Peninsula			
Clallam	61,602	58,194	3,408
Grays Harbor	194,140	92,640	101,500
Jefferson/Pacific[1]	67,134	1,704	65,430
Lewis	311,080	160,590	150,490
Mason	148,166	--	148,166
Thurston	41,600	--	41,600
Total	823,722	313,128	510,594
Lower Columbia			
Clark	61,020	19,600	41,420
Cowlitz	413,562	19,095	394,467
Klickitat/Skamania[1]	157,245	93,027	64,218
Total	631,827	131,722	500,105
Central Washington			
Chelan/Yakima[1]	94,380	53,028	41,352
Okanogan	122,987	79,994	42,993
Total	217,367	133,022	84,345
Inland Empire			
Asotin/Walla Walla[1]	61,034	23,300	37,734
Ferry/Pend Oreille/ and Spokane[1]	122,100	63,735	58,365
Stevens	233,882	96,325	137,557
Total	417,016	183,360	233,656
Total, State	3,014,835	1,057,278	1,957,557

[1] Combined to avoid disclosure.

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Table D-21

Log Inventory Changes, Log Consumption, and Apparent Log Receipts

(Thousand Board Feet, Scribner Log Rule)

Economic area	Log inventory				Apparent 1988 log receipts
	January 1, 1988	December 31, 1988	Net change	1988 log consumption	
Puget Sound	123,981	152,979	28,998	924,903	953,901
Olympic Peninsula	96,912	105,602	8,690	823,722	832,412
Lower Columbia	157,664	176,627	18,963	631,827	650,790
Central Washington	24,136	26,317	2,181	217,367	219,548
Inland Empire	58,151	58,020	- 131	417,016	416,885
Total, State	460,844	519,545	58,701	3,014,835	3,073,536

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Table D-22

Ownership Origin of Logs Consumed by Mill Size (Thousand Board Feet, Scribner Log Rule)

Economic area and mill size- class [1]	All owners	State	National Forest	Bureau of Land Management	Other public	Forest industry		
						Own wood supply	Other wood supply	Farmer and miscellaneous private
Puget Sound								
D	14,265	--	--	--	360	3	1,147	12,755
C	75,951	5,881	49,621	--	518	2,691	7,737	9,503
B	49,166	1,260	6,866	--	778	--	34,706	5,556
A	785,521	58,630	350,362	--	3,897	111,795	182,839	77,998
Total	924,903	65,771	406,849	--	5,553	114,489	226,429	105,812
Olympic Peninsula								
C	124,924	17,463	49,772	--	400	--	36,000	21,289
B and D [2]	92,632	13,350	17,902	--	2,100	14,700	31,675	12,905
A	606,166	41,819	233,069	--	6,416	151,388	113,158	60,316
Total	823,722	72,632	300,743	--	8,916	166,088	180,833	94,510
Lower Columbia								
C	39,324	18,610	1,229	--	800	12,000	4,188	2,497
B and D [2]	82,809	8,283	3,680	5	2,765	11,218	44,890	11,968
A	509,694	21,597	131,730	--	12,892	148,752	131,872	62,851
Total	631,827	48,490	136,639	5	16,457	171,970	180,950	77,316
Central Washington								
D	--	--	--	--	--	--	--	--
C	--	--	--	--	--	--	--	--
B	60,582	1,500	20,949	--	21,000	--	--	17,133
A	156,785	5,661	72,370	--	38,970	9,932	11,725	18,127
Total	217,367	7,161	93,319	--	59,970	9,932	11,725	35,260
Inland Empire								
D	979	70	280	--	--	33	--	596
C	43,600	1,650	800	--	3,300	4,500	--	33,350
B	117,577	2,833	40,754	565	5,657	30,328	6,800	30,640
A	254,860	10,118	84,201	--	14,172	48,675	31,200	66,494
Total	417,016	14,671	126,035	565	23,129	83,536	38,000	131,080
Total, State								
D	15,244	70	280	--	360	36	1,147	13,351
C	283,799	43,604	101,422	--	5,018	19,191	47,925	66,639
B [3]	402,766	27,226	90,151	570	32,300	56,246	118,071	78,202
A	2,313,026	137,825	871,732	--	76,347	470,542	470,794	285,786
Total	3,014,835	208,725	1,063,585	570	114,025	546,015	637,937	443,978

[1] Mill size-classed identified as follows: Class D mills = less than 40,000 board feet of capacity per 8-hour shift; C = 40,000 - 79,999; B = 80,000 - 119,999; A = 120,000 +

[2] Combined to avoid disclosure

[3] Class B includes Class D for Olympic Peninsula and Lower Columbia.

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Table D-23 Ownership Origin of Logs Consumed by County (Thousand Board Feet, Scribner Log Rule)

Economic area and county	All owners	Bureau of Land Management			Forest industry			Farmer and miscellaneous private
		State	National Forest	Other public	Own wood supply	Other wood supply	Farmer and miscellaneous private	
Puget Sound								
Island/Kitsap/Whatcom [1]	103,639	8,721	40,449	--	318	23,691	25,257	5,203
King	142,152	2,000	35,235	--	--	60,303	42,863	1,751
Pierce	274,911	10,270	126,632	--	320	25,200	59,365	53,124
San Juan	--	--	--	--	--	--	--	--
Skagit	67,200	15,000	27,500	--	200	--	15,100	9,400
Snohomish	337,001	29,780	177,033	--	4,715	5,295	83,844	36,334
Total	924,903	65,771	406,849	--	5,553	114,489	226,429	105,812
Olympic Peninsula								
Clallam	61,602	15,959	37,351	--	--	--	--	8,292
Grays Harbor	194,140	4,710	75,570	--	1,850	4,200	90,560	17,250
Jefferson/Pacific [1]	67,134	7,934	1,103	--	--	42,400	6,015	9,682
Lewis	311,080	21,030	173,830	--	2,500	15,700	66,700	31,320
Mason	148,166	10,699	9,289	--	216	102,588	17,558	7,816
Thurston	41,600	12,300	3,600	--	4,350	1,200	--	20,150
Total	823,722	72,632	300,743	--	8,916	166,088	180,833	94,510
Lower Columbia								
Clark	61,020	15,000	36,800	--	--	--	4,616	4,604
Cowlitz	413,562	21,573	21,029	5	5	130,766	176,334	63,850
Klickitat/Skamania [1]	157,245	11,917	78,810	--	16,452	41,204	--	8,862
Total	631,827	48,490	136,639	5	16,457	171,970	180,950	77,316
Central Washington								
Chelan/Yakima [1]	94,380	3,339	37,577	--	21,000	--	11,725	20,739
Okanogan	122,987	3,822	55,742	--	38,970	9,932	--	14,521
Total	217,367	7,161	93,319	--	59,970	9,932	11,725	35,260
Inland Empire								
Asotin/Walla Walla [1]	61,034	--	29,440	--	--	2,040	6,800	22,754
Ferry/Pend Oreille/and Spokane [1]	122,100	3,400	59,725	--	11,000	4,375	--	43,600
Stevens	233,882	11,271	36,870	565	12,129	77,121	31,200	64,726
Total	417,016	14,671	126,035	565	23,129	83,536	38,000	131,080
Total, State	3,014,835	208,725	1,063,585	570	114,025	546,015	637,937	443,978

[1] Combined to avoid disclosure.

SAWMILLS 1988

Table D-24
Number of Mills Dependent Upon Ownerships

Economic area and mill size-class[1]	National Forest				State				Bureau of Land Management			
	0	1-33	34-66	67-100	0	1-33	34-66	67-100	0	1-33	34-66	67-100
Puget Sound												
D	10	--	--	--	10	--	--	--	10	--	--	--
C	2	--	1	5	4	3	1	--	8	--	--	--
B	1	1	1	--	1	2	--	--	3	--	--	--
A	--	8	3	5	5	11	--	--	16	--	--	--
Total	13	9	5	10	20	16	1	--	37	--	--	--
Olympic Peninsula												
C	3	1	1	3	4	3	1	--	8	--	--	--
B and D[2]	9	2	4	2	9	5	1	2	17	--	--	--
A	4	3	3	3	1	12	--	--	13	--	--	--
Total	16	6	8	8	14	20	2	2	38	--	--	--
Lower Columbia												
C	3	1	--	--	1	2	--	1	4	--	--	--
B and D[2]	3	--	1	--	1	3	--	--	3	1	--	--
A	2	3	--	3	3	5	--	--	8	--	--	--
Total	8	4	1	3	5	10	--	1	15	1	--	--
Central Washington												
D	--	--	--	--	--	--	--	--	--	--	--	--
C	--	--	--	--	--	--	--	--	--	--	--	--
B	--	1	1	1	2	1	--	--	3	--	--	--
A	--	2	2	--	1	3	--	--	4	--	--	--
Total	--	3	3	1	3	4	--	--	7	--	--	--
Inland Empire												
D	6	--	--	1	5	2	--	--	7	--	--	--
C	2	--	1	--	2	1	--	--	3	--	--	--
B	--	3	--	1	2	2	--	--	2	2	--	--
A	--	3	2	1	--	6	--	--	6	--	--	--
Total	8	6	3	3	9	11	--	--	18	2	--	--
Total State												
D [3]	16	--	--	1	15	2	--	--	17	--	--	--
C	10	2	3	8	11	9	2	1	23	--	--	--
B[3]	13	7	7	4	15	13	1	2	28	3	--	--
A	6	19	10	12	10	37	--	--	47	--	--	--
Total	45	28	20	25	51	61	3	3	115	3	--	--

[1] Mill size-classed identified as follows: Class D mills = less than 40,000 board feet of capacity per 8-hour shift; C = 40,000 - 79,999; B = 80,000 - 119,999; A = 120,000 +.

[2] Combined to avoid disclosure.

[3] Class B Statewide includes Class D for both the Olympic Peninsula and the Lower Columbia.

SAWMILLS 1988

Table D-24 (Continued)
Number of Mills Dependent Upon Ownership

Forest Industry															
Other Public				Own wood supply				Other wood supply				Farmer & miscellaneous private			
0	1-33	34-66	67-100	0	1-33	34-66	67-100	0	1-33	34-66	67-100	0	1-33	34-66	67-100
9	1	--	--	9	1	--	--	8	--	1	1	1	--	1	8
6	2	--	--	6	1	1	--	4	4	--	--	3	5	--	-
1	2	--	--	3	0	--	--	--	--	2	1	--	3	--	-
14	2	--	--	12	2	1	1	5	6	2	3	7	7	2	-
30	7	--	--	30	4	2	1	17	10	5	5	11	15	3	8
7	1	--	--	8	--	--	--	5	--	2	1	4	2	1	1
16	1	--	--	14	2	--	1	13	2	2	--	6	3	1	7
10	3	--	--	7	3	1	2	6	4	2	1	3	9	1	--
33	5	--	--	29	5	1	3	24	6	6	2	13	14	3	8
3	1	--	--	3	--	--	1	2	--	1	1	2	2	--	--
2	2	--	--	2	2	--	--	2	--	1	1	--	3	1	--
7	1	--	--	4	1	2	1	3	3	1	1	--	8	--	--
12	4	--	--	9	3	2	2	7	3	3	3	2	13	1	--
--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2	--	--	1	3	--	--	--	3	--	--	--	--	2	1	--
2	1	--	1	3	1	--	--	2	2	--	--	1	3	--	--
4	1	--	2	6	1	--	--	5	2	--	--	1	5	1	--
7	--	--	--	6	--	1	--	7	--	--	--	--	1	1	5
2	1	--	--	2	--	1	--	3	--	--	--	--	--	2	1
2	2	--	--	1	1	2	--	3	1	--	--	--	3	1	--
3	3	--	--	2	2	2	--	4	1	1	--	--	4	2	--
14	6	--	--	11	3	6	--	17	2	1	--	--	8	6	6
16	1	--	--	15	1	1	--	15	--	1	1	1	1	2	13
18	5	--	--	19	1	2	1	14	4	3	2	9	9	3	2
23	7	--	1	23	5	2	1	21	3	5	2	6	14	4	7
36	10	--	1	28	9	6	4	20	16	6	5	11	31	5	--
93	23	--	2	85	16	11	6	70	23	15	10	27	55	14	22

SAWMILLS 1988

Table D-25 Log Consumption by Species, by Mill Size-Class⁽¹⁾ (Thousand Board Feet, Scribner Log Rule)

Economic area and mill size-class ⁽¹⁾ species	All species	Douglas fir	Hemlock	True firs	Spruce	Ponderosa pine	Lodgepole pine	Western redcedar	Other softwoods	Hardwoods
Puget Sound										
D	14,265	5,013	494	--	--	--	--	5,756	--	3,002
C	75,951	20,944	19,692	11,689	--	--	--	13,446	180	10,000
B	49,166	5,587	23,193	--	240	480	--	18,066	--	1,600
A	785,521	414,307	230,734	17,088	839	--	--	69,603	--	52,950
Total	924,903	445,851	274,113	28,777	1,079	480	--	106,871	180	67,552
Olympic Peninsula										
C	124,924	11,880	52,784	4,140	--	--	--	20,120	--	36,000
B and D [2]	92,632	5,402	26,600	--	322	18	259	17,023	8	43,000
A	606,166	353,610	171,370	39,440	--	--	--	39,166	--	2,580
Total	823,722	370,892	250,754	43,580	322	18	259	76,309	8	81,580
Lower Columbia										
C	39,324	18,200	--	1,600	--	11,200	--	8,194	--	130
B and D [2]	82,809	1,384	7	7,820	2	--	--	12	10	73,574
A	509,694	307,621	77,817	32,531	--	41,275	--	48,000	2,450	--
Total	631,827	327,205	77,824	41,951	2	52,475	--	56,206	2,460	73,704
Central Washington										
D	--	--	--	--	--	--	--	--	--	--
C	--	--	--	--	--	--	--	--	--	--
B	60,582	16,668	3,150	7,500	2,815	28,920	479	420	630	--
A	156,785	33,327	9,946	2,860	11,557	84,210	6,215	757	7,913	--
Total	217,367	49,995	13,096	10,360	14,372	113,130	6,694	1,177	8,543	--
Inland Empire										
D	979	486	--	3	--	50	306	6	124	4
C	43,600	11,040	800	2,430	1,310	26,430	--	1,140	450	--
B	117,577	22,937	15,980	9,925	10,922	49,811	4,760	2,702	540	--
A	254,860	126,876	20,418	8,300	8,868	39,890	29,529	11,518	9,461	--
Total	417,016	161,339	37,198	20,658	21,100	116,181	34,595	15,366	10,575	4
Total, State										
D [3]	15,244	5,499	494	3	--	50	306	5,762	124	3,006
C	283,799	62,064	73,276	19,859	1,310	37,630	--	42,900	630	46,130
B [3]	402,766	51,978	68,930	25,245	14,301	79,229	5,498	38,223	1,188	118,174
A	2,313,026	1,235,741	510,285	100,219	21,264	165,375	35,744	169,044	19,824	55,530
Total	3,014,835	1,355,282	652,985	145,326	36,875	282,284	41,548	255,929	21,766	222,840

[1] Mill size-classified as follows: Class D mills = less than 40,000 board feet of capacity per 8-hour shift; C = 40,000 - 79,999; B = 80,000 - 119,999; A = 120,000 +.

[2] Combined to avoid disclosure.

[3] Class B includes Class D for Olympic Peninsula and Lower Columbia.

Sawmills 1988

Table D-26 Log Consumption by Species, by County (Thousand Board Feet, Scribner Log Rule)

Economic area and county	All species	Douglas fir	Hemlock	True firs	Spruce	Ponderosa pine	Lodgepole pine	Western redcedar	Other softwoods	Hardwoods
Puget Sound										
Island/Kitsap/and Whatcom [1]	103,639	93,804	2,030	4,779	--	--	--	3,026	--	--
King	142,152	69,773	61,655	9,956	--	--	--	766	--	2
Pierce	274,911	140,246	117,106	--	1,079	480	--	14,400	--	1,600
Skagit	67,200	49,500	5,500	--	--	--	--	2,200	--	10,000
Snohomish	337,001	92,528	87,822	14,042	--	--	--	86,479	180	51,950
Total	924,903	445,851	274,113	28,777	1,079	480	--	106,871	180	61,552
Olympic Peninsula										
Clallam	61,602	6,098	47,041	--	322	--	--	8,141	--	--
Grays Harbor	194,140	36,198	110,523	4,140	--	18	259	43,002	--	--
Jefferson/Pacific [1]	67,134	24,600	29,150	--	--	--	--	2,384	--	1,000
Lewis	311,080	142,936	38,100	39,440	--	--	--	20,016	8	71,580
Mason	148,166	120,060	25,940	--	--	--	--	2,166	--	--
Thurston	41,600	41,000	--	--	--	--	--	600	--	--
Total	823,722	370,892	250,754	43,580	322	18	259	76,309	8	81,580
Lower Columbia										
Clark	61,020	51,800	6,900	2,300	--	--	--	10	--	10
Cowlitz	413,562	229,286	54,374	--	2	--	--	56,196	10	71,694
Klickitat/Skamania [1]	157,245	46,119	16,550	39,651	--	52,475	--	--	2,450	--
Total	631,827	327,205	77,824	41,951	2	52,475	--	56,206	2,460	71,704
Central Washington										
Chelan/Yakima	94,380	23,862	13,096	10,360	2,809	34,430	3,159	1,177	5,487	--
Okanogan	122,987	26,133	--	--	11,563	78,700	3,535	--	3,056	--
Total	217,367	49,995	13,096	10,360	14,372	113,130	6,694	1,177	8,543	--
Inland Empire										
Asotin/Walla Walla [1]	61,034	18,687	15,980	5,403	8,910	6,750	4,760	--	540	4
Ferry/Pend Oreille/and Spokane [1]	122,100	50,290	10,550	1,980	2,410	38,830	12,025	4,390	1,625	--
Stevens	233,882	92,362	10,668	13,275	9,780	70,601	17,810	10,976	8,410	--
Total	417,016	161,339	37,198	20,658	21,100	116,181	34,595	15,366	10,575	4
Total, State	3,014,835	1,355,282	652,985	145,326	36,875	282,284	41,548	255,929	21,766	222,840

[1] Combined to avoid disclosure

SAWMILLS 1988

Table D-27

Production and Disposition of Wood and Bark Residues by Mill Size-Class[1]

(Tons, Dry Weight)

Economic area and mill size- class [1]	All residue			Wood residue			Bark residue		
	Total	Used[2]	Unused	Total	Used[2]	Unused	Total	Used[2]	Unused
Puget Sound									
D	18,827	18,179	648	14,251	13,603	648	4,576	4,576	--
C	118,972	118,843	129	91,810	91,733	77	27,162	27,110	52
B	104,049	104,049	--	81,625	81,625	--	22,424	22,424	--
A	1,400,603	1,400,603	--	1,095,560	1,095,560	--	305,043	305,043	--
Total	1,642,451	1,641,674	777	1,283,246	1,282,521	725	359,205	359,153	52
Olympic Peninsula									
C	172,101	170,300	1,801	130,246	128,445	1,801	41,855	41,855	--
B and D[3]	126,540	118,932	7,608	95,720	90,023	5,697	30,820	28,909	1,911
A	1,167,695	1,115,470	52,225	915,502	882,562	32,940	252,193	232,908	19,285
Total	1,466,336	1,404,702	61,634	1,141,468	1,101,030	40,438	324,868	303,672	21,196
Lower Columbia									
C	57,961	57,961	--	45,060	45,060	--	12,901	12,901	--
B and D[3]	109,652	109,641	11	81,274	81,266	8	28,378	28,375	3
A	905,243	905,243	--	711,427	711,427	--	193,816	193,816	--
Total	1,072,856	1,072,845	11	837,761	837,753	8	235,095	235,092	3
Central Washington									
D	--	--	--	--	--	--	--	--	--
C	--	--	--	--	--	--	--	--	--
B	108,187	100,153	8,034	85,047	80,239	4,808	23,140	19,914	3,226
A	243,504	225,318	18,186	191,735	173,549	18,186	51,769	51,769	--
Total	351,691	325,471	26,220	276,782	253,788	22,994	74,909	71,683	3,226
Inland Empire									
D	1,496	906	590	1,149	739	410	347	167	180
C	68,930	68,930	--	54,276	54,276	--	14,654	14,654	--
B	172,580	172,580	--	134,552	134,552	--	38,028	38,028	--
A	471,164	471,164	--	369,381	369,381	--	101,783	101,783	--
Total	714,170	713,580	590	559,358	558,948	410	154,812	154,632	180
Total, State									
D[4]	20,323	19,085	1,238	15,400	14,342	1,058	4,923	4,743	180
C	417,964	416,034	1,930	321,392	319,514	1,878	96,572	96,520	52
B[4]	621,008	605,355	15,653	478,218	467,705	10,513	142,790	137,650	5,140
A	4,188,209	4,117,798	70,411	3,283,605	3,232,479	51,126	904,604	885,319	19,285
Total	5,247,504	5,158,272	89,232	4,098,615	4,034,040	64,575	1,148,889	1,124,232	24,657

[1] Mill size-classed identified as follows: Class D mills = less than 40,000 board feet of capacity per 8-hour shift; C = 40,000 - 79,999; B = 80,000 - 119,999; A = 120,000 +.

[2] Used residues were not necessarily consumed in the economic area in which they were produced.

[3] Combined to avoid disclosure.

[4] Total for Class B includes Class D for the Olympic Peninsula and Lower Columbia.

SAWMILLS 1988

Table D-28

Production and Disposition of Wood Residues by Mill Size-Class[1] (Tons, Dry Weight)

Economic area and mill size-class[1]	All types						
	Total	Total used[6]	Pulp	Board	Fuel	Other	Unused
Puget Sound							
D	14,251	13,603	8,147	--	1,245	4,211	648
C	91,810	91,733	47,900	--	5,915	37,918	77
B	81,625	81,625	23,671	19,404	24,848	13,702	--
A	1,095,560	1,095,560	461,630	--	487,400	146,530	--
Total	1,283,246	1,282,521	541,348	19,404	519,408	202,361	725
Olympic Peninsula							
C	130,246	128,445	29,488	--	73,861	25,096	1,801
B and D [7]	95,720	90,023	21,651	--	40,935	27,437	5,697
A	915,502	882,562	448,276	--	425,571	8,715	32,940
Total	1,141,468	1,101,030	499,415	--	540,367	61,248	40,438
Lower Columbia							
C	45,060	45,060	27,854	4,399	8,408	4,399	--
B and D [7]	81,274	81,266	46,946	--	34,312	8	8
A	711,427	711,427	428,975	--	258,604	23,848	--
Total	837,761	837,753	503,775	4,399	301,324	28,255	8
Central Washington							
D	--	--	--	--	--	--	--
C	--	--	--	--	--	--	--
B	85,047	80,239	23,264	--	30,100	26,875	4,808
A	191,735	173,549	17,954	3,974	128,754	22,867	18,186
Total	276,782	253,788	41,218	3,974	158,854	49,742	22,994
Inland Empire							
D	1,149	739	5	--	205	529	410
C	54,276	54,276	24,136	--	29,461	679	--
B	134,552	134,552	58,710	15,490	54,226	6,126	--
A	369,381	369,381	184,385	19,580	127,182	38,234	--
Total	559,358	558,948	267,236	35,070	211,074	45,568	410
Total, State							
D [8]	15,400	14,342	8,152	--	1,450	4,740	1,058
C	321,392	319,514	129,378	4,399	117,645	68,092	1,878
B [8]	478,218	467,705	174,242	34,894	184,421	74,148	10,513
A	3,283,605	3,232,479	1,541,220	23,554	1,427,511	240,194	51,126
Total	4,098,615	4,034,040	1,852,992	62,847	1,731,027	387,174	64,575

[1] Mill size-classed identified as follows: Class D mills = less than 40,000 board feet capacity per 8-hour shift; C = 40,000 - 79,999; B = 80,000 - 119,999; A = 120,000 +.

[2] Slabs, edgings, trim and spur ends.

[3] The Board column in the "Coarse" section had no figures and was, therefore, deleted.

[4] Shavings.

[5] Sawdust.

[6] Used residues were not necessarily consumed in the economic area in which they were produced.

[7] Combined to avoid disclosure.

[8] Total for Class B includes Class D for the Olympic Peninsula and Lower Columbia.

SAWMILLS 1988

Table D-28 (Continued)

Wood Residue Production and Disposition by Mill-Size-Class[1] (Tons, Dry Weight)

Coarse[2,3]					
Total	Total used [6]	Pulp	Fuel	Other	Unused
9,352	9,352	8,147	84	1,121	--
54,543	54,500	47,900	--	6,600	43
45,805	45,805	23,671	8,432	13,702	--
618,098	618,098	385,058	195,021	38,019	--
727,798	727,755	464,776	203,537	59,442	43
82,076	82,076	25,373	38,186	18,517	--
58,240	54,336	21,286	15,775	17,275	3,904
514,858	514,858	300,547	207,540	6,771	--
655,174	651,270	347,206	261,501	42,563	3,904
26,342	26,342	20,439	5,903	--	--
51,014	51,008	44,138	6,864	6	6
395,898	395,898	344,252	51,646	--	--
473,254	473,248	408,829	64,413	6	6
--	--	--	--	--	--
47,267	47,267	23,264	3,689	20,314	--
105,746	105,746	8,537	95,202	2,007	--
153,013	153,013	31,801	98,891	22,321	--
713	303	--	196	107	410
29,933	29,933	24,136	5,797	--	--
77,681	77,681	58,710	15,177	3,794	--
207,910	207,910	175,439	4,540	27,931	--
316,237	315,827	258,285	25,710	31,832	410
10,065	9,655	8,147	280	1,228	410
192,894	192,851	117,848	49,886	25,117	43
280,007	276,097	171,069	49,937	55,091	3,910
1,842,510	1,842,510	1,213,833	553,949	74,728	--
2,325,476	2,321,113	1,510,897	654,052	156,164	4,363

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Table D-28 (Continued)

Production and Disposition of Wood Residues by Mill Size-Class[1] (Tons, Dry Weight)

Economic area and mill size-class[1]	Medium[4]						
	Total	Total used[6]	Pulp	Board	Fuel	Other	Unused
Puget Sound							
D	1,069	1,069	--	--	--	1,069	--
C	15,073	15,056	--	--	1,347	13,709	17
B	17,046	17,046	--	9,702	7,344	--	--
A	224,970	224,970	73,332	--	93,358	58,280	--
Total	258,158	258,141	73,332	9,702	102,049	73,058	17
Olympic Peninsula							
C	11,868	10,067	4,115	--	3,462	2,490	1,801
B and D[7]	14,412	14,218	158	--	12,492	1,568	194
A	189,669	189,669	114,046	--	75,623	--	--
Total	215,949	213,954	118,319	--	91,577	4,058	1,995
Lower Columbia							
C	7,926	7,926	3,513	4,399	14	--	--
B and D[7]	10,524	10,524	--	--	10,524	--	--
A	153,266	153,266	46,310	--	83,108	23,848	--
Total	171,716	171,716	49,823	4,399	93,646	23,848	--
Central Washington							
D	--	--	--	--	--	--	--
C	--	--	--	--	--	--	--
B	18,408	15,761	--	--	9,200	6,561	2,647
A	42,648	33,555	--	3,974	11,637	17,944	9,093
Total	61,056	49,316	--	3,974	20,837	24,505	11,740
Inland Empire							
D	145	145	5	--	--	140	--
C	12,075	12,075	--	--	11,784	291	--
B	25,034	25,034	--	8,857	15,400	777	--
A	76,258	76,258	6,887	18,551	40,517	10,303	--
Total	113,512	113,512	6,892	27,408	67,701	11,511	--
Total, State							
D	1,214	1,214	5	--	--	1,209	--
C	46,942	45,124	7,628	4,399	16,607	16,490	1,818
B	85,424	82,583	158	18,559	54,960	8,906	2,841
A	686,811	677,718	240,575	22,525	304,243	110,375	9,093
Total	820,391	806,639	248,366	45,483	375,810	136,980	13,752

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Table D-28 (Continued)

Production and Disposition of Wood Residues by Mill Size-Class[1]

(Tons, Dry Weight)

Fine[5]						
Total	Total used[6]	Pulp	Board	Fuel	Other	Unused
3,830	3,182	--	--	1,161	2,021	648
22,194	22,177	--	--	4,568	17,609	17
18,774	18,774	--	9,702	9,072	--	--
252,492	252,492	3,240	--	199,021	50,231	--
297,290	296,625	3,240	9,702	213,822	69,861	665
36,302	36,302	--	--	32,213	4,089	--
23,068	21,469	207	--	12,668	8,594	1,599
210,975	178,035	33,683	--	142,408	1,944	32,940
270,345	235,806	33,890	--	187,289	14,627	34,539
10,792	10,792	3,902	--	2,491	4,399	--
19,736	19,734	2,808	--	16,924	2	2
162,263	162,263	38,413	--	123,850	--	--
192,791	192,789	45,123	--	143,265	4,401	2
--	--	--	--	--	--	--
--	--	--	--	--	--	--
19,372	17,211	--	--	17,211	--	2,161
43,341	34,248	9,417	--	21,915	2,916	9,093
62,713	51,459	9,417	--	39,126	2,916	11,254
291	291	--	--	9	282	--
12,268	12,268	--	--	11,880	388	--
31,837	31,837	--	6,633	23,649	1,555	--
85,213	85,213	2,059	1,029	82,125	--	--
129,609	129,609	2,059	7,662	117,663	2,225	--
4,121	3,473	--	--	1,170	2,303	648
81,556	81,539	3,902	--	51,152	26,485	17
112,787	109,025	3,015	16,335	79,524	10,151	3,762
754,284	712,251	86,812	1,029	569,319	55,091	42,033
952,748	906,288	93,729	17,364	701,165	94,030	46,460

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Table D-29

Production and Disposition of Bark Residues by Mill Size-Class m

(Tons, Dry Weight)

Economic area and mill size-class[1]	Used[2]						Unused
	Total	Total used	Pulp	Board	Fuel	Other	
Puget Sound							
D	4,576	4,576	--	--	2,750	1,826	--
C	27,162	27,110	--	--	11,088	16,022	52
B	22,424	22,424	--	--	15,716	6,708	--
A	305,043	305,043	--	--	154,290	150,753	--
Total	359,205	359,153	--	--	183,844	175,309	52
Olympic Peninsula							
C	41,855	41,855	--	--	41,304	551	--
B and D [3]	30,820	28,909	306	--	15,845	12,758	1,911
A	252,193	232,908	--	--	179,329	53,579	19,285
Total	324,868	303,672	306	--	236,478	66,888	21,196
Lower Columbia							
C	12,901	12,901	4,644	--	8,257	--	--
B and D [3]	28,378	28,375	--	--	28,372	3	3
A	193,816	193,816	--	--	103,152	90,664	--
Total	235,095	235,092	4,644	--	139,781	90,667	3
Central Washington							
D	--	--	--	--	--	--	--
C	--	--	--	--	--	--	--
B	23,140	19,914	--	--	9,030	10,884	3,226
A	51,769	51,769	--	--	41,166	10,603	--
Total	74,909	71,683	--	--	50,196	21,487	3,226
Inland Empire							
D	347	167	--	--	74	93	180
C	14,654	14,654	--	--	14,190	464	--
B	38,028	38,028	--	--	36,171	1,857	--
A	101,783	101,783	--	--	98,094	3,689	--
Total	154,812	154,632	--	--	148,529	6,103	180
Total, State							
D [4]	4,923	4,743	--	--	2,824	1,919	180
C	96,572	96,520	4,644	--	74,839	17,037	52
B [4]	142,790	137,650	306	--	105,134	32,210	5,140
A	904,604	885,319	--	--	576,031	309,288	19,285
Total	1,148,889	1,124,232	4,950	--	758,828	360,454	24,657

[1] Mill size-classes identified as follows: Class D mills = less than 40,000 board feet of capacity per 8-hour shift; C = 40,000 - 79,999; B = 80,000 - 119,999; A = 120,000+.

[2] Used residues were not necessarily consumed in the economic area in which they were produced.

[3] Combined to avoid disclosure.

[4] Total for Class B includes Class D for the Olympic Peninsula and Lower Columbia.

SAWMILLS 1988

Table D-31

Production and Disposition of Wood Residues by County (Tons, Dry Weight)

Economic area and county	All types						Unused
	Total	Total used[5]	Pulp	Board	Fuel	Other	
Puget Sound							
Island/Kitsap/ and Whatcom[6]	156,549	156,472	43,626	--	101,833	11,013	77
King	207,062	207,062	55,664	--	132,622	18,776	--
Pierce	410,744	410,744	227,941	19,404	106,436	56,963	--
Skagit	85,957	85,957	48,314	--	27,983	9,660	--
Snohomish	422,934	422,286	165,803	--	150,534	105,949	648
Total	1,283,246	1,282,521	541,348	19,404	519,408	202,361	725
Olympic Peninsula							
Clallam	58,908	54,073	17,711	--	34,088	2,274	4,835
Grays Harbor	263,693	263,693	23,670	--	232,673	7,350	--
Jefferson/Pacific[6]	101,615	83,257	23,715	--	57,366	2,176	18,358
Lewis	416,159	414,358	247,834	--	127,945	38,579	1,801
Mason	240,608	225,164	168,301	--	51,523	5,340	15,444
Thurston	60,485	60,485	18,184	--	36,772	5,529	--
Total	1,141,468	1,101,030	499,415	--	540,367	61,248	40,438
Lower Columbia							
Clark	90,745	90,745	76,788	--	23	13,934	--
Cowlitz	569,875	569,867	306,604	--	263,255	8	8
Klickitat/Skamania[6]	177,141	177,141	120,383	4,399	38,046	14,313	--
Total	837,761	837,753	503,775	4,399	301,324	28,255	8
Central Washington							
Chelan/Yakima[6]	128,036	128,036	34,628	3,974	51,611	37,823	--
Okanogan	148,746	125,752	6,590	--	107,243	11,919	22,994
Total	276,782	253,788	41,218	3,974	158,854	49,742	22,994
Inland Empire							
Asotin/Walla Walla[6]	73,820	73,820	21,580	7,075	39,029	6,136	--
Ferry/Pend Oreille/ and Spokane[6]	184,623	184,623	74,330	19,580	51,800	38,913	--
Stevens	300,915	300,505	171,326	8,415	120,245	519	410
Total	559,358	558,948	267,236	35,070	211,074	45,568	410
Total, State	4,098,615	4,034,040	1,852,992	62,847	1,731,027	387,174	64,575

[1] Coarse residues includes slabs, edgings, sawmill trim, and planer trim.

[2] The Board column under "Coarse" was deleted because no figures were reported.

[3] Medium residue is planer shavings.

[4] Fine residue is sawdust.

[5] Used residues were not necessarily consumed in the economic area in which they were produced.

[6] Combined to avoid disclosure.

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Table D-31 (Continued)
Production and Disposition of Wood Residues by County (Tons, Dry Weight)

Coarse [1] [2]					
Total	Total used[5]	Pulp	Fuel	Other	Unused
86,318	86,275	14,034	72,241	--	43
116,084	116,084	55,664	60,315	105	--
229,007	229,007	215,305	--	13,702	--
48,314	48,314	48,314	--	--	--
248,075	248,075	131,459	70,981	45,635	--
727,798	727,755	464,776	203,537	59,442	43
35,553	32,123	13,596	17,242	1,285	3,430
154,365	154,365	23,670	126,495	4,200	--
56,765	56,291	23,715	32,576	--	474
240,408	240,408	145,465	64,952	29,991	--
133,619	133,619	131,907	--	1,712	--
34,464	34,464	8,853	20,236	5,375	--
655,174	651,270	347,206	261,501	42,563	3,904
51,996	51,996	51,983	13	--	--
320,218	320,212	268,560	51,646	6	6
101,040	101,040	88,286	12,754	--	--
473,254	473,248	408,829	64,413	6	6
71,242	71,242	25,211	24,769	21,262	--
81,771	81,771	6,590	74,122	1,059	--
153,013	153,013	31,801	98,891	22,321	--
40,574	40,574	21,580	15,198	3,796	--
102,307	102,307	71,864	2,512	27,931	--
173,356	172,946	164,841	8,000	105	410
316,237	315,827	258,285	25,710	31,832	410
2,325,476	2,321,113	1,510,897	654,052	156,164	4,363

SAWMILLS 1988

Table D-31 (Continued)

Production and Disposition of Wood Residues by County (Tons, Dry Weight)

Economic area and county	Medium[3]						Unused
	Total	Total used[5]	Pulp	Board	Fuel	Other	
Puget Sound							
Island/Kitsap/ and Whatcom[6]	34,854	34,837	29,592	--	--	5,245	17
King	43,402	43,402	--	--	35,603	7,799	--
Pierce	87,875	87,875	12,636	9,702	41,536	24,001	--
Skagit	18,000	18,000	--	--	8,340	9,660	--
Snohomish	74,027	74,027	31,104	--	16,570	26,353	--
Total	258,158	258,141	73,332	9,702	102,049	73,058	17
Olympic Peninsula							
Clallam	5,547	5,547	4,115	--	972	460	--
Grays Harbor	46,171	46,171	--	--	44,631	1,540	--
Jefferson/Pacific[6]	21,761	21,567	--	--	21,335	232	194
Lewis	78,350	76,549	69,180	--	5,568	1,801	1,801
Mason	52,224	52,224	35,693	--	16,531	--	--
Thurston	11,896	11,896	9,331	--	2,540	25	--
Total	215,949	213,954	118,319	--	91,577	4,058	1,995
Lower Columbia							
Clark	17,438	17,438	3,499	--	5	13,934	--
Cowlitz	119,588	119,588	38,030	--	81,558	--	--
Klickitat/Skamania[6]	34,690	34,690	8,294	4,399	12,083	9,914	--
Total	171,716	171,716	49,823	4,399	93,646	23,848	--
Central Washington							
Chelan/Yakima[6]	27,596	27,596	--	3,974	9,977	13,645	--
Okanogan	33,460	21,720	--	--	10,860	10,860	11,740
Total	61,056	49,316	--	3,974	20,837	24,505	11,740
Inland Empire							
Asotin/Walla Walla[6]	16,619	16,619	--	442	15,400	777	--
Ferry/Pend Oreille/ and Spokane[6]	40,386	40,386	407	18,551	10,834	10,594	--
Stevens	56,507	56,507	6,485	8,415	41,467	140	--
Total	113,512	113,512	6,892	27,408	67,701	11,511	--
Total, State	820,391	806,639	248,366	45,483	375,810	136,980	13,752

[3] Medium residue is planer shavings.

[4] Fine residue is sawdust.

[5] Used residues were not necessarily consumed in the economic area in which they were produced.

[6] Combined to avoid disclosure.

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Table D-31 (Continued)

Production and Disposition of Wood Residues by County (Tons, Dry Weight)

Total	Fine[4]					
	Total used[5]	Pulp	Board	Fuel	Other	Unused
35,377	35,360	--	--	29,592	5,768	17
47,576	47,576	--	--	36,704	10,872	--
93,862	93,862	--	9,702	64,900	19,260	--
19,643	19,643	--	--	19,643	--	--
100,832	100,184	3,240	--	62,983	33,961	648
297,290	296,625	3,240	9,702	213,822	69,861	665
17,808	16,403	--	--	15,874	529	1,405
63,157	63,157	--	--	61,547	1,610	--
23,089	5,399	--	--	3,455	1,944	17,690
97,401	97,401	33,189	--	57,425	6,787	--
54,765	39,321	701	--	34,992	3,628	15,444
14,125	14,125	--	--	13,996	129	--
270,345	235,806	33,890	--	187,289	14,627	34,539
21,311	21,311	21,306	--	5	--	--
130,069	130,067	14	--	130,051	2	2
41,411	41,411	23,803	--	13,209	4,399	--
192,791	192,789	45,123	--	143,265	4,401	2
29,198	29,198	9,417	--	16,865	2,916	--
33,515	22,261	--	--	22,261	--	11,254
62,713	51,459	9,417	--	39,126	2,916	11,254
16,627	16,627	--	6,633	8,431	1,563	--
41,930	41,930	2,059	1,029	38,454	388	--
71,052	71,052	--	--	70,778	274	--
129,609	129,609	2,059	7,662	117,663	2,225	--
952,748	906,288	93,729	17,364	701,165	94,030	46,460

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Table D-32

Production and Disposition of Bark Residues by County (Tons, Dry Weight)

Economic area and county	Used[1]						Unused
	All bark	Total	Pulp	Board	Fuel	Other	
Puget Sound							
Island/Kitsap/ and Whatcom[2]	42,255	42,203	--	--	40,616	1,587	52
King	56,828	56,828	--	--	29,540	27,288	--
Pierce	112,111	112,111	--	--	44,093	68,018	--
Skagit	24,114	24,114	--	--	16,168	7,946	--
Snohomish	123,897	123,897	--	--	53,427	70,470	--
Total	359,205	359,153	--	--	183,844	175,309	52
Olympic Peninsula							
Clallam	17,403	15,724	--	--	14,975	749	1,679
Grays Harbor	75,894	75,894	--	--	73,514	2,380	--
Jefferson/Pacific[2]	28,298	28,066	--	--	28,066	--	232
Lewis	120,988	120,988	306	--	101,503	19,179	--
Mason	65,414	46,129	--	--	8,513	37,616	19,285
Thurston	16,871	16,871	--	--	9,907	6,964	--
Total	324,868	303,672	306	--	236,478	66,888	21,196
Lower Columbia							
Clark	25,455	25,455	4,644	--	839	19,972	--
Cowlitz	160,175	160,172	--	--	89,477	70,695	3
Klickitat/Skamania[2]	49,465	49,465	--	--	49,465	--	--
Total	235,095	235,092	4,644	--	139,781	90,667	3
Central Washington							
Chelan/Yakima[2]	34,877	34,877	--	--	13,390	21,487	--
Okanogan	40,032	36,806	--	--	36,806	--	3,226
Total	74,909	71,683	--	--	50,196	21,487	3,226
Inland Empire							
Asotin/Walla Walla[2]	19,862	19,862	--	--	18,004	1,858	--
Ferry/Pend Oreille/ and Spokane[2]	50,084	50,084	--	--	45,931	4,153	--
Stevens	84,866	84,686	--	--	84,594	92	180
Total	154,812	154,632	--	--	148,529	6,103	180
Total, State	1,148,889	1,124,232	4,950	--	758,828	360,454	24,657

[1] Used residues were not necessarily consumed in the economic area in which they were produced.

[2] Combined to avoid disclosure.

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Table D-33
Degree of Lumber Manufacture (Thousand board feet, Lumber tally)

Economic area and mill size-class[1]	Green	Kiln-dried	Air-dried	Total	Rough	Surfaced
Puget Sound						
D	14,750	3,000	--	17,750	12,793	4,957
C	64,579	37,540	--	102,119	32,505	69,614
B	16,000	70,918	--	86,918	8,000	78,918
A	600,354	502,681	62,500	1,165,535	124,614	1,040,921
Total	695,683	614,139	62,500	1,372,322	177,912	1,194,410
Olympic Peninsula						
C	112,370	52,815	550	165,735	111,263	54,472
B and D[2]	67,894	35,687	15	103,596	37,441	66,155
A	500,551	475,674	324	976,549	98,490	878,059
Total	680,815	564,176	889	1,245,880	247,194	998,686
Lower Columbia						
C	29,498	20,473	--	49,971	13,272	36,699
B and D[2]	38,773	47,841	--	86,614	38,772	47,842
A	561,447	188,778	1,007	751,232	41,657	709,575
Total	629,718	257,092	1,007	887,817	93,701	794,116
Central Washington						
B	17,005	63,188	9,501	89,694	4,468	85,226
A	24,629	172,433	3,600	200,662	3,200	197,462
Total	41,634	235,621	13,101	290,356	7,668	282,688
Inland Empire						
D	1,191	--	168	1,359	675	684
C	6,720	47,520	2,560	56,800	890	55,910
B	42,299	97,910	7,200	147,409	31,499	115,910
A	73,910	316,360	4,250	394,520	41,462	353,058
Total	124,120	461,790	14,178	600,088	74,526	525,562
Total, State						
D [3]	15,941	3,000	168	19,109	13,468	5,641
C	213,167	158,348	3,110	374,625	157,930	216,695
B [3]	181,971	315,544	16,716	514,231	120,180	394,051
A	1,760,891	1,655,926	71,681	3,488,498	309,423	3,179,075
Total	2,171,970	2,132,818	91,675	4,396,463	601,001	3,795,462

[1] Mill size-classed identified as follows: Class D mills = less than 40,000 board feet capacity per 8-hour shift; C = 40,000 - 79,999; B = 80,000 - 119,999; A = 120,000+.

[2] Combined to avoid disclosure.

[3] Class B includes class D for the Olympic Peninsula and the Lower Columbia.

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Table D-34

Lumber Production by Headrig Type, by Mill Size Class[1]

(Thousand Board Feet, Lumber Tally)

Economic area and mill size-class[1]	All types	Circular saw	Band saw	Gang saw	Chipping saw	Scragg double cut saw
Puget Sound						
D	17,750	14,750	3,000	--	--	--
C	102,119	--	101,709	--	410	--
B	86,918	13,000	56,118	--	--	17,800
A	1,165,535	44,468	983,680	35,700	65,987	35,700
Total	1,372,322	72,218	1,144,507	35,700	66,397	53,500
Olympic Peninsula						
C	165,735	65,170	94,735	--	5,830	--
B and D [2]	103,596	23,832	54,366	25,200	--	198
A	976,549	90,000	600,749	--	243,800	42,000
Total	1,245,880	179,002	749,850	25,200	249,630	42,198
Lower Columbia						
C	49,971	1,148	38,434	--	65	10,324
B and D [2]	86,614	50	86,564	--	--	--
A	751,232	--	642,288	28,800	60,000	20,144
Total	887,817	1,198	767,286	28,800	60,065	30,468
Central Washington						
B	89,694	--	89,444	--	250	--
A	200,662	--	158,662	--	18,000	24,000
Total	290,356	--	248,106	--	18,250	24,000
Inland Empire						
D	1,359	1,359	--	--	--	--
C	56,800	12,800	44,000	--	--	--
B	147,409	--	147,409	--	--	--
A	394,520	47,667	341,853	--	--	5,000
Total	600,088	61,826	533,262	--	--	5,000
Total, State						
D [3]	19,109	16,109	3,000	--	--	--
C	374,625	79,118	278,878	--	6,305	10,324
B [3]	514,231	36,882	433,901	25,200	250	17,998
A	3,488,498	182,135	2,727,232	64,500	387,787	126,844
Total	4,396,463	314,244	3,443,011	89,700	394,342	155,166

[1] Mill size-classed identified as follows: Class D mills = less than 40,000 board feet of capacity per 8-hour shift; C = 40,000 - 79,999; B = 80,000 - 119,999; A = 120,000+.

[2] Combined to avoid disclosure.

[3] Class B includes Class D for Olympic Peninsula and Lower Columbia.

SAWMILLS 1988

Table D-35
Lumber Production by Heading Type, by County (Thousand Board Feet, Lumber Tally)

Economic area and county	All types	Circular saw	Band saw	Gang saw	Chipping saw	Scragg double cut saw
Puget Sound						
Island/Kitsap/ and Whatcom [1]	163,793	80	163,303	--	410	--
King	220,280	277	220,003	--	--	--
Pierce	434,553	13,000	324,266	35,700	12,887	48,700
Skagit	90,293	3,293	63,900	--	23,100	--
Snohomish	463,403	55,568	373,035	--	30,000	4,800
Total	1,372,322	72,218	1,144,507	35,700	66,397	53,500
Olympic Peninsula						
Clallam	82,472	44,287	38,185	--	--	--
Grays Harbor	291,948	30	241,918	--	50,000	--
Jefferson/Pacific [1]	106,191	100,361	--	--	5,830	--
Lewis	446,320	34,120	345,000	25,200	--	42,000
Mason	253,549	--	107,749	--	145,800	--
Thurston	65,400	204	16,998	--	48,000	198
Total	1,245,880	179,002	749,850	25,200	249,630	42,198
Lower Columbia						
Clark	98,665	25	98,640	--	--	--
Cowlitz	597,422	1,173	525,860	--	60,065	10,324
Klickitat/Skamania [1]	191,730	--	142,786	28,800	--	20,144
Total	887,817	1,198	767,286	28,800	60,065	30,468
Central Washington						
Chelan/Yakima [1]	135,188	--	93,188	--	18,000	24,000
Okanogan	155,168	--	154,918	--	250	--
Total	290,356	--	248,106	--	18,250	24,000
Inland Empire						
Asotin/Walla Walla [1]	76,994	44	76,950	--	--	--
Ferry/Pend Oreille/ and Spokane [1]	194,133	49,467	144,666	--	--	--
Stevens	328,961	12,315	311,646	--	--	5,000
Total	600,088	61,826	533,262	--	--	5,000
Total, State	4,396,463	314,244	3,443,011	89,700	394,342	155,166

[1] Combined to avoid disclosure.

VENEER AND PLYWOOD MILLS 1988

Table D-36
Number of Veneer and Plywood Mills

Economic area and county	All types	Veneer only	Layup only	Veneer and layup
Puget Sound				
King	1	--	--	1
Pierce	1	--	1	--
Skagit	2	--	2	--
Whatcom	1	--	--	1
Total	5	--	3	2
Olympic Peninsula				
Clallam	2	1	--	1
Grays Harbor	3	2	1	--
Lewis	2	2	--	--
Mason	1	--	--	1
Thurston	2	1	1	--
Total	10	6	2	2
Lower Columbia				
Clark	1	--	--	1
Cowlitz	1	1	--	--
Klickitat	1	--	--	1
Skamania	1	--	--	1
Total	4	1	--	3
Central Washington				
Kittitas	1	1	--	--
Okanogan	1	--	--	1
Yakima	1	--	--	1
Total	3	1	--	2
Inland Empire				
Stevens	1	--	--	1
Total	1	--	--	1
Total, State	23	8	5	10

veneER AND PLYWOOD MILLS 1988

Table D-37

Installed Eight-Hour Single-Shift Capacity (Thousand Square Feet, 3/8-Inch Basis)

Economic area and county	Type of operation			
	Veneer	Layup	Veneer and layup	
	only	only	Veneer	Layup
<hr/>				
Puget Sound				
King	--	--	200	165
Pierce	--	100	--	--
Skagit	--	370	--	--
Whatcom	--	--	170	133
<hr/>				
Total	--	470	370	298
<hr/>				
Olympic Peninsula				
Clallam	88	--	80	160
Grays Harbor	430	225	--	--
Lewis	300	--	--	--
Mason	--	--	250	250
Thurston	60	230	--	--
<hr/>				
Total	878	455	330	410
<hr/>				
Lower Columbia				
Clark	--	--	550	550
Cowlitz	160	--	--	--
Klickitat	--	--	300	100
Skamania	--	--	160	160
<hr/>				
Total	160	--	1,010	810
<hr/>				
Central Washington				
Kittitas	232	--	--	--
Okanogan	--	--	430	262
Yakima	--	--	650	217
<hr/>				
Total	232	--	1,080	479
<hr/>				
Inland Empire				
Stevens	--	--	256	188
<hr/>				
Total	--	--	256	188
<hr/>				
Total, State	1,270	925	3,046	2,185

VENEER AND PLYWOOD 1988

Table D-38
Number of Mills by Lathe Log Diameter Limit

Economic area	Lathe log diameter limit									Total
	Layup only	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80+	
Puget Sound	3	--	--	--	--	1	1	--	--	5
Olympic Peninsula	3	--	--	4	--	--	2	--	1	10
Lower Columbia	--	1	--	--	1	--	1	--	1	4
Central Washington	--	--	--	2	--	--	1	--	--	3
Inland Empire	--	--	1	--	--	--	--	--	--	1
Total, State	6	1	1	6	1	1	5	--	2	23

Table D-39
Number of Mills by Minimum Core Size Produced

Economic area	Lathe log diameter limit										No lathe or core	Total
	3	4	5	6	7	8	9	10	11			
Puget Sound	--	--	2	--	--	--	--	--	--	--	3	5
Olympic Peninsula	--	4	2	--	1	--	1	--	--	--	2	10
Lower Columbia	--	--	3	1	--	--	--	--	--	--	--	4
Central Washington	--	1	2	--	--	--	--	--	--	--	--	3
Inland Empire	1	--	--	--	--	--	--	--	--	--	--	1
Total, State	1	5	9	1	1	--	1	--	--	--	5	23

veneER AND PLYWOOD MILLS 1988

Table D-40
Number of Mills Having Selected Equipment

Economic area and county	4-foot lathe	8-foot lathe	Slicer	Veneer chipper	Core chipper	Cold press	Hot press	Burner
Puget Sound								
King	--	1	--	1	1	--	1	--
Pierce	--	--	--	--	--	1	1	--
Skagit	--	--	--	1	--	1	2	--
Whatcom	1	1	--	1	1	--	1	--
Total	1	2	--	3	2	2	5	--
Olympic Peninsula								
Clallam	--	2	--	1	--	--	1	--
Grays Harbor	1	1	--	3	1	1	1	--
Lewis	1	2	--	2	1	--	--	--
Mason	--	1	--	1	1	--	1	--
Thurston	1	--	--	--	--	--	1	--
Total	3	6	--	7	3	1	4	--
Lower Columbia								
Clark	1	1	--	--	--	--	--	--
Cowlitz	--	1	--	--	--	--	--	--
Klickitat	1	1	--	1	--	--	1	--
Skamania	1	1	--	1	1	--	1	--
Total	3	4	--	2	1	--	2	--
Central Washington								
Kittitas	--	1	--	1	1	--	--	1
Okanogan	--	1	--	1	1	--	1	--
Yakima	--	1	--	1	1	--	1	--
Total	--	3	--	3	3	--	2	1
Inland Empire								
Stevens	--	1	--	1	1	--	1	--
Total	--	1	--	1	1	--	1	--
Total, State	7	16	--	16	10	3	14	1

VENEER AND PLYWOOD 1988

Table D-41
Number of Mills by Tenure of Present Ownership

Economic area and site occupancy (years)	All mills					
		0-2	3-5	6-10	11-20	21+
Puget Sound						
0-2	1	1	--	--	--	--
21+	4	1	--	--	--	3
Total	5	2	--	--	--	3
Olympic Peninsula						
0-2	1	1	--	--	--	--
11-20	1	--	--	--	1	--
21+	8	--	--	--	2	6
Total	10	1	--	--	3	6
Lower Columbia						
6-10	1	--	--	1	--	--
21+	3	--	--	--	--	3
Total	4	--	--	1	--	3
Central Washington						
11-20	2	2	--	--	--	--
21+	1	--	--	--	--	1
Total	3	2	--	--	--	1
Inland Empire						
21+	1	--	--	--	--	1
Total	1	--	--	--	--	1
Total, State						
0-2	2	2	--	--	--	--
3-5	--	--	--	--	--	--
6-10	1	--	--	1	--	--
11-20	3	2	--	--	1	--
21+	17	1	--	--	2	14
Total	23	5	--	1	3	14

VENEER AND PLYWOOD MILLS 1988

Table D-42
Average Number of Operating Days

Economic area	Veneer only	Layup only	Veneer and layup
Puget Sound	--	258	293
Olympic Peninsula	222	296	209
Lower Columbia	242	--	246
Central Washington	220	--	233
Inland Empire	--	--	290
Statewide average	225	273	250

Table D-43
Log Inventory Changes, Log Consumption and Apparent Log Receipts
(Thousand Board Feet, Scribner Log Rule)

Economic area	Log inventory			1988 log consumption	Apparent 1988 log receipts
	January 1, 1988	December 31, 1988	Net change		
Puget Sound	12,839	8,858	-3,981	84,750	80,769
Olympic Peninsula	2,596	1,505	-1,091	110,743	109,652
Lower Columbia	2,066	4,235	2,169	89,802	91,971
Central Washington/ Inland Empire[1]	28,695	24,532	-4,163	172,044	167,881
Statewide average	46,196	39,130	-7,066	457,339	450,273

[1] Combined to avoid disclosure.

VENEER AND PLYWOOD 1988

Table D-44

Production and Disposition of Wood Residues (Tons, Dry Weight)

Economic area	Total	Total used[1]	Used			Unused
			Pulp	Fuel	Other	
Puget Sound						
Coarse[2] & medium[3]	63,641	63,641	34,641	22,647	6,353	--
Fine[4]	5,662	5,662	--	5,662	--	--
Total	69,303	69,303	34,641	28,309	6,353	--
Olympic Peninsula						
Coarse[2] & medium[3]	152,951	152,951	101,326	44,244	7,381	--
Fine[4]	8,913	8,913	--	7,751	1,162	--
Total	161,864	161,864	101,326	51,995	8,543	--
Lower Columbia						
Coarse[2] & medium[3]	130,447	130,447	97,775	24,240	8,432	--
Fine[4]	6,952	6,952	--	6,952	--	--
Total	137,399	137,399	97,775	31,192	8,432	--
Central Washington/ Inland Empire[5]						
Coarse[2] & medium[3]	239,130	239,130	142,260	80,374	16,496	--
Fine[4]	9,963	9,963	--	9,963	--	--
Total	249,093	249,093	142,260	90,337	16,496	--
Total, State						
Coarse[2] & medium[3]	586,169	586,169	376,002	171,505	38,662	--
Fine[4]	31,490	31,490	--	30,328	1,162	--
Total	617,659	617,659	376,002	201,833	39,824	--

- [1] Used residues were not necessarily consumed in the area in which they were produced.
 [2] Coarse residue includes log trim, cores, veneer clippings, roundup and spur trim.
 [3] Medium residue includes reject veneer and panel trim.
 [4] Fine residue includes sawdust and sander dust.
 [5] Combined to avoid disclosure.

VENEER AND PLYWOOD MILLS 1988

Table D-45

Veneer and Plywood Production (Thousand Square Feet, 3/8-Inch Basis)

Economic area and county	Veneer	Plywood[1]
Puget Sound King/Pierce/ Skagit/Whatcom[2]	243	257,360
Olympic Peninsula Clallam/Grays Harbor/ Lewis/Mason/Thurston[2]	193,581	405,162
Lower Columbia Clark/Cowlitz/ Klickitat/Skamania[2]	42,117	315,986
Central Washington/ Inland Empire[2] Kittitas/Okanogan/ Yakima/Stevens[2]	40,035	45,860
Total, State	275,976	1,024,368

[1] Includes hardwood and softwood faced plywood.

[2] Combined to avoid disclosure.

PULP MILLS 1988

Table D-46
Number of Pulp Mills [1]

Economic area and county	All mills	Sulfite	Sulfate	Ground-wood	Semi-Chemical
Puget Sound					
Pierce	2	--	1	1	--
Snohomish	2	1	1	--	--
Whatcom	2	1	--	--	1
Total	6	2	2	1	1
Olympic Peninsula					
Clallam	2	1	--	1	--
Grays Harbor	2	2	--	--	--
Jefferson	1	--	1	--	--
Total	5	3	1	1	--
Lower Columbia					
Clark	2	1	1	--	--
Cowlitz	5	1	1	1	2
Total	7	2	2	1	2
Inland Empire					
Spokane	1	--	--	1	--
Walla Walla	2	--	1	--	1
Total	3	--	1	1	1
Total, State	21	7	6	4	4

[1] No board mills have operated in Washington State since 1982.

PULP MILLS 1988

Table D-47
Installed Capacity by Type of Mill [1] (Bone dry tons)

Economic area and county	All mills	Type of pulp mill			
		Sulfite	Sulfate	Ground- wood	Semi- Chemical
<hr/>					
Puget Sound					
Pierce	1,483	--	1,053	430	--
Snohomish	797	450	347	--	--
Whatcom	626	572	--	--	54
Total	2,906	1,022	1,400	430	54
<hr/>					
Olympic Peninsula					
Clallam	900	500	--	400	--
Grays Harbor	677	677	--	--	--
Jefferson	504	--	504	--	--
Total	2,081	1,177	504	400	--
<hr/>					
Lower Columbia					
Clark	1,337	405	932	--	--
Cowlitz	6,470	1,880	3,000	1,248	342
Total	7,807	2,285	3,932	1,248	342
<hr/>					
Inland Empire					
Spokane	264	--	--	264	--
Walla Walla	1,057	--	782	--	275
Total	1,321	--	782	264	275
<hr/>					
Total, State	14,115	4,484	6,618	2,342	671

[1] 24-hour capacity.

PULP MILLS 1988

Table D-48
Number of Mills by Tenure of Present Ownership

Mill type and site occupancy (years)	Tenure of present ownership (years)				
	0-2	3-5	6-10	11-20	21+
Sulfite 21+	--	1	--	--	6
Sulfate 21+	--	3	--	--	3
Groundwood 6-10 21+	-- 1	-- --	1 --	-- 1	-- 1
Semichemical 21+	--	--	--	--	4
Total	1	4	1	1	14

Table D-49
Average Number of Operating Days

Economic area	Pulp
Puget Sound	352
Olympic Peninsula	346
Lower Columbia	358
Inland Empire	362
Total, State	355

PULP MILLS 1988

Table D-50
Mill Production by Product and Operation (bone dry tons)

Economic area	Type of product					
	All products	Newsprint	Bleached paper	Unbleached paper	Other paper	Market pulp
Puget Sound	1,013,834	177,079	228,067	235,947	--	372,741
Olympic Peninsula	621,093	94,675	--	96,147	--	430,271
Lower Columbia and Inland Empire[1]	2,636,709	619,411	637,936	1,265,012	--	114,350
Total, State	4,271,636	891,165	866,003	1,597,106	--	917,362
Type of Operation, Statewide						
Sulfite	1,100,769	--	305,657	257,657	--	537,455
Sulfate	2,066,769	--	553,813	1,133,049	--	379,907
Groundwood	891,165	891,165	--	--	--	--
Semichemical	212,933	--	6,533	206,400	--	--
Total, State	4,271,636	891,165	866,003	1,597,106	--	917,362

[1] Combined to avoid disclosure.

PULP MILLS 1988

Table D-52

Roundwood and Chip Consumption

(Log Consumption: Thousand Board Feet, Scribner Log Rule) (Chip Consumption: Bone Dry Tons)

Economic area	All species	Douglas fir	Hemlock	True firs	Spruce	Lodgepole pine	Other softwoods	Hardwoods
Puget Sound Total logs[1]	133,175	1,426	80,838	40,224	--	--	7,125	3,562
Chips[2] Roundwood Residue[3]	505,933 1,495,549	27,118	332,717	80,444	9,249	--	37,962	18,443
Total chips	2,001,482							
Olympic Peninsula Total logs[1]	330,862	6,137	262,940	55,848	5,937	--	--	--
Chips[2] Roundwood Residue[3]	456,872 597,291	99,257	255,142	27,058	714	--	4,603	70,098
Total chips	1,054,163							
Lower Columbia/ Inland Empire[4] Total logs[1]	76,020	9,340	46,554	12,504	2,505	108	9	5,000
Chips[2] Roundwood Residue[3]	912,655 2,717,069	310,609	171,729	90,762	--	231,773	--	107,782
Total chips	3,629,724							
Total, State Total logs[1]	540,057	16,903	390,332	108,576	8,442	108	7,134	8,562
Chips[2] Roundwood Residue[3]	1,875,460 4,809,909	436,984	759,588	198,264	9,963	231,773	42,565	196,323
Total chips	6,685,369							

[1] Log consumption, thousand board feet, Scribner log rule.

[2] Chip volume, bone dry tons.

[3] Species breakdown for residue chips is not available.

[4] Combined to avoid disclosure.

PULP MILLS 1988

Table D-53

Residue and Off-Site Roundwood Chip Consumption by State or Province

(Tons, dry weight)

Economic area and type of material	Total volume	Washington	Oregon	Idaho	British Columbia	Other
Puget Sound						
Chip residue[1]	1,495,549					
Chip roundwood	505,933	356,088	12,949	--	136,896	--
Sawdust and shavings	--	--	--	--	--	--
Total	2,001,482 [2]	356,088	12,949	--	136,896	--
Olympic Peninsula						
Chip residue[1]	597,291					
Chip roundwood	456,872	444,772	--	--	12,100	--
Sawdust and shavings	41,815	29,940	--	--	11,875	--
Total	1,095,978 [2]	474,712	--	--	23,975	--
Lower Columbia/ Inland Empire[3]						
Chip residue[1]	2,717,069					
Chip roundwood	912,655	510,458	356,816	45,381	--	--
Sawdust and shavings	239,455	122,055	116,576	824	--	--
Total	3,869,179 [2]	632,513	473,392	46,205	--	--
Total, State						
Chip residue[1]	4,809,909					
Chip roundwood	1,875,460	1,311,318	369,765	45,381	148,996	--
Sawdust and shavings	281,270	151,995	116,576	824	11,875	--
Total	6,966,639 [2]	1,463,313	486,341	46,205	160,871	--

[1] State or province of origin for residue chips not available.

[2] Includes chip residue total.

[3] Combined to avoid disclosure.

SHAKE AND SHINGLE MILLS 1988

Table D-54
Number of Shake and Shingle Mills and Their Operating Characteristics

Economic area and county	Number of mills	Total single shift capacity[1] (Squares)			Average number of operating days/year
		Shake	Shingle	Other	
Puget Sound					
King/Pierce[2]	3	135	75	--	190
Skagit	7	870	490	41	186
Snohomish	8	487	216	35	193
Whatcom	3	8	20	35	108
Total	21	1,500	801	111	178
Olympic Peninsula					
Clallam	18	1,335	830	6	202
Grays Harbor	27	1,409	786	494	189
Jefferson/Thurston[2]	4	70	26	2	153
Lewis	10	290	100	2	194
Pacific	3	110	30	--	202
Total	62	3,214	1,772	504	192
Lower Columbia/Inland Empire[2]					
Clark/Wahkiakum/ and Stevens[2]	4	90	25	--	172
Cowlitz	5	240	485	25	177
Total	9	330	510	25	175
Total, State	92	5,044	3,083	640	187

[1] Eight-hour shift capacity.

[2] Combined to avoid disclosure.

SHAKE AND SHINGLE MILLS 1988

Table D-55
Number of Shake and Shingle Mills With Selected Equipment

Economic area and county	Chipper	Barker	Burner
Puget Sound			
King	1	--	--
Pierce	--	--	--
Skagit	1	1	3
Snohomish	2	--	4
Whatcom	--	--	--
Total	4	1	7
Olympic Peninsula			
Clallam	1	1	15
Grays Harbor	6	2	11
Jefferson	--	--	1
Lewis	2	1	--
Pacific	--	--	1
Thurston	--	--	--
Total	9	4	28
Lower Columbia			
Clark	--	--	--
Cowlitz	2	--	--
Wahkiakum	--	--	--
Total	2	--	--
Inland Empire			
Stevens	--	--	--
Total	--	--	--
Total, State	15	5	35

SHAKE AND SHINGLE MILLS 1988

Table D-56

Number of Shake and Shingle Mills
by Tenure of Present Ownership and Site Occupancy

Type of mill and site occupancy (years)	All mills	Tenure of present mill ownership (years)				
		0-2	3-5	6-10	11-20	21+
Shake and shingle						
0-2	7	5	1	--	--	1
3-5	3	--	3	--	--	--
6-10	18	1	3	13	1	--
11-20	42	3	1	4	34	--
21+	22	1	1	2	4	14
Total	92	10	9	19	39	15

SHAKE AND SHINGLE MILLS 1988

Table D-57

Type of Wood Consumed (Thousand Board Feet, Scribner Log Rule)

Economic area and county	All types	Sound logs	Utility logs	Other
Puget Sound				
King/Pierce[1]	1,550	1,050	50	450
Skagit	6,857	5,902	--	955
Snohomish	8,518	4,538	3,165	815
Whatcom	585	--	--	585
Total	17,510	11,490	3,215	2,805
Olympic Peninsula				
Clallam	18,933	13,885	1,501	3,547
Grays Harbor	32,413	18,843	5,965	7,605
Jefferson/Thurston [1]	737	349	11	377
Lewis	2,392	838	300	1,254
Pacific	835	400	--	435
Total	55,310	34,315	7,777	13,218
Lower Columbia/Inland Empire[1]				
Clark/Wahkiakum/ and Stevens[1]	1,220	700	70	450
Cowlitz	4,400	3,375	850	175
Total	5,620	4,075	920	625
Total, State	78,440	49,880	11,912	16,648

[1] Combined to avoid disclosure.

SHAKE AND SHINGLE MILLS 1988

Table D-58

Ownership Origin of Logs Consumed (Thousand Board Feet, Scribner Log Rule)

Economic area and county	All owners	State	National Forest	Bureau of Land Management	Other public	Forest Industry		Farmer and miscellaneous private
						Own wood supply	Other wood supply	
Puget Sound								
King/Pierce[1]	1,100	--	--	--	--	--	600	500
Skagit	5,902	800	4,061	--	--	--	1,041	--
Snohomish	7,703	838	6,715	--	--	--	--	150
Whatcom	--	--	--	--	--	--	--	--
Total	14,705	1,638	10,776	--	--	--	1,641	650
Olympic Peninsula								
Clallam	15,386	7,440	3,245	--	1,484	--	1,568	1,649
Grays Harbor	24,808	7,070	5,833	--	9,077	480	2,318	30
Jefferson/Thurston[1]	360	30	20	--	10	--	300	--
Lewis	1,138	800	--	--	--	--	336	2
Pacific	400	--	320	--	--	--	80	--
Total	42,092	15,340	9,418	--	10,571	480	4,602	1,681
Lower Columbia/Inland Empire[1]								
Clark/Wahkiakum/ and Stevens[1]	770	175	--	--	--	--	455	140
Cowlitz	4,225	264	1,462	--	--	--	2,418	81
Total	4,995	439	1,462	--	--	--	2,873	221
Total, State	61,792	17,417	21,656	--	10,571	480	9,116	2,552

[1] Combined to avoid disclosure.

SHAKE AND SHINGLE MILLS 1988

Table D-59
Production and Disposition of Wood and Bark Residues (Tons, Dry Weight)

Economic area and county	All residue		Wood residue		Bark residue	
	Total	Used[1]	Unused	Total	Used[1]	Unused
Puget Sound						
King/Pierce[2]	8,466	8,466	--	6,590	1,876	--
Skagit	6,522	3,044	3,478	2,110	934	1,074
Snohomish	11,324	5,825	5,499	4,832	993	1,561
Whatcom	143	143	--	143	--	--
Total	26,455	17,478	8,977	13,675	3,803	2,635
Olympic Peninsula						
Clallam	23,778	2,050	21,728	1,578	472	5,295
Grays Harbor	29,590	17,674	11,916	13,012	4,662	3,262
Jefferson/Thurston[2]	647	328	319	315	13	89
Lewis	2,345	1,590	755	1,322	380	112
Pacific	1,133	185	948	185	--	168
Total	57,493	21,827	35,666	16,412	5,415	8,926
Lower Columbia/Inland Empire[2]						
Clark/Wahkiakum/	1,366	473	893	473	--	230
and Stevens [2]	3,166	3,166	--	2,160	1,006	--
Cowlitz						
Total	4,532	3,639	893	2,633	1,006	230
Total, statewide	88,480	42,944	45,536	32,720	10,224	11,791

[1] Used residues were not necessarily consumed in the area in which they were produced.

[2] Combined to avoid disclosure.

SHAKE AND SHINGLE MILLS 1988

Table D-60
Production and Disposition of Wood Residue (Tons, Dry Weight)

Economic area and county	All types					
	Total	Total used[3]	Pulp and Board	Fuel	Other	Unused
Puget Sound						
King/Pierce[4]	6,590	6,590	--	471	6,119	--
Skagit	4,514	2,110	--	309	1,801	2,404
Snohomish	8,770	4,832	--	2,192	2,640	3,938
Whatcom	143	143	--	--	143	--
Total	20,017	13,675	--	2,972	10,703	6,342
Olympic Peninsula						
Clallam	18,011	1,578	--	1,344	234	16,433
Grays Harbor	21,666	13,012	400	7,622	4,990	8,654
Jefferson/Thurston[4]	545	315	--	--	315	230
Lewis	1,965	1,322	--	14	1,308	643
Pacific	965	185	--	185	--	780
Total	43,152	16,412	400	9,165	6,847	26,740
Lower Columbia						
Clark/Wahkiakum/ and Stevens[4]	1,136	473	--	122	351	663
Cowlitz	2,160	2,160	--	1,573	587	--
Total	3,296	2,633	--	1,695	938	663
Total, statewide	66,465	32,720	400	13,832	18,488	33,745

[1] End block trim, splats.

[2] Splints and sawdust.

[3] Used residues were not necessarily consumed in the area in which they were produced.

[4] Combined to avoid disclosure.

SHAKE AND SHINGLE MILLS 1988

Table D-60 -- Continued
Production and Disposition of Wood Residue (Tons, Dry Weight)

Economic area and county	Coarse[1]					Fine [2]						
	Total	Total used[3]	Pulp and Board	Fuel	Other	Unused	Total	Total used[3]	Pulp and Board	Fuel	Other	Unused
Puget Sound												
King/Pierce[4]	2,383	2,383	--	154	2,229	--	4,207	4,207	--	317	3,890	--
Skagit	1,881	931	--	131	800	950	2,633	1,179	--	178	1,001	1,454
Snohomish	3,129	1,722	--	792	930	1,407	5,641	3,110	--	1,400	1,710	2,531
Whatcom	60	60	--	--	60	--	83	83	--	--	83	--
Total	7,453	5,096	--	1,077	4,019	2,357	12,564	8,579	--	1,895	6,684	3,985
Olympic Peninsula												
Clallam	5,566	423	--	352	71	5,143	12,445	1,155	--	992	163	11,290
Grays Harbor	8,229	4,709	400	2,378	1,931	3,520	13,437	8,303	--	5,244	3,059	5,134
Jeff./Thurston[4]	187	74	--	--	74	113	358	241	--	--	241	117
Lewis	745	580	--	7	573	165	1,220	742	--	7	735	478
Pacific	431	70	--	70	--	361	534	115	--	115	--	419
Total	15,158	5,856	400	2,807	2,649	9,302	27,994	10,556	--	6,358	4,198	17,438
Lower Columbia												
Clark/Wahkiakum/and Stevens[4]	352	180	--	122	58	172	784	293	--	--	293	491
Cowlitz	825	825	--	591	234	--	1,335	1,335	--	982	353	--
Total	1,177	1,005	--	713	292	172	2,119	1,628	--	982	646	491
Total, statewide	23,788	11,957	400	4,597	6,960	11,831	42,677	20,763	--	9,235	11,528	21,914

SHAKE AND SHINGLE MILLS 1988

Table D-61
Production and Disposition of Bark Residues (Tons, Dry Weight)

Economic area and county	Bark					
	Total	Total used[1]	Pulp and Board	Fuel	Other	Unused
Puget Sound						
King/Pierce[2]	1,876	1,876	--	196	1,680	--
Skagit	2,008	934	--	124	810	1,074
Snohomish	2,554	993	--	993	--	1,561
Whatcom	--	--	--	--	--	--
Total	6,438	3,803	--	1,313	2,490	2,635
Olympic Peninsula						
Clallam	5,767	472	--	448	24	5,295
Grays Harbo	7,924	4,662	--	3,430	1,232	3,262
Jefferson/Thurston[2]	102	13	--	--	13	89
Lewis	380	268	--	--	268	112
Pacific	168	--	--	--	--	168
Total	14,341	5,415	--	3,878	1,537	8,926
Lower Columbia/Inland Empire[2]						
Clark/Wahkiakum/ and Stevens[2]	230	--	--	--	--	230
Cowlitz	1,006	1,006	--	720	286	--
Total	1,236	1,006	--	720	286	230
Total, statewide	22,015	10,224	--	5,911	4,313	11,791

[1] Used residues were not necessarily consumed in the area in which they were produced.

[2] Combined to avoid disclosure.

SHAKE AND SHINGLE MILLS 1988

Table D-62
Mill Production by Product Class

Economic area and county	Product class			Total
	Shakes	Shingles	Other [1]	
	----- Squares -----			
Puget Sound				
King/Pierce[2]	75,300	33,000	--	108,300
Skagit	69,646	12,832	3,000	85,478
Snohomish	88,815	45,597	7,780	142,192
Whatcom	200	400	2,125	2,725
Total	233,961	91,829	12,905	338,695
Olympic Peninsula				
Clallam	125,611	127,414	--	253,025
Grays Harbor	258,365	93,011	22,538	373,914
Jefferson/Thurston[2]	5,348	3,129	9	8,486
Lewis	24,990	8,500	313	33,803
Pacific	18,036	1,600	--	19,636
Total	432,350	233,654	22,860	688,864
Lower Columbia/Inland Empire[2]				
Clark/Wahkiakum/ and Stevens[2]	8,010	8,000	--	16,010
Cowlitz	--	--	--	--
Total	8,010	8,000	--	16,010
Total, State	674,321	333,483	35,765	1,043,569

[1] Other includes such products as hip and ridge shakes, wedges, etc.

[2] Combined to avoid disclosure.

POST, POLE AND PILING MILLS 1988

Table D-63
 Number of Post, Pole and Piling Mills
 and Their Operating Characteristics

Economic Area	Number of mills	Yearly installed capacity, Thousand board feet, Scribner log rule		Average number of operating days in 1988[1]	
		Peeling	Treatment	Peeling	Treatment
Puget Sound	4	11,042	8,622	152 (4)	304 (3)
Olympic Peninsula/ Lower Columbia[2]	4	31,901	14,616	168 (4)	360 (1)
Inland Empire	3	14,660	4,450	110 (3)	82 (3)
Total, State	11	57,603	27,688	146 (11)	217 (7)

[1] Number of mills is noted by figures in parentheses.
 [2] Combined to avoid disclosure.

POST, POLE AND PILING MILLS 1988

Table D-64
Number of Post, Pole and Piling Mills
by Tenure of Present Ownership and Site Occupancy

Years of site occupancy	Tenure of mill ownership in years					
	Total	0-2	3-5	6-10	11-20	21+
3-5	--	--	--	--	--	--
6-10	1	--	--	1	--	--
11-20	2	1	--	--	1	--
21+	8	1	1	--	2	4
Total	11	2	1	1	3	4

Table D-65
Number of Post, Pole and Piling Mills With Selected Equipment

Economic area and county	Number of mills	Chipper	Peeler	Burner
Puget Sound				
King	1	--	1	--
Pierce	1	--	1	1
Snohomish	1	--	1	--
Whatcom	1	--	1	1
Total	4	--	4	2
Olympic Peninsula				
Clallam	1	--	1	--
Mason	1	--	1	--
Thurston	1	--	1	--
Total	3	--	3	--
Lower Columbia				
Clark	1	--	1	1
Total	1	--	1	1
Inland Empire				
Stevens	3	--	3	1
Total	3	--	3	1
Total, State	11	--	11	4

POST, POLE AND PILING MILLS 1988

Table D-66
Log Consumption by Timber age (Thousand Board Feet, Scribner Log Rule)

Economic area and country	All age groups	Old growth (100+ years)	Young growth (less than 100 years)
Puget Sound			
King/Pierce/Snohomish/Whatcom[1]	4,313	75	4,238
Total	4,313	75	4,238
Olympic Peninsula/Lower Columbia[1]			
Clallam/Clark/Mason/Thurston[1]	18,125	--	18,125
Total	18,125	--	18,125
Inland Empire			
Stevens	330	80	250
Total	330	80	250
Total, State	22,768	155	22,613

[1] Combined to avoid disclosure.

Table D-67
Mill Production Shipments(Thousand Board Feet, Scribner Log Rule)

Economic area	----- Shipments -----		
	Treated	Untreated	Total
Puget Sound	4,012	791	4,803
Olympic Peninsula/Lower Columbia[1]	11,320	5,750	17,070
Inland Empire	185	85	270
Total, State	15,517	6,626	22,143

[1] Combined to avoid disclosure.

LOG EXPORT OPERATIONS 1988

Table D-68
Number of Export Operations and Type of Logs Exported

Economic area and port	County	Number of Operations	Volume of Logs Exported		
			Sound logs	Utility logs	Total
(Thousand board feet, Scribner log rule)					
Puget Sound					
Anacortes/Seattle[1]	Skagit/King	4	20,430	--	20,430
Everett	Snohomish	24	412,818	3,139	415,957
Tacoma	Pierce	10	547,952	1,199	549,151
Total		34	981,200	4,338	985,538
Olympic Peninsula					
Grays Harbor	Grays Harbor	14	757,182	477	757,659
Olympia	Thurston	11	251,965	17	251,982
Port Angeles	Clallam	11	350,899	2,448	353,347
Total		36	1,360,046	2,942	1,362,988
Lower Columbia					
Longview	Cowlitz	16	498,516	347	498,863
Total		16	498,516	347	498,863
Total, State		86	2,839,762	7,627	2,847,389

[1] Combined to avoid disclosure.

Table D-69
Number of Export Operations By Years of Port Use

Years of port use	All operations
0-2	11
3-5	13
6-10	17
11-20	30
21+	15
Total	86

LOG EXPORT OPERATIONS 1988

Table D-70
Log Flows to Ports (Thousand Board Feet, Scribner Log Rule)

Economic area and county of origin	Port and county of export							Total
	Anacortes/ Seattle[1]	Everett[2]	Grays Harbor[3]	Longview[4]	Olympia[5]	Port Angeles[6]	Tacoma[7]	
Puget Sound								
Island	267	2,635	--	--	--	--	--	2,902
King	--	51,268	--	--	--	--	185,205	236,473
Kitsap	--	--	--	--	6,031	--	4,807	10,838
Pierce	--	13,827	--	--	61,905	--	163,895	239,627
Skagit	10,198	77,827	--	--	--	--	--	88,025
Snohomish	5,066	172,054	--	--	--	--	12,945	190,065
Whatcom	2,799	44,840	--	--	--	--	--	47,639
Total	18,330	362,451	--	--	67,936	--	366,852	815,569
Olympic Peninsula								
Clallam	--	--	4,000	--	--	206,127	--	210,127
Grays Harbor	100	--	399,863	--	26,587	--	8,000	434,550
Jefferson	--	--	106,412	--	--	147,220	15,808	269,440
Lewis	--	--	52,650	76,188	38,540	--	17,593	184,971
Mason	--	1,872	10,021	--	12,237	--	5,805	29,935
Pacific	--	--	148,752	1,700	--	--	--	150,452
Thurston	--	--	27,190	1,250	106,682	--	77,388	212,510
Total	100	1,872	748,888	79,138	184,046	353,347	124,594	1,491,985
Lower Columbia								
Clark	--	--	--	53,452	--	--	--	53,452
Cowlitz	--	--	--	270,851	--	--	--	270,851
Klickitat	--	--	--	9,396	--	--	--	9,396
Skamania	--	--	--	17,976	--	--	--	17,976
Wahkiakum	2,000	--	1,159	11,917	--	--	--	15,076
Total	2,000	--	1,159	363,592	--	--	--	366,751
Central Washington								
Chelan	--	1,150	--	--	--	--	--	1,150
Kittitas	--	37,442	--	--	--	--	57,705	95,147
Okanogan	--	4,138	--	--	--	--	--	4,138
Yakima	--	--	--	9,753	--	--	--	9,753
Total	--	42,730	--	9,753	--	--	57,705	110,188
Inland Empire								
Total	--	--	--	--	--	--	--	--
Total, State	20,430	407,053	750,047	452,483	251,982	353,347	549,151	2,784,493
Outside Washington	--	8,904	7,612	46,380	--	--	--	62,896
Total	20,430	415,957	757,659	498,863	251,982	353,347	549,151	2,847,389

[1] Skagit and King Counties.
[2] Snohomish County.
[3] Grays Harbor County.
[4] Cowlitz County.

[5] Thurston County.
[6] Clallam County.
[7] Pierce County.

LOG EXPORT OPERATIONS 1988

Table D-71
Log Consumption (Thousand Board Feet, Scribner Log Rule)

Economic area and county	All species	Douglas fir	Hemlock	True firs	Spruce	Ponderosa pine	Lodgepole pine	Western redcedar	Other softwoods	Hardwoods
Puget Sound										
King/Skagit[1]	20,430	13,797	5,433	500	50	--	--	600	--	50
Pierce	549,151	360,605	148,940	16,611	6,508	2,809	150	1,164	2,028	10,336
Snohomish	415,957	261,030	129,141	6,198	7,370	862	691	6,392	2,726	1,547
Total	985,538	635,432	283,514	23,309	13,928	3,671	841	8,156	4,754	11,933
Olympic Peninsula										
Clallam	353,347	85,006	228,636	5,167	24,665	--	--	8,022	1,392	459
Grays Harbor	757,659	363,579	357,596	7,097	16,197	--	1,042	9,547	692	1,909
Thurston	251,982	172,146	56,280	15,793	--	--	--	6,743	--	1,020
Total	1,362,988	620,731	642,512	28,057	40,862	--	1,042	24,312	2,084	3,388
Lower Columbia										
Cowlitz	498,863	405,321	68,824	17,149	220	1,895	750	2,352	2,352	--
Total	498,863	405,321	68,824	17,149	220	1,895	750	2,352	2,352	--
Total, State	2,847,389	1,661,484	994,850	68,515	55,010	5,566	2,633	34,820	9,190	15,321

[1] Combined to avoid disclosure.

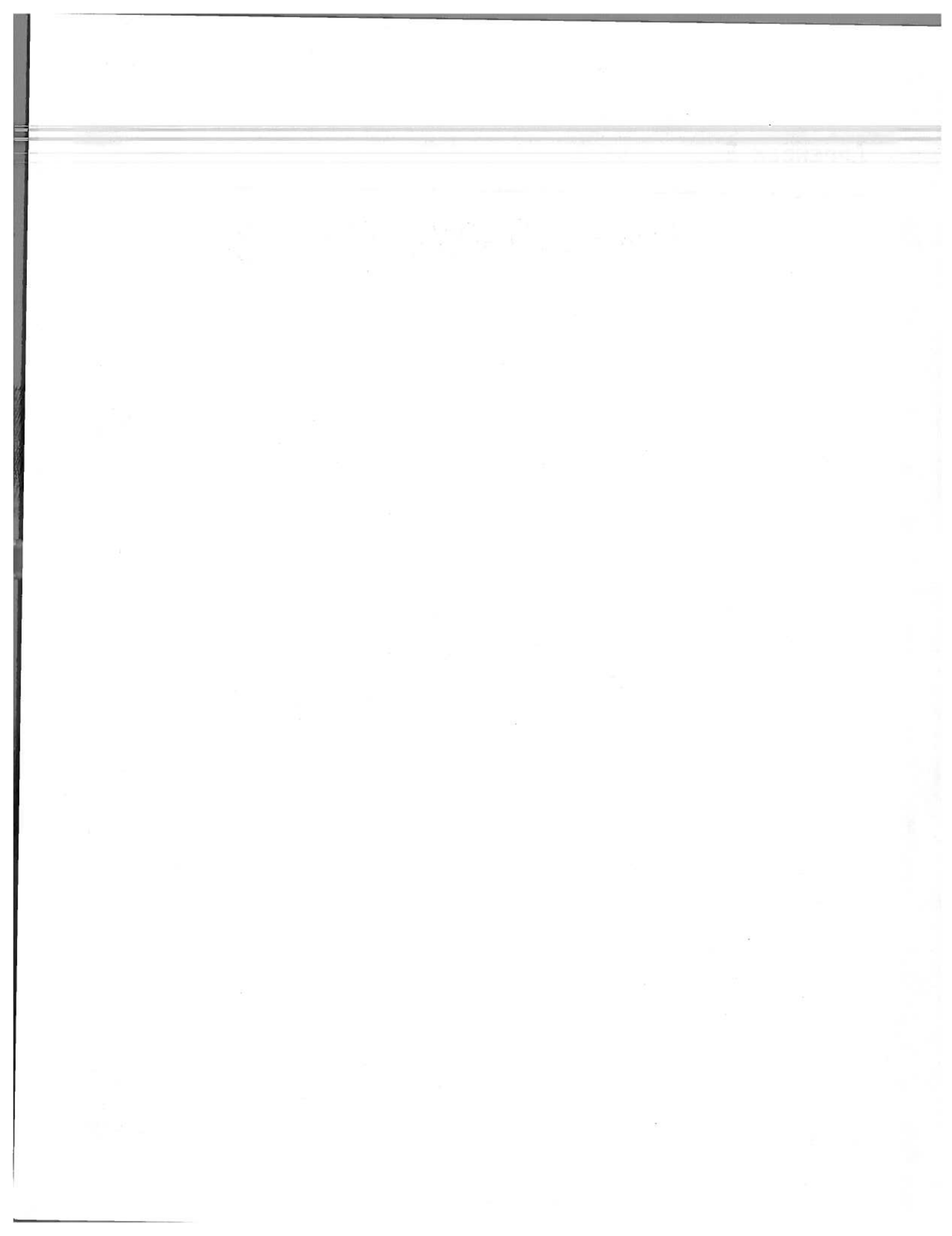
LOG EXPORT OPERATIONS 1988

Table D-72
Ownership Origin of Logs Consumed (Thousand Board Feet, Scribner Log Rule)

Economic area and county	All Owners	State	National Forest	Bureau of Land Management	Other Public	Forest Industry			Farmer and Miscellaneous Private
						Own supply	wood supply	Other wood supply	
Puget Sound									
King/Skagit [1]	20,430	2,533	--	--	633	--	12,665	4,599	
Pierce	549,151	74,482	--	--	18,477	248,750	122,919	84,523	
Snohomish	415,957	87,963	200	--	21,065	33,600	200,225	72,904	
Total	985,538	164,978	200	--	40,175	282,350	335,809	162,026	
Olympic Peninsula									
Clallam	353,347	91,644	--	--	5,997	38,376	165,168	52,162	
Grays Harbor	757,659	143,067	--	--	18,887	294,275	226,234	75,196	
Thurston	251,982	51,301	--	--	3,971	--	138,666	58,044	
Total	1,362,988	286,012	--	--	28,855	332,651	530,068	185,402	
Lower Columbia									
Cowlitz	498,863	26,015	--	--	13,505	200,454	179,900	78,989	
Total	498,863	26,015	--	--	13,505	200,454	179,900	78,989	
Total, State	2,847,389	477,005	200	--	82,535	815,455	1,045,777	426,417	

[1] Combined to avoid disclosure.

APPENDIX E



MILL SURVEY DIRECTORY--1988

THE UNIVERSITY OF CHICAGO

1950

PHYSICS DEPARTMENT

PHYSICS 551

LECTURE NOTES

BY

ROBERT H. DICKINSON

1950

CHICAGO, ILL.

UNIVERSITY OF CHICAGO PRESS

1950

PHYSICS DEPARTMENT

PHYSICS 551

LECTURE NOTES

BY

ROBERT H. DICKINSON

1950

CHICAGO, ILL.

Sawmills

ASOTIN COUNTY

Bennett Lumber Co.
P.O. Box 670
Clarkston, WA 99403
Phone: (509) 758-5558

Hough Sawmill
P.O. Box 12
Anatone, WA 99401
Phone: (509) 256-3338

CHELAN COUNTY

WI Forest Products
Cashmere Mill
4000 Kruse Way Pl
Bldg 2 #355
Lake Oswego, OR 97034
Phone: (503)548-5834

WI Forest Products
Peshestin Mill
4000 Kruse Way Pl
Bldg 2 #355
Lake Oswego, OR 97034
Phone: (503)548-5834

CLALLAM COUNTY

Allen Logging & Veneer
HC 80 Box 736
Forks, WA 98331
Phone: (206) 374-6000

Beaver Lumber Co., Inc.
P.O. Box 117
Beaver, WA 98305
Phone: (206) 327-3770

Corey & Sons
P.O. Box 1470
Port Angeles, WA 98362
Phone: (206) 452-1385

Hendrickson Bay Inc.
P.O. Box 4026
Port Angeles, WA 98362
Phone: (206) 457-3032

Kirner Lumber Co.
Palo Alto Road # 308
Sequim, WA 98382

Thomas Kreger
1317 O Brian Road
Port Angeles, WA 98362
Phone: (206) 457-0105

Loth Lumber
Forks Mill
P.O. Box 389
Gold Bar, WA 98251
Phone: (206) 374-5500

Mason Lumber Products
P.O. Box 133
Beaver, WA 98305
Phone: (206) 327-3727

McClintock Lumber
P.O. Box 1483
Forks, WA 98331
Phone: (206) 374-5887

M. J. Lumber Co.
785 W Sequim Bay Road
Sequim, WA 98382
Phone: (206) 683-5825

Olympic Northern Forest Prod.
2111 Gardner Beach Road
Sequim, WA 98382
Phone: (206) 797-7375

Olympic Wood Products
P.O. Box 744
Port Angeles, WA 908362
Phone: (206) 452-3566

CLARK COUNTY

Allworth Valley Mills
21120 NE Allworth Road
Battle Ground, WA 98604
Phone: (206) 687-0294

Columbia Vista Corp.
P.O. Box 489
Vancouver, WA 98666
Phone: (206) 892-0770

Hambleton Brothers Lumber
P.O. Box 285
Washougal, WA 98671
Phone: (206) 835-2148

COWLITZ COUNTY

Caffall Brothers Forest Products
Longview Fence Division
540 Third Avenue
Longview, WA 98632
Phone: (206) 636-5960

Gram Lumber
998 N.W. Second
Kalama, WA 98625
Phone: (206) 673-2825

Ross Simmons Hardwood Lumber
P.O. Box 366
Longview, WA 98632
Phone: (206) 423-8210

RSG Forest Products
985 N.W. Second
Kalama, WA 98625
Phone: (206) 673-2825

Raymond H. Sartwell
Portable Sawmilling
420 27th
Longview, WA 98632

Weyerhaeuser Company
Exeter Mill
Tacoma, WA 98401
Phone: (206) 577-6678

Weyerhaeuser Company
Green Mountain Mill
Tacoma, WA 98401
Phone: (206) 577-6678

Weyerhaeuser Company
Longview Mill
Tacoma, WA 98401
Phone: (206) 577-6678

FERRY COUNTY

Brauner Lumber Co.
Route 2
Kettle Falls, WA 99141
Phone: (509) 738-6311

Vaagen Bros. Lumber Inc.
Republic Mill
P.O. Box 357
Republic, WA 99166
Phone: (509) 775-346

Vaagen Bros. Lumber Inc.
Republic Mill
P.O. Box 357
Colville, WA 99166
Phone: (509) 775-3346

GRAYS HARBOR COUNTY

Dahlstrom Lumber
P.O. Box 386
Hoquiam, WA 98550
Phone: (206) 533-0448

ITT Rayonier
Grays Harbor Lumber Operation
P.O. Box 539
Hoquiam, WA 98550
Phone: (206) 533-4000

Mary's River Lumber Co.
Montesano Division
4515 NE Elliot Circle
Corvallis, OR 97330
Phone: (206) 249-5907

Mayr Brothers Logging Co.
Route 3, Box 508
Hoquiam, WA 98550
Phone: (206) 532-7490

Westby Lumber Inc.
P.O. Box 142
Copalis Beach, WA 98535

Weyerhaeuser Company
Aberdeen Sawmill
Tacoma, WA 98477
Phone: (206) 532-7110

WTD Pacific Hardwood
2901 Henderson ST
Hoquiam, WA 98550
Phone: (206) 533-8090

ISLAND COUNTY

Waterman Mill Co. Inc.
P.O. Box 325
Langley, WA 98260
Phone: (206) 321-4532

JEFFERSON COUNTY

Master-Halco, Inc.
4660 S. Discovery Road
Port Townsend, WA 98368
Phone: (206) 385-2004

YONG COUNTY

Auburn Sawmilling
18761 Auburn
Black Diamond Road
Auburn, WA 98002
Phone: (206) 631-9097
Barbee Mill Co.
P.O. Box 359
Renton, WA 98057
Phone: (206) 226-3900

Copac-Preston Mill Inc.
P.O. Box 888
Preston, WA 98050
Phone: (206) 222-5416

Davidson's Sawmill
32405 NE 12th Place
Carnation, WA 98014
Phone: (206) 333-4242

Isackson Sawmill
3019 244th NE
Redmond, WA 98053
Phone: (206) 868-6057

Weyerhaeuser Company
Enumclaw Sawmill
Tacoma, WA 98401
Phone: (206) 825-8100

Weyerhaeuser Company
Snoqualmie Sawmill
Tacoma, WA 98401
Phone: (206) 888-2511

KITSAP COUNTY

Pope & Talbot Inc.
P.O. Box 217
Port Gamble, WA 98364
Phone: (206) 297-3341

KITTITAS COUNTY

Boise Cascade Corp.
Goldendale Sawmill
P.O. Box 51
Yakima, WA 98901
Phone: (509) 773-4343

Champion International Corp.
P.O. Box 97
Klickitat, WA 98628
Phone: (509) 369-4501

Mt. Adams Timber Products
P.O. Box 407
Bingen, WA 98605
Phone: (509) 493-1444

SDS Lumber Company
P.O. Box 266
Bingen, WA 98605
Phone: (509) 492-2155

LEWIS COUNTY

Alexander Lumber Mill
1674 State Route 508
Chehalis, WA 98532
Phone: (206) 978-4117

Cascade Hardwoods
PO Box 269
Chehalis, WA 98532
Phone: (206) 748-0178

Gardner Mill Company
427 Peters Road
Randle, WA 98377
Phone: (206) 497-4042

Pacific Lumber and Shipping
Cowlitz Stud Co.
Morton Mill
PO Box 21785
Seattle, WA 98111
Phone: (206) 682-7262

Pacific Lumber and Shipping
Cowlitz Stud Co.
Randle Mill
P.O. Box 21785
Seattle, WA 98111
Phone: (206) 682-7262

Pacific Lumber and Shipping
Packwood Lumber Co.
P.O. Box 21785
Seattle, WA 98111
Phone: (206) 682-7262

Tubafor Mill Inc.
P.O. Box U
Morton, WA 98356
Phone: (206) 496-6777

Weyerhaeuser Company
Centralia Hardwood Mill
Tacoma, WA 98477
Phone: (206) 736-2811

WTD Industries
Morton Forest Products
1700 C-2 Cooper Point Road
P.O. Box 10058
Olympia, WA 98502
Phone: (206) 496-5125

MASON COUNTY

Little Skookum Mill
780 W. Hwy 108
Shelton, WA 98584
Phone: (206) 426-9721

Olympic Wood Products Inc.
P.O. Box 1550
Shelton, WA 98584
Phone: (206) 426-0851

Simpson Timber Company
Sawmill # 3
3rd and Franklin
Shelton, WA 98584
Phone: (206) 426-3381

Simpson Timber Company
Sawmill # 5
3rd and Franklin
Shelton, WA 98584
Phone: (206) 426-3381

OKANOGAN COUNTY

Colville Indian
Precision Pine Company
P.O. Box 3293
Omak, WA 98841
Phone: (509) 826-1921

Omak Wood Products Inc.
Route 2, Box 54
Omak, WA 98841
Phone: (509) 826-1460

Zosel Lumber Co.
P.O. Box 580
Oroville, WA 98844
Phone: (509) 476-2111

PACIFIC COUNTY

W.T.D. Pacific Hardwoods
P.O. Box 185
South Bend, WA 98586
Phone: (206) 942-5525

Weyerhaeuser Company
Raymond Sawmill
Tacoma, WA 98401
Phone: (206) 942-2442

PEND OREILLE

Vaagen Bros. Lumber Inc.
Ione Mill
P.O. Box 257
Ione, WA 99139
Phone: (509)442-3511

PIERCE COUNTY

Commencement Bay Mill Co.
P.O. Box 1276
Tacoma, WA 98401
Phone: (206) 596-0683

Louisiana-Pacific Corp.
Tacoma Accounting
P.O. Box 4000-98
Hayden Lake, ID 83835
Phone: (208) 772-6011

Manke Lumber Company
13702 8th Street East
Sumner, WA 98356
Phone: (206) 863-4495

Manke Lumber Company
1717 Marine View Drive
Tacoma, WA 98422
Phone: (206) 572-6252

Paxport Mills Inc.
300 Middle Waterway
Tacoma, WA 98421
Phone: (206) 272-0305

Portac Inc.
4215 East West Road
Tacoma, WA 98421
Phone: (206) 922-9900

WTD Industries
Spanaway Lumber Co.
19111 38th Avenue East
Tacoma, WA 98446
Phone: (206) 847-1935

SKAGIT COUNTY

Goodyear Nelson Hardwood
P.O. Box 71
Sedro Wooley, WA 98284
Phone: (206) 856-0816

Snow Mountain Mills
1488 Valley View Drive
Mount Vernon, WA 98273
Phone: (206) 424-4125

WTD Industries
Sedro Woolley Lumber Co.
1700 C-2 Cooper Point Road
P.O. Box 10058
Olympia, WA 98502
Phone: (206) 855-2125

SKAMANIA COUNTY

Wilkins Kaiser Olsen
P.O. Box 8
Carson, WA 98610
Phone: (509) 427-8413

SNOHOMISH COUNTY

Arlington Forest Products Inc.
P.O. Box 3189
Arlington, WA 98223
Phone: (206) 435-8525

Beck Mill Company Inc.
27710 Old Highway 99
Stanwood, WA 98292
Phone: (206) 629-4769

Buse Timber Sales
P.O. Box 5226
Everett, WA 98206
Phone: (206) 258-2577

Canyon Lumber Company
P.O. Box 1246
Everett, WA 98206
Phone: (206) 259-6036

Enterprise Lumber
21021 SR 530 NE
Arlington, WA 98223
Phone: (206) 435-5733

Fritch Mill Inc.
18605 Waverly Drive
Snohomish, WA 98290
Phone: (206) 481-4157

Garka Mill Company
60 State Avenue
Marysville, WA 98270
Phone: (206) 659-8584

Husby Farm & Mill
822 Knutson Road
Arlington, WA 98223
Phone: (206) 652-7307

Liberty Lumber Company
PO Box 3158
Arlington, WA 98223
Phone: (206) 435-8816

Loth Lumber Company
P.O. Box 389
Gold Bar, WA 98251
Phone: (206) 793-1135

Monroe Lumber Company
544 Simon Road
Monroe, WA 98272
Phone: (206) 794-6090

Seattle Snohomish Mill
P.O. Box 949
Snohomish, WA 98290
Phone: (206) 568-2161

Smith Street Mill
3600 Smith Street
Everett, WA 98201
Phone: (206) 252-7191

Summit Timber Company
P.O. Box 368
Darrington, WA 98241
Phone: (206) 436-1411

Welco Lumber Company
P.O. Box 125
Marysville, WA 98270
Phone: (206) 659-1261

Weyerhaeuser Company
Arlington Hardwood Sawmill
Tacoma, WA 98477
Phone: (206) 435-8502

SPOKANE COUNTY

WI Forest Products
P.O. Box 3344
Terminal Annex
Spokane, WA 99220
Phone: (509) 534-1561

STEVENS COUNTY

Bean Lumber Company
2344 E Cozy Nook Road
Chewelah, WA 99109
Phone: (509) 935-6304

Boise Cascade Corp.
Kettle Falls Mill
P.O. Box 310
Kettle Falls, WA 99141
Phone: (509) 738-6421

Boise Cascade Corp.
Small Log Mill
P.O. Box 310
Kettle Falls, WA 99141
Phone: (509) 738-6421

John Chopot Lumber Co.
P.O. Box 206
Colville, WA 99114
Phone: (509) 684-4569

Plum Creek Inc.
Arden Mill
Route 3, Box 180
Colville, WA 99114
Phone: (509) 684-5084

Ron Sauvola's Mill
P.O. Box 7
Northport, WA 99157
Phone: (509) 732-4387

Ross Pallet Shop
Route 2, Box 85
Chewelah, WA 99109
Phone: (509) 935-8413

Webley Lumber
P.O. Box 234
Marcus, WA 99151
Phone: (509) 684-3980

WTD Industries
Orient Lumber Co.
P.O. Box 418
Kettle Falls, WA 99141
Phone: (509) 684-5002

WTD Industries
Valley Wood Products
P.O. Box 129
Valley, WA 99181
Phone: (509) 937-2118

Zelva Brothers
2785 Clark Lake Road
Addy, WA 99101
Phone: (509) 935-6641

THURSTON COUNTY

Pfaff Quality Lumber
9115 Old Hwy 99 SE
Olympia, WA 98501
Phone: (206) 943-3098

WTD Industries
Olympia Forest Products
P.O. Box 10237
Olympia, WA 98502
Phone: (206) 754-0348

WTD Industries
Tumwater Lumber Co.
P.O. Box 4158
Tumwater, WA 98501
Phone: (206) 352-1548

WALLA WALLA COUNTY

Edwards Sawmill
Route 1, Box 311
Walla Walla, WA 99362
Phone: (509) 529-7292

Louisiana Pacific Corp.
Walla Walla Accounting
P.O. Box 4000-98
Hayden Lake, ID 83835
Phone: (208) 772-6011

WHATCOM COUNTY

Great Western Lumber
P.O. Box 158
Everson, WA 98247
Phone: (206) 966-3061

Marvin Johnson
3211 Grand View Road
Ferndale, WA 98248
Phone: (206) 366-5310

YAKIMA COUNTY

Layman Lumber
P.O. Box 235
Naches, WA 98937
Phone: (509) 653-2221

White Swan Lumber Company
P.O. Box 431
White Swan, WA 98952
Phone: (509) 874-2144

**Shake/
Shingle**

CLALLAM COUNTY

B & W Shake Company
P.O. Box 368
Forks, WA 98331
Phone: (206) 374-9810

C & L Shake & Shingle
1472 Airport Road
Port Angeles, WA 98326
Phone: (206) 452-8875

C & R Cedar
Route 1, Box 151
Forks, WA 98331
Phone: (206) 374-6507

D & R Cedar
P.O. Box 634
Forks, WA 98331
Phone: (206) 374-9283

Fair Shake
P.O. Box 1266
Forks, WA 98331
Phone: (206) 374-6098

Hinchen Brothers Shingle
P.O. Box 2116
Forks, WA 98331
Phone: (206) 374-9821

Hollywood Shake
P.O. Box 1984
Forks, WA 98331
Phone: (206) 374-6688

Hop's Cedar Products Inc.
Route 1, Box 8
Clallam Bay, WA 98326
Phone: (206) 963-2584

J N R Shake
HC 79 Box 380
Forks, WA 98331
Phone: (206) 374-6598

Lakeview Building Products
P.O. Box 68
Beaver, WA 98305
Phone: (206) 327-3515

L P II Inc.
P.O. Box 1729
Forks, WA 98331
Phone: (206) 374-6320

Newton Cedar
P.O. Box 1519
Forks, WA 98331
Phone: (206) 374-5574

P. A. Shingle
P.O. Box 4027
Port Angeles, WA 98362
Phone: (206) 457-3853

Sackett Cedar Products
P.O. Box 246
Beaver, WA 98305
Phone: (206) 327-3375

Sekiu River Shake
HC 61 Box 2215
Sekiu, WA 98381
Phone: (206) 963-2533

Sol Duc Shake
P.O. Box 127
Beaver, WA 98305
Phone: (206) 374-6555

Sunshine Shake
P.O. Box 1219
Forks, WA 98331
Phone: (206) 327-3566

West End Cedar
P.O. Box 215
Clallam Bay, WA 98326
Phone: (206) 963-2708

CLARK COUNTY

Conder Shake
22118 Abernathy Road
Yacolt, WA 98675
Phone: (206) 686-3676

COWLITZ COUNTY

A & J Shake & Shingle
2888 Rose Valley Road
Kelso, WA 98626
Phone: (206) 423-9360

Longview Booming Company
P.O. Box 1085
Longview, WA 98632
Phone: (206) 423-1411

Royal Shake
1690 Mt Pleasant
Kelso, WA 98626
Phone: (206) 425-9924

Strange Shake Mill
218 South Town Road
Castle Rock, WA 98611

GRAYS HARBOR COUNTY

Aloha Shake Company
P.O. Box 376
Pacific Beach, WA 98571
Phone: (206) 276-4562

B & J Shake
PO Box 508
Oakville, WA 98568
Phone: (206) 273-9120

Blankenship Shake Co
P.O. Box 2097
Forks, WA 98331
Phone: (206) 374-5705

Bobcat Cedar Inc.
Route 3, Box 1240
Hoquiam, WA 98550
Phone: (206) 987-2353

C & R Shingle
P.O. Box 242
Beaver, WA 98305
Phone: (206) 374-5703

Michael C. Crites
51 Monte-Aberdeen Road
Montesano, WA 98563
Phone: (206) 249-3324

Daniels Cedar Products
1506 Laura Street
Aberdeen, WA 98520
Phone: (206) 532-9114

Double D & R Inc
Route 3 Box 1353
Hoquiam, WA 98550
Phone: (206) 987-2458

A E Erickson Enterprises
Amanda Park Operation
P.O. Box 2977
Redmond, WA 98075
Phone: (206) 682-1461

Gilroy Enterprises
P.O. Box 21
Amanda Park, WA 98526
Phone: (206) 288-2807

Grays Harbor Shake
96 E. Elma-Hicklin Road
McCleary, WA 98557
Phone: (206) 495-3009

J & J Shake Company
Route 1, Box 14
Humptulips, WA 98552
Phone: (206) 288-2693

JAM Shake
P.O. Box 71
Humptulips, WA 98552
Phone: (206) 987-2595

McCormick Ridge
P.O. Box 665
Copalis Crossing, WA 98536
Phone: (206) 533-6023

L G Moore Shake
P.O. Box 48
Montesano, WA 98563
Phone: (206) 249-4319

NID Shake Company
P.O. Box 2
Humptulips, WA 98552
Phone: (206) 987-2357

North Beach Cedar Products
509 Simpson Ave.
Hoquiam, WA 98550
Phone: (206) 276-4387

North Hoquiam Cedar Products
P.O. Box 118
Hoquiam, WA 98550
Phone: (206) 532-8887

Peterson Shake Company
P.O. Box L
Amanda Park, WA 98526
Phone: (206) 288-2474

Post Shake Company Inc.
334 Monte-Elma Road
Montesano, WA 98563
Phone: (206) 249-3464

Quinault Shingle & Lumber
P.O. Box 28
Amanda Park, WA 98526
Phone: (206) 288-2816

R & M Shakie & Ridge
809 Clark Road
Aberdeen, WA 98520
Phone: (206) 533-0191

Snapco Inc
Walker Bottom Road
Axford Prairie, WA 98552
Phone: (206) 987-24465

Spradlin Cedar Products
Route 3, Box 583
Hoquiam, WA 98550
Phone: (206) 987-2258

Taholah Shake Mill
P.O. Box 8
Taholah, WA 98587
Phone: (206) 276-4644

#208 Shake & Shingle Company
P.O. Box 208
Moclips, WA 98552
Phone: (206) 276-4122

Whole Lotta Shakin
P.O. Box 520
Amanda Park, WA 98526
Phone: (206) 288-2630

JEFFERSON COUNTY

Hickam Shake Company
HC 80 Box 1816
Forks, WA 98331
Phone: (206) 962-3375

K & H Shake Company
4640 Discovery Road
Port Townsend, WA 98368
Phone: (206) 385-5154

Stetson Cedar Products
HC 80 Box 1830
Forks, WA 98331
Phone: (206) 962-2651

KING COUNTY

Rainier Shake
P.O. Box 829
Enumclaw, WA 98022
Phone: (206) 829-2115

A & B Roofing Supply
46925 SE Middle Fork Rd
North Bend, WA 98045
Phone: (206) 888-2343

LEWIS COUNTY

B & P Cedar
P.O. Box 4
Pe Ell, WA 98572
Phone: (206) 291-3622

Hamrick Shake
P.O. Box 103
Onalaska, WA 98570
Phone: (206) 978-4392

Hoffman Cedar Products
337 Chandler Road
Chehalis, WA 98532
Phone: (206) 291-3440

N & P Shake
946 State Hiway 508
Chehalis, WA 98532
Phone: (206) 262-3567

Norman Shake Mill
997 Koontz Road
Chehalis, WA 98532
Phone: (206) 262-3475

P & L Shake
619 Reynolds Avenue
Centralia, WA 98530
Phone: (206) 736-5544

Reichert Shake & Fencing Inc.
207 Kangas Road
Toledo, WA 98591-9608
Phone: (206) 864-6434

Robertson Shake Mill
365 NW Chehalis Avenue
Chehalis, WA 98532
Phone: (206) 748-9411

Valentine Shake Inc.
650 State Hwy 508
Chehalis, WA 98532
Phone: (206) 262-3232

White Pass Cedar Products
P.O. Box 54
Packwood, WA 98361
Phone: (206) 494-5596

PACIFIC COUNTY

Bryant Shake Company
944 Ash
Raymond, WA 98577

Hidden Valley Shake
Route 1, Box 715
Raymond, WA 98577
Phone: (206) 942-2926

Timberland Cedar Products
PO Box 83
South Bend, WA 98586
Phone: (206) 875-6432

PIERCE COUNTY

Donald L.R. Connolly
P.O. Box 93
Kapowsin, WA 98344

SKAGIT COUNTY

A & B Shake Company
P.O. Box 103
Clearlake, WA 98235
Phone: (206) 856-0827

Can't Hardly Shake Cedar
3885 Challenger Road
Concrete, WA 98237
Phone: (206) 826-3382

Cape Horn Shake
760 Scott Paper Road
Sedro Woolley, WA 98284
Phone: (206) 826-4322

Christenson Brothers Shake
1557D Memorial Hwy
Mt. Vernon, WA 98273
Phone: (206) 424-8766

Hamilton Cedar Products Inc.
3206 Hamilton Cemetery Road
Sedro Woolley, WA 98284
Phone: (206) 826-3785

Iron Mountain Cedar Prod. Inc.
P.O. Box 21
Hamilton, WA 98255
Phone: (206) 826-4181

Jones Shake and Logging
Company
Star Route
Rockport, WA 98283
Phone: (206) 873-4044

SNOHOMISH COUNTY

Blacker Shake Co.
22205 St. Rt. 5530 NE
Arlington, WA 98223
Phone: (206) 435-3704

Don Christensen Cedar Products
15612 Jim Creek Road
Arlington, WA 98220
Phone: (206) 435-4001

Maxine M. Fadden
P.O. Box 37
Startup, WA 98293
Phone: (206) 793-1465

Hurn Shingle Co. Inc.
4247 Grassmere Road
PO Box 799
Concrete, WA 98237
Phone: (206) 853-8151

Lind Shake
22820 15th Avenue
Arlington, WA 98223
Phone: (206) 652-9239

Pugsley Cedar Products
4713 123rd Avenue NE
Lake Stevens, WA 98258
Phone: (206) 334-2868

N. L. Shultz Cedar Products
27621 Third Avenue NE
Arlington, WA 98223
Phone: (206) 629-2772

State Roofing
P.O. Box 53
Monroe, WA 98272
Phone: (206) 794-7164

STEVENS COUNTY

Rustic Shake Co.
Rt. 1, Box 300
Evans, WA 99126
Phone: (509) 684-5947

THURSTON COUNTY

Raindance Cedar Shakes
2600 McCorkle Road SE
Olympia, WA 98502
Phone: (206) 352-7491

WAHIAKUM COUNTY

Anderson Shake & Shingle
PO Box 1
Cathlamet, WA 98612
Phone: (206) 795-3211

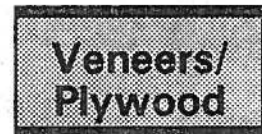
Rosburg Shake Company
PO Box 377
Rosburg, WA 98643
Phone: (206) 465-2265

WHATCOM COUNTY

A & P Cedar
5783 Mt. Baker Highway
Deming, WA 98244
Phone: (206) 592-5225

A & P Cedar #2
5783 Mt. Baker Highway
Deming, WA 98244
Phone: (206) 592-5225

Terri's Cedar Products
593 Innis Creek
Acme, WA 98220
Phone: (206) 595-2472



PUGET SOUND AREA

Bayview Plywood Company
P.O. Box 608
Burlington, WA 98233
Phone: (206) 757-8482

Custom Plywood Corp.
P.O. Box 1289
Arlington, WA 98221
Phone: (206) 293-5341

Mt. Baker Plywood Inc.
P.O. Box 997
Bellingham, WA 98227
Phone: (206) 733-3960

Puget Sound Plywood
P.O. Box 1378
Tacoma, WA 98401
Phone: (206) 627-4111

Weyerhaeuser Company
Snoqualmie Mill
Tacoma, WA 98401
Phone: (206) 888-2511

OLYMPIC PENINSULA AREA

Agnew Lumber Company
P.O. Box 579
Centralia, WA 98531
Phone: (206) 736-8211

Allen Logging/Veneer
HC 80 Box 736
Forks, WA 98331
Phone: (206) 374-6000

Grays Harbor Veneer
Anderson/Middleton Lumber
P.O. Box 239
Hoquiam, WA 98550
Phone: (206) 532-3540

Hardel Mutual Plywood Company
P.O. Box 365
Olympia, WA 98506
Phone: (206) 754-6030

Hoquiam Plywood Co. Inc.
P.O. Box 737
Hoquiam, WA 98550
Phone: (206) 533-3060

K-Ply Corporation
P.O. Box 2318
Port Angeles, WA 98362
Phone: (206) 457-4421

Pacific Veneer
100 North Decatur
Aberdeen, WA 98520
Phone: (206) 538-1060

Simpson Timber Company
Shelton Plywood
3rd & Franklin
Shelton, WA 98584
Phone: (206) 426-3381

Solid Wood Inc.
P.O. Box 1628
Olympia, WA 98507
Phone: (206) 943-4335

West Veneer
P.O. Box 217
Randle, WA 98377
Phone: (206) 497-5121

LOWER COLUMBIA AREA

Bingen Plywood Company
P.O. Box 266
Bingen, WA 98605
Phone: (509) 493-2155

Ft. Vancouver Plywood
P.O. Box 289
Vancouver, WA 98660
Phone: (206) 694-3368

Stevenson Co-Ply Inc.
P.O. Box F
Stevenson, WA 98648
Phone: (509) 427-5621

Weyerhaeuser Company
Longview Veneer
Tacoma, WA 98477
Phone: (206) 425-2150

CENTRAL WASHINGTON

Boise Cascade Corporation
Yakima Plywood Mill
P.O. Box 51
Yakima, WA 98907
Phone: (509) 453-3131

Cle Elum Lake Veneer
P.O. Box 1407
Ronald, WA 98940
Phone: (206) 649-2251

Omak Wood Products Inc.
Route 2, Box 54
Omak, WA 98841
Phone: (509) 826-1460

INLAND EMPIRE AREA

Boise Cascade
Kettle Falls Mill
P.O. Box 310
Kettle Falls, WA 99141
Phone: (509) 738-6421

Pulp Mills

PUGET SOUND AREA

Boise Cascade Corporation
4302 Chambers Creek Road
Steilacoom, WA 98388
Phone: (206) 588-2115

Georgia Pacific Corporation
P.O. Box 1236
Bellingham, WA 98225
Phone: (206) 733-4410

Scott Paper Company
PO Box 925
Everett, WA 98206
Phone: (206) 259-7423

Simpson Tacoma Kraft Company
P.O. Box 2133
Tacoma, WA 98401
Phone: (206) 596-0206

Weyerhaeuser Company
Everett Sulfate
Tacoma, WA 98401
Phone: (206) 924-2037

OLYMPIC PENINSULA AREA

Daishowa America, Co., LTD
P.O. Box 271
Port Angeles, WA 98362
Phone: (206) 457-4474

ITT Rayonier Inc.
P.O. Box 299
Hoquiam, WA 98550
Phone: (206) 532-1410

ITT Rayonier Inc.
P.O. Box 191
Port Angeles, WA 98362
Phone: (206) 457-3391

Port Townsend Paper Corp.
P.O. Box 3170
Port Townsend, WA 98368
Phone: (206) 385-3170

OLYMPIC PENINSULA AREA

Weyerhaeuser Company
Cosmopolis Sulfite
Tacoma, WA 98401
Phone: (206) 532-7110

LOWER COLUMBIA AREA

James River
NE Fourth and Adams
Camas, WA 98607
Phone: (206) 834-3021

Longview Fibre Company
P.O. Box 639
Longview, WA 98632
Phone: (206) 425-1550

NORPAC
P.O. Box 2069
Longview, WA 98632
Phone: (206) 636-6400

Weyerhaeuser Company
Longview Pulp
Tacoma, WA 98401
Phone: (206) 425-2150

INLAND EMPIRE AREA

Boise Cascade Corporation
P.O. Box 500
Wallula, WA 99363
Phone: (509) 547-2411

Inland Empire Paper Company
N 3320 Argonne Road
Spokane, WA 99212
Phone: (509) 924-1911

Post, Pole & Piling

PUGET SOUND AREA

J. H. Baxter
P.O. Box 305
Arlington, WA 98223
Phone: (206) 435-2146

McFarland Cascade
P.O. Box 1496
Tacoma, WA 98401
Phone: (206) 572-3033

Novelty Cedar Products Company
3008 NE 185th Street
Seattle, WA 98155
Phone: (206) 362-7467

The Oeser Company
P.O. Box 156
Bellingham, WA 98227
Phone: (206) 734-1480

OLYMPIC PENINSULA AREA

Ted Butcher
P.O. Box 996
Sequim, WA 98382
Phone: (206) 683-5255

Pacific Lumber and Shipping
Rochester Mill
18146 Dallas Street
Rochester, WA 98579
Phone: (206) 273-5541

S-V Pullin Inc.
3518 E 52nd
Tacoma, WA 98443
Phone: (206) 426-2624

LOWER COLUMBIA AREA

Pacific Wood Treating Corp.
P.O. Box 518
Ridgefield, WA 98642
Phone: (206) 887-3562

INLAND EMPIRE AREA

Cheweloh Log and Post
North 408 Ehorn Lane
Cheweloh, WA 99109
Phone: (509) 935-8341

Colville Post & Pole Inc.
Route 2, Box 535
Colville, WA 99114
Phone: (509) 684-6363

Spokane Tribal Wood Products
P.O. Box 237
Wellpinit, WA 99040
Phone: (509) 258-7431

Log Exporters

Caffle Brothers Forest Products
25260 SW Parkway
Wilsonville, OR 97070
Phone: (503) 682-1910

Citifor Inc.
701 Fifth Avenue
Seattle, WA 98104
Phone: (206) 622-3770

Coast Pacific Trading Inc.
4202 Meridian, Suite 101
Bellingham, WA 98226

Futian International Inc.
600 108th NE
Bellevue, WA 98004
Phone: (206) 451-2064

C. Itoh and Company
900 Fourth Avenue, Suite 2701
Seattle, WA 98164
Phone: (206) 623-3764

ITT Rayonier Corporation
P.O. Box 1625
Port Angeles, WA 98362
Phone: (206) 452-1351

ITT Rayonier
Suite 900
18000 Pacific Hwy South
Seattle, WA 98188
Phone: (206) 532-1410

J. Pac Inc.
718 Hindley Lane
Edmonds, WA 98020
Phone: (206) 774-9718

Kawasho Int'l (USA) Inc.
411 Denny Bldg.
2200 6th Avenue
Seattle, WA 98121
Phone: (206) 448-0488

Miller Shingle
P.O. Box 29
Granite Falls, WA 98252
Phone: (206) 691-7727

Mitsubishi International
2828 Sea First Building
Seattle, WA 98154
Phone: (206) 682-0744

MRCG Company
P.O. Box 489
Port Angeles, WA 98362
Phone: (206) 452-3325

Nichimen America Inc.
12310 NE 8th Street
Bellevue, WA 98005
Phone: (206) 453-1100

Pacific Lumber & Shipping
3131 Rainier Bank Tower
Seattle, WA 98111
Phone: (206) 682-7262

Plum Creek Timber Company
First Interstate Center
999 Third Avenue, Suite 2300
Seattle, WA 98104
Phone: (206) 467-3609

Sanyo-Kokusaku Pulp Co., Ltd.
Norman Barnes & Company, Ltd.
210 Norton Building
Seattle, WA 98104
Phone: (206) 624-4694

Sato America Inc.
500 Oregon Telco Building
2125 SW Fourth Avenue
Portland, OR 97201
Phone: (503) 226-0010

Sumitomo Forestry
2725 Sea First Building
1001 Fourth Avenue
Seattle, WA 98154
Phone: (206) 623-8840

Summit Timber Company
P.O. Box 368
Darrington, WA 98241
Phone: (206) 436-1411

Sunshine Trading Company
1611 116th NE
Bellevue, WA 98004
Phone: (206) 455-3210

Surenry Seattle Inc.
1010 South 336th
P.O. Box 6
Federal Way, WA 98003
Phone: (206) 874-4051

TAT (USA) Corporation
P.O. Box 808
718 Hewitt Street
Everett, WA 98206
Phone: (206) 258-6711

Wescor Forest
700 NE Multnomah, Suite 260
Portland, OR 97232

Westwood Timber
2300 Sixth Avenue
Portland, OR 97201

Weyerhaeuser Company
Tacoma, WA 98401
Phone: (206) 924-2774

Yuasa Trading
1111 Third Ave., Suite 550
Seattle, WA 98101
Phone: (206) 223-0880