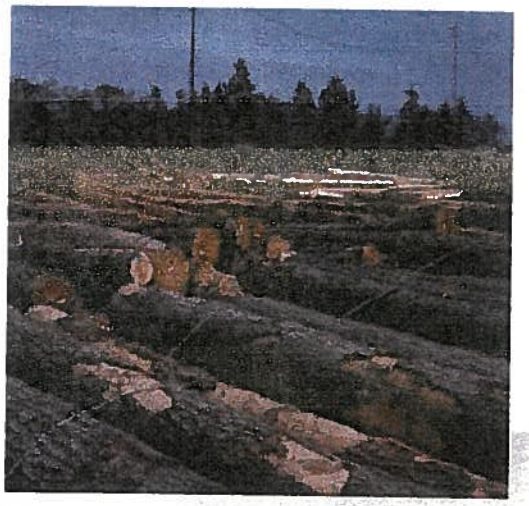
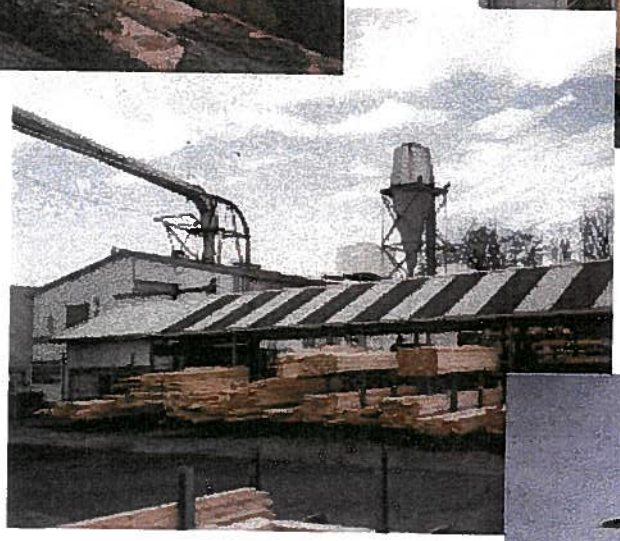
NATURAL RESOURCES





Washington Mill Survey - 1996

Series Report # 14

WASHINGTON STATE DEPARTMENT OF
Natural Resources
Jennifer M. Belcher - Commissioner of Public Lands

ACKNOWLEDGMENTS

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Washington Mill Survey 1996

Series Report # 14

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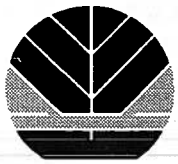

WASHINGTON STATE DEPARTMENT OF
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Jennifer M. Belcher - Commissioner of Public Lands

FOREWORD

This report presents comprehensive statistics on wood utilization and the characteristics of primary wood processing mills operating in Washington during calendar year 1996. It documents the findings of the fourteenth biennial survey (no survey was conducted in 1994) about mill characteristics, wood flows, and the input of raw materials into the state's six primary wood-using industries:

* sawmills
* veneer & plywood mills
* pulp mills
* post, pole & piling operations
* shake & shingle mills
* log export operations

The 1996 statistics were compiled through a 1997 mail survey with telephone follow-up to nonrespondents. Firms contacted were based on an up-to-date mailing list.

Since this survey covers the entire industry, no sampling error is involved. However, some data on questionnaires were missing and estimates were made to complete data files. In total, this report provides the best and most reliable estimates of the status of wood-using industries in Washington as of 1996.

Information about individual mills or companies is confidential. Where necessary, data that might reveal individual mill identity have been combined with other data to avoid disclosure. Efforts have been made to present data for each industry sector independently where data were 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 1 on page v.

Table 1 provides a cross index for tables contained in Appendix D for this and previous reports. Where possible, the groupings remained the same as those used in previous surveys to allow comparison. Comparisons between sectors and economic areas can be made by using Tables D-1 to D-10 in Appendix D.

Production data were used to provide information on wood requirements for levels of production and to generate residue volumes. Unless otherwise indicated, the use of the term "dry" refers to oven-dry content, i.e., zero percent moisture content.

The text highlights some statistics presented in the tables. It also provides recent trend information for the period 1986 through 1996. Information about the hardwood industry is provided in the text, since this industry is not described separately in the appendix tables. Wood utilization, product production, and residue production are included in the report, since these help track log utilization and production trends.

ABBREVIATIONS

bf = board feet

M = thousand

Mbf = thousand board feet, Scribner log rule

MMbf = million board feet, Scribner log rule

sf = square feet

Msf = thousand square feet
3/8 inch basis

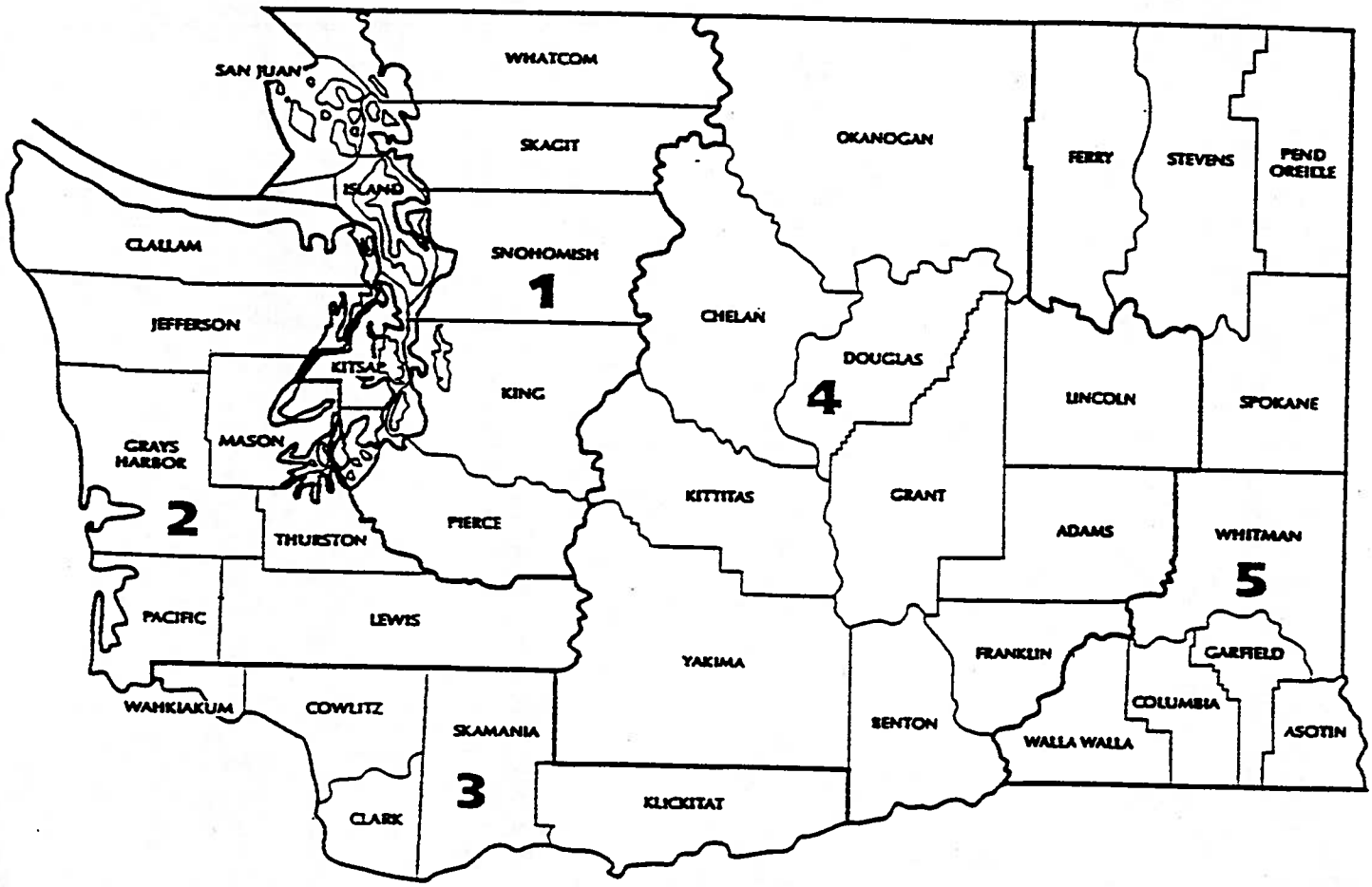
Square = one hundred square feet

M sq. = thousand squares

M tons = thousand tons (a ton being 2,000 pounds)

S.W.E. = Solid wood equivalent

Figure 1
The Five Economic Areas Encompassing 39 Counties



The five Economic Areas used in this report are: (1) Puget Sound, (2) Olympic Peninsula, (3) Lower Columbia, (4) Central Washington and (5) Inland Empire.

Table 1:
Report Year and Table Number Cross Index for Appendix D

(Between the 14 Washington mill survey reports [1])

1978 to 1996	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 1996

* Contains part of same information

Table 1 (continued)

Report Year and Table Number Cross Index for Appendix D

(Between the 14 Washington mill survey reports [1])

1982 to 1996	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 1996

* Contains part of same information

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Shake & Shingle Mills

Post, Pole & Piling Mills

Log Export Operations

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Mill Survey - 1996

1996 HIGHLIGHTS

There were 186 forest products operations identified in the 1996 Washington Mill Survey[1] (Table 2). Together these operations produced forest products with an estimated value of nearly six billion dollars. Pulp mills produced more than eight billion pounds of pulp with an estimated value of 2.6 billion dollars. This pulp was used in the manufacture of a wide spectrum of paper products. The sawmill industry produced 4.2 billion board feet of lumber valued at more than 1.7 billion dollars, enough lumber to build 420,000 new 1,800 sq. ft. homes, or about one in three of the new home built in the U.S. in 1996.

The veneer & plywood industry produced the equivalent of 1.7 billion square feet of 3/8" plywood with an estimated value of 390 million dollars. Enough plywood to cover more than 60 square miles or a one mile wide strip from Olympia to Seattle. Shake & shingle mills produced 165,000 squares of shakes and shingles worth 16 million dollars, enough to roof 7,500 new homes. Washington log export firms exported 1.3 billion board feet of logs valued at more than 1.1 billion dollars.

The forest products industry contributed significantly to Washington's economy in 1996. In producing forest products these firms also provided jobs, payroll, tax contributions, and purchases of services and materials. The viability of the industry has even more significance to many small communities in our state. In many small towns the forest industry is the major employer.

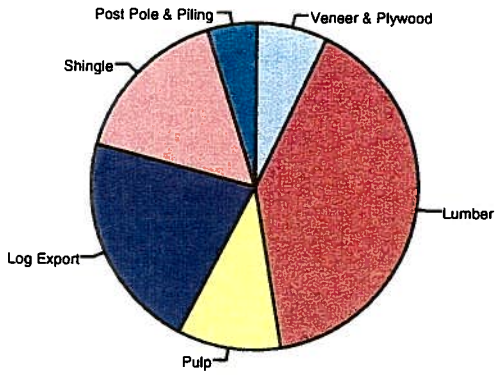
Table 2: Operations in 1996

Type of mill	Number of mills	Production	Estimated Value (Millions)	Milling capacity
Sawmills	75	4,190 MMbf	$1,754	12.6 MMbf (8-hour basis)
Log Export	40	1,329 MMbf Scribner	1,128	not applicable
Veneer & Plywood	13	1,697 MMsf	390	2.4 MMsf (3/8" basis) 8-hour veneer basis
Pulp	19	4,043 M tons	2,617	13.9 M tons (24-hour basis)
Shake & Shingle	30	165 M Squares	16	1.5 M sq. (8-hour basis)
Post, Pole & Piling	9	35 MMbf Scribner	5	49.4 MMbf (peeling-yearly)
Total	186		$5,910	

[1] An operation is defined as a primary wood processing mill or log export business. Only facilities that operated during 1996 are included in this report. Multiple primary wood processing mills owned by the same company are considered separate operations. Processing mills and log export operations, at the same physical location, and owned by the same company, are treated as two operations.

Figure 2: 1996 Highlights

Figure 2-a: **PROPORTION OF OPERATIONS** (Number)

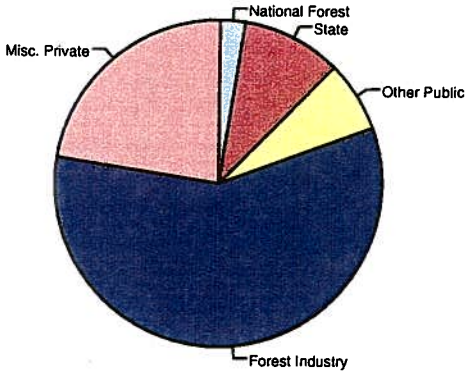


- There were 186 forest products operations active in Washington state during 1996: 75 sawmills; 13 veneer & plywood mills; 19 pulp mills; 30 shake & shingle mills; 9 post, pole, & piling operations; and 40 log export operations (Figure 2-a).

- During 1996, Washington's primary forest products industries utilized 4.4 billion board feet of logs (Tables 4 & D-2), 6.2 million board feet of other wood (peeler cores, cants, blocks, bolts and miscellaneous peeled products) and 8.3 million tons of chips and wood residue.

- In 1996, pulp and board mills utilized 9.4 million bone dry tons of wood fiber. Of this volume, 45% was from roundwood (including chips from roundwood chipping mills), 43%, 4.1 million tons from mill residues, 4% from sawdust and shavings, and the remaining 8% came from waste paper. The 4.1 million tons of mill residue was equivalent to 1.9 billion board feet of logs.

Figure 2-b: **WHERE THE LOGS CAME FROM** (Ownership Class)



- 94 percent of timber utilization was young growth (less than 100 years old). 55 percent of roundwood volume was Douglas fir; 25 percent white woods[2]; 5 percent western redcedar, 6 percent pine and 7 percent hardwoods.

- 58 percent of log volume came from forest industry timberlands; 23 percent from miscellaneous private lands; 10 percent from state-managed lands; just 2 percent from lands managed by national forests; and the remaining 7 percent from tribal and other public owners (Figure2-b, Table 3). Six percent of all log volume utilized was imported from outside of Washington; 70 percent of this volume came from Oregon.

- 42 percent of national forest log volume statewide came from combined harvests on the Gifford Pinchot, Mt. Baker-Snoqualmie, and Olympic national forests; 22 percent from Gifford Pinchot; 10 percent from Mt. Baker-Snoqualmie and 10 percent from the Olympic. Eastside forests (Wenatchee, Okanogan, Colville, and Umatilla) contributed 58 percent of the log volume from national forests; 26 percent for the Wenatchee, 20 percent for the Colville, and 8 percent for the Okanogan.

[2] White woods include western hemlock, mountain hemlock, and true firs.

Figure 2-c: **HOW THE LOGS WERE USED**
(Industry)

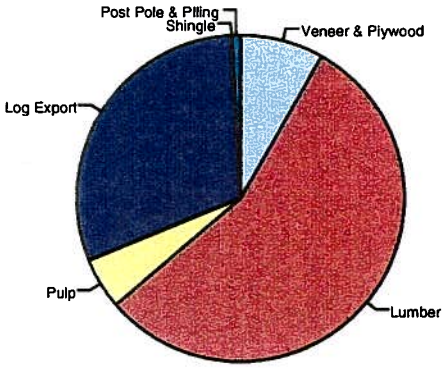
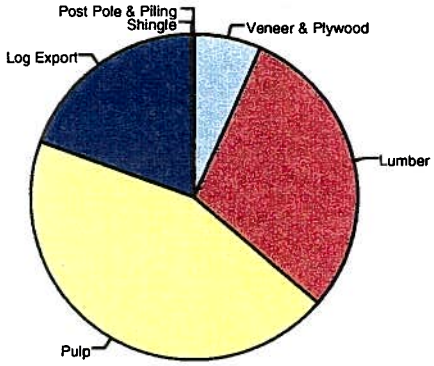


Figure 2-d: **ESTIMATED OUTPUT VALUE**
(Dollars)



- Sawmills utilized 55 percent of the total roundwood, log export accounted for 30 percent while the other four sectors accounted for the remaining 15 percent (Figure 2-c). The 41 largest sawmills (120,000+ board feet of lumber tally capacity per eight-hour shift) had 84 percent of the total eight-hour shift lumber capacity. During 1996, these mills processed 81 percent of the logs utilized by the lumber industry and produced 85 percent of the lumber manufactured.

- During 1996, sound logs comprised 92 percent of the total roundwood utilized with sawmills using 56 percent and log exports using 33 percent. Utility and cull logs accounted for 8 percent of total roundwood with the lumber industry utilizing 51 percent and the pulp industry 39 percent of the utility and cull volume.

- Washington's total timber harvest for 1996 was 4.4 billion board feet.[3] The mill survey for 1996 reports Washington mills utilized about 4.4 billion board feet. Washington supplied 93 percent of the industry's log utilization. Oregon contributed 5 percent, with most (94 percent of this volume) utilized in the Lower Columbia area.[4] About 2 percent came from all other states. Although not directly measured in the mill survey the import of logs from other states was offset by transport of logs harvested in Washington to other states for processing, and other factors.[5]

- Washington remains one of the leading timber industry states, producing in 1996 about 9% of the nation's lumber, 4.5% of the nation's paper and board production, 5.3% of the nation's plywood and accounting for 50.4% of the nation's log exports.

- Washington's Forest Products operations produced an estimated 5.9 billion dollars worth of product in 1996 including $2.6 billion of pulp, $1.7 billion of lumber, and $1.3 in log exports (Figure 2-d).

---

[3] Source: Washington timber harvest 1997. David Larsen, Department of Natural Resources, Olympia, WA

[4] Although 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.

[5] Other factors included: 1) changes in inventories, 2) possibly some mills were missed in the survey, and 4) reported utilization by some mills may have been lower than actual utilization. In addition, about 3.1 million tons of chips went from roundwood chipping mills to the pulp mills, but this volume was not included as roundwood in the mill survey.

Table 3: Log Supply by Ownership Source in 1996

Ownership	Volume (Mbf)	Log Supply (percent)
State	433,119	9.9
National Forest	108,187	2.5
Bureau of Land Management	5,075	0.1
Other public***	305,926	7.0
Total public	852,307	19.5
Forest Industry		
Own wood supply*	1,383,555	31.5
Other wood supply**	1,163,015	26.5
Miscellaneous private	988,560	22.5
Total private	3,535,130	80.5
All ownerships	**4,387,437**	**100.0**

* "Own wood supply" are logs that are utilized in an industrial firm's own facilities.
** "Other wood supply" are logs harvested from an industrial firm's lands and sold to another firm.
*** Includes tribal lands.
Source: Appendix D, Table D-7.

Table 4: Log Utilization by Industry in 1996

Sector	Volume (Mbf)	Log Supply (percent)
Lumber	2,433,704	55.5
Veneer & Plywood	361,222	8.2
Pulp	221,374	5.0
Log Export	1,328,962	30.3
Post, Pole & Piling	35,350	0.8
Shake & Shingle	6,825	0.2
State Total	4,387,437	100.0

Table 5: Leading Counties in Roundwood Utilization in 1996

County	Volume (MMbf)	Roundwood Percent
Cowlitz	748	17.1
Grays Harbor	622	14.2
Pierce	655	14.9
Snohomish	357	88.1
All other	2,005	45.7
Total	4,387	100.0

Table 6: Log Flows Measured from National Forests in 1996

National Forest	Volume (Mbf)	Log flow (percent)
Wenatchee	27,713	25.6
Gifford Pinchot	23,428	21.7
Colville	22,108	20.4
Olympic	11,096	10.3
Mount Baker/Snoqualmie	10,396	9.6
Okanogan	8,118	7.5
Umatilla	0	0.0
Out-of-State National Forests	5,328	4.9
All National Forests	108,187	100.0

Source: Appendix D, Table D-5.

Changes from 1992 to 1996

Figure 3: Change 1992-1996

Figure 3-a: **NUMBER OF FIRMS**

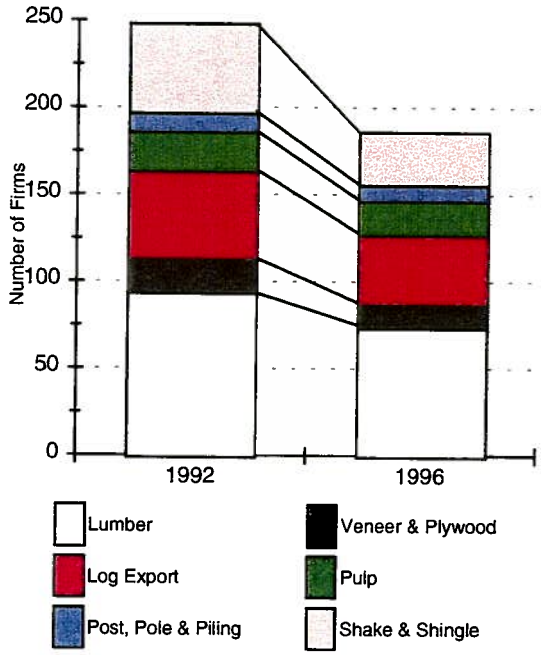
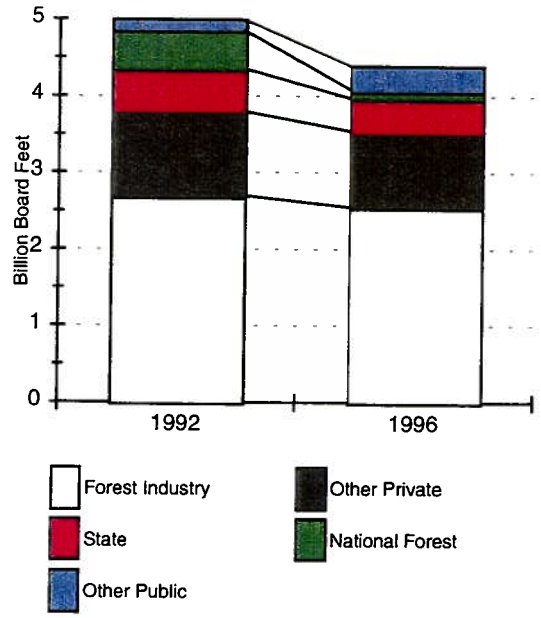


Figure 3-b: **SOURCE OF LOGS**



- Washington's timber economy continues to adapt to a changing economic and resource climate. The number of processing operations declined by 25 percent from 1992 to 1996 while log utilization dropped 12 percent.

- The total number of operations in the forest products industry decreased by 25 percent from 248 in 1992 to 186 in 1996 (Figure 3-a).

- All sectors saw reductions in the number of operations: shake & shingle operations dropped by 40 percent; veneer & plywood operations fell by 35 percent; the number of log export operations declined by 22 percent; lumber mills declined 20 percent; meanwhile, the number of pulp mills fell 14 percent and the number of post, pole & piling operations fell 18 percent.

- Since the previous survey, the federal Endangered Species Act has greatly impacted the management of timberlands in Washington, resulting in lower harvest volumes. Between 1992 and 1996 log utilization from public lands fell by 29 percent while that from private lands fell by 7 percent (Figure 3-b). In response, the forest products industry has turned to the private sector for a larger share of the timber volume utilized.

- In 1996, Douglas fir accounted for 55 percent of the log utilization, a slight increase from 53 percent in 1992. The share of Douglas fir in the log export market increased from 71 to 83 percent, while the share of white woods was reduced from 26 to 16 percent.

Note: The1994 survey was not competed.

Changes from 1992 to 1996 (Continued)

Figure 3-c: **LOG UTILIZATION**

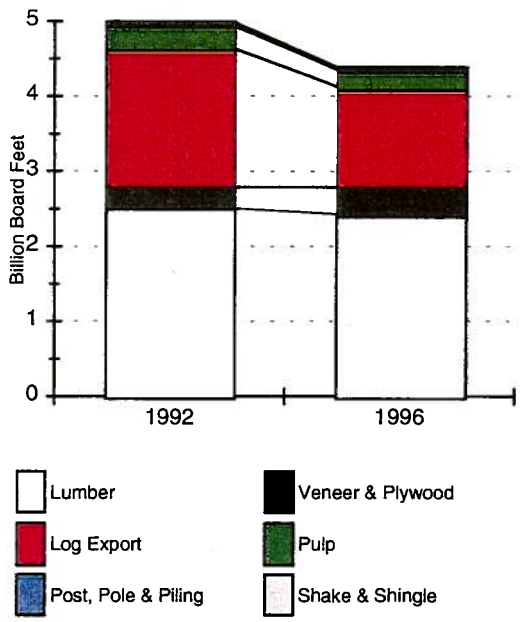
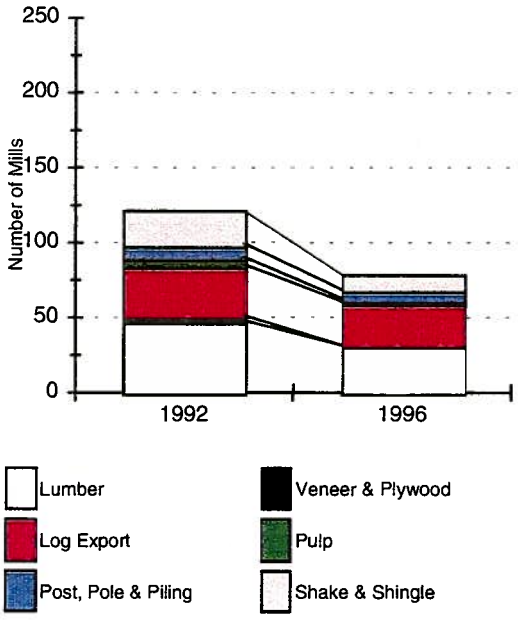


Figure 3-d: **MILLS MORE THAN 2/3 DEPENDENT ON A SINGLE OWNERSHIP CLASS**



- Total roundwood utilization fell by 12 percent between 1992 and 1996 from 5.0 to 4.4 billion board feet, Scribner (Figure 3-c). Most (80 percent) of the reduction occurred in the log export sector where log utilization was reduced by 515 MMbf or 28 percent. Log utilization in the pulp and shake & shingle sectors fell by 27 and 20 percent respectively during this time period.

- Roundwood utilization by sawmills declined just 3 percent, while utilization by veneer & plywood mills increased by 28 percent. Together the lumber and plywood & veneer mills utilized almost exactly the same quantity of logs in 1996 as they did in 1992.

- In spite of the 3 percent reduction in log utilization, lumber production increased from 1992 to 1996 from 3,973 to 4,190 MMbf lumber tally, or by 5 percent. This is because lumber conversion or overrun (board feet of lumber produced per board feet, Scribner of logs utilized) increased by 9 percent over this period.[6]

- Mills more than two-thirds dependent on a single ownership class for log supply decreased from 126 (51 percent of all mills) in 1992 to 80 (43 percent of all mills) in 1996, a 37 percent reduction (Figure 3-d). Mills more than two-thirds dependent on public ownership decreased from 14 to just 8 percent of all mills in 1992 and 1996 respectively.

- In 1992, 18 mills (9 lumber, 3 plywood & veneer and 5 shake mills) were dependent on national forests for 2/3 of the logs they utilized; in 1996, not a single mill was 2/3 dependent on the national forests for their log supply. The proportion of mills dependent on private ownership decreased from 37 to 35 percent.

- Total residue production increased by 9 percent from 5.6 million tons in 1992 to 6.1 million tons in 1996. Residue utilized in making paper and board increased by 24 percent while that utilized for fuel fell by 5 percent.

[6] The Scribner log scale is an estimate of the volume of lumber that can be sawn from a log or group of logs. The Scribner log scale is derived from diagrams of 1-inch boards drawn to scale within circles of various sizes, representing log diameters. The Scribner scale underscales small diameter logs. Between 1986 and 1996 the average size of logs used by sawmills in Washington was reduced. It is unknown how much of the increase in the over-run was due to the Scribner scaling factors and how much is due to improvements in mill efficiency and other factors.

Note: The1994 survey was not competed.

Changes During the 10 Years (1986-1996)

Changes in timber supply, technology, and product demand have resulted in a markedly changed industry from the one that existed 10 years ago. One of the benefits of the Mill Survey is that it enables the tracing of changes in the forest products industry over time and thus underlying long term trends are revealed. This section compares data developed from the 1986, 1988, 1990, 1992 and 1996 surveys. During this period the forest industry changed substantially. In 1996 Washington has a reduced timber harvest and fewer mills, but a more efficient use of timber resources than in 1986.

Number of Operations: The number of wood processing mills and log export operations fell by 53 percent from 394 to 186 over the past ten years (Table 7, Figure 4). In 1996 there were only about 1/4 as many shake & shingle operations, 40% as many log export operations, and ½ as many veneer & plywood operations as in 1986. There were also 1/3 fewer sawmill and post, pole & piling operations.

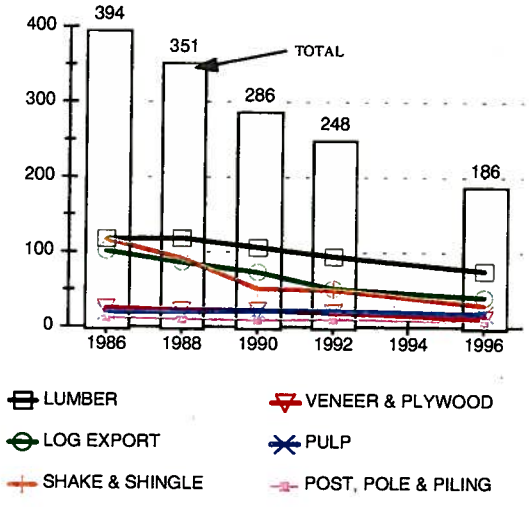
Table 7:Number of Operations Included in the Surveys*

Sectors	1986	1988	1990	1992	1994	1996
Sawmills	117	118	106	94		75
Veneer & Plywood	26	23	23	20		13
Pulp	20	21	22	22		19
Shake & Shingle	117	92	52	50		30
Post, Pole & Piling	13	11	10	11		9
Log Export	101	86	73	51		40
Total	394	351	286	248		186

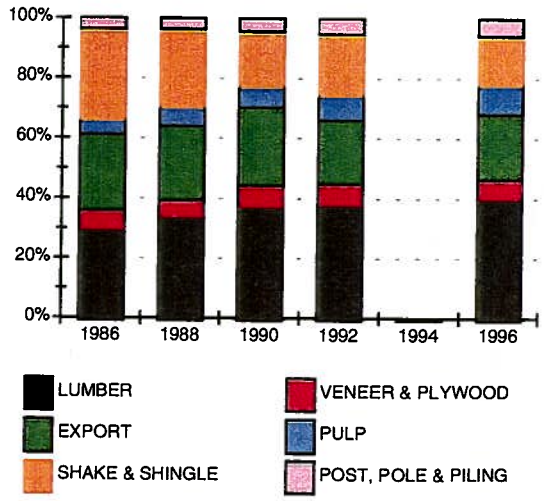
* Only primary wood processing mills and log export operations that operated during the survey year are included.

Figure 4: **OPERATIONS**

(Number)



(Percent of Total)



Note: The1994 survey was not competed.

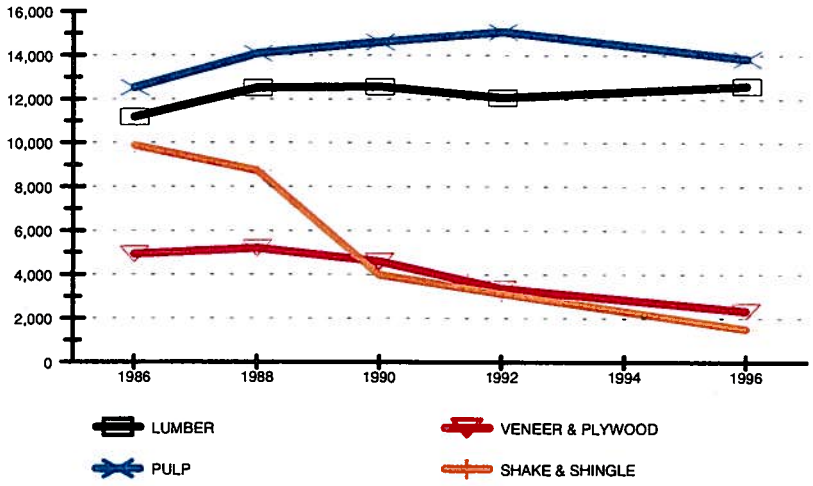
Changes During the 10 Years 1986-1996 (Continued)

Production Capacity: Installed shift output capacity has fluctuated over time (Figure 5). For the lumber sector it increased by 13 percent over the decade, to 12.6 million board feet per eight-hour shift in 1998 despite the 1/3 decline in the number of sawmills operations. Most of the increase in capacity came between 1986 and 1988; growth over the remainder of the decade was slow. Capacity in the pulp industry increased 11 percent over the decade. The pulp industry reached a new high for 24-hour capacity at 15.1 thousand bone-dry tons in 1992. Capacity then fell to 13.9 tons in 1996.

The 1986-96 decade saw a significant capacity reduction in Washington's veneer & plywood industry. Capacity peaked in 1988 at 5.2 million square feet (3/8" basis) per eight-hour shift. Since then, capacity in this industry has fallen 53 percent to 2.4 million square feet.

The shake & shingle industry has sustained a major decline in capacity over the 1986-96 period. In 1986 industry capacity was 9.9 thousand squares per eight hour shift, but by 1996 capacity had fallen 85 percent to just 1.5 thousand squares. This industry greatly depends on the use of old growth western red cedar and capacity is expected to continue to decline further due to the increasing scarcity of this resource.

Figure 5: **INSTALLED SHIFT OUTPUT CAPACITY**



Capacity Units:

LUMBER – Total installed eight-hour shingle-shift capacity, daily basis (million board feet, lumber tally)
VENEER & PLYWOOD – Installed eight-hour single-shift capacity (thousand square feet, 3/8-inch basis) Capacity includes total capacity for veneer-only and layup-only operations, but only the veneer capacity for the veneer & layup plants
PULP – Total installed 24-hour capacity, (bone-dry tons)
SHAKE & SHINGLE – Total eight-hour shift capacity (squares)

Note: The1994 survey was not competed.

Changes During the 10 Years 1986-1996 (Continued)

Log Utilization: Utilization of logs fell by 25 percent during the ten-year period (Table 8, Figure 6). Log use peaked at slightly more than 6.9 billion board feet in 1988 then fell by 36 percent to 4.4 billion board feet by the end of the period. The log export sector accounted for 59 percent of this reduction, with log use falling by 1.5 billion board feet from 1988 to 1996.

The lumber industry has been the primary user of logs throughout the period and increased its proportion of logs utilized from 47 percent in 1986 to 55 percent in 1996. Veneer & plywood sector accounted for 7 percent of utilization in 1986, in 1996 it accounted for 8 percent. Lumber and plywood & veneer mills together accounted for 54 percent of the logs utilized in 1986 and increased their share of utilization to 64 percent in 1996.

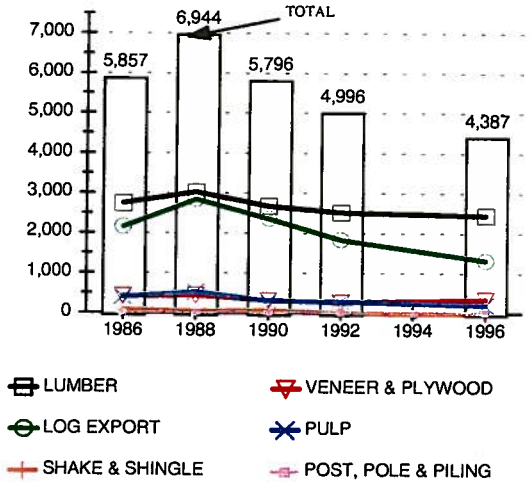
Whole log utilization in the pulp & paper sector increased from 1986 to 1988, but then fell from 540 MMbf in 1988 to 221 MMbf in 1996, a 59 percent reduction.

Table 8: Log Utilization (MMbf, Scribner)

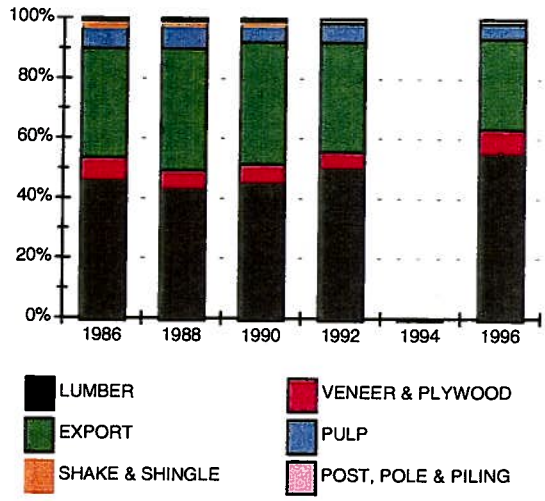
Sectors	1986	1988	1990	1992	1994	1996
Sawmills	2,733	3,015	2,668	2,512		2,434
Veneer & Plywood	429	457	330	282		361
Pulp	413	540	318	304		221
Shake & Shingle	93	62	75	17		7
Post, pole & piling	21	23	33	36		35
Log export	2,168	2,847	2,372	1,844		1,329
Total	5,857	6,944	5,796	4,995		4,387

Figure 6: **LOG UTILIZATION**

(MMbf Scribner)



(Percent of total)



Note: The1994 survey was not competed.

Changes During the 10 Years 1986-1996 (Continued)

Production: Production data for 1986-1996 are displayed in Table 9 and Figure 7. Lumber production in 1986 was 3.9 billion board feet lumber tally, rose to 4.4 billion in 1988 and declined to 4.0 billion in 1992, and increased by about 5 percent (from 1992 to 1996) to approximately 4.2 billion in 1996.

Veneer & plywood production in 1986 was 2.0 billion square feet (3/8" basis), declined to 1.3 billion square feet in 1988, before recovering to 1.7 billion square feet in 1996 (a net decline of 17 percent from 1986). Wood pulp production increased from 3.6 million tons in 1986 to 4.6 million tons in 1992, before declining to 4.0 million tons in 1996, a net increase of 11 percent over the period.

Production in the shake & shingle industry declined from 1.2 million squares in 1986 to just 165 thousand squares in 1996, an 85 percent reduction. The production by post, pole & piling mills increased from 22 million board feet (Scribner log rule) in 1986 to 36 million board feet in 1996, a 65 percent increase.

Table 9: Production

Sectors	1986	1988	1990	1992	1994	1996
Sawmills (MMbf)	3,853	4,396	4,074	3,974		4,190
Veneer & Plywood (MMsf 3/8" Basis)	2,040	1,300	1,551	1,567		1,698
Pulp (M Tons)	3,635	4,272	4,318	4,583		4,043
Shake & Shingle (M Squares)	1,194	1,044	410	281		165
Post, pole & piling (MMbf Scribner)	22	22	23	38		36
Log export (MMbf Scribner)	2,168	2,847	2,372	1,844		1,329

Log Productivity: Log productivity, the level of production per unit of log input, measures the efficiency of converting logs into final product (Figure 7). The conversion ratio or average "overrun" of lumber increased steadily between 1986 and 1996 by about 2 percent per year. In 1996 the sawmill industry was producing an average of 1.72 board feet of lumber for each board foot Scribner of log utilized. (See footnote 6 on page 9.) This increase in log productivity allowed the industry in increase its output of lumber while reducing its utilization of logs as measured by the Scribner scale (Figure 7-a).

Log productivity also increased in the shake & shingle sector (Figure 7-e). Log productivity for the plywood, log export, and post, pole, & piling sectors were stable over the ten-year period. Log productivity increased significantly for the pulp industry due to an increase in the utilization of wood chips and recycled paper in substitution for whole logs over the ten-year period.

Note: The1994 survey was not competed.

Figure 7: Output and Log Productivity

Figure 7-a: **LUMBER**
MMbf, Lumber/MMBF, Scribner

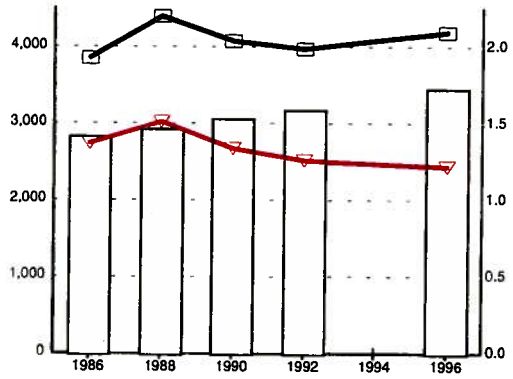


Figure 7-b: **PLYWOOD & VENEER**
(MMsf 3/8" Basis/MMbf, Scribner)

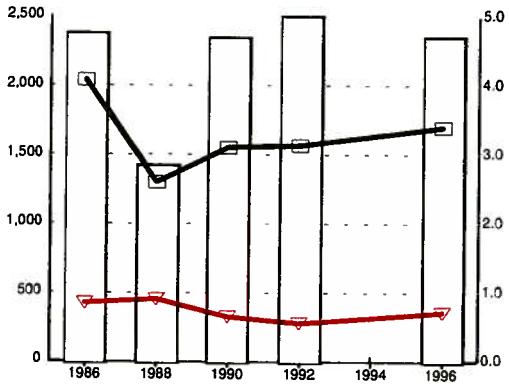


Figure 7-c: **LOG EXPORT**
(MMbf, Scribner/MMbf, Scribner)

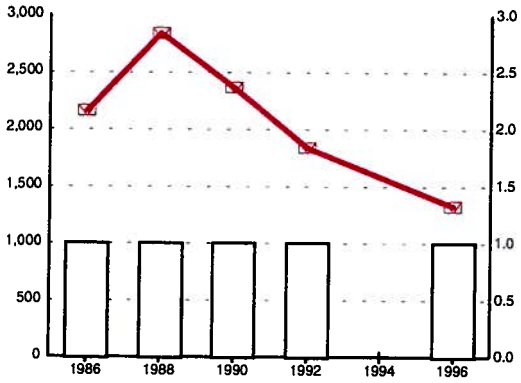


Figure 7-d: **POST, POLE, & PILING**
(MMbf, Scribner/MMbf, Scribner)

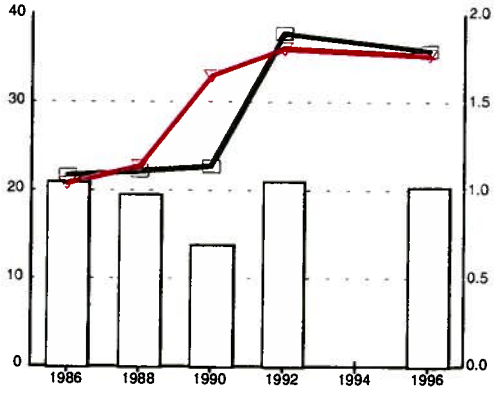


Figure 7-e: **SHAKE & SHINGLE**
(10,000 Squares/ MMbf, Scribner)

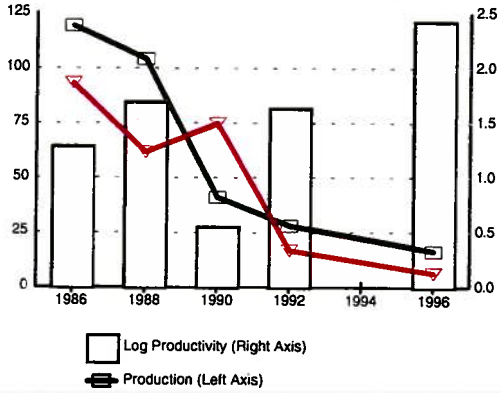
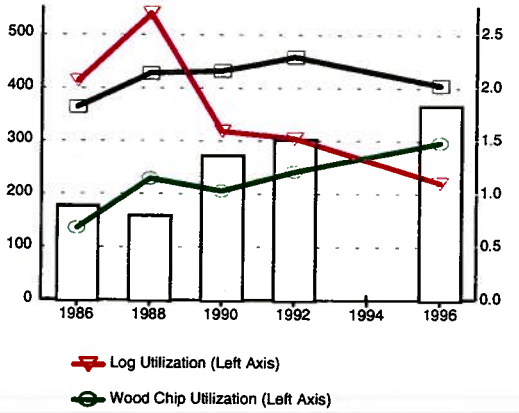


Figure 7-f: **PULP**
(10,000 Tons/MMbf Scribner)



Note: The1994 survey was not competed.

Roundwood Utilization of Sound and Utility logs

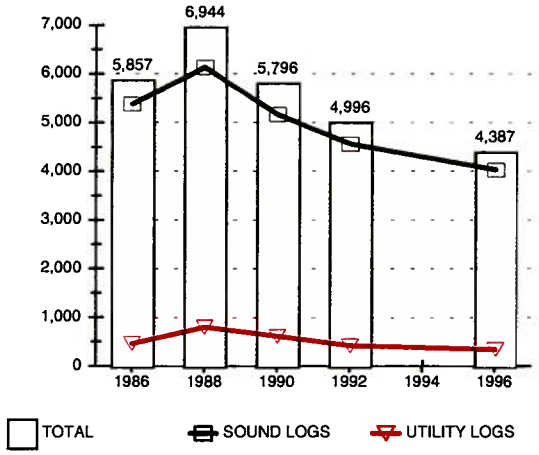
Utility logs[7] accounted for 8 percent of total log utilization in 1996 the same as in 1986 (Figure 8). The proportion of utility logs utilized increased to 12 percent in 1988 but has steadily fallen since then.

In 1986, 88 percent of sound logs were used in the lumber (48 percent) and log export (40 percent) sectors combined. In 1996 these two sectors together utilized almost the same proportion of sound logs, 88 percent, but the proportion utilized by lumber mills increased to 56 percent, while the proportion utilized by the log export industry fell to 33 percent. However, 99 percent of the logs utilized in the log export industry were sound logs in 1996.

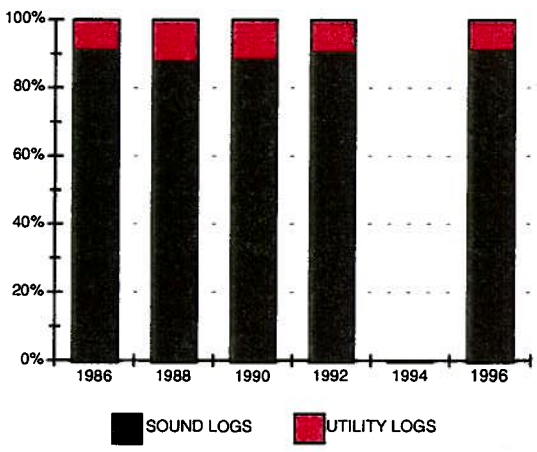
In 1986, 92 percent of utility logs were utilized by the pulp industry (65 percent) and the lumber industry (27 percent). In 1996, these same two sectors utilized a slightly smaller proportion (91 percent) of utility logs, but lumber increased its proportion to 51 percent while the proportion utilized by the pulp sector fell to 38 percent. Utilization of utility logs by the pulp and paper industry fell by 54 percent from 314 MMbf in 1986 to 143 MMbf 1996. In 1996, logs categorized as utility made up 65 percent of the logs utilized in the pulp industry, the highest proportion for any sector.

Figure 8: Utilization of Sound and Utility logs by Sector

Figure 8-a: **STATE TOTAL**
(MMbf, Scribner)



(Percent of Total)

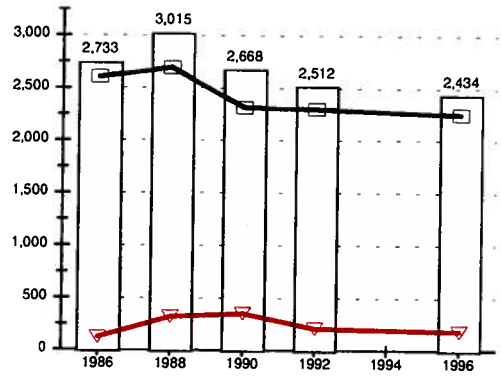


[7] Scribner scaling rules require that at least 1/3 of the total board feet in a merchantable or sound log be recoverable in the manufacture of lumber or plywood. Logs with an estimated recovery rate of less than 1/3 are classified as cull or utility logs.

Note: The1994 survey was not competed.

Roundwood Utilization of Sound and Utility logs (Continued)

Figure 8-b: **LUMBER**
(MMbf, Scribner)



(Percent of total)

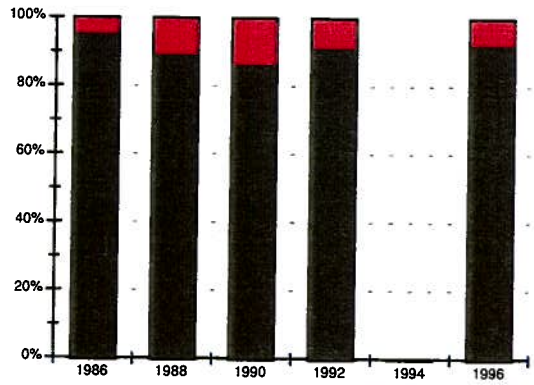
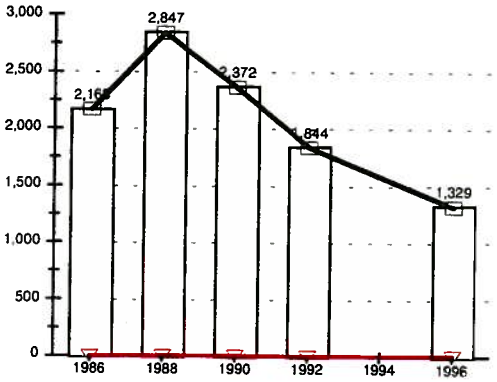


Figure 8-c: **LOG EXPORT**
(MMbf, Scribner)



(Percent of total)

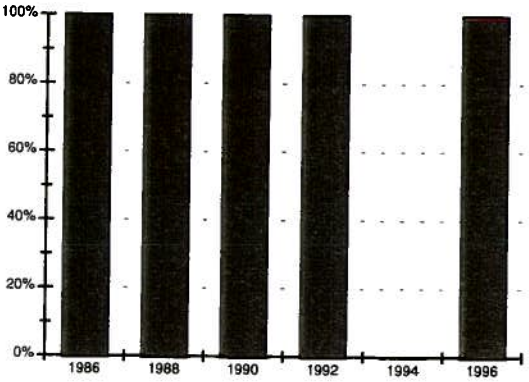
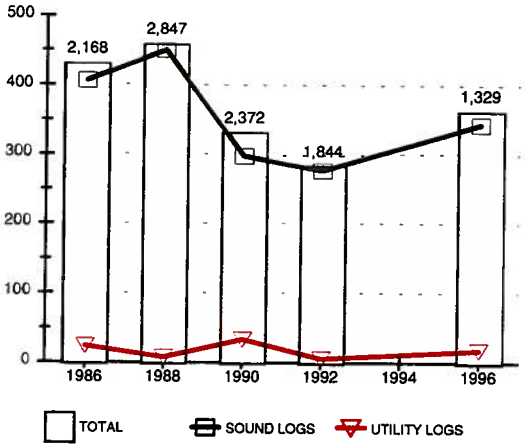
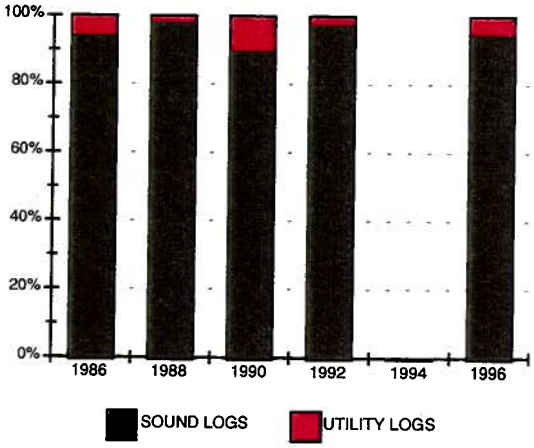


Figure 8-d: **VENEER & PLYWOOD**
(MMbf, Scribner)



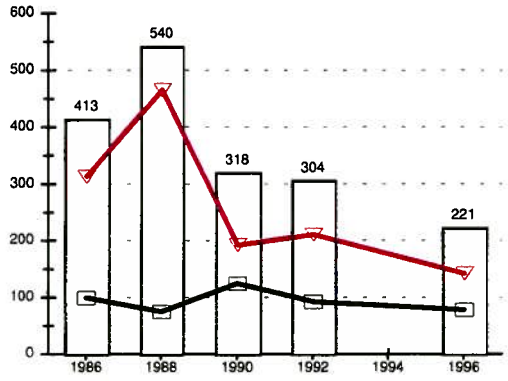
(Percent of Total)



Note: The1994 survey was not competed.

Roundwood Utilization of Sound and Utility logs (Continued)

Figure 8-e: **PULP**
(MMbf, Scribner)



(Percent of Total)

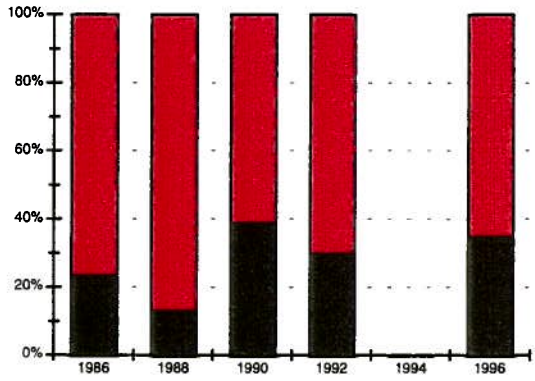
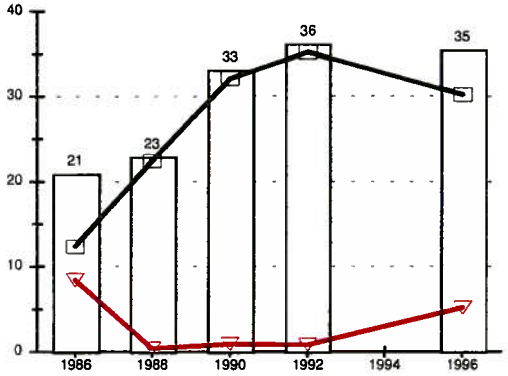


Figure 8-f: **POST, POLE, & PILING**
(MMbf, Scribner)



(Percent of total)

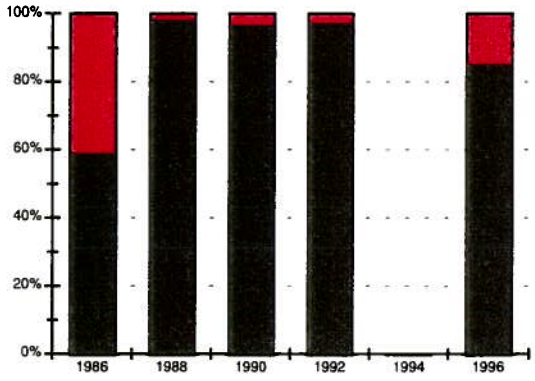
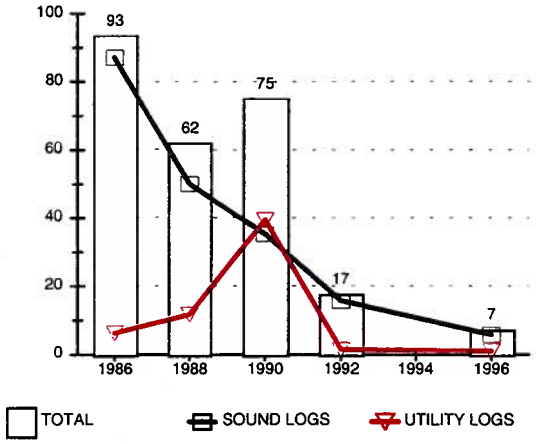
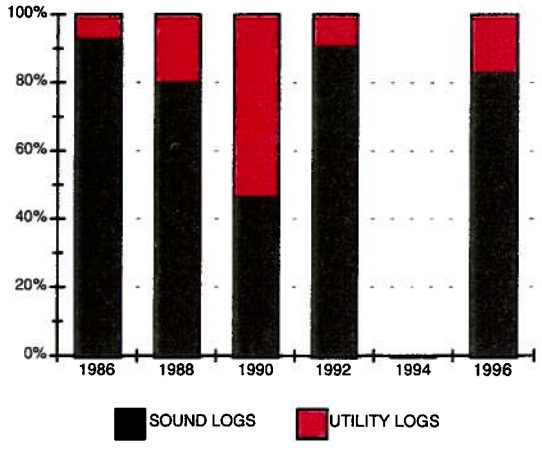


Figure 8-g: **SHAKE & SHINGLE**
(MMbf, Scribner)



(Percent of total)



Note: The1994 survey was not competed.

Log Source by Ownership Class

The total log volume utilized in Washington state during the 10-year period, peaked in 1988 at 6,944 million board feet (Figure 9-a), and has fallen each subsequent survey year. By 1996 total logs utilized had fallen by 38 percent to 4,387 MMbf. The largest reduction in log supply to Washington mills was in logs from the national forest which fell from 1,366 to just 108 MMbf, a 92% reduction. Supply from forest industry lands fell by 1,030 MMbf, 29 percent. Utilization from state lands fell by 377 MMbf, or 47 percent. Utilization from miscellaneous private and other public lands increased by 6 and 22 percent respectively, although from a very low base.

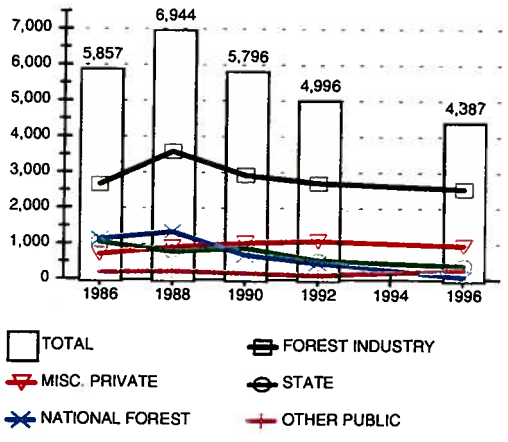
The forest industry lands (lands owned by entities who also own log processing facilities) were the single most important source of logs in the 1986-96 period, providing 45 percent of all logs utilized in 1986 and 58 percent in 1996. The importance of miscellaneous private ownership (private forest land owners who do not operate their own processing facilities) as a log source has increased as well, from 739 MMbf or 13 percent of log utilization in 1986 to 989 MMbf or 23 percent in 1996. The increase in havest by miscellaneous private may be due in part to a shift in ownership of the underlying land base from industrial to non-industrial private ownership over this period.[8]

Even though the log supply from forest industry lands fell during the 1986-1996 period, the logs these firms utilized in their own facilities increased. Logs harvested from forest industry's lands and utilized in their own facilities increased by 297 MMbf from 1,087 MMbf or 41 percent of their harvest in 1986 to 1,384 MMbf or 54 percent of their harvest in 1996. Most of this increase was in log exports which increased by 261 MMbf or 120 percent from 1986 to 1996. Log exports from an exporter's lands increased from 218 MMbf in 1986 to 815 MMbf in 1988 but then fell each subsequent survey year to 479 MMbf in 1996. Log supply which changed ownership, before it was utilized fell by 1,767 MMbf from 4,771 or 81 percent of the total log supply in 1986, to 3,004 MMbf in 1996 or 68 percent of the log supply.

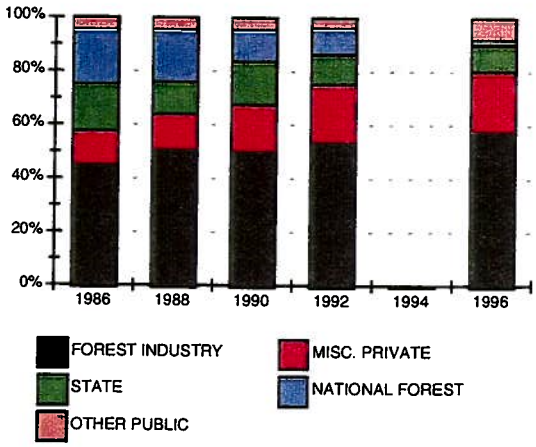
The supply of logs from public lands (national forest, state, and other public) fell in every survey year during the past decade from 2,458 MMbf or 42 percent of total supply in 1986 to 852 MMbf just 19 percent of the total supply in 1996. By contrast the supply of logs from private lands increased from 3,399 MMbf, 58 percent of supply in 1986 to 3,535 MMbf or 81 percent of the supply in 1996.

Figure 9: Log Source by Sector by Ownership Class (Continued on Page 20)

Figure 9-a: **STATE TOTAL**
(MMbf Scribner)



(Percent of total)



[8] See Washington's Public and Private Forests, Charles L. Bolsinger et al., USFS, PNW-RB-218 January, 1997

Note: The1994 survey was not competed.

Log Source by Ownership Class (Continued)

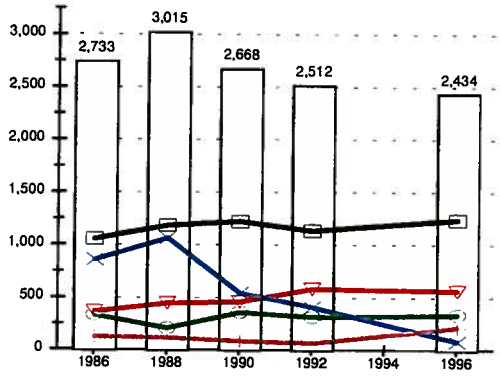
Historically, the national forests have been an important source of logs to both the veneer & plywood, and lumber industries. In 1986 nearly half (48 percent) of log utilization by these two industries came from the national forests. By 1996 however, the proportion had declined to less than 6 percent. Since 1988 the forest industry has been the most important single log source for the veneer & plywood sector. Between 1986 and 1996, the veneer & plywood sector has also increased its utilization of logs from state and miscellaneous private lands.

Historically, log export firms utilized a disproportionate share of logs from state lands. In 1986, 623 MMbf, 29 percent of the logs utilized by export firms came from state lands, equivalent to 58 percent of the logs supplied from state lands. By 1990 this volume had fallen to 446 MMbf, 19 percent of the logs utilized by export firms, 49 percent of the log supply from state land. In that year, the U.S. Congress passed legislation that banned the export of logs from 75 percent of state timber sales. That ban was increased to 100 percent in 1993. By 1996 the utilization of state logs by export firms had fallen to zero, but the proportion of state supply utilized by the lumber, veneer & plywood and post, pole & piling industries all increased. See Table D-7 for detail.

Note: The1994 survey was not competed.

Log Source by Ownership Class (Continued)

Figure 9-b: **LUMBER**
(MMbf, Scribner)



(Percent of Total)

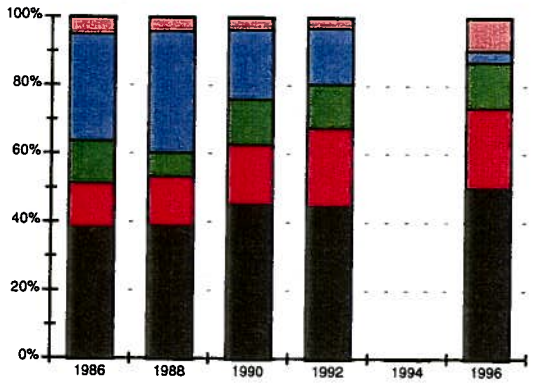
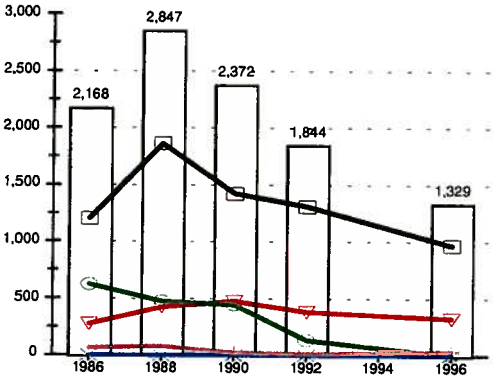


Figure 9-c: **LOG EXPORT**
(MMbf, Scribner)



(Percent of total)

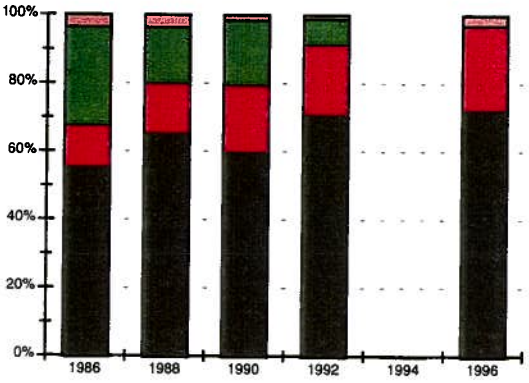
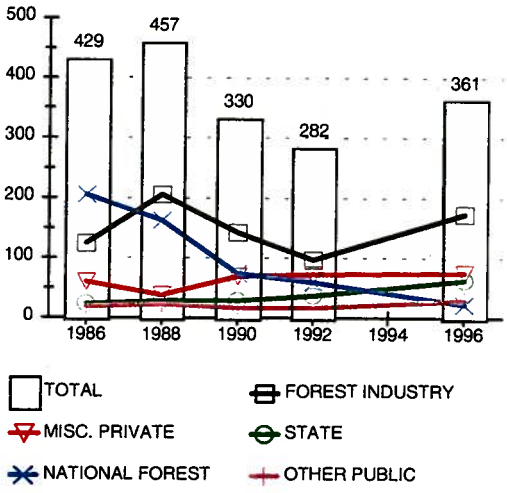
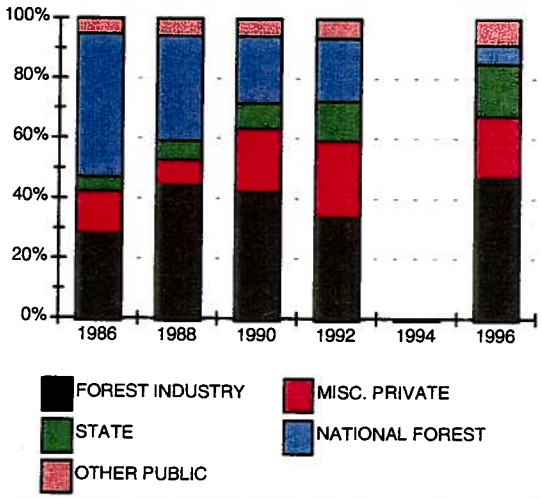


Figure 9-d: **VENEER & PLYWOOD**
(MMbf, Scribner)



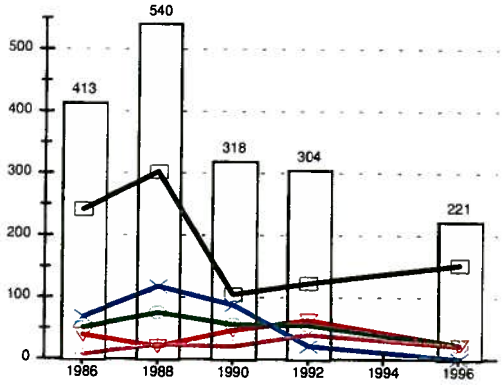
(Percent of total)



Note: The1994 survey was not competed.

Log Source by Ownership Class (Continued)

Figure 9-e: **PULP**
(MMbf, Scribner)



(Percent of total)

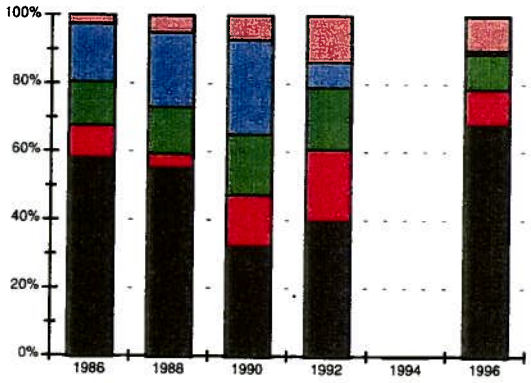
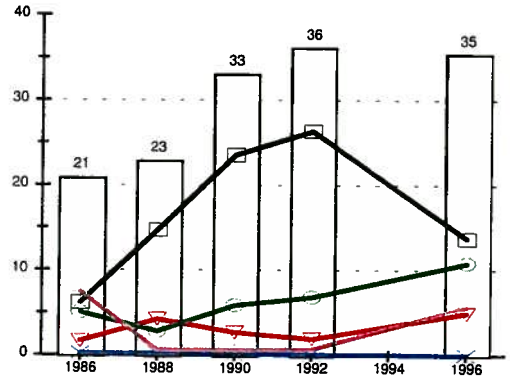


Figure 9-f: **POST, POLE & PILING**
(MMbf, Scribner)



(Percent of total)

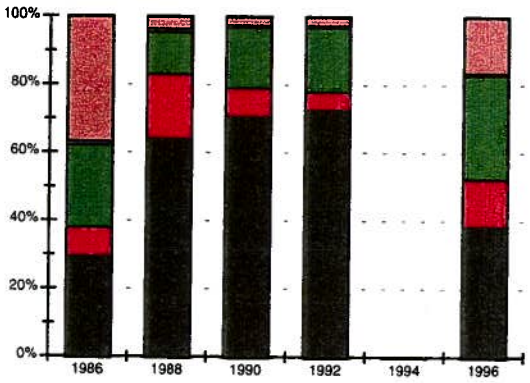
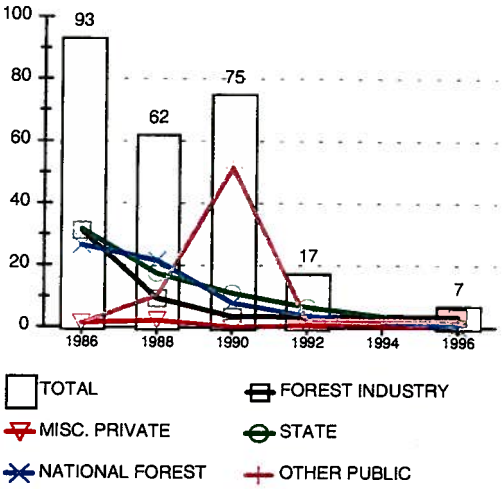
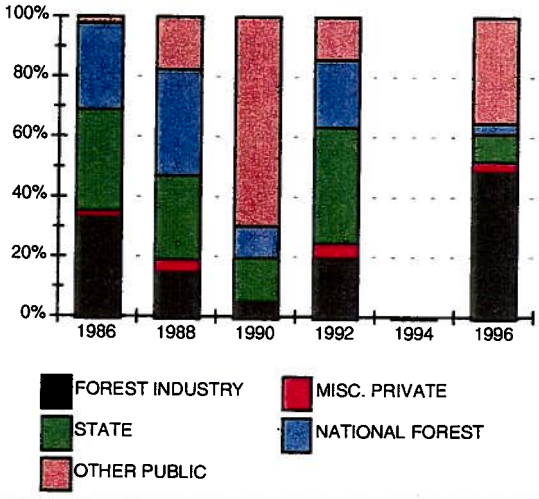


Figure 9-g: **SHAKE & SHINGLE**
(MMbf, Scribner)



(Percent of total)



Note: The1994 survey was not competed.

Log Utilization by Species

Douglas fir was the most important single species throughout the 10-year period, increasing from about 46 percent to 55 percent of the volume utilized (Figure 10-a). White woods utilization has been a strong second place but have fallen as a proportion of the harvest from 36 percent to 25 percent over the 1986 to 1996 period. Together Douglas fir and white woods account for 80 percent of log utilized by Washington's forest products industry.

In Western Washington the three major species (in order of volume utilized) were Douglas fir, white woods and red alder. Douglas fir and ponderosa pine were the major species in Eastern Washington. Hardwoods statewide accounted for seven percent of the volume utilized.

The proportion of white woods utilized has fallen significantly in the log export, veneer & plywood and pulp sectors. Between 1992 and 1996 there was a dramatic increase in the utilization of Douglas fir by the pulp sector while utilization of white woods continued to decline, probably due in part to the increase in thinning harvests from young Douglas fir stands.

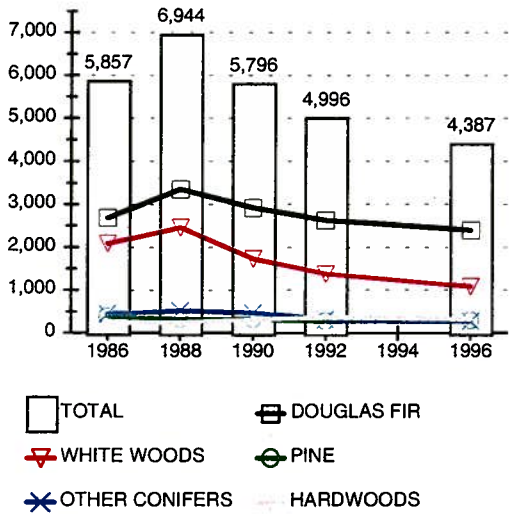
The post, pole, & piling industry continued to utilize Douglas fir predominantly, although the utilization of white woods, pine and western redcedar all increased significantly in 1996, with Douglas fir making up 55 percent of utilization. Western redcedar remains the main stay species for the shake & shingle industry. For the log export market, hemlock was the primary species in the 1970s, Douglas fir began to dominate during the 1980s and has continued to make up a larger proportion of volume in the 1990s. In 1996, Douglas fir made up 83 percent of the logs utilized by the log export sector. See table D-8 for detail.

Most sectors of the industry use several species. Four sectors, however, relied on a single species for most of its utilization. The shake & shingle industry utilized Western redcedar for 100 percent of its production. The log export sector reported 83 percent of the log volume exported was Douglas fir. The veneer & plywood industry utilized Douglas fir for 71 percent of its production and the post, pole & piling industry utilized Douglas fir for 55 percent of its production.

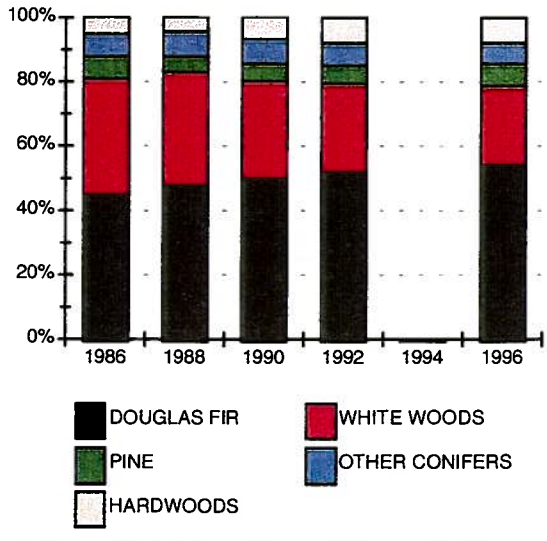
Figure 10: Log Utilization by Sector by Species

Figure 10-a: **STATE TOTAL**

(MMbf, Scribner)



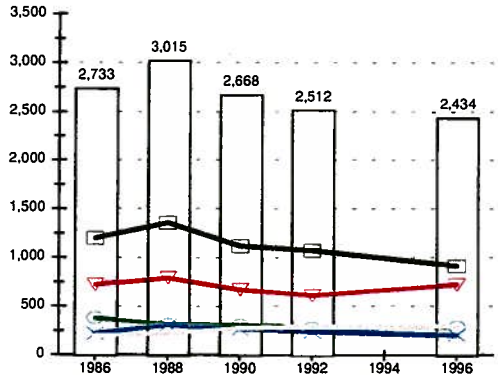
(Percent of total)



Note: The1994 survey was not competed.

Log Utilization by Species (Continued)

Figure10-b: **LUMBER**
(MMbf, Scribner)



(Percent of total)

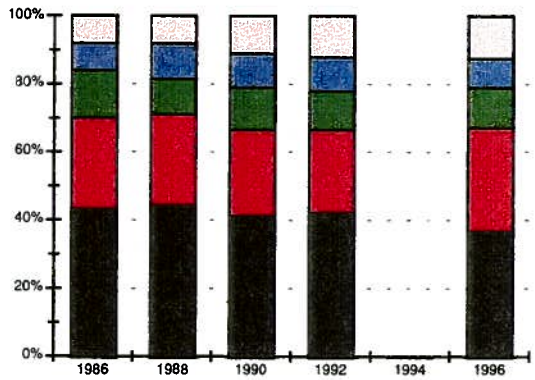
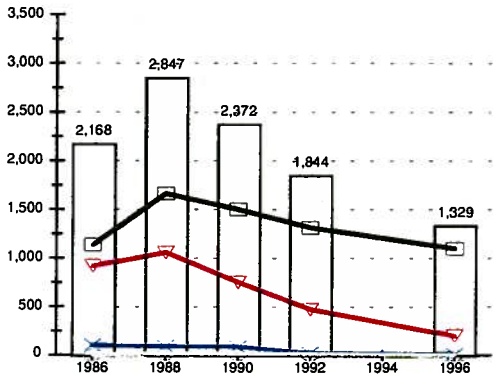


Figure 10-c: **LOG EXPORT**
MMbf, Scribner



(Percent of total)

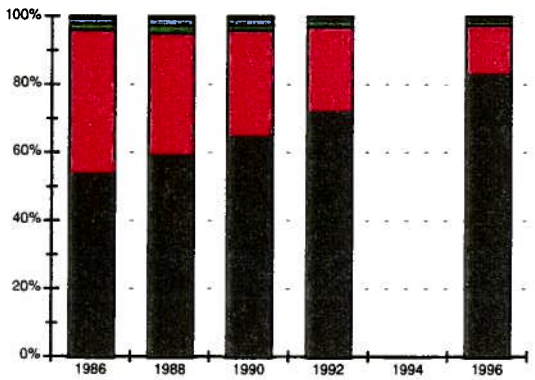
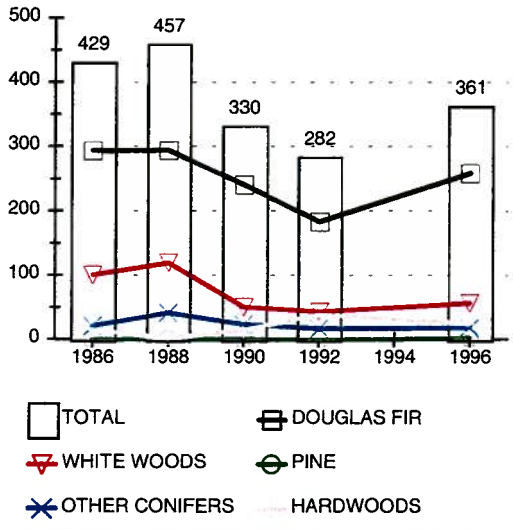
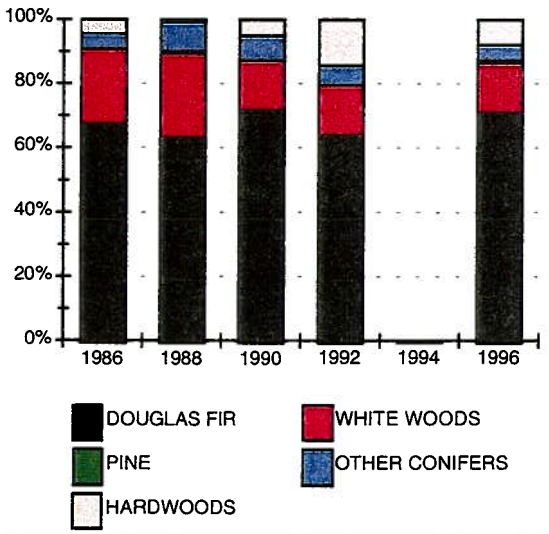


Figure 10-d: **VENEER & PLYWOOD**
(MMbf, Scribner)



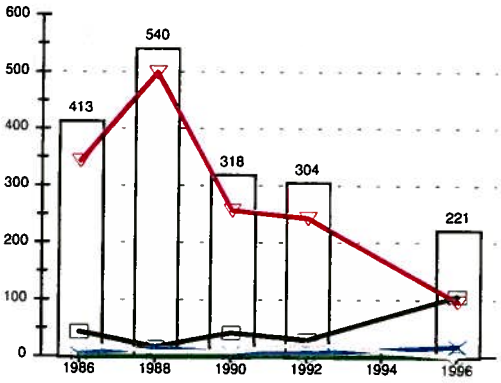
(Percent of total)



Note: The1994 survey was not competed.

Log Utilization by Species (Continued)

Figure 10-e: **PULP**
(MMbf, Scribner)



(Percent of total)

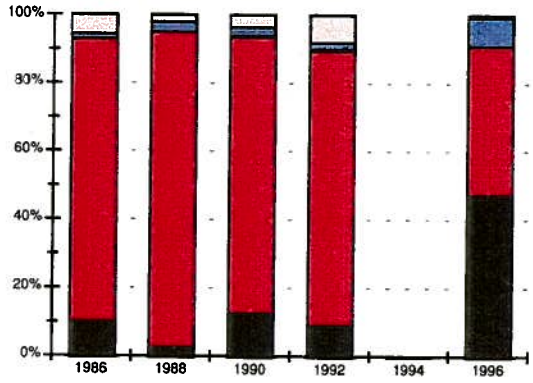
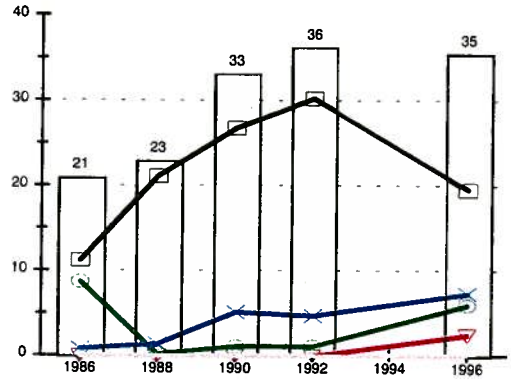


Figure 10-f: **POST, POLE & PILING**
(MMbf, Scribner)



(Percent of total)

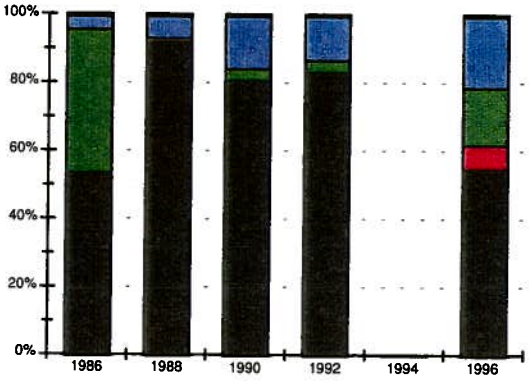
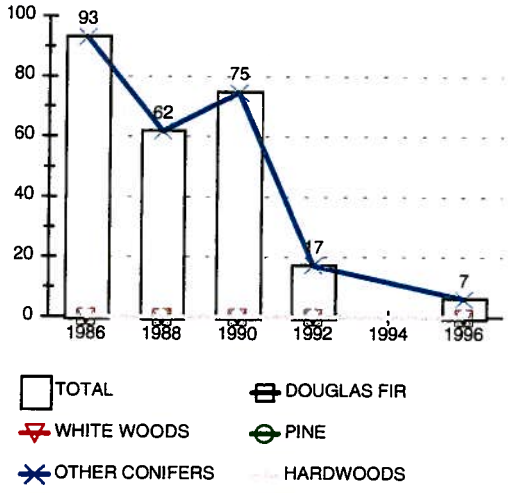
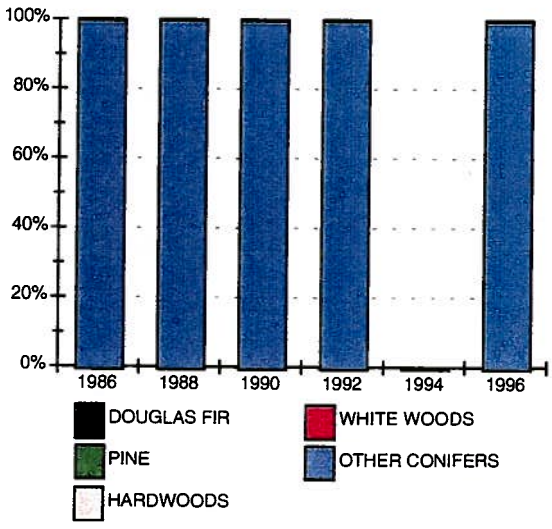


Figure 10-g: **SHAKE & SHINGLE**
(MMbf, Scribner)



(Percent of total)



Note: The1994 survey was not competed.

Log Utilization by Timber Age Group

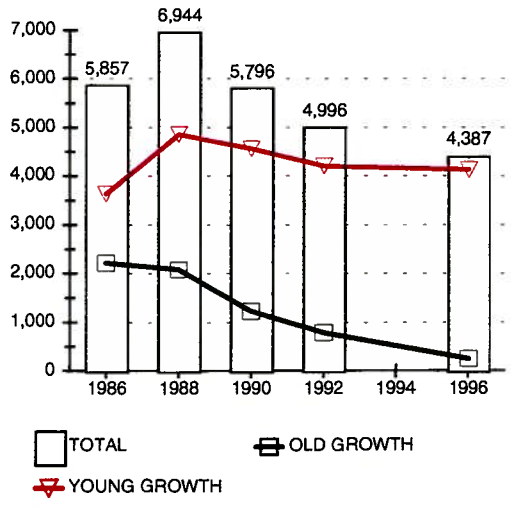
Old growth timber (more than 100 years of age) was the dominant harvest age class through 1980. Since then, young growth timber has become increasingly important. This trend accelerated during the ten years from 1988 to 1996 with the reduction in harvest from public lands. In 1986, 38 percent of the timber utilized by the forest industries in Washington was old growth (Figure 11-a). In 1996 just 6 percent of the logs utilized were classified as old growth. This trend is expected to continue.

All sectors have successfully made the transition to second growth material with the exception of the shake & shingle industry. The shake & shingle industry utilized primarily old-growth western redcedar. In 1986, this sector utilized 93 MMbf of old growth western redcedar, but by 1996 utilization of old growth material had fallen to just 7 MMbf (a 94 percent reduction). The lumber sector, which utilized almost a billion board feet of old growth logs in 1986, had reduced its utilization to only one tenth that amount by 1996. The post, pole & piling industry used primarily young-growth Douglas fir, and virtually all of the wood utilized by this industry was less than 100 years of age. The veneer & plywood sector has made a remarkable transition from 57 percent old growth in 1986 to just 8 percent in 1996, although output has also declined.

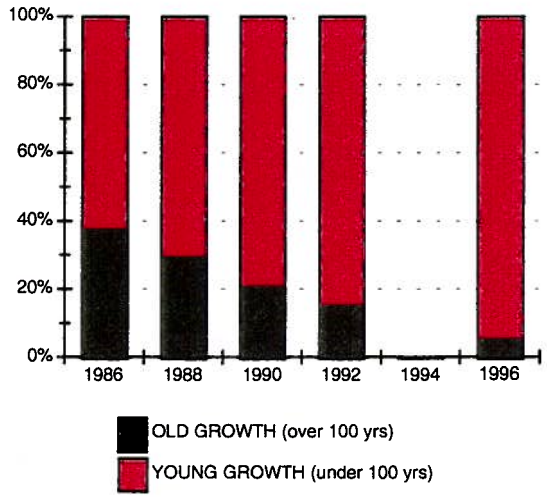
See table D-10 for detail.

Figure 11: Log Utilization by Sector by Timber Age Group

Figure 11-a: **STATE TOTAL**
(MMbf , Scribner)



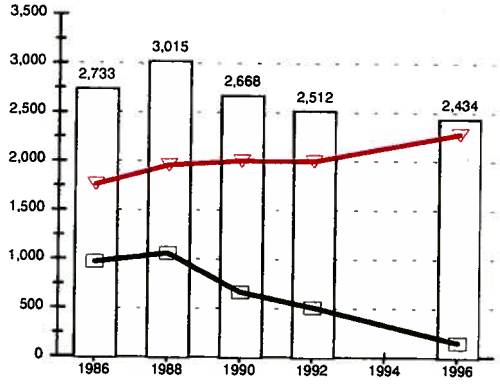
(Percent of total)



Note: The1994 survey was not competed.

Log Utilization by Timber Age Group (Continued)

Figure 11-b: **LUMBER**
(MMbf, Scribner)



(Percent of total)

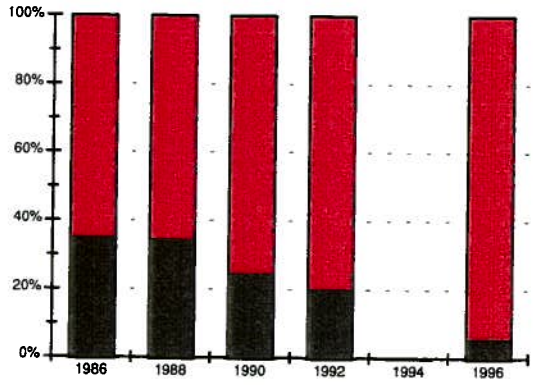
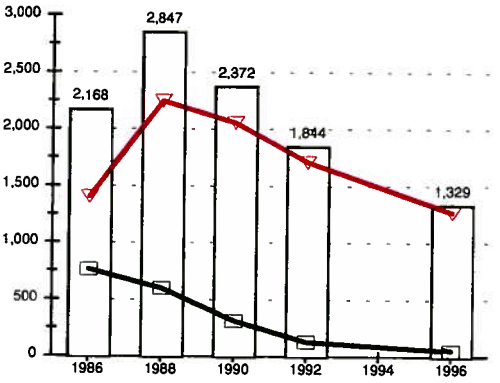


Figure 11-c: **LOG EXPORT**
(MMbf, Scribner)



(Percent of total)

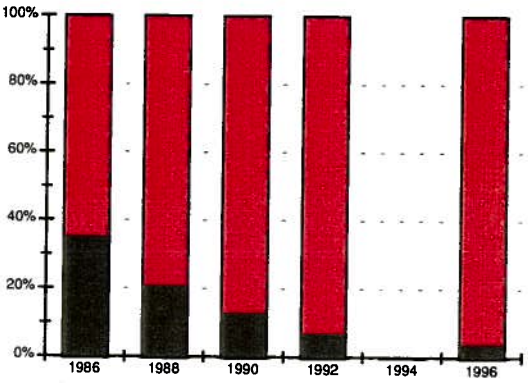
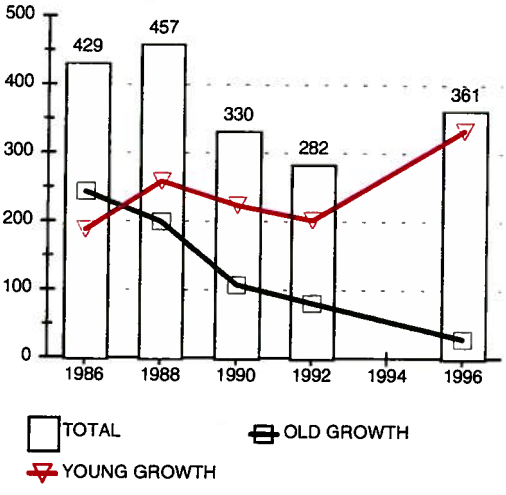
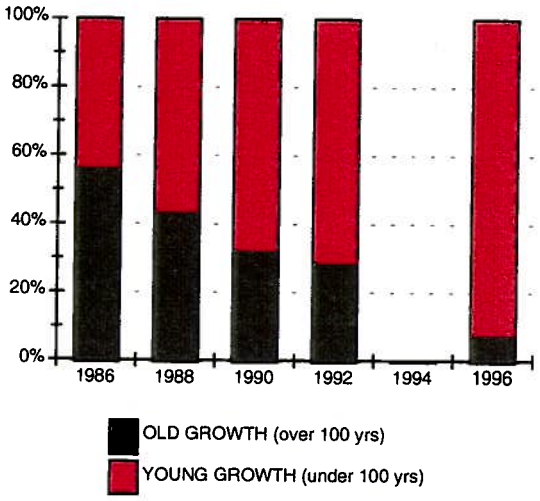


Figure 11-d: **VENEER & PLYWOOD**
(MMBF, Scribner)



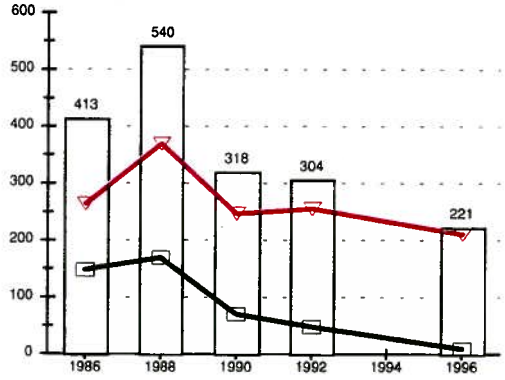
(Percent of total)



Note: The1994 survey was not competed.

Log Utilization by Age Group (Continued)

Figure 11-e: **PULP**
(MMbf, Scribner)



(Percent of total)

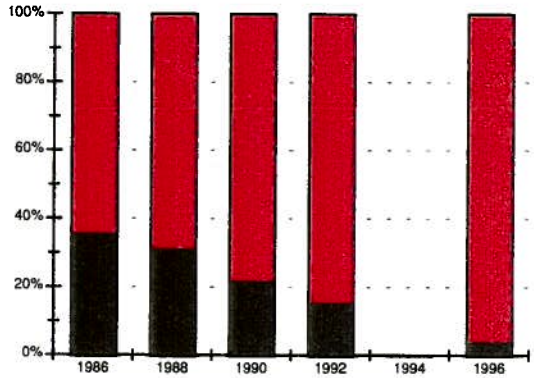
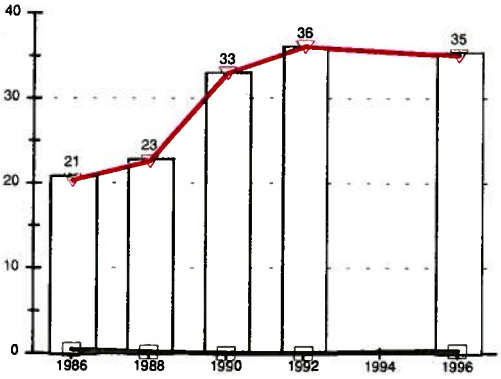


Figure 11-f: **POST, POLE, & PILING**
(MMbf, Scribner)



(Percent of total)

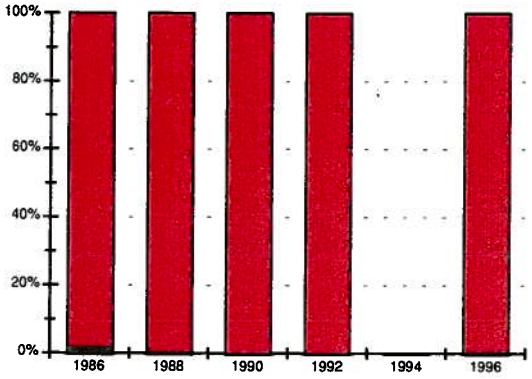
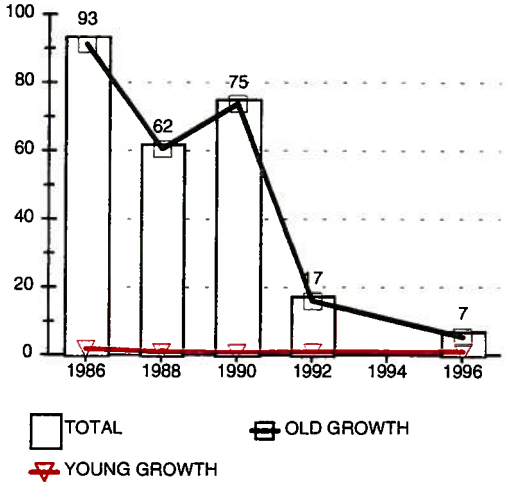
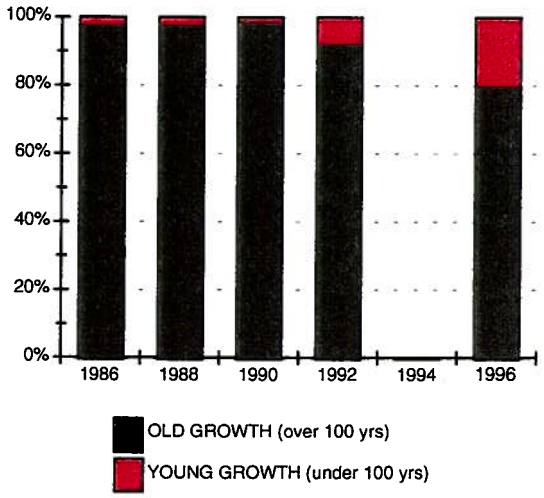


Figure 11-g: **SHAKE & SHINGLE**
(MMbf, Scribner)



(Percent of total)



Note: The1994 survey was not competed.

Mill Dependency on a Single Ownership for Logs

Mill dependency is defined as mills more than two-thirds dependent on a single ownership source for logs. From 1986 to 1996 firms within the forest products industry became less dependent on any one ownership source (Tables 10 and 11). In 1986, 55 percent of firms were more than two-thirds dependent, but by 1996 the proportion of firms more than two-thirds dependent had fallen to 43 percent. (Figure 12-a.) Throughout the period more mills were dependent on forest industry than any other single ownership group.

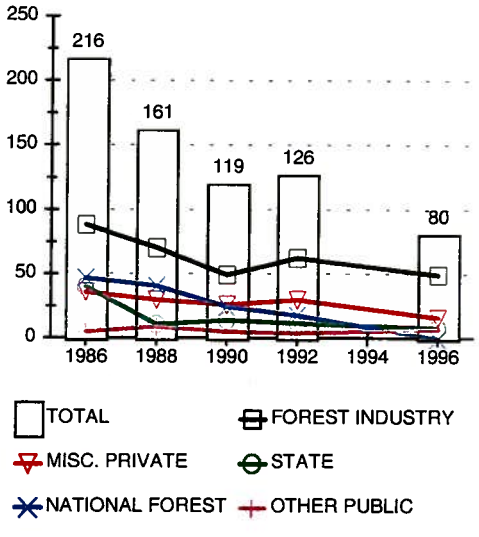
Other private, with 23 percent of the harvest in 1996, was the most important owner class for the lumber industry in this respect, largely because of the dominance of log export activities by the forest industry. In 1988 the national forests had a higher dependence while providing 20 percent of the log volume utilized, but environmental restrictions on the national forests have had substantial impacts in recent years. In 1988, 25 sawmills were dependent on national forest timber, ten years later in 1996 not a single sawmill was dependent on national forest timber. In 1986, 29 sawmills or 25 percent of all sawmills were dependant on one of the public owners for 2/3 of their log supply. In 1996, only four mills or 5 percent of the mills relied on public ownership. Of the 31 sawmills that were 2/3 dependent on a single ownership class in 1996, 27 were dependent on a private ownership class.

Mill dependence in the shake & shingle industry has declined from 87 percent in 1986 to 29 percent of mills in 1996. Shake & shingle mills dependent on forest industry lands increased from 34 percent in 1986 to 49 percent in 1996. In response to the decline in the availability of red-cedar from national forests, the remaining mills have received an increasing proportion of their albeit shrinking log supply from forest industry lands. The total log utilization by the shake & shingle industry declined from 31 MMbf in 1986 to just 3.4 MMbf in 1996.

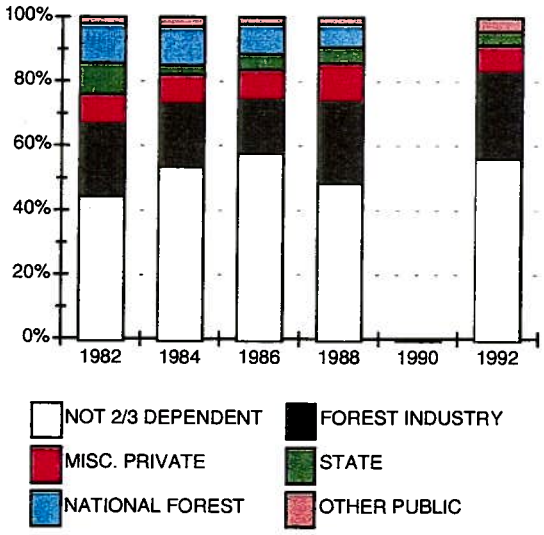
The forest industry is the dominant supplier to the log export and the post, pole & piling sectors. Since posts, poles and piling are mainly a young-growth wood use and tree form is very important, it is not surprising that the forest industry is the primary source of timber for this industry.

Figure 12: Mill Dependency by Sector by Ownership Class (Continued on page 27)

Figure 12-a: **STATE TOTAL**
(Mills more than 2/3 dependant)



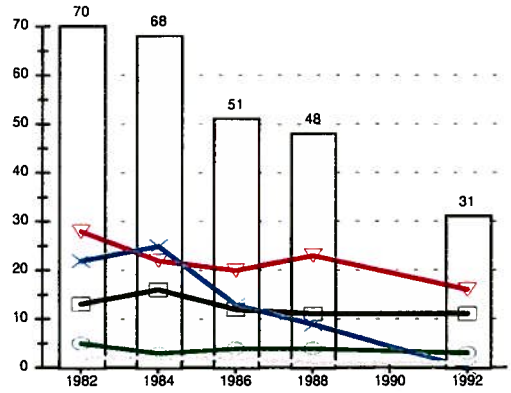
(Percent of total mills in ownership class)



Note: The1994 survey was not competed.

Mill Dependency on a Single Ownership for Logs (Continued)

Figure 12-b: **LUMBER**
(Mills more than 2/3 dependant)



(Percent of total mills in ownership class)

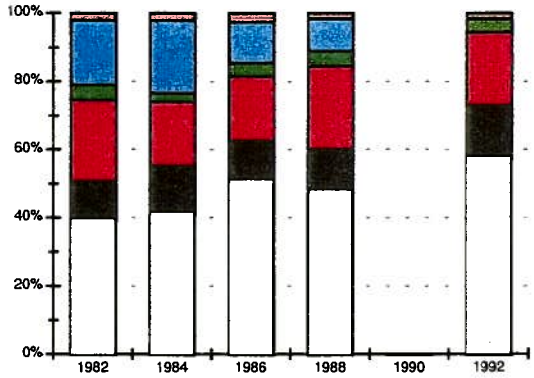
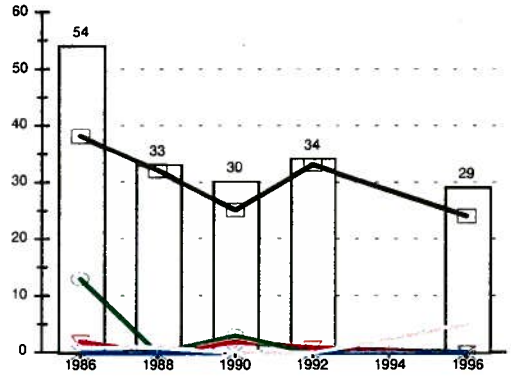


Figure 12-c: **LOG EXPORT**
(Mills more than 2/3 dependant)



(Percent of total mills in ownership class)

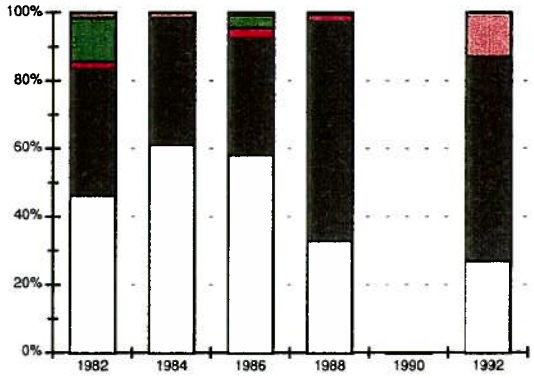
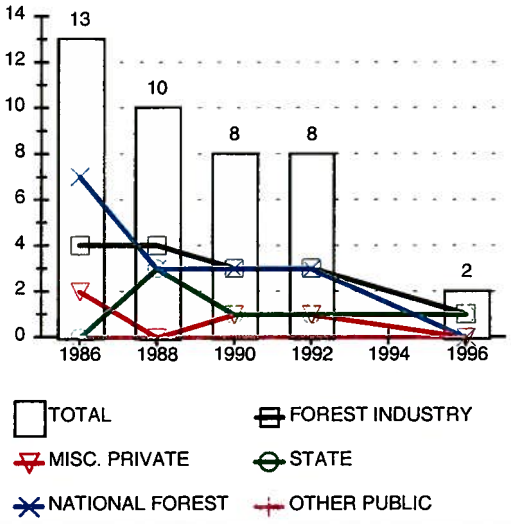
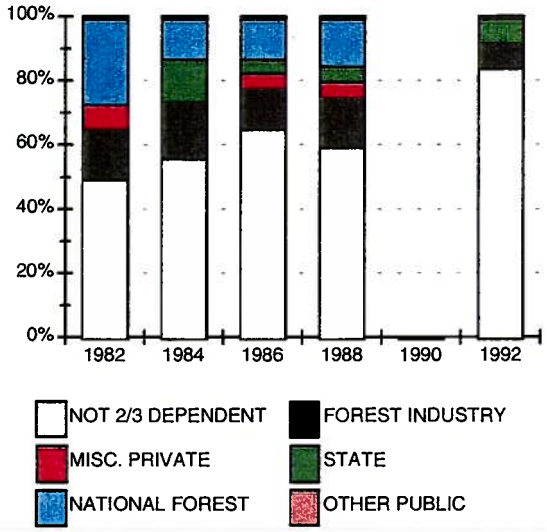


Figure 12-d: **VENEER & PLYWOOD**
(Mills more than 2/3 dependant)



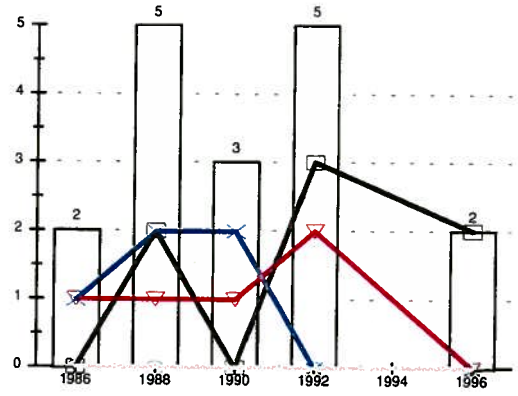
(Percent of total mills in ownership class)



Note: The1994 survey was not competed.

Mill Dependency on a Single Ownership for Logs (Continued)

Figure 12-e: **PULP**
(Mills more than 2/3 dependant)



(Percent of total mills in ownership class)

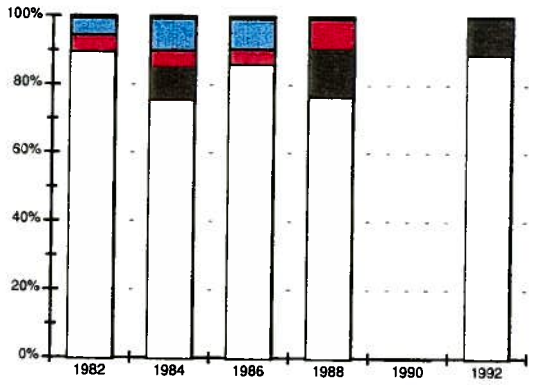
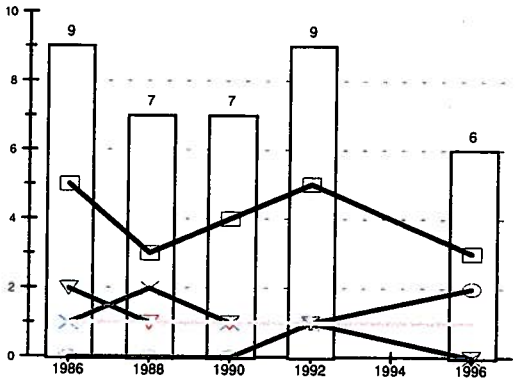


Figure 12-f: **POST, POLE, & PILING**
(Mills more than 2/3 dependant)



(Percent of total mills in ownership class)

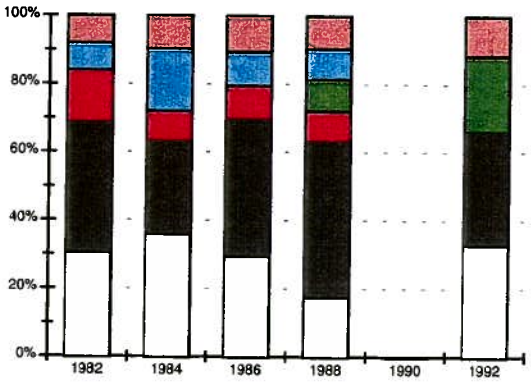
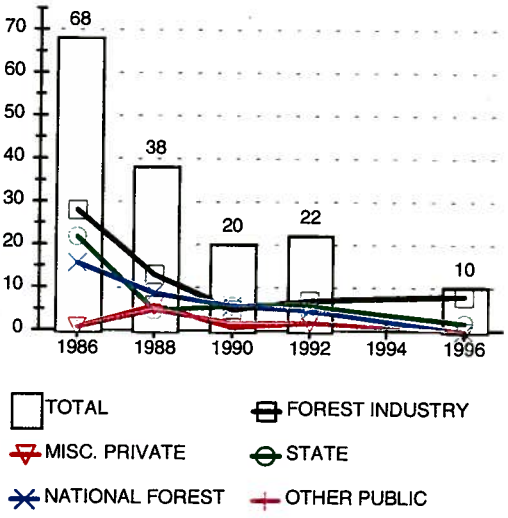
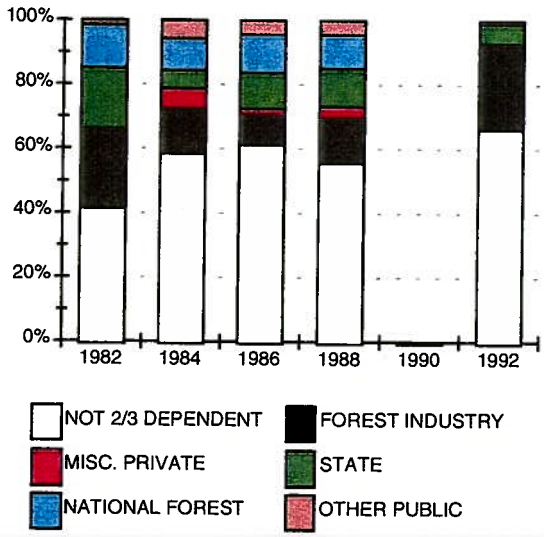


Figure 12-g: **SHAKE & SHINGLE**
(Mills more than 2/3 dependant)



(Percent of total mills in ownership class)



Note: The1994 survey was not competed.

Mill Dependency on a Single Ownership for Logs (Continued)

Table 10:Operations Two-Thirds or more dependent by Sector*

Sectors	1986	1988	1990	1992	1994	1996
Sawmills	70	68	51	48		31
Veneer & Plywood	13	10	8	8		2
Pulp	2	5	3	5		2
Shake & Shingle	68	38	20	22		10
Post, Pole & Piling	9	7	7	9		6
Log Export	54	33	30	34		29
Total	216	161	119	126		80

* Dependence for timber supply by ownership class is determined by whether or not an individual mill obtains more than two-thirds of its logs from a single ownership class.

Table 11:Operations Two-Thirds or more dependent by Ownership

Sectors	1986	1988	1990	1992	1994	1996
National Forest	47	41	25	18		0
State	40	11	14	12		8
Other Public	5	9	5	4		7
Forest Industry - own wood supply	17	17	12	12		28
Forest Industry - Other wood supply	71	53	37	50		21
Forest Industry Total	88	70	49	62		49
Other Private	36	30	26	30		16
Total	216	161	119	126		80

Note: The1994 survey was not competed.

Production and Utilization of Wood and Bark Residue

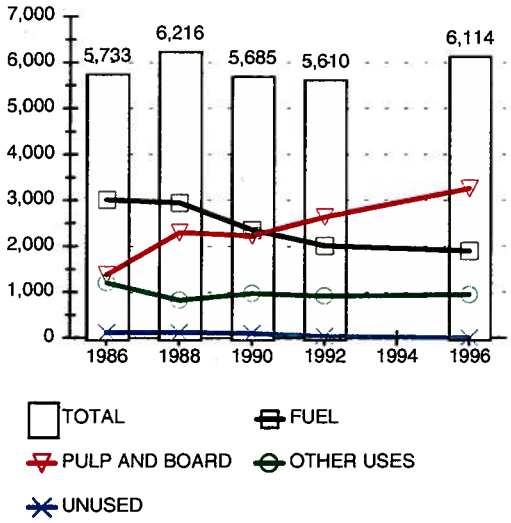
Residues are byproducts of primary wood processing firms. These residues are then used in the production of pulp, reconstituted wood products, for fuel, landscaping, or disposed of by burning or in landfills. In 1996, 6.1 million tons of wood and bark residues were produced, 76 percent of residue was wood, and 24 percent was bark (Tables 12 & 13). Of wood residues, 0.2 percent were unused, of bark residues, 0.3 percent were unused, togeather 11,227 tons of wood and bark were unused.

Production: During the 1986-1996 period, the vast majority (80 to 85 percent) of the residue production came from the lumber sector, 12 to 15 percent from veneer & plywood mills, and just 3 or 4 percent from the shake & shingle sector. Residue production has remained relatively constant over the period despite the reduction in log utilization in Scribner scale and increased resource conversion (output per unit of log volume input on a Scribner basis) observed in the lumber and veneer & plywood sector. The increased level of residue by-products is attributed to the continued shift from old growth to second growth material. In 1986 residue production was 6.1 million tons, just 2 percent less than the peak production in 1988. In the lumber sector the yield of residues per Mbf Scribner increased from 1.7 tons in 1986, to 2.1 tons in 1996, a 19 percent increase.

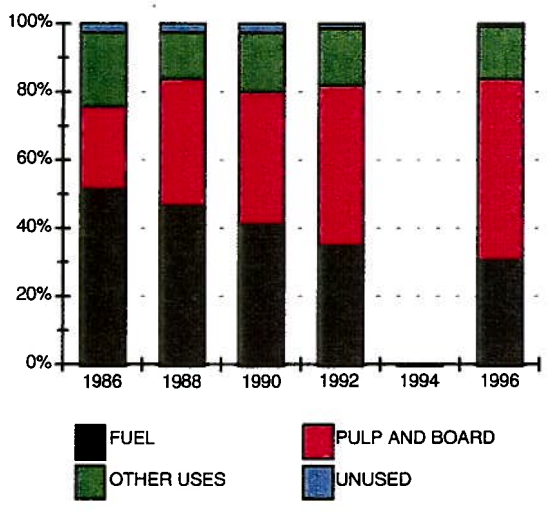
The sawmill, veneer & plywood, shake & shingle, post, pole & piling, and log export sectors of the industry generated 6.1 million tons of wood and bark residues in 1996. Of this amount, the sawmill, and veneer & plywood sectors provided 97 percent of the total and of their share, 99.9 percent was used.

Figure 13: Wood and Bark Residue (Continued on page 35)

Figure 13-a: **STATE TOTAL**
(Thousand tons, dry weight)



(Percent of total)



Note: The1994 survey was not competed.

Production and Utilization of Wood and Bark Residue (Continued)

Use: Over the period, the primary use of residues shifted from fuel to production of pulp and board. (See Figure 13.) The proportion used for fuel fell from 52 percent in 1986 to 31 percent in 1996, while the proportion used in the paper and board industry increased from 24 to 53 percent over the same time period. The proportion used in "other uses" fell from 32 to just 16 percent. The proportion of unused fell from 2 percent in 1986 to less than 0.2 percent in 1996. In 1996, 84 percent of wood residue went for pulp; 6 percent for board: 18 percent for fuel; 0.2 percent other uses.

A significant achievement of the forest products industry is the relatively high use of residues. Of all residues produced, 99.8 percent were used, 4.6 million tons of wood and 1.5 million tons of bark. The pulp industry accounted for 2.9 million tons (64 percent) of the wood residues, and 1.9 million tons (31 percent) of all residues where used for fuel.

Note: The1994 survey was not competed.

Production and Utilization of Wood and Bark Residue (Continued)

Table 12: Wood Residue (Million tons)

	1986	1988	1990	1992	1994	1996
Production						
Sawmills	3,600	4,099	3,750	3,688		3,922
Veneer & Plywood	713	618	541	534		701
Shake & shingle	70	66	25	19		12
Total	**4,383**	**4,783**	**4,316**	**4,241**		**4,635**
Use						
Pulp	1,367	2,293	2,058	2,424		2,966
Board	0	0	173	186		286
Fuel	2,044	1,947	1,430	1,084		835
Other uses	885	445	574	508		541
Unused	87	98	81	39		7
Total	**4,383**	**4,783**	**4,316**	**4,241**		**4,635**

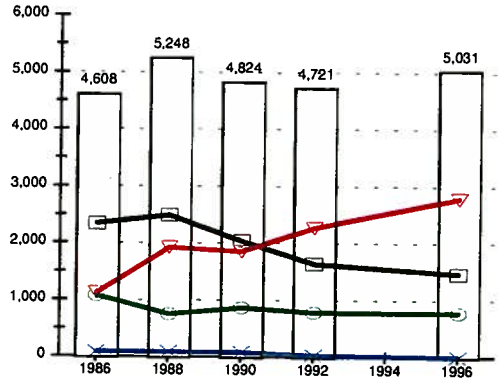
Table 13: Bark Residue (Million tons)

	1986	1988	1990	1992	1994	1996
Production						
Sawmills	1,009	1,148	1,073	1,033		1,109
Veneer & plywood	168	150	131	126		188
Shake & shingle	28	22	9	6		3
Other	146	113	155	205		179
Total	**1,351**	**1,433**	**1,368**	**1,370**		**1,479**
Use						
Pulp	18	5	0	0		1
Board	0	0	0	23		0
Fuel	964	1,004	929	924		1,063
Other uses	323	388	404	414		411
Unused	46	37	35	9		4
Total	**1,351**	**1,434**	**1,368**	**1,370**		**1,479**

Note: The1994 survey was not competed.

Production and Utilization of Wood and Bark Residue (Continued)

Figure 13-b: **LUMBER**
(Thousand tons, dry weight)



(Percent of total)

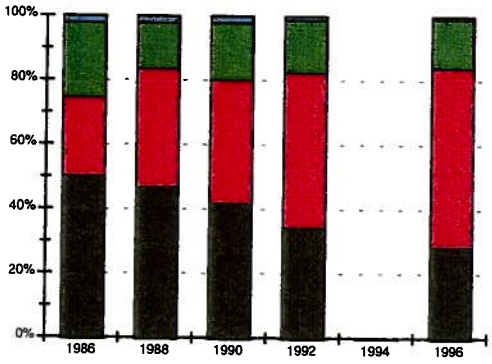
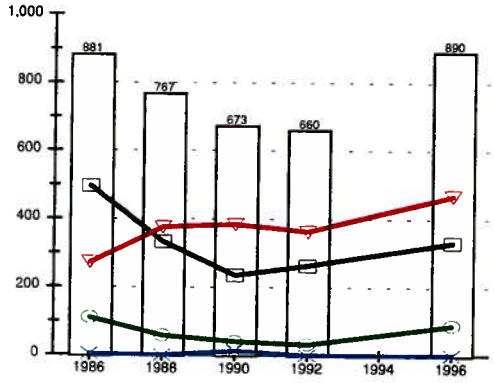


Figure 13-c: **VENEER & PLYWOOD**
(Thousand tons, dry weight)



(Percent of total)

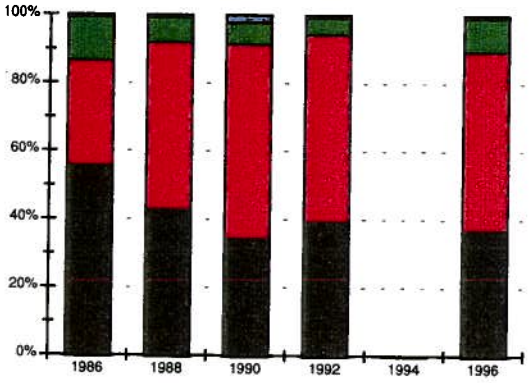
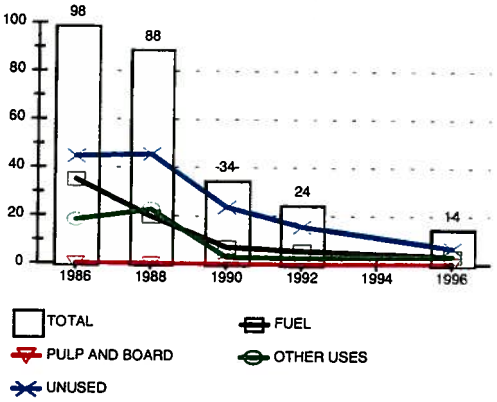
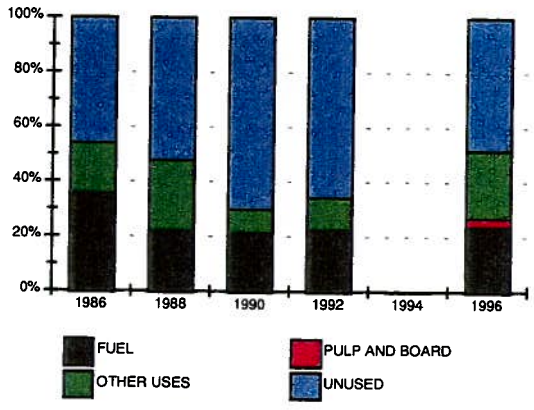


Figure 13-d: **SHAKE & SHINGLE**
(Thousand tons, dry weight)



(Percent of total)



Note: The1994 survey was not competed.

Figure 14: Residue Production 1996

Figure 14-a: **Wood**

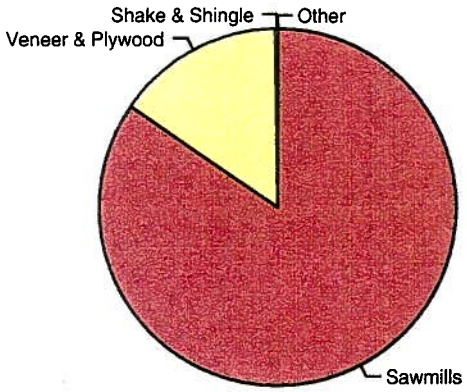


Figure 14-b: **Bark**

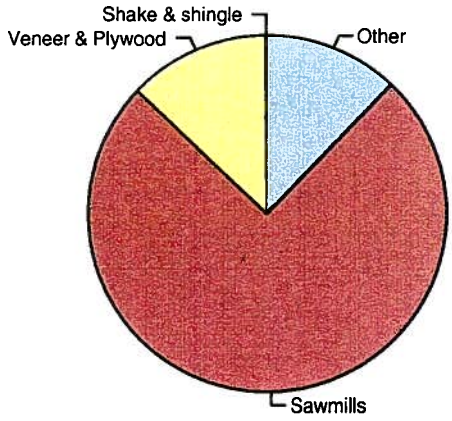


Figure 15: Residue Use 1996

Figure 15-a: **Wood**

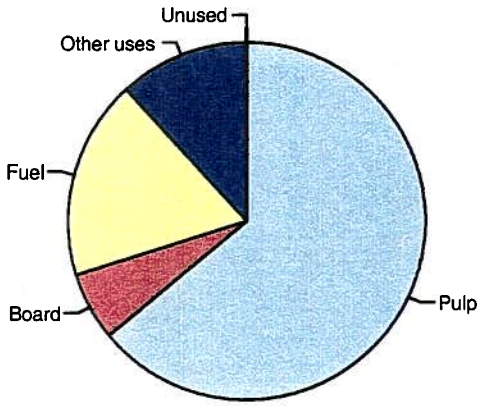
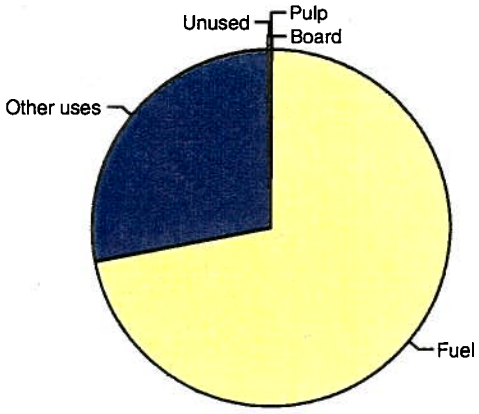


Figure 15-b: **Bark**



Note: The1994 survey was not competed.

HARDWOOD INDUSTRY

In 1996, 13 sawmills and five veneer & plywood mills used hardwood logs as an input to their milling operations. Of the 13 sawmills, 10 used hardwoods for 90 percent-plus of their log utilization. Mills using hardwood logs, with the exception of one sawmill, were located in western Washington. The counties where the hardwood using sawmills were located are listed in Table 14.

Table 14: Sawmills Using Hardwoods in 1996 by County

County	Hardwood Using Sawmills
Cowlitz	2
Jefferson	1
King	1
Lewis	3
Mason	1
Pacific	1
Skagit	1
Snohomish	2
Stevens	1
Total	13

Utilization: Seven percent of total log utilization was hardwood volume. Red alder was the predominant hardwood species accounting for 86 percent of the hardwood roundwood volume used by the Washington wood products industry. Hardwood logs were used by veneer & plywood, and lumber mills. About two percent of the hardwood roundwood volume was exported as logs.

Total hardwood log utilization was 325 million board feet in 1996 (Table D-8). Of this volume, 294 million board feet were used in lumber operations, 25 million board feet were used in the veneer & plywood industry and 6 million board feet were exported. Total hardwood utilization in 1996 was 12 percent below the 1992 utilization, however total log utilization also declined 12 percent. In addition, 384,631 bone dry tons of hardwood chips from roundwood chipping plants were utilized by the pulp industry (Table D-52). This was an increase of slightly more than 30 percent compared to the 1992 roundwood chipping tonnage.

The sawmill sector was the dominant sector using hardwood logs in 1996, and utilization was up one percent from 1992. Nearly all hardwood log volume utilized by sawmills was used by sawmills 90 percent-plus dependent on hardwoods (Table 15). Although there were no A class sawmills (120,000+ board feet of lumber tally capacity per 8-hour shift) reporting the utilization of hardwoods, five B class sawmills (80,000-119,999 board feet capacity per eight-hour shift) using hardwood logs accounted for 83 percent of all hardwood log utilization by the sawmill sector. The 10 sawmills which were 90 percent-plus dependent upon hardwoods in 1996 utilized 293.5 million board feet, a 13 percent increase from 1992.

Note: The1994 survey was not competed.

HARDWOOD INDUSTRY (Continued)

Log Supply: Twenty counties in Washington along with out-of-state sources provided logs to the hardwood lumber industry (Table 15). The hardwood volume was provided predominately from Western Washington counties; but with 13 percent from out-of-state sources. Cowlitz, Grays Harbor, Lewis, Skagit and Snohomish counties supplied half of the hardwood log volume for sawmills.

Table 15: Sawmill Hardwood Log Volume by County: Mills 90%+ Dependent on Hardwoods

County of Origin	Volume MMbf Scribner	Log Supply (Percent)
Lewis	43	15
Skagit	31	10
Snohomish	30	10
Cowlitz	28	10
Grays Harbor	16	5
Thurston	16	5
Clark	16	5
Pacific	13	5
Clallam	12	4
Whatcom	16	4
Wahkiakum	8	3
Island	8	3
Others	22	7
Out-of-State	39	13
Total	294	100

Note: The1994 survey was not competed.

Ownership: The hardwood logs utilized by sawmills 90 percent-plus dependent on hardwoods came largely from private ownerships (Table 16). For 1996, the private lands provided in excess of 80 percent of the total to these sawmills. Forest industry lands were the source of 48 percent of the roundwood volume used while miscellaneous private owners accounted for over one-third of the total hardwood roundwood volume. Public owners accounted for nearly one-fifth of the volume.

Table 16: Sawmill Hardwood Log Volume by Ownership: Mills 90%+ Dependent on Hardwoods

Ownership	Volume (MMbf Scribner)	Log supply (Percent)
State	40.1	14
National Forest	0.6	<0.5
Other Public	15.8	5
Total Public	56.5	19
Forest Industry		
Own wood supply	71.7	25
Other wood supply	67.9	23
Miscellaneous Private	97.4	33
Total Private	237.0	81
All owners	**293.5**	**100**

Note: The1994 survey was not competed.

Appendix A

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 this measure.

Lumber, veneer & plywood mills relied almost entirely on Scribner scale. Pulp and board mills also used tons, cords and cubic measure scales. Although the log export, shake & shingle, and post, pole & 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 utilization. An exception is allowed for purchased or transferred veneer utilized by plywood mills (square feet, 3/8-inch basis) and chips and other residue utilized by pulp mills (bone dry tons).

The following measurement units were used:

Board foot, Scribner log rule = log utilization.
Board foot lumber tally = lumber production.
Square feet 3/8-inch basis = plywood and veneer production.
Square = 10' x 10' area coverage for shake & shingle production.
Board foot Scribner = for log export shipments and for post, pole & piling production.

Bolt, pieces and shake blocks were generally converted to Scribner scale by the respondent. For other products the following conversion factors were used.

Unit conversion used in this report:

Lumber Industry		
1.3 board feet lumber tally	= 1 board foot, Scribner (approximately)	
Veneer & Plywood (3/8-inch basis)		
2.5 square feet	= 1 board foot, Scribner	
1 square foot	= .0885 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 (2,000 pounds)	= 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 & Shingle		
10 squares**	= 1,000 board feet	= 4.7 cubic meters (S.W.E.)*
Post, pole & 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
*** Residues are generally discussed in terms of dry weight, but the accepted industry convention is to have residues adjusted to "the oven-dry weight." The phrase "dry weight" will be used throughout this report.

Appendix B

Mill Residues

Residue production figures in this report are calculated, not reported values. The mills were asked merely to indicate on a percentage basis the uses made of their various residues. These percentages 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.

Type of output	Solid green volume		Dry weight	Residue Type
	(Cubic feet)	(Percent)	(Tons)	
Wood residue:				
Slabs, edgings, sawmill trim	36	0.8	0.486	Coarse
Planer trim	3	2.1	0.041	Coarse
Sawdust	16	11.0	0.216	Fine
Planer shavings	16	11.0	0.216	Medium
Total wood residue	71	48.9	0.959	
Bark	17	11.7	0.258	Bark
Total all residues	88	60.6	1.217	
Lumber	57	39.4	0.864	
Whole log output	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.

Softwood Plywood Residues*

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

Type of Output	Solid Green volume (Cubic feet)	Dry weight (Tons)	Dry weight (Percent)	Residue Type
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	1.6	0.022	1.9	Fine
Total wood residue	36.9	0.516	45.4	
Bark	8.8	0.132	11.6	Bark
Total all residues	45.7	0.648	57.0	
Plywood	34.9	0.489	43.0	
Whole log output	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 adjustments were made in applying these data to Washington.

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.

Shake & Shingle residue	Solid Volume (Cubic feet)	Solid Volume (Percent)	Dry Weight (Tons)
Shingles:			
Coarse	23	13.7	0.22
Fine	78	46.8	0.75
Bark	19	11.5	0.28
Total shingles	120	72.0	1.25
Shakes:			
Coarse	23	13.7	0.22
Fine	24	14.5	0.23
Bark	19	11.5	0.28
Total shakes	66	39.7	0.73

* 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.

Item	200 cu. ft (Units)	Dry weight (Tons)	Residue Type
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
Total wood residue	1.24	1.05	
Bark	0.40	0.34	Bark
Total residue	1.64	1.39	

* 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 which 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 summarizes 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 description 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

Appendix D

WASHINGTON SUMMARY 1996

Table D-1

Number of Mills by Timber Industry

Economic area and county	All industries	Industry: Lumber	Veneer and plywood	Pulp[1]	Shake and shingle	Log Export[2]	Post, pole and piling
Puget Sound							
Island	--	--	--	--	--	--	--
King	3	3	--	--	--	--	--
Kitsap	--	--	--	--	--	--	--
Pierce	19	6	1	2	--	9	1
San Juan	--	--	--	--	--	--	--
Skagit	8	5	1	--	1	1	--
Snohomish	19	8	--	1	3	6	1
Whatcom	5	1	1	1	1	--	1
Total	54	23	3	4	5	16	3
Olympic Peninsula							
Clallam	18	2	1	2	8	5	--
Grays Harbor	24	4	3	1	11	5	--
Jefferson	3	2	--	1	--	-	--
Lewis	12	8	--	--	3	--	1
Mason	7	5	1	--	--	--	1
Pacific	3	2	--	--	1	--	--
Thurston	9	3	1	--	--	4	1
Total	76	26	6	4	23	14	3
Lower Columbia							
Clark	4	2	--	2	--	--	--
Cowlitz	20	6	--	4	--	10	--
Klickitat	2	1	1	--	--	--	--
Skamania	1	1	--	--	--	--	--
Wahkiakum	2	--	--	--	2	--	--
Total	29	10	1	6	2	10	--
Central Washington							
Adams	--	--	--	--	--	--	--
Benton	--	--	--	--	--	--	--
Chelan	2	2	--	--	--	--	--
Douglas	--	--	--	--	--	--	--
Franklin	--	--	--	--	--	--	--
Grant	--	--	--	--	--	--	--
Kittitas	--	--	--	--	--	--	--
Lincoln	--	--	-	--	--	--	--
Okanogan	4	3	1	--	--	--	--
Yakima	4	2	1	1	--	--	--
Total	10	7	2	1	--	--	--
Inland Empire							
Asotin	1	1	--	--	--	--	--
Columbia	--	--	--	--	--	--	--
Ferry	3	2	--	--	--	--	1
Garfield	--	--	--	--	--	--	--
Pend Oreille	1	--	--	1	--	--	--
Spokane	1	--	--	1	--	--	--
Stevens	9	6	1	--	--	--	2
Walla Walla	2	--	--	2	--	--	--
Whitman	--	--	--	--	--	--	--
Total	17	9	1	4	--	--	3
TOTAL, STATEWIDE	186	75	13	19	30	40	9

[1] Each pulping process at a multiplant location is counted as an individual mill.
[2] Represents the number of identifiable operations involved in the log export trade.

WASHINGTON SUMMARY 1996

Table D-2

Primary Wood Utilization

Economic area and industry	Roundwood: All roundwood	Roundwood: Sound logs	Roundwood: Utility logs	Other[1]	Residue[2]
	Thousand board feet, Scribner log rule				Bone dry tons
Puget Sound					
Lumber	730,165	689,004	41,161	--	--
Veneer & plywood [3]	--	--	--	--	--
Pulp & board [4]	--	--	--	--	--
Shake & shingle [5]	--	--	--	--	--
Log export	476,643	473,750	2,893	--	--
Post, pole & piling	13,919	13,919	--	--	--
Total	1,220,727	1,176,673	44,054	--	--
Olympic Peninsula					
Lumber	802,713	729,625	73,088	--	--
Veneer & plywood [3]	155,089	137,249	17,840	--	--
Pulp & board [4]	221,374	78,235	143,139	--	2,956,760
Shake & shingle [5]	6,825	5,701	1,124	6,199	--
Log export	429,089	425,104	3,985	--	--
Post, pole & piling	12,936	12,872	64	--	--
Total	1,628,026	1,388,786	239,240	6,199	2,956,760
Lower Columbia					
Lumber	449,176	425,566	23,610	--	--
Veneer & plywood [6]	--	--	--	--	--
Pulp & board [7]	--	--	--	--	4,317,040
Shake & shingle [5]	--	--	--	--	--
Log export	423,230	421,801	1,429	--	--
Post, pole & piling	--	--	--	--	--
Total	872,406	847,367	25,039	--	4,317,040
Central Washington					
Lumber	198,015	186,535	11,480	--	--
Veneer and plywood [6]	206,133	205,241	892	--	--
Pulp & board [7] [8]	--	--	--	--	--
Shake & shingle	--	--	--	--	--
Log export	--	--	--	--	--
Post, pole & piling	--	--	--	--	--
Total	404,148	391,776	12,372	--	--
Inland Empire					
Lumber	253,635	216,025	37,610	--	--
Veneer and plywood [6]	-	--	--	--	--
Pulp & board [7] [8]	--	--	--	--	983,713
Shake & shingle	--	--	--	--	--
Log export	--	--	--	--	--
Post, pole & piling	8,495	3,355	5,140	--	--
Total	262,130	219,380	42,750	--	983,713
Total, State					
Lumber	2,433,704	2,246,755	186,949	--	--
Veneer & plywood	361,222	342,490	18,732	--	--
Pulp and board	221,374	78,235	143,139	--	8,257,513
Shake & shingle	6,825	5,701	1,124	6,199	--
Log export	1,328,962	1,320,655	8,307	--	--
Post, pole & piling	35,350	30,146	5,204	--	--
TOTAL, STATEWIDE	4,387,437	4,023,982	363,455	6,199	8,257,513

[1] Included are blocks and bolts used by shake and shingle mills.
[2] Included are residues from sawmills and veneer and plywood mills, chips from roundwood chipping plants, plus wastepaper.
[3] Veneer and plywood for Puget Sound combined with Olympic Peninsula to avoid disclosure.
[4] Pulp and board for Puget Sound combined with Olympic Peninsula to avoid disclosure.
[5] Shake and shingle for Puget Sound and Lower Columbia combined with Olympic Peninsula to avoid disclosure.
[6] Veneer and plywood in the Lower Columbia and Inland Empire combined with Central Washington to avoid disclosure.
[7] No pulp and board mills in the Lower Columbia, Central Washington or Inland Empire reported receipt of logs.
[8] Pulp and board in Central Washington combined with Inland Empire to avoid disclosure.

WASHINGTON SUMMARY 1996

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	730,165	718,610	4,050	--	2,125	5,380
Veneer & plywood [1]	--	--	--	--	--	--
Pulp & board [2]	--	--	--	--	--	--
Shake & shingle [3]	--	--	--	--	--	--
Log export	476,643	471,651	--	450	4,484	58
Post, pole & piling	13,919	13,232	--	--	387	300
Total	1,220,727	1,203,493	4,050	450	6,996	5,738
Olympic Peninsula						
Lumber	802,713	796,633	6,080	--	--	--
Veneer & plywood [1]	155,089	145,367	--	1,610	1,744	6,368
Pulp & board [2]	221,374	192,281	--	7,651	5,436	16,006
Shake & shingle [3]	6,825	6,685	2	--	--	138
Log export	429,089	423,039	1,079	--	340	4,631
Post, pole & piling	12,936	12,902	34	--	--	--
Total	1,628,026	1,576,907	7,195	9,261	7,520	27,143
Lower Columbia						
Lumber	449,176	334,676	94,340	13,440	--	6,720
Veneer & plywood [4]	--	--	--	--	--	--
Pulp & board [5]	--	--	--	--	--	--
Shake & shingle [3]	--	--	--	--	--	--
Log export	423,230	316,631	105,189	1,410	--	--
Post, pole & piling	--	--	--	--	--	--
Total	872,406	651,307	199,529	14,850	--	6,720
Central Washington						
Lumber	198,015	195,575	--	--	2,440	--
Veneer & plywood [4]	206,133	201,081	713	4,339	--	--
Pulp & board [5]	--	--	--	--	--	--
Shake & shingle	--	--	--	--	--	--
Log export	--	--	--	--	--	--
Post, pole & piling	--	--	--	--	--	--
Total	404,148	396,656	713	4,339	2,440	--
Inland Empire						
Lumber	253,635	247,585	--	6,050	--	--
Veneer & plywood [4]	--	--	--	--	--	--
Pulp & board [5]	--	--	--	--	--	--
Shake & shingle	--	--	--	--	--	--
Log export	--	--	--	--	--	--
Post, pole & piling	8,495	8,425	--	--	70	--
Total	262,130	256,010	--	6,050	70	--
Total, State						
Lumber	2,433,704	2,293,079	104,470	19,490	4,565	12,100
Veneer & plywood	361,222	346,448	713	5,949	1,744	6,368
Pulp & board	221,374	192,281	--	7,651	5,436	16,006
Shake & shingle	6,825	6,685	2	--	--	138
Log export	1,328,962	1,211,321	106,268	1,860	4,824	4,689
Post, pole & piling	35,350	34,559	34	--	457	300
TOTAL, STATEWIDE	4,387,437	4,084,373	211,487	34,950	17,026	39,601

[1] Veneer and plywood for Puget Sound combined with Olympic Peninsula to avoid disclosure.
[2] Pulp and board for Puget Sound combined with Olympic Peninsula to avoid disclosure.
[3] Shake and shingle for Puget Sound and Lower Columbia combined with Olympic Peninsula to avoid disclosure.
[4] Veneer and plywood for Lower Columbia and Inland Empire combined with Central Washington to avoid disclosure.
[5] No pulp and board mills in the Lower Columbia, Central Washington and Inland Empire reported receipt of logs.

WASHINGTON SUMMARY 1996

Table D-4

Log Utilization by County and Harvest Origin by County (Thousand board feet, Scribner log rule)

Economic area and county of use	Total	Economic area and county of origin: Puget Sound — Island	King	Kitsap	Pierce	San Juan	Skagit	Snohomish	Whatcom
Puget Sound									
King/Whatcom [1,2,3,4,5]	130,657	--	43,850	--	33,100	137	680	14,700	14,790
Pierce [2] [3] [5]	654,769	--	83,038	17,740	196,230	--	25,924	10,407	20,656
Skagit [2] [4] [6]	78,666	3,891	810	--	--	270	34,859	14,882	20,354
Snohomish [3] [4] [5] [6]	356,635	4,492	28,787	7,213	987	--	90,349	129,428	66,018
Total	1,220,727	8,383	156,485	24,953	230,317	407	151,812	169,417	121,818
Olympic Peninsula									
Clallam/ Jefferson [1,3,7,8]	373,873	4,539	3,826	32,686	--	3,024	7,651	19,127	--
Grays Harbor [2] [7] [8]	621,724	110	1,948	6,900	5,750	--	4,331	3,963	4,331
Lewis [4] [9] [10] [11]	291,500	--	10,848	--	72,716	--	--	2,000	--
Mason [7] [9]	176,998	--	4,730	689	687	--	--	5,596	--
Pacific/Thurston [1,7,9,10]	163,931	--	1,662	--	20,646	--	--	--	--
Total	1,628,026	4,649	23,014	40,275	99,799	3,024	11,982	30,686	4,331
Lower Columbia									
Clark/Klickitat/ & Skamania [1,12,13,14]	123,990	--	--	--	--	--	--	--	--
Cowlitz [14]	748,416	--	--	--	--	--	--	--	--
Wahkiakum [11]	--	--	--	--	--	--	--	--	--
Total	872,406	--	--	--	--	--	--	--	--
Central Washington									
Chelan/Okanogan/ & Yakima [1,12,13,14]	404,148	--	2,283	--	--	--	3,120	5,200	--
Total	404,148	--	2,283	--	--	--	3,120	5,200	--
Inland Empire									
Asotin/Ferry [1] [15]	66,300	--	--	--	--	--	--	--	--
Stevens [14] [15]	195,830	--	--	--	--	--	--	--	--
Total	262,130	--	-	--	--	--	--	--	--
TOTAL, STATEWIDE	4,387,437	13,032	181,782	65,228	330,116	3,431	166,914	205,303	126,149

[1] Combined to avoid disclosure in the lumber sector.
[2] Veneer and plywood sector for Pierce, Skagit and Whatcom counties combined with Grays Harbor County to avoid disclosure.
[3] Pulp and board sector for Pierce, Snohomish and Whatcom counties combined with Jefferson County to avoid disclosure.
[4] Shake and shingle sector for Skagit, Snohomish and Whatcom counties combined with Lewis County to avoid disclosure.
[5] Post, pole and piling sector for Pierce and Whatcom counties combined with Snohomish County to avoid disclosure.
[6] Log export sector for Skagit County combined with Snohomish County to avoid disclosure.
[7] Veneer and plywood for Clallam, Mason, and Thurston combined with Grays Harbor to avoid disclosure.
[8] Pulp and board for Clallam and Grays Harbor counties combined with Jefferson County to avoid disclosure.
[9] Post, pole and piling for Mason and Thurston combined with Lewis County to avoid disclosure.
[10] Shake and shingle for Pacific County combined with Lewis County to avoid disclosure.
[11] Shake and shingle for Wahkiakum County combined with Lewis County to avoid disclosure.
[12] Veneer and plywood for Klickitat County combined with Yakima County to avoid disclosure.
[13] Veneer and plywood for Stevens County combined with Yakima County to avoid disclosure.
[14] No pulp and board mills in the Lower Columbia, Central Washington or Inland Empire reported receipt of logs.
[15] Post, pole and piling for Ferry County combined with Stevens County to avoid disclosure.

WASHINGTON SUMMARY 1996

Table D-4 (Continued)

Log Utilization by County and Harvest Origin by County

(Thousand board feet, Scribner log rule)

Economic area and county of origin						
Olympic Peninsula						
Clallam	Grays Harbor	Jefferson	Lewis	Mason	Pacific	Thurston
--	--	--	2,000	--	--	6,850
23,642	15,453	16,875	96,123	26,018	--	77,075
2,700	--	900	--	--	--	--
12,462	600	6,904	--	--	--	337
38,804	16,053	24,679	98,123	26,018	--	84,262
165,566	4,657	94,518	--	7,629	--	--
7,337	348,079	23,916	63,406	27,781	103,772	10,064
4,100	23,032	126	100,687	9,063	6,465	24,505
2,440	32,461	3,814	--	124,284	1,560	737
--	31,723	--	33,985	9,840	38,341	17,391
--	--	--	--	--	--	--
179,443	439,952	122,374	198,078	178,597	150,138	52,697
--	--	--	6,000	--	--	--
2,471	5,396	669	110,841	669	25,130	5,171
2,471	5,396	669	116,841	669	25,130	5,171
--	--	--	--	--	--	--
--	--	--	--	--	--	--
--	--	--	--	--	--	--
--	--	--	--	--	--	--
--	--	--	--	--	--	--
220,718	461,401	147,722	413,042	205,284	175,268	142,130

WASHINGTON SUMMARY 1996

Table D-4 (Continued)

Log Utilization 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: Lower Columbia — Clark	Cowlitz	Klickitat	Skamania	Wahkiakum
Puget Sound					
King/Whatcom [1,2,3,4,5]	--	--	--	--	--
Pierce [2] [3] [5]	--	--	6,664	--	--
Skagit [2] [4] [6]	--	--	--	--	--
Snohomish [3] [4] [5] [6]	--	--	343	--	--
Total	--	--	7,007	--	--
Olympic Peninsula					
Clallam/ Jefferson [1,3,7,8]	--	--	--	--	--
Grays Harbor [2] [7] [8]	--	--	--	--	314
Lewis [4] [9] [10] [11]	103	1,987	--	16,500	4
Mason [7] [9]	--	--	--	--	--
Pacific/Thurston [1,7,9,10]	--	--	--	--	800
Total	103	1,987	--	16,500	1,118
Lower Columbia					
Clark/Klickitat/ & Skamania [1,12,13,14]	10,560	18,460	24,128	17,287	--
Cowlitz [14]	60,219	304,530	4,204	22,845	20,727
Wahkiakum [11]	--	--	--	--	--
Total	70,779	322,990	28,332	40,132	20,727
Central Washington					
Chelan/Okanogan/ & Yakima [1,12,13,14]	--	--	48,401	3,927	--
Total	--	--	48,401	3,927	--
Inland Empire					
Asotin/Ferry [1] [15]	--	--	--	--	--
Stevens [14] [15]	--	--	--	--	--
Total	--	--	--	--	--
TOTAL, STATEWIDE	70,882	324,977	83,740	60,559	21,845

[1] Combined to avoid disclosure in the lumber sector.
[2] Veneer and plywood sector for Pierce, Skagit and Whatcom counties combined with Grays Harbor County to avoid disclosure.
[3] Pulp and board sector for Pierce, Snohomish and Whatcom counties combined with Jefferson County to avoid disclosure.
[4] Shake and shingle sector for Skagit, Snohomish and Whatcom counties combined with Lewis County to avoid disclosure.
[5] Post, pole and piling sector for Pierce and Whatcom counties combined with Snohomish County to avoid disclosure.
[6] Log export sector for Skagit County combined with Snohomish County to avoid disclosure.
[7] Veneer and plywood for Clallam, Mason, and Thurston combined with Grays Harbor to avoid disclosure.
[8] Pulp and board for Clallam and Grays Harbor counties combined with Jefferson County to avoid disclosure.
[9] Post, pole and piling for Mason and Thurston combined with Lewis County to avoid disclosure.
[10] Shake and shingle for Pacific County combined with Lewis County to avoid disclosure.
[11] Shake and shingle for Wahkiakum County combined with Lewis County to avoid disclosure.
[12] Veneer and plywood for Klickitat County combined with Yakima County to avoid disclosure.
[13] Veneer and plywood for Stevens County combined with Yakima County to avoid disclosure.
[14] No pulp and board mills in the Lower Columbia, Central Washington or Inland Empire reported receipt of logs.
[15] Post, pole and piling for Ferry County combined with Stevens County to avoid disclosure.

WASHINGTON SUMMARY 1996

Table D-4 (Continued)

Log Utilization by County and Harvest Origin by County

(Thousand board feet, Scribner log rule)

Economic area and county of origin									
Central Washington									
Adams	Benton	Chelan	Douglas	Franklin	Grant	Kittitas	Lincoln	Okanogan	Yakima
--	--	6,790	--	--	--	--	--	7,760	--
--	--	--	--	--	--	23,949	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	3,956	--	--	--	--	--	2,500	--
--	--	10,746	--	--	--	23,949	--	10,260	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	17,328
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	61	--	--	771
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	61	--	--	18,099
--	--	--	--	--	--	--	--	--	12,000
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	12,000
--	--	54,211	1,840	--	--	43,837	1,538	72,589	34,818
--	--	54,211	1,840	--	--	43,837	1,538	72,589	34,818
--	--	--	--	--	--	--	--	5,250	--
--	--	--	--	--	--	--	9,235	4,059	--
--	--	--	--	--	--	--	9,235	9,309	--
--	--	64,957	1,840	--	--	67,847	10,773	92,158	64,917

WASHINGTON SUMMARY 1996

Table D-4 (Continued)

Log Utilization 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: Inland Empire								
	Asotin	Columbia	Ferry	Garfield	Pend Oreille	Spokane	Stevens	Walla Walla	Whitman
Puget Sound									
King/Whatcom [1,2,3,4,5]	--	--	--	--	--	--	--	--	--
Pierce [2] [3] [5]	--	--	--	--	--	--	--	--	--
Skagit [2] [4] [6]	--	--	--	--	--	--	--	--	--
Snohomish [3] [4] [5] [6]	--	--	--	--	--	--	--	--	--
Total	--	--	--	--	--	--	--	--	--
Olympic Peninsula									
Clallam/ Jefferson [1,3,7,8]	--	--	--	--	--	--	--	--	--
Grays Harbor [2] [7] [8]	--	--	--	--	--	--	--	--	--
Lewis [4] [9] [10] [11]	--	--	--	--	--	--	--	--	--
Mason [7] [9]	--	--	--	--	--	--	--	--	--
Pacific/Thurston [1,7,9,10]	--	--	--	--	--	--	--	--	--
Total	--	--	--	--	--	--	--	--	--
Lower Columbia									
Clark/Klickitat/ & Skamania [1,12,13,14]	--	--	--	--	--	--	--	--	--
Cowlitz [14]	--	--	--	--	--	--	--	--	--
Wahkiakum [11]	--	--	--	--	--	--	--	--	--
Total	--	--	--	--	--	--	--	--	--
Central Washington									
Chelan/Okanogan & Yakima [1,12,13,14]	--	--	59,249	--	18,019	5,728	41,896	--	--
Total	--	--	59,249	--	18,019	5,728	41,896	--	--
Inland Empire									
Asotin/Ferry [1] [15]	5,500	11,000	14,150	5,500	--	--	19,400	--	2,750
Stevens [14] [15]	--	--	29,264	--	21,306	28,455	100,141	--	--
Total	5,500	11,000	43,414	5,500	21,306	28,455	119,541	--	2,750
TOTAL, STATEWIDE	5,500	11,000	102,663	5,500	39,325	34,183	161,437	--	2,750

[1] Combined to avoid disclosure in the lumber sector.
[2] Veneer and plywood sector for Pierce, Skagit and Whatcom counties combined with Grays Harbor County to avoid disclosure.
[3] Pulp and board sector for Pierce, Snohomish and Whatcom counties combined with Jefferson County to avoid disclosure.
[4] Shake and shingle sector for Skagit, Snohomish and Whatcom counties combined with Lewis County to avoid disclosure.
[5] Post, pole and piling sector for Pierce and Whatcom counties combined with Snohomish County to avoid disclosure.
[6] Log export sector for Skagit County combined with Snohomish County to avoid disclosure.
[7] Veneer and plywood for Clallam, Mason, and Thurston combined with Grays Harbor to avoid disclosure.
[8] Pulp and board for Clallam and Grays Harbor counties combined with Jefferson County to avoid disclosure.
[9] Post, pole and piling for Mason and Thurston combined with Lewis County to avoid disclosure.
[10] Shake and shingle for Pacific County combined with Lewis County to avoid disclosure.
[11] Shake and shingle for Wahkiakum County combined with Lewis County to avoid disclosure.
[12] Veneer and plywood for Klickitat County combined with Yakima County to avoid disclosure.
[13] Veneer and plywood for Stevens County combined with Yakima County to avoid disclosure.
[14] No pulp and board mills in the Lower Columbia, Central Washington or Inland Empire reported receipt of logs.
[15] Post, pole and piling for Ferry County combined with Stevens County to avoid disclosure.

WASHINGTON SUMMARY 1996

Table D-4 (Continued)
Log Utilization by County and Harvest Origin by County
(Thousand board feet, Scribner log rule)

Out-of-state origin
--
14,975
--
2,259
17,234
30,650
9,722
2,036
--
8,711
51,119
35,555
185,544
--
221,099
7,492
7,492
2,750
3,370
6,120
303,064

WASHINGTON SUMMARY 1996

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	18,801	2,925	3,100	9,096	3,680	--	--	--	--
Olympic Peninsula	8,231	8,171	--	--	--	--	--	--	60
Lower Columbia	22,846	--	20,328	--	--	--	--	--	2,518
Central Washington	33,943	--	--	1,300	24,033	4,688	3,922	--	--
Inland Empire	24,366	--	--	--	--	3,430	18,186	--	2,750
TOTAL, STATEWIDE	108,187	11,096	23,428	10,396	27,713	8,118	22,108	--	5,328
Industry									
Lumber	84,109	8,256	16,468	10,336	18,419	6,721	18,641	--	5,268
Veneer & plywood	22,268	1,150	6,960	--	9,294	1,397	3,467	--	--
Pulp	1,510	1,510	--	--	--	--	--	--	--
Shake & shingle	240	180	--	--	--	--	--	--	60
Export	--	--	--	--	--	--	--	--	--
Post, pole & piling	60	--	--	60	--	--	--	--	--
TOTAL, STATEWIDE	108,187	11,096	23,428	10,396	27,713	8,118	22,108	--	5,328

NOTE: This table is a summary of data as reported. By economic area the totals for the national forests in Table 7 may differ because individual mill data was reported in a different economic area to avoid disclosure.

WASHINGTON SUMMARY 1996

Table D-6

Number of Mills Dependent Upon Ownerships for Raw Material

Economic area and industry	National Forest				State				Bureau of Land Management			
	Dependency percent											
	0	1-33	34-66	67-100	0	1-33	34-66	67-100	0	1-33	34-66	67-100
Puget Sound												
Lumber	17	6	--	--	8	11	3	1	23	--	--	--
Veneer & plywood [1]	--	--	--	--	--	--	--	--	--	--	--	--
Pulp & board [2]	--	--	--	--	--	--	--	--	--	--	--	--
Shake & shingle [3]	--	--	--	--	--	--	--	--	--	--	--	--
Export	16	--	--	--	16	--	--	--	16	--	--	--
Post, pole & piling	2	1	--	--	--	--	2	1	3	--	--	--
Total	35	7	--	--	24	11	5	2	42	--	--	--
Olympic Peninsula												
Lumber	21	5	--	--	8	14	2	2	25	1	--	--
Veneer & plywood [1]	8	1	--	--	5	2	1	1	9	--	--	--
Pulp & board [2]	7	1	--	--	4	3	1	--	8	--	--	--
Shake & shingle [3]	28	2	--	--	25	3	--	2	30	--	--	--
Export	14	--	--	--	14	--	--	--	14	--	--	--
Post, pole & piling	3	--	--	--	1	1	--	1	3	--	--	--
Total	81	9	--	--	57	23	4	6	89	1	--	--
Lower Columbia												
Lumber	6	3	1	--	2	8	--	--	10	--	--	--
Veneer & plywood [4]	--	--	--	--	--	--	--	--	--	--	--	--
Pulp & board [5]	6	--	--	--	6	--	--	--	6	--	--	--
Shake & shingle [3]	--	--	--	--	--	--	--	--	--	--	--	--
Export	10	--	--	--	10	--	--	--	9	1	--	--
Post, pole & piling [6]	--	--	--	--	--	--	--	--	--	--	--	--
Total	22	3	1	--	18	8	--	--	25	1	--	--
Central Washington												
Lumber	2	5	--	--	2	4	1	--	6	1	--	--
Veneer & plywood [4]	--	3	1	--	1	3	--	--	4	--	--	--
Pulp & board [5]	1	--	--	--	1	--	--	--	1	--	--	--
Shake & shingle [7]	--	--	--	--	--	--	--	--	--	--	--	--
Export	--	--	--	--	--	--	--	--	--	--	--	--
Post, pole & piling [6]	--	--	--	--	--	--	--	--	--	--	--	--
Total	3	8	1	--	4	7	1	--	11	1	--	--
Inland Empire												
Lumber	3	6	--	--	3	6	--	--	8	1	--	--
Veneer & plywood [4]	--	--	--	--	--	--	--	--	--	--	--	--
Pulp & board [5]	4	--	--	--	4	--	--	--	4	--	--	--
Shake & shingle [7]	--	--	--	--	--	--	--	--	--	--	--	--
Export	--	--	--	--	--	--	--	--	--	--	--	--
Post, pole & piling	3	--	--	--	3	--	--	--	3	--	--	--
Total	10	6	--	--	10	6	--	--	15	1	--	--
Total, State												
Lumber	49	25	1	--	23	43	6	3	72	3	--	--
Veneer & plywood	8	4	1	--	6	5	1	1	13	--	--	--
Pulp & board	18	1	--	--	15	3	1	--	19	--	--	--
Shake & shingle	28	2	--	--	25	3	--	2	30	--	--	--
Export	40	--	--	--	40	-	--	--	39	1	--	--
Post, pole & piling	8	1	--	--	4	1	2	2	9	--	--	--
Total	151	33	2	--	113	55	10	8	182	4	--	--

[1] Veneer and plywood for Puget Sound combined with Olympic Peninsula to avoid disclosure.
[2] Pulp and board for Puget Sound combined with Olympic Peninsula to avoid disclosure.
[3] Shake and shingle for Puget Sound and Lower Columbia combined with Olympic Peninsula to avoid disclosure.
[4] Veneer and plywood in the Lower Columbia and Inland Empire combined with Central Washington to avoid disclosure.
[5] No pulp and board mills in the Lower Columbia, Central Washington and Inland Empire reported receipt of logs.
[6] No post, pole & piling operations were reported for Lower Columbia or Central Washington.
[7] No shake and shingle mills were reported for Central Washington or Inland Empire.

WASHINGTON SUMMARY 1996

Table D-6 (Continued)

Number of Mills Dependent Upon Ownerships for Raw Material

Other Public				Forest Industry: Own wood supply				Forest Industry: Other wood supply				Farmer & miscellaneous private			
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
10	13	--	--	15	5	2	1	8	10	3	2	1	14	2	6
--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
12	4	--	--	11	1	2	2	3	3	2	8	6	7	1	2
1	2	--	--	1	2	--	--	2	1	--	--	--	3	--	--
23	19	--	--	27	8	4	3	13	14	5	10	7	24	3	8
12	13	1	--	13	8	1	4	12	5	7	2	8	10	4	4
7	2	--	--	6	1	2	--	3	3	2	1	4	4	1	--
5	2	1	--	5	1	1	1	5	2	--	1	5	3	--	--
25	3	2	--	30	--	--	--	20	1	1	8	27	3	--	--
9	5	--	--	11	1	1	1	2	2	3	7	4	6	2	2
3	--	--	--	--	1	--	2	2	1	--	--	1	2	--	--
61	25	4	--	65	12	5	8	44	14	13	19	49	28	7	6
5	4	1	--	5	3	1	1	3	4	2	1	--	4	5	1
--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
6	--	--	--	6	--	--	--	6	--	--	--	6	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
6	4	--	--	7	--	1	2	3	1	2	4	3	3	3	1
--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
17	8	1	--	18	3	2	3	12	5	4	5	9	7	8	2
--	6	--	1	4	1	2	--	6	1	--	--	--	4	2	1
1	2	1	--	1	1	2	--	4	--	--	--	--	3	1	--
1	--	--	--	1	--	--	--	1	--	--	--	1	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2	8	1	1	6	2	4	--	11	1	--	--	1	7	3	1
5	4	--	--	4	4	1	--	5	4	--	--	--	2	3	4
--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4	--	--	--	4	--	--	--	4	--	--	--	4	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
--	1	1	1	3	--	--	--	2	--	--	1	1	1	1	--
9	5	1	1	11	4	1	--	11	4	--	1	5	3	4	4
32	40	2	1	41	21	7	6	34	24	12	5	9	34	16	16
8	4	1	--	7	2	4	--	7	3	2	1	4	7	2	--
16	2	1	--	16	1	1	1	16	2	--	1	16	3	--	--
25	3	2	--	30	--	--	--	20	1	1	8	27	3	--	--
27	13	--	--	29	2	4	5	8	6	7	19	13	16	6	5
4	3	1	1	4	3	--	2	6	2	--	1	2	6	1	--
112	65	7	2	127	29	16	14	91	38	22	35	71	69	25	21

WASHINGTON SUMMARY 1996

Table D-7

Log Utilization 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	730,165	157,792	18,741	--	30,795	162,679	160,862	199,296
Veneer & plywood [2]	--	--	--	--	--	--	--	--
Pulp & board [3]	--	--	--	--	--	--	--	--
Shake & shingle [4]	--	--	--	--	--	--	--	--
Export	476,643	--	--	--	10,605	177,818	183,359	104,861
Post, pole & piling	13,919	8,141	60	--	389	1,934	1,250	2,145
Total	1,220,727	165,933	18,801	--	41,789	342,431	345,471	306,302
Olympic Peninsula								
Lumber	802,713	117,916	5,331	45	60,177	298,407	235,456	85,381
Veneer & plywood [2]	155,089	26,716	1,150	--	1,986	32,158	75,076	18,003
Pulp & board [3]	221,374	22,981	1,510	--	21,537	124,335	28,069	22,942
Shake & shingle [4]	6,825	645	240	--	2,358	--	3,357	225
Export	429,089	--	--	--	12,435	196,673	120,776	99,205
Post, pole & piling	12,936	2,718	--	--	--	9,581	309	328
Total	1,628,026	170,976	8,231	45	98,493	661,154	463,043	226,084
Lower Columbia								
Lumber	449,176	34,067	15,886	--	26,737	114,431	137,719	120,336
Veneer & plywood [5]	--	--	--	--	--	--	--	--
Pulp & board [6]	--	--	--	--	--	--	--	--
Shake & shingle [4]	--	--	--	--	--	--	--	--
Export	423,230	--	--	4,170	9,511	104,860	183,477	121,212
Post, pole & piling [7]	--	--	--	--	--	--	--	--
Total	872,406	34,067	15,886	4,170	36,248	219,291	321,196	241,548
Central Washington								
Lumber	198,015	14,017	20,510	260	71,430	51,960	6,500	33,338
Veneer & plywood [5]	206,133	35,671	21,118	--	27,117	65,424	--	56,803
Pulp & board [6]	--	--	--	--	--	--	--	--
Shake & shingle [8]	--	--	--	--	--	--	--	--
Export	--	--	--	--	--	--	--	--
Post, pole & piling [7]	--	--	--	--	--	--	--	--
Total	404,148	49,688	41,628	260	98,547	117,384	6,500	90,141
Inland Empire								
Lumber	253,635	12,455	23,641	600	25,519	43,295	26,175	121,950
Veneer & plywood [5]	--	--	--	--	--	--	--	--
Pulp & board [6]	--	--	--	--	--	--	--	--
Shake & shingle [8]	--	--	--	--	--	--	--	--
Export	--	--	--	--	--	--	--	--
Post, pole & piling	8,495	--	--	--	5,330	--	630	2,535
Total	262,130	12,455	23,641	600	30,849	43,295	26,805	124,485
Total, State								
Lumber	2,433,704	336,247	84,109	905	214,658	670,772	566,712	560,301
Veneer & plywood	361,222	62,387	22,268	--	29,103	97,582	75,076	74,806
Pulp & board	221,374	22,981	1,510	--	21,537	124,335	28,069	22,942
Shake & shingle	6,825	645	240	--	2,358	--	3,357	225
Export	1,328,962	--	--	4,170	32,551	479,351	487,612	325,278
Post, pole & piling	35,350	10,859	60	--	5,719	11,515	2,189	5,008
TOTAL, STATEWIDE	4,387,437	433,119	108,187	5,075	305,926	1,383,555	1,163,015	988,560

[1] National Forest includes Canadian national forest and British Columbia provincial forests.
[2] Veneer and plywood for Puget Sound combined with Olympic Peninsula to avoid disclosure.
[3] Pulp and board for Puget Sound combined with Olympic Peninsula to avoid disclosure.
[4] Shake and shingle for Puget Sound and Lower Columbia combined with Olympic Peninsula to avoid disclosure.
[5] Veneer and plywood for Lower Columbia and Inland Empire combined with Central Washington to avoid disclosure.
[6] No pulp and board mills in the Lower Columbia, Central Washington or Inland Empire reported receipt of logs.
[7] No post, pole and piling operations were reported from the Lower Columbia or Central Washington economic areas.
[8] No shake or shingle mills responded from the Central Washington or Inland Empire economic areas.

WASHINGTON SUMMARY 1996

Table D-8

Log Utilization 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	730,165	336,308	218,416	19,491	1,206	--	--
Veneer & plywood [1]	--	--	--	--	--	--	--
Pulp & board [2]	--	--	--	--	--	--	--
Shake & shingle [3]	--	--	--	--	--	--	--
Export	476,643	388,719	72,565	11,982	936	--	458
Post, pole & piling	13,919	6,586	--	--	--	--	--
Total	1,220,727	731,613	290,981	31,473	2,142	--	458
Olympic Peninsula							
Lumber	802,713	237,905	362,814	19,284	9,703	6,000	12,000
Veneer & plywood [1]	155,089	80,795	40,001	--	5,722	--	--
Pulp & board [2]	221,374	105,870	72,194	24,567	11,181	--	--
Shake & shingle [3]	6,825	--	--	--	--	--	--
Export	429,089	316,231	95,698	2,941	4,649	--	--
Post, pole & piling	12,936	12,883	--	--	--	--	--
Total	1,628,026	753,684	570,707	46,792	31,255	6,000	12,000
Lower Columbia							
Lumber	449,176	226,784	52,767	4,765	5,040	--	491
Veneer & plywood [4]	--	--	--	--	--	--	--
Pulp & board [5]	--	--	--	--	--	--	--
Shake & shingle [3]	--	--	--	--	--	--	--
Export	423,230	392,227	20,119	6,617	3,949	--	--
Post, pole & piling [6]	--	--	--	--	--	--	--
Total	872,406	619,011	72,886	11,382	8,989	--	491
Central Washington							
Lumber	198,015	39,218	11,700	12,524	1,861	123,312	8,880
Veneer & plywood [4]	206,133	177,005	11,773	4,837	1,075	--	2,678
Pulp & board [5]	--	--	--	--	--	--	--
Shake & shingle [7]	--	--	--	--	--	--	--
Export	--	--	--	--	--	--	--
Post, pole & piling	--	--	--	--	--	--	--
Total	404,148	216,223	23,473	17,361	2,936	123,312	11,558
Inland Empire							
Lumber	253,635	73,863	7,050	17,486	4,892	111,302	28,964
Veneer & plywood [4]	--	--	--	--	--	--	--
Pulp & board [5]	--	--	--	--	--	--	--
Shake & shingle [7]	--	--	--	--	--	--	--
Export	--	--	--	--	--	--	--
Post, pole & piling	8,495	--	1,250	1,250	--	--	5,995
Total	262,130	73,863	8,300	18,736	4,892	111,302	34,959
Total, State							
Lumber	2,433,704	914,078	652,747	73,550	22,702	240,614	50,335
Veneer & plywood	361,222	257,800	51,774	4,837	6,797	--	2,678
Pulp & board	221,374	105,870	72,194	24,567	11,181	--	--
Shake & shingle	6,825	--	--	--	--	--	--
Export	1,328,962	1,097,177	188,382	21,540	9,534	--	458
Post, pole & piling	35,350	19,469	1,250	1,250	--	--	5,995
TOTAL, STATEWIDE	4,387,437	2,394,394	966,347	125,744	50,214	240,614	59,466

[1] Veneer and plywood for Puget Sound combined with Olympic Peninsula to avoid disclosure.
[2] Pulp and board sector for Puget Sound combined with Olympic Peninsula to avoid disclosure.
[3] Shake and shingle for Puget Sound and Lower Columbia combined with Olympic Peninsula to avoid disclosure.
[4] Veneer and plywood for Lower Columbia and Inland Empire combined with Central Washington to avoid disclosure.
[5] No pulp and board mills in the Lower Columbia, Central Washington or Inland Empire reported receipt of logs.
[6] No post, pole and piling operations were reported from the Lower Columbia or Central Washington economic areas.
[7] No shake or shingle mills responded from the Central Washington or Inland Empire economic areas.

WASHINGTON SUMMARY 1996

Table D-8 (Continued)

Log Utilization by Species

(Thousand board feet, Scribner log rule)

Western redcedar	Other softwoods	Red alder	Other hardwoods
63,458	270	82,302	8,714
--	--	-	-
--	--	-	-
--	--	-	-
142	1,783	-	58
7,333	--	-	-
70,933	2,053	82,302	8,772
55,095	--	97,337	2,575
1,610	1,580	848	24,533
7,562	--	-	-
6,825	--	-	-
3,323	617	2,080	3,550
53	--	-	-
74,468	2,197	100,265	30,658
56,386	327	96,305	6,311
--	--	-	-
--	--	-	-
--	--	-	-
--	318	-	-
--	--	-	-
56,386	645	96,305	6,311
--	520	-	-
--	8,765	-	-
--	--	-	-
--	--	-	-
--	--	-	-
--	--	-	-
--	9,285	-	-
10,076	--	-	2
--	--	-	-
--	--	-	-
--	--	-	-
--	--	-	-
--	--	-	-
10,076	--	-	2
185,015	1,117	275,944	17,602
1,610	10,345	848	24,533
7,562	--	-	-
6,825	--	-	-
3,465	2,718	2,080	3,608
7,386	--	-	-
211,863	14,180	278,872	45,743

WASHINGTON SUMMARY 1996

Table D-9

Production and Disposition of Wood and Bark Residues

(Tons, dry weight)

Economic area and residue-producing industry	All residues	Wood residues						
		All wood	Used [1]					Unused
			Total	Pulp	Board	Fuel	Other	
Puget Sound								
Lumber	1,543,278	1,204,932	1,204,932	631,824	104,291	232,441	236,376	--
Veneer & plywood [2]	--	--	--	--	--	--	--	--
Shake & shingle [3]	--	--	--	--	--	--	--	--
Other [4]	51,827	--	--	--	--	--	--	--
Total	1,595,105	1,204,932	1,204,932	631,824	104,291	232,441	236,376	--
Olympic Peninsula								
Lumber	1,807,654	1,407,430	1,407,430	927,598	13,434	268,754	197,644	--
Veneer & plywood [2]	314,740	249,204	249,033	96,777	--	87,077	65,179	171
Shake & shingle [3]	13,929	11,744	5,344	--	--	3,072	2,272	6,400
Other [4]	42,084	--	--	--	--	--	--	--
Total	2,178,407	1,668,378	1,661,807	1,024,375	13,434	358,903	265,095	6,571
Lower Columbia								
Lumber	908,605	702,630	702,630	528,458	81,099	91,133	1,940	--
Veneer & plywood [5]	--	--	--	--	--	--	--	--
Shake & shingle [3]	--	--	--	--	--	--	--	--
Other [4] [6]	82,781	--	--	--	--	--	--	--
Total	991,386	702,630	702,630	528,458	81,099	91,133	1,940	--
Central Washington								
Lumber	330,194	259,964	259,519	148,713	40,158	53,786	16,862	445
Veneer & plywood [5]	574,814	452,153	452,153	362,077	10,381	58,878	20,817	--
Shake & shingle [7]	--	--	--	--	--	--	--	--
Other [4] [5] [6] [8]	--	--	--	--	--	--	--	--
Total	905,008	712,117	711,672	510,790	50,539	112,664	37,679	445
Inland Empire								
Lumber	441,023	347,072	347,072	270,561	36,916	39,586	9	--
Veneer & plywood [5]	--	--	--	--	--	--	--	--
Shake & shingle [7]	--	--	--	--	--	--	--	--
Other [4] [8]	2,634	--	--	--	--	--	--	--
Total	443,657	347,072	347,072	270,561	36,916	39,586	9	--
Total, State								
Lumber	5,030,754	3,922,028	3,921,583	2,507,154	275,898	685,700	452,831	445
Veneer & plywood	889,554	701,357	701,186	458,854	10,381	145,955	85,996	171
Shake & shingle	13,929	11,744	5,344	--	--	3,072	2,272	6,400
Other [4]	179,326	--	--	--	--	--	--	--
TOTAL, STATEWIDE	6,113,563	4,635,129	4,628,113	2,966,008	286,279	834,727	541,099	7,016

[1] Used residues were not necessarily consumed in the economic area in which they were produced.
[2] Veneer and plywood for Puget Sound combined with Olympic Peninsula to avoid disclosure.
[3] Shake and shingle for Puget Sound and Lower Columbia combined with Olympic Peninsula to avoid disclosure.
[4] Other includes log export, and post, pole and piling operations.
[5] Veneer and plywood for Lower Columbia and Inland Empire combined with Central Washington to avoid disclosure.
[6] No post, pole and piling operations were reported for the Lower Columbia or Central Washington economic areas.
[7] No shake and shingle mills were reported for the Central Washington and Inland Empire economic areas.
[8] No log export operations were reported for the Central Washington or Inland Empire economic areas.

WASHINGTON SUMMARY 1996

Table D-9 (Continued)

Production and Disposition of Wood and Bark Residues

(Tons, dry weight)

Bark residues						
	Used [1]					
All bark	Total	Pulp	Board	Fuel	Other	Unused
338,346	338,346	--	--	82,680	255,666	--
--	--	--	--	--	--	--
--	--	--	--	--	--	--
51,827	51,827	--	--	12,803	39,024	--
390,173	390,173	--	--	95,483	294,690	--
400,224	400,224	--	--	366,018	34,206	--
65,536	65,378	--	--	65,378	--	158
2,185	1,676	--	--	435	1,241	509
42,084	42,084	--	--	22,188	19,896	--
510,029	509,362	--	--	454,019	55,343	667
205,975	205,975	--	--	178,421	27,554	--
--	--	--	--	--	--	--
--	--	--	--	--	--	--
82,781	82,781	443	--	57,785	24,553	--
288,756	288,756	443	--	236,206	52,107	--
70,230	66,686	--	375	62,957	3,354	3,544
122,661	122,661	--	--	120,090	2,571	--
--	--	--	--	--	--	--
--	--	--	--	--	--	--
192,891	189,347	--	375	183,047	5,925	3,544
93,951	93,951	--	--	91,424	2,527	--
--	--	--	--	--	--	--
--	--	--	--	--	--	--
2,634	2,634	--	--	2,634	--	--
96,585	96,585	--	--	94,058	2,527	--
1,108,726	1,105,182	--	375	781,500	323,307	3,544
188,197	188,039	--	--	185,468	2,571	158
2,185	1,676	--	--	435	1,241	509
179,326	179,326	443	--	95,410	83,473	--
1,478,434	1,474,223	443	375	1,062,813	410,592	4,211

WASHINGTON SUMMARY 1996

Table D-10

Log Utilization 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	730,165	20,701	709,464
Veneer & plywood [1]	--	--	--
Pulp & board [2]	--	--	--
Shake & shingle [3]	--	--	--
Export	476,643	29,642	447,001
Post, pole & piling	13,919	300	13,619
Total	1,220,727	50,643	1,170,084
Olympic Peninsula			
Lumber	802,713	23,121	779,592
Veneer & plywood [1]	155,089	2,205	152,884
Pulp & board [2]	221,374	9,463	211,911
Shake & shingle [3]	6,825	5,466	1,359
Export	429,089	16,077	413,012
Post, pole & piling	12,936	--	12,936
Total	1,628,026	56,332	1,571,694
Lower Columbia			
Lumber	449,176	34,490	414,686
Veneer & plywood [4]	--	--	--
Pulp & board [5]	--	--	--
Shake & shingle [3]	--	--	--
Export	423,230	10,349	412,881
Post, pole & piling [6]	--	--	--
Total	872,406	44,839	827,567
Central Washington			
Lumber	198,015	23,203	174,812
Veneer & plywood [4]	206,133	26,154	179,979
Pulp & board [5]	--	--	--
Shake & shingle [7]	--	--	--
Export	--	--	--
Post, pole & piling [6]	--	--	--
Total	404,148	49,357	354,791
Inland Empire			
Lumber	253,635	50,221	203,414
Veneer & plywood [4]	--	--	--
Pulp & board [5]	--	--	--
Shake & shingle [7]	--	--	--
Export	--	--	--
Post, pole & piling	8,495	--	8,495
Total	262,130	50,221	211,909
Total, State			
Lumber	2,433,704	151,736	2,281,968
Veneer & plywood	361,222	28,359	332,863
Pulp	221,374	9,463	211,911
Shake & shingle	6,825	5,466	1,359
Export	1,328,962	56,068	1,272,894
Post, pole & piling	35,350	300	35,050
TOTAL, STATEWIDE	4,387,437	251,392	4,136,045

[1] Veneer and plywood for Puget Sound combined with Olympia Peninsula to avoid disclosure.
[2] Pulp and board for Puget Sound combined with Olympic Peninsula to avoid disclosure.
[3] Shake and shingle for Puget Sound and Lower Columbia combined with Olympic Peninsula to avoid disclosure.
[4] Veneer and plywood for Lower Columbia and Inland Empire combined with Central Washington to avoid disclosure.
[5] No pulp and board mills in the Lower Columbia, Central Washington and Inland Empire reported receipt of logs.
[6] No post, pole and piling operations were reported from the Lower Columbia or Central Washington economic areas.
[7] No shake or shingle mills responded from the Central Washington or Inland Empire economic areas.

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Table D-11

Number of Sawmills by Mill-Size Class

Economic area and county	Industry: All classes	Mill-size class[1]: D	C	B	A
Puget Sound					
King	3	1	--	--	2
Pierce	6	--	--	1	5
Skagit	5	2	2	--	1
Snohomish	8	1	1	2	4
Whatcom	1	--	--	1	--
Total	23	4	3	4	12
Olympic Peninsula					
Clallam	2	--	1	--	1
Grays Harbor	4	--	1	--	3
Jefferson	2	1	--	--	1
Lewis	8	1	--	2	5
Mason	5	1	--	2	2
Pacific	2	--	1	--	1
Thurston	3	2	--	--	1
Total	26	5	3	4	14
Lower Columbia					
Clark	2	--	1	--	1
Cowlitz	6	--	--	3	3
Klickitat	1	--	--	1	--
Skamania	1	--	--	--	1
Total	10	--	1	4	5
Central Washington					
Chelan	2	1	--	--	1
Okanogan	3	--	1	--	2
Yakima	2	--	--	--	2
Total	7	1	1	--	5
Inland Empire					
Asotin	1	--	--	--	1
Ferry	2	1	--	--	1
Stevens	6	1	1	1	3
Total	9	2	1	1	5
TOTAL, STATEWIDE	75	12	9	13	41

[1] Mill-size classes are identified as follows: Class D mills = less than 40,000 board feet of lumber tally 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					
King	552	2	--	--	550
Pierce	1,140	--	--	100	1,040
Skagit	423	23	120	--	280
Snohomish	1,400	20	50	200	1,130
Whatcom	100	--	--	100	--
Total	3,615	45	170	400	3,000
Olympic Peninsula					
Clallam	250	--	50	--	200
Grays Harbor	775	--	50	--	725
Jefferson	132	2	--	--	130
Lewis	1,445	6	--	195	1,244
Mason	1,812	32	--	190	1,590
Pacific	375	--	75	--	300
Thurston	222	6	--	--	216
Total	5,011	46	175	385	4,405
Lower Columbia					
Clark	250	--	75	--	175
Cowlitz	1,338	--	--	308	1,030
Klickitat	110	-	--	110	--
Skamania	300	--	--	--	300
Total	1,998	--	75	418	1,505
Central Washington					
Chelan	185	35	--	--	150
Okanogan	350	--	60	--	290
Yakima	337	--	--	--	337
Total	872	35	60	--	777
Inland Empire					
Asotin	120	--	--	--	120
Ferry	190	30	--	--	160
Stevens	799	6	60	117	616
Total	1,109	36	60	117	896
TOTAL, STATEWIDE	12,605	162	540	1,320	10,583

[1] Mill-size classes are defined as follows: Class D mills = less than 40,000 board feet of lumber tally 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	2	2	2	--	1
C	3	3	3	--	2
B	4	4	4	--	3
A	12	11	12	--	9
Total	21	20	21	--	15
Olympic Peninsula					
D	1	2	5	--	2
C	1	2	1	--	1
B	4	4	4	1	4
A	14	9	13	1	11
Total	20	17	23	2	18
Lower Columbia					
C	1	1	1	--	--
B	4	4	3	--	3
A	5	3	4	--	4
Total	10	8	8	--	7
Central Washington					
D	1	1	1	--	1
C	1	1	1	1	--
A	5	4	5	1	5
Total	7	6	7	2	6
Inland Empire					
D	1	1	2	--	--
C	1	1	1	--	1
B	1	1	1	1	1
A	5	5	4	--	4
Total	8	8	8	1	6
Total, State					
D	5	6	10	--	4
C	7	8	7	1	4
B	13	13	12	2	11
A	41	32	38	2	33
TOTAL, STATEWIDE	66	59	67	5	52

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

SAWMILLS 1996

Table D-14

Number of Sawmills with Selected Equipment by County

Economic area and county	Barker	Chipper	Planer	Burner	Kiln
Puget Sound					
King	2	1	3	--	2
Pierce	6	6	6	--	3
Skagit	4	4	3	--	2
Snohomish	8	8	8	--	7
Whatcom	1	1	1	--	1
Total	21	20	21	--	15
Olympic Peninsula					
Clallam	2	2	1	--	1
Grays Harbor	3	2	4	--	2
Jefferson	1	1	2	--	1
Lewis	7	7	7	2	7
Mason	5	3	5	--	5
Pacific	1	2	1	--	2
Thurston	1	--	3	--	--
Total	20	17	23	2	18
Lower Columbia					
Clark	2	2	2	--	1
Cowlitz	6	4	4	--	4
Klickitat	1	1	1	--	1
Skamania	1	1	1	--	1
Total	10	8	8	--	7
Central Washington					
Chelan	2	2	2	1	2
Okanogan	3	2	3	1	2
Yakima	2	2	2	--	2
Total	7	6	7	2	6
Inland Empire					
Asotin	1	1	1	--	1
Ferry	2	2	2	--	1
Stevens	5	5	5	1	4
Total	8	8	8	1	6
TOTAL, STATEWIDE	66	59	67	5	52

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Table D-15

Number of Sawmills by Headrig Type and Size

Economic area and mill size-class[1]	Circular saw				Bandsaw			Gang saw	Chipping saw	Scragg
	2 ft.	4 ft.	6 ft.	8 ft.	2 ft.	4 ft.	6 ft.	2 ft.	2 ft.	2 ft.
Puget Sound										
D	--	2	--	--	--	2	--	--	--	--
C	--	--	--	--	--	3	--	--	--	--
B	--	--	--	--	--	4	--	--	3	--
A	1	--	--	--	3	4	5	3	4	1
Total	1	2	--	--	3	13	5	3	7	1
Olympic Peninsula										
D	2	--	--	1	1	2	--	--	1	--
C	1	--	--	--	--	1	1	--	--	--
B	--	--	--	--	1	2	1	1	--	--
A	2	2	--	--	--	6	2	1	5	--
Total	5	2	--	1	2	11	4	2	6	--
Lower Columbia										
D	--	--	--	--	--	--	--	--	--	--
C	--	--	--	--	--	--	1	--	--	--
B	--	1	--	--	2	2	--	1	1	--
A	--	--	--	--	--	4	1	--	1	--
Total	--	1	--	--	2	6	2	1	2	--
Central Washington										
D	--	--	--	--	--	--	--	--	--	1
C	--	--	--	--	--	--	1	--	1	--
B	--	--	--	--	--	--	--	--	--	--
A	--	--	--	--	--	1	3	1	3	--
Total	--	--	--	--	--	1	4	1	4	1
Inland Empire										
D	--	2	--	--	--	--	--	--	--	--
C	--	--	--	--	--	1	--	--	--	--
B	--	--	--	--	--	--	1	--	--	--
A	--	--	--	--	1	3	1	--	3	--
Total	--	2	--	--	1	4	2	--	3	--
Total, State										
D	2	4	--	1	1	4	--	--	1	1
C	1	--	--	--	--	5	3	--	1	--
B	--	1	--	--	3	8	2	2	4	--
A	3	2	--	--	4	18	12	5	16	1
Total	6	7	--	1	8	35	17	7	22	2

[1] Mill-size classes are defined as follows: Class D mills = less than 40,000 board feet of lumber tally capacity per 8-hour shift; C = 40,000 - 79,999; B = 80,000 - 119,000; 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 and 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	2	--	--	1	1	--
	11-20	1	--	--	--	1	--
	21+	7	1	--	--	--	6
Total		12	1	--	2	3	6
C	0-2	--	--	--	--	--	--
	3-5	1	--	--	1	--	--
	6-10	--	--	--	--	--	--
	11-20	3	--	--	--	3	--
	21+	5	2	1	--	--	2
Total		9	2	1	1	3	2
B	0-2	--	--	--	--	--	--
	3-5	--	--	--	--	--	--
	6-10	--	--	--	--	--	--
	11-20	3	--	--	--	3	--
	21+	10	--	--	--	3	7
Total		13	--	--	--	6	7
A	0-2	--	--	--	--	--	--
	3-5	1	--	--	--	--	1
	6-10	2	--	--	2	--	--
	11-20	3	--	--	--	2	1
	21+	35	1	--	4	10	20
Total		41	1	--	6	12	22
Total, State	0-2	1	--	--	1	--	--
	3-5	3	--	--	1	1	1
	6-10	4	--	--	3	1	--
	11-20	10	--	--	--	9	1
	21+	57	4	1	4	13	35
TOTAL, STATEWIDE		75	4	1	9	24	37

[1] Mill-size classes are defined as follows: Class D mills = less than 40,000 board feet of lumber tally 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	160	D (Combined with A)	--
C	236	C (Combined with A)	--
B	226	B (None reported)	--
A	238	A (Combined with C and D)	214
Average	222	Average	214
Olympic Peninsula		Inland Empire	
D	170	D (Combined with C)	--
C	220	C (Combined with B and D)	134
B	262	B (Combined with C)	--
A	241	A	247
Average	228	Average	197
Lower Columbia		State	
D (None reported)	--	D	150
C (Combined with B)	--	C	210
B (Combined with C)	241	B	241
A	258	A	243
Average	249	Average	224

[1] Mill-size classes are defined as follows: Class D mills = less than 40,000 board feet of lumber tally 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 Utilized
(Thousand board feet)

Economic area and mill-size class[1]	Roundwood: All roundwood	Roundwood: Sound logs	Roundwood: Utility logs	Other: Peeler cores	Other: Other
	Scribner log rule			Lumber tally	
Puget Sound					
D	6,583	6,500	83	--	--
C	53,000	49,660	3,340	--	--
B	96,730	74,396	22,334	--	--
A	573,852	558,448	15,404	--	--
Total	730,165	689,004	41,161	--	--
Olympic Peninsula					
D	8,175	8,033	142	--	--
C	18,450	15,650	2,800	--	--
B	100,511	81,387	19,124	--	--
A	675,577	624,555	51,022	--	--
Total	802,713	729,625	73,088	--	--
Lower Columbia					
D (No mills reported)					
B and C [2]	146,392	138,622	7,770	--	--
A	302,784	286,944	15,840	--	--
Total	449,176	425,566	23,610	--	--
Central Washington					
B (No mills reported)					
A, C and D [2]	198,015	186,535	11,480	--	--
Total	198,015	186,535	11,480	--	--
Inland Empire					
B, C and D [2]	39,985	39,985	--	--	--
A	213,650	176,040	37,610	--	--
Total	253,635	216,025	37,610	--	--
Total, State					
D [3]	14,758	14,533	225	--	--
C [4]	71,450	65,310	6,140	--	--
B [5]	383,618	334,390	49,228	--	--
A [6]	1,963,878	1,832,522	131,356	--	--
TOTAL, STATEWIDE	2,433,704	2,246,755	186,949	--	--

[1] Mill-size classes are defined as follows: Class D mills = less than 40,000 board feet of lumber tally capacity per 8-hour shift; C = 40,000 - 79,999; B = 80,000 - 119,999; A = 120,000 +.
[2] Combined to avoid disclosure.
[3] Total for Class D includes Class D for Puget Sound and Olympic Peninsula only.
[4] Total for Class C includes Class C for Puget Sound and Olympic Peninsula only.
[5] Total for Class B includes Class B for Puget Sound and Olympic Peninsula, classes B and C for Lower Columbia and classes B, C and D for Inland Empire.
[6] Total for Class A includes Class A for Puget Sound, Olympic Peninsula, Lower Columbia and Inland Empire, and classes A, C and D for Central Washington.

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Table D-19

Age of Logs Utilized 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	6,583	5	6,578
C	53,000	440	52,560
B	96,730	3,345	93,385
A	573,852	16,911	556,941
Total	730,165	20,701	709,464
Olympic Peninsula			
D	8,175	14	8,161
C	18,450	6,000	12,450
B	100,511	0	100,511
A	675,577	17,107	658,470
Total	802,713	23,121	779,592
Lower Columbia			
D (No mills reported)	--	--	--
B and C [2]	146,392	5,690	140,702
A	302,784	28,800	273,984
Total	449,176	34,490	414,686
Central Washington			
B (No mills reported)	--	--	--
A, C and D [2]	198,015	23,203	174,812
Total	198,015	23,203	174,812
Inland Empire			
B, C and D [2]	39,985	19,471	20,514
A	213,650	30,750	182,900
Total	253,635	50,221	203,414
Total, State			
D [3]	14,758	19	14,739
C [4]	71,450	6,440	65,010
B [5]	383,618	28,506	355,112
A [6]	1,963,878	116,771	1,847,107
TOTAL, STATEWIDE	2,433,704	151,736	2,281,968

[1] Mill-size class definitions are as follows: Class D mills = less than 40,000 board feet of lumber tally capacity per 8-hour shift; C = 40,000 - 79,999; B = 80,000 - 119,999; A = 120,000+.
[2] Combined to avoid disclosure.
[3] Total for Class D includes Class D for Puget Sound and Olympic Peninsula only.
[4] Total for Class C includes Class C for Puget Sound and Olympic Peninsula only.
[5] Total for Class B includes Class B for Puget Sound and Olympic Peninsula, classes B and C for Lower Columbia and classes B, C and D for Inland Empire.
[6] Total for Class A includes Class A for Puget Sound, Olympic Peninsula, Lower Columbia and Inland Empire, and classes A, C, and D for Central Washington.

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Table D-20

Age of Logs Utilized 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			
King and Whatcom [1]	130,657	550	130,107
Pierce	275,838	1,360	274,478
Skagit	78,666	1,711	76,955
Snohomish	245,004	17,080	227,924
Total	730,165	20,701	709,464
Olympic Peninsula			
Clallam and Jefferson [1]	82,010	7,353	74,657
Grays Harbor	171,522	6,000	165,522
Lewis	278,234	0	278,234
Mason	176,998	9,757	167,241
Pacific and Thurston [1]	93,949	11	93,938
Total	802,713	23,121	779,592
Lower Columbia			
Clark/ Klickitat and Skamania [1]	123,990	33,820	90,170
Cowlitz	325,186	670	324,516
Total	449,176	34,490	414,686
Central Washington			
Chelan/ Okanogan and Yakima [1]	198,015	23,203	174,812
Total	198,015	23,203	174,812
Inland Empire			
Asotin and Ferry [1]	66,300	3,500	62,800
Stevens	187,335	46,721	140,614
Total	253,635	50,221	203,414
TOTAL, STATEWIDE	2,433,704	151,736	2,281,968

[1] Counties combined to avoid individual mill disclosure.

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Table D-21

Log Inventory Changes, Log Utilization and Apparent Log Receipts (Thousand board feet, Scribner log rule)

Economic area	Log inventory				Apparent 1996 log receipts
	January 1, 1996	December 31, 1996	Net change	1996 log consumption	
Puget Sound	89,101	85,458	(3,643)	730,165	726,522
Olympic Peninsula	87,649	92,811	5,162	802,713	807,875
Lower Columbia	49,010	50,844	1,834	449,176	451,010
Central Washington	43,809	50,469	6,660	198,015	204,675
Inland Empire	36,533	45,824	9,291	253,635	262,926
TOTAL, STATEWIDE	306,102	325,406	19,304	2,433,704	2,453,008

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Table D-22

Ownership Origin of Logs Utilized by Mill-Size Class
(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		Farmer and miscellaneous private
						Own wood supply	Other wood supply	
Puget Sound								
D	6,583	--	--	--	--	650	650	5,283
C	53,000	11,600	--	--	3,100	17,800	6,600	13,900
B	96,730	20,399	561	--	10,457	16,836	9,013	39,464
A	573,852	125,793	18,180	--	17,238	127,393	144,599	140,649
Total	730,165	157,792	18,741	--	30,795	162,679	160,862	199,296
Olympic Peninsula								
D	8,175	1,407	--	--	687	1,031	343	4,707
C	18,450	1,893	67	45	6,500	--	4,600	5,345
B	100,511	13,873	200	--	6,535	26,977	22,244	30,682
A	675,577	100,743	5,064	--	46,455	270,399	208,269	44,647
Total	802,713	117,916	5,331	45	60,177	298,407	235,456	85,381
Lower Columbia								
D [2]	--	--	--	--	--	--	--	--
B and C [3]	146,392	10,347	6,526	--	7,074	24,295	36,592	61,558
A	302,784	23,720	9,360	--	19,663	90,136	101,127	58,778
Total	449,176	34,067	15,886	--	26,737	114,431	137,719	120,336
Central Washington								
B [2]	--	--	--	--	--	--	--	--
A, C and D [3]	198,015	14,017	20,510	260	71,430	51,960	6,500	33,338
Total	198,015	14,017	20,510	260	71,430	51,960	6,500	33,338
Inland Empire								
B, C and D [3]	39,985	2,604	380	--	419	9,173	--	27,409
A	213,650	9,851	23,261	600	25,100	34,122	26,175	94,541
Total	253,635	12,455	23,641	600	25,519	43,295	26,175	121,950
Total, State								
D [4]	14,758	1,407	--	--	687	1,681	993	9,990
C [5]	71,450	13,493	67	45	9,600	17,800	11,200	19,245
B [6]	383,618	47,223	7,667	--	24,485	77,281	67,849	159,113
A [7]	1,963,878	274,124	76,375	860	179,886	574,010	486,670	371,953
TOTAL, STATEWIDE	2,433,704	336,247	84,109	905	214,658	670,772	566,712	560,301

[1] Mill-size class defined as follows: Class D mills = less than 40,000 board feet of lumber tally capacity per 8-hour shift; C = 40,000 - 79,999; B = 80,000 - 119,999; A = 120,000+.
[2] No mills reported for this mill-size class.
[3] Combined to avoid disclosure.
[4] Total for Class D is the sum of mill-size Class D for Puget Sound and Olympic Peninsula only.
[5] Total for Class C is the sum of mill-size Class C for Puget Sound and Olympic Peninsula only.
[6] Total for Class B includes Class C for Lower Columbia, and Classes C and D for Inland Empire.
[7] Total for Class A includes Classes C and D for Central Washington.

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Table D-23

Ownership Origin of Logs Utilized by County

(Thousand board feet, Scribner log rule)

Economic area and county	All owners	State	National Forest	Bureau of Land Management	Other public
Puget Sound					
King/ Whatcom [1]	130,657	3,548	--	--	6,970
Pierce	275,838	47,069	4,080	--	9,648
Skagit	78,666	18,354	--	--	3,370
Snohomish	245,004	88,821	14,661	--	10,807
Total	730,165	157,792	18,741	--	30,795
Olympic Peninsula					
Clallam/ Jefferson [1]	82,010	32,093	1,292	45	1,225
Grays Harbor	171,522	4,661	3,105	--	21,326
Lewis	278,234	62,889	--	--	28,945
Mason	176,998	15,414	200	--	8,192
Thurston	93,949	2,859	734	--	489
Total	802,713	117,916	5,331	45	60,177
Lower Columbia					
Clark/ Klickitat/ and Skamania [1]	123,990	9,860	15,753	--	24,456
Cowlitz	325,186	24,207	133	--	2,281
Total	449,176	34,067	15,886	--	26,737
Central Washington					
Chelan/ Okanogan/ and Yakima [1]	198,015	14,017	20,510	260	71,430
Total	198,015	14,017	20,510	260	71,430
Inland Empire					
Asotin/ Ferry [1]	66,300	1,780	10,130	--	6,300
Stevens	187,335	10,675	13,511	600	19,219
Total	253,635	12,455	23,641	600	25,519
TOTAL, STATEWIDE	2,433,704	336,247	84,109	905	214,658

[1] Combined to avoid disclosure.

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Table D-23 (Continued)

Ownership Origin of Logs Utilized by County

(Thousand board feet, Scribner log rule)

Forest industry		Farmer and miscellaneous private
Own wood supply	Other wood supply	
93,120	11,401	15,618
22,573	72,212	120,256
18,050	20,357	18,535
28,936	56,892	44,887
162,679	160,862	199,296
7,350	34,200	5,805
101,763	17,595	23,072
43,513	118,980	23,907
102,845	32,440	17,907
42,936	32,241	14,690
298,407	235,456	85,381
11,719	21,360	40,842
102,712	116,359	79,494
114,431	137,719	120,336
51,960	6,500	33,338
51,960	6,500	33,338
1,400	7,975	38,715
41,895	18,200	83,235
43,295	26,175	121,950
670,772	566,712	560,301

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Table D-24

Number of Mills Dependent upon Ownerships for Logs

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	4	--	--	--	4	--	--	--	4	--	--	--
C	3	--	--	--	1	2	--	--	3	--	--	--
B	3	1	--	--	1	2	--	1	4	--	--	--
A	7	5	--	--	2	7	3	--	12	--	--	--
Total	17	6	--	--	8	11	3	1	23	--	--	--
Olympic Peninsula												
D	5	--	--	--	3	1	--	1	5	--	--	--
C	2	1	--	--	1	1	1	--	2	1	--	--
B	3	1	--	--	--	3	--	1	4	--	--	--
A	11	3	--	--	4	9	1	--	14	--	--	--
Total	21	5	--	--	8	14	2	2	25	1	--	--
Lower Columbia												
D [2]	--	--	--	--	--	--	--	--	--	--	--	--
B and C [3]	3	1	1	--	1	4	--	--	5	--	--	--
A	3	2	--	--	1	4	--	--	5	--	--	--
Total	6	3	1	--	2	8	--	--	10	--	--	--
Central Washington												
B [2]	--	--	--	--	--	--	--	--	--	--	--	--
A, C and D [3]	2	5	--	--	2	4	1	--	6	1	--	--
Total	2	5	--	--	2	4	1	--	6	1	--	--
Inland Empire												
B, C and D [3]	3	1	--	--	2	2	--	--	4	--	--	--
A	--	5	--	--	1	4	--	--	4	1	--	--
Total	3	6	--	--	3	6	--	--	8	1	--	--
Total State												
D [4] [6] [7]	9	--	--	--	7	1	--	1	9	--	--	--
C [5] [6] [7]	5	1	--	--	2	3	1	--	5	1	--	--
B [6]	12	4	1	--	4	11	--	2	17	--	--	--
A [7]	23	20	--	--	10	28	5	--	41	2	--	--
TOTAL, STATEWIDE	49	25	1	--	23	43	6	3	72	3	--	--

[1] Mill-size classes are defined as follows: Class D mills = less than 40,000 board feet of lumber tally capacity per 8-hour shift; C = 40,000 - 79,999; B = 80,000 - 119,999; A = 120,000+.
[2] No mills reported for this mill-size class.
[3] Combined to avoid disclosure.
[4] Total for Class D is the sum of mill-size Class D for Puget Sound and Olympic Peninsula only.
[5] Total for Class C is the sum of mill-size Class C for Puget Sound and Olympic Peninsula only.
[6] Total for Class B includes Class C for Lower Columbia and Classes C and D for Inland Empire.
[7] Total for Class A includes Classes C and D for Central Washington.

SAWMILLS 1996

Table D-24 (Continued)

Number of Mills Dependent upon Ownerships for Logs

Other public				Forest industry: Own wood supply				Forest industry: 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
4	--	--	--	3	1	--	--	3	1	--	--	--	--	1	3
2	1	--	--	--	2	1	--	1	2	--	--	--	2	--	1
2	2	--	--	3	1	--	--	2	2	--	--	--	2	1	1
2	10	--	--	9	1	1	1	2	5	3	2	1	10	--	1
10	13	--	--	15	5	2	1	8	10	3	2	1	14	2	6
4	1	--	--	4	1	--	--	4	1	--	--	1	--	1	3
2	--	1	--	3	--	--	--	1	2	--	--	--	2	1	--
1	3	--	--	2	1	1	--	2	1	1	--	--	2	2	--
5	9	--	--	4	6	--	4	5	1	6	2	7	6	--	1
12	13	1	--	13	8	1	4	12	5	7	2	8	10	4	4
--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3	1	1	--	2	2	1	--	3	1	1	--	--	1	3	1
2	3	--	--	3	1	--	1	--	3	1	1	--	3	2	--
5	4	1	--	5	3	1	1	3	4	2	1	--	4	5	1
--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
--	6	--	1	4	1	2	--	6	1	--	--	--	4	2	1
--	6	--	1	4	1	2	--	6	1	--	--	--	4	2	1
3	1	--	--	3	1	--	--	4	--	--	--	--	--	1	3
2	3	--	--	1	3	1	--	1	4	--	--	--	2	2	1
5	4	--	--	4	4	1	--	5	4	--	--	--	2	3	4
8	1	--	--	7	2	--	--	7	2	--	--	1	--	2	6
4	1	1	--	3	2	1	--	2	4	--	--	--	4	1	1
9	7	1	--	10	5	2	--	11	4	2	--	--	5	7	5
11	31	--	1	21	12	4	6	14	14	10	5	8	25	6	4
32	40	2	1	41	21	7	6	34	24	12	5	9	34	16	16

SAWMILLS 1996

Table D-25

Log Utilization by Species by Mill-Size Class

(Thousand board feet, Scribner log rule)

Economic area and and mill-size class[1]	All species	Douglas fir	Hemlock	True firs	Spruce	Ponderosa pine	Lodgepole pine
Puget Sound							
D	6,583	33	8	--	--	--	--
C	53,000	2,800	1,000	--	--	--	--
B	96,730	23,627	14,532	1,360	136	--	--
A	573,852	309,848	202,876	18,131	1,070	--	--
Total	730,165	336,308	218,416	19,491	1,206	--	--
Olympic Peninsula							
D	8,175	50	5	2	1	--	--
C	18,450	405	7,045	3,000	--	--	--
B	100,511	950	50	--	--	--	--
A	675,577	236,500	355,714	16,282	9,702	6,000	12,000
Total	802,713	237,905	362,814	19,284	9,703	6,000	12,000
Lower Columbia							
D [2]	--	--	--	--	--	--	--
B and C [3]	146,392	28,777	140	655	--	--	491
A	302,784	198,007	52,627	4,110	5,040	--	--
Total	449,176	226,784	52,767	4,765	5,040	--	491
Central Washington							
B [2]	--	--	--	--	--	--	--
A, C and D [3]	198,015	39,218	11,700	12,524	1,861	123,312	8,880
Total	198,015	39,218	11,700	12,524	1,861	123,312	8,880
Inland Empire							
B, C and D [3]	39,985	10,435	--	2,608	991	23,437	919
A	213,650	63,428	7,050	14,878	3,901	87,865	28,045
Total	253,635	73,863	7,050	17,486	4,892	111,302	28,964
Total, State							
D [4] [6] [7]	14,758	83	13	2	1	--	--
C [5] [6] [7]	71,450	3,205	8,045	3,000	--	--	--
B [6]	383,618	63,789	14,722	4,623	1,127	23,437	1,410
A [7]	1,963,878	847,001	629,967	65,925	21,574	217,177	48,925
Total	2,433,704	914,078	652,747	73,550	22,702	240,614	50,335

[1] Mill-size classes are defined as follows: Class D mills = less than 40,000 board feet of lumber tally capacity per 8-hour shift; C = 40,000 - 79,999; B = 80,999 - 119,999; A = 120,000+.
[2] No mills reported for this mill-size class.
[3] Combined to avoid disclosure.
[4] Total for Class D is the sum of mill-size Class D for Puget Sound and Olympic Peninsula only.
[5] Total for Class C is the sum of mill-size Class C for Puget Sound and Olympic Peninsula only.
[6] Total for Class B includes Class C for Lower Columbia and Classes C and D for Inland Empire.
[7] Total for Class A includes Classes C and D for Central Washington.

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Table D-25 (Continued)

Log Utilization by Species by Mill-Size Class

(Thousand board feet, Scribner log rule)

Western redcedar	Other softwoods	Hardwoods
2,649	--	3,893
18,200	--	31,000
952	--	56,123
41,657	270	--
63,458	270	91,016
116	--	8,001
--	--	8,000
15,600	--	83,911
39,379	--	--
55,095	--	99,912
--	--	--
13,386	327	102,616
43,000	--	--
56,386	327	102,616
--	--	--
--	520	--
--	520	--
1,593	--	2
8,483	--	--
10,076	--	2
2,765	--	11,894
18,200	--	39,000
31,531	327	242,652
132,519	790	--
185,015	1,117	293,546

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Table D-26

Log Utilization by Species by County

(Thousand board feet, Scribner log rule)

Economic area and county	All species	Douglas fir	Hemlock	True firs	Spruce	Ponderosa pine
Puget Sound						
King/ Whatcom [1]	130,657	48,367	73,430	7,760	136	--
Pierce	275,838	182,724	78,996	3,901	680	--
Skagit	78,666	24,317	1,890	810	--	--
Snohomish	245,004	80,900	64,100	7,020	390	--
Total	730,165	336,308	218,416	19,491	1,206	--
Olympic Peninsula						
Clallam/Jefferson [1]	82,010	7,358	66,471	1	8,151	--
Grays Harbor	171,522	51,194	95,378	3,931	1,552	--
Lewis	278,234	75,986	79,300	--	--	6,000
Mason	176,998	78,847	60,326	15,351	--	--
Pacific/ Thurston [1]	93,949	24,520	61,339	1	--	--
Total	802,713	237,905	362,814	19,284	9,703	6,000
Lower Columbia						
Clark/ Klickitat/ and Skamania [1]	123,990	88,297	22,820	4,015	5,040	--
Cowlitz	325,186	138,487	29,947	750	--	--
Total	449,176	226,784	52,767	4,765	5,040	--
Central Washington						
Chelan/ Okanogan/ and Yakima [1]	198,015	39,218	11,700	12,524	1,861	123,312
Total	198,015	39,218	11,700	12,524	1,861	123,312
Inland Empire						
Asotin/ Ferry [1]	66,300	29,405	4,050	6,530	930	22,050
Stevens	187,335	44,458	3,000	10,956	3,962	89,252
Total	253,635	73,863	7,050	17,486	4,892	111,302
TOTAL, STATEWIDE	2,433,704	914,078	652,747	73,550	22,702	240,614

[1] Combined to avoid disclosure.

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Table D-26 (Continued)
Log Utilization by Species by County
(Thousand board feet, Scribner log rule)

Lodgepole pine	Western redcedar	Other softwoods	Hardwoods
--	952	--	12
--	9,267	270	--
--	20,649	--	31,000
--	32,590	--	60,004
--	63,458	270	91,016
--	27	--	2
--	19,467	--	--
12,000	19,912	--	85,036
--	15,600	--	6,874
--	89	--	8,000
12,000	55,095	--	99,912
491	3,000	327	--
--	53,386	--	102,616
491	56,386	327	102,616
8,880	--	520	--
8,880	--	520	--
2,575	760	--	--
26,389	9,316	--	2
28,964	10,076	--	2
50,335	185,015	1,117	293,546

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Table D-27

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

Economic area and mill-size class[1]	All residue			Wood residue		
	Total	Used[2]	Unused	Total	Used[2]	Unused
Puget Sound						
D	9,250	9,250	--	6,858	6,858	--
C	81,026	81,026	--	61,972	61,972	--
B	165,144	165,144	--	126,420	126,420	--
A	1,287,858	1,287,858	--	1,009,682	1,009,682	--
Total	1,543,278	1,543,278	--	1,204,932	1,204,932	--
Olympic Peninsula						
D	12,914	12,914	--	9,648	9,648	--
C	34,466	34,466	--	25,057	25,057	--
B	173,734	173,734	--	130,424	130,424	--
A	1,586,540	1,586,540	--	1,242,301	1,242,301	--
Total	1,807,654	1,807,654	--	1,407,430	1,407,430	--
Lower Columbia						
D [3]	--	--	--	--	--	--
B and C [4]	254,163	254,163	--	191,030	191,030	--
A	654,442	654,442	--	511,600	511,600	--
Total	908,605	908,605	--	702,630	702,630	--
Central Washington						
B [3]	--	--	--	--	--	--
A, C and D [4]	330,194	326,205	3,989	259,964	259,519	445
Total	330,194	326,205	3,989	259,964	259,519	445
Inland Empire						
B, C and D [4]	61,662	61,662	--	48,372	48,372	--
A	379,361	379,361	--	298,700	298,700	--
Total	441,023	441,023	--	347,072	347,072	--
Total, State						
D [5] [7] [8]	22,164	22,164	--	16,506	16,506	--
C [6] [7] [8]	115,492	115,492	--	87,029	87,029	--
B [7]	654,703	654,703	--	496,246	496,246	--
A [8]	4,238,395	4,234,406	3,989	3,322,247	3,321,802	445
TOTAL, STATEWIDE	5,030,754	5,026,765	3,989	3,922,028	3,921,583	445

[1] Mill-size classes are defined as follows: Class D mills = less than 40,000 board feet of lumber tally 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] No mills reported for this mill-size class.
[4] Combined to avoid disclosure.
[5] Total for Class D includes Class D for Puget Sound and Olympic Peninsula only.
[6] Total for Class C includes Class C for Puget Sound and Olympic Peninsula only.
[7] Total for Class B includes Class C for Lower Columbia and Classes C and D for Inland Empire.
[8] Total for Class A includes Classes C and D for Central Washington.

Table D-27 (Continued)
Production and Disposition of Wood and Bark Residues by Mill-Size Class
(Tons, Dry Weight)

Bark residue		
Total	Used[2]	Unused
2,392	2,392	--
19,054	19,054	--
38,724	38,724	--
278,176	278,176	--
338,346	338,346	--
3,266	3,266	--
9,409	9,409	--
43,310	43,310	--
344,239	344,239	--
400,224	400,224	--
--	--	--
63,133	63,133	--
142,842	142,842	--
205,975	205,975	--
--	--	--
70,230	66,686	3,544
70,230	66,686	3,544
13,290	13,290	--
80,661	80,661	--
93,951	93,951	--
5,658	5,658	--
28,463	28,463	--
158,457	158,457	--
916,148	912,604	3,544
1,108,726	1,105,182	3,544

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Table D-28

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

Economic area and mill-size class[1]	All types						
	Total	Total used[3]	Pulp	Board	Fuel	Other	Unused
Puget Sound							
D	6,858	6,858	2,569	--	4,246	43	--
C	61,972	61,972	34,924	--	22,547	4,501	--
B	126,420	126,420	28,985	--	58,008	39,427	--
A	1,009,682	1,009,682	565,346	104,291	147,640	192,405	--
Total	1,204,932	1,204,932	631,824	104,291	232,441	236,376	--
Olympic Peninsula							
D	9,648	9,648	6,071	3,080	301	196	--
C	25,057	25,057	8,247	--	16,810	--	--
B	130,424	130,424	80,533	289	23,189	26,413	--
A	1,242,301	1,242,301	832,747	10,065	228,454	171,035	--
Total	1,407,430	1,407,430	927,598	13,434	268,754	197,644	--
Lower Columbia							
D [4]	--	--	--	--	--	--	--
B and C [5]	191,030	191,030	138,402	13,396	37,612	1,620	--
A	511,600	511,600	390,056	67,703	53,521	320	--
Total	702,630	702,630	528,458	81,099	91,133	1,940	--
Central Washington							
B [4]	--	--	--	--	--	--	--
A, C and D [5]	259,964	259,519	148,713	40,158	53,786	16,862	445
Total	259,964	259,519	148,713	40,158	53,786	16,862	445
Inland Empire							
B, C and D [5]	48,372	48,372	23,970	6,729	17,664	9	--
A	298,700	298,700	246,591	30,187	21,922	--	--
Total	347,072	347,072	270,561	36,916	39,586	9	--
Total, State							
D [6] [8] [9]	16,506	16,506	8,640	3,080	4,547	239	--
C [7] [8] [9]	87,029	87,029	43,171	--	39,357	4,501	--
B [8]	496,246	496,246	271,890	20,414	136,473	67,469	--
A [9]	3,322,247	3,321,802	2,183,453	252,404	505,323	380,622	445
TOTAL, STATEWIDE	3,922,028	3,921,583	2,507,154	275,898	685,700	452,831	445

[1] Mill-size classes are defined as follows: Class D mills = less than 40,000 board feet of lumber tally 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] Used residues were not necessarily consumed in the economic area in which they were produced.
[4] No mills reported for this mill-size class.
[5] Combined to avoid disclosure.
[6] Total for Class D is the sum of mill-size Class D for Puget Sound and Olympic Peninsula only.
[7] Total for Class C is the sum of mill-size Class C for Puget Sound and Olympic Peninsula only.
[8] Total for Class B includes Class C for Lower Columbia and Classes C and D for Inland Empire.
[9] Total for Class A includes Classes C and D for Central Washington.

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Table D-28 (Continued)

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

Total	Coarse[2]					
	Total used[3]	Pulp	Board	Fuel	Other	Unused
4,598	4,598	2,108	--	2,490	--	--
36,610	36,610	34,924	--	1,686	--	--
74,912	74,912	28,985	--	45,927	--	--
568,210	568,210	463,167	--	100,538	4,505	--
684,330	684,330	529,184	--	150,641	4,505	--
5,974	5,974	5,818	--	49	107	--
18,043	18,043	8,247	--	9,796	--	--
80,533	80,533	80,533	--	--	--	--
703,158	703,158	678,042	--	25,116	--	--
807,708	807,708	772,640	--	34,961	107	--
--	--	--	--	--	--	--
120,470	120,470	112,565	--	7,905	--	--
291,776	291,776	291,776	--	--	--	--
412,246	412,246	404,341	--	7,905	--	--
--	--	--	--	--	--	--
143,459	143,459	140,615	--	--	2,844	--
143,459	143,459	140,615	--	--	2,844	--
27,148	27,148	23,970	--	3,178	--	--
164,765	164,765	162,236	--	2,529	--	--
191,913	191,913	186,206	--	5,707	--	--
10,572	10,572	7,926	--	2,539	107	--
54,653	54,653	43,171	--	11,482	--	--
303,063	303,063	246,053	--	57,010	--	--
1,871,368	1,871,368	1,735,836	--	128,183	7,349	--
2,239,656	2,239,656	2,032,986	--	199,214	7,456	--

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Table D-28 (Continued)

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

Economic area and mill-size class[1]	Medium[2] Total	Total used[4]	Pulp	Board	Fuel	Other	Unused
Puget Sound							
D	470	470	461	--	--	9	--
C	11,104	11,104	--	--	7,143	3,961	--
B	22,162	22,162	--	--	--	22,162	--
A	208,582	208,582	39,380	81,530	21,863	65,809	--
Total	242,318	242,318	39,841	81,530	29,006	91,941	--
Olympic Peninsula							
D	1,453	1,453	--	1,181	247	25	--
C	--	--	--	--	--	--	--
B	19,453	19,453	--	289	13,354	5,810	--
A	250,944	250,944	14,880	10,065	106,635	119,364	--
Total	271,850	271,850	14,880	11,535	120,236	125,199	--
Lower Columbia							
D [5]	--	--	--	--	--	--	--
B and C [6]	23,933	23,933	8,660	1,275	12,378	1,620	--
A	100,235	100,235	32,400	56,471	11,044	320	--
Total	124,168	124,168	41,060	57,746	23,422	1,940	--
Central Washington							
B [5]	--	--	--	--	--	--	--
A, C and D [6]	57,709	57,709	314	39,844	9,365	8,186	--
Total	57,709	57,709	314	39,844	9,365	8,186	--
Inland Empire							
B, C and D [6]	10,098	10,098	--	6,729	3,366	3	--
A	66,404	66,404	27,432	26,947	12,025	--	--
Total	76,502	76,502	27,432	33,676	15,391	3	--
Total, State							
D [7] [9] [10]	1,923	1,923	461	1,181	247	34	--
C [8] [9] [10]	11,104	11,104	--	--	7,143	3,961	--
B [9]	75,646	75,646	8,660	8,293	29,098	29,595	--
A [10]	683,874	683,874	114,406	214,857	160,932	193,679	-
TOTAL, STATEWIDE	772,547	772,547	123,527	224,331	197,420	227,269	--

[1] Mill-size classes are defined as follows: Class D mills = less than 40,000 board feet of lumber tally capacity per 8-hour shift: C = 40,000 - 79,999; B = 80,000 - 119,999; A = 120,000+.
[2] Shavings.
[3] Sawdust.
[4] Used residues were not necessarily consumed in the economic area in which they were produced.
[5] No mills reported for this mill-size class.
[6] Combined to avoid disclosure.
[7] Total for Class D is the sum of mill-size Class D for Puget Sound and Olympic Peninsula only.
[8] Total for Class C is the sum of mill-size Class C for Puget Sound and Olympic Peninsula only.
[9] Total for Class B includes Class C for Lower Columbia and Classes C and D for Inland Empire.
[10] Total for Class C includes Classes C and D for Central Washington.

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Table D-28 (Continued)

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

		Fine[3]				
Total	Total used[4]	Pulp	Board	Fuel	Other	Unused
1,790	1,790	--	--	1,756	34	--
14,258	14,258	--	--	13,718	540	--
29,346	29,346	--	--	12,081	17,265	--
232,890	232,890	62,799	22,761	25,239	122,091	--
278,284	278,284	62,799	22,761	52,794	139,930	--
2,221	2,221	253	1,899	5	64	--
7,014	7,014	--	--	7,014	--	--
30,438	30,438	--	--	9,835	20,603	--
288,199	288,199	139,825	--	96,703	51,671	--
327,872	327,872	140,078	1,899	113,557	72,338	--
--	--	--	--	--	--	--
46,627	46,627	17,177	12,121	17,329	--	--
119,589	119,589	65,880	11,232	42,477	--	--
166,216	166,216	83,057	23,353	59,806	--	--
--	--	--	--	--	--	--
58,796	58,351	7,784	314	44,421	5,832	445
58,796	58,351	7,784	314	44,421	5,832	445
11,126	11,126	--	--	11,120	6	--
67,531	67,531	56,923	3,240	7,368	--	--
78,657	78,657	56,923	3,240	18,488	6	--
4,011	4,011	253	1,899	1,761	98	--
21,272	21,272	--	--	20,732	540	--
117,537	117,537	17,177	12,121	50,365	37,874	--
767,005	766,560	333,211	37,547	216,208	179,594	445
909,825	909,380	350,641	51,567	289,066	218,106	445

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Table D-29

Production and Disposition of Bark Residues by Mill-Size Class (Tons, Dry Weight)

Economic area and mill-size class[1]	Bark						
	Total	Total used[2]	Pulp	Board	Fuel	Other	Unused
Puget Sound							
D	2,392	2,392	--	--	2,351	41	--
C	19,054	19,054	--	--	19,054	--	--
B	38,724	38,724	--	--	--	38,724	--
A	278,176	278,176	--	--	61,275	216,901	--
Total	338,346	338,346	--	--	82,680	255,666	--
Olympic Peninsula							
D	3,266	3,266	--	--	382	2,884	--
C	9,409	9,409	--	--	9,409	--	--
B	43,310	43,310	--	--	14,447	28,863	--
A	344,239	344,239	--	--	341,780	2,459	--
Total	400,224	400,224	--	--	366,018	34,206	--
Lower Columbia							
D [3]	--	--	--	--	--	--	--
B and C [4]	63,133	63,133	--	--	63,133	--	--
A	142,842	142,842	--	--	115,288	27,554	--
Total	205,975	205,975	--	--	178,421	27,554	--
Central Washington							
B [3]	--	--	--	--	--	--	--
A, C and D [4]	70,230	66,686	--	375	62,957	3,354	3,544
Total	70,230	66,686	--	375	62,957	3,354	3,544
Inland Empire							
B, C and D [4]	13,290	13,290	--	--	10,763	2,527	--
A	80,661	80,661	--	--	80,661	--	--
Total	93,951	93,951	--	--	91,424	2,527	--
Total, State							
D [5] [7] [8]	5,658	5,658	--	--	2,733	2,925	--
C [6] [7] [8]	28,463	28,463	--	--	28,463	--	--
B [7]	158,457	158,457	--	--	88,343	70,114	--
A [8]	916,148	912,604	--	375	661,961	250,268	3,544
TOTAL, STATEWIDE	1,108,726	1,105,182	--	375	781,500	323,307	3,544

[1] Mill-size classes are defined as follows: Class D mills = less than 40,000 board feet of lumber tally 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] No mills reported for this mill-size class.
[4] Combined to avoid disclosure.
[5] Total for Class D is the sum of mill-size Class D for Puget Sound and Olympic Peninsula only.
[6] Total for Class C is the sum of mill-size Class C for Puget Sound and Olympic Peninsula only.
[7] Total for Class B includes Class C for Lower Columbia and Classes C and D for Inland Empire.
[8] Total for Class A includes Classes C and D for Central Washington.

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Table D-30

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

Economic area and county	All residue			Wood residue		
	Total	Used[1]	Unused	Total	Used[1]	Unused
Puget Sound						
King/ Whatcom [2]	283,242	283,242	--	222,677	222,677	--
Pierce	573,912	573,912	--	451,229	451,229	--
Skagit	143,773	143,773	--	111,020	111,020	--
Snohomish	542,351	542,351	--	420,006	420,006	--
Total	1,543,278	1,543,278	--	1,204,932	1,204,932	--
Olympic Peninsula						
Clallam/ Jefferson [2]	145,112	145,112	--	111,897	111,897	--
Grays Harbor	347,804	347,804	--	270,392	270,392	--
Lewis	639,493	639,493	--	495,170	495,170	--
Mason	448,518	448,518	--	352,959	352,959	--
Pacific/ Thurston [2]	226,727	226,727	--	177,012	177,012	--
Total	1,807,654	1,807,654	--	1,407,430	1,407,430	--
Lower Columbia						
Clark/ Klickitat/ and Skamania [2]	224,587	224,587	--	175,888	175,888	--
Cowlitz	684,018	684,018	--	526,742	526,742	--
Total	908,605	908,605	--	702,630	702,630	--
Central Washington						
Chelan/ Okanogan/ and Yakima [2]	330,194	326,205	3,989	259,964	259,519	445
Total	330,194	326,205	3,989	259,964	259,519	445
Inland Empire						
Asotin/ Ferry [2]	120,706	120,706	--	94,906	94,906	--
Stevens	320,317	320,317	--	252,166	252,166	--
Total	441,023	441,023	--	347,072	347,072	--
TOTAL, STATEWIDE	5,030,754	5,026,765	3,989	3,922,028	3,921,583	445

[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-30 (Continued)

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

Bark residue		
Total	Used[1]	Unused
60,565	60,565	--
122,683	122,683	--
32,753	32,753	--
122,345	122,345	--
338,346	338,346	--
33,215	33,215	--
77,412	77,412	--
144,323	144,323	--
95,559	95,559	--
49,715	49,715	--
400,224	400,224	--
48,699	48,699	--
157,276	157,276	--
205,975	205,975	--
70,230	66,686	3,544
70,230	66,686	3,544
25,800	25,800	--
68,151	68,151	--
93,951	93,951	-
1,108,726	1,105,182	3,544

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Table D-31

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

Economic area and county	All types						
	Total	Total used[4]	Pulp	Board	Fuel	Other	Unused
Puget Sound							
King/ Whatcom [5]	222,677	222,677	137,882	40,756	11,099	32,940	--
Pierce	451,229	451,229	250,373	63,535	76,539	60,782	--
Skagit	111,020	111,020	54,028	--	41,568	15,424	--
Snohomish	420,006	420,006	189,541	--	103,235	127,230	--
Total	1,204,932	1,204,932	631,824	104,291	232,441	236,376	--
Olympic Peninsula							
Clallam/ Jefferson [5]	111,897	111,897	100,198	--	11,678	21	--
Grays Harbor	270,392	270,392	171,085	6,480	20,100	72,727	--
Lewis	495,170	495,170	345,896	289	58,398	90,587	--
Mason	352,959	352,959	194,577	6,665	140,291	11,426	--
Pacific/ Thurston [5]	177,012	177,012	115,842	--	38,287	22,883	--
Total	1,407,430	1,407,430	927,598	13,434	268,754	197,644	--
Lower Columbia							
Clark/ Klickitat/ and Skamania [5]	175,888	175,888	126,533	36,270	11,145	1,940	--
Cowlitz	526,742	526,742	401,925	44,829	79,988	--	--
Total	702,630	702,630	528,458	81,099	91,133	1,940	--
Central Washington							
Chelan/ Okanogan/ and Yakima [5]	259,964	259,519	148,713	40,158	53,786	16,862	445
Total	259,964	259,519	148,713	40,158	53,786	16,862	445
Inland Empire							
Asotin/ Ferry [5]	94,906	94,906	75,026	12,474	7,406	--	--
Stevens	252,166	252,166	195,535	24,442	32,180	9	--
Total	347,072	347,072	270,561	36,916	39,586	9	--
TOTAL, STATEWIDE	3,922,028	3,921,583	2,507,154	275,898	685,700	452,831	445

[1] Coarse residue includes slabs, edgings, sawmill trim, and planer trim.
[2] Medium residue is planer shavings.
[3] Fine residue is sawdust.
[4] Used residues were not necessarily consumed in the economic area in which they were produced.
[5] 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]				
Total	Total used[4]	Pulp	Board	Fuel	Other	Unused
123,712	123,712	112,613	--	11,099	--	--
250,596	250,596	195,063	--	55,533	--	--
64,592	64,592	54,028	--	6,059	4,505	--
245,430	245,430	167,480	--	77,950	--	--
684,330	684,330	529,184	--	150,641	4,505	--
67,847	67,847	67,798	--	49	--	--
158,125	158,125	158,125	--	--	--	--
286,784	286,784	261,668	--	25,116	--	--
194,577	194,577	194,577	--	--	--	--
100,375	100,375	90,472	--	9,796	107	--
807,708	807,708	772,640	--	34,961	107	--
99,478	99,478	91,573	--	7,905	--	--
312,768	312,768	312,768	--	--	--	--
412,246	412,246	404,341	--	7,905	--	--
143,459	143,459	140,615	--	--	2,844	--
143,459	143,459	140,615	--	--	2,844	--
52,700	52,700	49,538	--	3,162	--	--
139,213	139,213	136,668	--	2,545	--	--
191,913	191,913	186,206	--	5,707	--	-
2,239,656	2,239,656	2,032,986	--	199,214	7,456	--

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

Economic area and county	Total	Total used[4]	Medium[2] Pulp	Board	Fuel	Other	Unused
Puget Sound							
King/ Whatcom [5]	48,260	48,260	--	40,756	--	7,504	--
Pierce	97,922	97,922	39,380	40,774	--	17,768	--
Skagit	20,702	20,702	--	--	12,806	7,896	--
Snohomish	75,434	75,434	461	--	16,200	58,773	--
Total	242,318	242,318	39,841	81,530	29,006	91,941	--
Olympic Peninsula							
Clallam/ Jefferson [5]	16,243	16,243	10,800	--	5,442	1	--
Grays Harbor	47,457	47,457	--	6,480	8,210	32,767	--
Lewis	93,441	93,441	4,080	289	13,472	75,600	--
Mason	78,831	78,831	--	4,766	68,255	5,810	--
Pacific/ Thurston [5]	35,878	35,878	--	--	24,857	11,021	--
Total	271,850	271,850	14,880	11,535	120,236	125,199	--
Lower Columbia							
Clark/ Klickitat/ and Skamania [5]	35,638	35,638	8,660	25,038	--	1,940	--
Cowlitz	88,530	88,530	32,400	32,708	23,422	--	--
Total	124,168	124,168	41,060	57,746	23,422	1,940	--
Central Washington							
Chelan/ Okanogan/ and Yakima [5]	57,709	57,709	314	39,844	9,365	8,186	--
Total	57,709	57,709	314	39,844	9,365	8,186	--
Inland Empire							
Asotin/ Ferry [5]	20,606	20,606	9,504	9,234	1,868	--	--
Stevens	55,896	55,896	17,928	24,442	13,523	3	--
Total	76,502	76,502	27,432	33,676	15,391	3	--
TOTAL, STATEWIDE	772,547	772,547	123,527	224,331	197,420	227,269	--

[2] Medium residue is planer shavings.
[3] Fine residue is sawdust.
[4] Used residues were not necessarily consumed in the economic area in which they were produced.
[5] Combined to avoid disclosure.

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Table D-31 (Continued)

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

Total	Total used[4]	Fine[3] Pulp	Board	Fuel	Other	Unused
50,705	50,705	25,269	--	--	25,436	--
102,711	102,711	15,930	22,761	21,006	43,014	--
25,726	25,726	--	--	22,703	3,023	--
99,142	99,142	21,600	--	9,085	68,457	--
278,284	278,284	62,799	22,761	52,794	139,930	--
27,807	27,807	21,600	--	6,187	20	--
64,810	64,810	12,960	--	11,890	39,960	--
114,945	114,945	80,148	--	19,810	14,987	--
79,551	79,551	--	1,899	72,036	5,616	--
40,759	40,759	25,370	--	3,634	11,755	--
327,872	327,872	140,078	1,899	113,557	72,338	--
40,772	40,772	26,300	11,232	3,240	--	--
125,444	125,444	56,757	12,121	56,566	--	--
166,216	166,216	83,057	23,353	59,806	--	--
58,796	58,351	7,784	314	44,421	5,832	445
58,796	58,351	7,784	314	44,421	5,832	445
21,600	21,600	15,984	3,240	2,376	--	--
57,057	57,057	40,939	--	16,112	6	--
78,657	78,657	56,923	3,240	18,488	6	--
909,825	909,380	350,641	51,567	289,066	218,106	445

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Table D-32

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

Economic area and county	Total	Used[1]					Unused
		Total used	Pulp	Board	Fuel	Other	
Puget Sound							
King/ Whatcom [2]	60,565	60,565	--	--	--	60,565	--
Pierce	122,683	122,683	--	--	30,315	92,368	--
Skagit	32,753	32,753	--	--	18,022	14,731	--
Snohomish	122,345	122,345	--	--	34,343	88,002	--
Total	338,346	338,346	--	--	82,680	255,666	--
Olympic Peninsula							
Clallam/ Jefferson [2]	33,215	33,215	--	--	33,191	24	--
Grays Harbor	77,412	77,412	--	--	77,412	--	--
Lewis	144,323	144,323	--	--	119,709	24,614	--
Mason	95,559	95,559	--	--	86,043	9,516	--
Pacific/ Thurston [2]	49,715	49,715	--	--	49,663	52	--
Total	400,224	400,224	--	--	366,018	34,206	--
Lower Columbia							
Clark/ Klickitat/ and Skamania [2]	48,699	48,699	--	--	36,625	12,074	--
Cowlitz	157,276	157,276	--	--	141,796	15,480	--
Total	205,975	205,975	--	--	178,421	27,554	--
Central Washington							
Chelan/ Okanogan/ and Yakima [2]	70,230	66,686	--	375	62,957	3,354	3,544
Total	70,230	66,686	--	375	62,957	3,354	3,544
Inland Empire							
Asotin/ Ferry [2]	25,800	25,800	--	--	25,800	--	--
Stevens	68,151	68,151	--	--	65,624	2,527	--
Total	93,951	93,951	--	--	91,424	2,527	--
TOTAL, STATEWIDE	1,108,726	1,105,182	--	375	781,500	323,307	3,544

[1] Used residues were not necessarily consumed in the economic area in which they were produced.
[2] Combined to avoid disclosure.

SAWMILLS 1996

Table D-33

Degree of Lumber Manufacture

(Thousand board feet, Lumber tally)

Economic area and mill-size class[1]	Moisture				Lumber surface	
	Green	Kiln-dried	Air-dried	Total	Rough	Surfaced
Puget Sound						
D	5,946	2,095	--	8,041	5,900	2,141
C	29,700	34,300	--	64,000	13,100	50,900
B	84,891	47,335	--	132,226	30,240	101,986
A	669,987	408,218	--	1,078,205	112,529	965,676
Total	790,524	491,948	--	1,282,472	161,769	1,120,703
Olympic Peninsula						
D	3,165	6,494	24	9,683	3,070	6,613
C	18,810	12,640	--	31,450	31,450	--
B	45,458	88,561	--	134,019	45,082	88,937
A	531,481	801,796	994	1,334,271	172,472	1,161,799
Total	598,914	909,491	1,018	1,509,423	252,074	1,257,349
Lower Columbia						
D [2]	--	--	--	--	--	--
B and C [3]	106,752	89,209	12,528	208,489	98,831	109,658
A	278,260	275,396	--	553,656	89,600	464,056
Total	385,012	364,605	12,528	762,145	188,431	573,714
Central Washington						
B [2]	--	--	--	--	--	--
A, C and D [3]	10,009	252,993	9,221	272,223	5,037	267,186
Total	10,009	252,993	9,221	272,223	5,037	267,186
Inland Empire						
B, C and D [3]	9,227	40,789	1,500	51,516	4,754	46,762
A	4,253	303,976	4,420	312,649	5,212	307,437
Total	13,480	344,765	5,920	364,165	9,966	354,199
Total, State						
D [4] [6] [7]	9,111	8,589	24	17,724	8,970	8,754
C [5] [6] [7]	48,510	46,940	--	95,450	44,550	50,900
B [6]	246,328	265,894	14,028	526,250	178,907	347,343
A [7]	1,493,990	2,042,379	14,635	3,551,004	384,850	3,166,154
TOTAL, STATEWIDE	1,797,939	2,363,802	28,687	4,190,428	617,277	3,573,151

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

[2] No mills reported for this mill-size class.

[3] Combined to avoid disclosure.

[4] Total for Class D is the sum of mill-size Class D for Puget Sound and Olympic Peninsula only.

[5] Total for Class C is the sum of mill-size Class C for Puget Sound and Olympic Peninsula only.

[6] Total for Class B includes Class C for Lower Columbia and Classes C and D for Inland Empire.

[7] Total for Class A includes Classes C and D for Central Washington.

SAWMILLS 1996

Table D-34

Lumber Production by Headrig Type and Mill-Size Class (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	8,041	160	7,881	--	--	--
C	64,000	--	64,000	--	--	--
B	132,226	--	86,913	--	45,313	--
A	1,078,205	71,702	612,265	174,712	156,300	63,226
Total	1,282,472	71,862	771,059	174,712	201,613	63,226
Olympic Peninsula						
D	9,683	8,916	542	--	225	--
C	31,450	15,800	15,650	--	--	--
B	134,019	--	98,308	35,711	--	--
A	1,334,271	310,223	595,964	20,000	408,084	--
Total	1,509,423	334,939	710,464	55,711	408,309	--
Lower Columbia						
D [2]	--	--	--	--	--	--
B and C [3]	208,489	3,777	159,985	26,350	18,377	--
A	553,656	--	484,827	--	68,829	--
Total	762,145	3,777	644,812	26,350	87,206	--
Central Washington						
B [2]	--	--	--	--	--	--
A, C and D [3]	272,223	--	138,469	32,000	100,299	1,455
Total	272,223	--	138,469	32,000	100,299	1,455
Inland Empire						
B, C and D [3]	51,516	6,031	45,485	--	--	--
A	312,649	--	209,590	--	103,059	--
Total	364,165	6,031	255,075	--	103,059	--
Total, State						
D [4] [6] [7]	17,724	9,076	8,423	--	225	--
C [5] [6] [7]	95,450	15,800	79,650	--	--	--
B [6]	526,250	9,808	390,691	62,061	63,690	--
A [7]	3,551,004	381,925	2,041,115	226,712	836,571	64,681
TOTAL, STATEWIDE	4,190,428	416,609	2,519,879	288,773	900,486	64,681

[1] Mill-size classes identified as follows: Class D mills = less than 40,000 board feet of lumber tally capacity per 8-hour shift: C = 40,000 - 79,999; B = 80,000 - 119,999; A = 120,000 +.
[2] No mills reported for this mill-size class.
[3] Combined to avoid disclosure.
[4] Total for Class D is the sum of mill-size Class D for Puget Sound and Olympic Peninsula only.
[5] Total for Class C is the sum of mill-size Class C for Puget Sound and Olympic Peninsula only.
[6] Total for Class B includes Class C for Lower Columbia and Classes C and D for Inland Empire.
[7] Total for Class A includes Classes C and D for Central Washington.

SAWMILLS 1996

Table D-35

Lumber Production by Headrig Type and 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						
King/ Whatcom [1]	234,748	71,762	158,786	--	4,200	--
Pierce	475,517	--	286,379	112,912	13,000	63,226
Skagit	117,100	100	99,900	--	17,100	--
Snohomish	455,107	--	225,994	61,800	167,313	--
Total	1,282,472	71,862	771,059	174,712	201,613	63,226
Olympic Peninsula						
Clallam/ Jefferson [1]	128,743	93	91,850	20,000	16,800	--
Grays Harbor	300,048	--	240,048	--	60,000	--
Lewis	525,191	192,144	297,111	35,711	225	--
Mason	367,760	8,260	81,250	--	278,250	--
Pacific/ Thurston [1]	187,681	134,442	205	--	53,034	--
Total	1,509,423	334,939	710,464	55,711	408,309	--
Lower Columbia						
Clark/ Klickitat/ and Skamania [1]	188,763	--	188,763	--	--	--
Cowlitz	573,382	3,777	456,049	26,350	87,206	--
Total	762,145	3,777	644,812	26,350	87,206	--
Central Washington						
Chelan/ Okanogan/ and Yakima [1]	272,223	--	138,469	32,000	100,299	1,455
Total	272,223	--	138,469	32,000	100,299	1,455
Inland Empire						
Asotin/ Ferry [1]	100,000	6,000	74,000	--	20,000	--
Stevens	264,165	31	181,075	--	83,059	--
Total	364,165	6,031	255,075	--	103,059	--
TOTAL, STATEWIDE	4,190,428	416,609	2,519,879	288,773	900,486	64,681

[1] Combined to avoid disclosure.

VENEER AND PLYWOOD MILLS 1996

Table D-36

Number of Veneer and Plywood Mills

Economic area and county	All types	Veneer only	Layup only	Veneer and layup
Puget Sound				
Pierce	1	1	--	--
Skagit	1	--	1	--
Whatcom	1	--	--	1
Total	3	1	1	1
Olympic Peninsula				
Clallam	1	--	--	1
Grays Harbor	3	2	1	--
Mason	1	--	--	1
Thurston	1	--	1	--
Total	6	2	2	2
Lower Columbia				
Klickitat	1	--	--	1
Total	1	--	--	1
Central Washington				
Okanogan	1	--	--	1
Yakima	1	--	--	1
Total	2	--	--	2
Inland Empire				
Stevens	1	--	--	1
Total	1	--	--	1
TOTAL, STATEWIDE	13	3	3	7

VENEER AND PLYWOOD MILLS 1996

Table D-37

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

Economic area and county	Type of operation			
	Veneer only	Layup only	Veneer and layup	
			Veneer	Layup
Puget Sound				
Pierce	200	--	--	--
Skagit	--	22	--	--
Whatcom	--	--	60	100
Total	200	22	60	100
Olympic Peninsula				
Clallam	--	--	100	150
Grays Harbor	392	150	--	--
Mason	--	--	250	250
Thurston	--	150	--	--
Total	392	300	350	400
Lower Columbia				
Klickitat	--	--	300	300
Total	--	--	300	300
Central Washington				
Okanogan	--	--	256	200
Yakima	--	--	224	224
Total	--	--	480	424
Inland Empire				
Stevens	--	--	252	233
Total	--	--	252	233
TOTAL, STATEWIDE	592	322	1,442	1,457

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

Economic area	Lathe log diameter limit in inches									
	Layup only	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80+	Total
Puget Sound	1	--	--	1	1	--	--	--	--	3
Olympic Peninsula	2	--	1	1	--	--	1	--	1	6
Lower Columbia	--	--	--	1	--	--	--	--	--	1
Central Washington	--	--	--	2	--	--	--	--	--	2
Inland Empire	--	--	--	1	--	--	--	--	--	1
TOTAL, STATEWIDE	3	--	1	6	1	--	1	--	1	13

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

Economic area	Lathe log diameter limit in inches										
	3	4	5	6	7	8	9	10	11	No lathe or core	Total
Puget Sound	1	--	--	1	--	--	--	--	--	1	3
Olympic Peninsula	--	3	--	1	--	--	--	--	--	2	6
Lower Columbia	--	1	--	--	--	--	--	--	--	--	1
Central Washington	2	--	--	--	--	--	--	--	--	--	2
Inland Empire	1	--	--	--	--	--	--	--	--	--	1
TOTAL, STATEWIDE	4	4	--	2	--	--	--	--	--	3	13

VENEER AND PLYWOOD MILLS 1996

Table D-40

Number of Veneer and Plywood 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								
Pierce	--	1	--	--	--	--	--	--
Skagit	--	--	--	--	--	1	1	--
Whatcom	1	--	--	1	1	1	1	--
Total	1	1	--	1	1	2	2	--
Olympic Peninsula								
Clallam	1	1	--	1	1	--	1	1
Grays Harbor	--	2	--	3	--	--	1	--
Mason	1	1	--	1	1	--	1	--
Thurston	--	--	--	1	--	--	1	--
Total	2	4	--	6	2	--	4	1
Lower Columbia								
Klickitat	1	1	--	1	--	--	1	--
Total	1	1	--	1	--	--	1	--
Central Washington								
Okanogan	--	1	--	1	1	--	1	--
Yakima	--	1	--	1	1	--	1	--
Total	--	2	--	2	2	--	2	--
Inland Empire								
Stevens	--	1	--	1	1	--	1	--
Total	--	1	--	1	1	--	1	--
TOTAL, STATEWIDE	4	9	--	11	6	2	10	1

VENEER AND PLYWOOD 1996

Table D-41

Number of Veneer and Plywood Mills by Tenure of Present Ownership and Site Occupancy

Economic area and site occupancy (years)	All mills	Tenure of present mill ownership (years) 0-2	3-5	6-10	11-20	21+
Puget Sound						
6-10	2	--	1	1	--	--
21+	1	--	1	--	--	--
Total	3	--	2	1	--	--
Olympic Peninsula						
6-10	1	--	--	1	--	--
21+	5	--	1	1	--	3
Total	6	--	1	2	--	3
Lower Columbia						
21+	1	--	--	--	--	1
Total	1	--	--	--	--	1
Central Washington						
21+	2	--	--	1	--	1
Total	2	--	--	1	--	1
Inland Empire						
21+	1	--	--	--	--	1
Total	1	--	--	--	--	1
Total, State						
6-10	3	--	1	2	--	--
21+	10	--	2	2	--	6
TOTAL, STATEWIDE	13	--	3	4	--	6

Table D-42
Average Number of Operating Days

Economic area	Veneer only	Layup only	Veneer and layup
Puget Sound/ & Olympic Peninsula [1	257	231	254
Lower Columbia/ Central Washington/ & Inland Empire [2]	--	--	294
STATEWIDE AVERAGE	257	231	277

[1] Puget Sound and Olympic Peninsula combined to avoid disclosure.
[2] Lower Columbia, Central Washington and Inland Empire combined to avoid disclosure.

Table D-43
Log Inventory Changes, Log Utilization and Apparent Log Receipts (Thousand board feet, Scribner log rule)

Economic area	Log inventory			1996 log consumption	Apparent 1996 log receipts
	January 1, 1996	December 31, 1996	Net change		
Puget Sound/ & Olympic Peninsula [1]	13,816	13,345	(471)	155,089	154,618
Lower Columbia/ Central Washington/ & Inland Empire [1]	36,997	38,939	1,942	206,133	208,075
STATEWIDE AVERAGE	50,813	52,284	1,471	361,222	362,693

[1] Combined to avoid disclosure.

VENEER AND PLYWOOD 1996

Table D-44

Production and Disposition of Wood Residues

(Tons, Dry weight)

Economic area	Total	Total used[1]	Used [1]				Unused
			Pulp	Board	Fuel	Other	
Puget Sound/ & Olympic Peninsula [2]							
Coarse [3]	201,571	201,571	95,397	--	40,995	65,179	--
Medium [4]	38,106	37,935	1,380	--	36,555	--	171
Fine [5]	9,527	9,527	--	--	9,527	--	--
Total	249,204	249,033	96,777	--	87,077	65,179	171
Lower Columbia/ Central Washington/ & Inland Empire [2]							
Coarse [3]	377,275	377,275	356,458	--	--	20,817	--
Medium [4]	59,902	59,902	5,619	10,381	43,902	--	--
Fine [5]	14,976	14,976	--	--	14,976	--	--
Total	452,153	452,153	362,077	10,381	58,878	20,817	--
Total, State							
Coarse [3]	578,846	578,846	451,855	--	40,995	85,996	--
Medium [4]	98,008	97,837	6,999	10,381	80,457	--	171
Fine [5]	24,503	24,503	--	--	24,503	--	--
TOTAL, STATEWIDE	701,357	701,186	458,854	10,381	145,955	85,996	171

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

VENEER AND PLYWOOD 1996

Table D-45

Veneer and Plywood Production

(Thousand square feet, 3/8-inch basis)

Economic area and county	Veneer	Plywood[1]
Puget Sound [2] / & Olympic Peninsula [3] [4]	323,999	433,012
Lower Columbia [5] / Central Washington [6] / & Inland Empire [4] [7]	259,818	680,717
TOTAL, STATEWIDE	583,817	1,113,729

[1] Includes hardwood and softwood faced plywood.
[2] Puget Sound counties are Pierce, Skagit and Whatcom.
[3] Olympic Peninsula counties are Clallam, Grays Harbor, Mason and Thurston.
[4] Combined to avoid disclosure.
[5] Lower Columbia only the county of Klickitat.
[6] Central Washington counties are Okanogan and Yakima.
[7] Inland Empire only the county of Stevens.

PULP AND BOARD MILLS 1996

Table D-46

Number of Pulp and Board Mills [1]

Economic area and county	All mills	Pulp mills				Board mills
		Sulfite	Sulfate	Ground-wood	Semi-chemical	
Puget Sound						
Pierce	2	--	1	1	--	--
Snohomish	1	1	--	--	--	--
Whatcom	1	1	--	--	--	--
Total	4	2	1	1	--	--
Olympic Peninsula						
Clallam	2	1	--	1	--	--
Grays Harbor	1	1	--	--	--	--
Jefferson	1	--	1	--	--	--
Total	4	2	1	1	--	--
Lower Columbia						
Clark	2	1	1	--	--	--
Cowlitz	4	--	2	1	1	--
Total	6	1	3	1	1	--
Central Washington						
Yakima	1	--	--	--	--	1
Total	1	--	--	--	--	1
Inland Empire						
Pend Oreille	1	--	--	1	--	--
Spokane	1	--	--	1	--	--
Walla Walla	2	--	1	--	1	--
Total	4	--	1	2	1	--
TOTAL, STATEWIDE	19	5	6	5	2	1

PULP AND BOARD MILLS 1996

Table D-47

Installed Capacity by Type of Mill [1]

Economic area and county	All pulp mills	Pulp mill				Board mill
		Sulfite	Sulfate	Ground-wood	Semi-Chemical	
	24-hour capacity in bone dry tons					Yearly capacity in million square feet (3/4" basis)
Puget Sound						
Pierce	1,600	--	1,125	475	--	--
Snohomish	450	450	--	--	--	--
Whatcom	650	650	--	--	--	--
Total	2,700	1,100	1.125	475	--	--
Olympic Peninsula						
Clallam	858	458	--	400	--	--
Grays Harbor	385	385	--	--	--	--
Jefferson	600	--	600	--	--	--
Total	1,843	843	600	400	--	--
Lower Columbia						
Clark	1,591	373	1,218	--	--	--
Cowlitz	5,760	--	4,100	1,450	210	--
Total	7,351	373	5,318	1,450	210	--
Central Washington						
Yakima	--	--	--	--	--	100
Total	--	--	--	--	--	100
Inland Empire						
Pend Oreille	580	--	--	580	--	--
Spokane	240	--	--	240	--	--
Walla Walla	1,170	--	950	--	220	--
Total	1,990	--	950	820	220	--
TOTAL, STATEWIDE	13,884	2,316	7,993	3,145	430	100

[1] Installed capacity for pulp mills is measured in bone dry tons per 24-hours, whereas, installed capacity for board mills is measured in millions of square feet per year by designated thickness basis.

PULP AND BOARD MILLS 1996

Table D-48
Number of Pulp and Board Mills by Tenure of Present Ownership and Site Occupancy

Mill type and site occupancy (years)	Tenure of present ownership (years)				
	0-2	3-5	6-10	11-20	21+
Sulfite					
21+	1	--	--	1	3
Sulfate					
21+	--	--	--	3	3
Groundwood					
6-10	--	--	1	--	--
11-20	--	--	--	1	--
21+	1	--	1	--	1
Semichemical					
21+	--	--	--	--	2
Board mill					
11-20	--	--	--	1	--
TOTAL, STATEWIDE	2	--	2	6	9

Table D-49
Average Number of Operating Days

Economic Area	Pulp
Puget Sound	338
Olympic Peninsula	343
Lower Columbia	342
Inland Empire	351
STATEWIDE AVERAGE	344

PULP AND BOARD MILLS 1996

Table D-50

Pulp Mill Production by Product and Operation [1]

(Bone Dry tons)

Economic area	All products	Products produced: Newsprint	Bleached paper	Unbleached paper	Other paper	Market pulp
Puget Sound [2,3,4,5,6]	586,308	[2]	392,184 [3]	[4]	[5]	194,124 [6]
Olympic Peninsula [4] [5]	507,652	--	--	[4]	186,407 [5]	321,245
Lower Columbia [2,4,6]	1,950,981	[2]	840,081	1,110,900 [4]	--	[6]
Central Washington [1]	--	--	--	--	--	--
Inland Empire [2,3,5,6]	998,409	998,409 [2]	[3]	--	[5]	[6]
TOTAL, STATEWIDE	4,043,350	998,409	1,232,265	1,110,900	186,407	515,369
Type of Operation, Statewide						
Sulfite	523,776	--	263,127	582	180	259,887
Sulfate	2,298,848	--	969,138	1,074,228	--	255,482
Groundwood	1,141,115	998,409	--	--	142,706	--
Semichemical	79,611	--	--	36,090	43,521	--
TOTAL, STATEWIDE	4,043,350	998,409	1,232,265	1,110,900	186,407	515,369

[1] Only one Board mill operates in Washington state and its production is not reported to avoid disclosure.
[2] Newsprint for Puget Sound and Lower Columbia combined with Inland Empire to avoid disclosure.
[3] Bleached paper for Inland Empire combined with Puget Sound to avoid disclosure.
[4] Unbleached paper for Puget Sound and Olympic Peninsula combined with Lower Columbia to avoid disclosure.
[5] Other paper for Puget Sound and Inland Empire combined with Olympic Peninsula to avoid disclosure.
[6] Market pulp for Lower Columbia and Inland Empire combined with Puget Sound to avoid disclosure.

PULP AND BOARD MILLS 1996

Table D-51

Type of Wood Utilized

Economic area	Roundwood			Other					
					Chips			Sawdust and Shavings	Waste paper
	Total	Sound logs	Utility logs	Total	Total chips	From mill residues	From roundwood chipping mill		
	Thousand board feet, Scribner log rule			Bone dry tons					
Puget Sound [1] [2]	[1]	[1]	[1]	1,892,693	1,615,197	908,185	707,012	--	277,496 [2]
Olympic Peninsula [1,2,3]	221,374 [1]	78,235 [1]	143,139 [1]	1,030,467	1,030,467	493,365	537,102	[3]	[2]
Lower Columbia/ Central Washington/ & Inland Empire [3]	--	--	--	5,334,353	4,478,260	2,661,370	1,816,890	388,923 [3]	467,170
TOTAL, STATEWIDE	221,374	78,235	143,139	8,257,513	7,123,924	4,062,920	3,061,004	388,923	744,666

[1] Roundwood consumption for Puget Sound combined with Olympic Peninsula to avoid disclosure.
[2] Wastepaper consumption for Olympic Peninsula combined with Puget Sound to avoid disclosure.
[3] Sawdust and shavings consumption combined statewide to avoid disclosure.

PULP AND BOARD MILLS 1996

Table D-52

Roundwood and Chip Utilization

(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 and Olympic Peninsula [1]								
Total logs [2]	221,374	105,870	72,194	24,567	11,181	--	7,562	--
Puget Sound								
Chips [3]								
Roundwood	707,012	54,160	518,280	87,810	24,768	--	--	21,994
Residues [4]	908,185							
Total chips	1,615,197							
Olympic Peninsula								
Chips [3]								
Roundwood	537,102	205,089	264,568	9,840	13,760	--	10,620	33,225
Residues [4]	493,365							
Total chips	1,030,467							
Lower Columbia/ Central Washington/ & Inland Empire [5]								
Total logs [2]	--	--	--	--	--	--	--	--
Lower Columbia/ Central Washington/ & Inland Empire [6]								
Chips [3]								
Roundwood	1,816,890	492,879	331,548	144,515	13,851	417,393	87,292	329,412
Residues [4]	2,661,370							
Total chips	4,478,260							
TOTAL, STATEWIDE								
Total logs [1]	221,374	105,870	72,194	24,567	11,181	--	7,562	--
Chips [3]								
Roundwood	3,061,004	752,128	1,114,396	242,165	52,379	417,393	97,912	384,631
Residues [4]	4,062,920							
Total chips	7,123,924							

[1] Roundwood consumption for Puget Sound combined with Olympic Peninsula to avoid disclosure.
[2] Log consumption, thousand board feet, Scribner log rule.
[3] Chip volume, bone dry tons.
[4] Species breakdown for residue chips is not available.
[5] No roundwood log receipts were reported by any of the mills in the Lower Columbia, Central Washington or Inland Empire economic areas.
[6] Combined to avoid disclosure.

PULP AND BOARD MILLS 1996

Table D-53

Residue and Off-site Roundwood Chip Utilization 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]	908,185					
Chip roundwood	707,012	322,514	1,350	648	202,500	180,000
Sawdust and shavings	--	--	--	--	--	--
Total	1,615,197 [2]	322,514	1,350	648	202,500	180,000
Olympic Peninsula						
Chip residue[1]	493,365					
Chip roundwood	537,102	535,872	1,230	--	--	--
Sawdust and shavings	-- [3]	--	--	--	--	--
Total	1,030,467 [2]	535,872	1,230	--	--	--
Lower Columbia/ Central Washington / & Inland Empire [4]						
Chip residue[1]	2,661,370					
Chip roundwood	1,816,890	671,552	683,507	228,811	14,942	218,078
Sawdust and shavings	388,923 [3]	177,558	193,206	9,264	8,895	--
Total	4,867,183 [2]	849,110	876,713	238,075	23,837	218,078
Total, State						
Chip residue[1]	4,062,920					
Chip roundwood	3,061,004	1,529,938	686,087	229,459	217,442	398,078
Sawdust and shavings	388,923	177,558	193,206	9,264	8,895	--
TOTAL, STATEWIDE	7,512,847 [2]	1,707,496	879,293	238,723	226,337	398,078

[1] State or Province of origin for residue chips not available.
[2] Includes chip residue total.
[3] Sawdust and shavings for the Olympic Peninsula combined with Lower Columbia, Central Washington, and Inland Empire to avoid disclosure.
[4] Combined to avoid disclosure.

SHAKE AND SHINGLE MILLS 1996

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					
Skagit/ Snohomish/ & Whatcom [2]	5	86	80	--	118
Total	5	86	80	--	118
Olympic Peninsula/ & Southwest Washington [2]					
Clallam	8	130	186	--	201
Grays Harbor	11	430	240	140	174
Lewis/ Pacific/ & Wahkiakum [2]	6	140	115	--	157
Total	25	700	541	140	179
Central Washington/ & Inland Empire [3]	--	--	--	--	--
TOTAL, STATEWIDE	30	786	621	140	168

[1] Eight-hour shift capacity.
[2] Combined to avoid disclosure.
[3] No reports of active shake and shingle mills were received from the Central Washington and Inland Empire economic areas.

SHAKE AND SHINGLE MILLS 1996

Table D-55

Number of Shake and Shingle Mills with Selected Equipment

Economic area and county	Chipper	Barker	Burner
Puget Sound			
Skagit	--	--	1
Snohomish	--	--	--
Whatcom	1	--	--
Total	1	--	1
Olympic Peninsula			
Clallam	--	--	6
Grays Harbor	1	1	4
Lewis	2	--	--
Pacific	1	--	--
Total	4	1	10
Lower Columbia			
Wahkiakum	--	--	--
Total	--	--	--
TOTAL, STATEWIDE	5	1	11

SHAKE AND SHINGLE MILLS 1996

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	1	--	--	--	1	--
3-5	2	--	1	--	--	1
6-10	7	--	--	5	1	1
11-20	8	--	--	--	8	--
21+	12	1	1	4	2	4
TOTAL, STATEWIDE	30	1	2	9	12	6

SHAKE AND SHINGLE MILLS 1996

Table D-57

Type of Wood Utilized

(Thousand board feet, Scribner log rule)

Economic area and county	All types	Sound logs	Utility logs	Other
Puget Sound				
Olympic Peninsula/ & Southwest Washington [1]				
Clallam	2,915	735	395	1,785
Grays Harbor	8,636	4,733	632	3,271
Lewis/ Pacific/ Wahkiakum/ Skagit/ Snohomish/ & Whatcom [1]	1,473	233	97	1,143
Total	13,024	5,701	1,124	6,199
TOTAL, STATEWIDE	13,024	5,701	1,124	6,199

[1] Combined to avoid disclosure.

SHAKE AND SHINGLE 1996

Table D-58

Ownership Origin of Logs Utilized

(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/ Olympic Peninsula/ & Southwest Washington [1]								
Clallam	1,130	250	60	--	78	--	742	--
Grays Harbor	5,365	193	180	--	2,280	--	2,497	215
Lewis/ Pacific/ Wahkiakum/ Skagit/ Snohomish/ & Whatcom [1]	330	202	--	--	--	--	118	10
Total	6,825	645	240	--	2,358	--	3,357	225
TOTAL, STATEWIDE	6,825	645	240	--	2,358	--	3,357	225

[1] Combined to avoid disclosure.

SHAKE AND SHINGLE 1996

Table D-59

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

Economic area and county	All residues			Wood residue		
	Total	Used[1]	Unused	Total	Used[1]	Unused
Puget Sound/ Olympic Peninsula/ & Southwest Washington [2]						
Clallam	3,917	963	2,954	3,501	779	2,722
Grays Harbor	8,253	4,654	3,599	6,625	3,213	3,412
Lewis/ Pacific/ Wahkiakum/ Skagit/ Snohomish/ & Whatcom [2]	1,759	1,403	356	1,618	1,352	266
Total	13,929	7,020	6,909	11,744	5,344	6,400
TOTAL, STATEWIDE	13,929	7,020	6,909	11,744	5,344	6,400

[1] Used residues were not necessarily consumed in the area in which they were produced.
[2] Combined to avoid disclosure.

SHAKE AND SHINGLE 1996

Table D-59 (Continued)
Production and Disposition of Wood and Bark Residues
(Tons, dry weight)

Bark residue		
Total	Used[1]	Unused
416	184	232
1,628	1,441	187
141	51	90
2,185	1,676	509
2,185	1,676	509

SHAKE AND SHINGLE 1996

Table D-60

Production and Disposition of Wood Residues

(Tons, dry weight)

Economic area and county	All types					
	Total	Total used[2]	Pulp	Fuel	Other	Unused
Puget Sound/ Olympic Peninsula/ & Southwest Washington [3]						
Clallam	3,501	779	--	691	88	2,722
Grays Harbor	6,625	3,213	--	1,817	1,396	3,412
Lewis/ Pacific/ Wahkiakum/ Skagit/ Snohomish/ & Whatcom [3]	1,618	1,352	--	564	788	266
Total	11,744	5,344	--	3,072	2,272	6,400
TOTAL, STATEWIDE	11,744	5,344	--	3,072	2,272	6,400

[1] End block trim, splats.
[2] Used residues were not necessarily consumed in the area in which they were produced.
[3] Combined to avoid disclosure.

SHAKE AND SHINGLE 1996

Table D-60 (Continued)

Production and Disposition of Wood Residues

(Tons, dry weight)

Total	Coarse[1]				
	Total used[2]	Pulp	Fuel	Other	Unused
921	269	--	181	88	652
2,281	1,537	--	814	723	744
435	365	--	177	188	70
3,637	2,171	--	1,172	999	1,466
3,637	2,171	--	1,172	999	1,466

SHAKE AND SHINGLE 1996

Table D-60 (Continued)
Production and Disposition of Wood Residues
(Tons, dry weight)

Economic area and county	Fine[1]					
	Total	Total used[2]	Pulp	Fuel	Other	Unused
Puget Sound/ Olympic Peninsula/ & Southwest Washington [3]						
Clallam	2,580	510	--	510	--	2,070
Grays Harbor	4,344	1,676	--	1,003	673	2,668
Lewis/ Pacific/ Wahkiakum/ Skagit/ Snohomish/ & Whatcom [3]	1,183	987	--	387	600	196
Total	8,107	3,173	--	1,900	1,273	4,934
TOTAL, STATEWIDE	8,107	3,173	--	1,900	1,273	4,934

[1] Splints and sawdust.
[2] Used residues were not necessarily consumed in the area in which they were produced.
[3] Combined to avoid disclosure.

SHAKE AND SHINGLE 1996

Table D-61

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

Economic area and county	Bark					
	Total	Total used[1]	Pulp	Fuel	Other	Unused
Puget Sound/ Olympic Peninsula/ & Southwest Washington [2]						
Clallam	416	184	--	184	--	232
Grays Harbor	1,628	1,441	--	245	1,196	187
Lewis/ Pacific/ Wahkiakum/ Skagit/ Snohomish/ & Whatcom [2]	141	51	--	6	45	90
Total	2,185	1,676	--	435	1,241	509
TOTAL, STATEWIDE	2,185	1,676	--	435	1,241	509

[1] Used residues were not necessarily consumed in the area in which they were produced.
[2] Combined to avoid disclosure.

SHAKE AND SHINGLE MILLS 1996

Table D-62

Mill Production by Product Class

Economic area and county	Product class			
	Shakes	Shingles	Other[1]	Total
	Squares			
Puget Sound/ Olympic Peninsula/ & Southwest Washington [2]				
Clallam	10,713	31,118	--	41,831
Grays Harbor	48,440	37,676	17,508	103,624
Lewis/ Pacific/ Wahkiakum/ Skagit/ Snohomish/ & Whatcom [2]	5,775	13,985	--	19,760
Total	64,928	82,779	17,508	165,215
TOTAL, STATEWIDE	64,928	82,779	17,508	165,215

[1] Other includes such products as hip and ridge shakes, wedges, etc.
[2] Combined to avoid disclosure.

POST, POLE AND PILING MILLS 1996

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 1996[1]	
		Peeling	Treatment	Peeling	Treatment
Puget Sound	4	16,968	20,389	153	306
Puget Sound	3	20,800	16,465	261	320
Olympic Peninsula	3	17,156	--	241	--
Inland Empire	3	11,420	12,465	184	184
TOTAL, STATEWIDE	9	49,376	28,930	228 (9)	252 (6)

[1] Number of mills is noted by figures in parentheses.

POST, POLE AND PILING MILLS 1996

Table D-64

Number of Post, Pole and Piling Mills by Tenure of Present Ownership and Site Occupancy

Years of site occupancy	Total	Tenure of mill ownership in years				
		0-2	3-5	6-10	11-20	21+
6-10	1	--	--	1	--	--
11-20	2	--	--	--	2	--
21+	6	--	--	1	2	3
TOTAL, STATEWIDE	9	--	--	2	4	3

POST, POLE AND PILING MILLS 1996

Table D-65

Number of Post, Pole and Piling Mills with Selected Equipment

Economic area and county	Number of mills	Peeler	Burner
Puget Sound			
Pierce	1	1	1
Snohomish	1	1	0
Whatcom	1	1	1
Total	3	3	2
Olympic Peninsula			
Lewis	1	1	0
Mason	1	1	0
Thurston	1	1	0
Total	3	3	0
Inland Empire			
Ferry	1	1	0
Stevens	2	1	0
Total	3	2	0
TOTAL, STATEWIDE	9	8	2

POST, POLE AND PILING MILLS 1996

Table D-66

Log Utilization by Timber Age

(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			
Pierce/ Snohomish/ & Whatcom [1]	13,919	300	13,619
Total	13,919	300	13,619
Olympic Peninsula			
Lewis/ Mason/ & Thurston [1]	12,936	--	12,936
Total	12,936	--	12,936
Inland Empire			
Ferry/ & Stevens [1]	8,495	--	8,495
Total	8,495	--	8,495
TOTAL, STATEWIDE	35,350	300	35,050

[1] Combined to avoid disclosure.

POST, POLE AND PILING MILLS 1996

Table D-67

Mill Production Shipments

(Thousand board feet, Scribner log rule)

Economic area	Shipments		
	Treated	Untreated	Total
Puget Sound	11,921	3,745	15,666
Olympic Peninsula	--	11,640	11,640
Inland Empire	7,435	1,060	8,495
TOTAL, STATEWIDE	19,356	16,445	35,801

LOG EXPORT OPERATIONS 1996

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 scale		
Puget Sound					
Anacortes/Everett[1]	Skagit/Snohomish	7	97,279	433	97,712
Tacoma	Pierce	9	376,471	2,460	378,931
Total		16	473,750	2,893	476,643
Olympic Peninsula					
Grays Harbor	Grays Harbor	5	286,425	3,323	289,748
Olympia	Thurston	4	69,982	--	69,982
Port Angeles	Clallam	5	68,697	662	69,359
Total		14	425,104	3,985	429,089
Lower Columbia					
Longview	Cowlitz	10	421,801	1,429	423,230
Total		10	421,801	1,429	423,230
TOTAL, STATEWIDE		40	1,320,655	8,307	1,328,962

[1] Combined to avoid disclosure.

LOG EXPORT OPERATIONS 1996

Table D-69

Number of Export Operations by Years of Port Use

Years of port use	All Operations
0-2	1
3-5	5
6-10	6
11-20	8
21+	20
TOTAL, STATE	40

LOG EXPORT OPERATIONS 1996

Table D-70

Log Flows to Ports by County of Origin

(Thousand board feet, Scribner log rule)

Economic area and county of origin	Port and county of export						
	Anacortes/ Everett[1]	Grays Harbor[2]	Longview[3]	Olympia[4]	Port Angeles[5]	Tacoma[6]	Total
Puget Sound							
King	14,186	--	--	1,662	--	75,520	91,368
Kitsap	--	--	--	--	10,000	10,000	20,000
Pierce	900	--	--	16,968	--	101,841	119,709
Skagit	20,880	--	--	--	--	2,715	23,595
Snohomish	44,357	--	--	--	--	6,394	50,751
Whatcom	14,806	--	--	--	--	--	14,806
Total	95,129	--	--	18,630	10,000	196,470	320,229
Olympic Peninsula							
Clallam	--	--	--	--	29,479	--	29,479
Grays Harbor	--	143,028	2,716	7,827	3,045	3,273	159,889
Jefferson	450	8,978	--	--	25,416	1,675	36,519
Lewis	--	53,256	82,840	19,504	--	86,856	242,456
Mason	--	6,240	--	6,166	--	711	13,117
Pacific	--	75,224	2,509	--	--	--	77,733
Thurston	--	2,708	3,164	12,392	--	54,791	73,055
Total	450	289,434	91,229	45,889	57,940	147,306	632,248
Lower Columbia							
Clark	--	--	27,753	--	--	--	27,753
Cowlitz	--	--	171,634	--	--	--	171,634
Klickitat	227	--	4,204	--	--	6,664	11,095
Skamania	--	--	14,433	--	--	--	14,433
Wahkiakum	--	314	7,378	--	--	--	7,692
Total	227	314	225,402	--	--	6,664	232,607
Central Washington							
Chelan	1,456	--	--	--	--	--	1,456
Kittitas	--	--	--	61	--	23,949	24,010
Total	1,456	--	--	61	--	23,949	25,466
Inland Empire	--	--	--	771	--	--	771
Total	--	--	--	771	--	--	771
TOTAL, STATEWIDE	97,262	289,748	316,631	65,351	67,940	374,389	1,211,321
Outside Washington	450	--	106,599	4,631	1,419	4,542	117,641
TOTAL RECEIPTS AT PORTS	97,712	289,748	423,230	69,982	69,359	378,931	1,328,962

[1] Skagit and Snohomish counties.
[2] Grays Harbor county.
[3] Cowlitz county
[4] Thurston county.
[5] Clallam county.
[6] Pierce county.

LOG EXPORT OPERATIONS 1996

Table D-71
Log Utilization by Species and County
(Thousand board feet, Scribner log rule)

Economic area and county of export	All species	Douglas fir	Hemlock	True firs	Spruce	Ponderosa pine	Lodgepole pine	Western redcedar	Other softwoods	Hardwoods
Puget Sound										
Pierce	378,931	317,874	46,598	11,082	936	--	458	142	1,783	58
Skagit/Snohomish [1]	97,712	70,845	25,967	900	--	--	--	--	--	--
Total	476,643	388,719	72,565	11,982	936	--	458	142	1,783	58
Olympic Peninsula										
Clallam	69,359	48,918	17,427	507	2,507	--	--	--	--	--
Grays Harbor	289,748	209,521	70,414	2,268	2,142	--	--	3,323	--	2,080
Thurston	69,982	57,792	7,857	166	--	--	--	--	617	3,550
Total	429,089	316,231	95,698	2,941	4,649	--	--	3,323	617	5,630
Lower Columbia										
Cowlitz	423,230	392,227	20,119	6,617	3,949	--	--	--	318	--
Total	423,230	392,227	20,119	6,617	3,949	--	--	--	318	--
TOTAL, STATEWIDE	1,328,962	1,097,177	188,382	21,540	9,534	--	458	3,465	2,718	5,688

[1] Combined to avoid disclosure.

LOG EXPORT OPERATIONS 1996

Table D-72

Ownership Origin of Logs Utilized by County

(Thousand board feet, Scribner log rule)

Economic area and county of export	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								
Pierce	378,931	--	--	--	4,777	168,219	146,130	59,805
Skagit/Snohomish [1]	97,712	--	--	--	5,828	9,599	37,229	45,056
Total	476,643	--	--	--	10,605	177,818	183,359	104,861
Olympic Peninsula								
Clallam	69,359	--	--	--	--	11,553	21,437	36,369
Grays Harbor	289,748	--	--	--	7,684	185,120	71,774	25,170
Thurston	69,982	--	--	--	4,751	--	27,565	37,666
Total	429,089	--	--	--	12,435	196,673	120,776	99,205
Lower Columbia								
Cowlitz	423,230	--	--	4,170	9,511	104,860	183,477	121,212
Total	423,230	--	--	4,170	9,511	104,860	183,477	121,212
TOTAL, STATEWIDE	1,328,962	--	--	4,170	32,551	479,351	487,612	325,278

[1] Combined to avoid disclosure.

Appendix E

WASHINGTON STATE DEPARTMENT OF
Natural Resources

SAWMILL QUESTIONNAIRE

Washington Forest Industry Survey 1996

Information on individual plants will be held confidential **(All percents on a volume basis)**

1 Mill Identity

For office use only

Firm Name _____ Prepared by _____ 1 _____ 1

Address _____ Mill Manager _____ 2 _____

Street or P.O. Box

_____ Phone # _____

City State Zip Code Fax # _____ 3 _____

Mill Location _____ Date _____

City County

2 Mill Characteristics

4 _____

5 _____

Hours per shift _____ number of shifts per day _____ 6 _____

Maximum capacity per shift _____ ,000 bd ft lumber tally 7 _____

Days operated during 1996 _____ 8 _____

Years mill have been in present location _____ 9 _____

Years under present ownership _____

Type of head rig (Check those that apply)	Maximum log diameter (inches)	Percent of total production from each type	
			10 ___ 11 ___
Circular ❑	_____	_____ %	12 ___ 13 ___
Band ❑	_____	_____ %	14 ___ 15 ___
Gang ❑	_____	_____ %	16 ___ 17 ___
Chipping ❑	_____	_____ %	18 ___ 19 ___
Scragg ❑	_____	_____ %	20 ___ 21 ___

Equipment operated during 1996 (check those that apply) 22 ___ 23 ___

Burner ❑ Planer ❑ Chipper ❑ Kiln ❑ Barker ❑ 24 ___

Minimum diameter of log used _____ inches 25 _____

Is there a retail yard at this mill location? Yes ❑ No ❑ 26 _____

3 Wood Consumption during 1996

(if not in Scribner, please indicate scale and conversion) 27 _____

a. Log consumption _____ ,000 bd ft net scale 28 _____

Percent of log consumption from dead or salvaged _____ % 29 _____

Percent of log consumption of utility grade* _____ %

* Utility logs - less than number 3 saw logs in grade or having the following minimum specifications: 6 inch diameter, 12 foot length, 50+ percent gross scale chippable. 30 _____

b. Peeler cores _____ _____ Units 31 _____

c. Cants _____ Lumber _____ Other _____

MP 37501 (12-96) SM

For office use only

4 Total Log Inventory

(Beginning of year)	1/01/96	,000board feet	32
(End of Year)	12/31/96	,000board feet	33

5 Log consumption by species during 1996 (Indicate by Percent)

	Logs	
Douglas-fir	%	34
Hemlock	%	35
True firs	%	36
Spruce	%	37
Ponderosa pine	%	38
Lodgepole pine	%	39
Western red cedar	%	40
Other conifers	%	41
Red alder	%	42
Other hardwoods	%	43
	100%	

6 Origin of logs consumed during 1996

a. State or Province of origin

Washington	%	44
Oregon	%	45
Idaho	%	46
British Columbia	%	47
Other	%	48
	100%	

b. County of origin (Washington)

_____	%	49
_____	%	50
_____	%	51
_____	%	52
_____	%	53
_____	%	54
From outside Washington	%	55
	100%	

c. Age group

Old growth (100+ years)	%	56
Young growth	%	57
	100%	

Please continue on page 3

For office use only

d. Log size (small end) grouping

<10 inches	_____ %	
11-20 inches	_____ %	
21 + inches	_____ %	
	100%	

e. Ownership origin

State	_____ %	58
U.S. Forest Service*	_____ %	59
BLM	_____ %	60
Other public (DOD, county, etc.)	_____ %	61
Forest industry own lands	_____ %	62
Other forest industry lands	_____ %	63
Native American lands	_____ %	
Farmer & misc. private	_____ %	64
	100%	

***Name of National Forest**

_____	_____ %	_____	_____ %	65
_____	_____ %	_____	_____ %	66
				67
				68

7 1996 Lumber production

Softwood		**Hardwood**		
_____ ,000 bd ft lumber tally		_____ ,000 bd ft lumber tally		69
green	_____ %	green	_____ %	70
kiln-dried	_____ %	kiln-dried	_____ %	71
air-dried	_____ %	air-dried	_____ %	72
	100%		**100%**	73
surfaced	_____ %	surfaced	_____ %	74
rough	_____ %	rough	_____ %	75
	100%		**100%**	76
				77
				78
				79
				80

Please continue on page 4

8 Disposition of plant residue

Indicate residue by type as a percent

Used	coarse	Sawdust	Shavings	Bark
For plant fuel	_____ % 81	_____ % 82	_____ % 83	_____ % 84
Sold for fuel	_____ % 85	_____ % 86	_____ % 87	_____ % 88
For pulp (including export)	_____ % 89	_____ % 90	_____ % 91	_____ % 92
For board	_____ % 93	_____ % 94	_____ % 95	_____ % 96
For other purposes	_____ % 97	_____ % 98	_____ % 99	_____ % 100
Unused				
Burned	_____ % 101	_____ % 102	_____ % 103	_____ % 104
Unburned	_____ % 105	_____ % 106	_____ % 107	_____ % 108
	100%	**100%**	**100%**	**100%**

9 If you want to receive a copy of the Mill Survey report resulting from this study, please check: ❑

WASHINGTON STATE DEPARTMENT OF
Natural Resources

Thank you for your help with this questionnaire. When you have answered the questions as completely as possible, please fold this form, enclose it in the postage paid envelope provided and mail it.

MP 37501 (12-96) SM

WASHINGTON STATE DEPARTMENT OF
Natural Resources

VENEER AND PLYWOOD QUESTIONNAIRE

Washington Forest Industry Survey 1996

Information on individual plants will be held confidential **(All percents on a volume basis)**

1 Mill Identity

For office use only

Firm Name _____ Prepared by _____ 1 _____ 2

Address _____ Mill Manager _____ 2 _____

Street or P.O. Box

_____ Phone # _____

City State Zip Code Fax # _____

Mill Location _____ Date _____ 3 _____

City County

2 Mill Characteristics

4 _____

Hours per shift _____ Number of shifts per day _____ 5 _____

Operations: Veneer only _____ Layup only _____ Veneer and layup _____ 6 _____

Maximum veneer capacity per shift _____ ,000 sq ft 3/8" basis 7 _____

Maximum layup capacity per shift _____ ,000 sq ft 3/8" basis 8 _____

Days operated during 1996 _____ 9 _____

Years mill has been in present location _____ 10 _____

Years under present ownership _____ 11 _____

Lathe diameter limit (maximum log size) _____ inches 12 _____

Minimum diameter of log used _____ inches 13 _____

Equipment

4-foot lathe ❑ Slicer ❑ Cold press ❑ Veneer chipper ❑ 14 ___ 15 ___

8-foot lathe ❑ Burner ❑ Hot press ❑ Core chipper ❑ 16 ___ 17 ___

Average core size _____ inches 18 ___ 19 ___

Is there a retail yard at this mill location? Yes ❑ No ❑ 20 ___ 21 ___

22 ___ 23 ___

3 Wood Consumption during 1996

If not in Scribner, please indicate scale and conversion

_____

a. Log consumption _____ ,000 bd. ft. net scale

Percent of log consumption from dead _____ % 24 _____

Percent of log consumption of utility grade* _____ % 25 _____

* Utility logs - less than grade 3 saw logs in grade or having the following minimum specifications: 6 inch diameter, 12 foot length, 50+ percent gross scale chippable. 26 _____

b. Purchased or transferred in veneer _____ ,000 sq. ft. 3/8" 27 _____

MP 37502 (12-96) VP

For office use only

4 Total Log Inventory

(Beginning of year) 1/01/96 _____ ,000 board feet 28 _____

(End of Year) 12/31/96 _____ ,000 board feet 29 _____

5 Log consumption by species during 1996

(Indicate by Percent)

	Logs	
Douglas-fir	_____ %	30 _____
Hemlock	_____ %	31 _____
True firs	_____ %	32 _____
Spruce	_____ %	33 _____
Ponderosa pine	_____ %	34 _____
Lodgepole pine	_____ %	35 _____
Western red cedar	_____ %	36 _____
Other conifers	_____ %	37 _____
Red alder	_____ %	38 _____
Other hardwoods	_____ %	39 _____
	100%	

6 Origin of logs consumed during 1996

a. State or Province of origin

Washington	_____ %	40 _____
Oregon	_____ %	41 _____
Idaho	_____ %	42 _____
British Columbia	_____ %	43 _____
Other	_____ %	44 _____
	100%	

b. County of origin (Washington)

_____	___ %	45 _____
_____	___ %	46 _____
_____	___ %	47 _____
_____	___ %	48 _____
_____	___ %	49 _____
_____	___ %	50 _____
From outside Washington	___ %	51 _____
	100%	

c. Age group

Old growth (100+ years)	___ %	52 _____
Young growth	___ %	53 _____
	100%	

Please continue on page 3

For office use only

d. Log size (small end) grouping

<10 inches	_____ %
11-20 inches	_____ %
21 + inches	_____ %
	100%

e. Ownership origin

State	_____ %	54
U.S. Forest Service*	_____ %	55
BLM	_____ %	56
Other public (DOD, county, etc.)	_____ %	57
Forest industry owned lands	_____ %	58
Other company lands	_____ %	59
Native American lands	_____ %	
Farmer & misc. private	_____ %	60
	100%	

***Name of National Forest**

_____	_____ %	_____	_____ %	61
_____	_____ %	_____	_____ %	62
				63
				64

7 1996 Veneer and Plywood production

Veneer for sale or transfer _____,000 sq. ft.	3/8" ❑	1" ❑	65
Plywood _____ ,000 sq. ft.	3/8" ❑	1" ❑	66
Other (LVL, comply, etc.) _____,000 sq. ft.	3/8" ❑	1" ❑	

Please continue on page 4

8 Disposition of plant residue during 1996

Indicate residue by type as a percent

Used	Log trim, spur trim, roundup, veneer clip	Core	Panel trim Reject veneer	Sander dust	Bark
For plant fuel	_____ % 67	_____ % 68	_____ % 69	_____ % 70	_____ % 71
Sold for fuel	_____ % 72	_____ % 73	_____ % 74	_____ % 75	_____ % 76
For pulp (include export)	_____ % 77	_____ % 78	_____ % 79	_____ % 80	_____ % 81
For board	_____ % 82	_____ % 83	_____ % 84	_____ % 85	_____ % 86
For other purposes	_____ % 87	_____ % 88	_____ % 89	_____ % 90	_____ % 91
Unused					
Burned	_____ % 92	_____ % 93	_____ % 94	_____ % 95	_____ % 96
Unburned	_____ % 97	_____ % 98	_____ % 99	_____ % 100	_____ % 101
	100%	**100%**	**100%**	**100%**	**100%**

9 If you want to receive a copy of the Mill Survey report resulting from this study, please check: ❑

WASHINGTON STATE DEPARTMENT OF
Natural Resources

Thank you for your help with this questionnaire. When you have answered the questions as completely as possible, please fold this form, enclose it in the postage paid envelope provided and mail it.

MP 37502 (12-96) VP

WASHINGTON STATE DEPARTMENT OF
Natural Resources

PULP AND BOARD MILL QUESTIONNAIRE

Washington Forest Industry Survey 1996

Information on individual plants will be held confidential **(All percents on a volume basis)**

1 Mill Identity

For office use only

Firm Name _____ Prepared by _____ 1 _____ 3

Address _____ Mill Manager _____ 2 _____

Street or P.O. Box

_____ Phone # _____

City State Zip Code Fax # _____ 3 _____

Mill Location _____ Date _____

City County

2 Mill Characteristics

a. **Operation** (Use a different form for each type of operation)

Pulp Mill	**Board Mill**
Sulfite ❑	Hardboard ❑
Sulfate ❑	Particleboard ❑
Groundwood	Insulation board ❑
Disk refiner ❑	
Drum refiner ❑	
Semichemical ❑	

4 _____

b. **Production capacity**

____ BD tons/24 hours	_____ Million sq. ft./yr.
Units, if different ___	Specify basis
	1/8" ____ , 1/2" ____ , 3/4" ___

5 _____

c. **Mill production in 1996**

Newsprint _____ (tons)	Hardboard _____ 6 _____
	Million sq. ft./yr. _____ basis 7 _____
Bleached _____ (tons)	8 _____
papers	9 _____
Unbleached _____ (tons)	Particleboard _____
(not newsprint)	Million sq. ft./yr. _____ basis 10 _____
Market pulp ____ (BD)tons	11 _____
Other Paper _____ (tons)	Insulation board _____
products	Million sq. ft./yr. _____ basis

d. **Days operated during 1996** _____. 12 _____

e. **Years mill has been in present location** _____. 13 _____

f. **Years under present ownership** _____. 14 _____

MP 37503 (12-96) PB

3 Wood Consumption during 1996

(see page 4 for definitions)

For office use only

a. Log consumption _____ ,000 board feet gross scale — 15 _____

Specify log scale used if other than Scribner and conversion factor, if appropriate _____ .

Percent of sound logs from dead trees _____ % — 16 _____

Percent of utility logs and cordwood _____ % — 17 _____

Include other materials used in the production process in items b-h; include materials used as fuel under i.

		Volume		
b.	Chips from mill residue (sawmill, plywood and veneer)	_____	_____ specify units used	18 _____
c.	Chips from other sources (roundwood chipping plants)	_____	_____ specify units used	19 _____
d.	Sawdust	_____	_____ specify units used	20 _____
e.	Shavings	_____	_____ specify units used	21 _____
f.	Bark	_____	_____ specify units used	22 _____
g.	Wastepaper	_____	_____ specify units used	23 _____
h.	Market pulp	_____	_____ specify units used	
i.	Total tons of hog fuel	_____	_____ specify units used	24 _____

4 Consumption by species during 1996

Include only materials used in the production process.

	Logs	Chips from roundwood Chipping plants	
Douglas-fir	_____ %	_____ %	25 ___ 26 ___
Hemlock	_____ %	_____ %	27 ___ 28 ___
True firs	_____ %	_____ %	29 ___ 30 ___
Spruce	_____ %	_____ %	31 ___ 32 ___
Ponderosa pine	_____ %	_____ %	33 ___ 34 ___
Lodgepole pine	_____ %	_____ %	35 ___ 36 ___
Western red cedar	_____ %	_____ %	37 ___ 38 ___
Other conifers	_____ %	_____ %	39 ___ 40 ___
Red alder	_____ %	_____ %	41 ___ 42 ___
Other hardwoods	_____ %	_____ %	43 ___ 44 ___
	100%	100%	

Please continue on page 3

5 Origin of wood consumed during 1996

For office use only

a. State or Province of origin

	Logs	Chips from roundwood Chipping plants		
Washington	_____ %	_____ %	45	46
Oregon	_____ %	_____ %	47	48
Idaho	_____ %	_____ %	49	50
British Columbia	_____ %	_____ %	51	52
Other	_____ %	_____ %	53	54
	100%	100%		

	Sawdust & Shavings	Bark		
Washington	_____ %	_____ %	55	56
Oregon	_____ %	_____ %	57	58
Idaho	_____ %	_____ %	59	60
British Columbia	_____ %	_____ %	61	62
Other	_____ %	_____ %	63	64
	100%	100%		

b. Ownership origin

State	_____ %	65
U.S. Forest Service*	_____ %	66
BLM	_____ %	67
Other public (DOD, county, etc.)	_____ %	68
Forest industry own lands	_____ %	69
Other forest industry lands	_____ %	70
Native American lands	_____ %	
Farmer & misc. private	_____ %	71
	100%	

*Name of National Forest 72

_____	_____ %	_____	_____ %	73
_____	_____ %	_____	_____ %	74
				75

c. Age group

Old growth (100+ years)	___ %	76
Young growth	___ %	77
	100%	

Please continue on page 4

For office use only

d. **Log size (small end) grouping**

<10 inches	_____ %
11-20 inches	_____ %
21 + inches	_____ %
	100%

e. **County of origin (Washington)**

	Logs	
_____	___ %	78 _____
_____	___ %	79 _____
_____	___ %	80 _____
_____	___ %	81 _____
_____	___ %	82 _____
_____	___ %	83 _____
From outside Washington	___ %	84 _____
	100%	

Definitions

Wood consumption -Items a-h indicate the nature of the wood or fiber as it comes into your woodyard–before any processing or breakdown.

Utility logs-Logs of lower quality than Number 3 sawlogs or usually having the following minimum specifications: 6 inches diameter, 12 foot length, 50+ percent of gross scale chippable.

Cordwood-Any log below the minimum specifications stated for utility logs.

6 If you want to receive a copy of the Mill Survey report resulting from this study, please check here. ❑

WASHINGTON STATE DEPARTMENT OF
Natural Resources

Thank you for your help with this questionnaire. When you have answered the questions as completely as possible, please fold this form, enclose it in the postage paid envelope provided and mail it.

MP 37503 (12-96) PB

WASHINGTON STATE DEPARTMENT OF
Natural Resources

SHAKE AND SHINGLE MILL QUESTIONNAIRE

Washington Forest Industry Survey 1996

Information on individual plants will be held confidential **(All percents on a volume basis)**

DID YOU OPERATE YOUR MILL EQUIPMENT DURING 1996

Yes ❑ Complete the questionnaire beginning with question 1.

No ❑ Do you still own your equipment?

- ❑ Yes
- ❑ No. Sold equipment or dismantled mill
- ❑ Never owned equipment

If you did not operate your equipment during 1996, answer only question 1, then fold, place in envelope provided and mail.

For office use only

1 Mill Identity

Firm Name _____ Prepared by _____ 1 _____ 4

Address _____ Mill Manager _____ 2 _____

Street or P.O. Box

_____ Phone # _____

City State Zip Code Fax # _____ 3 _____

Mill Location _____ Date _____

City County

2 Mill Characteristics

4 _____

Hours per shift _____ number of shifts per day _____ 5 _____

Years mill has been in present location _____ 6 _____

Years under present ownership _____ 7 _____

Maximum output capacity per shift by product

Shakes _____ squares or _____ bundles 8 _____

Shingles _____ squares or _____ bundles 9 _____

Hip and ridge _____ squares or _____ bundles 10 _____

Other (specify) _____ squares or _____ bundles 11 _____

Days operated during 1996 _____ 12 _____

Check equipment operated during 1996 13 _____

Chipper ❑ Barker ❑ Burner ❑ 14 _____

Is there a retail yard at this mill location? Yes ❑ No ❑ 15 _____

16 _____

MP 37504 (12-96) SS

3 Wood Consumption during 1996

Please specify log scale and conversion factor used if other than Scribner.

_____

a. Log consumption _____ ,000 bd ft net scale — For office use only 17 _____

Percent of log consumption from dead or salvaged trees _____ % — 18 _____

Percent of log consumption of utility grade* _____ % — 19 _____

* Utility logs - less than number 3 saw logs in grade or having the following minimum specifications: 6 inch diameter, 12 foot length, 50+ percent gross scale chippable.

b. Other (Blocks, Bolts, Lumber, etc.) _____ (Specify) _____ (Amount) _____ (Units) — 20 _____

If you used logs, complete questions 4,5,6 and 7.
If you only used Blocks, Bolts, Lumber, etc., go to questions 6 and 7.

4 Log consumption by species during 1996 (Indicate by Percent)

	Logs	
Western red cedar	_____ %	21 _____
Other conifers	_____ %	22 _____
	100%	

5 Origin of logs consumed during 1996

a. **State or Province of origin**

Washington	_____ %	23 _____
Oregon	_____ %	24 _____
Idaho	_____ %	25 _____
British Columbia	_____ %	26 _____
Other	_____ %	27 _____
	100%	

b. **County of origin (Washington)**

_____	___ %	28 _____
_____	___ %	29 _____
_____	___ %	30 _____
_____	___ %	31 _____
_____	___ %	32 _____
_____	___ %	33 _____
From outside Washington	___ %	34 _____
	100%	

Please continue on page 3

For office use only

c. Age group

Old growth (100+ years)	___ %	35 _____
Young growth	___ %	36 _____
	100%	

d. Log size (small end) grouping

<10 inches	_____ %
11-20 inches	_____ %
21 + inches	_____ %
	100%

e. Ownership origin

State	_____ %	37 _____
U.S. Forest Service*	_____ %	38 _____
BLM	_____ %	39 _____
Other public (DOD, county, etc.)	_____ %	40 _____
Forest industry owned lands	_____ %	41 _____
Other company lands	_____ %	42 _____
Native American lands	_____ %	
Farmer & misc. private	_____ %	43 _____
	100%	

***Name of National Forest** 44 _____

_____	_____ %	_____	_____ %	45 _____
_____	_____ %	_____	_____ %	46 _____
				47 _____

6 1996 production

Shakes _____ squares or _____ bundles	48 _____
Shingles _____ squares or _____ bundles	49 _____
Hip and ridge _____ squares or _____ bundles	50 _____
Other (specify) _____ squares or _____ bundles	51 _____

Please continue on page 4

7 Disposition of plant residues during 1996

Indicate residue by type as a percent

Used	Coarse	Sawdust	Bark
For plant fuel	_____ % (52)	_____ % (53)	_____ % (54)
Sold for fuel	_____ % (55)	_____ % (56)	_____ % (57)
For pulp (including export)	_____ % (58)	_____ % (59)	_____ % (60)
For board	_____ % (61)	_____ % (62)	_____ % (63)
For other purposes	_____ % (64)	_____ % (65)	_____ % (66)
Unused			
Burned	_____ % (67)	_____ % (68)	_____ % (69)
Unburned	_____ % (70)	_____ % (71)	_____ % (72)
	100%	**100%**	**100%**

8 If you want to receive a copy of the Mill Survey report resulting from this study, please check: ❑

WASHINGTON STATE DEPARTMENT OF
Natural Resources

Thank you for your help with this questionnaire. When you have answered the questions as completely as possible, please fold this form, enclose it in the postage paid envelope provided and mail it.

MP 37504 (12-96) SS

WASHINGTON STATE DEPARTMENT OF
Natural Resources

LOG EXPORT QUESTIONNAIRE

Washington Forest Industry Survey 1996

Information on individual plants will be held confidential **(All percents on a volume basis)**

For office use only

1 Firm Identity

Firm Name _____ Prepared by _____ 1 _____ 5

Address _____ Mill Manager _____ 2 _____

Street or P.O. Box

_____ Phone # _____

City State Zip Code

Fax # _____ 3 _____

Mill Location _____ Date _____

City County 4 _____

2 Port of Operation

Port Name _____

If more than one port of operation, please use additional forms which will be supplied on request (Phone David Larsen in Olympia, 360-902-1699)

NOTE: Data below should apply only to the Port listed above.

3 Years firm has used this Port for log exports _____ 5 _____

4 Quantity exported form this Port during 1996

If not in Scribner, please indicate scale and conversion

_____

a. Logs _____,000 board feet 6 _____

Percent of logs from dead or salvaged _____ % 7 _____

Percent of logs of utility grade* _____ % 8 _____

* Utility logs - less than number 3 saw logs in grade or having the following minimum specifications: 6 inch diameter, 12 foot length, 50+ percent gross scale chippable.

b. Other (any other roundwood) _____ 9 _____

MP 37505 (12-96) EX

For office use only

5 Log export by species during 1996

Indicate by Percent

	Logs		
Douglas-fir	_____ %	10	
Hemlock	_____ %	11	
True firs	_____ %	12	
Spruce	_____ %	13	
Ponderosa pine	_____ %	14	
Lodgepole pine	_____ %	15	
Western red cedar	_____ %	16	
Other conifers	_____ %	17	
Red alder	_____ %	18	
Other hardwoods	_____ %	19	
	100%		

6 Origin of logs exported during 1996

Indicate by Percent

a. State or Province of origin

Washington	_____ %	20
Oregon	_____ %	21
Idaho	_____ %	22
British Columbia	_____ %	23
Other	_____ %	24
	100%	

b. County of origin (Washington)

_____	___ %	25
_____	___ %	26
_____	___ %	27
_____	___ %	28
_____	___ %	29
_____	___ %	30
From outside Washington	___ %	31
	100%	

c. Age group

Old growth (100+ years)	___ %	32
Young growth	___ %	33
	100%	

Please continue on page 3

For office use only

d. Log size (small end) grouping

<10 inches	_____ %	
11-20 inches	_____ %	
21 + inches	_____ %	
	100%	

e. Ownership origin

State	_____ %	34
U.S. Forest Service*	_____ %	35
BLM	_____ %	36
Other public (DOD, county, etc.)	_____ %	37
Forest industry owned lands	_____ %	38
Other company lands	_____ %	39
Native American lands	_____ %	
Farmer & misc. private	_____ %	40
	100%	

***Name of National Forest** 41

42

_____	_____ %	_____	_____ %	43
_____	_____ %	_____	_____ %	44

7 Residue disposition during 1996

Percent of volume debarked before shipment _____ % 45

Indicate residue by type as a percent

Used	Bark	
For Pulp (including export)	_____ %	46
For plant fuel	_____ %	47
Sold for fuel	_____ %	48
For board	_____ %	49
For other purposes	_____ %	50
Unused		
Burned	_____ %	51
Unburned	_____ %	52
	100%	

Please continue on page 4

8 **If you want to receive a copy of the Mill Survey report resulting from this study, please check:** ❑

WASHINGTON STATE DEPARTMENT OF
Natural Resources

Thank you for your help with this questionnaire. When you have answered the questions as completely as possible, please fold this form, enclose it in the postage paid envelope provided and mail it.

MP 37505 (12-96) EX

WASHINGTON STATE DEPARTMENT OF
Natural Resources

POST, POLE AND PILING QUESTIONNAIRE

Washington Forest Industry Survey 1996

Information on individual plants will be held confidential

1 Mill Identity

For office use only

Firm Name _____ Prepared by _____ 1 _____ 6

Address _____ Mill Manager _____ 2 _____

Street or P.O. Box

_____ Phone # _____

City State Zip Code Fax # _____ 3 _____

Mill Location _____ Date _____

City County

2 Mill Characteristics

Type of wood treatment used (if any) _____

Years mill has been in present location _____ 4 _____

Years under present ownership _____ 5 _____

Capacity: Daily ❑ Yearly ❑

	Peeling capacity	Treatment capacity	Circle unit number*			
Posts	_____	_____	1	2	3	4
Poles	_____	_____	1	2	3	4
Piling	_____	_____	1	2	3	4

6 _____
7 _____
8 _____
9 _____
10 _____
11 _____
12 _____
13 _____

*** Specify: 1=Scribner; 2=cubic feet; 3=Lineal feet; or 4=pieces**

If capacity numbers above are not given in Scribner, please complete the following:

For log diameter sizes (in inches)

	Average length	Percent volume in each category
0-4	_____	_____ %
5-8	_____	_____ %
9-12	_____	_____ %
13-16	_____	_____ %
17-20	_____	_____ %
		100%

Days operated during 1996

Peeling _____ 12 _____

Treatment 13 _____

MP 37506 (12-96) LL

For office use only

Equipment operated during 1996

Barker _____ 14 _____

Burner _____ 15 _____

3 Wood Consumption during 1996

if not in Scribner, please indicate scale and conversion

_____

a. Log consumption

		Circle unit number*				
Posts	_____	1	2	3	4	16 _____
Poles	_____	1	2	3	4	17 _____
Piling	_____	1	2	3	4	18 _____

*** Specify: 1=Scribner; 2=cubic feet; 3=Lineal feet; or 4=pieces**

4 Log consumption by species during 1996

Indicate by Percent

	Logs	
Douglas-fir	_____ %	19 _____
Hemlock	_____ %	20 _____
True firs	_____ %	21 _____
Spruce	_____ %	22 _____
Ponderosa pine	_____ %	23 _____
Lodgepole pine	_____ %	24 _____
Western red cedar	_____ %	25 _____
Other conifers	_____ %	26 _____
Red alder	_____ %	27 _____
Other hardwoods	_____ %	28 _____
	100%	

5 Origin of logs consumed during 1996

a. **State or Province of origin**

Washington	_____ %	29 _____
Oregon	_____ %	30 _____
Idaho	_____ %	31 _____
British Columbia	_____ %	32 _____
Other	_____ %	33 _____
	100%	

Please continue on page 3

For office use only

b. County of origin (Washington)

_____	___ %	34 _____
_____	___ %	35 _____
_____	___ %	36 _____
_____	___ %	37 _____
_____	___ %	38 _____
_____	___ %	39 _____
From outside Washington	___ %	40 _____
	100%	

c. Age group

Old growth (100+ years)	___ %	41 _____
Young growth	___ %	42 _____
	100%	

d. Log size (small end) grouping

<10 inches	_____ %
11-20 inches	_____ %
21 + inches	_____ %
	100%

e. Ownership origin

State	_____ %	43 _____
U.S. Forest Service*	_____ %	44 _____
BLM	_____ %	45 _____
Other public (DOD, county, etc.)	_____ %	46 _____
Forest industry owned lands	_____ %	47 _____
Other company lands	_____ %	48 _____
Native American lands	_____ %	
Farmer & misc. private	_____ %	49 _____
	100%	

***Name of National Forest**

_____	_____ %	_____	_____ %	50 _____
_____	_____ %	_____	_____ %	51 _____
				52 _____
				53 _____

Please continue on page 4

For office use only

54
55
56
57
58
59

6 Quantity of 1996 Shipments

	Treated	Untreated	Circle unit number*			
Posts	_____	_____	1	2	3	4
Poles	_____	_____	1	2	3	4
Piling	_____	_____	1	2	3	4

*** Specify: 1=Scribner; 2=cubic feet; 3=Lineal feet; or 4=pieces**

7 Disposition of residues during 1996

Indicate residue by type as a percent

Used	Coarse (wood)	Bark
For pulp (including export)	_____ % (60)	_____ % (61)
For plant fuel	_____ % (62)	_____ % (63)
Sold for fuel	_____ % (64)	_____ % (65)
For board	_____ % (66)	_____ % (67)
For other purposes	_____ % (68)	_____ % (69)
Unused		
Burned	_____ % (70)	_____ % (71)
Unburned	_____ % (72)	_____ % (73)
	100%	**100%**

8 If you want to receive a copy of the Mill Survey report resulting from this study, please check: ❑

WASHINGTON STATE DEPARTMENT OF
Natural Resources

Thank you for your help with this questionnaire. When you have answered the questions as completely as possible, please fold this form, enclose it in the postage paid envelope provided and mail it.

MP 37506 (12-96) LL

Appendix F

Sawmills

ASOTIN COUNTY

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

CHELAN COUNTY

KOMPAN MILL
P.O. BOX 337
Entiat, WA 98822
Phone: (509) 784-1689

WINTON MILL
Longview Fibre Company
Timber Department
P.O. Box 639
Longview, WA 98632
Mill location– Winton, WA
Phone: (509) 763-3759

CLALLAM COUNTY

Olympic Wood Products
P.O. Box 744
Port Angeles, WA 98362
Phone: (360) 452-3566

PORTAC INC
P.O. Box 38
Beaver, WA 98305
Phone: (360) 327-3377

CLARK COUNTY

Columbia Vista Corporation
P.O. Box 489
Vancouver, WA 98666
Phone: (360) 892-0770

Hambleton Brothers Lumber
P.O. Box 285
Washougal, WA 98671
Phone: (360) 835-2148

COWLITZ COUNTY

Caffall Brothers Forest Products
Longview Fence Division
540 Third Avenue
Longview, WA 98632
Phone: (360) 636-5960

Gram Lumber Company
985 N.W. Second St.
Kalama, WA 98625
Phone: (360) 673-5231

Ross Simmons Hardwood Lumber
P.O. Box 366
Longview, WA 98632
Phone: (360) 423-8210

RSG Forest Products
985 N.W. Second
Kalama, WA 98625
Phone: (360) 673-2825

Weyerhaeuser Company
Green Mountain Mill
Tacoma, WA 98401
Phone: (253) 274-6679

Weyerhaeuser Company
Northwest Hardwoods–
Longview
Tacoma, WA 98401
Phone: (253) 577-6678

FERRY COUNTY

Brauner Lumber Co.
4219 Highway 395 North
Kettle Falls, WA 99141
Phone: (509) 738-6311

Vaagen Brothers Lumber Inc.
Republic Mill
565 West Fifth
Republic, WA 99114
Phone: (509) 775-3346

GRAYS HARBOR COUNTY

Dahlstrom Lumber Company
P.O. Box 386
Hoquiam, WA 98550
Phone: (360) 533-0448

Mary's River Lumber Co.
Montesano Mill
4515 Elliot Circle
Corvallis OR 97330
Mill location– Montesano WA
Phone: (360) 249-5650

Mayr Brothers Logging Co.
P.O. Box 180
Hoquiam, WA 98550
Phone: (360) 532-7490

Weyerhaeuser Company
Aberdeen Sawmill
Tacoma, WA 98401
Phone: (253) 924-2355

JEFFERSON COUNTY

Allen Logging Company
176462 HWY 101
Forks, WA 98331
Phone: (360) 374-6000

Gerard West Inc.
5411 Center Road
Chimacum, Wa 98325
Phone: (360) 732-4244

KING COUNTY

Barbee Mill Co., Inc.
P.O. Box 359
Renton, WA 98057
Phone: (206) 226-3900

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

Weyerhaeuser Company
Enumclaw Sawmill
Tacoma, WA 98401
Phone: (206) 825-8110

KLICKITAT COUNTY

SDS Lumber Company
P.O. Box 266
Bingen, WA 98605
Phone: (509) 493-6104

LEWIS COUNTY

Alexander Lumber Mill
1674 State Route 508
Chehalis, WA 98532
Phone: (360) 978-4117

Cascade Hardwoods
P.O. Box 269
Chehalis, WA 98532
Phone: (360) 748-0178

Cowlitz Stud Co.
Morton Mill
P.O. Box P
Morton, WA 98356
Phone: (360) 682-7262

Cowlitz Stud Co.
Randle Mill
P.O. Box 219
Randle, WA 98377
Phone: (360) 682-7262

Packwood Lumber Co.
P.O. Box 229
Packwood, WA 98361
Phone: (360) 494-5175

Tubafor Mill Inc.
P.O. Box U
Morton, WA 98356
Phone: (360) 496-6777

Weyerhaeuser Company
Northwest Hardwood-- Centralia
Tacoma, WA 98401
Phone: (360) 736-2811

Morton Forest Products
Tree Source Inc.
P.O. Box 1
Morton, WA 98356
Phone: (360) 496-6666

MASON COUNTY

Little Skookum Mill
780 West Hwy 108
Shelton, WA 98584
Phone: (360) 426-9721

North Star
P.O. Box 2269
Shelton, WA 98584
Phone: (360) 427-4223

Olympic Wood Products Inc.
P.O. Box 1550
Shelton, WA 98584
Phone: (360) 426-0851

Simpson Timber Company
Sawmill # 3
Third and Franklin
Shelton, WA 98584
Phone: (360) 426-3381

Simpson Timber Company
Sawmill # 5
Third and Franklin
Shelton, WA 98584
Phone: (360) 426-3381

OKANOGAN COUNTY

Colville Indian
Precision Pine Company
P.O. Box 3293
Omak, WA 98841
Phone: (509) 826-1921 X 10

Omak Wood Products Inc.
Route 2, Box 54
Omak, WA 98841
Phone: (509) 826-9829

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

PACIFIC COUNTY

Pacific Hardwoods, Inc.
P.O. Box 185
South Bend, WA 98586
Phone: (360) 942-5525

Weyerhaeuser Company
Raymond Sawmill
Tacoma, WA 98401
Phone: (360) 942-6325

PIERCE COUNTY

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

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

Manke Lumber Company
13702 Eighth Street East
Sumner, WA 98390
Phone: (206) 863-4495

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

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

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

SKAGIT COUNTY

Enterprise Lumber Company
21021 SR 530 N.E.
Arlington, WA 98223
Phone: (360) 435-1111

Sedro Woolley Lumber Company
P.O. Box 639
Sedro Woolley, WA 98284
Phone: (360) 855-2125

Snow Mountain Mills
1488 Valley View Drive
Mount Vernon, WA 98273
Phone: (360) 293-5812

Weyerhaeuser Company
Sedro Wooley Hardwood Mill
Mail Sort CH 2C26
Tacoma, WA 98477
Phone: (253) 924-2345

SKAMANIA COUNTY

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

SNOHOMISH COUNTY

Buse Timber Sales, Inc.
3812 28th Place N. E.
Everett, WA 98205
Phone: (206) 258-2577

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

Crown Pacific Inc.
60 State Avenue
Marysville, WA 98270
Phone: (206) 659-4241

Seattle Snohomish Mill
P.O. Box 949
Snohomish, WA 98291-0949
Phone: (206) 568-2171

Smith Street Mill
3600 Smith Street
Everett, WA 98201
Phone: (206) 252-7179

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 98401
Phone: (206) 435-8502

STEVENS COUNTY

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

Boise Cascade Corporation
Kettle Falls Mill
South 110 Boise Road
Kettle Falls, WA 99141
Phone: (509) 738-6881

Boise Cascade Corporation
Small Log Mill
South 110 Boise Road
Kettle Falls, WA 99141
Phone: (509) 738-6881

Springdale Lumber Company
P.O. Box 190
Springdale, WA 99173
Phone: (509) 258-4572

Stimson Company
Arden Mill
634 Highway 395 South
Colville, WA 99114
Phone: (509) 684-5084

Vaagen Brothers Lumber Inc.
Colville Division
565 West Fifth
Colville, WA 99114
Phone: (509) 684-5071

THURSTON COUNTY

Cedar Creek Sawmill
P.O. Box 105
Little Rock, WA 98556
Phone: (360) 753-6837

Pfaff Quality Lumber
2138 93rd Ave. S.E.
Olympia, WA 98501
Phone: (360) 352-8524

Tumwater Lumber Company
P.O. Box 4158
Tumwater, WA 98501
Phone (360) 352-1548

WHATCOM COUNTY

Great Western Lumber Company
P.O. Box 159
Everson, WA 98247
Phone: (360) 966-3061

Barrell Springs Mill
146 Barrell Springs Road
Bellingham, WA 98225
Phone: (360) 724-6302

YAKIMA COUNTY

Boise Cascade Company
Yakima Sawmill
P.O. Box 51
Yakima, WA 98907
Phone: (509) 453-3181

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

Shake & Shingle

CLALLAM COUNTY

D & R Cedar
P.O. Box 634
Forks, WA 98331
Phone: (360) 374-9283

Haight's Enterprises
P. O. Box 865
Forks, WA 98331
Phone: (360) 374-9874

Hollywood Shake Company
P.O. Box 1984
Forks, WA 98331
Phone: (360) 374-6688

L P II Inc.
P.O. Box 1729
Forks, WA 98331
Phone: (360) 374-6320

PA Shingle Inc.
ATTN: Paul Jackson
P. O. Box 4027
Port Angeles, WA 98362-0997

Rainy Day Shake
P. O. Box 2152
Forks, WA 98331
Phone: (360) 374-9321

Sherico Cedar Products
P. O. Box 511
Forks, WA 98331
Phone: (360) 374-2431

Zoffell Log & Milling
P. O. Box 2445
Forks, WA 98331
Phone: (360) 374-9755

GRAYS HARBOR COUNTY

B & J Shake
P.O. Box 508
Oakville, WA 98568
Phone: (360) 273-9120

Blackburn Cedar Products
P. O. Box 59
Amanda Park, WA 98526
Phone: (360) 288-2820

Bryant Shake Company
944 Ash Street
Raymond, WA 98577
Phone: (360) 942-6142

Bob Cat Cedar Inc.
158 Bowes Road
Hoquiam, WA 98550
Phone: (360) 987-2353

D & G Shake Company Inc.
P. O. Box 21
Amanda Park, WA 98526
Phone: (360) 288-2807

M L Cedar Company I
P. O. Box 8
Humptulips, WA 98552
Phone: (360) 987- 2588

L & H Shake
1003 Maple Street
Hoquiam, WA 98550
Phone: (360) 289-3283

Peterson Shake Company, Inc.
P.O. Box L
Amanda Park, WA 98526
Phone: (360) 288-2474

Prairies Creek Industries Inc.
P. O. Box 13
Amanda Park, WA 98526
Phone: (360) 288-2636

Theel Shake Inc.
P.O. Box 160
Neilton, WA 98566
Phone: (360) 288-2744

#208 Shake & Shingle Co.
P.O. Box 208
Moclips, WA 98562
Phone: 1-800- 276-4122

LEWIS COUNTY

Hamrick Shake
P. O. Box 103
Onalaska, WA 98570
Phone: (360) 978-4119

Reichert Shake & Fencing Inc.
207 Kangas Road
Toledo, WA 98591
Phone: (360) 864-6431

Wilson Shake Mill
406 Harman Road
Chehalis, WA 98532
Phone: (360) 748-7170

PACIFIC COUNTY

Hidden Valley Shake & Shingle
Route 1 Box 715
Raymond, WA 98577
Phone: (360) 942-2726

SKAGIT COUNTY

Hurn Shingle Company, Inc.
P.O. Box 799
Concrete, WA 98237
Phone: (360) 853-8151

SNOHOMISH COUNTY

Jacobs Shake Company
ATTN: Michael Jacobs
654 West Maple Grove Road
Camano Island, WA 98292

Marcantel Shingle
P. O. Box 916
Darrington, WA 98241
Phone: (360) 436-1061

Snohomish Shake Company
14012 44th ST S.E.
Snohomish, WA 98290
Phone: (425) 334-2304

WAHKIAKUM COUNTY

Anderson Shake & Shingle Co.
P.O. Box 421
Cathlamet, WA 98612
Phone: (360) 795-3089

Beards Shingle Mill
428 Elochoman Valley Road
Cathlamet, WA 98612
Phone: (360) 795-3380

WHATCOM COUNTY

G & D Cedar Products
3544 Cedarville
Bellingham, WA 98266
Phone: (360) 592-2319

Veneer & Plywood

PUGET SOUND AREA

Bay View Plywood Company
P.O. Box 608
Burlington, WA 98233
Phone: (360) 757-8482

Mount Baker Plywood Inc.
P.O. Box 997
Bellingham, WA 98225
Phone: (360) 733-3960

Rainier Veneer
P.O. Box 1250
Graham, WA 98338-1250
Phone: (253) 846-0242

OLYMPIC PENINSULA AREA

Hoquiam Plywood Co. Inc.
P.O. Box 737
Hoquiam, WA 98550
Phone: (360) 533-3060

K-Ply Incorporated
439 Marine Drive
Port Angeles, WA 98363
Phone: (360) 457-4421

Olympic Plywood
Simpson Timber Company
P.O. Box 460
Shelton, WA 98584
Phone: (360) 426-3381

Pacific Veneer
Weyerhaeuser Company
100 North Decatur
Aberdeen, WA 98520-7855
Phone: (360) 538-1060

Paneltech International LLC
2421 Port Industrial Road
Aberdeen, WA 98520
Phone: (360) 532-9059

Solid Wood Incorporated
P.O. Box 1628
Olympia, WA 98507
Phone: (360) 943-4335

Trust Joist MacMillan
505 Elma- McCleary Road
Elma, WA 98541
Phone: (360) 482-2521

LOWER COLUMBIA AREA

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

CENTRAL WASHINGTON

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

Omak Wood Products Inc.
Route 2, Box 54
Omak, WA 98841
Phone: (509) 826-9829

INLAND EMPIRE AREA

Boise Cascade Corporation
Kettle Falls Mill
South 110 Boise Road
Kettle Falls, WA 99141
Phone: (509) 738-3233

Pulp & Board Mills

PUGET SOUND AREA

Georgia Pacific Corporation
P.O. Box 1236
Bellingham, WA 98225
Phone: (360) 676-7254

Kimberly Clark Inc.
2600 Federal Ave.
Everett, WA 98201
Phone: (425) 259-7333 X 7469

Simpson Tacoma Kraft Co.
P.O. Box 2133
Tacoma, WA 98401
Phone: (206) 596-0203

Stone Consolidated Corp
4302 Chambers Creek Road
Steilacoom, WA 98388
Phone: (206) 588-2115

OLYMPIC PENINSULA AREA

Daishowa America, Co., LTD
P.O. Box 271
Port Angeles, WA 98362
Phone: (360) 457-4474

Port Townsend Paper Co.
ATTN: Bruce McComas
P.O. Box 3170
Port Townsend, WA 98368
Phone: (360) 385-3170

Weyerhaeuser Company
Cosmopolis Sulfite
Tacoma, WA 98401
Phone: (360) 532-7110

LOWER COLUMBIA AREA

James River Corporation
N.E. Fourth and Adams
Camas, WA 98607
Phone: (360) 834-8474

Longview Fiber Company
P.O. Box 3000
Longview, WA 98632
Phone: (360) 425-1550 X 2556

NORPAC
P.O. Box 2069
Longview, WA 98632
Phone: (360) 636-6413

Weyerhaeuser Company
Longview Sulfate
Tacoma, WA 98401
Phone: (360) 425-2150

CENTRAL WASHINGTON

Jeld-Wen Fiber of Washington
PO Box 548
White Swan, WA 98951
Phone: (509) 874-2255

INLAND EMPIRE AREA

Boise Cascade Corporation
P.O. Box 500
Wallula, WA 99363
Phone: (509) 545-3318

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

Ponderay Newsprint Company
P O Box 130
Usk, WA 99180
Phone: (509) 445-2165

Post, Pole & Piling

PUGET SOUND AREA

J. H. Baxter Company
P.O. Box 305
Arlington, WA 98223
Phone: (360) 435-2146

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

The Oeser Company
P.O. Box 156
Bellingham, WA 98227
Phone: (360) 734-1480

OLYMPIC PENINSULA AREA

PLS Pole Yard
18146 Dallas Street S.W.
Rochester, WA 98579
Phone: (360) 273-5541

Simpson Timber Company
P.O. Box 460
Shelton, WA 98584
Phone: (360) 427-4955

Weyerhaeuser Company
Curtis Post & Pole Facility
P.O. Box 40
Curtis, WA 98538
Phone: (360) 245-3245

INLAND EMPIRE AREA

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

Inchelium Tribal Wood Treatment
P. O. Box 286
Inchelium, WA 99138
Phone: (509) 722-4221

Spokane Tribal Wood Products
P.O. Box 161
Wellpinit, WA 99040
Phone: (509) 258-7764

Log Exporters

Citifor Inc.
7272 Columbia Center
701 Fifth Avenue
Seattle, WA 98104-7090
Phone: (206) 622-3770

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

Mitsubishi International Corp.
1201 Third Ave., Suite 3700
Seattle, WA 98101
Phone: (206) 682-0744

Mitsui & Company USA Inc.
1001 Fourth Ave, Suite 4000
Seattle, WA 98154
Phone: (206) 223-5654

Murray Pacific Corporation
3502 Lincoln Ave. East
Tacoma, WA 98421
Phone: (206) 383-5871

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

Nippon Paper Indust. Co., Ltd.
C/O Norman Barnes & Co.
801 Second Ave., Suite 306
Seattle, WA 98104
Phone: (206) 624-4694

Nissho Iwai American Corp.
10777 Main Street, Suite 306
Bellevue, WA 98004
Phone: (425) 455-3365

Pacific Lumber & Shipping
240 Tennant Way
Longview, WA 98632
Phone: (360) 425-5861

Plum Creek Timber Company
First Interstate Center
999 Third Avenue, Suite 2300
Seattle, WA 98104-4096
Phone: (206) 467-3680

Rayonier Inc.
P.O. Box 778
Longview, WA 98682
Phone: (360) 423-2228

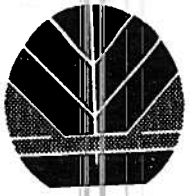
Sumitomo Forestry Co., Ltd.
Plaza Suite 2725
1001 Fourth Avenue
Seattle, WA 98154
Phone: (206) 623-8840

Sunshine Trading Company
P. O. Box 1151
Bellevue, WA 98004
Phone: (425) 455-3210

Tomen America Inc.
600 University St., Suite 2800
Seattle, WA 98100
Phone:

Weyerhaeuser Company
3401 Taylor Way
Tacoma, WA 98421
Phone: (425) 924-7921

Yuasa Trading Co America Inc.
1111 Third Ave., Suite 1410
Seattle, WA 98101
Phone: (206) 223-0880



WASHINGTON STATE DEPARTMENT OF
Natural Resources
Jennifer M. Belcher - Commissioner of Public Lands