NATURAL RESOURCES

Washington Mill Survey 2006

Series Report #19

December 2008

WASHINGTON STATE DEPARTMENT OF
Natural Resources
Doug Sutherland - Commissioner of Public Lands

Acknowledgements

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Cover photo:
Since 1956 this steam-powered mill has operated on the banks of the mill pond in Onalaska (Lewis County). It was built by Gene Frase who picked up inexpensive surplus steam equipment when most commercial saw mills were retrofitting to electric power. Gene operated the mill until a few years ago and now (in his 90s) occasionally runs it with his son Steve Frase for their own projects. The mill uses sawdust and slab wood to fuel the boiler. One boiler provides steam power for six engines. The largest engine powers the main saw, head saw, log carriage feed and the sawdust conveyer system. Other engines run a winch for pulling logs from the pond, an adjuster (for setting the width of the cut on the log carriage) and feed rollers. Photos: Jim Thode (2005).

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Table of Contents

Throughout this report the term “operations” refers to both mills (where logs are processed) and log export businesses. Due to rounding, figures may not add to total shown.

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Table of Contents, continued

Introduction

This report is a census of Washington's primary wood products industry. It covers mills and log exporting operations which traditionally used raw logs. While pulp and plywood mills have modified their manufacturing processes and now use few raw logs, they are kept in the Mill Survey to maintain continuity of statistics.

Few places on earth grow timber—Douglas-fir and related species—that produce prized structural lumber so efficiently. In just 35 years Washington-grown Douglas-fir trees can reach a harvestable age with a diameter of 12 to 14 inches and a height of 70 to 80 feet (up to 120 feet on some sites). A single acre of mature trees can yield 30,000 to 40,000 board feet, enough to build two to three average-sized homes.

The U.S. is the world's largest producer of softwood products. Among states, Washington is the second largest producer (after Oregon). A total of 16.2 million acres (out of a total of 23 million forested acres) are managed as commercial forests primarily for growing softwood.

The computer software and aerospace industries are major economic drivers in Washington. But wood products still contribute more than $5 billion to the state's Gross Domestic Product and employs about 30,000 workers. (See page 18)

Even though it has declined significantly in recent years, the log export industry is still worth about $400 million annually, according to the state's Department of Community, Trade & Economic Development. Wood products is also a major industry in eastern Washington, contributing up to a quarter of the state's total log volume.

The agricultural side of managing forest lands (growing, logging) adds nearly $2 billion in gross business income annually, according to the state's Department of Revenue.

Published biennially since the late 1960s, *Washington Mill Survey* covers product manufacturing and mill characteristics from data directly provided by mill managers and owners.

The report covers seven industries, including:

- Lumber
- Pulp
- Shake and Shingle
- Veneer and Plywood
- Post, Pole, and Piling
- Log Export Operations
- Log Chipping

While other agencies and wood products industry associations publish general summaries, the Mill Survey provides details and statistics not available elsewhere. The tables include data on log volumes, mill capacities, log species, days of operation, and the use of wood residues. It is a resource for a broad audience of industry managers, economists, public officials and state residents.

Most log measurements are in thousand board feet Scribner rule— an early 20th century scale that estimates a log's lumber volume. Due to mill efficiencies in recent decades, the lumber output (measured in "lumber tally") usually exceeds log input (in Scribner).

Since this survey covers the entire industry, sampling errors are not a factor. However, some data was calculated based on data from previous years. Also some tables and categories (industries, counties or economic areas) were combined into an "Other" category to avoid disclosure of an individual company's data.

The economic areas used in this report

Throughout the Mill Survey these economic areas are used to indicate the locations of mill operations and forests where timber is harvested. An economic area is an area where economic activity in the forest products industry is similar. The economic area boundaries are not all drawn according to natural geographic features.

Abbreviations and Conversions

Log volume (Scribner scale)
board foot = 12-inches x 12-inches x 1-inch
mbf = 1,000 board feet
mmbf = 1 million board feet
Bbf = 1 billion board feet

Lumber (volume)
1 mbf lumber tally = 1,000 board feet

Plywood and Veneer
msf 3/8-inch basis =1,000 square feet 3/8-inch thick
mmsf 3/8-inch basis = 1 million square feet 3/8-inch thick

Pulp (weight)
ton = 2,000 pounds
bone dry tons (BDT) = 2,200 pounds (10% water)
mbf of logs = 7.5 tons of pulp

Shake and Shingle (area)
square = 100 square feet
1 cord = 5 squares or 1/2 mbf
mbf = 10 squares

Mill Survey Analysis

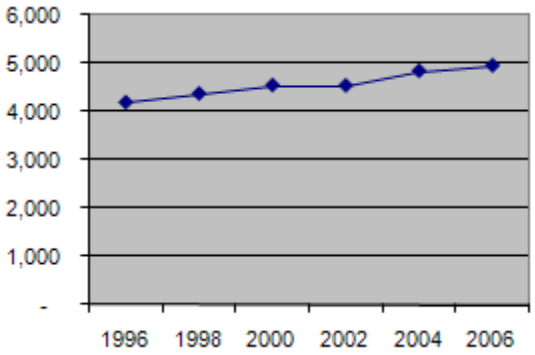
1996-2006

The analyses in this chapter provide multiple-year views of trends in the seven forest product industries in Washington.

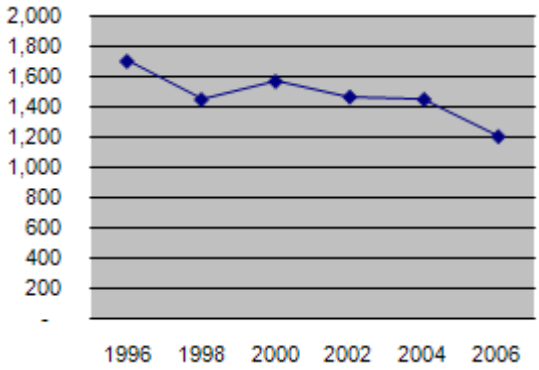
Graph 1 **Production**

Graph 1a through 1f below display total production by industry. Lumber output from sawmills increased (1a) fairly consistently over the years. Post, pole and piling production (1e) has a high degree of variability between years. The other industries experienced a slow (veneer and ply-wood) and sometimes (shake and shingle, log exports) a sharp decline in output.

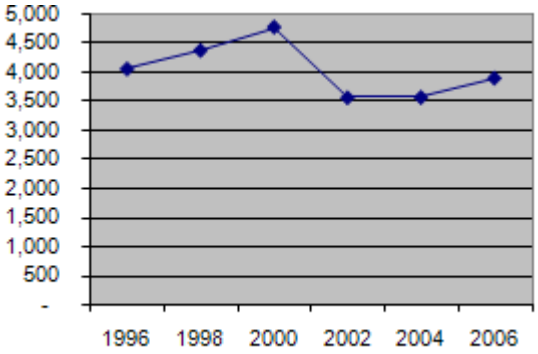
Sawmill
Graph 1a
(mmbf lumber tally)



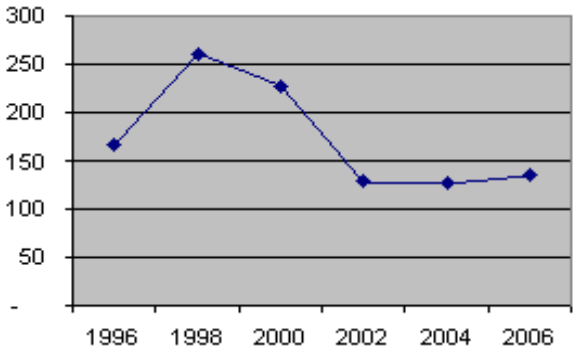
Veneer and Plywood
Graph 1b
(MMsf 3/8" basis)



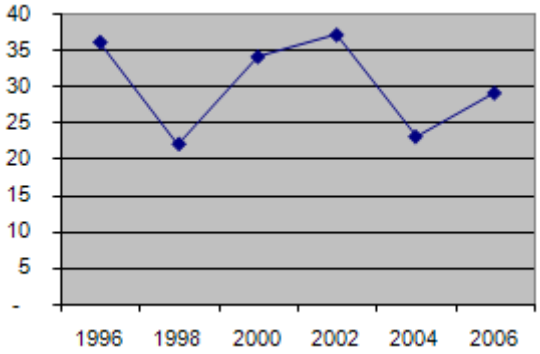
Pulp
Graph 1c
(million bone dry tons)



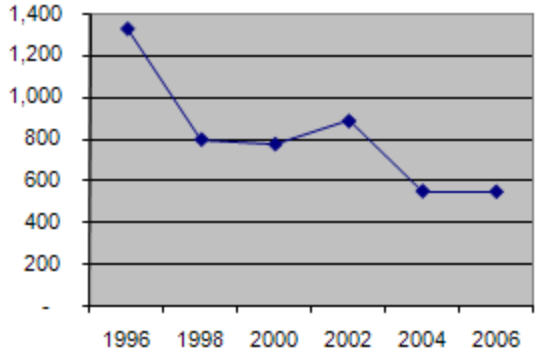
Shake and Shingle
Graph 1d
(million squares)



Post, Pole, and Piling
Graph 1e
(mmbf)



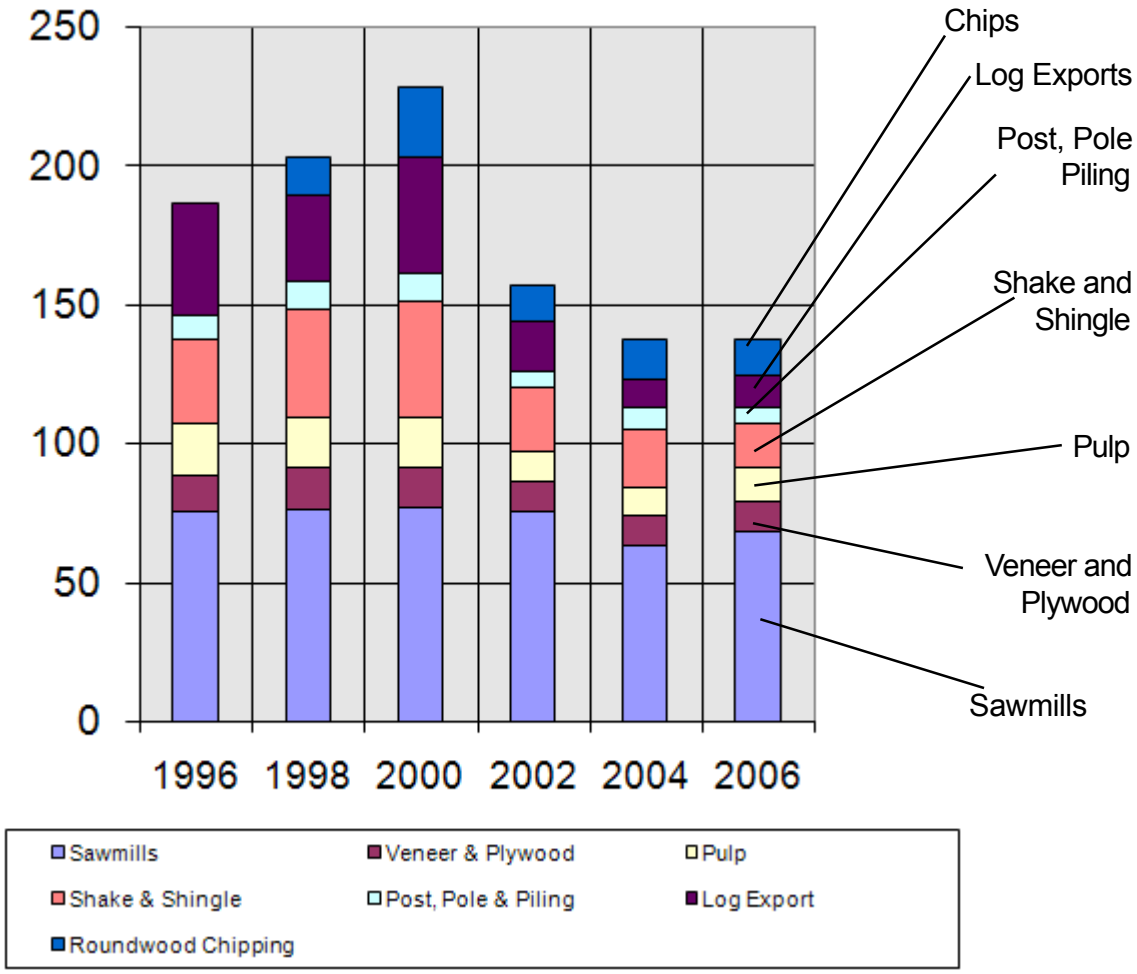
Log Exports
Graph 1f
(mmbf)



Graph 2 **Number of operations**

Graph 2 shows the total number of operations in the forest products industry in Washington, by industry (mills and log export businesses). The number of operations peaked in 2000, with a total of 228. Since then, all industries have seen decreases, with the greatest decreases (over 50 percent each since 1996) in the log export, shake and shingle, and pulp industries. Sawmill is the only industry in 2006 that actually saw an increase over 2004, with the addition of four new mills.

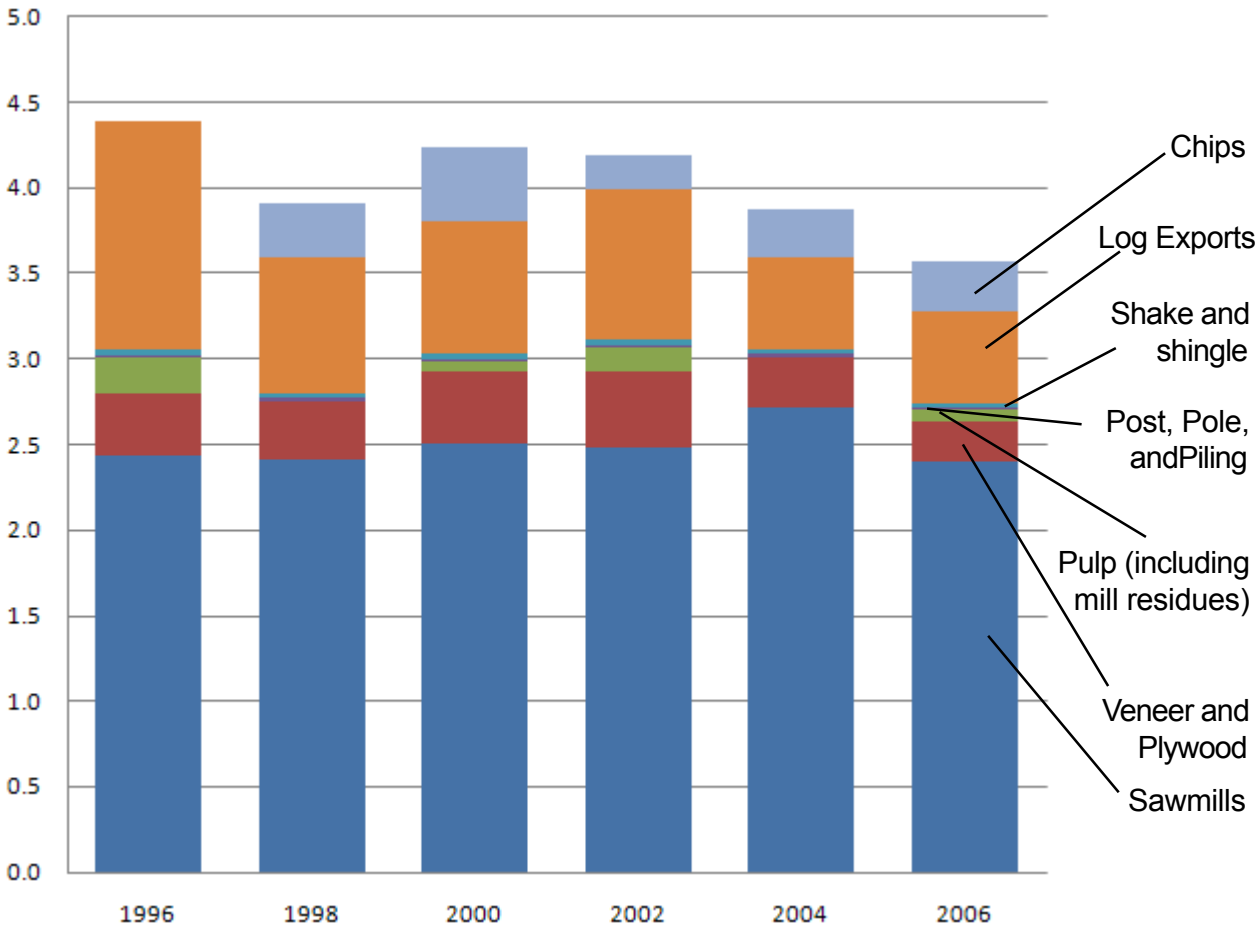
Number of Operations by Industry
Graph 2



Graph 3 **Log consumption**

Total log consumption by Washington mills declined 16 percent in the 1996-2006 period. Mills consumed 4.4 billion board feet (bbf) in 1996 and 3.7 bbf in 2006

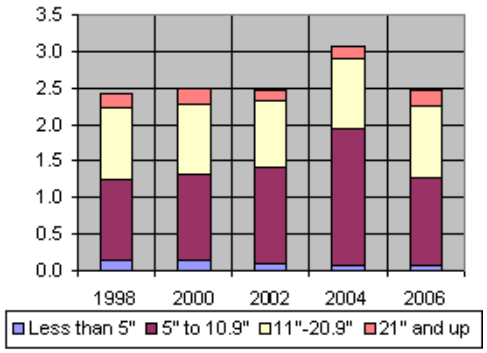
Log Consumption by Industry
Graph 3
(billion board feet)



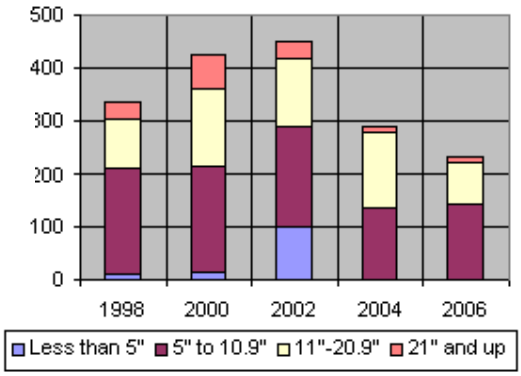
Graph 4 **Log consumption by industry**

4a through 4f display log consumption by log size, except 4c (shake and shingle) which displays log consumption by type. In the shake and shingle industry nearly all of the material is delivered to mills as bolts (chopped up timber), or the remains of salvaging operations.
Note: Diameter data not available for 1996

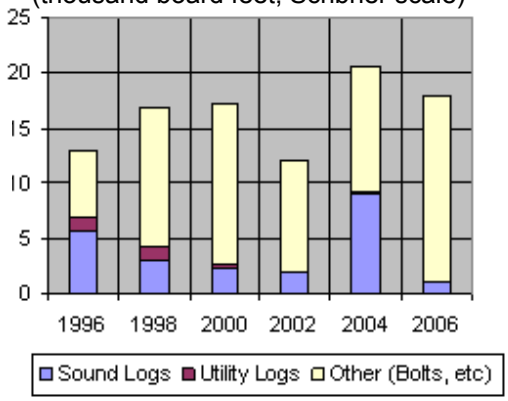
Sawmills
Graph 4a
(billion board feet, Scribner scale)



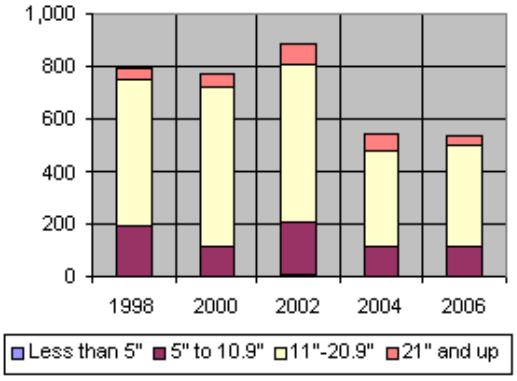
Veneer and Plywood
Graph 4b
(thousand board feet, Scribner scale)



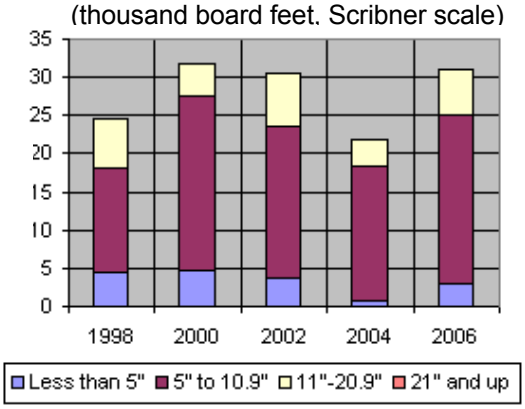
Shake and Shingle
Graph 4c
(thousand board feet, Scribner scale)



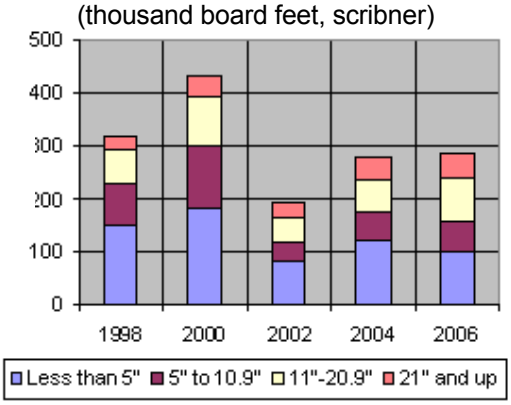
Log Export
Graph 4d
(thousand board feet, Scribner scale)



Post, Pole, and Piling
Graph 4e
(thousand board feet, Scribner scale)



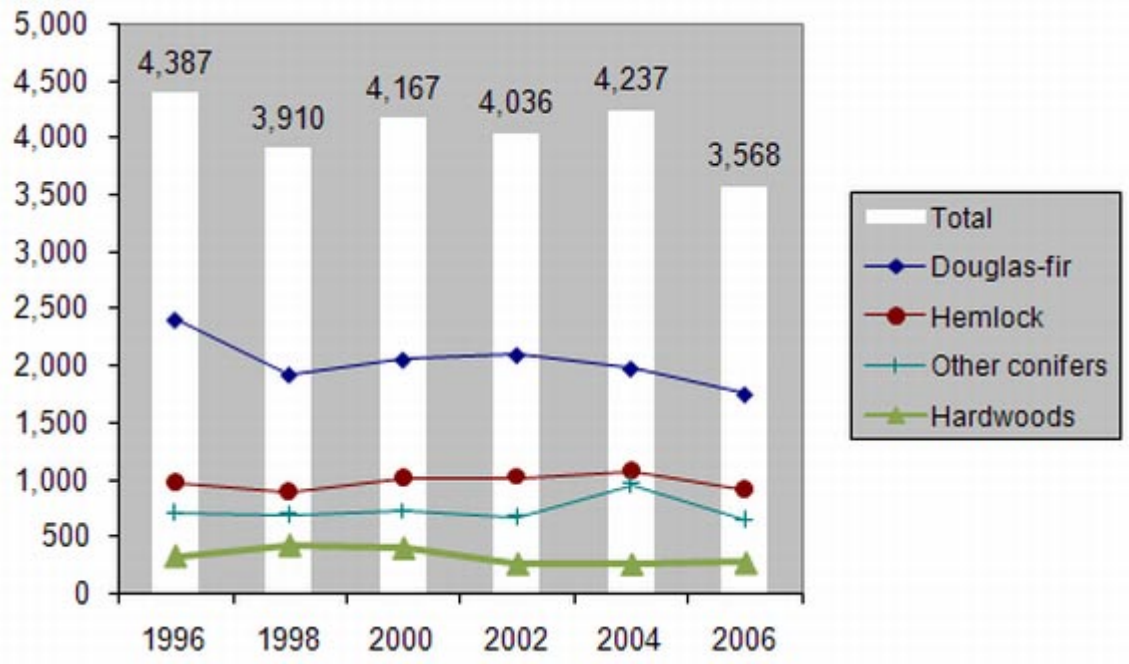
Chipping
Graph 4f
(thousand board feet, scribner)



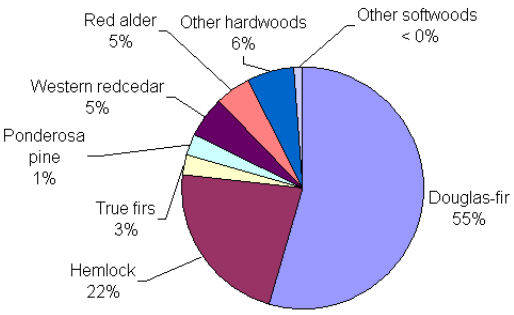
Graph 5 **Tree species**

Douglas-fir was the dominant single species throughout the 10-year period, comprising about half of the consumed volume (Graph 5a). In general, each species or group has fairly consistent consumption levels over this period, with the exception of "other conifers." This is due to the increased consumption of white firs in 2004, which doubled. Graphs 5b and 5c show that the species consumption mix between 1996 and 2006 did not change much. There was a 7 percent drop in the Douglas-fir. Eastern Washington Lodgepole and Ponderosa pines increased their species share.

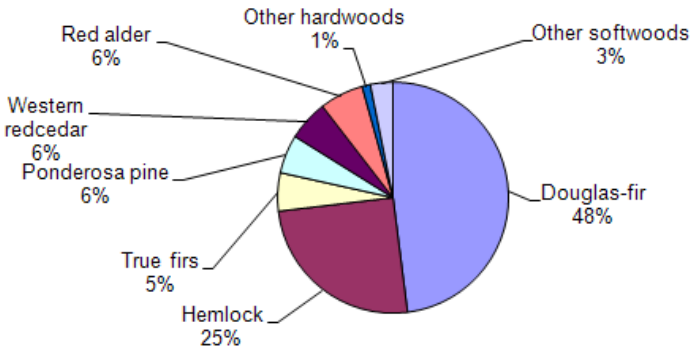
Log Consumption by Species
Graph 5a
(million board feet, Scribner scale)



Log Consumption by Species - 1996
Graph 5b



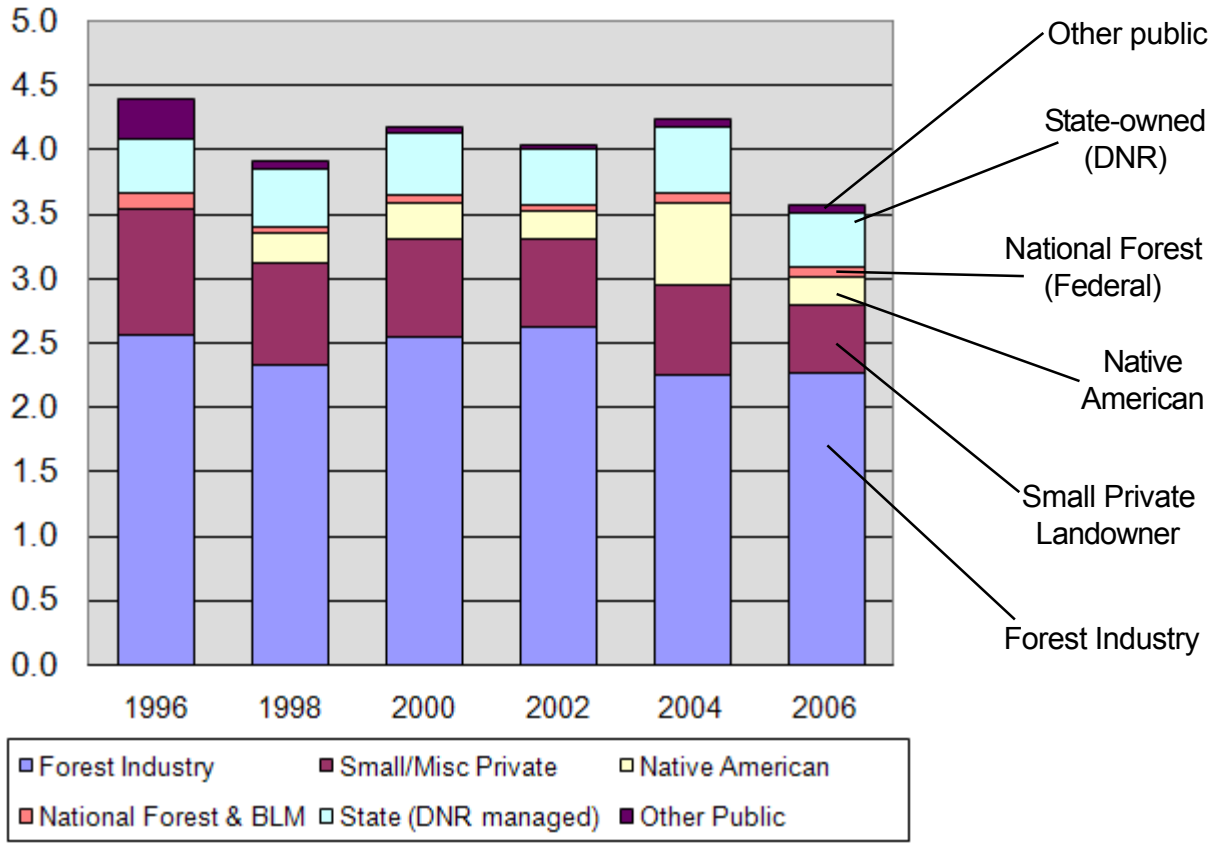
Log Consumption by Species - 2006
Graph 5c



Graph 6 **Log sources**

Log source by ownership, in Graph 6, shows that private timberland (Forest Industry and Small Private Landowners) continues to provide the bulk of the logs to the forest products industry. Among public timberland owners, the Department of Natural Resources (state) supplies the largest share about 12 percent of logs to the forest products industry.

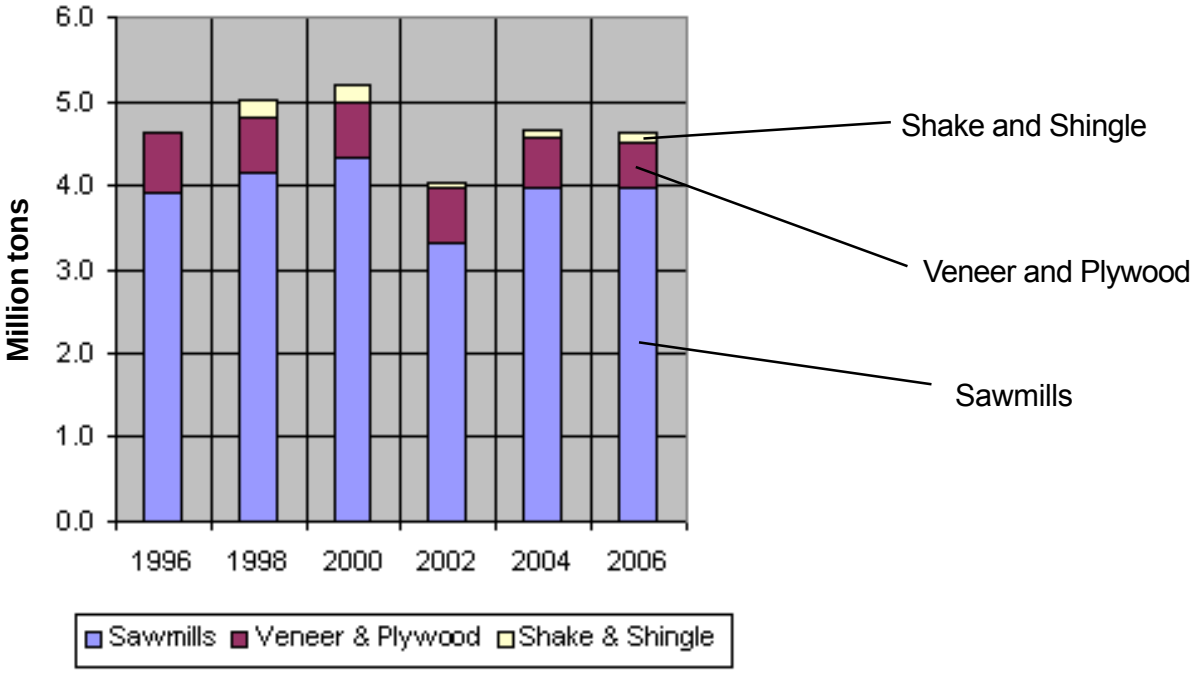
Log Source by Ownership
Graph 6
(billion board feet)



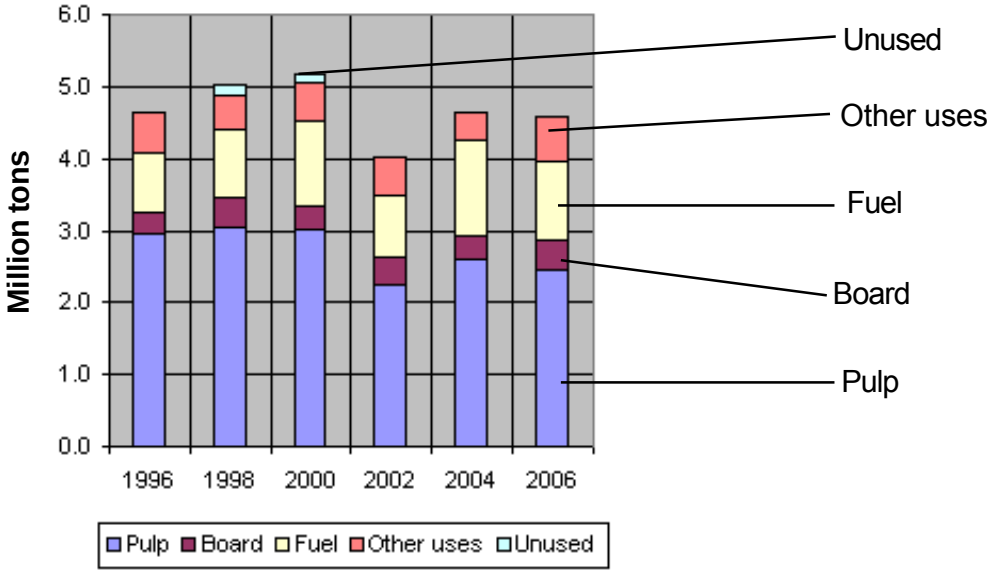
Graph 7 **Wood residues**

Graphs 7a and 7b display the production and use of wood residues by industry Not surprisingly, sawmills are the largest producer of residues. Residues are predominately used for pulp, although between 1996 and 2006 they were increasingly used for fuel.

Production of Wood Residue (not bark)
Graph 7a



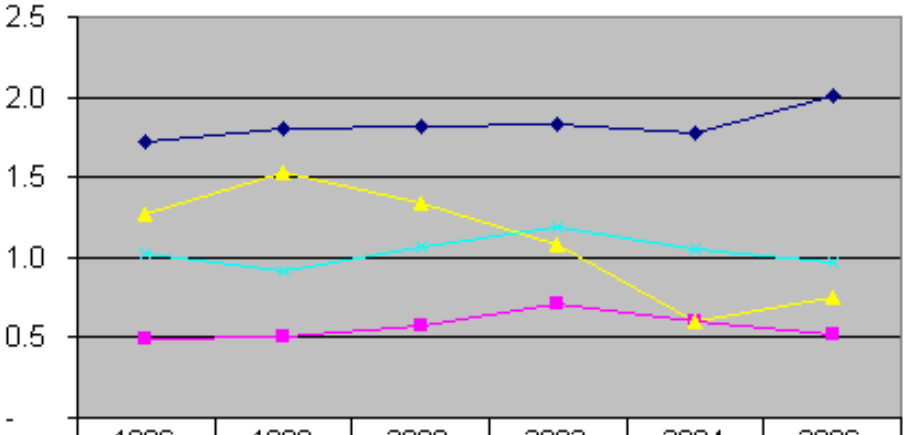
Use of Wood Residues (not bark)
Graph 7b



Graph 8 **Productivity**

Productivity (production divided by consumption volumes) is displayed by industry in Graph 8. All industries remained at closely similar levels throughout the 10-year period, except shake and shingle mills and sawmills. Sawmills increased productivity by 10 percent between 2004 and 2006, while shake and shingle mills saw some of their lowest productivity over the 10-year period.

Productivity
Graph 8
(higher numbers indicate increased efficiency)

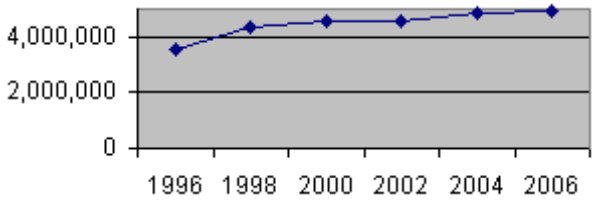


	1996	1998	2000	2002	2004	2006
Sawmills	1.7	1.8	1.8	1.8	1.8	2.0
Pulp	0.5	0.5	0.6	0.7	0.6	0.5
Shake & Shingle	1.3	1.5	1.3	1.1	0.6	0.8
Post, Pole & Piling	1.0	0.9	1.1	1.2	1.0	1.0

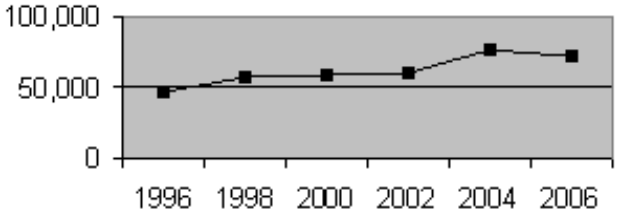
Graph 9 **Sawmills**

The sawmills' story over the 10-year period ending in 2006 is presented in these graphs. Total lumber production (9a) rose 40 percent from 3.55 billion to 4.55 billion board feet while average per mill production rose 56 percent. However, the total (9c) and average per mill (9d) log consumption rose only slightly. These contrasting statistics underscore the fact that sawmills overall rapidly improved productivity (9e) by a third in this period. Several small mills closed down and were replaced by fewer larger and more efficient operations.

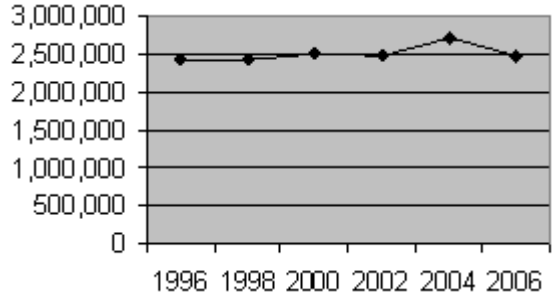
Total Lumber Production
Graph 9a
(mbf lumber tally)



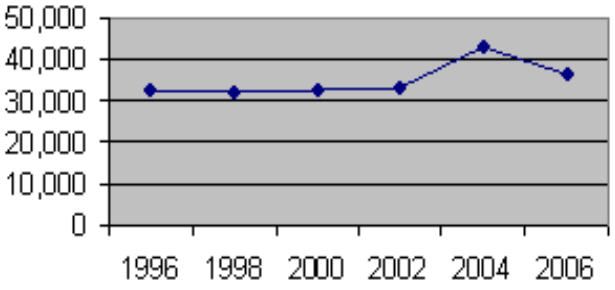
Avg Lumber Production per Mill
Graph 9b
(mbf lumber tally)



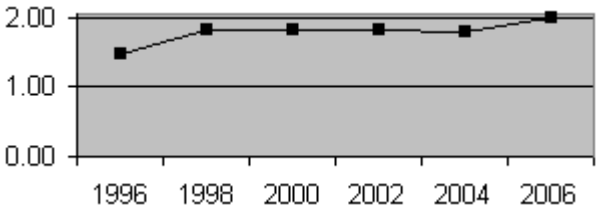
Total Log Consumption
Graph 9c
(mbf Scribner scale)



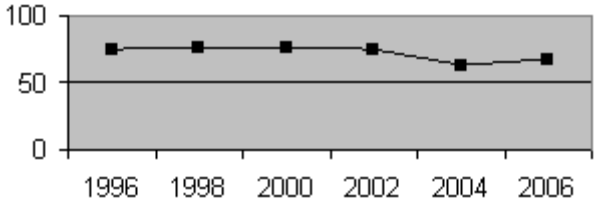
Avg Log Consumption per Mill
Graph 9d
(mbf Scribner scale)



Productivity of Sawmills
Graph 9e
(input/output ratio)



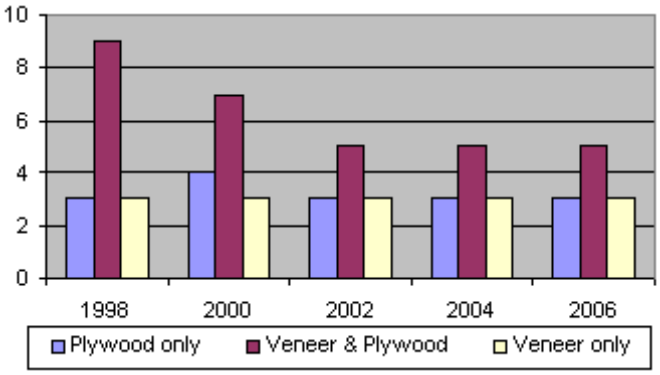
Number of Sawmills
Graph 9f



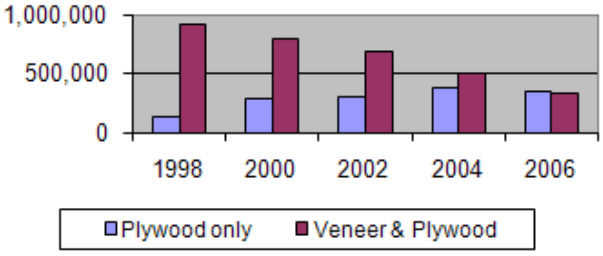
Graph 10 **Veneer and plywood mills**

Up until the last decade, two-step plywood manufacturing was carried out primarily by integrated mill operations, which produced plywood and the veneer to make the plywood. But since 1998 the number of integrated mills has dropped from nine to five while mills that specialize in veneer or plywood have remained (10a) . On this page (10a - 10e) and the next page (10f - 10k) the move to specialization is revealed. In nearly every graph the bars representing integrated veneer-plywood mills shortened while the bars representing veneer-only or plywood-only mills lengthened or remained the same. This trend indicates the efforts of plywood mlls to improve efficiencies and survive the competition with other "engineered" wood products (particle board, oriented strand board, etc.).

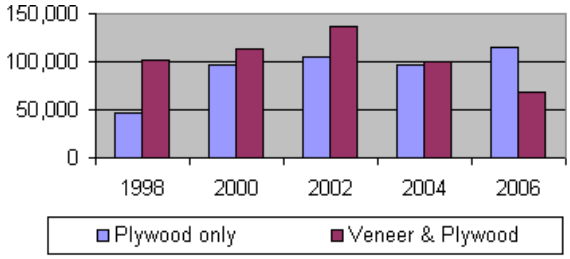
Number of Veneer and Plywood Mills
Graph 10a



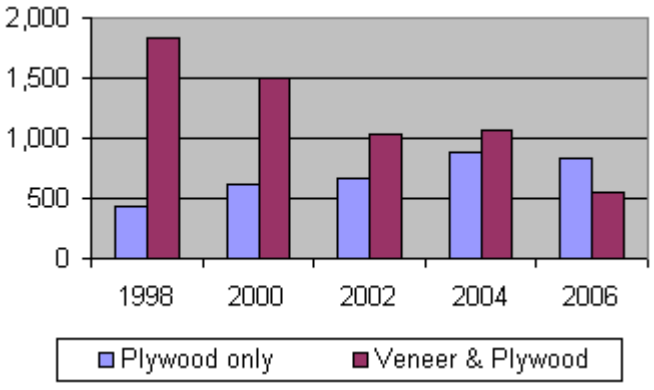
Total Plywood Production
Graph 10b
(thousand square feet, 3/8" basis)



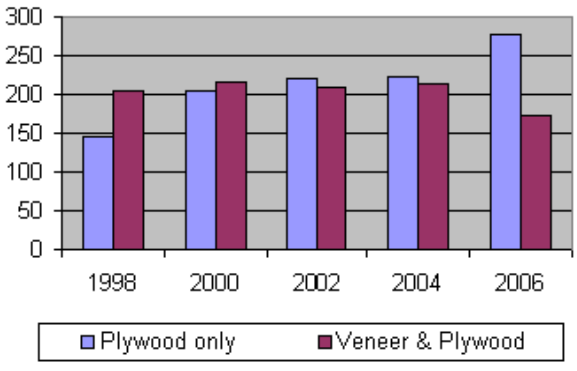
Avg Plywood Production per Mill
Graph 10c
(thousand square feet, 3/8" basis)



Total Plywood Capacity
Graph 10d
(thousand square feet, 3/8" basis)



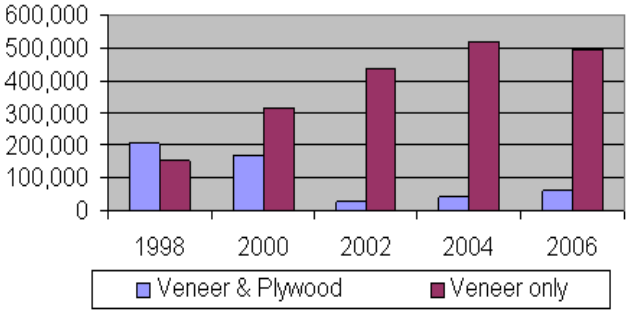
Avg Plywood Capacity per Mill
Graph 10e
(thousand square feet, 3/8" basis)



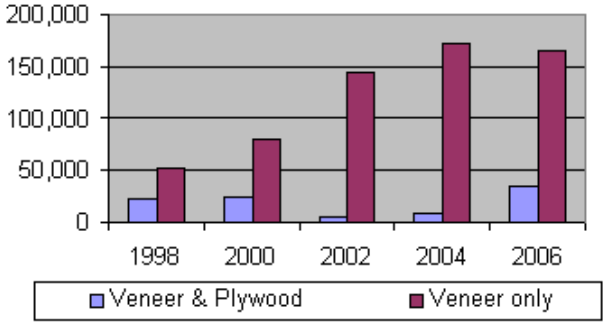
Veneer mill graphs on next page »

Veneer and plywood mills continued

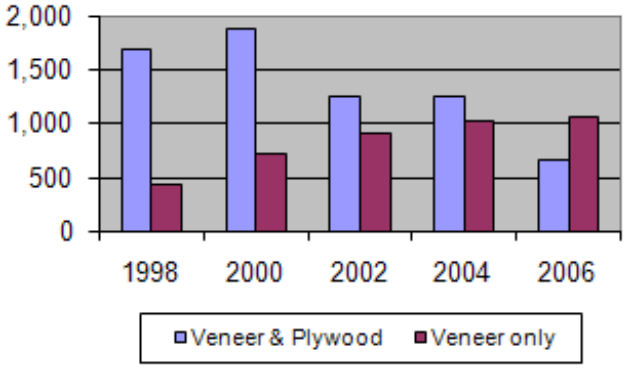
Total Veneer Production
Graph 10f
(thousand square feet, 3/8" basis)



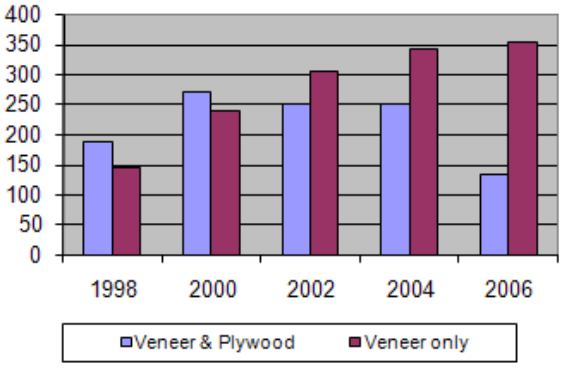
Avg Veneer Production
Graph 10g
(thousand square feet, 3/8" basis)



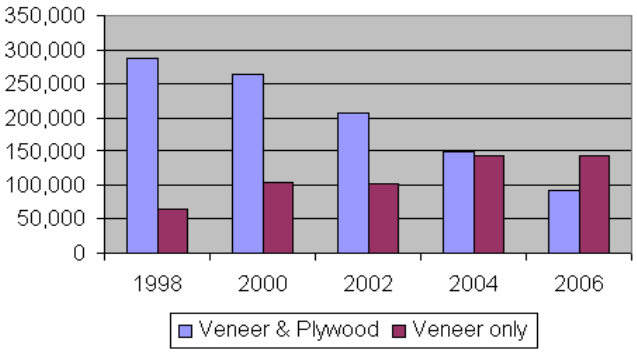
Total Veneer Capacity
Graph 10h
(thousand square feet, 3/8" basis)



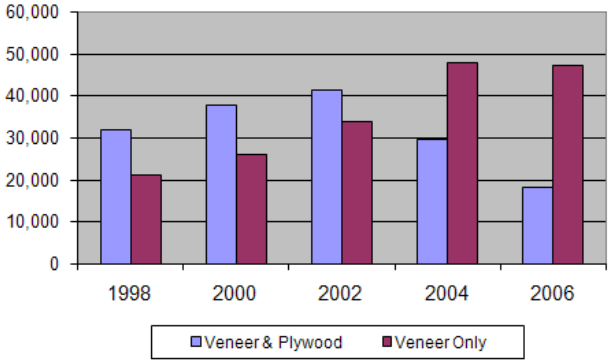
Avg Veneer Capacity per Mill
Graph 10i
(thousand square feet, 3/8" basis)



Total Log Consumption
Graph 10j
(thousand board feet, Scribner)



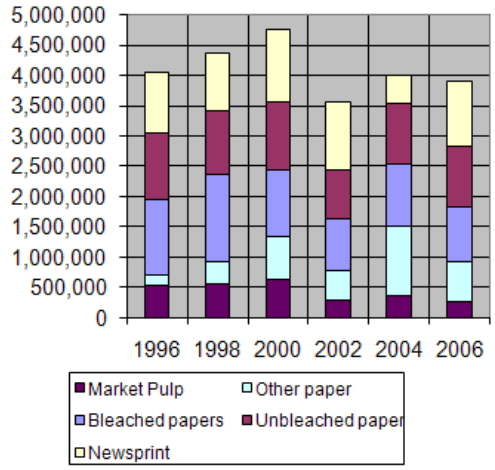
Avg Log Consumption per Mill
Graph 10k
(thousand board feet, Scribner)



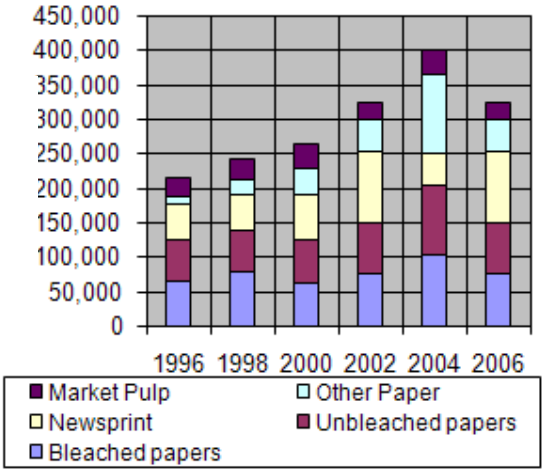
Graph 11 **Pulp mills**

The past ten years have seen major changes in pulp mill operations. The number of mills dropped by more than half (11f). The heavy investment of the last two decades to meet environmental requirements did not always contribute to production efficiencies. However, the remaining operations grossed at least $4 billion a year, according to the Washington Department of Revenue. Bleached (copy) and unbleached (corrugated) paper increased in volume (11a, 11b) while production of newsprint and "other" paper dropped. Chips (from mill residues and chipping mills) are the main raw material (11c, 11d). The volume of recycled paper (11e) has nearly tripled and now makes up to 16 percent of the raw material.

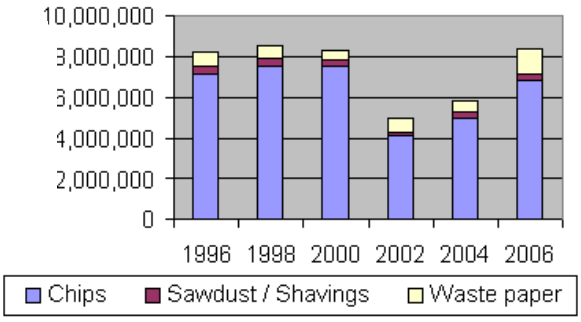
Total Production Volume
Graph 11a
(bone dry tons)



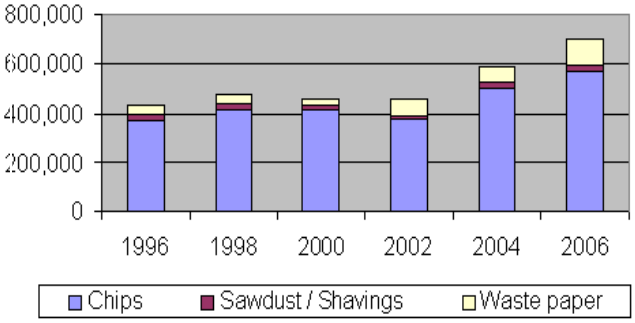
Avg Production per Mill
Graph 11b
(bone dry tons)



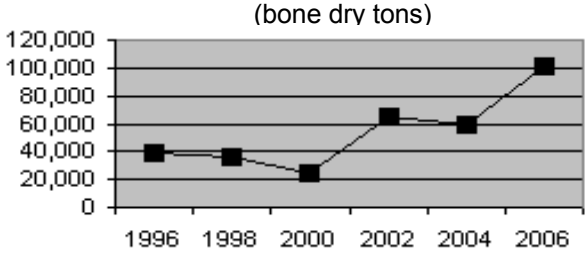
Total Consumption
Graph 11c
(bone dry tons)



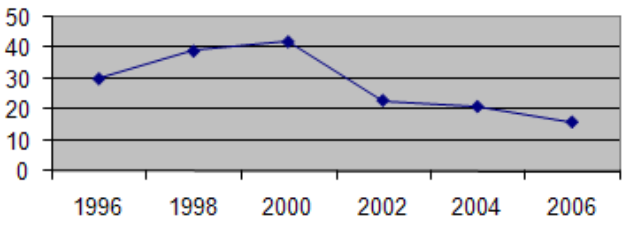
Avg Consumption per Pulp Mill
Graph 11c
(bone dry tons)



Recycled Paper
Graph 11e
(bone dry tons)



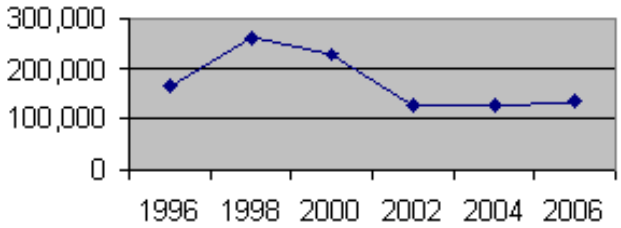
Number of Mills
Graph 11f



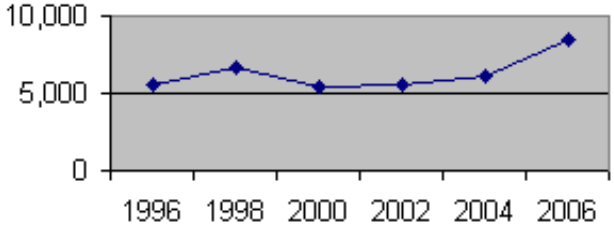
Graph 12 **Shake and shingle mills**

On first appearance, the average production (12b) and average log consumption (12d) of shake and shingle operations look very good. But the reality is seen in the total production (12a)—down 48 percent since 1998—and the number of shake mills (12f)—down from 42 to just 16.

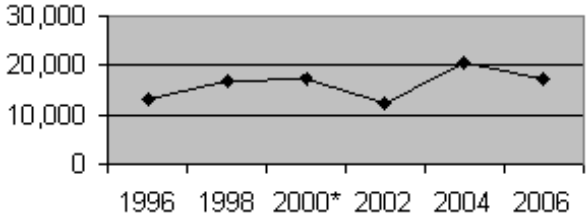
Total Production
Graph 12a
(squares)



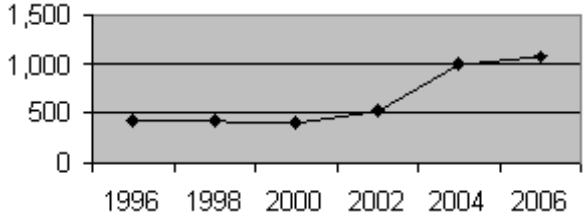
Avg Production per Mill
Graph 12b
(squares)



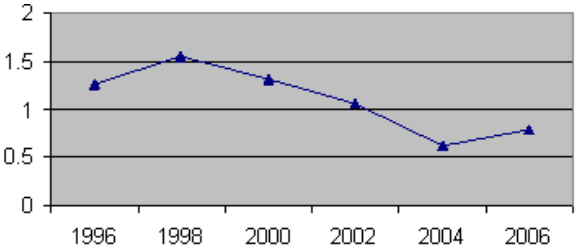
Total Wood Consumed
Graph 12c
(mbf, Scribner scale)
logs and bolts



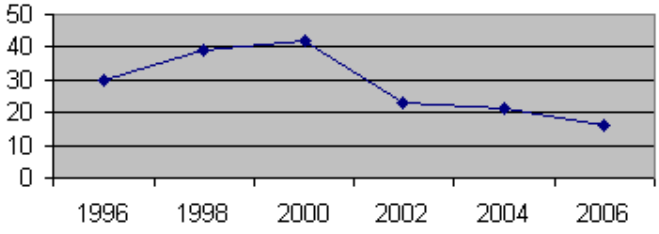
Avg Wood Consumed per Mill
Graph 12d
(mbf, Scribner scale)
logs and bolts



Productivity (efficiency)
Graph 12e
Input output ratio



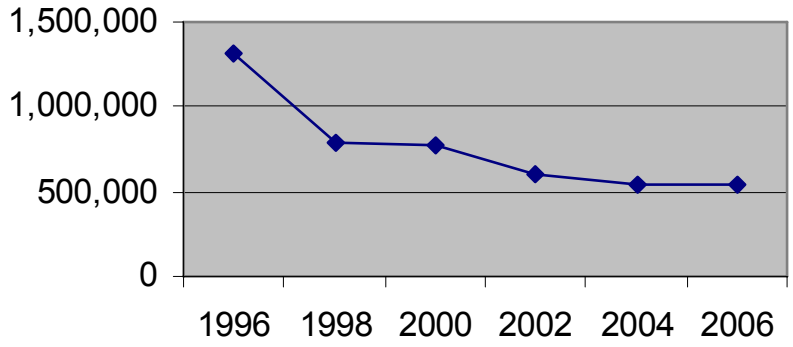
Number of Mills
Graph 12f



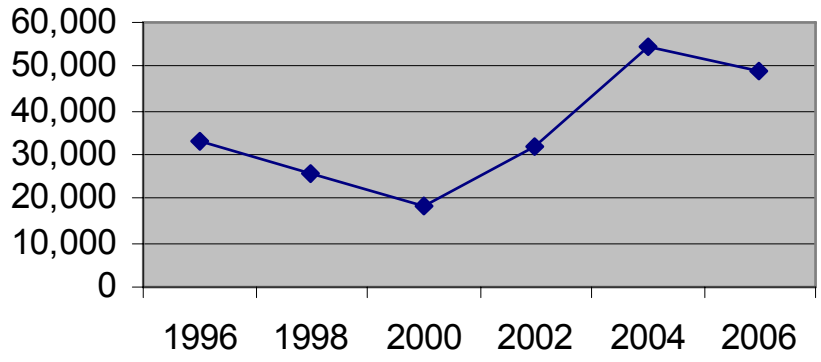
Graph 13 **Log export operations**

Washington's log exports industry continued to decline over the last 10 years but a few operations are holding on. In 1980 more than 130 log export operations shipped 2.3 billion board feet. By 2006, only 11 operations exported 541 million board feet. In the 1998-2006 period the number of operations (13c) decreased from more than 40 down to 11. The total volume (13a) dropped by a third which means the operations still in business saw their average volumes (13b) more than double.

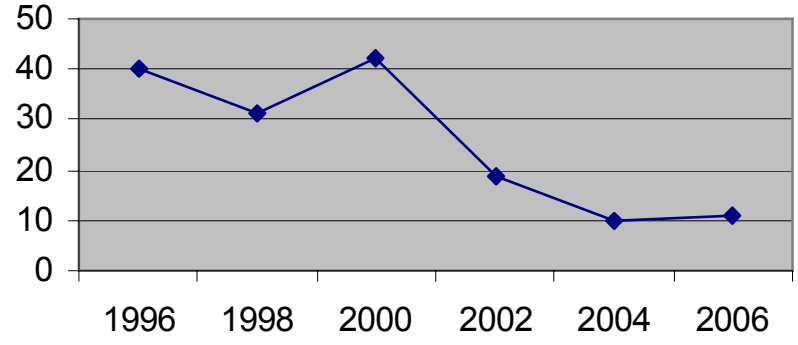
Total Volume Logs Exported
Graph 13a
(mbf, Scribner scale)



Avg Log Volume Exported
Graph 13b
(mbf, Scribner scale)



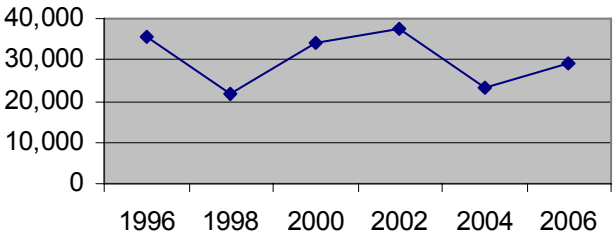
Number of Operations
Graph 13c



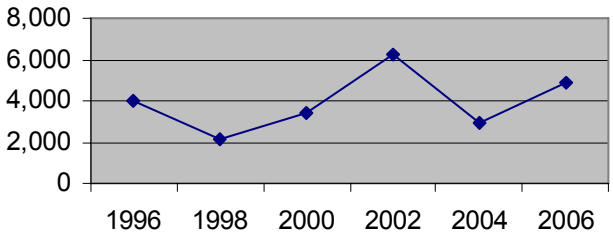
Graph 14 **Post, pole, and piling mills**

Poles, posts, and pilings are special forest products with unique characteristics that make them more valuable than saw logs. Good telephone and utility poles are tall but with narrow growth rings and minimal taper. Logs for poles are also worth more than four times what they would be worth for lumber . There were about a half dozen pole mills in 2006 (14f). Over the most recent 10-year period, total production (14a) declined but not as fast as the number of mills (14f). So, the remaining mills saw their average production per mill (14b) rise to make up the difference. For the same reason, total log consumption did not vary much while average log consumption more than doubled (between1998 and 2006). Since the milling process is minimal for post, poles, and pilings, the productivity (14e) does not vary much.

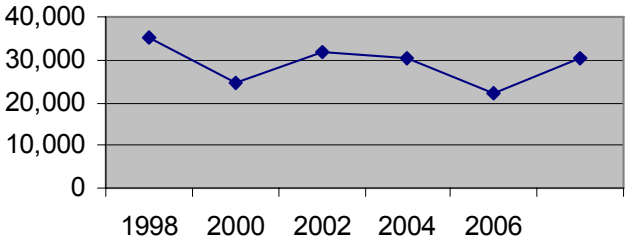
Total Production
Graph 14a
(mbf, Scribner scale)



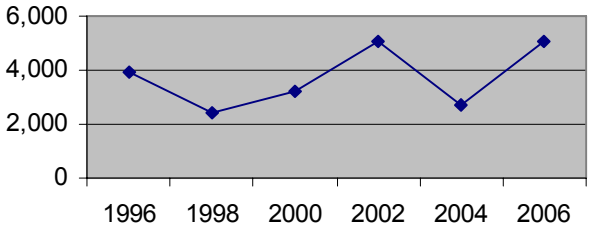
Avg Production per Mill
Graph 14b
(mbf, Scribner scale)



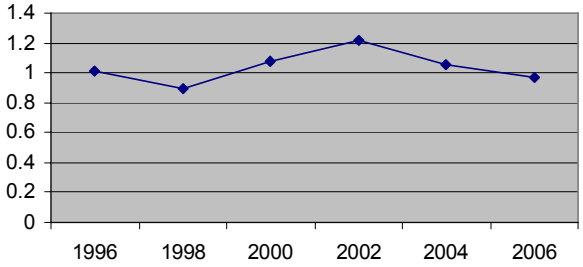
Total Log Consumption
Graph 14c
(mbf, Scribner scale)



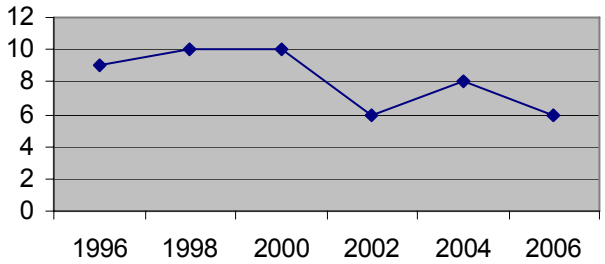
Avg Log Consumption per Mill
Graph 14d
(mbf, Scribner scale)



Productivity
Graph 14e



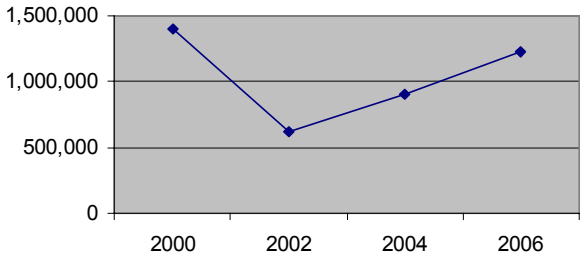
Number of Mills
Graph 14f



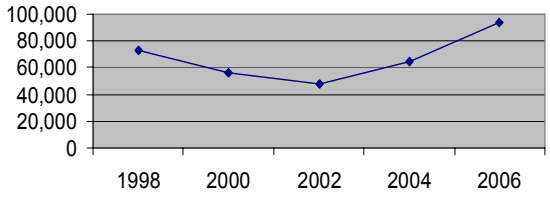
Graph 15 **Chipping mills**

Chip mills grind logs into chips which are most often sold to pulp mills. Chip mills provide pulp operations 16 percent of raw material with most of the remaining coming from sawmill residues. Sawmills historically have been the main source of chips for pulp mills. But as sawmills slowed and became more efficient (reducing the volume of mill residues), pulp mills are becoming more dependent upon chip mills. Log chipping is the only industry in the primary wood products industry that did not decline by any measure between 2002 and 2006. Just before that period, the number of mills dropped to historic lows (15e). At the same time average and total production (15a, 15b) and log consumption (15c, 15d) rose.

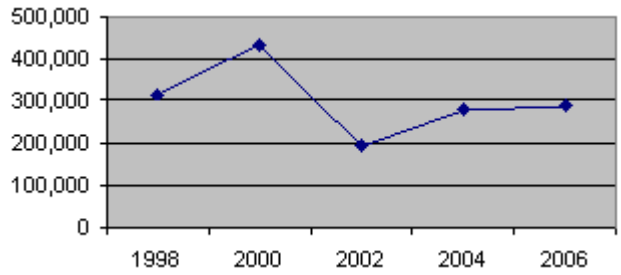
Total Production
Graph 15a
(bone dry tons)



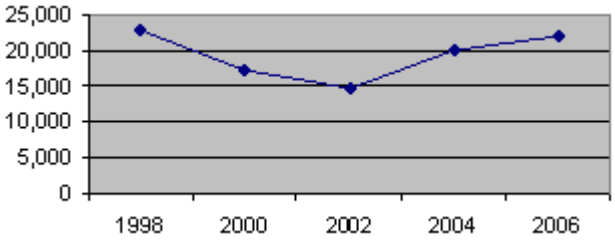
Avg Production
Graph 15b
(bone dry tons)



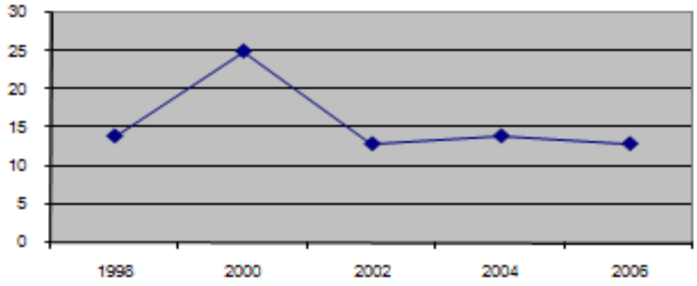
Total Log Consumption
Graph 15c
(mbf, Scribner scale)



Avg Log Consumption
Graph 15d
(mbf, Scribner scale)



Number of Mills
Graph 15e



Value estimates for Washington's 2006 primary wood products

Although the Mill Survey focuses on volumes, this table is included to provide an estimate of the total value of Washington's wood products. The price per unit estimates were provided by industry organizations and mill managers who also contributed data for the Mill Survey. In total all wood products industries produced nearly $5.5 billion in gross output.

Product	Units	Price/unit		
Export logs (mbf)	541,038	$730	$	395,000,000
Plywood (m sq. ft.)	688,303	$350	$	241,000,000
Veneer (m sq. ft.)	559,046	$180	$	101,000,000
Shake Mills				
Shakes (squares)	3,306	$156	$	1,000,000
Shingles (squares)	85,725	$200	$	17,000,000
Other cedar (squares)	45,943	$46	$	2,000,000
Roundwood chip (bone dry tons)	1,224,057	$133	$	163,000,000
Pulp Mills				
Newsprint (metric tons)	1,072,184	$617	$	662,000,000
Bleached paper (tons)	910,116	$900	$	819,000,000
Unbleached paper (tons)	992,119	$575	$	570,000,000
Other paper (tons)	655,746	$800	$	525,000,000
Market Pulp (bone dry tons)	257,570	$850	$	219,000,000
Post, Pole, and Pilings (mbf Scribner)	29,364	$1,500	$	44,000,000
Lumber (mbf lumber tally)	4,947,434	$350	$	1,732,000,000
Softwood	4,621,096			
Hardwood	326,338			
		Total	$	**5,491,000,000**

Repairing a belt drive on Frase's steam-powered sawmill in Onalaska. Photo: Jim Thode

Statewide Mills Summary

Table 1 shows the number of operations (listed by category in each column) and which counties (listed vertically in the far left column) where they operated in 2006. For instance, in Lewis County there were 14 mills—8 Sawmills, 1 Plywood mill, 1 Shake and shingle mill, 2 Post, Pole & piling mills and 2 Chipping mills.

Table 1 **Number of operations—by county and industry**

(mills and export businesses)

Economic area and county of operation	All industries	Industry						
		Lumber	Veneer and plywood	Pulp	Shake and shingle	Log export	Post, pole, & piling	Roundwood chipping
Puget Sound								
King	2	1	0	0	0	1	0	0
Pierce	8	4	1	1	0	1	1	0
Skagit	5	4	0	0	1	0	0	0
Snohomish	13	9	0	1	1	0	0	2
Whatcom	6	3	2	0	0	0	1	0
Total	**34**	**21**	**3**	**2**	**2**	**2**	**2**	**2**
Olympic Peninsula								
Clallam	14	3	1	1	3	5	0	1
Grays Harbor	19	5	3	0	9	0	0	2
Jefferson	1	1	0	0	0	0	0	0
Lewis	14	8	1	0	1	0	2	2
Mason	6	3	1	0	0	0	0	2
Pacific	2	2	0	0	0	0	0	0
Thurston	2	1	0	0	0	0	1	0
Total	**58**	**23**	**6**	**1**	**13**	**5**	**3**	**7**
Lower Columbia								
Clark	3	1	0	1	0	1	0	0
Cowlitz	12	4	0	4	0	3	0	1
Klickitat	2	1	1	0	0	0	0	0
Skamania	1	1	0	0	0	0	0	0
Wahkiakum	3	1	0	0	1	0	0	1
Total	**21**	**8**	**1**	**5**	**1**	**4**	**0**	**2**
Central Washington								
Chelan	1	1	0	0	0	0	0	0
Kittitas	1	0	0	0	0	0	0	1
Okanogan	3	3	0	0	0	0	0	0
Yakima	4	3	1	0	0	0	0	0
Total	**9**	**7**	**1**	**0**	**0**	**0**	**0**	**1**
Inland Empire								
Asotin	1	1	0	0	0	0	0	0
Ferry	1	1	0	0	0	0	0	0
Pend Orielle	1	0	0	1	0	0	0	0
Spokane	1	0	0	1	0	0	0	0
Stevens	8	7	0	0	0	0	1	0
Walla Walla	2	0	0	2	0	0	0	0
Whitman	1	0	0	0	0	0	0	1
Total	**15**	**9**	**0**	**4**	**0**	**0**	**1**	**1**
State total	**137**	**68**	**11**	**12**	**16**	**11**	**6**	**13**

Table 2 shows the tot al volume of logs and plant residues that were used by all wood product s mills in each economic area and industry . For inst ance, roundwood chipping operations in the Olympic Peninsula economic area used a total of 161,789 mbf (thousand board feet, Scribner scale) logs. The “Other” category for type of wood, includes cants (large planks or timbers cut for further sawing elsewhere) and bolts/blocks (sections of cedar logs which will be further processed to make cedar shake, shingle, and hip-and-ridge products).

Table 2 **Wood (logs and residues) consumption—by industry**

(thousand board feet, Scribner scale)

	Logs				
Economic area and industry of operation	**All roundwood**	**Sound logs**	**Utility logs**	**Other**	**Residue** (bone dry tons)
Puget Sound					
Lumber	686,484	670,034	16,450	22,000	0
Others *	142,572	141,792	780	10,025	1,327,167
Total	**829,056**	**811,826**	**17,230**	**32,025**	**1,327,167**
Olympic Peninsula					
Lumber	888,576	880,202	8,374	100	0
Veneer and plywood	147,916	119,916	28,000	0	0
Pulp	23,130	23,130	0	0	490,958
Shake and shingle	345	300	45	6,669	0
Log export	82,218	82,218	0	0	0
Post, pole & piling	16,450	16,450	0	0	0
Roundwood chipping	161,789	161,789	0	0	0
Total	**1,320,424**	**1,284,005**	**36,419**	**6,769**	**490,958**
Lower Columbia					
Lumber	367,380	361,716	5,664	0	0
Pulp	0	0	0	0	3,723,371
Log export	382,798	382,798	0	0	0
Others *	60,512	60,512	0	500	0
Total	**810,690**	**805,026**	**5,664**	**500**	**3,723,371**
Central Washington					
Lumber	189,121	188,597	524	350	0
Others *	41,630	41,630	0	0	0
Total	**230,751**	**230,227**	**524**	**350**	**0**
Inland Empire					
Lumber	270,375	233,230	37,145	0	0
Pulp	52,000	26,000	26,000	0	1,293,564
Others *	56,333	56,333	0	0	0
Total	**375,711**	**315,563**	**63,145**	**0**	**1,293,564**
State total					
Lumber	2,401,936	2,333,779	68,157	22,450	0
Veneer and plywood	233,969	205,189	28,780	0	0
Pulp	75,130	49,130	26,000	0	6,835,061
Shake and shingle	745	700	45	17,194	0
Log export	541,038	541,038	0	0	0
Roundwood chipping	286,561	286,561	0	0	0
Post, pole & piling	27,253	30,250	0	0	0
Total	**3,566,632**	**3,443,650**	**122,982**	**39,644**	**6,835,061**

* “Others” indicates industries were combined to avoid disclosing individual corporate data.

Table 3 shows the total volume of logs used by each wood products industry and the states where they were harvested. For instance, 42,022 mbf (thousand board feet, Scribner scale) of logs from British Columbia were exported to overseas markets through ports in the Olympic Peninsula Economic area.

Table 3 **Log consumption—by industry and state of origin**

(thousand board feet, Scribner scale)

Economic area and industry of operation	All sources	Origin					
		Washington	Oregon	Idaho	Montana	British Columbia	Other state
Puget Sound							
Lumber	686,484	572,722	1,110	0	0	111,550	1,101
Others *	142,572	93,000	43,928	0	0	4,464	1,180
Total	**829,056**	**665,722**	**45,038**	**0**	**0**	**116,014**	**2,281**
Olympic Peninsula							
Lumber	888,576	775,363	36,938	1,033	0	67,383	7,859
Pulp	23,130	22,667	0	0	0	463	0
Shake and shingle	345	285	0	0	0	0	60
Log export	82,218	40,196	0	0	0	42,022	0
Post, pole & piling	16,450	15,527	924	0	0	0	0
Roundwood chipping	161,789	161,789	0	0	0	0	0
Others *	147,916	138,956	0	0	0	8,244	716
Total	**1,320,424**	**1,154,783**	**37,862**	**1,033**	**0**	**118,112**	**8,635**
Lower Columbia							
Lumber	367,380	299,489	64,628	0	0	1,631	1,631
Pulp	0	0	0	0	0	0	0
Log export	382,798	210,622	172,176	0	0	0	0
Others *	60,512	57,765	2,552	0	0	195	0
Total	**810,690**	**567,876**	**239,357**	**0**	**0**	**1,826**	**1,631**
Central Washington							
Lumber	189,121	188,170	0	0	0	951	0
Others *	41,630	41,630	0	0	0	0	0
Total	**230,751**	**229,800**	**0**	**0**	**0**	**951**	**0**
Inland Empire							
Lumber	269,294	213,191	2,292	46,796	5,322	1,811	0
Pulp	52,000	20,800	0	31,200	0	0	0
Others *	56,333	8,333	10,667	37,333	0	0	0
Total	**377,627**	**242,324**	**12,959**	**115,329**	**5,322**	**1,811**	**0**
State total							
Lumber	2,401,939	2,049,898	104,969	47,829	5,322	183,327	10,591
Veneer and plywood	233,969	220,417	2,612	0	0	9,444	1,496
Pulp	75,130	43,467	0	31,200	0	463	0
Shake and shingle	745	285	0	0	0	0	460
Log export	541,038	286,140	212,876	0	0	42,022	0
Post, pole & piling	27,253	19,898	4,092	0	0	3,264	0
Roundwood chipping	286,561	238,367	10,667	37,333	0	195	0
Total	**3,566,632**	**2,858,471**	**335,216**	**116,362**	**5,322**	**238,714**	**12,547**

* "Others" indicates industries were combined to avoid disclosing individual corporate data.

Table 4 (on five pages) shows the volume of logs harvested from each county (listed in columns) for use by wood products operations in each county (listed by row in the far left column). This table shows the extent in distance that mills could economically receive logs. Usually mills prefer to purchase logs from the closest forests to reduce transportation costs. However, this is not always the case. For inst ance, (on Page 24) the t able shows that mills in Stevens County used 4,299 mbf (thousand board feet, Scribner rule) of logs from Grays Harbor County .

Table 4a **Log consumption—by county of operation and harvest**

Logs harvested in Washington (thousand board feet, Scribner scale)

		County of log harvest (Puget Sound Economic Area)						
Economic area and county of operation	**Total Washington logs**	**San Juan, Island**	**King**	**Kitsap**	**Pierce**	**Skagit**	**Snohomish**	**Whatcom**
Puget Sound								
Skagit	41,033	90	1,391	0	0	16,360	5,371	9,519
Snohomish	263,356	3,166	13,775	1,064	203	72,997	92,153	39,225
Whatcom	14,695	0	0	0	0	5,176	597	8,862
Others *	346,638	0	37,416	3,705	129,139	0	25,248	0
Total	**665,722**	**3,210**	**52,531**	**4,769**	**129,342**	**94,533**	**123,369**	**57,606**
Olympic Peninsula								
Clallam	221,526	0	3,726	1,387	3,726	895	895	0
Grays Harbor	376,086	0	224	224	224	336	336	336
Jefferson	15,000	0	0	0	0	0	0	0
Lewis	161,565	0	1,890	1,275	9,948	0	0	0
Mason	277,375	0	0	15,764	6,667	1,807	1,807	0
Others *	103,231	0	0	0	0	0	0	0
Total	**1,154,783**	**0**	**5,840**	**18,650**	**20,565**	**3,037**	**3,037**	**336**
Lower Columbia								
Cowlitz	357,652	0	0	0	0	0	0	0
Skamania	36,358	0	0	0	0	0	0	0
Wahkiakum	28,471	0	5,781	0	12,719	0	0	0
Others *	145,396	0	0	0	0	0	0	0
Total	**567,876**	**0**	**5,781**	**0**	**12,719**	**0**	**0**	**0**
Central Washington								
Okanogan	55,777	0	0	0	0	0	0	0
Yakima	132,393	0	0	0	0	0	0	0
Others *	41,630	0	425	0	0	0	0	0
Total	**229,800**	**0**	**425**	**0**	**0**	**0**	**0**	**0**
Inland Empire								
Stevens	171,229	0	0	0	0	0	0	0
Others *	69,060	0	0	0	0	0	0	0
Total	**240,289**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
State total	**2,858,471**	**3,210**	**64,578**	**23,419**	**162,626**	**97,571**	**126,406**	**57,942**

* “Others” indicates counties were combined to avoid disclosing individual corporate data.

Continued

Table 4b **Log consumption—by location of operation and county of harvest**

Logs harvested in Washington (thousand board feet, Scribner scale)

Economic area and county of operation	**County of log harvest** (Olympic Peninsula Economic Area)						
	Clallam	Grays Harbor	Jefferson	Lewis	Mason	Pacific	Thurston
Puget Sound							
Skagit	5,788	0	1,257	1,257	0	0	0
Snohomish	4,578	786	1,518	719	13,000	0	10,029
Whatcom	60	0	0	0	0	0	0
Others *	51,777	8,710	18,134	17,032	31,514	0	24,015
Total	**62,203**	**9,496**	**20,908**	**19,008**	**44,514**	**0**	**34,044**
Olympic Peninsula							
Clallam	140,145	1,297	35,453	25,331	277	1,109	7,128
Grays Harbor	33,170	205,120	27,360	2,723	14,758	82,883	8,394
Jefferson	5,700	750	8,550	0	0	0	0
Lewis	1,095	24,196	516	48,956	14,175	28,745	21,288
Mason	452	70,515	13,222	6,667	101,368	8,285	42,085
Others *	1,797	19,324	950	15,702	0	50,190	4,451
Total	**182,358**	**321,202**	**86,050**	**99,379**	**130,578**	**171,213**	**83,345**
Lower Columbia							
Cowlitz	0	0	0	87,999	0	1,152	9,310
Skamania	0	0	0	0	0	0	0
Wahkiakum	0	0	0	0	0	0	771
Others *	0	28,934	0	32,706	14,579	26,449	0
Total	**0**	**28,935**	**0**	**120,704**	**14,579**	**27,601**	**10,081**
Central Washington							
Okanogan	0	0	0	0	0	0	0
Yakima	0	0	0	0	0	0	0
Others *	0	0	0	0	0	0	0
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Inland Empire							
Stevens	0	4,299	0	0	0	0	0
Others *	0	0	0	0	0	0	0
Total	**0**	**4,299**	**0**	**0**	**0**	**0**	**0**
State Total	**244,561**	**363,933**	**106,959**	**239,091**	**189,672**	**198,815**	**127,470**

* "Others" indicates counties were combined to avoid disclosure of individual corporate data.

Continued

Table 4c **Log consumption—by location of operation and county of harvest**

Logs harvested in Washington (thousand board feet, Scribner scale)

Economic area and county of operation	County of log harvest (Lower Columbia Economic Area)				
	Clark	**Cowlitz**	**Klickitat**	**Skamania**	**Wahkiakum**
Puget Sound					
Skagit	0	0	0	0	0
Snohomish	0	0	0	0	0
Whatcom	0	0	0	0	0
Others *	0	0	0	0	0
Total	**0**	**0**	**0**	**0**	**0**
Olympic Peninsula					
Clallam	0	156	0	0	0
Grays Harbor	0	0	0	0	0
Jefferson	0	0	0	0	0
Lewis	180	9,048	0	252	0
Mason	0	452	0	0	8,285
Others *	855	570	0	0	9,394
Total	**1,035**	**10,226**	**0**	**252**	**17,679**
Lower Columbia					
Cowlitz	34,367	206,163	0	2,172	16,489
Skamania	1,818	0	18,179	16,361	0
Wahkiakum	2,576	6,440	0	184	0
Others *	0	0	35035	7691	0
Total	**38,761**	**212,603**	**53,214**	**26,408**	**16,489**
Central Washington					
Okanogan	0	0	0	0	0
Yakima	0	0	6,757	0	0
Others *	0	0	0	0	0
Total	**0**	**0**	**6,757**	**0**	**0**
Inland Empire					
Stevens	0	0	0	0	0
Others *	0	0	0	0	0
Total	**0**	**0**	**0**	**0**	**0**
State total	**39,796**	**222,829**	**59,971**	**26,660**	**34,168**

* “Others” indicates counties were combined to avoid disclosing individual corporate data.

Continued

Table 4d **Log consumption—by location of operation and county of harvest**

Logs harvested in Washington (thousand board feet, Scribner scale)

Economic area and county	**County of log harvest** (Central Washington Economic Area)					
	Chelan	**Douglas**	**Kittitas**	**Lincoln**	**Okanogan**	**Yakima**
Puget Sound						
Skagit	0	0	0	0	0	0
Snohomish	10,059	0	84	0	0	0
Whatcom	0	0	0	0	0	0
Others *	0	0	0	0	0	0
Total	**10,059**	**0**	**84**	**0**	**0**	**0**
Olympic Peninsula						
Clallam	0	0	0	0	0	0
Grays Harbor	0	0	0	0	0	0
Jefferson	0	0	0	0	0	0
Lewis	0	0	0	0	0	0
Mason	0	0	0	0	0	0
Others *	0	0	0	0	0	0
Total	**0**	**0**	**0**	**0**	**0**	**0**
Lower Columbia						
Clark	0	0	0	0	0	0
Cowlitz	0	0	0	0	0	0
Klickitat	0	0	0	0	0	0
Skamania	0	0	0	0	0	0
Wahkiakum	0	0	0	0	0	0
Total	**0**	**0**	**0**	**0**	**0**	**0**
Central Washington						
Okanogan	0	0	0	0	31,054	0
Yakima	0	0	16,945	0	0	108,691
Others *	14,677	0	6,865	0	10,850	2,613
Total	**14,677**	**0**	**23,810**	**0**	**41,904**	**111,304**
Inland Empire						
Stevens	2,510	418	2,568	2,091	11,611	1,255
Others *	0	0	0	0	0	0
Total	**2,510**	**418**	**2,568**	**2,091**	**11,611**	**1,255**
State total	**27,245**	**418**	**26,462**	**2,091**	**53,515**	**112,559**

* "Others" indicates counties were combined to avoid disclosure of individual corporate data.

Continued

Table 4e **Log consumption—by location of operation and county of harvest**

Logs harvested in Washington (thousand board feet, Scribner scale)

Economic area and county of operation	**County of log harvest** (Inland Empire Economic Area)							
	Asotin	Columbia	Ferry	Garfield	Pend Orielle	Spokane	Stevens	Whitman
Puget Sound								
Skagit	0	0	0	0	0	0	0	0
Snohomish	0	0	0	0	0	0	0	0
Whatcom	0	0	0	0	0	0	0	0
Others *	0	0	0	0	0	0	0	0
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Olympic Peninsula								
Clallam	0	0	0	0	0	0	0	0
Grays Harbor	0	0	0	0	0	0	0	0
Jefferson	0	0	0	0	0	0	0	0
Lewis	0	0	0	0	0	0	0	0
Mason	0	0	0	0	0	0	0	0
Others *	0	0	0	0	0	0	0	0
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Lower Columbia								
Clark	0	0	0	0	0	0	0	0
Cowlitz	0	0	0	0	0	0	0	0
Klickitat	0	0	0	0	0	0	0	0
Skamania	0	0	0	0	0	0	0	0
Wahkiakum	0	0	0	0	0	0	0	0
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Central Washington								
Okanogan	0	0	24,723	0	0	0	0	0
Yakima	0	0	0	0	0	0	0	0
Others *	0	0	1,550	0	1,550	1,550	1,550	0
Total	**0**	**0**	**26,273**	**0**	**1,550**	**1,550**	**1,550**	**0**
Inland Empire								
Stevens	860	0	19,252	0	39,260	10,668	79,433	0
Others *	3,586	30,195	2,530	339	14,000	7,780	10,290	0
Total	**4,447**	**30,195**	**21,782**	**339**	**53,260**	**18,448**	**86,726**	**0**
State total	**4,447**	**30,195**	**48,055**	**339**	**54,810**	**19,998**	**88,276**	**0**

* "Others" indicates counties were combined to avoid disclosure of individual corporate data.

Table 4f shows the volume of logs harvested from other st ates and processed in W ashington mills or exported through a Washington port. For instance, the top volume of out-of-state logs were sent from Oregon to Cowlitz County (214,936 mbf, see page 89). Nearly all of those logs (212,875 mbf) were exported through the Port of Longview. (See Page 89.)

Table 4f **Log consumption—by state or province of log harvest**

(thousand board feet, Scribner scale)

Economic area and county of operation	State or province of log harvest				
	Oregon	Idaho	Montana	British Columbia	Other state
Puget Sound					
Skagit	254	0	0	1,037	292
Snohomish	856	0	0	54,683	1,210
Whatcom	60	0	0	8,610	0
Others *	43,868	0	0	51,685	0
Total	**45,038**	**0**	**0**	**116,014**	**2,281**
Olympic Peninsula					
Clallam	3,466	0	0	44,751	716
Grays Harbor	7,904	0	0	26,857	480
Jefferson	0	0	0	0	0
Lewis	19,223	1,033	0	4,017	7,439
Mason	531	0	0	42,487	0
Pacific	6,362	0	0	0	0
Thurston	375	0	0	0	0
Total	**37,862**	**1,033**	**0**	**118,112**	**8,635**
Lower Columbia					
Cowlitz	214,936	0	0	0	0
Skamania	9,089	0	0	0	0
Wahkiakum	2,300	0	0	195	0
Others *	13,031	0	0	1,631	1,631
Total	**239,357**	**0**	**0**	**1,826**	**1,631**
Central Washington					
Chelan	0	0	0	0	0
Kittitas	0	0	0	0	0
Okanogan	0	0	0	951	0
Yakima	0	0	0	0	0
Total	**0**	**0**	**0**	**951**	**0**
Inland Empire					
Stevens	0	36,168	5,322	1,811	0
Others *	12,959	79,161	0	0	0
Total	**12,959**	**115,329**	**5,322**	**1,811**	**0**
State Total	**335,216**	**116,362**	**5,322**	**238,714**	**12,547**

* “Others” indicates counties were combined to avoid disclosing individual corporate data.

Table 5 offers two views of logs harvested from national forest s. It shows the volume of logs mbf (thousand board feet, Scribner scale) that were harvested from each national forest and sent to mills in each economic area. For instance, wood products operations in the Puget Sound Economic area used nearly 15 mmbf (million board feet, Scribner scale) of logs from Olympic (2,718 mbf), Mount Baker-Snoqualmie (12,143 mbf), Wenatchee (43 mbf) and Okanogan (43 mbf) national forests. Federal law prohibits the sale of logs from public forests for export to foreign markets.

Table 5-1 **Logs harvested from National Forests**

(thousand board feet, Scribner scale)

Economic area and county of operation	All National Forests	Westside National Forests		
		Olympic	Gifford Pinchot	Mount Baker/ Snoqualmie
Puget Sound	14,948	2,718	0	12,143
Olympic Peninsula	21,224	18,807	2,417	0
Lower Columbia	5,282	0	2,101	0
Central Washington	13,973	0	0	0
Inland Empire	22,377	0	0	0
State Total	**77,826**	**21,525**	**4,518**	**12,143**
Industry				
Lumber	52,595	6,226	2,982	11,375
Veneer & plywood	5,891	5,271	0	0
Shake and shingle	5,200	0	0	0
Post, pole & piling	210	210	0	0
Roundwood chipping	13,930	9,819	1,536	768
State Total	**77,826**	**21,525**	**4,518**	**12,143**

Table 5-2 **Continued**

Economic area and county of operation	Eastside National Forests				
	Wenatchee	Okanogan	Colville	Umatilla	Other
Puget Sound	43	43	0	0	0
Olympic Peninsula	0	0	0	0	0
Lower Columbia	0	0	0	0	3,181
Central Washington	12,673	1,300	0	0	0
Inland Empire	2,164	2,096	14,150	458	3,531
State Total	**14,880**	**3,440**	**14,150**	**458**	**6,712**
Industry					
Lumber	13,073	2,820	11,030	458	4,632
Veneer & plywood	0	620	0	0	0
Shake and shingle	0	0	3,120	0	2,080
Post, pole & piling	0	0	0	0	0
Roundwood chipping	1,807	0	0	0	0
State Total	**14,880**	**3,440**	**14,150**	**458**	**6,712**

Table 6 (on 3 p ages) shows the number of mills and their percent ages of log volume by economic area and landowner class. For instance, 16 sawmills in the Olympic Peninsula Economic Economic area received up to 33 percent of their logs from state-owned forests.

Table 6a **Operations—by percentage of logs from original owners**

Economic area and industry of operation	National forest				State				Bureau of Land Management			
	Percentage of log volume											
	0	1-33	34-66	67-100	0	1-33	34-66	67-100	0	1-33	34-66	67-100
Puget Sound												
Lumber	18	4	0	0	6	9	4	2	20	1	0	0
Others *	11	2	0	0	8	4	0	1	13	0	0	0
Total	**29**	**5**	**0**	**0**	**14**	**13**	**4**	**3**	**33**	**1**	**0**	**0**
Olympic Peninsula												
Lumber	16	7	0	0	5	16	2	0	23	0	0	0
Veneer & plywood	5	1	0	0	3	3	0	0	6	0	0	0
Pulp	1	0	0	0	1	0	0	0	1	0	0	0
Shake and shingle	12	0	0	1	13	0	0	0	13	0	0	0
Log export	5	0	0	0	5	0	0	0	5	0	0	0
Others *	5	5	0	0	2	5	1	2	10	0	0	0
Total	**44**	**13**	**0**	**1**	**29**	**24**	**3**	**2**	**58**	**0**	**0**	**0**
Lower Columbia												
Lumber	5	3	0	0	3	5	0	0	8	0	0	0
Pulp	5	0	0	0	5	0	0	0	5	0	0	0
Log export	4	0	0	0	4	0	0	0	4	0	0	0
Others *	4	0	0	0	2	2	0	0	4	0	0	0
Total	**18**	**3**	**0**	**0**	**14**	**7**	**0**	**0**	**21**	**0**	**0**	**0**
Central Washington												
Lumber	4	3	0	0	4	2	1	0	7	0	0	0
Others *	0	2	0	0	0	2	0	0	2	0	0	0
Total	**4**	**5**	**0**	**0**	**4**	**4**	**1**	**0**	**9**	**0**	**0**	**0**
Inland Empire												
Lumber	2	7	0	0	2	7	0	0	8	1	0	0
Pulp	3	1	0	0	3	1	0	0	4	0	0	0
Others *	2	0	0	0	1	1	0	0	2	0	0	0
Total	**7**	**8**	**0**	**0**	**6**	**9**	**0**	**0**	**14**	**1**	**0**	**0**
State total												
Lumber	42	21	0	0	19	35	7	2	61	2	0	0
Veneer & plywood	8	2	0	0	3	6	0	1	11	0	0	0
Pulp	11	1	0	0	11	1	0	0	12	0	0	0
Shake and shingle	15	0	0	1	16	0	0	0	16	0	0	0
Log export	11	0	0	0	14	0	0	0	11	0	0	0
Post, pole & piling	6	0	0	0	2	1	1	2	7	0	0	0
Roundwood chipping	6	7	0	0	3	10	0	0	13	0	0	0
Total	**102**	**34**	**0**	**1**	**67**	**57**	**8**	**5**	**135**	**2**	**0**	**0**

* “Others” indicates industries were combined to avoid disclosing individual corporate data.

Continued

Table 6b Operations—by percentage of logs from original owners

Economic area and industry of operation	Other public				Forest Industry: Own wood supply				Forest Industry: Other wood supply			
	Percentage of log volume											
	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	4	0	0	16	4	0	1	5	7	8	1
Others *	11	2	0	0	11	2	0	0	6	1	3	3
Total	**28**	**6**	**0**	**0**	**27**	**6**	**0**	**1**	**11**	**8**	**11**	**4**
Olympic Peninsula												
Lumber	16	6	0	1	17	1	2	3	4	5	7	7
Veneer & plywood	5	1	0	0	4	1	1	0	2	2	1	1
Pulp	1	0	0	0	1	0	0	0	1	0	0	0
Shake and shingle	13	0	0	0	13	0	0	0	12	1	0	0
Log export	5	0	0	0	2	2	0	1	1	0	2	2
Others *	9	1	0	0	10	0	0	0	1	2	4	3
Total	**49**	**8**	**0**	**1**	**47**	**4**	**3**	**4**	**21**	**10**	**14**	**13**
Lower Columbia												
Lumber	6	2	0	0	5	1	2	0	1	3	1	3
Pulp	5	0	0	0	5	0	0	0	5	0	0	0
Log export	4	0	0	0	2	0	0	2	0	3	0	1
Others *	2	2	0	0	2	1	1	0	1	2	0	1
Total	**17**	**4**	**0**	**0**	**14**	**2**	**3**	**2**	**7**	**8**	**1**	**5**
Central Washington												
Lumber	7	0	0	0	6	1	0	0	5	0	2	0
Others *	2	0	0	0	2	0	0	0	0	0	1	1
Total	**9**	**0**	**0**	**0**	**8**	**1**	**0**	**0**	**5**	**0**	**3**	**1**
Inland Empire												
Lumber	6	3	0	0	5	4	0	0	1	4	4	0
Pulp	4	0	0	0	4	0	0	0	3	0	1	0
Others *	2	0	0	0	2	0	0	0	1	0	0	1
Total	**12**	**3**	**0**	**0**	**11**	**4**	**0**	**0**	**5**	**4**	**5**	**1**
State total												
Lumber	52	15	0	1	47	10	2	4	16	16	22	9
Veneer & plywood	8	3	0	0	8	2	1	0	2	3	2	1
Pulp	12	0	0	0	12	0	0	0	11	0	1	0
Shake and shingle	16	0	0	0	16	0	0	0	15	1	0	0
Log export	11	0	0	0	9	5	2	3	2	6	3	8
Post, pole & piling	5	2	0	0	6	0	0	0	2	3	1	0
Roundwood chipping	12	1	0	0	12	0	1	0	1	1	5	6
Total	**115**	**21**	**0**	**1**	**107**	**17**	**6**	**7**	**50**	**30**	**34**	**24**

"Others" indicates industries were combined to avoid disclosing individual corporate data.

Continued

Table 6c Operations—by percentage of logs from original owners

Economic area and industry of operation	Native American: Percentage of log volume 0	Native American: 1-33	Native American: 34-66	Native American: 67-100	Farmer and miscellaneous private: 0	Farmer and miscellaneous private: 1-33	Farmer and miscellaneous private: 34-66	Farmer and miscellaneous private: 67-100
Puget Sound								
Lumber	18	3	0	0	6	10	3	5
Others *	10	2	0	1	6	4	0	1
Total	**28**	**5**	**0**	**1**	**12**	**13**	**3**	**6**
Olympic Peninsula								
Lumber	12	11	0	0	6	13	3	1
Veneer & plywood	5	1	0	0	4	1	1	0
Pulp	0	1	0	0	0	0	0	1
Shake and shingle	12	0	1	0	11	2	0	0
Log export	5	0	0	0	1	3	1	0
Others *	5	5	0	0	0	10	0	0
Total	**39**	**18**	**1**	**0**	**22**	**29**	**5**	**2**
Lower Columbia								
Lumber	7	1	0	0	1	5	2	0
Pulp	5	0	0	0	5	0	0	0
Log export	2	2	0	0	0	3	0	1
Others *	4	0	0	0	1	3	0	0
Total	**18**	**3**	**0**	**0**	**7**	**11**	**2**	**1**
Central Washington								
Lumber	1	3	0	3	1	5	1	0
Others *	1	1	0	0	0	2	0	0
Total	**2**	**4**	**0**	**3**	**1**	**7**	**1**	**0**
Inland Empire								
Lumber	2	6	0	1	1	2	6	0
Pulp	3	1	0	0	3	0	1	0
Others *	1	0	0	1	1	1	0	0
Total	**6**	**7**	**0**	**2**	**5**	**3**	**7**	**0**
State total								
Lumber	40	24	0	4	14	34	15	6
Veneer & plywood	9	2	0	0	4	4	1	0
Pulp	10	2	0	1	10	0	1	1
Shake and shingle	14	0	1	0	14	2	0	0
Log export	9	2	0	0	2	8	1	1
Post, pole & piling	5	0	0	1	3	3	0	0
Roundwood chipping	6	7	0	0	0	12	0	1
Total	**93**	**37**	**1**	**6**	**47**	**63**	**18**	**9**

* "Others" indicates industries were combined to avoid disclosure of individual corporate data.

Table 7 (on three p ages) shows the number of operations (mills and log export s) and their percent age of log volume by economic area where harvested. The criteria are similar to Table 6, except the numbers are sorted by type of industry (log export, lumber , etc.) For inst ance, 102 of 137 mills st atewide did not purchase logs from National Forests.

Table 7a **Operations—by industry and percentage of logs from original owners**

Economic area and industry of operation	National forest				State				Bureau of Land Management			
	Percentage of log dependency											
	0	1-33	34-66	67-100	0	1-33	34-66	67-100	0	1-33	34-66	67-100
Log export												
Lower Columbia	9	3	0	0	7	5	0	0	12	0	0	0
Olympic Peninsula	5	0	0	0	5	0	0	0	5	0	0	0
Others*	2	0	0	0	2	0	0	0	2	0	0	0
Total	**16**	**3**	**0**	**0**	**14**	**5**	**0**	**0**	**19**	**0**	**0**	**0**
Lumber												
Inland Empire	2	7	0	0	2	7	0	0	8	1	0	0
Central Washington	4	3	0	0	4	2	1	0	7	0	0	0
Puget Sound	20	4	0	0	8	10	4	2	23	1	0	0
Olympic Peninsula	16	7	0	0	5	16	2	0	23	0	0	0
Total	**42**	**21**	**0**	**0**	**19**	**35**	**7**	**2**	**61**	**2**	**0**	**0**
Post, pole & piling												
Olympic Peninsula	3	0	0	0	0	0	1	2	3	0	0	0
Others	3	0	0	0	1	1	0	1	3	0	0	0
Total	**6**	**0**	**0**	**0**	**1**	**1**	**1**	**3**	**6**	**0**	**0**	**0**
Pulp												
Inland Empire	3	1	0	0	3	1	0	0	4	0	0	0
Lower Columbia	5	0	0	0	5	0	0	0	5	0	0	0
Others*	3	0	0	0	3	0	0	0	3	0	0	0
Total	**11**	**1**	**0**	**0**	**11**	**1**	**0**	**0**	**12**	**0**	**0**	**0**
Roundwood chipping												
Olympic Peninsula	2	5	0	0	2	5	0	0	7	0	0	0
Others *	4	2	0	0	1	5	0	0	6	0	0	0
Total	**6**	**7**	**0**	**0**	**3**	**10**	**0**	**0**	**13**	**0**	**0**	**0**
Shake and shingle												
Olympic Peninsula	12	0	0	1	13	0	0	0	13	0	0	0
Others*	3	0	0	0	3	0	0	0	3	0	0	0
Total	**15**	**0**	**0**	**1**	**16**	**0**	**0**	**0**	**16**	**0**	**0**	**0**
Veneer & plywood												
Olympic Peninsula	5	1	0	0	3	3	0	0	6	0	0	0
Others*	1	1	0	0	0	2	0	0	2	0	0	0
Total	**6**	**2**	**0**	**0**	**3**	**5**	**0**	**0**	**8**	**0**	**0**	**0**
State total	**102**	**34**	**0**	**1**	**67**	**57**	**8**	**5**	**135**	**2**	**0**	**0**

* ”Others” indicates economic areas were combined to avoid disclosure of individual corporate data.

Continued

Table 7b **Operations—by percentage of logs from original owners**

Economic area and industry of operation	Other Public				Own wood supply (Percentage of log dependency)				Other wood supply			
	0	1-33	34-66	67-100	0	1-33	34-66	67-100	0	1-33	34-66	67-100
Log export												
Lower Columbia	10	2	0	0	7	1	2	2	1	6	1	4
Olympic Peninsula	5	0	0	0	2	2	0	1	1	0	2	2
Others*	2	0	0	0	0	2	0	0	0	0	0	2
Total	**17**	**2**	**0**	**0**	**9**	**5**	**2**	**3**	**2**	**6**	**3**	**8**
Lumber												
Inland Empire	6	3	0	0	5	4	0	0	1	4	4	0
Central Washington	7	0	0	0	6	1	0	0	5	0	2	0
Puget Sound	19	5	0	0	19	4	0	1	6	7	9	2
Olympic Peninsula	16	6	0	1	17	1	2	3	4	5	7	7
Total	**48**	**14**	**0**	**1**	**47**	**10**	**2**	**4**	**16**	**16**	**22**	**9**
Post, pole & piling												
Olympic Peninsula	2	1	0	0	3	0	0	0	1	2	0	0
Others*	2	1	0	0	3	0	0	0	1	1	1	0
Total	**4**	**2**	**0**	**0**	**6**	**0**	**0**	**0**	**2**	**3**	**1**	**0**
Pulp												
Inland Empire	4	0	0	0	4	0	0	0	3	0	1	0
Lower Columbia	5	0	0	0	5	0	0	0	5	0	0	0
Others*	3	0	0	0	3	0	0	0	3	0	0	0
Total	**12**	**0**	**0**	**0**	**12**	**0**	**0**	**0**	**11**	**0**	**1**	**0**
Roundwood												
Olympic Peninsula	7	0	0	0	7	0	0	0	0	0	4	3
Others *	5	0	0	0	5	0	0	0	1	0	0	1
Total	**12**	**1**	**0**	**0**	**12**	**0**	**1**	**0**	**1**	**1**	**5**	**6**
Shake and shingle												
Puget Sound	3	0	0	0	3	0	0	0	3	0	0	0
Others *	13	0	0	0	13	0	0	0	12	1	0	0
Total	**16**	**0**	**0**	**0**	**16**	**0**	**0**	**0**	**15**	**1**	**0**	**0**
Veneer & Plywood												
Olympic Peninsula	5	1	0	0	4	1	1	0	2	2	1	1
Others *	1	1	0	0	1	1	0	0	0	1	1	0
Total	**6**	**2**	**0**	**0**	**5**	**2**	**1**	**0**	**2**	**3**	**2**	**1**
State Total	**115**	**21**	**0**	**1**	**107**	**17**	**6**	**7**	**49**	**30**	**34**	**24**

* “Others” indicates economic areas were combined to avoid disclosing individual corporate data.

Continued

Table 7c **Operations—by percentage of logs from original owners**

Economic area and industry of operation	Native American				Farmer and miscellaneous private			
	Percentage of log dependency							
	0	1-33	34-66	67-100	0	1-33	34-66	67-100
Log export								
Lower Columbia	9	3	0	0	1	8	2	1
Olympic Peninsula	5	0	0	0	1	3	1	0
Others *	2	0	0	0	0	2	0	0
Total	**16**	**3**	**0**	**0**	**2**	**13**	**3**	**1**
Lumber								
Inland Empire	2	6	0	1	1	2	6	0
Central Washington	1	3	0	3	1	5	1	0
Olympic Peninsula	12	11	0	0	6	13	3	1
Puget Sound	21	3	0	0	6	10	3	5
Total	**36**	**23**	**0**	**4**	**14**	**30**	**13**	**6**
Post, pole & piling								
Olympic Peninsula	3	0	0	0	0	3	0	0
Others	2	0	0	1	3	0	0	0
Total	**5**	**0**	**0**	**1**	**3**	**3**	**0**	**0**
Pulp								
Inland Empire	3	1	0	0	3	0	1	0
Puget Sound	2	0	0	0	2	0	0	0
Others *	5	1	0	0	5	0	0	1
Total	**10**	**2**	**0**	**0**	**10**	**0**	**1**	**1**
Roundwood								
Olympic Peninsula	2	5	0	0	0	7	0	0
Others *	4	2	0	0	0	5	0	1
Total	**6**	**7**	**0**	**0**	**0**	**12**	**0**	**1**
Shake and shingle								
Olympic Peninsula	12	0	1	0	11	2	0	0
Others *	2	0	0	1	3	0	0	0
Total	**14**	**0**	**1**	**1**	**14**	**2**	**0**	**0**
Veneer & plywood								
Olympic Peninsula	5	1	0	0	4	1	1	0
Others *	1	1	0	0	0	2	0	0
Total	**6**	**2**	**0**	**0**	**4**	**3**	**1**	**0**
State total	**93**	**37**	**1**	**6**	**47**	**63**	**18**	**9**

* "Others" indicates economic areas were combined to avoid disclosure of individual corporate data.

Table 8 (on two p ages) shows the tot al volume of logs that were used by each wood product s industry from each ownership category. For, instance, the sawmills in the Puget Sound Economic Area used 189.4 mmbf of logs (million board feet, Scribner scale) from state-owned forests in 2006.

Table 8a **Log consumption—by industry and original log owners**

(thousand board feet, Scribner scale)

Economic area and industry of operation	All Owners	State	National Forest	Bureau of Land Management	Other public
Puget Sound					
Lumber	686,484	189,372	11,462	300	15,041
Veneer & plywood	39,100	7,800	1,950	0	3,900
Others *	103,473	6,401	1,536	0	1,920
Total	**829,056**	**203,573**	**14,948**	**300**	**20,861**
Olympic Peninsula					
Lumber	888,576	96,806	7,106	0	26,455
Veneer & plywood	147,916	6,034	3,321	0	332
Pulp	23,130	0	0	0	0
Shake and shingle	345	0	210	0	0
Log export	82,218	0	0	0	0
Post, pole & piling	16,450	10,817	0	0	480
Roundwood chipping	161,789	19,253	10,587	0	0
Total	**1,320,424**	**132,910**	**21,224**	**0**	**27,267**
Lower Columbia					
Lumber	367,380	30,666	5,282	0	11,882
Pulp	0	0	0	0	0
Log export	382,798	0	0	0	0
Others *	60,512	5,700	0	0	1,471
Total	**810,690**	**36,366**	**5,282**	**0**	**13,353**
Central Washington					
Lumber	189,121	3,006	11,546	0	0
Others *	41,630	8,379	2,427	0	0
Total	**230,751**	**11,385**	**13,973**	**0**	**0**
Inland Empire					
Lumber	270,375	30,866	16,740	680	1,841
Pulp	52,000	5,200	5,200	0	0
Others *	53,336	8,000	0	0	0
Total	**375,711**	**44,066**	**21,940**	**680**	**1,841**
State total					
Lumber	2,401,936	350,716	52,136	980	55,219
Veneer & plywood	233,969	25,085	5,891	0	5,508
Pulp	75,130	5,200	5,200	0	0
Shake and shingle	745	0	210	0	0
Log export	541,038	0	0	0	0
Post, pole & piling	27,253	14,657	0	0	2,400
Roundwood chipping	286,561	32,642	13,930	0	195
Total	**3,566,632**	**428,300**	**77,367**	**980**	**63,322**

* “Others” indicates economic areas were combined to avoid disclosure of individual corporate data.

Continued

Table 8b Log consumption—by industry and original log owners

(thousand board feet, Scribner scale)

Economic area and industry of operation	Forest Industry: Own wood supply	Forest Industry: Other wood supply	Native American	Farmer and miscellaneous private
Puget Sound				
Lumber	155,946	191,879	912	121,572
Veneer & plywood	0	19,600	0	5,850
Others *	7,703	72,258	1,971	11,684
Total	**163,649**	**283,737**	**2,883**	**139,106**
Olympic Peninsula				
Lumber	273,713	392,955	22,245	69,295
Veneer & plywood	56,163	71,990	2,800	7,275
Pulp	0	0	1,157	21,974
Shake and shingle	0	9	27	99
Log export	21,267	53,484	0	7,468
Post, pole & piling	0	3,564	0	1,590
Roundwood chipping	0	107,637	7,933	16,379
Total	**351,143**	**629,639**	**34,162**	**124,079**
Lower Columbia				
Lumber	115,316	155,640	1,631	46,964
Pulp	0	0	0	0
Log export	267,790	53,334	9,148	52,527
Others *	21,415	20,989	0	10,937
Total	**404,521**	**229,963**	**10,779**	**110,427**
Central Washington				
Lumber	10,230	4,402	141,282	18,656
Others *	0	28,123	930	1,772
Total	**10,230**	**32,524**	**142,212**	**20,428**
Inland Empire				
Lumber	24,003	74,379	17,428	104,437
Pulp	0	18,200	5,200	18,200
Others *	0	40,000	3	5,333
Total	**24,003**	**132,579**	**22,631**	**127,970**
State total				
Lumber	579,208	819,254	183,498	360,924
Veneer & plywood	61,268	115,729	3,730	16,758
Pulp	0	18,200	6,357	40,174
Shake and shingle	0	9	427	99
Log export	296,760	167,635	9,148	67,495
Post, pole & piling	0	8,604	3	1,590
Roundwood chipping	16,310	179,010	9,504	34,970
Total	**953,546**	**1,308,441**	**212,666**	**522,010**

* “Others” indicates industry areas were combined to avoid disclosure of individual corporate data.

Table 9 (on two p ages) shows the volume of logs (sorted by species) that were used by each wood product s industry. For, instance, the sawmills in the Inland Empire Economic Area used 92.4 mmbf of Ponderosa pine logs (Scribner scale) in 2006.

Table 9a **Log consumption—by species**

(thousand board feet, Scribner scale)

Economic area and industry of operation	All species	Douglas-fir	Hemlock	True firs	Spruce	Ponderosa pine
Puget Sound						
Lumber	686,484	320,888	239,557	32,854	2,134	2,100
Veneer & plywood	39,100	19,580	15,610	1,950	0	0
Others *	103,472	57,160	24,000	12,008	3,534	0
Total	**829,056**	**397,628**	**279,167**	**46,812**	**5,668**	**2,100**
Olympic Peninsula						
Lumber	888,576	243,913	413,781	6,750	24,950	0
Veneer & plywood	147,916	86,752	49,433	0	3,500	0
Pulp	23,130	3,470	19,661	0	0	0
Shake and shingle	345	0	0	0	0	0
Log export	82,218	80,978	655	0	585	0
Post, pole & piling	16,450	16,321	0	0	0	0
Roundwood chipping	161,789	75,161	58,154	1,168	307	0
Total	**1,320,424**	**506,595**	**541,683**	**7,918**	**29,342**	**0**
Lower Columbia						
Lumber	367,380	254,027	44,852	14,998	1,150	5,454
Pulp	0	0	0	0	0	0
Log export	382,798	382,798	0	0	0	0
Others *	60,512	33,572	7,202	7,338	195	957
Total	**810,690**	**670,396**	**52,055**	**22,336**	**1,345**	**6,411**
Central Washington						
Lumber	189,121	48,640	12,516	34,682	3,813	80,060
Others *	41,630	24,358	1,063	7,352	0	7,795
Total	**230,751**	**72,998**	**13,579**	**42,034**	**3,813**	**87,855**
Inland Empire						
Lumber	270,375	96,450	11,059	21,141	4,483	92,471
Pulp	52,000	0	15,600	11,960	5,200	0
Others *	53,336	0	0	42,666	0	8,000
Total	**375,711**	**96,450**	**26,659**	**75,767**	**9,683**	**100,471**
State total						
Lumber	2,401,936	963,918	721,765	110,424	36,529	180,084
Veneer & plywood	233,969	135,690	65,043	12,388	3,500	7,157
Pulp	75,130	3,470	35,261	11,960	5,200	0
Shake and shingle	745	0	0	0	0	0
Log export	541,038	517,056	12,463	7,400	4,119	0
Post, pole & piling	30,250	17,641	4,512	4,608	0	0
Roundwood chipping	286,561	106,293	74,099	48,086	501	9,594
Total	**3,566.632**	**1,744,066**	**913,143**	**194,867**	**49,850**	**196,836**

* “Others” indicates industries were combined to avoid disclosure of individual corporate data.

Continued

Table 9b **Log consumption—by species**

(thousand board feet, Scribner scale)

Economic area and industry of operation	Lodgepole pine	Western redcedar	Other softwoods	Red alder	Other hardwoods
Puget Sound					
Lumber	3,150	31,038	88	46,169	8,505
Veneer & plywood	780	0	10	0	1,170
Others *	0	760	0	5,562	449
Total	**3,930**	**31,798**	**98**	**51,731**	**10,124**
Olympic Peninsula					
Lumber	0	77,674	0	117,593	3,915
Veneer & plywood	0	954	0	0	7,276
Pulp	0	0	0	0	0
Shake and shingle	0	345	0	0	0
Log export	0	0	0	0	0
Post, pole & piling	0	130	0	0	0
Roundwood chipping	0	1,667	0	23,667	1,667
Total	**0**	**80,769**	**0**	**141,259**	**12,858**
Lower Columbia					
Lumber	0	8,415	85	25,344	13,056
Pulp	0	0	0	0	0
Log export	0	0	0	0	0
Others *	0	389	195	4,958	5,706
Total	**0**	**8,804**	**280**	**30,302**	**18,762**
Central Washington					
Lumber	9,180	0	231	0	0
Others *	1,063	0	0	0	0
Total	**10,243**	**0**	**231**	**0**	**0**
Inland Empire					
Lumber	24,593	20,179	0	0	0
Pulp	19,240	0	0	0	0
Others *	2,671	0	0	0	0
Total	**46,502**	**20,179**	**0**	**0**	**0**
State total					
Lumber	36,922	137,306	405	189,106	25,476
Veneer & plywood	780	954	10	0	8,446
Pulp	19,240	0	0	0	0
Shake and shingle	0	745	0	0	0
Log export	0	0	0	0	0
Post, pole & piling	3,000	490	0	0	0
Roundwood chipping	3,730	2,056	195	34,186	7,821
Total	**60,675**	**141,551**	**609**	**223,292**	**41,743**

* "Others" indicates industries were combined to avoid disclosure of individual corporate data.

Table 10 shows the tot al volume of wood and bark residues that were produced in the Lumber , Veneer & Plywood & Shake and shingle industries. Pulp, Log Export and Post, Pole & piling industries do not produce marketable volumes of residues (secondary leftover material). In the chipping industry chips are the end product, not a "residue." The table also shows the volumes of residues used for each purpose. **Board:** Oriented strand board (sheathing panels), particle board. **Pulp:** paper products. **Fuel:** mill site boilers for the manufacturing process (pulp mills) or drying wood product s. **Other:** garden mulch, barn shavings. For , instance, the mills in the Olympic Peninsula Economic Area produced more than 2.6 million dry tons of wood residues in 2006 and sold more than 1 million tons to pulp mills.

Table 10-1 **Wood and bark residues—production and use**

(tons, dry weight)

Economic area and industry	All residues	All wood	Total used	Wood Residue Used: Pulp	Board	Fuel	Other	Unused
Puget Sound	1,681,054	1,311,542	1,311,542	807,564	167,423	66,656	269,899	0
Olympic Peninsula	2,648,215	2,058,833	2,057,589	1,026,691	113,210	793,602	124,086	1,244
Lower Columbia	799,461	572,355	572,355	264,489	2,628	127,253	177,985	0
Central Washington	423,737	344,232	344,232	228,316	44,064	12,911	58,941	0
Inland Empire	485,508	361,981	361,981	178,049	87,359	91,128	5,445	0
State total								
Lumber	5,271,870	3,994,257	3,994,248	2,226,695	388,318	854,511	524,724	9
Veneer & plywood	632,301	549,448	549,448	274,855	26,366	198,837	49,390	0
Shake and shingle	133,804	105,238	104,003	3,559	0	38,202	62,242	1,235
Total	**6,037,975**	**4,648,943**	**4,647,699**	**2,505,109**	**414,684**	**1,091,550**	**636,356**	**1,244**

Table 10-2

Economic area and industry of operation	All Bark	Total Used	Bark Residue Used: Pulp	Board	Fuel	Other	Unused
Puget Sound	369,512	369,512	0	0	67,872	301,640	0
Olympic Peninsula	589,382	589,382	1,368	0	379,343	208,671	0
Lower Columbia	227,106	227,106	18,213	0	160,946	47,947	0
Central Washington	79,505	79,505	0	0	64,306	15,199	0
Inland Empire	123,527	123,527	0	0	116,351	7,176	0
State total							
Lumber	1,277,613	1,277,613	18,553	0	726,853	532,207	0
Veneer & plywood	82,853	82,853	0	0	54,265	28,588	0
Shake and shingle	28,566	28,566	1,028	0	7,700	19,838	0
Total	**1,389,032**	**1,389,032**	**19,581**	**0**	**788,818**	**580,633**	**0**

Table 11 tallies the total number of mills by industry that use hardwoods (red alder, etc.)

Table 11 **Mills consuming hardwoods**

Lumber	12
Veneer & Plywood	2
Chipping	9
State total	23

Table 12 shows the tot al volume by diameter of logs that were used by each wood product s industry. This can indicate which log sizes are most economically viable. For instance, most logs used by the pulp industry (71per-cent or 53,165 mbf out of 75,130 mbf) were less than 5 inches in diameter .

Table 12 **Log consumption—by diameter in inches**

(thousand board feet, Scribner

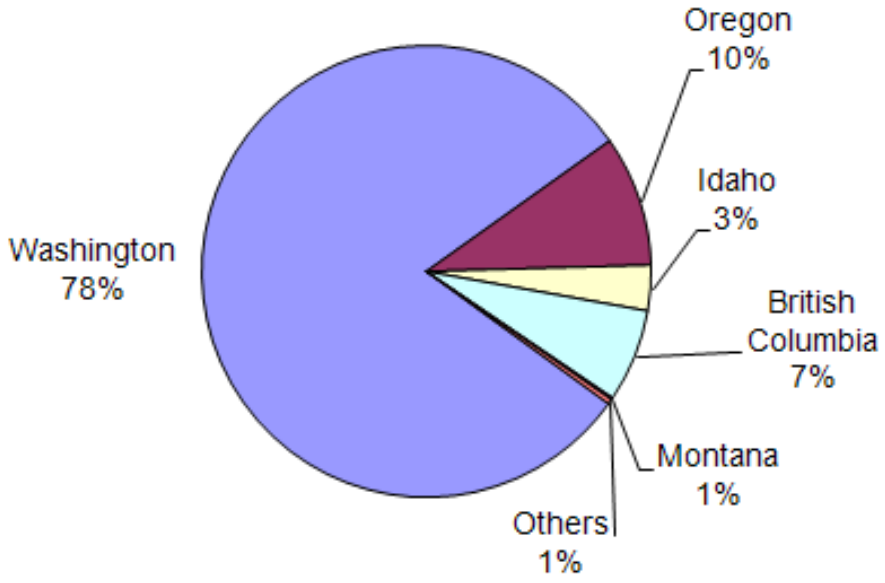
Economic area and industry of operation	Total	Log diameter in inches: less than 5	5 to 10	10 to 20	21 or more
Puget Sound					
Lumber	686,484	548	346,126	260,332	79,478
Veneer & plywood	55,350	4,116	20,889	19,866	10,479
Others *	87,222	0	24,224	49,917	13,081
Total	**829,056**	**4,664**	**391,239**	**330,115**	**103,038**
Olympic Peninsula					
Lumber	888,576	10,432	527,205	337,022	13,916
Veneer & plywood	147,916	0	105,469	35,547	6,899
Pulp	23,130	11,565	11,565	0	0
Shake and shingle	345	0	45	45	255
Log export	82,218	0	18,773	63,403	42
Post, pole & piling	16,450	0	13,455	2,995	0
Roundwood chipping	161,789	57,689	38,276	42,379	23,445
Total	**1,320,424**	**79,686**	**714,789**	**481,392**	**44,557**
Lower Columbia					
Lumber	367,380	7,640	123,251	175,954	60,535
Pulp	0	0	0	0	0
Log export	382,798	0	75,312	286,682	20,804
Others *	60,512	31,602	12,373	13,054	3,483
Total	**810,690**	**39,242**	**210,936**	**475,690**	**84,821**
Central Washington					
Lumber	189,121	5,080	62,403	78,175	43,463
Others *	41,630	3,189	18,379	17,936	2,126
Total	**230,751**	**8,269**	**80,782**	**96,111**	**45,589**
Inland Empire					
Lumber	270,375	44,626	141,397	72,199	12,153
Pulp	52,000	41,600	2,600	2,600	5,200
Others *	53,336	2,670	5,333	32,000	13,333
Total	**375,711**	**88,896**	**149,330**	**106,799**	**30,686**
State total					
Lumber	2,401936	68,326	1,200,382	923,682	209,545
Veneer & plywood	233,969	0	142,641	76,579	14,749
Pulp	75,130	53,165	14,165	2,600	5,200
Shake and shingle	745	0	45	45	655
Log export	541,038	0	110,029	397,482	33,527
Post, pole & piling	27,253	3	21,735	5,515	0
Roundwood chipping	286,561	99,263	58,079	84,203	45,016
Total	**3,566,632**	**220,757**	**1,547,076**	**1,490,107**	**308,692**

* “Others” indicates industries were combined to avoid disclosing individual corporate data.

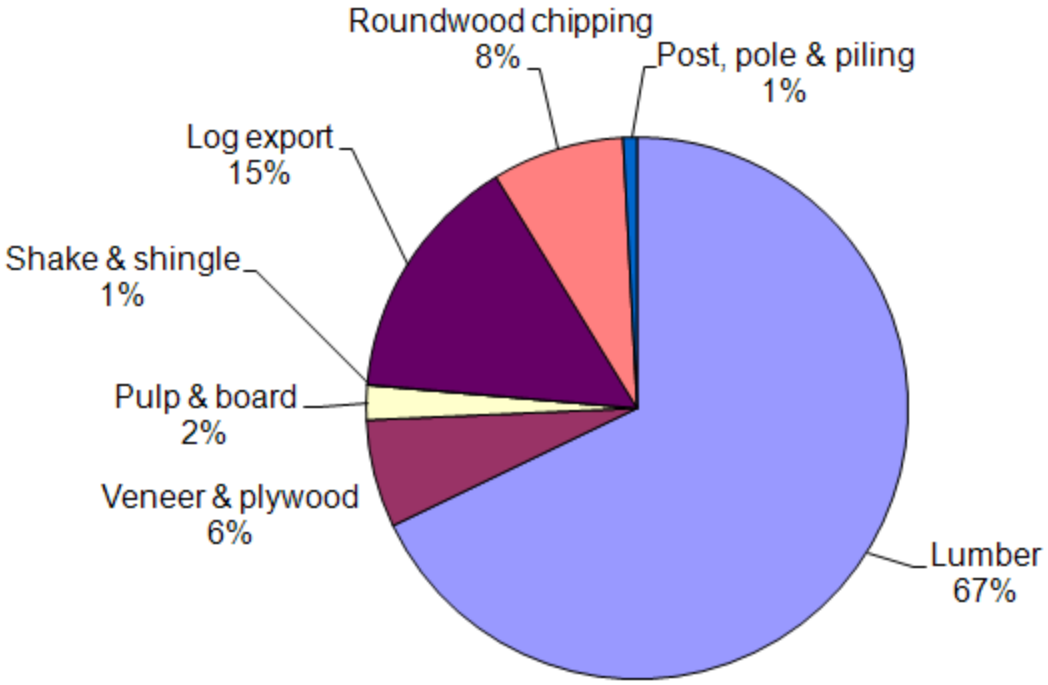
6.04 million

bone dry tons (BDT) of bark and wood residues created by Washington mills in 2006. Only 1,244 BDT were unused.

Graph 16 State or province origin of logs consumed in Washington



Graph 17 Volume of logs consumed by wood products industries
(Does not include non-log raw material, such as residues for pulp mills or cedar blocks for shake and shingle mills.)



Sawmills

Table 13 shows the number of mills sorted by mill-size categories (AAA, AA, A, B, C, D) were operating in 2006 in each county and economic area. For example, 40 sawmills out of W ashington's 68 are in the three largest categories—AAA=5, AA=17, A=18.

Table 13 **Number of sawmills—by mill size***

Economic area and county of operation	All Classes	Mill-size class D	C	B	A	AA	AAA
Puget Sound							
King	1	1	0	0	0	0	0
Pierce	4	0	0	0	2	1	1
Skagit	4	0	2	1	1	0	0
Snohomish	9	2	1	1	2	3	0
Whatcom	3	1	1	0	1	0	0
Total	**21**	**4**	**4**	**2**	**6**	**4**	**1**
Olympic Peninsula							
Clallam	3	0	1	0	1	1	0
Grays Harbor	5	0	1	0	2	1	1
Jefferson	1	0	0	0	1	0	0
Lewis	8	2	1	1	3	1	0
Mason	3	0	1	0	0	1	1
Pacific	2	0	1	0	0	1	0
Thurston	1	1	0	0	0	0	0
Total	**23**	**3**	**5**	**1**	**7**	**5**	**2**
Lower Columbia							
Clark	1	0	0	0	0	1	0
Cowlitz	4	0	0	0	0	3	1
Klickitat	1	0	0	0	1	0	0
Skamania	1	0	0	0	0	1	0
Wahkiakum	1	0	0	1	0	0	0
Total	**8**	**0**	**0**	**1**	**1**	**5**	**1**
Central Washington							
Chelan	1	0	0	0	1	0	0
Okanogan	3	0	2	0	1	0	0
Yakima	3	0	0	1	1	1	0
Total	**7**	**0**	**2**	**1**	**3**	**1**	**0**
Inland Empire							
Asotin	1	0	0	0	1	0	0
Ferry	1	0	1	0	0	0	0
Stevens	7	1	2	1	0	2	1
Total	**9**	**1**	**3**	**1**	**1**	**2**	**1**
State total	**68**	**8**	**14**	**6**	**18**	**17**	**5**

* This table uses 6 mill class sizes. All other tables use 4 mill class sizes. Mill size classes indicate the capacity to process logs (in thousand board feet, Scribner scale) during an 8-hour shift.

Class AAA: More than 500 mbf
Class AA:250-500 mbf
Class A: 120-250 mbf
Class B: 80-120 mbf
Class C: 40-80 mbf
Class D: less than 40 mbf

Table 14 shows the total 8-hour capacity (in lumber tally) of sawmills sorted by county and economic area. For example, the total 8-hour capacity of all 68 sawmills in Washington is 13.5 million board feet, enough lumber to build more than 300 homes.

Table 14 **Sawmills' capacity—by 8-hour single shift and mill size***

(thousand board feet, Scribner scale) (See note below)

Economic area and county of operation	Total Capacity	Mill-size class* D	C	B	A	AA	AAA
Puget Sound							
King	5	5	0	0	0	0	0
Pierce	1336	0	0	0	446	290	600
Skagit	333	0	110	85	138	0	0
Snohomish	1411	35	50	90	200	1,036	0
Whatcom	242	2	80	0	160	0	0
Total	**3,327**	**42**	**240**	**175**	**944**	**1,326**	**600**
Olympic Peninsula							
Clallam	598	0	78	0	220	300	0
Grays Harbor	1665	0	75	0	390	400	800
Jefferson	125	0	0	0	125	0	0
Lewis	939	39	65	110	470	255	0
Mason	1000	0	70	0	0	310	620
Pacific	480	0	80	0	0	400	0
Thurston	1	1	0	0	0	0	0
Total	**4,808**	**40**	**368**	**110**	**1,205**	**1,665**	**1,420**
Lower Columbia							
Clark	365	0	0	0	0	365	0
Cowlitz	1430	0	0	0	0	790	640
Klickitat	240	0	0	0	240	0	0
Skamania	360	0	0	0	0	360	0
Wahkiakum	96	0	0	96	0	0	0
Total	**2,491**	**0**	**0**	**96**	**240**	**1,515**	**640**
Central Washington							
Chelan	250	0	0	0	250	0	0
Okanogan	280	0	120	0	160	0	0
Yakima	670	0	0	120	250	300	0
Total	**1,200**	**0**	**120**	**120**	**660**	**300**	**0**
Inland Empire							
Asotin	195	0	0	0	195	0	0
Ferry	80	0	80	0	0	0	0
Stevens	1,408	2	149	97	0	640	520
Total	**1,683**	**2**	**229**	**97**	**195**	**640**	**520**
State total	**13,509**	**84**	**957**	**598**	**3,244**	**5,446**	**3,180**

* This table uses 6 mill class sizes. All other tables use 4 mill class sizes. Mill size classes indicate the capacity to process logs (in thousand board feet, Scribner scale) during an 8-hour shift.

Class AAA: More than 500 mbf
Class AA:250-500 mbf
Class A: 120-250 mbf
Class B: 80-120 mbf
Class C: 40-80 mbf
Class D: less than 40 mbf

Table 15 shows the number of mills in four size categories (A, B, C, D) which have special equipment to add value to lumber products. For instance, 48 out of Washington's total 68 sawmills are equipped with planers. Planers are power machines that remove the rough or excess surface from a board.

Table 15 Number of sawmills—by selected equipment and mill size *

Economic area and mill-class size*	Total Mills	Barker	Chipper	Planer	Burner	Kiln
Puget Sound						
D	4	2	3	2	1	1
C	3	3	3	1	0	0
B	3	3	2	3	1	2
A	11	10	10	9	0	8
Total	**21**	**18**	**18**	**15**	**2**	**11**
Olympic Peninsula						
D	3	0	2	1	0	1
C	4	4	4	3	1	2
B	2	2	1	2	0	2
A	14	14	13	9	2	7
Total	**23**	**20**	**20**	**15**	**3**	**12**
Lower Columbia						
B	1	1	1	1	0	0
A	7	7	6	4	0	5
Total	**8**	**8**	**7**	**5**	**0**	**5**
Central Washington						
C	2	2	1	1	0	1
A	5	5	4	5	2	5
Total	**7**	**7**	**5**	**6**	**2**	**6**
Inland Empire						
D	3	0	2	0	2	2
C	1	2	1	2	0	1
B	1	2	1	2	0	1
A	4	4	4	3	0	2
Total	**9**	**8**	**8**	**7**	**2**	**6**
State total						
D	10	2	7	3	3	4
C	10	11	9	7	1	4
B	7	8	5	8	1	5
A	41	40	36	30	4	27
Total	**68**	**61**	**57**	**48**	**9**	**40**

* Mill size classes indicate the capacity to process logs (in thousand board feet, Scribner scale) during an 8-hour shift.

Class A: More than 120 mbf
Class B: 80-120 mbf
Class C: 40-80 mbf
Class D: less than 40 mbf

Table 16 totals by county the mills which possess special equipment to add value to lumber products. For instance, about 57 percent (39 out of 68) of mills include a kiln which is used to dry green (moist) lumber.

Table 16 Number of sawmills—by selected equipment and counties

Economic area and county of mill	All mills	Barker	Chipper	Planer	Burner	Kiln
Puget Sound						
King	1	0	0	1	0	0
Pierce	4	4	4	4	0	3
Skagit	4	4	4	2	1	2
Snohomish	9	8	8	6	1	5
Whatcom	3	1	2	2	0	1
Total	**21**	**18**	**18**	**14**	**2**	**11**
Olympic Peninsula						
Clallam	3	3	3	3	0	3
Grays Harbor	5	5	5	3	1	2
Jefferson	1	1	1	1	0	1
Lewis	8	6	6	4	0	2
Mason	3	3	3	2	1	2
Pacific	2	2	2	2	1	2
Thurston	1	0	0	0	0	0
Total	**23**	**20**	**20**	**15**	**3**	**12**
Lower Columbia						
Clark	1	1	1	1	0	1
Cowlitz	4	4	4	1	0	2
Klickitat	1	1	1	1	0	1
Skamania	1	1	0	1	0	1
Wahkiakum	1	1	1	1	0	0
Total	**8**	**8**	**7**	**5**	**0**	**5**
Central Washington						
Chelan	1	1	1	1	1	1
Okanogan	3	3	2	2	1	2
Yakima	3	3	2	3	0	3
Total	**7**	**7**	**5**	**6**	**2**	**6**
Inland Empire						
Asotin	1	1	1	1	0	0
Ferry	1	1	1	1	0	1
Stevens	7	6	6	5	2	5
Total	**9**	**8**	**8**	**7**	**2**	**6**
State total	**68**	**61**	**58**	**48**	**9**	**40**

Table 17 shows the number of mills by size and type of headrig (lumber cutting equipment). For inst ance, in Washington the most common type of saws are the 2-foot, 4-foot and 6-foot band saws which are inst alled in the largest size (Class A) sawmills.

Table 17 **Number of sawmills—by size* and headrig**

Economic area and mill-class size*	Circular Saw				Bandsaw			Gang Saw	Chipping Saw	Scragg
	2ft	4ft	6ft	8ft	2ft	4ft	6ft	2ft	2ft	2ft
Puget Sound										
D	0	2	0	0	0	2	0	0	0	0
C	0	0	0	0	1	0	2	0	0	0
B	0	0	0	0	0	1	1	0	0	0
A	0	0	0	0	1	5	4	2	2	0
Total	**0**	**2**	**0**	**0**	**2**	**8**	**7**	**2**	**2**	**0**
Olympic Peninsula										
D	0	1	0	0	1	1	1	0	0	0
C	0	0	0	0	2	1	1	0	0	0
B	0	0	0	0	0	2	0	1	0	0
A	0	1	0	0	4	4	3	2	2	2
Total	**0**	**2**	**0**	**0**	**7**	**8**	**5**	**3**	**2**	**2**
Lower Columbia										
B	0	0	0	0	0	0	1	0	0	0
A	1	0	1	0	2	2	2	1	0	0
Total	**1**	**0**	**1**	**0**	**2**	**2**	**3**	**1**	**0**	**0**
Central Washington										
C	0	0	0	0	0	0	1	0	1	0
A	0	0	1	0	1	2	1	0	1	0
Total	**0**	**0**	**1**	**0**	**1**	**2**	**2**	**0**	**2**	**0**
Inland Empire										
D	1	0	0	0	0	1	0	0	1	0
C	0	0	0	0	0	0	1	0	0	0
B	0	0	0	0	0	1	0	0	0	0
A	1	0	0	0	1	2	0	0	0	0
Total	**2**	**0**	**0**	**0**	**1**	**4**	**1**	**0**	**1**	**0**
State total										
D	1	3	0	0	1	4	1	0	1	0
C	0	0	0	0	3	1	5	0	1	0
B	0	0	0	0	0	4	2	1	0	0
A	2	1	2	0	9	15	10	5	5	2
Total	**3**	**4**	**2**	**0**	**13**	**24**	**18**	**6**	**7**	**2**

* Mill size classes indicate the capacity to process logs (in thousand board feet, Scribner scale) during an 8-hour shif t.

Class A: More than 120 mbf
Class B: 80-120 mbf
Class C: 40-80 mbf
Class D: less than 40 mbf

Table 18 lists the average operating days, single shift capacity, average log consumption and average lumber production by mill size and economic area. For instance, the average log consumption per economic area around the state was between 24,193 mbf and 45,923 mbf consumption. The state's overall average was about 27 million board feet.

Table 18 **Sawmills' average operating days, capacities, consumption and production**

Economic area and mill size *	Avg annual operating days	Avg single shift capacity	Avg log consumption	Avg lumber tally production
Puget Sound				
C and D	217	29	3,713	5,716
B	253	85	12,131	25,059
A	202	279	56,736	114,034
Avg	**224**	**131**	**24,193**	**48,270**
Olympic Peninsula				
D	114	13	1,090	2,163
B and C	225	80	17,273	30,121
A	248	306	55,834	123,953
Avg	**195**	**133**	**24,732**	**52,079**
Lower Columbia				
B and A	255	374	45,923	107,667
Avg	**255**	**374**	**45,923**	**107,667**
Central Washington				
C and A	201	171	27,017	45,022
Avg	**201**	**171**	**27,017**	**45,022**
Inland Empire				
D and B	211	60	9,465	14,783
C	166	75	14,627	18,293
A	253	339	53,181	99,472
Avg	**210**	**158**	**25,758**	**44,183**
State Avg	**213**	**165**	**26,999**	**53,298**

* Some mill-size classes were combined to avoid disclosure of individual corporate data.

* Mill size classes indicate the capacity to process logs (in thousand board feet, Scribner scale) during an 8-hour shift.
Class A: More than 120 mbf
Class B: 80-120 mbf
Class C: 40-80 mbf
Class D: less than 40 mbf

Table 19 shows the total volume of logs that were processed by sawmills, according to mill size. The two right-most columns show totals of other forms of wood such as peeler cores (remnants of veneer manufacturing) or precut lumber. For instance, the largest volume of logs were consumed by sawmills in the Olympic Peninsula economic area, more than 888,576 mbf or about 37 percent of the state's total.

Table 19 **Log consumption by sawmills—by log type**

(thousand board feet, Scribner scale)

Economic area and mill-class size*	Roundwood			Other	
	All roundwood	Sound logs	Utility logs	Peeler cores	Other
	Scribner Log Rule			Lumber Tally	
Puget Sound					
C and D	25,991	25,494	497	0	0
B	36,392	31,060	5,332	0	22,000
A	624,101	613,480	10,621	0	0
Total	**686,484**	**670,034**	**16,450**	**0**	**22,000**
Olympic Peninsula					
D	3,271	3,157	114	0	100
B and C	103,636	102,713	923	0	0
A	781,669	774,332	7,337	0	0
Total	**888,576**	**880,202**	**8,374**	**0**	**100**
Lower Columbia					
A and B	367,380	361,716	5,664	0	0
Total	**367,380**	**361,716**	**5,664**	**0**	**0**
Central Washington					
A and C	189,121	188,597	524	493	350
Total	**189,121**	**188,597**	**524**	**493**	**350**
Inland Empire					
B and D	28,396	24,523	3,873	0	0
C	29,254	22,904	6,350	0	0
A	212,725	185,803	26,922	0	0
Total	**270,375**	**233,230**	**37,145**	**0**	**0**
State total					
D	8,801	8,681	120	0	100
C	109,305	101,306	7,999	493	350
B	128,434	119,114	9,320	0	22,000
A	2,155,396	2,104,678	50,718	0	0
Total	**2,401,936**	**2,333,779**	**68,157**	**493**	**22,450**

* Some mill-size classes were combined to avoid disclosure of individual corporate data .

* Mill size classes indicate the capacity to process logs (in thousand board feet, Scribner scale) during an 8-hour shift.

Class A: More than 120 mbf
Class B: 80-120 mbf
Class C: 40-80 mbf
Class D: less than 40 mbf

Table 20 shows the volume of logs that were processed by sawmills, according to the diameters of the logs. For instance, 89 percent of all logs processed by sawmills were between 5 inches and 20 inches in diameter (1.2 billion board feet were 5-10 inches and 923 mmbf were 10 to 20 inches).

Table 20 **Log consumption by sawmills—by diameter (in inches)**

(thousand board feet, Scribner scale)

Economic area and mill-class size*	Total	Log diameter in inches: less than 5	5 to 10	10 to 20	21 or more
Puget Sound					
C and D	25,991	58	10,743	10,922	4,269
B	36,392	254	12,696	18,534	4,908
A	624,101	236	322,687	230,876	70,302
Total	**686,484**	**548**	**346,126**	**260,332**	**79,478**
Olympic Peninsula					
D	3,271	0	849	1,979	443
B and C	103,636	2,792	72,243	22,160	6,442
A	781,669	7,640	454,113	312,884	7,031
Total	**888,576**	**10,432**	**527,205**	**337,022**	**13,916**
Lower Columbia					
A and B	367,380	7,640	123,251	175,954	60,535
Total	**367,380**	**7,640**	**123,251**	**175,954**	**60,535**
Central Washington					
A and C	189,121	5,080	62,403	78,175	43,463
Total	**189,121**	**5,080**	**62,403**	**78,175**	**43,463**
Inland Empire					
B and D	28,396	184	12,999	11,340	3,873
C	29,254	286	14,528	8,714	5,726
A	212,725	44,157	113,870	52,145	2,554
Total	**270,375**	**44,626**	**141,397**	**72,199**	**12,153**
State total					
D	8,801	0	3,017	4,587	1,197
C	109,305	3,478	60,602	30,090	15,134
B	128,434	1,456	65,977	46,601	14,399
A	2,155,396	63,393	1,070,785	842,403	178,815
Total	**2,401,936**	**68,326**	**1,200,382**	**923,682**	**209,545**

* Some mill-size classes were combined to avoid disclosure of individual corporate data .

* Mill size classes indicate the capacity to process logs (in thousand board feet, Scribner scale) during an 8-hour shift.

Class A: More than 120 mbf
Class B: 80-120 mbf
Class C: 40-80 mbf
Class D: less than 40 mbf

Tables 21a-21b show the total volume of logs that were processed by sawmills, according to mill sizes and ownership categories. For instance, even though the largest category of mills (A) consumed about 90 percent of the st ate's total volume of logs, only 48 milllion board feet (about two percent) came from national forest s.

Table 21a **Log consumption by sawmills—by original owners and mill size***

(thousand board feet, Scribner scale)

Economic area and mill-class size*	All Owners	State	National Forest	Bureau of Land Management	Other public
Puget Sound					
C and D	25,991	6,169	87	300	1,126
B	36,392	17,857	0	0	254
A	624,101	165,347	11,375	0	13,661
Total	**686,484**	**189,372**	**11,462**	**300**	**15,041**
Olympic Peninsula					
D	3,271	222	0	0	55
B and C	103,636	29,816	1,718	0	1,198
A	781,669	66,769	5,389	0	25,203
Total	**888,576**	**96,806**	**7,106**	**0**	**26,455**
Lower Columbia					
A and B	367,380	30,666	5,282	0	11,882
Total	**367,380**	**30,666**	**5,282**	**0**	**11,882**
Central					
A and C	189,121	3,006	11,546	0	0
Total	**189,121**	**3,006**	**11,546**	**0**	**0**
Inland Empire					
B and D	28,396	2,888	867	0	500
C	29,254	3,722	573	0	0
A	212,725	24,257	15,300	680	1,341
Total	**270,375**	**30,866**	**16,740**	**680**	**1,841**
State total					
D	8,801	222	0	0	55
C	109,305	22,668	2,659	300	1,926
B	126,434	40,470	1,265	0	1,152
A	2,155,396	287,357	48,212	680	52,087
Total	**2,401,936**	**350,716**	**52,136**	**980**	**55,219**

* Some mill-size classes were combined to avoid disclosure of individual corporate data .

* Mill size classes indicate the capacity to process logs (in thousand board feet, Scribner scale) during an 8-hour shif t.

Class A: More than 120 mbf
Class B: 80-120 mbf
Class C: 40-80 mbf
Class D: less than 40 mbf

Continued

Table 21b **Log consumption by sawmills—by original owners and mill size***

(thousand board feet, Scribner scale)

Economic area and mill-class size*	Forest Industry: Own wood supply	Forest Industry: Other wood supply	Native American	Farmer and miscellaneous private
Puget Sound				
D and C	0	5,919	169	12,222
B	5,078	7,828	508	4,867
A	150,867	178,132	236	104,483
Total	**155,946**	**191,879**	**912**	**121,572**
Olympic Peninsula				
D	0	886	0	2,108
B and C	0	40,672	2,534	27,699
A	273,713	351,397	19,711	39,488
Total	**273,713**	**392,955**	**22,245**	**69,295**
Lower Columbia				
A and B	115,316	155,640	1,631	46,964
Total	**115,316**	**155,640**	**1,631**	**46,964**
Central Washington				
A and C	10,230	4,402	141,282	18,656
Total	**10,230**	**4,402**	**141,282**	**18,656**
Inland Empire				
B and D	500	11,244	2,067	10,330
C	0	10,046	2,863	12,050
A	23,503	53,089	12,498	82,056
Total	**24,003**	**74,379**	**17,428**	**104,437**
State total				
D	0	1,055	199	7,271
C	0	40,549	6,385	34,819
B	5,578	46,166	2,942	30,861
A	573,629	731,485	173,972	287,974
Total	**579,208**	**819,254**	**183,498**	**360,924**

* Some mill-size classes were combined to avoid disclosure of individual corporate dat a.

* Mill size classes indicate the capacity to process logs (in thousand board feet, Scribner scale) during an 8-hour shift.

Class A: More than 120 mbf
Class B: 80-120 mbf
Class C: 40-80 mbf
Class D: less than 40 mbf

Tables 22a-22b show the total volume of logs that were processed by sawmills, according to county , economic area and the original ownership of logs consumed. For instance, among the total logs consumed in Washington's mills 350,716 mbf (15 percent) came from state-owned lands and 183,390 mbf (7.4 percent) from tribal lands.

Table 22a **Logs consumed by sawmills—by counties * and original owners**

(thousand board feet, Scribner scale)

Economic area and county of operation *	All Owners	State	National Forest	Bureau of Land Management	Other public
Puget Sound					
Pierce	318,289	33,685	875	0	6,401
Skagit	42,615	15,587	0	300	254
Snohomish	303,455	136,800	10,587	0	1,126
Whatcom and King	22,125	3,300	0	0	7,260
Total	**686,484**	**189,372**	**11,462**	**300**	**15,041**
Olympic Peninsula					
Clallam	119,850	17,949	4,836	0	0
Grays Harbor	266,439	19,356	0	0	23,520
Jefferson, Pacific and Thurston	117,468	10,857	750	0	55
Lewis	167,070	25,276	1,521	0	2,880
Mason	217,749	23,369	0	0	0
Total	**888,576**	**96,806**	**7,106**	**0**	**26,455**
Lower Columbia					
Cowlitz	242,900	5,156	85	0	0
Klickitat, Clark, Wahkiakum and Skamania	124,480	25,510	5,197	0	11,882
Total	**367,380**	**30,666**	**5,282**	**0**	**11,882**
Central Washington					
Chelan and Okanogan	87,728	2,687	10,910	0	0
Yakima	101,393	319	636	0	0
Total	**189,121**	**3,006**	**11,546**	**0**	**0**
Inland Empire					
Stevens, Ferry and Asotin	270,375	30,866	16,740	680	1,841
Total	**270,375**	**30,866**	**16,740**	**680**	**1,841**
State Total	**2,401,936**	**350,716**	**52,136**	**980**	**55,219**

*Some counties were combined to avoid disclosure of individual corporate data.

Continued

Table 22b Log consumption by sawmills—by counties * and original owners

(thousand board feet, Scribner scale)

Economic area and county of operation *	Forest Industry: Own wood supply	Forest Industry: Other wood supply	Native American	Farmer and miscellaneous private
Puget Sound				
Pierce	134,470	63,503	0	79,355
Skagit	5,725	10,299	508	9,942
Snohomish	15,750	116,317	404	22,471
Whatcom and King	0	1,760	0	9,805
Total	**155,946**	**191,879**	**912**	**121,572**
Olympic Peninsula				
Clallam	0	85,678	3,818	7,570
Grays Harbor	41,222	146,419	13,697	22,224
Jefferson, Pacific, Thurston	76,500	18,000	750	10,557
Lewis	650	105,943	3,980	26,819
Mason	155,341	36,914	0	2,126
Total	**273,713**	**392,955**	**22,245**	**69,295**
Lower Columbia				
Cowlitz	104,144	97,350	0	36,165
Klickitat, Clark, Wahkiakum and Skamania	11,172	58,290	1,631	10,799
Total	**115,316**	**155,640**	**1,631**	**46,964**
Central Washington				
Chelan and Okanogan	10,230	1,974	45,150	16,777
Yakima	0	2,428	96,132	1,879
Total	**10,230**	**4,402**	**141,282**	**18,656**
Inland Empire				
Stevens, Ferry and Asotin	24,003	74,379	17,428	104,437
Total	**24,003**	**74,379**	**17,428**	**104,437**
State Total	**579,208**	**819,254**	**183,498**	**360,924**

* Some counties were combined to avoid disclosure of individual corporate dat a.

Tables 23a-23c show the percentage of log volume of mills (classified by size) from original owner categories. For instance, 59 out of 68 mills or 91 percent of the mills got less than one-third of their logs from st ate lands. Four mill-size class A sawmills (the largest) used no logs from st ate-owned forests.

Table 23a **Number of sawmills—by percentage of logs from various sources**

Economic area and mill-size class *	National Forest				State				Bureau of Land Management			
	Percent of log volume											
	0	1-33	34-66	67-100	0	1-33	34-66	67-100	0	1-33	34-66	67-100
Puget Sound												
C and D	6	1	0	0	4	2	0	1	6	1	0	0
B	3	0	0	0	1	0	1	1	3	0	0	0
A	9	2	0	0	1	7	3	0	11	0	0	0
Total	**18**	**3**	**0**	**0**	**6**	**9**	**4**	**2**	**20**	**1**	**0**	**0**
Olympic Peninsula												
D	3	0	0	0	2	1	0	0	3	0	0	0
B and C	3	3	0	0	0	4	2	0	6	0	0	0
A	10	4	0	0	3	11	0	0	14	0	0	0
Total	**16**	**7**	**0**	**0**	**5**	**16**	**2**	**0**	**23**	**0**	**0**	**0**
Lower Columbia												
A and B	5	3	0	0	3	5	0	0	8	0	0	0
Total	**5**	**3**	**0**	**0**	**3**	**5**	**0**	**0**	**8**	**0**	**0**	**0**
Central Washington												
A and C	4	3	0	0	4	2	1	0	7	0	0	0
Total	**4**	**3**	**0**	**0**	**4**	**2**	**1**	**0**	**7**	**0**	**0**	**0**
Inland Empire												
B and D	1	2	0	0	1	3	0	0	3	0	0	0
C	1	1	0	0	1	0	0	0	2	0	0	0
A	0	4	0	0	0	4	0	0	3	1	0	0
Total	**2**	**7**	**0**	**0**	**2**	**7**	**0**	**0**	**8**	**1**	**0**	**0**
State total												
D	8	0	0	0	7	1	0	0	8	0	0	0
C	6	5	0	0	1	8	0	1	10	1	0	0
B	5	3	0	0	2	2	3	1	8	0	0	0
A	26	15	0	0	10	28	3	0	40	1	0	0
Total	**45**	**23**	**0**	**0**	**20**	**39**	**7**	**2**	**66**	**2**	**0**	**0**

* Some mill-size classes were combined to avoid disclosure of individual corporate dat a.

* Mill size classes indicate the capacity to process logs (in thousand board feet, Scribner scale) during an 8-hour shif t.

Class A: More than 120 mbf
Class B: 80-120 mbf
Class C: 40-80 mbf
Class D: less than 40 mbf

Continued

Table 23b Number of sawmills—by percentage of logs from various sources

Economic area and mill-class size*	Other public				Forest Industry: Own wood supply				Forest Industry: Other wood supply			
	Percent of log volume											
	0	1-33	34-66	67-100	0	1-33	34-66	67-100	0	1-33	34-66	67-100
Puget Sound												
C and D	6	1	0	0	7	0	0	0	3	2	2	0
B	2	1	0	0	2	1	0	0	1	2	0	0
A	9	2	0	0	7	3	0	1	1	3	6	1
Total	**17**	**4**	**0**	**0**	**16**	**4**	**0**	**1**	**5**	**7**	**8**	**1**
Olympic Peninsula												
D	2	0	0	1	3	0	0	0	2	0	1	0
B and C	4	2	0	0	6	0	0	0	1	1	4	0
A	10	4	0	0	8	1	2	3	1	4	2	7
Total	**16**	**6**	**0**	**1**	**17**	**1**	**2**	**3**	**4**	**5**	**7**	7
Lower Columbia												
A and B	6	2	0	0	5	1	2	0	1	3	1	3
Total	**6**	**2**	**0**	**0**	**5**	**1**	**2**	**0**	**1**	**3**	**1**	3
Central Washington												
A and C	7	0	0	0	6	1	0	0	5	0	2	0
Total	**7**	**0**	**0**	**0**	**6**	**1**	**0**	**0**	**5**	**0**	**2**	0
Inland Empire												
B and D	2	1	0	0	2	1	0	0	1	0	2	0
C	2	0	0	0	2	0	0	0	0	0	2	0
A	2	2	0	0	1	3	0	0	0	4	0	0
Total	**6**	**3**	**0**	**0**	**5**	**4**	**0**	**0**	**1**	**4**	**4**	0
State total												
D	7	0	0	1	8	0	0	0	6	1	1	0
C	9	2	0	0	11	0	0	0	1	2	8	0
B	5	3	0	0	6	2	0	0	2	2	3	1
A	31	10	0	0	24	9	4	4	7	14	10	10
Total	**52**	**15**	**0**	**1**	**49**	**11**	**4**	**4**	**16**	**19**	**22**	**11**

* Some mill-size classes were combined to avoid disclosure of individual corporate dat a.

* Mill size classes indicate the capacity to process logs (in thousand board feet, Scribner scale) during an 8-hour shift.

Class A: More than 120 mbf
Class B: 80-120 mbf
Class C: 40-80 mbf
Class D: less than 40 mbf

Continued

Table 23c Number of sawmills—by percentage of logs from various sources

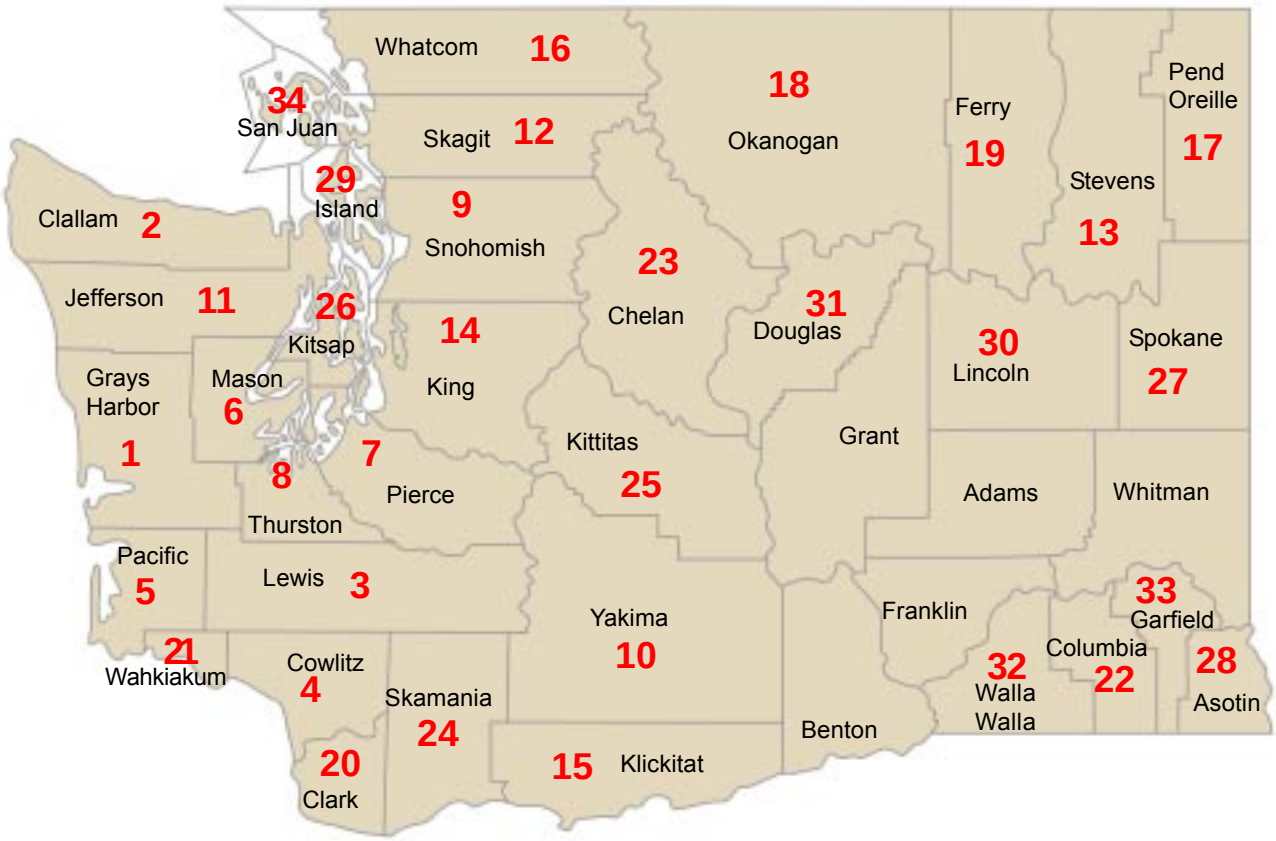
Economic area and mill size *	Native American — Percent of log volume				Farmer and miscellaneous private — Percent of log volume			
	0	1-33	34-66	67-100	0	1-33	34-66	67-100
Puget Sound								
C and D	6	1	0	0	0	1	2	4
B	2	1	0	0	1	2	0	0
A	10	1	0	0	3	6	1	1
Total	**18**	**3**	**0**	**0**	**4**	**9**	**3**	**5**
Olympic Peninsula								
D	3	0	0	0	1	0	1	1
B and C	3	3	0	0	0	4	2	0
A	6	8	0	0	5	9	0	0
Total	**12**	**11**	**0**	**0**	**6**	**13**	**3**	**1**
Lower Columbia								
A and B	7	1	0	0	1	5	2	0
Total	**7**	**1**	**0**	**0**	**1**	**5**	**2**	**0**
Central Washington								
A and C	1	3	0	3	1	5	1	0
Total	**1**	**3**	**0**	**3**	**1**	**5**	**1**	**0**
Inland Empire								
B and D	0	2	0	1	1	1	2	0
C	1	1	0	0	0	0	1	0
A	1	3	0	0	0	1	3	0
Total	**2**	**6**	**0**	**1**	**1**	**2**	**6**	**0**
State total								
D	6	1	0	1	2	0	1	5
C	6	5	0	0	0	6	5	0
B	4	4	0	0	1	5	2	0
A	24	14	0	3	10	23	7	1
Total	**40**	**24**	**0**	**4**	**13**	**34**	**15**	**6**

* Some mill-size classes were combined to avoid disclosure of individual corporate dat a.

* Mill size classes indicate the capacity to process logs (in thousand board feet, Scribner scale) during an 8-hour shif t.

Class A: More than 120 mbf
Class B: 80-120 mbf
Class C: 40-80 mbf
Class D: less than 40 mbf

Graph 16 County rank by log volume



Counties where timber was harvested for Washington mills or export in 2006
(thousand board feet, Scribner scale)

1. **Grays Harbor** (363,933 mbf)
2. **Clallam** (244,561 mbf)
3. **Lewis** (239,091 mbf)
4. **Cowlitz** (222,829 mbf)
5. **Pacific** (198,815 mbf)
6. **Mason** (189,672 mbf)
7. **Pierce** (162,626 mbf)
8. **Thurston** (127,470 mbf)
9. **Snohomish** (126,406 mbf)
10. **Yakima** (112,559 mbf)
11. **Jefferson** (106,959 mbf)
12. **Skagit** (97,571 mbf)
13. **Stevens** (88,276 mbf)
14. **King** (64,578 mbf)
15. **Klickitat** (59,971 mbf)
16. **Whatcom** (57,942 mbf)
17. **Pend Orielle** (54,810 mbf)
18. **Okanogan** (53,515 mbf)
19. **Ferry** (48,055 mbf)
20. **Clark** (39,796 mbf)
21. **Wahkiakum** (34,168 mbf)
22. **Columbia** (30,195 mbf)
23. **Chelan** (27,245 mbf)
24. **Skamania** (26,660 mbf)
25. **Kittitas** (26,462 mbf)
26. **Kitsap** (23,419 mbf)
27. **Spokane** (19,998 mbf)
28. **Asotin** (4,447 mbf)
29. **Island** (3,210 mbf)
30. **Lincoln** (2,091 mbf)
31. **Douglas** (418 mbf)
32. **Walla Walla** (339 mbf)
33. **Garfield** (339 mbf)
34. **San Juan** (45 mbf)

Tables 24a-24b show the total volume of logs that were processed by sawmills, according to mill size*, economic area and species. This chart can indicate which species are more plentiful in the dry east side or the wet westside of the state. For instance, the mills in the Central Washington economic area consumed 61,516 mbf of Douglas-fir and hemlock trees (the two top lumber species statewide) but 89,240 mbf Ponderosa and Lodgepole pines (which are better suited for dry climates).

Table 24a **Logs consumed by sawmills—by species and mill size ***

(thousand board feet, Scribner scale)

Economic area and mill-size class *	All species	Douglas-fir	Hemlock	True firs	Spruce	Ponderosa pine
Puget Sound						
C and D	25,991	3,151	2,864	260	0	0
B	36,392	11,000	0	0	0	0
A	624,101	306,737	236,694	32,595	2,134	2,100
Total	**686,484**	**320,888**	**239,557**	**32,854**	**2,134**	**2,100**
Olympic Peninsula						
D	3,271	55	0	0	0	0
B and C	103,636	16,000	5,250	2,250	0	0
A	781,669	227,858	408,531	4,500	24,950	0
Total	**888,576**	**243,913**	**413,781**	**6,750**	**24,950**	**0**
Lower Columbia						
A and B	367,380	254,027	44,852	14,998	1,150	5,454
Total	**367,380**	**254,027**	**44,852**	**14,998**	**1,150**	**5,454**
Central Washington						
A and C	189,121	48,640	12,516	34,682	3,813	80,060
Total	**189,121**	**48,640**	**12,516**	**34,682**	**3,813**	**80,060**
Inland Empire						
B and D	28,396	0	0	0	0	17,478
C	29,254	374	0	0	0	27,323
A	212,725	96,076	11,059	21,141	4,483	47,670
Total	**270,375**	**96,450**	**11,059**	**21,141**	**4,483**	**92,471**
State total						
D	8,801	88	6	0	0	30
C	109,305	23,882	8,108	2,745	510	27,728
B	128,434	20,200	1,150	0	1,150	17,448
A	2,155,396	919,748	712,501	107,679	34,869	134,878
Total	**2,401,936**	**963,918**	**721,765**	**110,424**	**36,529**	**180,084**

* Some mill-size classes were combined to avoid disclosure of individual corporate data.

* Mill size classes indicate the capacity to process logs (in thousand board feet, Scribner scale) during an 8-hour shift.

Class A: More than 120 mbf
Class B: 80-120 mbf
Class C: 40-80 mbf
Class D: less than 40 mbf

Continued

Table 24b **Log consumption by sawmills—by species and mill size***

(thousand board feet, Scribner scale)

Economic area and mill-size class *	Lodgepole pine	Western redcedar	Other softwoods	Red alder	Other hardwoods
Puget Sound					
C and D	0	13,914	89	3,375	2,339
B	0	0	0	21,583	3,809
A	3,150	17,124	0	21,211	2,357
Total	**3,150**	**31,038**	**89**	**46,169**	**8,505**
Olympic Peninsula					
D	0	2,216	0	950	50
B and C	0	10,628	0	68,193	1,315
A	0	64,830	0	48,450	2,550
Total	**0**	**77,674**	**0**	**117,593**	**3,915**
Lower Columbia					
A and B	0	8,415	85	25,344	13,056
Total	**0**	**8,415**	**85**	**25,344**	13,056
Central Washington					
A and C	9,180	0	231	0	0
Total	**9,180**	**0**	**231**	**0**	**0**
Inland Empire					
B and D	918	10,000	0	0	0
C	1,556	0	0	0	0
A	22,118	10,179	0	0	0
Total	**24,593**	**20,179**	**0**	**0**	**0**
State total					
D	0	4,299	2	4,325	51
C	4,116	22,459	87	16,812	2,859
B	918	10,000	0	72,964	4,604
A	31,888	100,548	316	95,005	17,963
Total	**36,922**	**137,306**	**405**	**189,106**	**25,476**

* Some mill-size classes were combined to avoid disclosure of individual corporate data .

* Mill size classes indicate the capacity to process logs (in thousand board feet, Scribner scale) during an 8-hour shift.

Class A: More than 120 mbf
Class B: 80-120 mbf
Class C: 40-80 mbf
Class D: less than 40 mbf

Tables 25a-25b show the total volume of logs that were consumed in Washington, according to the mills' home county, economic area and tree species. (Tables 24a and 24b grouped the data by mill size.) For instance, mills in Yakima County processed more timber than any other county in eastern Washington; and the predominant tree species was Ponderosa pine.

Table 25a **Log consumption by sawmills—by species and county**

(thousand board feet, Scribner scale)

Economic area and county of operation *	All species	Douglas-fir	Hemlock	True firs	Spruce	Ponderosa pine
Puget Sound						
Pierce	318,289	167,757	148,398	0	2,134	0
Skagit	42,615	5,392	0	0	0	0
Snohomish	303,455	131,205	85,653	32,854	0	2,100
Whatcom and King	22,125	16,533	5,506	0	0	0
Total	**686,484**	**320,888**	**239,557**	**32,854**	**2,134**	**2,100**
Olympic Peninsula						
Clallam	119,850	13,088	83,230	0	6,200	0
Grays Harbor	266,439	91,950	132,584	2,250	15,750	0
Jefferson, Pacific and Thurston	117,468	805	96,750	4,500	3,000	0
Lewis	167,070	32,166	0	0	0	0
Mason	217,749	105,904	101,217	0	0	0
Total	**888,576**	**243,913**	**413,781**	**6,750**	**24,950**	**0**
Lower Columbia						
Cowlitz	242,900	159,280	36,720	0	0	0
Klickitat, Clark, Wahkiakum, and Skamania	124,480	94,747	8,132	14,998	1,150	5,454
Total	**367,380**	**254,027**	**44,852**	**14,998**	**1,150**	**5,454**
Central Washington						
Chelan and Okanogan	87,728	36,332	12,400	235	510	34,141
Yakima	101,393	12,308	116	34,447	3,303	45,919
Total	**189,121**	**48,640**	**12,516**	**34,682**	**3,813**	**80,060**
Inland Empire						
Stevens, Ferry and Asotin	270,375	96,450	11,059	21,141	4,482	92,470
Total	**270,375**	**96,450**	**11,059**	**21,141**	**4,483**	**92,471**
State Total	**2,401,936**	**963,918**	**721,765**	**110,424**	**36,529**	**180,084**

* The statistics for some counties were combined to avoid disclosure of individual corporate data .

Continued

Table 25b **Log consumption by sawmills—by species and county ***

(thousand board feet, Scribner scale)

Economic area and county of operation *	Lodgepole pine	Western redcedar	Other softwoods	Red alder	Other hardwoods
Puget Sound					
Pierce	0	0	0	0	0
Skagit	0	11,831	0	21,583	3,809
Snohomish	3,150	19,124	87	24,586	4,695
Whatcom and King	0	83	2	0	1
Total	**3,150**	**31,038**	**88**	**46,169**	**8,505**
Olympic Peninsula					
Clallam	0	0	0	16,812	520
Grays Harbor	0	23,905	0	0	0
Jefferson, Pacific and Thurston	0	0	0	12,413	0
Lewis	0	43,141	0	88,368	3,395
Mason	0	10,628	0	0	0
Total	**0**	**77,674**	**0**	**117,593**	**3,915**
Lower Columbia					
Cowlitz	0	8,415	85	25,344	13,056
Klickitat, Clark, Wahkiakum and Skamania	0	0	0	0	0
Total	**0**	**8,415**	**85**	**25,344**	**13,056**
Central Washington					
Chelan and Okanogan	4,110	0	0	0	0
Yakima	5,070	0	231	0	0
Total	**9,180**	**0**	**231**	**0**	**0**
Inland Empire					
Stevens, Ferry and Asotin	24,593	20,179	0	0	0
Total	**24,593**	**20,179**	**0**	**0**	**0**
State total	**36,922**	**137,306**	**405**	**189,106**	**25,476**

* The statistics for some counties were combined to avoid disclosure of individual corporate dat a.

Table 26 shows the volume of wood and bark residues by the sawmills' home counties and economic areas. For instance, the sawmills in the Olympic Peninsula economic area produced nearly half of the wood and bark residues (2,103,249 tons or 40 percent) as a by-product of producing lumber .

Table 26 **Wood and bark residues—by county ***

(dry weight tons)

Economic area and county of operation *	All residues	Wood Residues	Bark Residues
Puget Sound			
Pierce	686,936	528,544	158,39
Skagit	72,024	63,644	8,380
Snohomish	750,183	583,433	166,75
Whatcom and King	34,702	25,930	8,772
Total	**1,543,845**	**1,201,551**	**342,294**
Olympic Peninsula			
Clallam	220,466	150,458	70,008
Grays Harbor	688,424	528,492	159,93
Jefferson, Pacific and Thurston	239,853	190,389	49,464
Lewis	359,208	259,632	99,575
Mason	595,298	469,097	126,20
Total	**2,103,249**	**1,598,068**	**505,179**
Lower Columbia			
Cowlitz	529,349	375,554	153,79
Klickitat, Clark, Skamania and Wahkiakum	234,891	161,580	73,311
Total	**764,240**	**537,134**	**227,106**
Central Washington			
Chelan and Okanogan	167,955	132,349	35,606
Yakima	207,073	163,174	43,899
Total	**375,028**	**295,523**	**79,505**
Inland Empire			
Stevens, Ferry and Asotin	485,508	361,981	123,52
Total	**485,508**	**361,981**	**123,527**
State Total	**5,271,870**	**3,994,257**	**1,277,611**

* The statistics for some counties were combined to avoid disclosure of individual corporate data .

Inside Frase's steam-powered sawmill in Onalaska.
Photo: Jim Thode

Tables 27a-27d show the volumes of mill residues (chips, sawdust, etc.) that were used or sold for secondary purposes (such as pulp, composite boards and fuel), according to type of residue (not bark) and mill size*. The "Total" category includes residues that were used and unused. For instance, from the 1,024,586 total bone dry tons of fine residues (see Page 69) produced as a by-product of lumber mills, 228,583 tons were sold to pulp mills —22.3 percent.

Table 27a **Wood and bark residues from sawmills—by mill size and use**

(dry weight tons)

All Types

Economic area and mill size	Total	Total used	Pulp	Board	Fuel	Other	Unused
Puget Sound							
C and D	28,371	28,371	16,747	0	3,641	7,983	0
B	61,971	61,971	18,030	5,303	17,517	21,121	0
A	1,111,209	1,111,209	727,472	155,520	43,102	185,115	0
Total	**1,201,551**	**1,201,551**	**762,249**	**160,823**	**64,260**	**214,219**	**0**
Olympic Peninsula							
D	6,285	6,276	1,050	0	5,226	0	9
B and C	182,856	182,856	65,184	35,986	67,891	13,795	0
A	1,408,927	1,408,927	780,333	60,086	501,437	67,071	0
Total	**1,598,068**	**1,598,059**	**846,567**	**96,072**	**574,554**	**80,866**	**9**
Lower Columbia							
A and B	537,134	537,134	242,869	0	120,335	173,930	0
Total	**537,134**	**537,134**	**242,869**	**0**	**120,335**	**173,930**	**0**
Central Washington							
A and C	295,523	295,523	196,961	44,064	4,234	50,264	0
Total	**295,523**	**295,523**	**196,961**	**44,064**	**4,234**	**50,264**	**0**
Inland Empire							
C	35,085	35,085	4,343	7,315	23,023	404	0
B and D	42,508	42,508	3,731	5,082	31,577	2,118	0
A	284,388	284,388	169,975	74,962	36,528	2,923	0
Total	**361,981**	**361,981**	**178,049**	**87,359**	**91,128**	**5,445**	**0**
State total							
D	6,285	6,276	1,050	0	5,226	0	9
C	63,456	63,456	21,090	7,315	26,664	8,387	0
B	287,335	287,335	86,945	46,371	116,985	37,034	0
A	3,637,181	3,637,181	2,117,610	334,632	705,636	479,303	0
Total	**3,994,257**	**3,994,248**	**2,226,695**	**388,318**	**854,511**	**524,724**	**9**

* Mill size classes indicate the capacity to process logs (in thousand board feet, Scribner scale) during an 8-hour shift.

Class A: More than 120 mbf
Class B: 80-120 mbf
Class C: 40-80 mbf
Class D: less than 40 mbf

Continued

Table 27b **Wood and bark residues from sawmills—by mill size and use**

(dry weight tons)

Economic area and mill-size class	Total	Total used	Coarse: Pulp	Coarse: Board	Coarse: Fuel	Coarse: Other	Coarse: Unused
Puget Sound							
C and D	16,120	16,120	14,358	0	0	1,762	0
B	32,011	32,011	18,030	5,303	8,678	0	0
A	585,552	585,552	585,552	0	0	0	0
Total	**633,683**	**633,683**	**617,940**	**5,303**	**8,678**	**1,762**	**0**
Olympic Peninsula							
D	3,472	3,472	600	0	2,872	0	0
B and C	102,895	102,895	45,647	35,986	21,262	0	0
A	719,166	719,166	719,166	0	0	0	0
Total	**825,533**	**825,533**	**765,413**	**35,986**	**24,134**	**0**	**0**
Lower Columbia							
A and B	271,460	271,460	226,955	0	3,571	40,934	0
Total	**271,460**	**271,460**	**226,955**	**0**	**3,571**	**40,934**	**0**
Central Washington							
A and C	162,399	162,399	161,969	0	430	0	0
Total	**162,399**	**162,399**	**161,969**	**0**	**430**	**0**	**0**
Inland Empire							
C	19,281	19,281	493	0	18,788	0	0
B and D	23,356	23,356	0	0	23,356	0	0
A	140,756	140,756	140,354	0	402	0	0
Total	**183,393**	**183,393**	**140,847**	**0**	**42,546**	**0**	**0**
State total							
D	6,917	6,917	2,625	0	2,872	1,420	0
C	92,597	92,597	52,205	0	40,050	342	0
B	113,220	113,220	39,897	41,289	32,034	0	0
A	1,863,734	1,863,734	1,818,397	0	4,403	40,934	0
Total	**2,076,468**	**2,076,468**	**1,913,124**	**41,289**	**79,359**	**42,696**	**0**

* Mill size classes indicate the capacity to process logs (in thousand board feet, Scribner scale) during an 8-hour shift.

Class A: More than 120 mbf
Class B: 80-120 mbf
Class C: 40-80 mbf
Class D: less than 40 mbf

Continued

Table 27c Medium wood residue from sawmills—by mill size* and use

(dry weight tons)

Economic area and mill-size class	Medium						
	Total	Total used	Pulp	Board	Fuel	Other	Unused
Puget Sound							
C and D	3,561	3,561	0	0	742	2,819	0
B	16,399	16,399	0	0	8,839	7,560	0
A	254,209	254,209	36,989	77,760	32,158	107,302	0
Total	**274,169**	**274,169**	**36,989**	**77,760**	**41,739**	**117,681**	**0**
Olympic Peninsula							
D	1,397	1,397	220	0	1,177	0	0
B and C	39,456	39,456	8,640	0	30,816	0	0
A	344,025	344,025	23,422	1,350	272,073	47,180	0
Total	**384,878**	**384,878**	**32,282**	**1,350**	**304,066**	**47,180**	**0**
Lower Columbia							
A and B	92,481	92,481	0	0	40,197	52,284	0
Total	**92,481**	**92,481**	**0**	**0**	**40,197**	**52,284**	**0**
Central Washington							
A and C	66,562	66,562	0	39,528	1,858	25,176	0
Total	**66,562**	**66,562**	**0**	**39,528**	**1,858**	**25,176**	**0**
Inland Empire							
C	7,902	7,902	0	7,315	385	202	0
B and D	9,573	9,573	1,056	5,082	1,323	2,112	0
A	57,689	57,689	14,661	37,481	2,624	2,923	0
Total	**75,164**	**75,164**	**15,717**	**49,878**	**4,332**	**5,237**	**0**
State total							
D	1,397	1,397	220	0	1,177	0	0
C	11,463	11,463	0	7,315	1,127	3,021	0
B	65,428	65,428	9,696	5,082	40,978	9,672	0
A	814,966	814,966	75,072	156,119	348,910	234,865	0
Total	**893,254**	**893,254**	**84,988**	**168,516**	**392,192**	**247,558**	**0**

* Mill size classes indicate the capacity to process logs (in thousand board feet, Scribner scale) during an 8-hour shift.

Class A: More than 120 mbf
Class B: 80-120 mbf
Class C: 40-80 mbf
Class D: less than 40 mbf

Continued

Table 27d **Fine wood residues from sawmills—by mill size* and use**

(dry weight tons)

Economic area and mill-size class	Fine						
	Total	Total used	Pulp	Board	Fuel	Other	Unused
Puget Sound							
C and D	8,690	8,690	2,389	0	2,899	3,402	0
B	13,561	13,561	0	0	0	13,561	0
A	271,448	271,448	104,931	77,760	10,944	77,813	0
Total	**293,699**	**293,699**	**107,320**	**77,760**	**13,843**	**94,776**	**0**
Olympic Peninsula							
D	1,416	1,407	230	0	1,177	0	9
B and C	40,505	40,505	10,897	0	15,813	13,795	0
A	345,736	345,736	37,745	58,736	229,364	19,891	0
Total	**387,657**	**387,648**	**48,872**	**58,736**	**246,354**	**33,686**	**9**
Lower Columbia							
A and B	173,193	173,193	15,914	0	76,567	80,712	0
Total	**173,193**	**173,193**	**15,914**	**0**	**76,567**	**80,712**	**0**
Central Washington							
A and C	66,562	66,562	34,992	4,536	1,946	25,088	0
Total	**66,562**	**66,562**	**34,992**	**4,536**	**1,946**	**25,088**	**0**
Inland Empire							
C	7,902	7,902	3,850	0	3,850	202	0
B and D	9,579	9,579	2,675	0	6,898	6	0
A	85,943	85,943	14,960	37,481	33,502	0	0
Total	**103,424**	**103,424**	**21,485**	**37,481**	**44,250**	**208**	**0**
State total							
D	2,794	2,785	230	0	1,953	602	9
C	39,648	39,648	17,136	0	19,504	3,008	0
B	45,605	45,605	7,211	0	11,038	27,356	0
A	936,488	936,488	204,006	178,513	350,465	203,504	0
Total	**1,024,535**	**1,024,526**	**228,583**	**178,513**	**382,960**	**234,470**	**9**

* Mill size classes indicate the capacity to process logs (in thousand board feet, Scribner scale) during an 8-hour shift.

Class A: More than 120 mbf
Class B: 80-120 mbf
Class C: 40-80 mbf
Class D: less than 40 mbf

Table 28 totals the volume of bark residues to the volumes of wood residues compiled in Tables 27a-27d. For instance, the mills in the largest sawmill category (A) produced 92 percent of all bark residues in W ashington—1,184,051 tons out of a total of 1,277,613 tons.

Table 28 **Bark residues from sawmills—by mill size* and use**

(tons, dry weight)

Economic area and mill-size class *	Total	Total used	Used				Unused
			Pulp	Board	Fuel	Other	
Puget Sound							
C and D	10,559	10,559	0	0	6,525	4,034	0
B	5,160	5,160	0	0	0	5,160	0
A	326,575	326,575	0	0	61,347	265,228	0
Total	**342,294**	**342,294**	**0**	**0**	**67,872**	**274,422**	**0**
Olympic Peninsula							
D	1,746	1,746	340	0	1,406	0	0
B and C	55,224	55,224	0	0	44,904	10,320	0
A	448,211	448,211	0	0	271,068	177,143	0
Total	**505,181**	**505,181**	**340**	**0**	**317,378**	**187,463**	**0**
Lower Columbia							
A and B	227,106	227,106	18,213	0	160,946	47,947	0
Total	**227,106**	**227,106**	**18,213**	**0**	**160,946**	**47,947**	**0**
Central Washington							
A and C	79,505	79,505	0	0	64,306	15,199	0
Total	**79,505**	**79,505**	**0**	**0**	**64,306**	**15,199**	**0**
Inland Empire							
C	9,439	9,439	0	0	9,198	241	0
B and D	11,434	11,434	0	0	10,173	1,261	0
A	102,654	102,654	0	0	96,980	5,674	0
Total	**123,527**	**123,527**	**0**	**0**	**116,351**	**7,176**	**0**
State total							
D	3,564	6,564	340	0	2,542	682	0
C	49,111	49,111	0	0	35,198	13,913	0
B	48,524	48,524	0	0	36,685	11,839	0
A	1,176,414	1,176,414	18,213	0	652,428	505,773	0
Total	**1,277,613**	**1,277,613**	**18,553**	**0**	**726,853**	**532,207**	**0**

* Mill size classes indicate the capacity to process logs (in thousand board feet, Scribner scale) during an 8-hour shif t.

Class A: More than 120 mbf
Class B: 80-120 mbf
Class C: 40-80 mbf
Class D: less than 40 mbf

Table 29 is an accompanying view of the data in Table 28. Instead of displaying the totals according to mill size*, it shows the volume of bark residues by the sawmills' home counties and economic areas. For instance, the sawmills in the Olympic Peninsula economic area produced 40 percent of the state's bark residues (505,179 tons of 1,277,611 total tons) as a by-product of processing lumber.

Table 29 **Bark residues from sawmills—by county* and use**
(dry weight tons)

Economic area and county of operation *	Total	Used					
		Total used	Pulp	Board	Fuel	Other	Unused
Puget Sound							
Pierce	158,392	158,392	0	0	0	158,392	0
Skagit	8,380	8,380	0	0	8,380	0	0
Snohomish	166,750	166,750	0	0	59,492	107,258	0
Whatcom and King	8,772	8,772	0	0	0	8,772	0
Total	**342,294**	**342,294**	**0**	**0**	**67,872**	**274,422**	**0**
Olympic Peninsula							
Clallam	70,008	70,008	0	0	70,008	0	0
Grays Harbor	159,931	159,931	0	0	131,990	27,942	0
Jefferson, Pacific and Thurston	49,464	49,464	0	0	49,464	0	0
Mason	126,201	126,201	0	0	6,740	119,461	0
Lewis	99,575	99,575	340	0	59,176	40,060	0
Total	**505,179**	**505,179**	**340**	**0**	**317,378**	**187,463**	**0**
Lower Columbia							
Cowlitz	153,795	153,795	18,213	0	106,643	28,939	0
Klickitat, Clark, Skamania and Wahkiakum	73,311	73,311	0	0	54,303	19,008	0
Total	**227,106**	**227,106**	**18,213**	**0**	**160,946**	**47,947**	**0**
Central Washington							
Chelan and Okanogan	35,606	35,606	0	0	30,343	5,263	0
Yakima	43,899	43,899	0	0	33,963	9,936	0
Total	**79,505**	**79,505**	**0**	**0**	**64,306**	**15,199**	**0**
Inland Empire							
Stevens, Ferry and Asotin	123,527	123,527	0	0	116,351	7,176	0
Total	**123,527**	**123,527**	**0**	**0**	**116,351**	**7,176**	**0**
State Total	**1,277,611**	**1,277,611**	**18,553**	**0**	**726,853**	**532,207**	**0**

* Some counties were combined to avoid disclosure of individual corporate data.

Table 30 shows the volume of lumber produced by Washington's sawmills, by county, economic area and type of headrig (saw). For instance, more than two-thirds of the volume of lots cut with band saws— 3.3 bbf out of a total of 4.9 bbf lumber tally.

Table 30 **Lumber production—by headrig type and county ***

(thousand board feet, lumber tally)

Economic area and county of operation	All types	Circular saw	Band saw	Gang saw	Chipping saw	Others **
Puget Sound						
Pierce	613,922	0	162,526	451,396	0	0
Skagit	72,660	0	71,677	0	0	983
Snohomish	633,827	0	623,053	0	10,774	0
Whatcom and King	49,155	155	30,600	0	3,400	15,983
Total	**1,369,564**	**155**	**887,856**	**451,396**	**14,174**	**15,983**
Olympic Peninsula						
Clallam	262,807	95,933	166,874	0	0	0
Grays Harbor	619,889	0	525,569	33,320	0	61,000
Jefferson, Pacific and Thurston	210,040	0	198,040	0	12,000	0
Lewis	340,666	550	279,217	43,619	9,780	7,500
Mason	489,152	0	108,024	381,128	0	0
Total	**1,922,554**	**96,483**	**1,277,724**	**458,067**	**21,780**	**68,500**
Lower Columbia						
Cowlitz	577,186	98,533	279,666	198,986	0	0
Klickitat, Clark, Skamania and Wahkiakum	284,151	0	284,151	0	0	0
Total	**861,337**	**98,533**	**563,817**	**198,986**	**0**	**0**
Central Washington						
Chelan and Okanogan	145,007	41,644	96,363	0	7,000	0
Yakima	170,150	0	101,150	0	69,000	0
Total	**315,157**	**41,644**	**197,513**	**0**	**76,000**	**0**
Inland Empire						
Stevens, Ferry and Asotin	478,822	121,530	332,524	0	24,768	0
Total	**478,822**	**121,530**	**332,524**	**0**	**24,768**	**0**
State Total	**4,947,434**	**358,345**	**3,259,435**	**1,108,449**	**136,722**	**84,483**

* Some counties were combined to avoid disclosure of individual corporate data .

** Statistics for new technology, such as the multiple cut Hew Saws, are in the *Others* category.

Table 31 shows the volume of lumber that was produced by sawmills, by sof twood and hardwood species, mill size* and economic area. For instance, the majority of hardwood lumber was produced by mills in the Olympic Peninsula economic area—187,351 mbf out of a total of 326,338 mbf.

Table 31 **Lumber produced by sawmills—by softwood and hardwood**

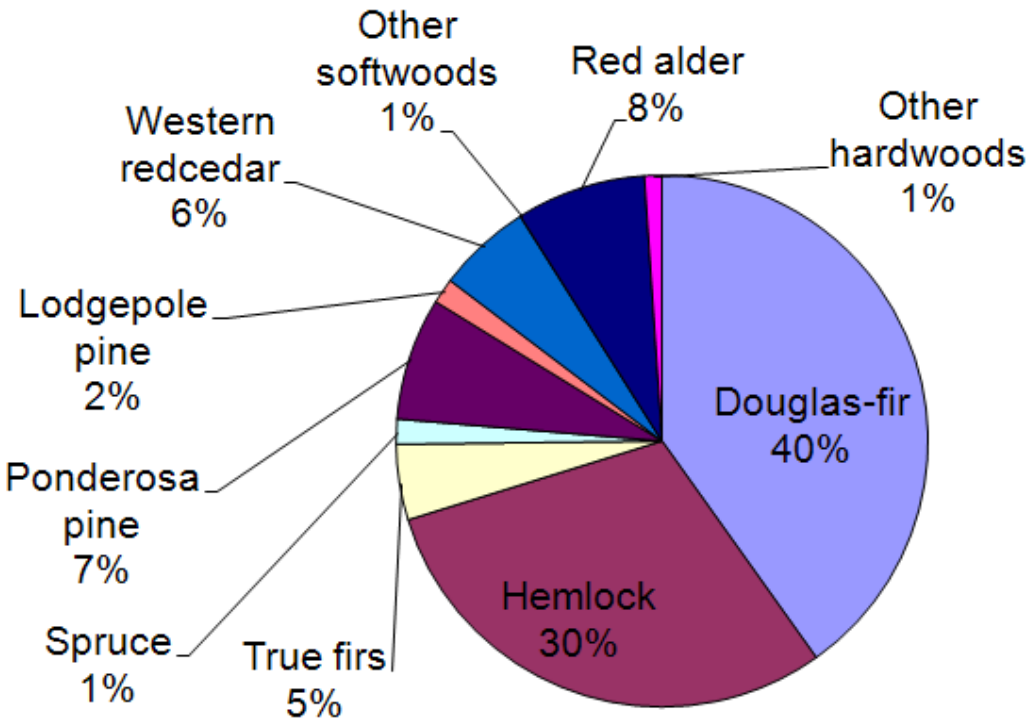
(thousand board feet, Lumber tally)

Economic area and mil size	Total	Softwood	Hardwood
Puget Sound			
C and D	40,011	36,634	3,377
B	75,178	35,000	40,178
A	1,254,375	1,218,463	35,912
Total	**1,369,564**	**1,290,097**	**79,467**
Olympic Peninsula			
D	6,489	5,489	1,000
B and C	180,725	75,874	104,851
A	1,735,340	1,653,840	81,500
Total	**1,922,554**	**1,735,203**	**187,351**
Lower Columbia			
A and B	861,337	801,817	59,520
Total	**861,337**	**801,817**	**59,520**
Central			
A and C	315,157	315,157	0
Total	**315,157**	**315,157**	**0**
Inland Empire			
C	36,586	36,586	0
B and D	44,349	44,349	0
A	397,887	397,887	0
Total	**478,822**	**478,822**	**0**
State Total	**4,947,434**	**4,621,096**	**326,338**

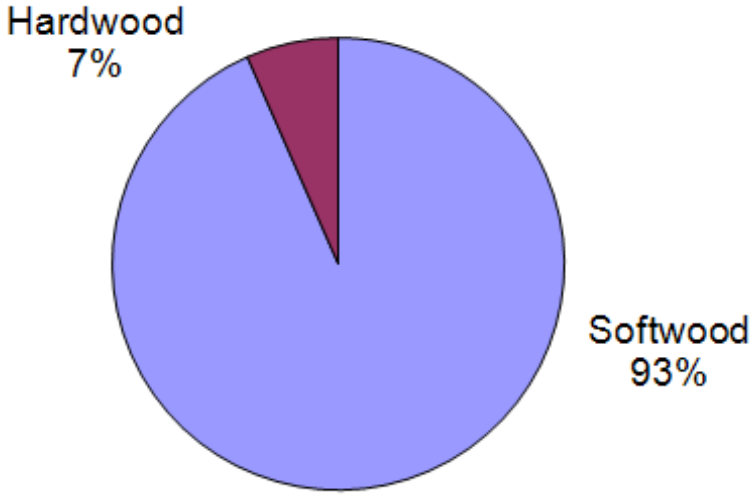
* Some mill size classes were combined to avoid disclosure of individual corporate data.

* Mill size classes indicate the capacity to process logs (in thousand board feet, Scribner scale) during an 8-hour shift
Class A: More than 120 mbf
Class B: 80-120 mbf
Class C: 40-80 mbf
Class D: less than 40 mbf

Graph 17 Tree species consumed by sawmills



Graph 18 Proportion of softwood and hardwood lumber produced by Washington's sawmills



Veneer and Plywood

Table 32 displays the number of veneer and plywood mills by maximum lathe diameter . (A lathe peels veneer from a log by spinning it on its axis against a blade.) For instance, only one veneer mill can handle logs larger than 80 inches in diameter. All other veneer mills are limited to logs 39 inches or narrower .

Table 32 Number of veneer and plywood mills—by lathe log diameter

	Lathe log maximum diameter limit in inches									
Economic area	Layup only	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80+	Total
Puget Sound	1	1	0	1	0	0	0	0	0	3
Olympic Peninsula	2	1	0	2	0	0	0	0	1	6
Lower Columbia	0	0	1	0	0	0	0	0	0	1
Central Washington	0	0	0	1	0	0	0	0	0	1
State Total	**3**	**2**	**1**	**4**	**0**	**0**	**0**	**0**	**1**	**11**

Table 33 displays the number of veneer mills by the minimum core size —the thinnest log that can be peeled with the mill's equipment. For instance, all mills that peel veneer (both veneer-only and veneer-and-plywood mills) can handle logs 4 inches or thinner (5 mills can handle 4-inch logs, 2 mills can handle 3-inch logs, the others do not manufacture veneer).

Table 33 Number of veneer and plywood mills—by minimum core size

	Lathe log diameter minimum limit in inches										
Economic area	3	4	5	6	7	8	9	10	11	No Lathe or core	Total
Puget Sound	1	0	0	0	0	0	0	0	0	2	3
Olympic Peninsula	1	3	0	0	0	0	0	0	0	2	6
Lower Columbia	0	1	0	0	0	0	0	0	0	0	1
Central Washington	0	1	0	0	0	0	0	0	0	0	1
State total	**2**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**11**

Table 34 shows the 8-hour cap acity (thousand square feet) of mills that produce veneer and plywood. For inst ance, Washington's totally can produce 1,060 thousand square feet (1.06 million square feet) of veneer 3/8-inch basis per 8 hour shift. The total includes sums from veneer-only plants and plants that produce veneer and plywood.

Table 34 Veneer and plywood mills—by 8-Hour single shift production capacity

(thousand square feet, lumber)

Economic area and county	Veneer only mills	Plywood only mills	Veneer and plywood mills Veneer	Veneer and plywood mills Plywood
Puget Sound	400	195	0	0
Olympic Peninsula	660	634	336	360
Others*	0	0	256	500
State Total	**1,060**	**829**	**676**	**860**

*Others indicates that two or more economic areas have been combined to avoid disclosure of individual corporate data.

Table 35 displays the volume of logs processed to make veneer (from veneer-only and plywood-and-veneer mills) by log diameter. For instance, no logs less than 5 inches in diameter were used. But 61 percent (142,641 mbf) of the veneer was made from logs between 5 and 11 inches in diameter.

Table 35 Logs consumed by veneer and plywood mills—by diameter

(thousand board feet, Scribner scale)

Minimum log diameter	Volume	Percent
Less than 5 inches	0	0%
5.0 to 10.9 inches	142,641	61%
11.0 to 20.9 inches	76,579	33%
21 inches or more	14,749	6%
State total	**233,969**	**100%**

Table 36 displays the volume of veneer-only and plywood-only and veneer-plywood mills, based on thousand square feet, 3/8-inch basis. For instance, the plywood mills in Washington produced 688.3 million square feet of plywood.

Table 36 Veneer and plywood production

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

Veneer	**559,046**
Plywood	**688,303**

Table 37 displays the number of veneer and plywood mills which possess a variety of related equipment. For instance, seven plywood mills operate with a hot press, which simultaneously heats and presses together three or more layers of veneer. The heated glue is better distributed and bonded to the layers of veneer.

Table 37 Number of veneer and plywood mills—by selected equipment

Economic area and county	Total Mills	4-foot lathe	8-foot lathe	Slicer	Veneer chipper	Core chipper	Cold press	Hot press	Burner
Puget Sound									
Pierce	1	0	1	0	1	1	0	0	0
Whatcom	2	0	0	0	0	0	2	1	1
Total	**3**	**0**	**1**	**0**	**1**	**1**	**2**	**1**	**1**
Olympic Peninsula									
Clallam	1	1	1	0	1	0	0	1	0
Grays Harbor	3	0	2	0	2	1	0	1	0
Lewis	1	0	0	0	1	0	0	1	0
Mason	1	0	1	0	1	1	0	1	0
Total	**6**	**1**	**4**	**0**	**5**	**2**	**0**	**4**	**0**
Lower Columbia									
Klickitat	1	1	1	0	1	1	1	1	0
Total	**1**	**1**	**1**	**0**	**1**	**1**	**1**	**1**	**0**
Central Washington									
Yakima	1	0	1	0	1	1	0	1	0
Total	**1**	**0**	**1**	**0**	**1**	**1**	**0**	**1**	**0**
State total	**11**	**2**	**7**	**0**	**8**	**5**	**3**	**7**	**1**

Table 38 shows the volume in bone dry tons of the use of bark and mill residues produced by plywood and veneer mills. For instance, about half (274,855 tons) of the total wood residues (549,448 tons) was sold to pulp mills.

Table 38 **Wood residues from veneer and plywood mills**

(bone dry tons)

Economic area and residue type	Total	Used					Unused
		Total used	Pulp	Board	Fuel	Other	
Puget Sound							
Coarse	60,915	60,915	45,315	6,600	2,394	6,606	0
Medium	0	0	0	0	0	0	0
Fine	2	2	0	0	2	0	0
Total	**60,917**	**60,917**	**45,315**	**6,600**	**2,396**	**6,606**	**0**
Olympic Peninsula							
Coarse	397,880	397,880	176,565,	17,138	170,070	34,107	0
Medium	0	0	0	0	0	0	0
Fine	11,790	11,790	0	0	11,790	0	0
Total	**409,670**	**409,670**	**176,565**	**17,138**	**181,860**	**34,107**	**0**
Lower Columbia							
Coarse	28,971	28,971	21,620	2,628	4,723	0	0
Medium	0	0	0	0	0	0	0
Fine	1,181	1,181	0	0	1,181	0	0
Total	**30,152**	**30,152**	**21,620**	**2,628**	**5,904**	**0**	**0**
Central Washington							
Coarse	48,709	48,709	31,355	0	8,677	8,677	0
Medium	0	0	0	0	0	0	0
Fine	0	0	0	0	0	0	0
Total	**48,709**	**48,709**	**31,355**	**0**	**8,677**	**8,677**	**0**
State total							
Coarse	536,475	536,475	274,855	26,366	185,864	49,390	0
Medium	0	0	0	0	0	0	0
Fine	12,973	12,973	0	0	12,973	0	0
Total	**549,448**	**549,448**	**274,855**	**26,366**	**198,837**	**49,390**	**0**

Table 39 shows the average number of mills and average annual operating days of three categories of production: veneer only, plywood only and both plywood and veneer. For instance, there are five mills that produce both veneer and plywood.

Table 39 **Average number of operating days—veneer and plywood mills**

Mill type	Avg days statewide	Mills
Veneer only	280	3
Plywood only	172	3
Veneer and Plywood	215	5
State avg	**222**	**11**

Pulp Mills

Table 40 shows the number of pulp mills based on their method of production. Methods include chemical (sulphate [or "kraft"] and sulphite), groundwood (mechanical grinding) and semi-chemical (both chemical and mechanical "chemi-thermomechanical"). For instance, five out of 12 mills use mechanical grinding as part of the production process—3 groundwood and 2 semi-chemical.

Table 40 **Number of pulp mills—by processing type**

Economic area and county	All mills	Pulp Mills			
		Sulfite	Sulfate	Groundwood	Semi-chemical
Puget Sound					
Pierce	1	0	1	0	0
Snohomish	1	1	0	0	0
Total	**2**	**1**	**1**	**0**	**0**
Olympic Peninsula					
Clallam	1	0	1	0	0
Total	**1**	**0**	**1**	**0**	**0**
Lower Columbia					
Clark	1	0	1	0	0
Cowlitz	4	1	2	1	0
Total	**5**	**1**	**3**	**1**	**0**
Inland Empire					
Pend Orielle	1	0	0	1	0
Spokane	1	0	0	1	0
Walla Walla	2	0	0	0	2
Total	**4**	**0**	**0**	**2**	**2**
State total	**12**	**2**	**5**	**3**	**2**

Table 41 **Pulp mills' capacity (single 8-hour shift)—by mill type**

(bone dry tons)

Pulp mill type	Capacity	Number
Sulfite	800	2
Sulfate	6,901	5
Groundwood and Semi-chemical	3,388	5
State total	**11,089**	**12**

Table 41 shows the average 8-hour shift capacity of the state's pulp mills, according to process. For instance, the total average 8-hour shift capacity of sulphate (or "kraft") mills in Washington was 6,901 bone dry tons.

Table 42 **Average operating days of pulp mills**

Pulp mill type	Operating days	Number
Sulfite	345	2
Sulfate	209	5
Groundwood and Semi-chemical	362	5
Average	**295**	**12**

Table 42 shows the average operating days and the number of pulp mills, based on type of mill operation. For instance, five groundwood and semi-chemical pulp mills averaged 362 days of operation in 2006.

Table 43 shows the volumes of product s (types of p aper, market pulp) in bone dry tons that were produced by pulp mills. For instance, newsprint (for newspapers) is produced in the greatest volumes (1.07 million tons) of all pulp mill products (3.9 million tons).

Table 43 **Pulp mill production—by product, area and type of operation**

(bone dry tons)

Economic area	All products	Products				
		Newsprint	Bleached paper	Unbleached paper	Other paper	Market pulp
Puget Sound and Olympic Peninsula	893,823	0	0	227,842	548,421	117,560
Lower Columbia	2,061,748	638,770	661,616	638,277	107,325	15,760
Inland Empire	932,164	433,414	248,500	126,000	0	124,250
State total	**3,887,736**	**1,072,184**	**910,116**	**992,119**	**655,746**	**257,570**
Pulp mill type						
Sulfite	196,401	0	0	69,879	126,521	1
Sulfate	2,013,076	0	661,616	796,240	421,900	133,320
Groundwood	1,179,509	1,072,184	0	0	107,325	0
Semi-chemical	498,750	0	248,500	126,000	0	124,250
State total	**3,887,736**	**1,072,184**	**910,116**	**992,119**	**655,746**	**257,570**

Table 44 shows the volume and wood fiber type used by pulp mills. For inst ance, pulp mills st atewide used a tot al of 7.4 million tons of chip s, mill residues, sawdust, shavings and recycled p aper.

Table 44 **Wood fiber consumption by pulp mills—by fiber type**

(bone dry tons)

Economic area	Total	Chips					
		Total Chips	From mill residues	From roundwood chipping mill	From Logs	Sawdust and shavings	Recycled paper
Puget Sound and Olympic Peninsula	1,991,600	1,385,229	1,228,022	157,207	173,475	68,572	364,324
Lower Columbia	3,723,371	3,022,808	2,235,412	787,396	0	136,279	564,284
Inland Empire	1,683,565	999,263	726,263	273,000	390,000	108,001	186,301
State total	**7,398,536**	**5,407,300**	**4,189,697**	**1,217,603**	**563,475**	**312,852**	**1,114,909**

Table 45 shows the volume and species of (roundwood) chip s. For inst ance, pulp mills st atewide used 522,012 tons of Douglas-fir chips.

Table 45 **Roundwood chip consumption by pulp mills—by species**

(bone dry tons)

Economic area	All species	Douglas-fir	Hemlock	True fir	Spruce	Ponderosa pine	Lodgepole pine	Western redcedar	Other conifer	Red alder	Other hardwood
Puget Sound and Olympic Peninsula	157,207	94,293	37,913	992	1,984	0	992	1,984	1,160	16,316	1,572
Lower Columbia	787,396	378,218	205,173	64,063	0	54,207	64,697	0	0	20,879	159
Inland Empire	273,000	49,500	30,000	49,500	0	0	94,500	0	0	0	49,500
State total	**1,217,603**	**522,012**	**273,086**	**114,555**	**1,984**	**54,207**	**160,189**	**1,984**	**1,160**	**37,195**	**51,231**

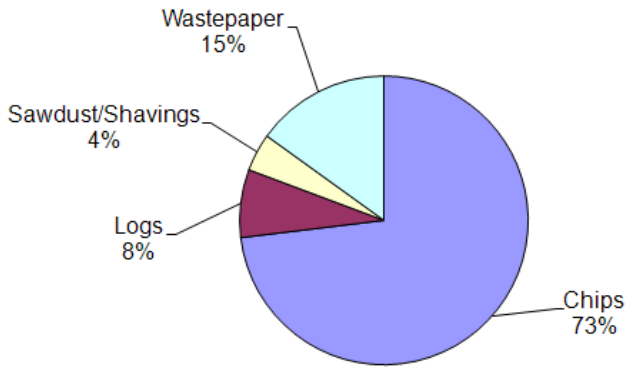
Table 46 shows the volume and wood fiber types from Pacific Northwest st ates and British Columbia that were used by Washington pulp mills. For instance, 38 percent of wood fiber (792,297 tons) for pulp mills came from out-of-state sources (Oregon: 450,279 bone dry tons; Idaho: 331,898 bone dry tons and British Columbia: 10,120 bone dry tons). **These totals do not include recycled paper or chips from mill residues.**

Table 46 Logs, sawdust and roundwood chip use by pulp mills—by state

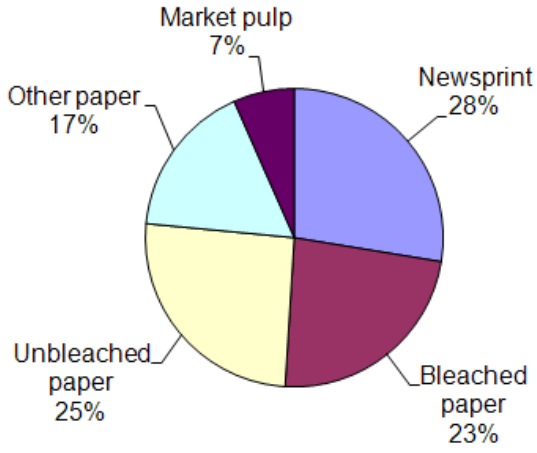
(bone dry tons)

Economic area	Total volume	Washington	Oregon	Idaho	Montana	British Columbia
Puget Sound and Olympic Peninsula						
Roundwood chips	157,207	154,307	0	0	0	2,900
Sawdust	68,572	68,572	0	0	0	0
Logs	173,475	170,006	0	0	0	3,470
Total	**399,254**	**392,313**	**0**	**0**	**0**	**6,370**
Lower Columbia						
Roundwood chips	787,396	514,189	250,909	22,298	0	0
Sawdust	136,279	89,909	46,370	0	0	0
Logs	0	0	0	0	0	0
Total	**923,675**	**604,098**	**297,279**	**22,298**	**0**	**0**
Inland Empire						
Roundwood chips	273,000	105,450	99,000	64,800	0	3,750
Sawdust	108,000	43,200	54,000	10,800	0	0
Logs	390,000	156,000	0	234,000	0	0
Total	**771,000**	**304,650**	**153,000**	**309,600**	**0**	**3,750**
State total						
Roundwood chips	1,217,603	773,946	349,909	87,098	0	6,650
Sawdust	312,851	201,681	100,370	10,800	0	0
Logs	563,475	326,006	0	234,000	0	3,470
Total	**2,093,929**	**1,301,632**	**450,279**	**331,898**	**0**	**10,120**

Graph 21 Pulp mills' raw material



Graph 22 Pulp mills' production



Shake and Shingle

Table 47 shows the average number of operating days, mill cap acities and product volumes of shake and shingle mills. For instance, Washington's 16 shake and shingle mills operated an average of 207 days in 2006.

Table 47 **Shake and shingle mills' capacity and operating days**

Economic area	Total mills	Single Shift Capacity (Squares)			Avg number of operating days / year
		Shake	Shingle	Other	
Olympic Peninsula	13	151	479	20	212
Puget Sound and Lower Columbia	3	70	119	200	185
State total	**16**	**221**	**598**	**220**	**207**

Table 48 **Shake and shingle mills with selected equipment**

Table 48 shows the number of mills that used extra equipment for shake and shingle manufacturing. None of the shake and shingle mills in Washington possessed a chipper, barker or burner.

Economic area	Chipper	Barker	Burner	None
Olympic Peninsula	0	0	0	3
Puget Sound and Lower Columbia	0	0	0	13
State Total	**0**	**0**	**0**	**16**

Table 49 **Log consumption by shake and shingle mills—by type**

(thousand board feet, Scribner scale)

Table 49 shows the volume of logs and other forms of wood received by the shake and shingle industry. For instance, the mills received mostly blocks, bolts or lumber (17,194 mbf) and relatively few logs (745 mbf).

Economic area	All types	Sound logs	Utility logs	Others *
Olympic Peninsula	7,014	300	45	6,669
Puget Sound and Lower Columbia	10,925	400	0	10,525
State total	**17,939**	**700**	**45**	**17,194**

* "Others" includes blocks, bolts, lumber, etc.

Table 50 **Shake and shingle mills' production**

(squares)

Table 50 shows the volume of products (in squares) from shake and shingle mills. For instance, shingles made up 64 percent (85,725 squares out of 134,974 squares total) of the total production of shake and shingle mills.

Economic area and county of operation	Total	Product		
		Shakes	Shingles	Other
Olympic Peninsula	66,234	2,616	58,675	4,943
Puget Sound and Lower Columbia	78,740	690	27,050	41,000
State total	**134,974**	**3,306**	**85,725**	**45,943**

Table 51 shows the volume of logs used by shake and shingle mills by log source category . For instance, all of the logs consumed by shake and shingle mills in the Puget Sound and Lower Columbia economic areas came from tribal lands.

Table 51 Log consumption by shake and shingle mills—by original owners

(thousand board feet, Scribner scale)

						Forest industry			
Economic area	All owners	State	National Forest	Bureau of Land Management	Other public	Own wood supply	Other wood supply	Native American	Farmer and miscellaneous private
Olympic Peninsula	345	0	210	0	0	0	9	27	99
Puget Sound and Lower Columbia	400	0	0	0	0	0	0	400	0
State total	**745**	**0**	**210**	**0**	**0**	**0**	**9**	**427**	**99**

Table 52 shows the volume of logs consumed by shake and shingle mills by diameter . For instance, 88 percent (655 mbf) of the logs consumed were at least 21 inches in diameter .

Table 52 Log consumption by shake and shingle mills—by diameter (in inches)

(thousand board feet, Scribner scale)

	Log diameter in inches			
Total	less than 5	5 to 10	10 to 20	21 or more
745	—	45	45	655

Table 53 shows the volume of wood and bark residues that were used and not used. For instance, all the bark residues from shake and shingle mills were used.

Table 53 Wood and bark residues—produced by shake and shingle mills

(dry weight tons)

Economic area of operation	All residues			Wood residues		
	Total	Used	Unused	Total	Used	Unused
Olympic Peninsula	62,344	61,108	1,235	51,095	49,860	1,235
Puget Sound and Lower Columbia	71,462	71,461	0	54,143	54,143	0
State total	**133,806**	**132,569**	**1,235**	**105,238**	**104,003**	**1,235**

continued

Table 53 Wood and bark residues—produced by shake and shingle mills

	Bark residues		
Economic area	Total	Used	Unused
Olympic Peninsula	11,248	11,248	0
Puget Sound and Lower Columbia	17,318	17,318	0
State total	**28,566**	**28,566**	**0**

Table 54 shows the volumes of bark and wood residues for pulp, fuel and other uses. For inst ance, the most prominent uses of wood and bark residues were landscaping and animal bedding (listed as “Other”). That category made up 59 percent (62,242 tons out of a tot al 105,238 tons).

Table 54 **Use of residues—by use and type**

(dry weight tons)

All wood residues (does not include bark)

Economic area of operation	Total	Used	Pulp	Fuel	Other	Unused
Olympic Peninsula	51,095	49,860	3,559	37,188	9,113	1,235
Puget Sound and Lower Columbia	54,143	54,143	0	1,014	53,129	0
State Total	**105,238**	**104,003**	**3,559**	**38,202**	**62,242**	**1,235**

Coarse wood residues

Economic area of operation	Total	Used	Pulp	Fuel	Other	Unused
Olympic Peninsula	12,810	11,705	807	8,735	2,163	1,105
Puget Sound and Lower Columbia	13,607	13,607	0	0	13,607	0
State total	**26,417**	**25,312**	**807**	**8,735**	**15,770**	**1,105**

Fine wood residues

Economic area of operation	Total	Used	Pulp	Fuel	Other	Unused
Olympic Peninsula	38,285	38,155	2,752	28,453	6,950	130
Puget Sound and Lower Columbia	40,536	40,536	0	1,014	39,522	0
State total	**78,821**	**78,691**	**2,752**	**29,467**	**46,472**	**130**

Bark residues

Economic area of operation	Total	Used	Pulp	Fuel	Other	Unused
Olympic Peninsula	11,248	11,248	1,028	7,700	2,520	0
Puget Sound and Lower Columbia	17,318	17,318	0	0	17,318	0
State total	**28,566**	**28,566**	**1,028**	**7,700**	**19,838**	**0**

Log Exports

Table 55 shows the number of businesses, volume and percent age share of exported logs from each port. For instance, the Port of Longview handled 70 percent of the logs exported from Washington—378,751 mbf of a total of 541,038 mbf.

Table 55 Export logs—by port

(thousand board feet, Scribner scale)

Port	Export operations	Total	% of State Total
Aberdeen	1	78,203	14%
Longview	5	378,751	70%
Olympia	1	1,413	< 1%
Port Angeles	1	527	< 1%
Seattle	1	835	< 1%
Tacoma	2	81,309	15%
State total	**11**	**541,038**	**100**

Table 56 shows the volume of logs exported by log diameter . For instance the Port of Aberdeen handled 55,524 mbf of logs that were between 1 1 and 21 inches in diameter.

Table 56 Export logs—by diameter in inches

(thousand board feet, Scribner scale)

		Diameter in inches			
Port	Total	Less than 5	5 to 11	11 to 21	21 or more
Aberdeen	78,203	0	17,205	55,524	5,474
Longview	378,751	0	73,647	277,194	27,910
Olympia	1,413	0	212	1,201	0
Port Angeles	527	0	158	369	0
Seattle	835	0	167	626	42
Tacoma	81,309	0	18,640	62,567	101
State total	**541,038**	**0**	**110,029**	**397,482**	**33,527**

Graph 23 Log Exports—by Washington ports

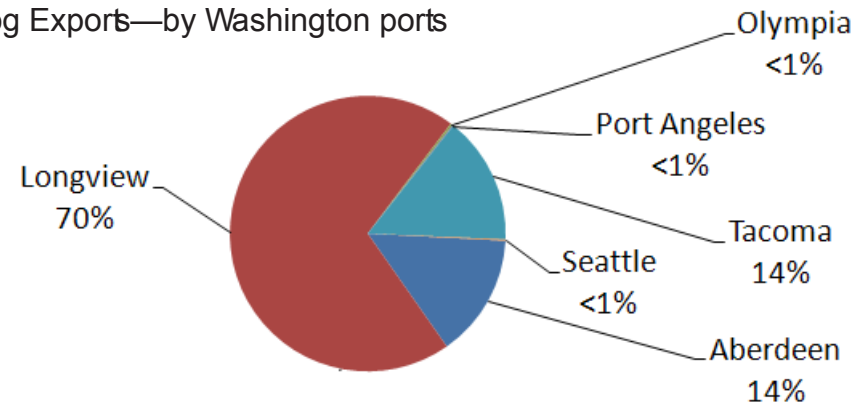


Table 57 shows the volume of logs from each county and which port s were used for export. It also shows the volume of out-of-state logs exported through each Washington port. For instance, Longview exported more out-of-state logs (212,875 mbf) than Washington-grown logs (165,875 mbf).

Table 57 **Export logs—by county of original owners**

(thousand board feet, Scribner scale)

Economic area of logs' origin	Total	Port of export					
		Longview	Aberdeen	Seattle	Olympia	Tacoma	Port Angeles
Lower Columbia							
Wahkiakum	4,061	4,061	0	0	0	0	0
Cowlitz	79,414	79,414	0	0	0	0	0
Clark	11,819	11,819	0	0	0	0	0
Total	**95,294**	**95,294**	**0**	**0**	**0**	**0**	**0**
Olympic Peninsula							
Thurston	9,941	2,510	0	125	1,413	5,893	0
Pacific	20,333	0	20,333	0	0	0	0
Mason	9,006	6,660	2,346	0	0	0	0
Lewis	92,242	41,431	26,589	0	0	24,222	0
Grays Harbor	29,364	0	28,935	125	0	303	0
Clallam	2,527	0	0	585	0	1,415	527
Total	**163,412**	**50,600**	**78,203**	**835**	**1,413**	**31,834**	**527**
Puget Sound							
Snohomish	6,660	6,660	0	0	0	0	0
Pierce	10,386	6,660	0	0	0	3,726	0
King	10,386	6,660	0	0	0	3,726	0
Total	**27,433**	**19,980**	**0**	**0**	**0**	**7,453**	**0**
State total	**286,140**	**165,875**	**78,203**	**835**	**1,413**	**39,287**	**527**
Out-of-state logs	**254,898**	**212,875**	**0**	**0**	**0**	**42,022**	**0**
Total	**541,038**	**378,750**	**78,203**	**835**	**1,413**	**81,309**	**527**

Graph 24 Origin of logs exported through Washington's ports

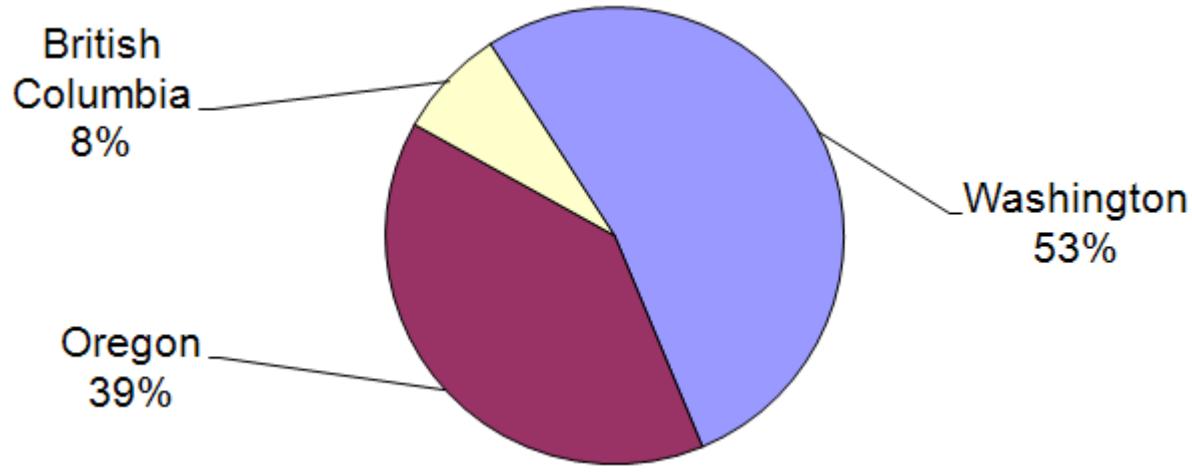


Table 58 shows the volume and ownership categories of logs exported from each port in Washington. (Federal law prohibits exporting logs harvested from public lands.) For instance, the greatest volume of logs exported were from large industrial forests (464,395 mbf). Industrial forest owners (usually corporations) cut and exported 296,760 mbf and contractors removed an additional 167,635 mbf from industrial forests.

Table 58 **Export logs—by port and original owners**

(thousand board feet, Scribner scale)

Port	Total	Forest industry		Native American	Farmer and miscellaneous private
		Own wood supply	Other wood supply		
Aberdeen	78,203	58,652	10,948	782	7,820
Longview	378,751	216,538	101,664	8,366	52,185
Olympia	1,413	0	1,201	0	212
Port Angeles	527	527	0	0	0
Seattle	835	125	668	0	42
Tacoma	81,309	20,918	53,154	0	7,237
State total	**541,038**	**296,760**	**167,635**	**9,148**	**67,495**

Federal law prohibits exporting logs harvested from public lands

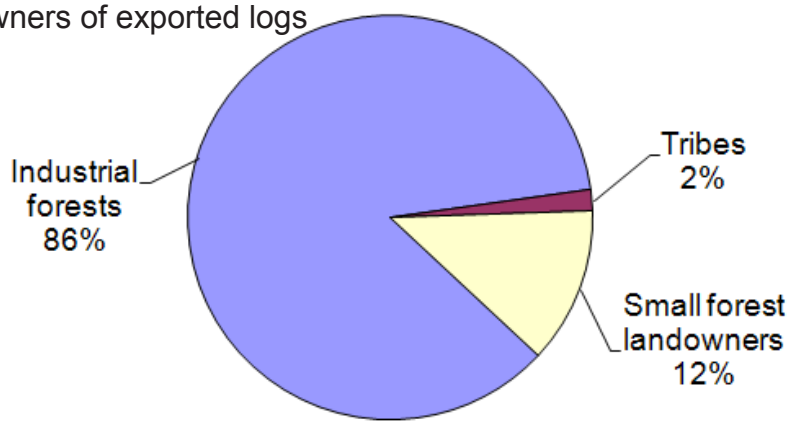
Table 59 shows the volume and species of logs exported through W ashington's ports. For instance, most export logs were Douglas-fir—517,056 mbf from a total of 541,038 mbf exported logs.

Table 59 **Export logs—by species**

(thousand board feet, Scribner scale)

Port	All species	Douglas-fir	Hemlock	True firs	Spruce
Aberdeen	78,203	78,203	0	—	0
Longview	378,751	358,031	11,100	7,400	2,220
Olympia	1,413	1,272	141	—	0
Port Angeles	527	264	221	—	42
Seattle	835	0	292	—	543
Tacoma	81,309	79,287	708	—	1,314
State total	**541,038**	**517,056**	**12,463**	**7,400**	**4,119**

Graph 25 Original owners of exported logs



Post, Pole, and Piling

Table 60 shows the cap acity by volume of logs that post, pole, and piling mills can peel and/or treat annually . The table also shows the average number of days post, pole, and piling mills operated in 2006. For instance, half of the state's post, pole, and piling mills (3 out of 6) are located in the Olympic Peninsula economic area.

Table 60 **Number of post, pole, and piling mills—by operating days and capacity**

Economic area of operation	Number	Annual capacity (thousand board feet, Scribner scale)		Avg number of operating days in 2006	
		Peeling	Treatment	Peeling	Treatment
Olympic Peninsula	3	265	0	250	0
Puget Sound and Inland Empire	3	12	523	140	338
State total	**6**	**277**	**523**	**197**	**338**

Table 61 shows the numbers of post, pole, and piling operations with peelers and burners. For instance, there are four post, pole, and piling operations with peeler equipment.

Table 61 **Number of post, pole, and piling mills—by selected equipment**

Economic area and county of operation	Total	Peeler	Burner
Olympic Peninsula	3	3	0
Puget Sound and Inland Empire	3	1	0
State total	**6**	**4**	**0**

Table 62 shows the volume of logs by diameter in inches that were processed by post, pole, and piling mills. For instance, 73 percent (21,735 mbf) of the logs processed by post, pole, and piling operations were 5 to 1 1 inches in diameter .

Table 62 **Log consumption by post, pole, and piling mills—by diameter**
(thousand board feet, Scribner scale)

Economic area of operation	Total	Diameter in inches			
		Less than 5	5 to 11	11 to 21	21 or more
Olympic Peninsula	16,450	0	13,455	2,995	0
Puget Sound and Inland Empire	10,803	3	8,280	2,520	0
State Total	**27,253**	**3**	**21,735**	**5,515**	**0**

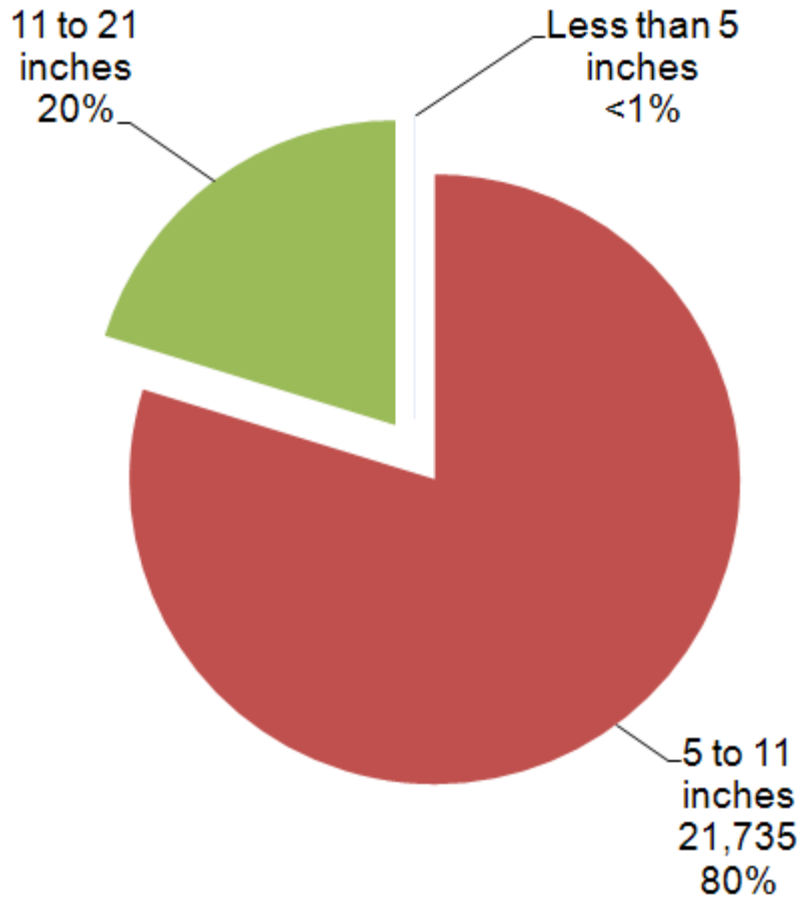
Table 63 shows the tot al volume of logs that were processed with and without treatment. For instance, the ratio of treated to untreated logs was about two to one (19,415 mbf to 9,949 mbf).

Table 63 **Post, pole, and piling mills' production—by treatment**

(thousand board feet, Scribner scale)

Economic area and county of operation	Total	Treated	Untreated
Olympic Peninsula	19,415	0	19,415
Puget Sound and InlandEmpire	9,949	9,949	0
State total	29,364	9,949	19,415

Graph 26 Post, pole, and piling logs by diameter



Bill Latunen manages the PLS PoleYards which covers 27 acres in Rochester. The business can handle 4,000 to 5,000 lineal feet per day. Some poles can last 70-75 years (Douglas-fir) to 100 years (western redcedar) as utility poles. However, Latunen says there is an extra premium cost for removing and transporting logs sold as poles. "We have to use special logging practices," he said. "You can't be in a big hurry."

Log Chipping

Table 64 shows the total number of chipping operations, 8-hour capacity and average days operated in 2006. For instance, the average number of working days in the Olympic Peninsula was 209.

Table 64 Number of chipping operations—by capacity and operating days

Economic area	Number	8-hour capacity (bone dry tons)	Avg days operated
Olympic Peninsula	7	2,760	209
Others *	6	1,865	259
State Total	**13**	**4,625**	**232**

Table 65 shows the volume of logs used by chipping mills by diameter in inches. For instance, a total of 99,263 mbf of logs (about 35%) were less than 5 inches in diameter.

Table 65 Log consumption by log chipping mills—by diameter in inches
(thousand board feet, Scribner)

Economic area	Total	Diameter in inches			
		Less than 5	5 to 11	11 to 21	21 or more
Olympic Peninsula	161,789	57,689	38,276	42,379	23,445
Others *	124,772	41,574	19,803	41,825	21,571
State total	**286,561**	**99,263**	**58,079**	**84,203**	**45,016**

Table 66 shows the volume of logs consumed by chipping mills by the logs' original owners. For instance, the state's chipping mills received the largest share of their logs from privately owned industrial forests. Sixteen million board feet came from the owners of industrial forests and 179 million board feet came from contractors who removed logs from private industrial forests.

Table 66 Log consumption by log chipping mills—by original owners
(thousand board feet, Scribner scale)

Economic area of operation	All owners	State	National Forest	Bureau of Land Mgt	Other public	Forest industry		Native American	Farmer and misc. private
						Own wood supply	Other wood supply		
Olympic Peninsula	161,789	19,253	10,587	0	0	0	107,637	7,933	16,379
Others *	124,772	13,389	3,343	0	195	16,310	71,374	1,571	18,592
State Total	**286,561**	**32,642**	**13,930**	**0**	**195**	**16,310**	**179,010**	**9,504**	**34,970**

* "Others" indicates economic areas were combined to avoid disclosing individual corporate data.

Table 67 shows species of logs consumed by log chipping mills by species. For inst ance, chipping mills in the Olympic Peninsula economic area consumed 75.2 million board feet of Douglas-fir logs.

Table 67 **Log consumption by log chipping mills—by species**
(thousand board feet, Scribner scale)

Economic area	All species	Douglas-fir	Hemlock	True fir	Spruce	Ponderosa pine	Lodgepole pine	Western redcedar	Other conifer	Red alder	Other hardwood
Olympic Peninsula	161,789	75,161	58,154	1,168	307	0	0	1,667	0	23,667	1,667
Others *	124,772	31,132	15,945	46,918	195	9,594	3,730	389	195	10,519	6,154
State Total	**286,561**	**106,293**	**74,099**	**48,086**	**501**	**9,594**	**3,730**	**2,056**	**195**	**34,186**	**7,821**

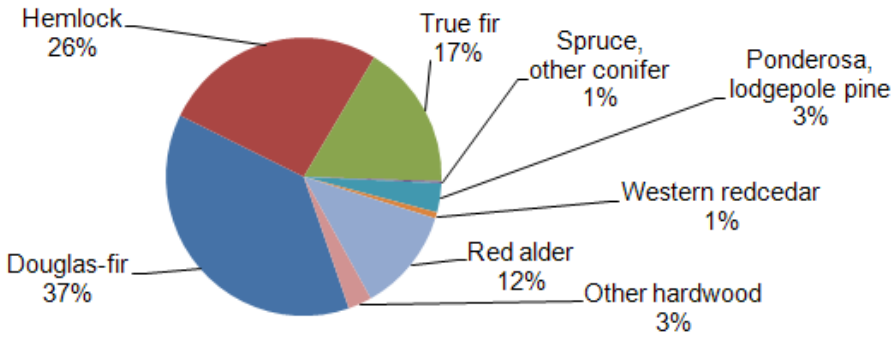
Table 68 shows the tot al production of chip s by log chipping mills by economic area. For instance, chipping mills statewide produced a total of 1,224,057 tons of chips in 2006.

Table 68 **Chip production—by economic area**
(bone dry tons)

Economic area	Chip production
Olympic Peninsula	798,530
Others *	425,527
State total	**1,224,057**

* “Others” indicates economic areas were combined to avoid disclosing individual corporate data.

Graph 26
Tree species consumed by chipping mills



Graph 27
Chipping log diameters (in inches)