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## Oregon Softwood Lumber Industry 1995-2012: Fewer Mills and Jobs, But Larger Timber-Processing Capacity

by Andy Kerr<sup>1</sup>

### Abstract

*While the number of all Oregon primary wood product manufacturing facilities and lumber and wood products jobs both decreased 53% between 1995 and 2010, between 1995 and 2012 the timber-processing capacity of the remaining large softwood sawmills increased 25% above the industry's 1995 levels. Large-capacity Oregon softwood sawmills have a milling capacity far in excess of current and likely domestic demand. These mills also are generally failing to compete with mills in China and Japan for Oregon private logs. Because they are being buffeted between low product prices and high supply prices, these mills seek to increase federal logging levels (federal logs cannot be exported and are thus significantly less expensive to domestic milling operations) from federal public forestlands. Production (utilized capacity) has declined dramatically with the collapse of the American housing bubble, but milling capacity has not (yet).*

### Introduction

Any one paying any attention to the Oregon wood products industry during the last quarter century knows this story: *A lot of mills have closed and a lot of jobs have been lost.* The conventional narrative is that it is due almost exclusively from the decline in the amount of logs available from federal public forestlands in Oregon. This conventional narrative is incomplete and therefore misleading. While federal log output within the range of the Northern Spotted Owl has significantly declined from its peak in the late 1980s and early 1990s, other factors were at play that also contributed to the decrease in the number of Oregon wood processing facilities and lumber and wood processing jobs, including but not limited to: (1) log exports;<sup>2</sup> (2) overcutting

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<sup>2</sup> Kerr, Andy. 2012. Oregon and Washington Raw Log Exports: Exporting Jobs and a Subsidy to Domestic Mills. Larch Occasional Paper #10. The Larch Company. Ashland, OR. (available at [www.andykerr.net/downloads](http://www.andykerr.net/downloads))

of private timberlands; (3) weak domestic housing market; (4) increased milling efficiencies (automation) and (5) timber-processing capacity increases.

The take-home message of this paper is this: *While the number of mills and jobs have declined significantly, the timber-processing capacity of the remaining large softwood sawmills has increased significantly.*

## Results

### • ***Between 1995 and 2010 the Number of Oregon Wood Processing Facilities Decreased 53%***

The number of all Oregon wood products primary manufacturing facilities declined 53% to 106 mills in 2010 from 225 mills in 1995. Table 1 depicts data from the Oregon Department of Forestry website (which actually comes from industry analyst Paul F. Ehinger) from 1995, the first year of the Northwest Forest Plan, to 2010, the last year for which information is available.<sup>3</sup>

### • ***Between 1995 and 2010 the Number of Oregon Lumber and Wood Processing Jobs Decreased 53%***

The number of Oregon lumber and wood products jobs declined 53% to 25,300 workers in 2010 from 54,200 workers in 1995 (Table 1).<sup>4</sup>

### • ***Between 1995 and 2011 the Timber Milling Capacity of Oregon Softwood Lumber Mills Increased 25%***

The milling capacity of large-capacity Oregon softwood sawmills increased 29% to 7,535 million board feet (MMBF) in 2012<sup>5</sup> from 5,842 MMBF in 1995, while the number of such mills decreased 37%.<sup>6</sup> Table 1 summarizes the Oregon data of detailed biennial analyses of the softwood sawmills in the United States and Canada.

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<sup>3</sup> Oregon Department of Forestry . Oregon's Forest Atlas 2010 Online Edition (Decline\_Number\_of\_Forest\_Products\_Mills\_1980-2010.ppt). Data supplied by Paul F. Ehinger and Associates). ([http://cms.oregon.gov/odf/pages/resource\\_planning/fa101.aspx](http://cms.oregon.gov/odf/pages/resource_planning/fa101.aspx))

<sup>4</sup> Warren, Debra. 2011. Harvest, Employment, Exports and Prices in Pacific Northwest Forests, 1965–2010. USDA Forest Service Pacific Northwest Research Station General Technical Report PNW-GTR-857. ([www.fs.fed.us/pnw/pubs/pnw\\_gtr857.pdf](http://www.fs.fed.us/pnw/pubs/pnw_gtr857.pdf))

<sup>5</sup> Includes five mills which are closed but have yet to be dismantled with a capacity of 298 mmbf/year.

<sup>6</sup> Spetler, Henry, Rocky Goodnow, Julie Swietzer and Art Schmon. 2012. Profile 2012: Softwood Sawmills in the United States and Canada. Forest Economic Advisors, LLC. (<http://www.getfea.com/component/content/article/792>)  
*Note:* The 2012 version of biennial publication can be obtained at the cost of \$1,500 (\$250 if you just want the PDF overview, which include state/province summaries), which includes the Excel data files upon which this report draws. See Additional Resources at the end of this paper for citations to the earlier versions, which were published by the USDA Forest Service Forest Products Laboratory in Madison, Wisconsin and therefore are in the public domain.

13% of the increase in milling capacity is attributable to increased lumber recovery factors, meaning that for a given volume of logs going into a mill, more lumber is produced.<sup>7</sup> The remaining 87% of increased milling capacity is attributable to capacity increases to process more logs. Therefore large-capacity Oregon softwood lumber mills have increased their timber-processing capacity 25% (29%\*87%).

<b>Year</b>	<b>Wood Products Lumber and Wood Products Jobs (in thousands of workers)</b>	<b>All Wood Products Primary Manufacturing Facilities</b>	<b>Number of Large-Capacity Softwood Mills*</b>	<b>Total Large-capacity Softwood Milling Capacity (MMBF)</b>	<b>Average Milling Capacity of Large-capacity Oregon Softwood Mills (MMBF)</b>
1995	54,200	225	94	5,842	69
1996	50,600	210	87	5,685	70
1997	51,900	210	86	5,999	75
1998	50,300	193	81	6,125	80
1999	49,000	184	81	6,377	88
2000	49,000	175	78	6,844	96
2001	46,000	166	76	6,735	97
2002	45,900	156	70	6,564	99
2003	38,900	144	71	7,222	111
2004	38,900	138	75	7,777	121
2005	40,200	135	66	8,026	128
2006	39,000	130	67	7,971	121
2007	36,900	124	64	7,756	118
2008	33,400	121	61	7,639	116
2009	26,900	109	55	7,294	111
2010	25,300	106	54	7,197	109
2011	na	na	54	7,237	110
2012	na	na	54	7,237	110
<i>Change Between 1995 and Last Year of Available Data</i>					
	-53%	-53%	-43%	25%*	59%
* Includes 298 MMBF capacity for five closed mills that are still intact and could reopen.					

<sup>7</sup> Gale, Charles B., Charles E. Keegan III, Erik C. Berg, Jean Daniels, Glenn A. Christensen, Colin B. Sorenson, Todd A Morgan, and Paul Polzin. 2012. Oregon's Forest Products Industry and Timber Harvest 2008: Industry Trends and Impacts of the Great Recession Through 2010. USDA Forest Service Pacific Northwest Research Station General Technical Report PNW-GTR-868. ([www.fs.fed.us/pnw/pubs/pnw\\_gtr868.pdf](http://www.fs.fed.us/pnw/pubs/pnw_gtr868.pdf))

Table 2 shows those large-capacity Oregon softwood sawmills that increased their milling capacity between 1995 and 2012 by at least 100%. While a few of those increases partially came from shutting down other older operations and/or retooling mills owned by the same firms, most came at the expense of other lumber milling companies that no longer could compete.

<i>Company</i>	<i>Location</i>	<i>Percentage Increase Between 1995 and 2012</i>
Banks Lumber Company	Banks	117%
Georgia-Pacific/Koch Corp	Coos Bay	133%
Southport Forest Products	Coos Bay	138%*
Roseburg Forest Products	Dillard	899%
D.R. Johnson Lumber Company	Dillard	100%
Weyerhaeuser	Lebanon	197%
RSG Forest Products Inc.	Mist	178%
RSG Forest Products Inc.	Molalla	146%
Southport Forest Products	North Bend	150%*
Seneca Sawmill Company (formerly Swanson Group)	Noti	219%
D.R. Johnson Lumber Company	Riddle	111%
Hampton Lumber Mills	Willamina	121%
Douglas County Forest Products	Winchester	150%
• Rather than 1995, the base years were 2000 and 2005 respectively for Southport’s dimension lumber mill in Coos Bay and stud mill in North Bend.		

### **Caveat**

Astute readers will notice the above 53% decline in the number of milling operations includes all kinds and sizes of primary wood processing facilities versus the above 25% increase refers to just large-capacity softwood sawmills. The nuances of and reasons for this McIntosh-apples to Gravenstein-apples comparison (as opposed to an apples-to-oranges comparison) is detailed below.

### **Discussion**

#### **Data Sets**

The Ehinger List includes all wood processing facilities and of all sizes (capacities), not just large-capacity Oregon sawmills. The data is not broken out between the various types of wood processing facilities. In 2008, nearly 76% of the Oregon wood products milling capacity in Oregon are sawmills.<sup>8</sup> I have no reason to believe that, proportionally, softwood sawmills closed at a significantly different rate than all primarily wood-processing facilities in Oregon.

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<sup>8</sup> Gale, et al. 2012. The remainder are pulp and paper, plywood and veneer plants, reconstituted board, other sectors (bark products, cedar products, energy/biomass, engineered wood products, exports and fuel pellet/fire log manufacturers), chipping facilities, log home plants, pole, pole, pilings and utility pole plants, and log furniture plants.

Detailed data for *large* (ability to produce over 10 MMBF of lumber annually) *softwood* (a few *hardwood* mills exist, but they are minor in number and capacity) mills is available. According to Henry Spelter, the lead author of the biennial series, *Profile [YEAR]: Softwood Sawmills in the United States and Canada*, over 95% of the milling capacity of softwood mills are included in the profiles.<sup>9</sup> As the large softwood mills comprise nearly 76% of total milling capacity, the available data is nonetheless illuminating, illustrative and indicative.

## 1995 as Baseline

Current debates over levels and kinds of logging on federal public forestlands in Western Oregon arise from the implementation of the Northwest Forest Plan. 1995 was the first year of implementation of the Northwest Forest Plan, which was imposed by The White House on all federal administrative units (National Forest System units and Bureau of Land Management districts within the range of the northern spotted owl). As the NWFP resulted in the removal of various court injunctions and allowed federal timber output to increase from the enjoined levels of the late 1980s and early 1990s, 1995 was the beginning of the modern era of timber production from federal public forestlands in Oregon. 1995 is also the earliest year of detailed milling capacity data for Oregon softwood lumber mills (see numerous Spelter, et al.'s *Profiles* in Additional Resources).<sup>10</sup>

## Full Capacity and Number of Shifts

Spelter's capacity data is for what was normative for the mill. If they were running three-shifts, he used that capacity number even if the mill later shifted to two shifts. If a mill normally ran two shifts, he used that for the capacity figure.<sup>11</sup>

## Lumber Recovery Factor

"The LRF [lumber recovery factor] is the lumber output (in thousand board feet lumber tally) divided by the timber input (cubic board feet)."<sup>12</sup> LRF is an accurate indicator of milling efficiency, or the ability to get the most board feet of lumber out of a given unit of logs. As mills have modernized, they have not only increased their throughput (the lumber they can produce in a given time), but also their efficiency. Modern mills use lasers, computers, algorithms and other technologies to mill a log most efficiently than previously possible. Many also used saws that cut the wood on the curve of the log, which reduces waste. Based on the data presented in Gale, et al 2012, I estimate by interpolation the LRF of Oregon lumber mills in 1995 to be 8.14 board feet of lumber per cubic foot of wood. Their reported figure for 2008 was 9.00. I estimated 2011 LRF (by extrapolating the average annual LRF increase using reported data from 1998, 2003, 2008) to be 9.21, which is a 13% increase of LRF between 1995 and 2012. If one applies the LRF

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<sup>9</sup> Spelter, Henry. 2012. Pers. comm. (Phone)

<sup>10</sup> 1995 was also the first full-year of operations of the "Eastside Screens," "InFish" and "PacFish," which were new Forest Service policies regarding logging in eastside forests of Oregon that resulted in significantly lower levels of logging.

<sup>11</sup> Spelter, Henry. 2012. Pers. comm. (Phone)

<sup>12</sup> Gale, et al. 2012.

increase to the 29% increase in large-capacity Oregon softwood sawmill milling capacity, the amount of log-consuming ability increased by 25%.

### **Reliability of the Data**

Spelter relied on voluntary reporting, 10-k filings for publicly traded companies, EPA pollution inventories (EPA reports of a facility is operating or not at the time of last inspection), industry directories, trade journals and other sources.<sup>13</sup>

Though Paul Ehinger, the source of the data upon which the Oregon Department of Forestry relies upon for mill closures, is a former wood products industry executive and later industry analyst and advocate, I have no reason to question his data regarding mill closures. I only wish he'd also kept tabs on milling capacity going off- and on-line.

### **The Great Recession and the American Housing Market**

In 2008, only 61.8% of Oregon sawmill capacity was utilized.<sup>14</sup> According to the National Association of Homebuilders and the US Census Bureau, US housing starts peaked in 2005 at 2.07 million annually. They bottomed out in 2009 at 0.55 million. The seasonally adjusted annual rate in December 2012 is 0.95 million.<sup>15</sup> The unwillingness or inability of banks to lend and consumers to borrow despite record-low interest rates, combined with a huge backlog of foreclosed and foreclosing inventory, mean that housing starts won't likely return to the boom levels for a long time, if ever.

### **The Great Leap Forward in the Chinese Housing Market**

Log exports for Oregon and Washington to East Asia (primarily feeding the Chinese housing boom, but also the Japanese rebuilding effort at the 2011 earthquake and tsunami) have been at record levels.<sup>16</sup> Though exports have softened somewhat due to a softening in the Chinese housing market, that market is still best described as booming—just not as much. Given the rapid industrialization and urbanization of China due an economy continuing to growing annually in the double digits, it is likely that high demand for Oregon logs by Chinese mills will continue.

### **The Mills Most Likely to Close**

There are too simply many stud and dimension lumber sawmills given the demand for housing in the US. Milling capacity will eventually rationalize with long-term demand.

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<sup>13</sup> Spelter, Henry. 2012. Pers. comm. (Phone)

<sup>14</sup> Gale, 2012.

<sup>15</sup> [http://www.nahb.org/fileUpload\\_details.aspx?contentTypeID=3&contentID=45409&subContentID=154673](http://www.nahb.org/fileUpload_details.aspx?contentTypeID=3&contentID=45409&subContentID=154673) and <http://www.nahb.org/generic.aspx?sectionID=130&genericContentID=554>

<sup>16</sup> Kerr, Andy. 2012. Oregon and Washington Raw Log Exports: Exporting Jobs and a Subsidy to Domestic Mills. Larch Occasional Paper #10. The Larch Company. Ashland, OR. (available at [www.andykerr.net/downloads](http://www.andykerr.net/downloads))

There are also some mills, for which their supply of large logs will continue to decrease even if demand for their product remains. When markets were better and diesel was cheaper, large logs were hauled to certain Oregon mills from as far as Vancouver Island in British Columbia. The social license to log large trees on mature and old-growth federal public forestlands in western Oregon has expired and will not be renewed. In particular, there are nine western Oregon mills stuck in the past with an increasingly and inevitably obsolete business model.<sup>17</sup> Table 3 lists these nine mills and their changes in capacity between 1995 and 2012.

<i>Company</i>	<i>Location</i>	<i>Percentage Change Between 1995 and 2012</i>
Oregon Overseas Timber Company	Bandon	<i>not available</i>
Rough & Ready Lumber Company	Cave Junction	-49%*
Starfire Lumber Company	Cottage Grove	32%
Zip-o-Log Mills	Eugene	0%
Hull-Oakes Lumber Company	Monroe	9%
Swanson Bros. Lumber Company	Noti	60%
C&D Lumber Company	Riddle	51%
D.R. Johnson Lumber Company	Riddle	111%
Herbert Lumber Company	Riddle	83%

\*Reflects that R&R shuttered a newer small-diameter mill adjacent to their older large-log mill, which continues to operate.

### **Conclusions and Recommendations**

As individual business decisions by individual companies, getting larger and more efficient made sound business sense. In capitalism, for there to be winners, there must be losers. Mills who did not get bigger are likely to fail due to competitive reasons that cannot be remedied by the provision of additional cheap federal logs. Some of those mills who did get larger, may just lose those bets anyway due to soft domestic lumber markets, competition with mills in East Asia for Oregon private logs and other factors.

The federal government should not increase timber supplies beyond what is ecologically beneficial and socially acceptable.

Fortunately for the majority of western Oregon softwood sawmills, the former means a very large amount of ecological restoration thinning of degraded forests can result in a 44% increase in federal log supply for the next two decades, compared to what has been produced under the Northwest Forest Plan.<sup>18</sup>

<sup>17</sup> Kerr, Andy and Sean Stevens. 2010. Logjam: Nine Oregon Logging Mills Stuck in the Past. Oregon Wild, Portland, OR. [http://www.oregonwild.org/oregon\\_forests/old\\_growth\\_protection/westside-forests/](http://www.oregonwild.org/oregon_forests/old_growth_protection/westside-forests/)

<sup>18</sup> Kerr, Andy. 2012. Ecologically Appropriate Restoration Thinning in the Northwest Forest Plan Area. Conservation Northwest, Geos Institute, Klamath-Siskiyou Wildlands Center and Oregon Wild. (<http://www.andykerr.net/storage/conservation-uploads/forests/KerrAndy2012Ecologically%20AppropriateRestorationThinningintheNorthwestForestPlanArea.pdf>)



If the US housing market remains soft as the effects of the Great Recession housing bubble are processed by the economy and society, even mills with ample supplies of logs may not make it as existing milling capacity nationally is far in excess of reasonably projected demand.

As soft domestic demand for lumber is likely to continue, the closer alignment of milling capacity in large-capacity Oregon softwood lumber mills with market demand will inevitably result in the closure of additional mills. Superstorm Sandy has temporarily increased wood products demand, but it will not reverse the inevitable trend.

### **Acknowledgments**

I am indebted—in so many ways, but in this case—to Randi Spivak, Vice-President for Policy of the Geos Institute for discussions that led me to examine Oregon softwood lumber timber-processing capacity.

### **Additional Resources**

All of the following Spelter, et al. publications are in the public domain. If you want the latest data (2011 and beyond) it is available for a fee from Forest Economic Advisors ([www.getfea.com](http://www.getfea.com)).

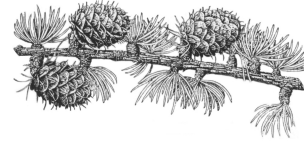
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- Spelter, Henry, David McKeever and Matthew Alderman. 2007. Profile 2007: Softwood Sawmills in the United States and Canada. USDA Forest Service Forest Products Laboratory. Research Paper FPL-RP-664.
- Spelter, Henry, David McKeever and Daniel Toth. 2009. Profile 2009. Softwood Sawmills in the United States and Canada. USDA Forest Service Forest Products Laboratory. Research Paper FPL-RP-659.

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