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Idaho's Forest Products Industry and Timber Harvest, 2015

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Abstract: This report traces the flow of Idaho's 2015 timber harvest through the primary wood products industry and characterizes the structure, capacity, and condition of Idaho's forest products sector. Trends in timber harvest, production, sawmill capacity, mill residuals, and sales value are presented. Employment and worker earnings in the State's primary and secondary forest products industries are also discussed. Periodic survey data collected from the forest products industry provides detailed information on Idaho's timber resources, wood utilization, and the economic contributions of the industry to the State economy.

Keywords: forest economics, lumber production, mill residue, mill capacity, wood products, timber harvest, timber-processing facility, wood utilization

Cover: Logging site in northern Idaho (left), and Idaho Forest Group facility in Chilco, ID (right). Courtesy photos by Eric Simons, Bureau of Business and Economic Research, University of Montana.

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Highlights

- A total of 88 primary wood products facilities were identified as active in Idaho during 2015, the same as during the previous mill census in 2011.
- 28 sawmills
- 2 plywood / veneer plants
- 15 log home facilities
- 18 residue related products facilities
- 7 cedar product manufacturers
- 18 post, pole, and log furniture producers
- Idaho's total timber harvest in 2015 was 1.14 billion board feet Scribner, 6 percent higher than in 2011.
- Timber harvested from non-industrial private timberlands increased as a proportion of the total harvest from 12 percent in 2011 (131 MMBF) to 17 percent in 2015 (195 MMBF). Industrial timberlands' proportion of total harvest increased from the 2011 proportion (45 percent) to 49 percent in 2015.
- Timber harvested from National Forest System lands accounted for just under 9 percent (99 MMBF) of the total harvest (1,135 MMBF). Timber harvested from all other public lands, primarily Idaho Department of Lands, declined from 33 percent in 2011 to 25 percent of total harvest in 2015.
- Saw and veneer logs comprised over 89 percent of the total harvest. Clearwater, Bonner, Shoshone, and Benewah Counties were the largest contributors to the State's total harvest in 2015. Combined, these counties accounted for over 57 percent of total statewide harvest volume.
- Idaho sawmills recovered an average of 1.84 board feet lumber tally per board foot Scribner of input during 2015, an increase of 10 percent over the mill census in 2011. Idaho's 28 active sawmills produced 1.72 billion board feet of lumber during 2015, nearly a 27 percent increase from 2011 production.
- Idaho's 10 largest sawmills, with an annual production capacity of more than 100 million board feet (MMBF) lumber tally accounted for 86 percent (1,449 MMBF) of Idaho's lumber production in 2015.
- Idaho's primary forest products industry shipped products valued at $1.66 billion (f.o.b. the producing mill) in 2015. Lumber and plywood/veneer accounted for 45 percent of total sales.
- More than 11,800 workers were directly employed by Idaho's forest industry during 2015, with 8,779 in primary and secondary wood products and paper manufacturing, 2,486 in forestry and logging, and 1,169 in forestry support activities. Together, these workers earned over $805 million during 2015.

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Introduction

This report describes the utilization of Idaho's 2015 timber harvest and characterizes the condition, structure and operation of the State's primary forest products industry. The *Timber Harvest, Products, and Flow* section presents information on the volume of timber harvested in the State during calendar year 2015 by product, ownership, species, and geographic region. It also describes timber flow within the State and across State lines. *Industry Sectors, Capacity, and Outputs* presents information on the forest products industry sectors that processed timber and mill residue into finished products in 2015. *Sales, Employment, and Contribution to the State's Economy* presents information on sales value and employment associated with primary wood products manufacturing, the economic contribution of forest products manufacturing in the State, and an analysis of the changes in the broader forest industry over time. All dollar figures in this bulletin have been adjusted for inflation to constant 2015 dollars unless otherwise noted.

About the Data

This survey effort is the ninth application of its kind in Idaho and presents information collected from primary manufacturers in the State that receive timber harvested from Idaho and neighboring States. Primary forest product manufacturers are firms that process timber into manufactured products, such as lumber, plywood, log homes, and facilities like particle board plants that use the wood fiber residue directly from timber processors. Through a written questionnaire, phone, or in-person interview, timber processing and residue utilizing facilities provided information about their 2015 operations, including:

- Plant location, production, capacity and employment
- Volume of raw material received, by county and ownership
- Species of timber received and live/dead proportions
- Finished product volumes, types, sales value and market locations
- Volume, utilization and marketing of manufacturing residue

In the event of nonresponse from a facility, data collected in previous surveys were updated using current data collected for facilities of a similar size, product type, and location, as well as information on market trends and prices. For the 2015 Idaho mill survey, data were received for 47 of the 88 active, in-state facilities, accounting for 81 percent of facilities processing more than 5 MMBF Scribner of timber. While some estimation was required, responding firms accounted for 79 percent of the statewide harvest and 78 percent of the timber volume processed in Idaho during the calendar year 2015.

The University of Montana's Bureau of Business and Economic Research (BBER) and the USDA Forest Service's Forest Inventory and Analysis (FIA) Program at the Rocky Mountain Research Station (Riverdale, Utah) cooperated in the analysis and preparation of this report. In collaboration with the FIA programs at the Rocky Mountain and Pacific Northwest Research Stations, BBER has developed the Forest Industries Data Collection System (FIDACS) to collect, compile, and make available State and county information on the operations of the forest

products industry. Information collected from manufacturers is stored at BBER in Missoula, Montana.

Additional information not presented here, including the full set of data tables, is available on the BBER website https://www.bber.umt.edu/FIR/S_ID.asp and upon request. Individual firm-level data is confidential and will not be released.

Idaho's Timber Harvest, Products, and Flow

Idaho's Timber Resource

Idaho contains approximately 16.5 million acres of non-reserved timberland—lands not permanently reserved through statute or administrative designation, such as wilderness areas and national parks and monuments. Over 72 percent—almost 12 million acres—of timberland in Idaho is National Forest System (NFS) land managed by the USDA Forest Service (Miles 2017). Similarly, over 78 percent—164,376 million board feet (MMBF)—of sawtimber volume is found on NFS lands (Miles 2017). In comparison, NFS lands provided just under 9 percent (99 MMBF) of the 2015 harvest, while private lands supplied almost 66 percent (fig. 1).

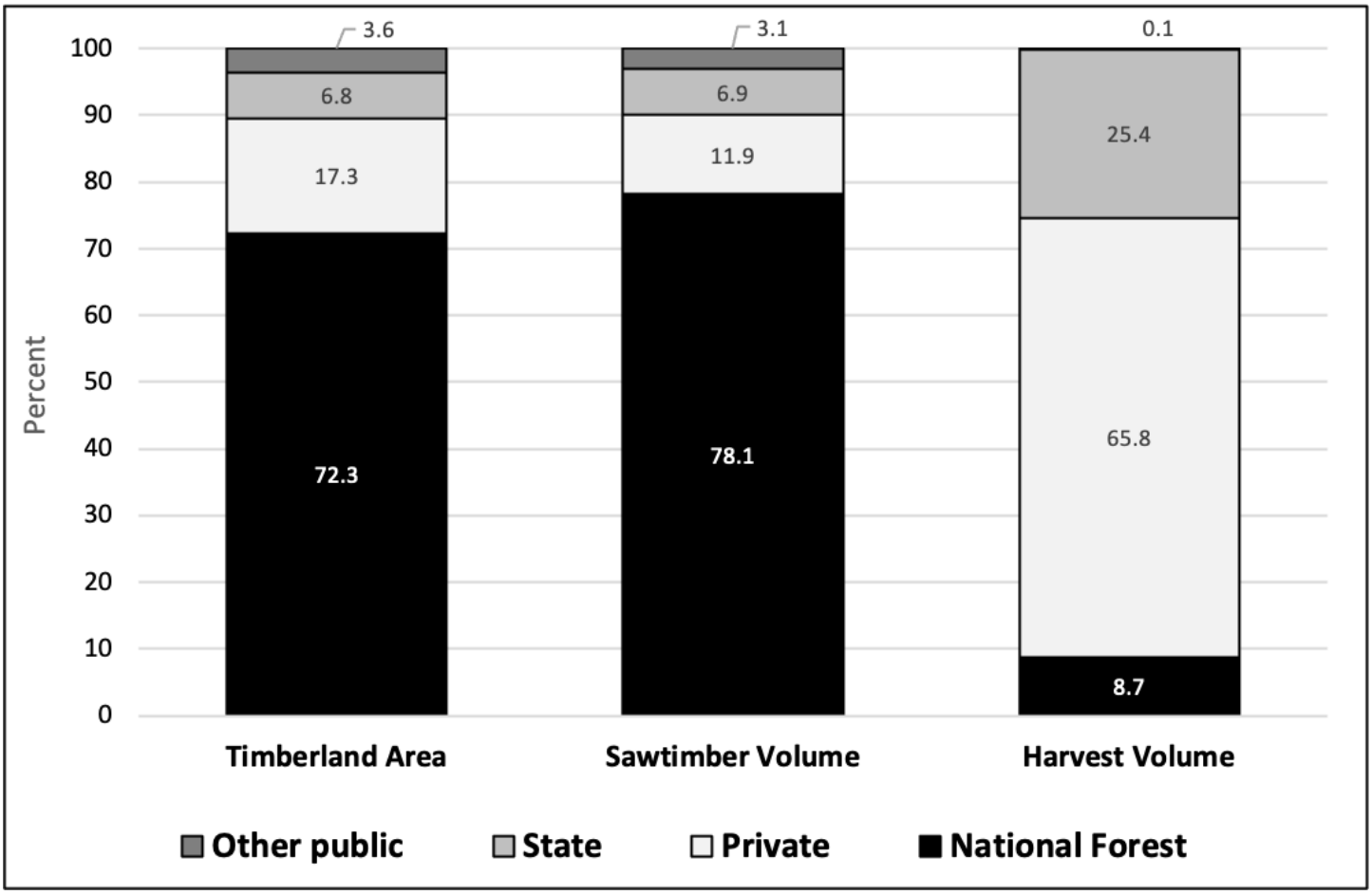


Figure 1—Characteristics of Idaho's timberland and timber harvest by ownership class, 2015 (Miles 2017).

Idaho's Timber Harvest

Timber harvest in Idaho totaled 1,135.5 MMBF Scribner during 2015 (fig. 2). This marked a 6.5 percent increase as compared to the 2011 harvest of 1,065.9 MMBF (Simmons et al. 2014) and a 1.3 percent increase from the 2006 harvest of 1,120.6 MMBF (Brandt et al. 2012). Harvest from private lands increased more than 21 percent from 2011 to 2015, with volume from industrial lands up more than 14 percent and non-industrial private lands up nearly 49 percent. Public lands harvest dropped by 14 percent. These harvest changes were due in part to economic influences affecting wood products markets. The Great Recession and a drop in U.S. home construction between 2007 and 2009 reduced the demand for lumber and other wood products through 2010 and 2011 (Keegan et al. 2012). Since 2011, increases in domestic home construction and overseas demand have led to improved markets for wood products, which have contributed to a higher harvest from private lands.

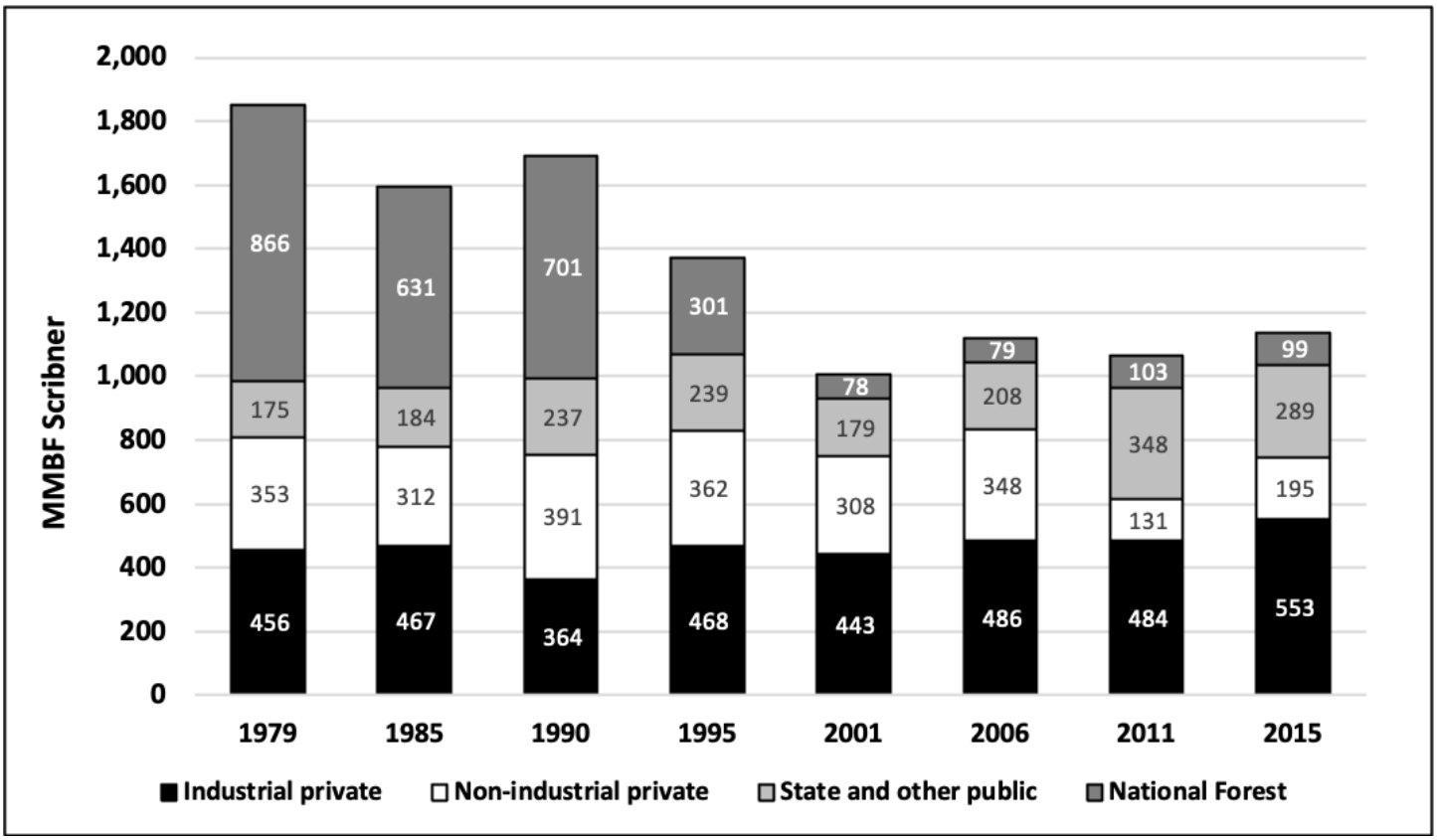


Figure 2—Idaho timber harvest by ownership class, selected years (Brandt et al. 2012; Keegan et al. 1982, 1988, 1992, 1997; Morgan et al. 2004; Simmons et al. 2014).

Harvest by Product Type and Ownership

Idaho's timber harvest can be classified into four general timber product categories: (1) saw and veneer logs used to produce lumber, other sawn products and plywood; (2) logs for cedar products such as shakes, shingles and fencing; (3) house logs used to manufacture log homes; and (4) logs for other products, including posts and poles, utility poles, log furniture, timber chipped for pulpwood, particleboard, and bioenergy.

Saw and veneer logs have consistently been the leading timber products harvested in the State and accounted for 89.4 percent (1,015 MMBF Scribner) of the 2015 timber harvest (table 1). Other products made up 7.8 percent (88 MMBF), cedar products accounted for 2.7 percent, and house logs accounted for the remaining 0.1 percent. Cedar products harvest was up about 2 percent from 2011 (30.5 MMBF), but house log harvest more than doubled, indicating some improvement for a sector hard-hit by the housing bust and Great Recession. The harvest of timber for other products dropped 2.5 percent from over 90 MMBF in 2011 (Simmons et al. 2014). Much of this drop was in pulpwood with residue related facilities using somewhat less roundwood and more sawmill residue during 2015.

Table 1—Idaho timber harvest by ownership class and timber product, thousand board feet, Scribner, 2015.

Ownership class	Saw and veneer logs[a]	Cedar products	House logs	Other products[b]	All products
Private timberlands	670,528	23,683	512	52,680	747,403
Industrial	507,513	12,771	57	32,494	552,835
Non-industrial private[c]	163,016	10,912	455	20,186	194,569
Public timberlands	344,553	7,485	345	35,739	388,122
National Forest	88,321	1,262	193	9,237	99,013
State	255,320	6,223	152	26,501	288,197
Other[d]	912	0	0	0	912
All owners	**1,015,082**	**31,168**	**856**	**88,419**	**1,135,525**

Totals may not sum due to rounding.

[a] Saw and veneer logs combined to prevent disclosure.

[b] Other timber products include logs used for pulpwood, posts, poles, utility poles, furniture logs, and bioenergy.

[c] Non-industrial private includes Tribal.

[d] Other owners include Bureau of Land Management and other public ownerships.

Private lands provided 65.8 percent (747 MMBF Scribner) of the 2015 harvest, State lands accounted for 25.4 percent, NFS lands provided 8.7 percent, and the remaining 0.1 percent came from Bureau of Land Management (BLM) and other public lands. Industrial private lands provided the largest share of saw and veneer logs, as well as logs for cedar and other products. Cedar products volume from industrial lands increased by more than 10 MMBF from 2011.

Non-industrial private lands provided the majority (53 percent) of house logs, an increase from 17 percent (70 MBF) in 2011. National Forest System lands provide over 22 percent of the house log harvest. Approximately 2.5 percent (28.6 MMBF) of the 2015 harvest was standing dead trees, up from 0.8 percent (8.7 MMBF) in 2011, as landowners dealt with mortality from insects and wildfires. Other products, mostly pulpwood, accounted for 70 percent of the dead timber, and over 71 percent of the dead timber came from private lands.

Harvest by Geographic Source

The geographic sources of Idaho's timber harvest have been divided into three regions (fig. 3). Northern Idaho (north of the Salmon River) experienced an increase in harvest since 2011, while the harvest continued to decline in southwestern and southeastern Idaho. Northern Idaho counties supplied 1,047 MMBF (92.2 percent) of the total harvest, up about 10 percent from 2011.

Clearwater (220 MMBF), Bonner (150 MMBF), Shoshone (131 MMBF) and Benewah (122 MMBF) Counties were the largest contributors to Idaho's 2015 harvest together accounting for 57.4 percent of the total harvest volume. Harvest in southwestern Idaho was 80 MMBF (7.0 percent) in 2015, down from 126 MMBF in 2006 and 104 MMBF in 2011. Southeastern Idaho accounted for 8 MMBF (0.8 percent) of Idaho's 2015 harvest, down from 19 MMBF in 2006 and 9 MMBF in 2011.

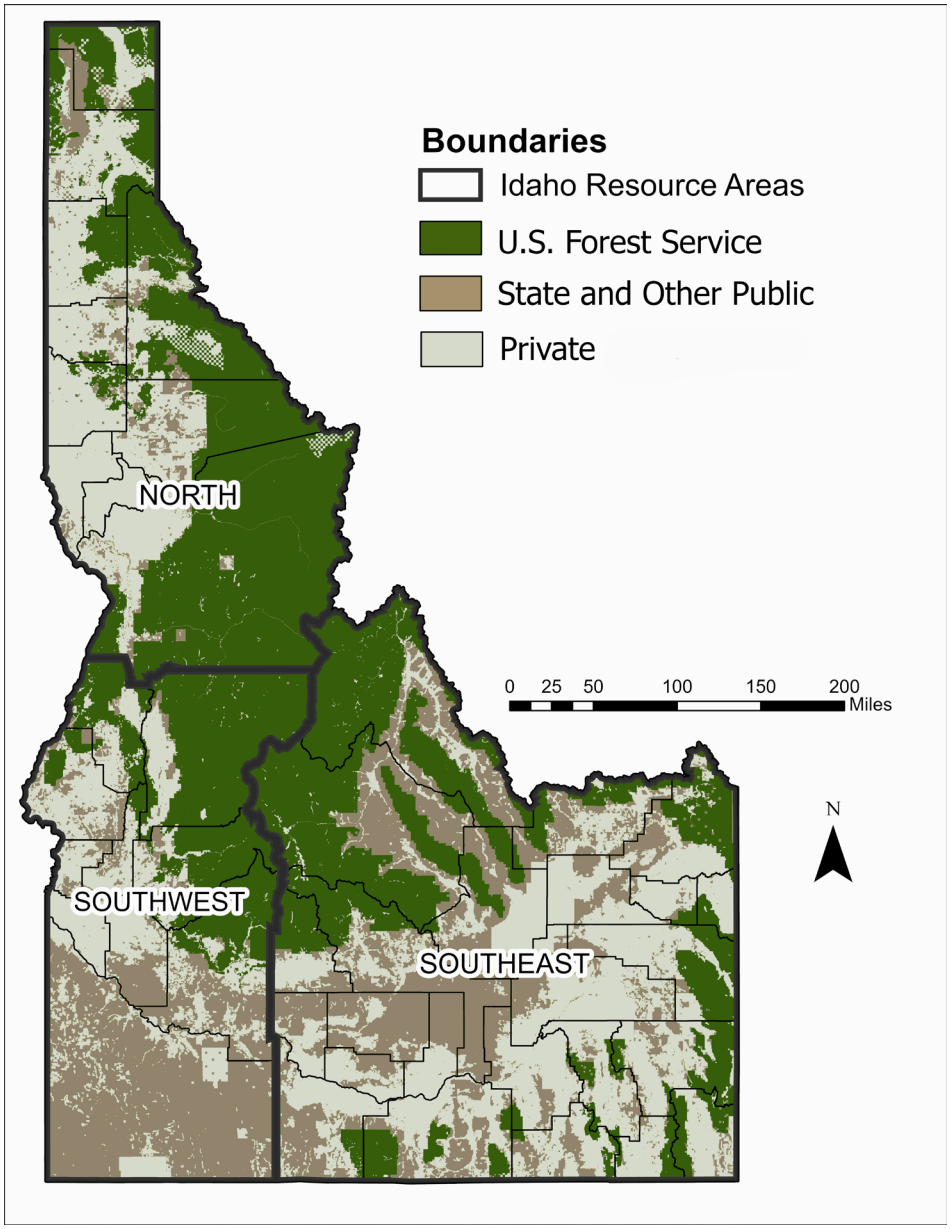


Figure 3—Geographic resource areas of Idaho's forests.

Harvest by Species

True firs (*Abies* spp.) accounted for almost 408 MMBF Scribner (36 percent) of the 2015 Idaho timber harvest, followed by Douglas-fir (*Pseudotsuga menziesii* (Mirb.) Franco) at 326 MMBF (29 percent). Historically, Idaho's timber harvest has been led by true firs and Douglas-fir, each accounting for 20 to 35 percent annually (table 2). With a larger share of the harvest coming from northern Idaho, the proportion of true firs has grown over the past decade, while the share of western red cedar (*Thuja plicata* Donn ex D. Donn) has been declining. Ponderosa pine (*Pinus ponderosa* Dougl. ex Laws.) harvest is about half of what it was during the 1990s, corresponding to harvest reductions from national forests, particularly in southern Idaho.

Table 2—Proportion (%) of Idaho timber harvest by species, selected years (Sources: Brandt et al. 2012; Morgan et al. 2004; Setzer 1970; Simmons et al. 2014).

Species	1969	1979	1985	1990	1995	2001	2006	2011	2015
True firs	24	22	27	23	25	24	34	35	36
Douglas-fir	18	20	21	22	27	26	28	24	29
Western redcedar	7	11	10	11	9	10	13	12	9
Ponderosa pine	14	13	12	18	17	7	7	10	8
Western larch	6	6	6	6	6	10	5	6	6
Western hemlock	[a]	1	3	3	4	12	4	7	5
Lodgepole pine	4	8	10	10	6	5	5	3	5
Spruce	[a]	3	5	3	2	2	2	2	2
Western white pine	19	8	6	5	3	4	1	1	1
Other species[a]	8	9	1	0	2	0	1	0	—
All species	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Totals may not sum due to rounding.

[a] Western hemlock and Englemann spruce were included in the other species in 1969.

— Less than 0.5 percent.

Timber Flow

During 2015, the majority (91.5 percent) of Idaho's timber harvest was processed in-state. Idaho mills brought in nearly 84.3 MMBF Scribner of timber from other States while 96.5 MMBF of Idaho timber was processed out-of-state, giving the State a net outflow of 12.2 MMBF of timber (table 3). This is the first mill census since 1996 indicating that Idaho did not have a net inflow of timber (Brandt et al. 2012; Keegan et al. 1997; Morgan et al. 2004; Simmons et al. 2014). The substantial volumes of timber flowing between Idaho and its neighboring

States suggest a dynamic log market with mills throughout the region facing timber supply challenges and competing for logs across State lines.

Table 3—Log flow into and out of Idaho by product, thousand board feet, Scribner, 2015.

Timber products	Log flow into Idaho	Log flow out of Idaho	Net inflow (net outflow)
Saw and veneer logs	76,565	84,959	(8,395)
House logs	1,423	128	1,295
Cedar products	4,300	968	3,332
Other products[a]	1,978	10,451	(8,473)
All products	**84,266**	**96,506**	**(12,240)**

[a]Other products include logs for pulpwood, posts and poles, log furniture, and bioenergy.

Saw and veneer logs accounted for more than 90 percent of the timber brought into Idaho for processing, as well as 88 percent of timber shipped out of state. Of the 96.5 MMBF processed out-of-state about 44 percent went to Washington, nearly 34 percent went to Oregon, 22 percent went to Montana and less than one percent (25 MBF) went to Wyoming and Utah mills.

The majority of Idaho mills and timber-processing capacity are found in northern Idaho. More than 92 percent of the timber harvested in northern Idaho during 2015 was processed in the region and less than 7 percent was processed out-of-state (table 4). In contrast, over 76 percent of the harvest in southeastern Idaho was processed out-of-state and very little timber from other regions was processed in southeastern Idaho. This suggests a lack of capacity within the region to process timber and stay competitive with log markets in adjacent States. Southwestern Idaho had a more balanced timber flow with 44 percent of harvest processed within the region, almost 24 percent processed out-of-state and nearly all of the rest processed in northern Idaho.

Table 4—Source and destination of Idaho timber harvest, thousand board feet, Scribner, 2015.

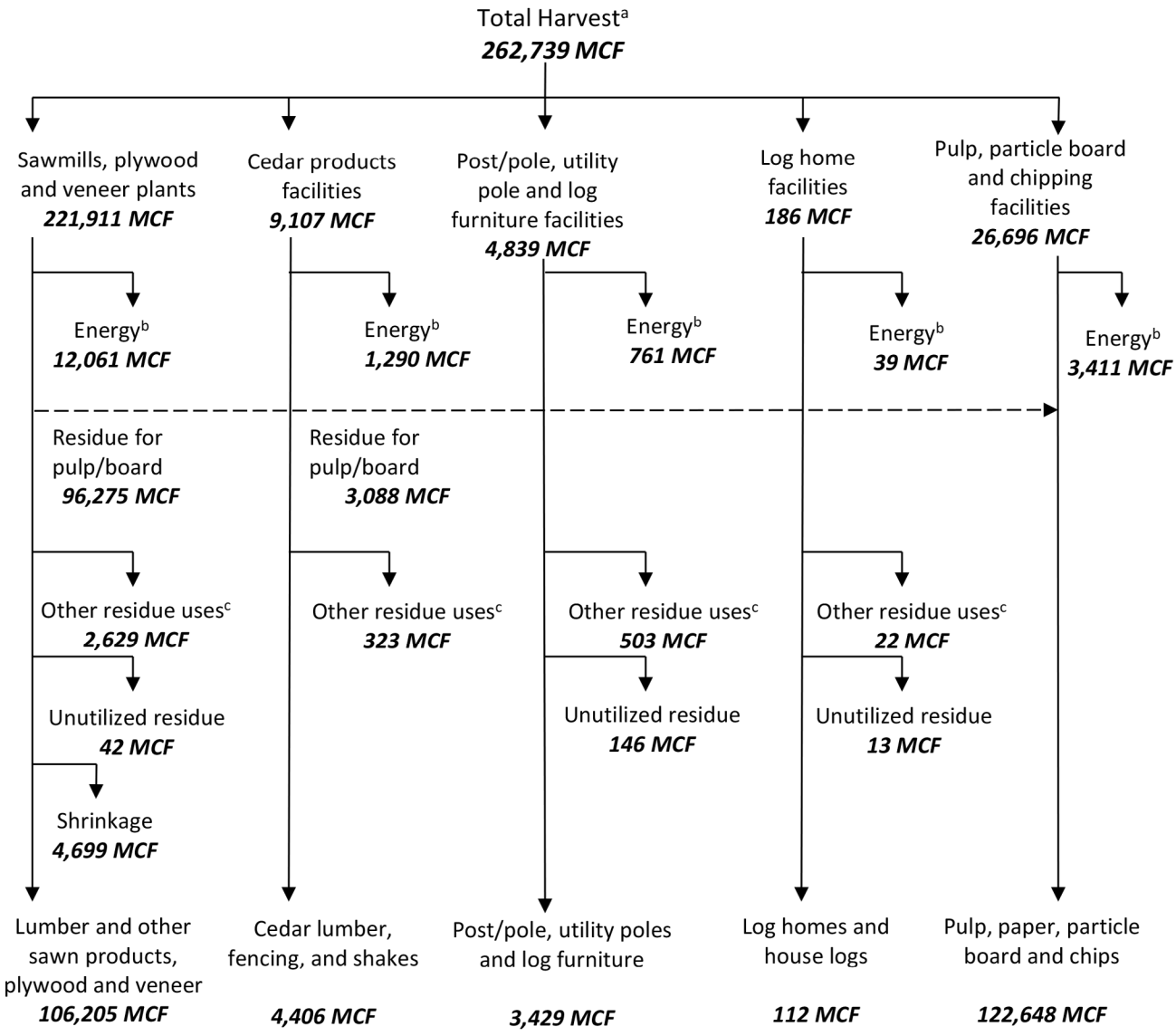
Region of timber harvest	Region where timber was processed			
	Northern Idaho	Southwestern Idaho	Southeastern Idaho	Out-of-state
Northern Idaho	970,651	5,585	30	71,227
Southwestern Idaho	25,324	35,459	13	19,020
Southeastern Idaho	0	375	1,583	6,259

End Uses of Idaho's Timber Harvest

This section reports timber harvest, as well as finished product and mill residue volumes, in cubic feet in order to enable direct comparisons in a common unit of measure. Because mill residues and finished products are reported in various and fundamentally different units of measure (e.g., bone dry tons, board feet lumber tally, square feet, pieces, etc.) than timber (board feet Scribner), a common unit of measure (cubic feet) is used to demonstrate the use of all the harvested wood fiber.

Idaho's 2015 timber harvest was about 262.7 million cubic feet (MMCF) excluding bark (fig. 4). About 84 percent (221.9 MMCF) went to sawmills and plywood plants, and 10 percent (26.7 MMCF) went to chipping, pulp or particleboard facilities. Over 3 percent went to cedar products facilities, almost 2 percent (4.8 MMCF) went to post and pole, log furniture, and utility pole facilities, and the remainder (0.2 MMCF) went to producers of log homes.

Of the 262.7 MMCF of wood fiber delivered to facilities, over 46 percent (122.6 MMCF) was used for pulp, paper, particle board, or pulp chips. More than 42 percent (110.9 MMCF including shrinkage) became lumber or plywood. About 3 percent (7.9 MMCF) was used to produce other products, including log homes, posts, poles, cedar products, and log furniture. Almost 7 percent (17.6 MMCF) was mill residue used for energy. Over 1 percent (3.4 MMCF) was mill residue used for landscaping, mulch and animal bedding, and less than 0.1 percent went unused.



[a] Harvest volume does not include bark.
[b] Energy includes residue used internally for energy or sold for hog fuel, wood pellets, or compressed fuel logs.
[c] Other uses include landscape, mulch, and animal bedding.

Figure 4—Utilization of Idaho's 2015 timber harvest.

Industry Sectors, Capacity, and Outputs

Idaho's Forest Products Industry

During 2015, 88 primary forest products facilities were active in Idaho with the majority located near forest resources in the northern and western portions of the State (fig. 5). These plants produced a variety of products, including lumber and other sawn products, veneer and plywood, house logs, posts, poles, utility poles, fence boards, cedar shakes and shingles, log furniture, firewood, and residue related products like particle board, pulp and paper, fuel pellets, bark, animal bedding, and mulch. The industry generated more than $1.65 billion in sales during 2015, including mill residue and residue related products. Sales were up approximately 12 percent (in constant 2015 dollars) from 2011, but still below prerecession levels of $1.9 to $2.2 billion (Simmons et al. 2014).

Although the total number of active facilities (88) was unchanged from 2011 (Simmons et al. 2014), four facilities that were active in 2011 closed permanently: a small sawmill, a utility pole yard, a log home facility, and a bark and mulch plant. Five other facilities were inactive during 2015. Five new facilities operated during 2015: two post and pole facilities, two wood pellet plants, and a log home facility. One log home facility and three sawmills, inactive during 2011, also resumed operations bringing the total number of active sawmills to 28 during 2015.

The largest impact on the forest products industry in Idaho since the 2011 mill census was the overall improvement in markets for wood products with the major sectors approaching prerecession levels, as measured by production and sales. The log home industry was still substantially depressed compared to prerecession levels but made modest gains in 2015.

Timber Received by Idaho Mills

Idaho mills received 1,123 million board feet (MMBF) Scribner of timber for processing during 2015 (table 5). Timber volume received at Idaho mills differed from the State's timber harvest because some timber harvested in Idaho was processed in other States and some of the timber processed in Idaho was harvested outside the State. Almost 84.3 MMBF (7.5 percent) of the timber used by Idaho facilities during 2015 came from out-of-state. Over 39 MMBF (47 percent) of out-of-state timber came from Washington State, with an additional 22 MMBF (26 percent) from Montana. About 15 MMBF (18 percent) came from Canada, with small volumes from Oregon, Wyoming and Utah.

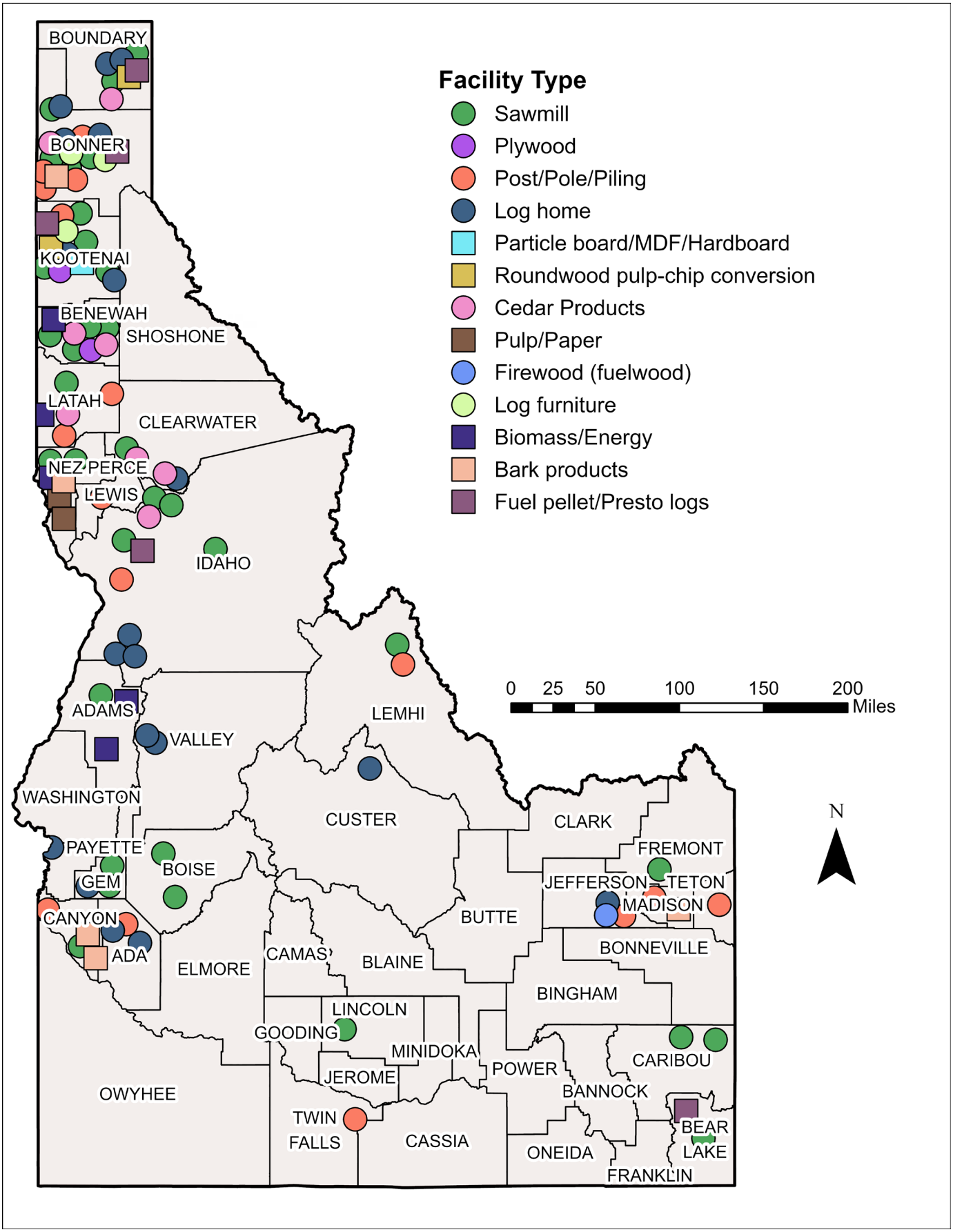


Figure 5—Idaho's primary forest products manufacturers, 2015.

Table 5—Timber received by Idaho facilities by ownership class and product, thousand board feet, Scribner, 2015.

Ownership class	Saw and veneer logs[a]	Cedar products	House logs	Other products[b]	All products
Private	670,540	23,733	1,595	47,867	743,734
Industrial	503,887	13,296	748	29,684	547,615
Non-industrial private[c]	166,653	10,437	847	18,182	196,119
Public	323,479	8,567	498	31,825	364,368
National Forest	92,667	2,362	205	8,302	103,536
State	230,372	6,205	228	23,523	260,328
Other[d]	440	—	65	—	505
Canadian and unspecified[e]	12,668	2,200	59	255	15,182
All owners	**1,006,687**	**34,500**	**2,152**	**79,946**	**1,123,285**

[a] Saw and veneer logs combined to prevent disclosure of firm level data.

[b] Other products include logs used for pulpwood, posts and poles, utility poles, cants, log furniture, and bioenergy.

[c] Non-industrial private includes Tribal harvest.

[d] Other owners include Bureau of Land Management, other public lands and unspecified ownerships.

[e] Includes timber received from Canada and unspecified out-of-state sources.

— Less than 0.5 MBF.

Private timberlands supplied 66 percent (743.7 MMBF) of the total volume processed by Idaho mills during 2015, up slightly from 55 percent (647.9 MMBF) in 2011, but down considerably from the 74 percent (851.5 MMBF) reported in 2006 (Brandt et al. 2012). Public timberlands, led by State lands, provided the remaining 34 percent (364.4 MMBF), down from 38 percent (408.7 MMBF) in 2011. State lands provided almost 23 percent of the saw and veneer logs received by Idaho mills in 2015 and almost 30 percent of the timber volume for other products. Industrial lands provided the majority of every product category, except house logs, which was led by non-industrial private lands. As in previous years, sawlog and veneer logs constituted the vast majority (almost 90 percent) of timber received by Idaho facilities. Timber volume received by Idaho's log home (2 MMBF) and cedar products (34.5 MMBF) manufacturers were higher in 2015 than in 2011, up by 16 and 4 percent, respectively. Logs used for other products, including pulp and paper, particle board, posts and poles, log furniture, and bioenergy accounted for nearly 80 MMBF (7 percent) of the total volume received during 2015, similar to the nearly 83 MMBF (8 percent) in 2011. The drop in timber volume received for other products was mostly in pulpwood with residue related facilities using somewhat less roundwood and more sawmill residue during 2015.

Trends by Sector

Lumber and Plywood

The lumber sector is the largest sector of Idaho's primary forest products industry in terms of the number of facilities, employment, and the volume of timber processed. Because there are

only two veneer/plywood facilities and they use similar log inputs, they are combined with the lumber sector for reporting purposes—to avoid disclosure of firm level information. Idaho's 28 sawmills produced about 1,690 MMBF (lumber tally) of lumber and other sawn products in 2015, roughly 5.3 percent of U.S. softwood lumber production (WWPA 2016). Sales from the combined sawmill and veneer/plywood sectors were about $746.7 million (excluding mill residue sales)—45 percent of the total sales value of Idaho's primary wood products industry. This is a 39 percent increase over 2011 when inflation adjusted sales were about $538 million (table 6).

Table 6—Sales value of Idaho's primary wood products, million 2015 dollars, including mill residue and residue-related products, selected years (Sources: Brandt et al. 2012; Keegan et al. 1982, 1988, 1992, 1997; Morgan et al. 2004; Simmons et al. 2014).

Product	1979	1985	1990	1995	2001	2006	2011	2015
Lumber, timbers, other sawn products	1,506.6	846.2	918.5	1,044.5	897.8	908.4	538.4	746.7
Residue-related products[a]	726.7	764.5	943.1	1,008.1	1,061.0	892.7	830.4	783.6
Plywood and veneer	255.4	160.1	177.8	251.6	91.3	[b]	[b]	[b]
Cedar products	39.2	15.9	23.9	20.5	39.7	39.0	55.6	69.8
Posts, poles, and log furnitiure	49.4	24.9	44.7	38.3	29.0	38.6	40.5	45.3
House logs and log homes	23.4	6.5	17.2	30.6	33.3	44.1	8.4	9.6
All products	**2,600.6**	**1,818.1**	**2,125.2**	**2,393.5**	**2,152.0**	**1,922.7[c]**	**1,473.3**	**1,655.0**

[a] Residue-related products include particleboard, chips, pulp and paper products, bioenergy products, decorative bark, and mill residues sold within and outside the state.

[b] Plywood and veneer sales included with lumber to prevent disclosure of firm level data.

[c] Revised

Lumber production in Idaho peaked in 1989 at more than 2.1 billion board feet (BBF) lumber tally and topped 2 BBF again during the housing boom in 2005 (fig. 6). Lumber production declined sharply during the poor housing and lumber markets of the Great Recession and bottomed out in 2009. The industry began recovering in 2010 and 2011 but by 2015, lumber production had not returned to prerecession levels.

Lumber production varied considerably among Idaho's sawmills. The 13 smallest sawmills, each with an annual production capacity of less than 10 MMBF, had a combined production of about 9 MMBF, about 0.5 percent of the State's 2015 lumber output. The State's 10 largest sawmills, each with an annual production capacity over 100 MMBF, accounted for 86 percent (1,449 MMBF) of lumber output in 2014. Capacity utilization varied in line with mill size—the State's smallest sawmills using just 42 percent of capacity, while the largest mills utilized about 71 percent of capacity.

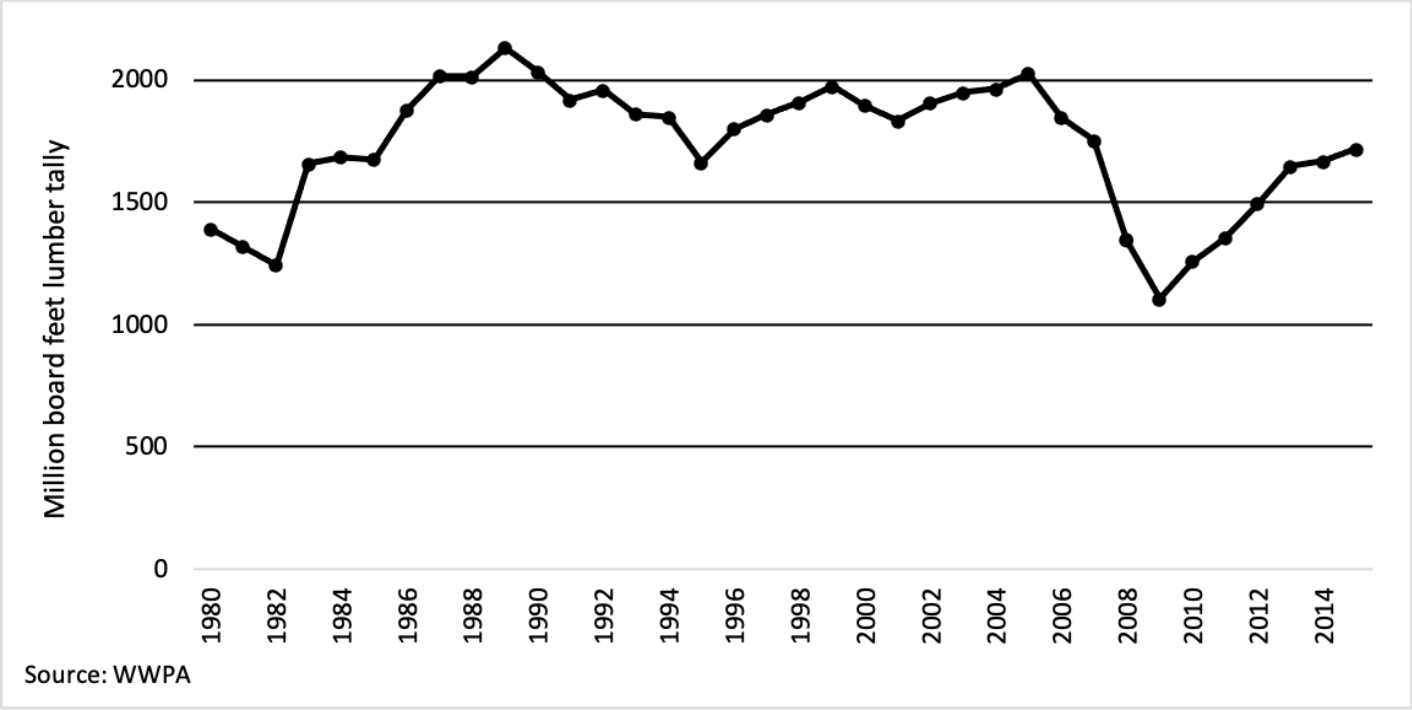


Figure 6—Idaho lumber production, 1980-2015 (WWPA 1964-2016).

The 2015 statewide lumber recovery factor (LRF) for Idaho sawmills was 8.26 board feet of lumber output per cubic foot of log input, down very slightly from 8.33 in 2011 (fig. 7). The substantial increases in LRF since the 1980s was associated primarily with improvements in technology (Keegan et al. 2010). Lumber overrun (LO), the amount of board feet lumber tally produced per board foot Scribner of log volume, averaged 1.84 for sawmills in Idaho during 2015, an increase of 10 percent from 2011. The 2011 decline in LO and rebound in 2015 were attributable to Idaho sawmills using less small-diameter material during the poor lumber markets of 2011 and using more small logs during the better markets of 2006 and 2015. While LO is the most commonly used measure of sawmill efficiency, it is heavily impacted by changes in log size because the Scribner log rule increasingly underestimates log volume (and correspondingly inflates LO) as log diameters decrease (Keegan et al. 2010). Because LRF provides a more accurate measure of input volume, production volumes tend to increase as larger logs are processed and decrease when smaller logs are processed. Thus, the relationship between LO and LRF is inverse when influenced by the size of logs processed.

The amount of wood and bark residue generated per unit of lumber produced has generally decreased as sawmills have improved their recovery using log scanning and optimizing, thinner kerf saws, curved sawing, and other technology. Idaho sawmills generated about 2.4 percent less residue per MBF of lumber production during 2015 compared to 2011.

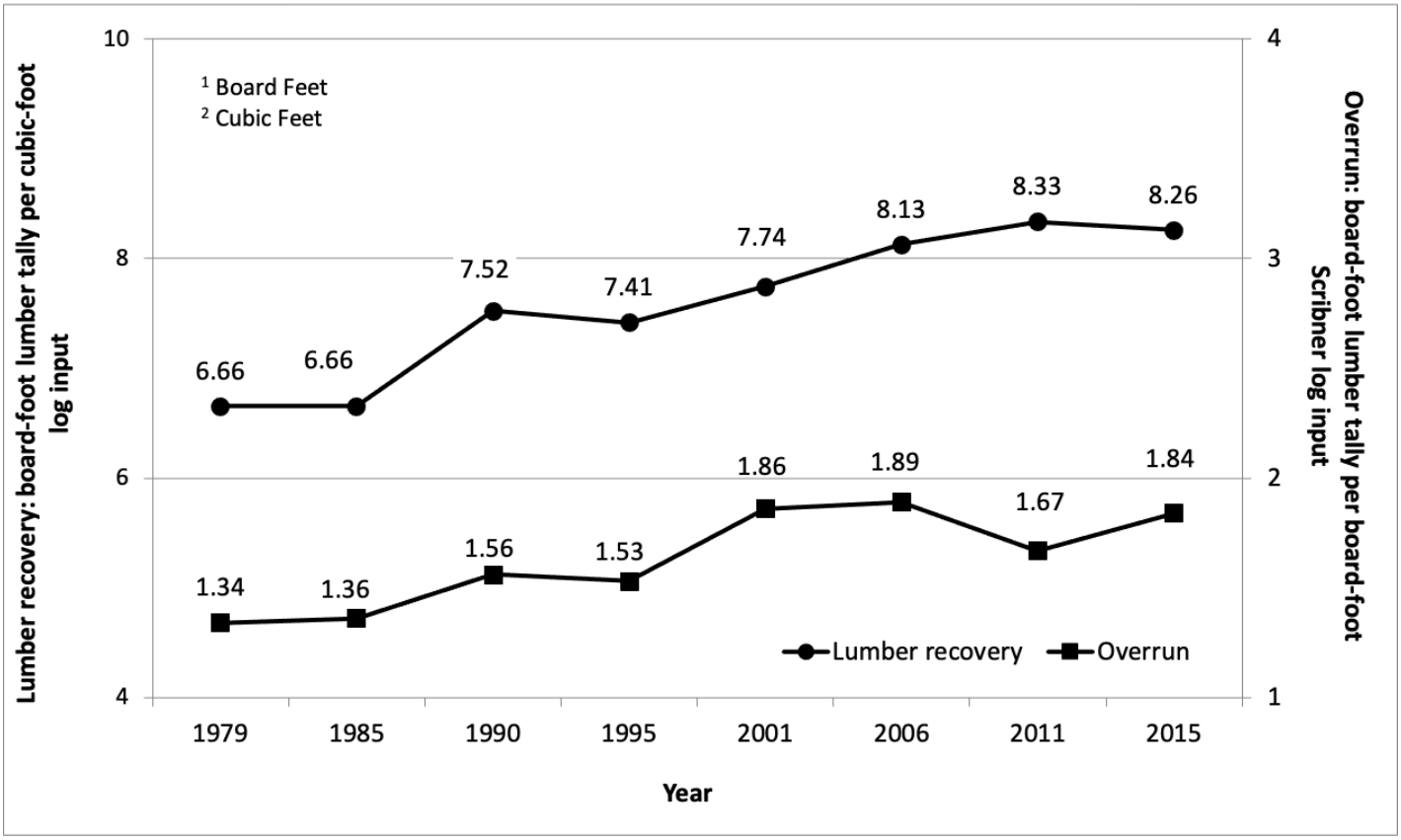


Figure 7—Idaho lumber recovery and overrun, selected years (Brandt et al. 2012; Keegan et al. 1982, 1988, 1992, 1997; Morgan et al. 2004; Simmons et al. 2014).

Residue Related Products

During 2015, 18 facilities operated in this sector, the same as in 2011. These facilities consumed nearly 2.4 million bone dry tons of mill residue and chipped roundwood to produce pulp, paper, particle board, mulch, decorative bark, animal bedding, and bioenergy products (i.e., wood pellets, energy logs, and steam for energy). Sales from the sector were about $784 million in 2015, down about 6 percent from 2011, but still accounting for 47 percent of total sales from the primary wood products industry.

Cedar Products

Seven cedar products facilities operated in 2015, and two have since closed or become inactive due to the owner's retirement. The volume of timber received by facilities in the sector increased 4 percent to 34.5 MMBF in 2015, and the ownership source of cedar logs shifted somewhat from public to private timberlands compared to 2011. Products in this sector included split rail fencing, shakes, and fence boards. Inflation adjusted sales values for these products were $69.8 million in 2015, up 25 percent from 2011. Prices for cedar products increased 28 to 30 percent (Random Lengths 2011, 2015) over the period. Sales from Idaho's cedar products sector have been increasing since the 1980s, in both real dollars and as a proportion of total industry sales (table 6).

Log Homes

Log homes tend to be specialized items resulting in an industry highly tied to regional and national economic influences. However, with relatively low capital costs, inactive or new facilities could begin producing house logs and homes as demand increases. The Great Recession (2007-09) and the related collapse in the U.S. housing market impacted Idaho's log home industry more severely than any other sector of the State's wood products industry. Idaho had 26 log home facilities operating in 2006 with inflation-adjusted sales of $44.1 million and timber use of 17 MMBF Scribner. By 2011, sales were just $8.4 million with timber use and the number of facilities in sharp decline. The 15 log home facilities operating in 2015 reported somewhat better conditions than 2011 with sales up to $9.6 million and timber use at 2.1 MMBF Scribner.

Other Sectors

There were 18 facilities operating in the other products sector during 2015, one more than in 2011. These included manufacturers of posts, poles (including utility poles), log furniture, firewood, and chipping facilities. The volume of timber received by these facilities was nearly 80 MMBF, about 5 percent less than in 2011. Combined sales for facilities in this group was $45 million in 2015, 12 percent higher than in 2011. Most of the facilities, volume received, and sales in this sector were for posts, poles, and utility poles.

Sawtimber-Processing Capacity

In Idaho, sawtimber-processing capacity is reported for sawmills and producers of veneer/plywood, utility poles, and log homes sectors. Although capacity to process sawtimber resides in other sectors, capacity for the reported sectors have tended to account for most of the overall sawtimber-processing capacity—96 percent of total processing capacity (1,499 MMBF) in 2015. These facilities provided their shift and annual production (output) capacities, given sufficient supplies of raw materials and firm market demand for their products. To estimate sawtimber-processing capacity, production capacity was divided by the overrun/recovery for each facility and expressed in units of timber input (MBF Scribner). For example, if a sawmill's production capacity were 1,000 MBF lumber tally and their overrun (LO) were 2.0, they would have a sawtimber-processing capacity of 500 MBF Scribner.

Idaho's sawtimber-processing capacity in 2015 was 1,447 MMBF Scribner, of which 68 percent was utilized, the lowest for any census (fig. 8). Sawmills and plywood/veneer facilities accounted for almost 97 percent of capacity and processed 973 MMBF Scribner of timber. Both the number of facilities and capacity have declined considerably; however, the average capacity per facility has grown. In 1979, there were 141 sawmills and plywood/veneer plants operating with an average capacity of 14.4 MMBF Scribner. In 2015, 29 facilities operated with an average capacity of 48.5 MMBF. Over the same period, the average capacity among utility pole and log home manufacturers increased from 0.6 MMBF Scribner to 2.4 MMBF per facility.

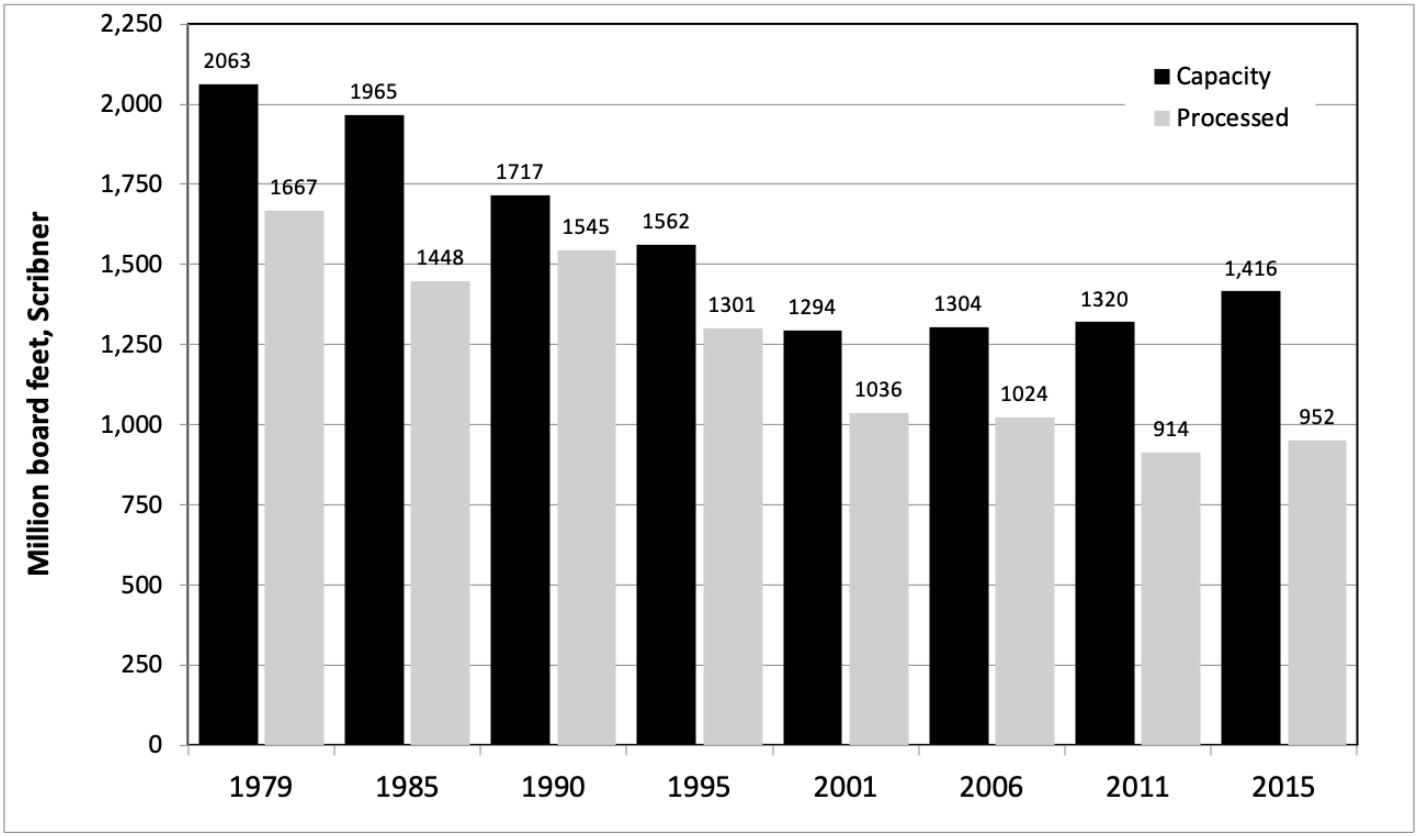


Figure 8—Idaho sawtimber-processing capacity and volume processed, selected years (Brandt et al. 2012; Keegan et al. 1982, 1988, 1992, 1997; Morgan et al. 2004; Simmons et al. 2014).

Declines in capacity, utilization, and the number of facilities operating during the 1990s reflects the decrease in timber volume offered from federal lands (Brandt et al. 2012; Keegan et al. 2006). Declines in utilization since 1995 may be attributed to a combination of wood products markets, timber supply, as well as technological improvements and upgrades at facilities. Sawtimber-processing capacity and capacity utilization in 2015 indicated substantial reserve capacity available to respond to improving market conditions. However, in 2016, one sawmill closed permanently, and a second sawmill ceased to operate as a primary processor of roundwood. The loss of these two facilities further decreased Idaho's sawtimber-processing capacity.

Mill Residue

Nearly half of the wood fiber processed by primary forest products manufacturers ends up as mill residue. This residue presents a difficult and expensive disposal problem, or it can be used to produce products and generate additional revenue. The three types of wood residues include: course residue (chips, slabs, edging, trim, and log ends), fine residue (planer shavings and sawdust) and bark.

Idaho's primary forest product manufacturers generated 1,595,343 bone dry units (BDU) (table 7) of mill residue in 2015, a 16 percent increase from 2011. In 2015, 99.6 percent of this residue was utilized, a small change from the 99.4 percent utilization in 2011. This change in residue utilization can be attributed to a 22 percent increase in residues used for energy on site or sold as hog fuel.

Table 7—Production and disposition of residues, in bone dry units[a], from Idaho's primary wood products sectors, 2015.

Sector	Total utilized	Pulp and particle board	Energy	Mulch or animal bedding	Pellets or other products	Unutilized	Total produced
Sawmills and plywood/veneer mills	1,428,509	956,945	439,482	7,108	24,975	740	1,429,249
Log home facilities	1,927	0	1,129	771	28	834	2,761
Cedar products facilities	69,723	38,880	16,500	12,025	2,317	0	69,723
Other sectors[b]	88,819	0	81,059	7,700	59	4,791	93,610
All sectors	**1,588,978**	**995,825**	**538,170**	**27,605**	**27,378**	**6,365**	**1,595,343**

[a] Bone dry unit= 2,400 lb oven-dry wood.

[b] Other sectors include log chipping, producers of posts, poles, utility poles, log furniture, and bioenergy.

About 62 percent of Idaho's mill residue went to pulp and reconstituted board plants. Another 34 percent was used for energy, including firewood, burned to generate electricity, or burned in a boiler system onsite at mills, schools, or other facilities. About 1.7 percent of residue was used for animal bedding, mulch, and decorative bark. Another 1.7 percent was used to produce wood pellets or other unspecified uses, and the remaining 0.4 percent (6,365 BDU) was not used.

Sales, Employment, and Contribution to the State's Economy

Idaho's Primary Product Sales Value and Markets

The 2015 mill census identified 88 active primary forest products manufacturers in Idaho producing an array of products, including lumber and other sawn products, pulp and paper, veneer and plywood, log homes, posts, poles, log furniture, and cedar products. Idaho manufacturers reported a total sales value of primary wood products, mill residue, and residue-related products (e.g., pulp and paper, particle board, fuel pellets, bark and landscape material) of more than $1.65 billion, free on board (f.o.b.) the producing mill. This represented a 12 percent increase from the $1.47 billion in total sales during 2011 (Simmons et al. 2014). Primary product sales alone, excluding mill residue and residue-related products, exceeded $871 million during 2015—almost 36 percent higher than 2011 sales (table 8). Wood products manufactured within Idaho were mostly sold outside the State, while about $174 million (20 percent) of sales value stayed in-state. However, the in-state proportion of sales was higher in 2015 relative to 2011 (10 percent) and represented a larger share compared to both the 2006 and 2001 (14 percent) survey years.

Table 8a—Destination and value of Idaho's 2015 primary wood products sales[a], value in thousand 2015 dollars (Sources: Brandt et al. 2012; Keegan et al. 1982, 1988, 1992, 1997; Morgan et al. 2004; Simmons et al. 2014).

Product	Idaho	Rocky Mountains[c]	Far West[d]	North-Central[e]	Northeast[f]	South[g]	Other countries[h]	Unknown	Total
Lumber, timbers, other sawn products, plywood and veneer[b]	150,069	179,507	106,630	150,891	46,097	106,694	6,844	—	746,732
Cedar products	1,606	31,747	2,506	30,533	956	2,213	255	—	69,815
Posts, poles, and log furniture	18,737	8,444	12,722	3,733	750	0	876	—	45,262
House logs and log homes	3,631	3,676	915	640	381	341	0	—	9,584
2015 All products total	**174,043**	**223,374**	**122,773**	**185,797**	**48,184**	**109,248**	7,975	—	**871,393**

Table 8b—Destination and value of Idaho's primary wood products sales[a], selected years, value in thousand 2015 dollars (Sources: Brandt et al. 2012; Keegan et al. 1982, 1988, 1992, 1997; Morgan et al. 2004; Simmons et al. 2014).

Product	Idaho	Rocky Mountains[c]	Far West[d]	North-Central[e]	Northeast[f]	South[g]	Other countries[h]	Unknown	Total
2015 Total	**174,043**	**223,374**	**122,773**	**185,797**	**48,184**	**109,248**	7,975	—	**871,393**
2011 Total	65,543	142,158	121,618	165,563	46,382	83,840	17,886	0	642,989
2006 Total	137,379	273,112	211,610	232,734	66,891	74,415	12,502	0	1,008,642
2001 Total	155,372	250,152	262,517	214,683	110,476	80,829	16,823	0	1,090,852
1995 Total	267,523	306,168	247,422	306,609	131,707	112,588	13,345	0	1,385,361
1990 Total	157,585	153,594	226,772	285,341	188,362	125,642	19,098	25,844	1,182,238
1985 Total	110,999	189,602	149,162	221,129	139,499	129,600	2,536	111,208	1,053,735
1979 Total	200,010	381,188	168,957	475,087	192,839	196,025	18,774	240,929	1,873,809

[a] Does not include mill residue sales or sales by the residue-utilizing sector.

[b] Lumber, timbers, and other sawn products includes plywood and veneer sales value to prevent disclosure.

[c] Rocky Mountains includes Arizona, Colorado, Montana, Nevada, New Mexico, Utah, and Wyoming.

[d] Far West includes Alaska, California, Hawaii, Oregon, and Washington.

[e] North Central includes Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin.

[f] Northeast includes Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, Pennsylvania, Rhode Island, and Vermont.

[g] South includes Alabama, Arkansas, Delaware, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia.

[h] Other countries include Canada, Pacific Rim countries, and other countries.

Lumber was the main driver behind the shift to greater in-state sales. In-state lumber sales more than tripled in real dollars from 2011 to 2015 and the in-state proportion of sales increased from just 8 percent in 2011 to 20 percent in 2015. Lumber, plywood and other sawn products accounted for $150 million (86 percent) of total in-state sales and the largest share of sales in each of the other regions. The leading geographic market areas reported for primary wood products were Idaho and other Rocky Mountain States (46 percent combined) followed by North Central States (21 percent) and then States located in the Far West (14 percent) and South (13 percent). Mills distributed their products through their own distribution channels or through independent wholesalers and selling agents. Because of subsequent wholesaling transactions, the geographic destinations reported here may not precisely reflect final delivery points of shipments.

Idaho's Forest Industry Employment and Labor Income

The primary forest products manufacturers characterized in the BBER's periodic census represent just one component of the broader forest industry in Idaho. The classification of forest industries used here follows the North American Industry Classification System (NAICS) available online via the U.S. Department of Commerce. The forest industry encompasses four sectors: NAICS 113—forestry and logging, NAICS 1153—forestry support activities, NAICS 321—wood products manufacturing, and NAICS 322—paper manufacturing. These sectors include employees who work in both the primary and secondary wood products and paper manufacturing sectors. County Business Patterns (CBP) data from the U.S. Census Bureau are used to distinguish primary from secondary manufacturing employment and labor income. It should be noted that these four NAICS sectors likely underestimate total employment associated with the forest industry because they do not reflect the additional employment stimulated through demand for services from log hauling (trucking) companies, lumber and construction material wholesalers, road construction and maintenance contractors, and forest management services performed by government agencies or nonprofit organizations.

The Bureau of Labor Statistics' (BLS) Quarterly Census of Employment and Wages (QCEW) data are coupled with Bureau of Economic Analysis (BEA) data to determine employment and labor income associated with forestry support activities. These publicly available data sources provide another point of comparison for estimates of employees and labor income for primary forest products manufacturers, as well as additional information on the larger forest industry.

In 2015, total employment in the forest industry in Idaho was an estimated 11,843 full- and part-time workers (USDC BEA 2017b; USDL BLS 2017; USDC CB 2017). Of these, approximately 3,282 workers were employed in the manufacturing of primary wood products. In addition, we estimate roughly 2,486 workers were employed in forestry and logging, 1,169 workers provided supporting activities for forestry operations, 1,842 workers were employed in paper manufacturing, and the remaining 3,064 workers were employed in secondary manufacturing of wood products.

Although 2009 signaled the end of the Great Recession (NBER 2010), 2010 saw the lowest levels of employment—9,661 workers—in Idaho's forest industry in the past two decades. When data were collected during the 2011 BBER census, employment in the forest industry had

already begun its gradual post-recession recovery (Simmons et al. 2014). From 2011 to 2015, employment across the entire forest industry increased by 17 percent, mirrored by similar increases within each industry sector. From 2011 to 2015, employment in forestry support activities led the recovery, increasing by more than 18 percent, followed closely by both primary and secondary wood products manufacturing. Paper manufacturing increased by 17 percent between 2011 and 2015, and employment in forestry and logging experienced similar growth—16 percent over the same period (fig. 9).

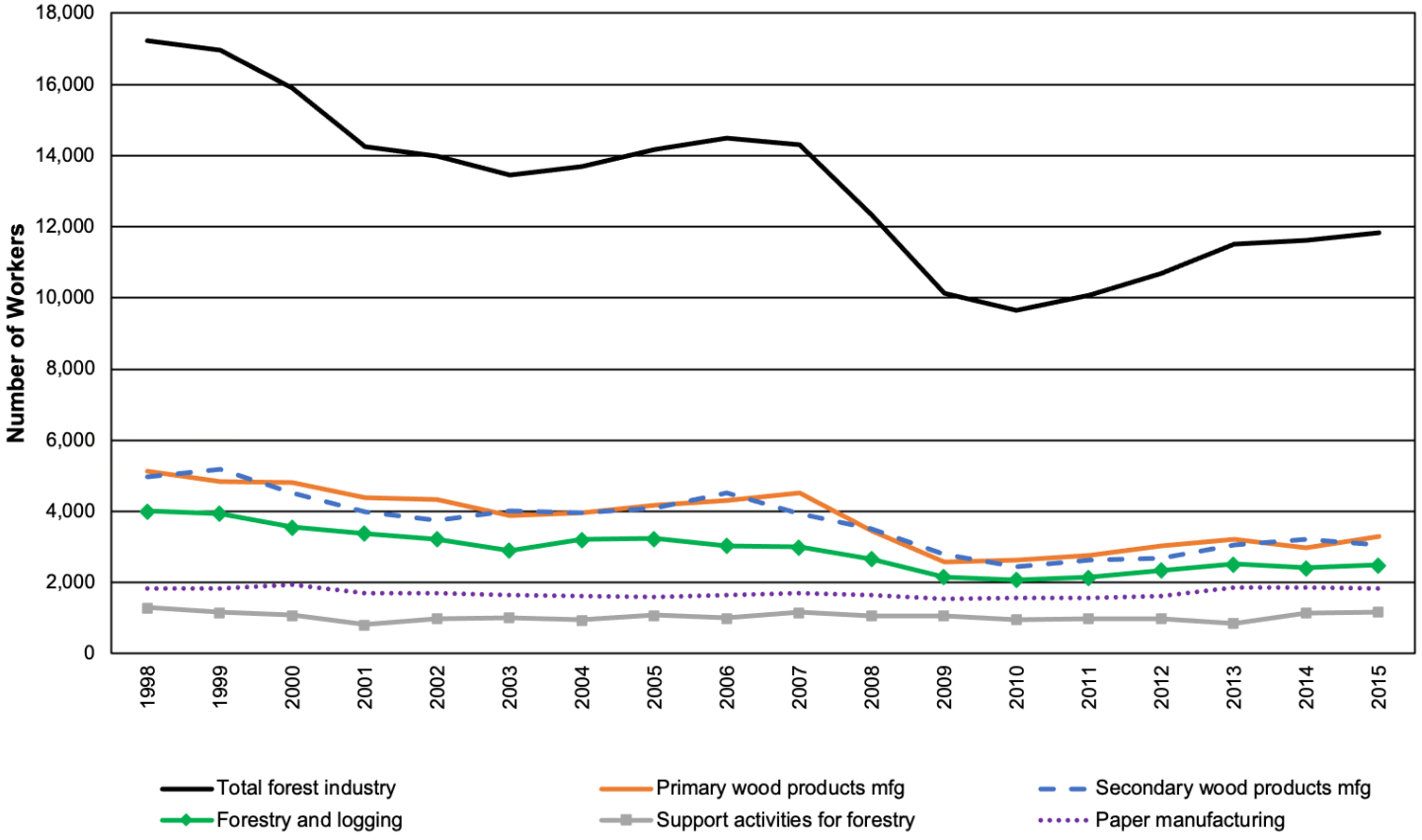


Figure 9—Employment in Idaho's forest industry, 1998-2015. (BBER 2017; USDC BEA 2017; USDL BLS 2017; USDC CB 2017).

While the increasing employment trends observed from 2011 and 2015 indicate recovery in the forest industry, employment in wood products manufacturing, forestry, and logging has decreased since 2006 (Brandt et al. 2006). Employment in wood products manufacturing fell by approximately 28 percent between 2006 and 2015. Reductions in employment were primarily a result of the Great Recession and corresponding reduction in U.S. homebuilding weakening demand for wood products and ultimately contributing to curtailments and mill closures. Technological improvements and new equipment also likely contributed to declining employment at Idaho processing facilities. The forestry and logging sector saw an 18 percent decline over the same period. However, paper manufacturing employment has continued to increase—up by 12 percent in 2015 relative to 2006—and the number of employees engaged in forestry support activities increased by 17 percent over the same period.

During 2015, workers in the forest industry earned over $805 million (constant 2015 dollars) in labor income or worker earnings (USDC BEA 2017a). Labor income includes wages and

salaries, some benefits, and earnings of the self-employed. Labor income growth for the forest industry between 2011 and 2015 (52 percent) exceeded employment growth (17 percent). Since 2011, inflation-adjusted earnings in the primary wood products manufacturing sector increased by 66 percent, dramatically outpacing employment growth (19 percent) over the same period. The average primary wood products manufacturing employee earned over $71,300 in 2015. Labor income for employees in forestry and logging grew by a staggering 89 percent between 2011 and 2015 (fig. 10), more than three times the employment growth (16 percent) over the same period. In conjunction with increasing employment in the paper manufacturing sector (17 percent), labor income in the sector increased by 21 percent, with the average paper manufacturing employee earning over $86,000 in 2015. Labor income for forestry support activities increased 22 percent from 2011 to 2015, on par with the sector's employment growth of approximately 18 percent.

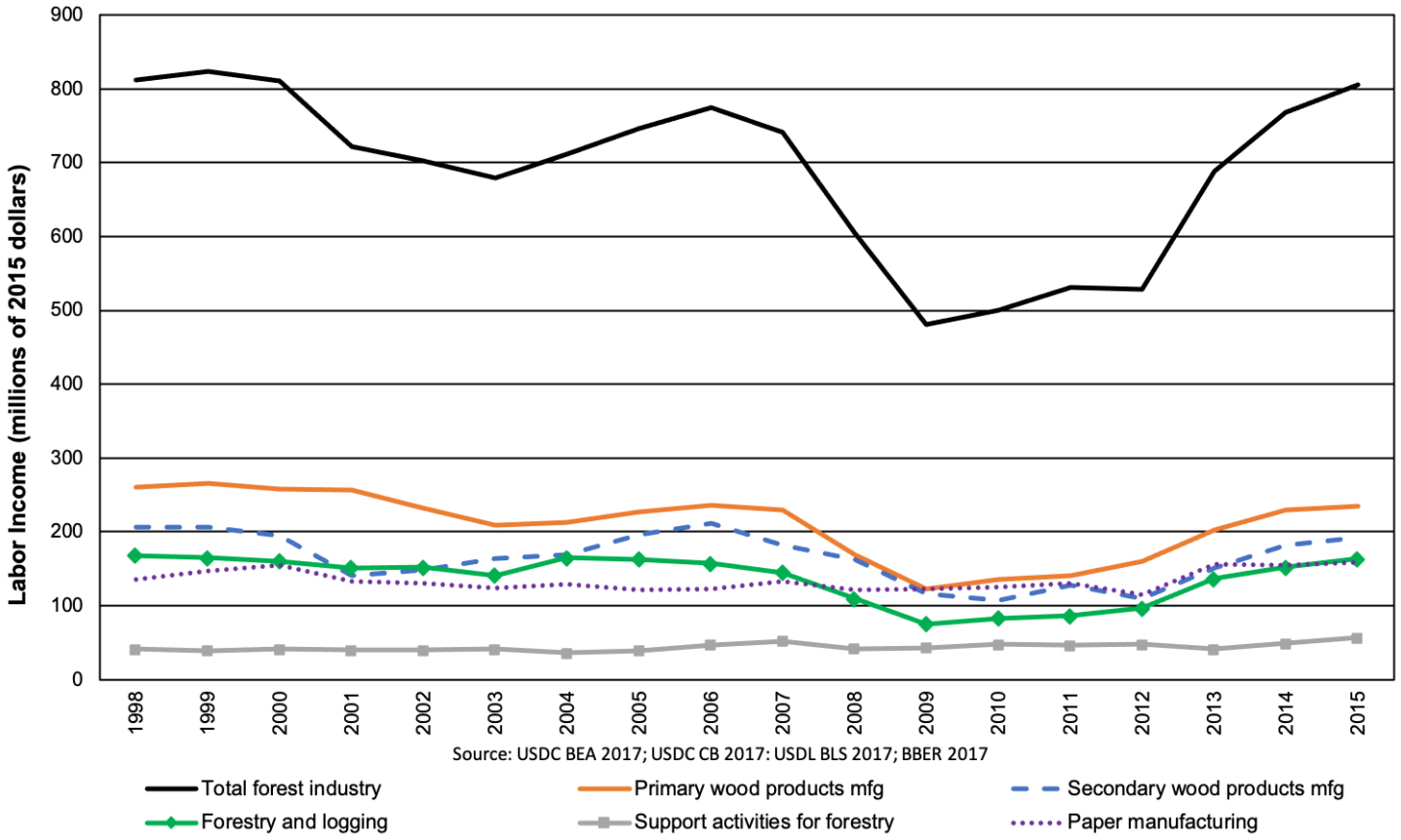


Figure 10—Inflation-adjusted earnings in Idaho's forest products industry, 1998-2015 (BBER 2017; USDC BEA 2017; USDL BLS 2017; USDC CB 2017).

As forest industry employment has continued to steadily increase since 2011, the post-recession growth of labor income across the forest industry has been exceedingly strong. Total labor income earned by the forest industry was 52 percent higher than in 2011 ($531 million), recovering to pre-recession levels and reflecting 2001 levels of worker earnings. The forestry and logging sector has led the recovery with the average worker making 63 percent more in 2015 relative to 2011 and wood products manufacturing employees making approximately 35 percent more over the same period. The outpacing of wage growth over employment could be attributed to a variety of factors, including general wage increases across forest industry sectors, efforts towards employee retention, as well as the inclusion of both full- and part-

time workers in BEA employment estimates. For example, when wages grow faster than employment, it may point to employees who were previously part-time adding more hours or days of work. This increases wages paid by businesses but does not change the overall employment estimate. Total labor income increased between 2011 and 2015 and workers earnings across the forest industry were also up 4 percent in 2015 relative to 2006. This trend was mirrored in the forestry and logging sector with an increase in labor income of 4 percent over the same 10-year period. Yet earnings for wood products manufacturers in 2015 were still below 2006 levels (5 percent) despite the rapid recovery between 2011 and 2015. Conversely, paper manufacturing earnings were 30 percent higher in 2015 compared to 2006 and earnings for forestry support activities were up approximately 20 percent.

Support activities for forestry (NAICS 1153) encompasses a variety of activities, including wildfire suppression and prevention activities, tree thinning and planting, and pest management. The employment and wage growth experienced in this category may be explained by several interrelated factors. First, the timing of the upward trend (2009-10) coincides with federal investments in infrastructure made through the American Reinvestment and Recovery Act. Second, as timber harvest levels have declined, businesses previously involved in commercial timber harvesting have diversified into non-commercial thinning, fuels reduction, and wildfire suppression activities, thus potentially leading to a reclassification of these businesses from forestry and logging to support activities for forestry. And finally, investments in non-commercial forest management activities likely increased in western States, including Idaho, during this time due to extensive mortality in the wake of the mountain pine beetle epidemic.

Economic Contribution of Idaho's Forest Industry to the State Economy

Idaho's forest industry directly contributes to the statewide economy, as well as through the additional economic activity it generates. Economic contribution analyses measure gross changes in economic activity that can be associated with an industry, event or policy on an existing regional economy (Watson et al. 2007; WWPA 1964-2016). For this report, we assess the contribution of Idaho's forest industry as dollars spent on intermediate inputs, taxes, labor and, in turn, by households, all of which generate economic opportunities as they cycle through the State's economy.

Primary and secondary wood products manufacturers, forestry and logging workers, paper manufacturers and forestry support firms composing Idaho's forest industry directly contributed approximately 11,843 jobs and over $805 million in labor income to the State economy (table 9). For every million board feet (MMBF) harvested in Idaho during 2015, approximately 10 jobs and $709 thousand in labor income are directly provided in the forest industry. The activity associated with those directly employed in the forest industry generates additional economic opportunities by relying upon other industries for raw and intermediate inputs and services, thus indirectly supporting employment and wages in additional sectors. Using regional data and existing linkages within Idaho's economy represented by the BEA RIMS II multipliers[1], BBER estimates that the primary wood products manufacturing sector

[1] The Bureau of Economic Analysis does not endorse any resulting estimates and/or conclusions about the contribution of a given sector on an area.

alone supported over 13,800 full- and part-time jobs and an associated $874 million in labor income (USDC BEA 2017a, b). Thus, for every primary wood products manufacturing job in the State, another 3.23 jobs were supported in related sectors, while for every $1.00 paid in labor income by wood products manufacturers another $2.73 was paid in supporting sectors, including forestry and logging, forestry support, trucking, wholesale trade, and management.

Table 9—Average annual employment (number of employees) and labor income contributions, (thousands of 2015 dollars) from Idaho's forest industry.

Sector	Direct Employment	Indirect and Induced Employment	Total Employment Contribution[a]	Direct Labor Income	Indirect and Induced Labor Income	Total Labor Income Contribution[a]
Primary Wood Products Mfg	3,282	10,607	13,889	$234,107	$639,651	$873,758
Secondary Wood Products Mfg	3,064	4,259	7,323	$192,835	$245,344	$438,179
Forestry and Logging	2,486	4,202	6,688	$163,508	$172,550	$336,058
Forestry Support Activities	1,169	442	1,611	$56,778	$23,864	$80,642
Paper Mfg	1,842	4,066	5,908	$158,462	$215,603	$374,065
Total Forest Industry	**11,843**	[a]	[a]	**$805,690**	[a]	[a]

[a] Indirect and induced employment and labor income should not be summed for multiple sectors due to some employment and income showing up as both direct contributions to their sector and indirect contributions to other sectors.

Likewise, BBER estimates that the 2,486 people employed in the forestry and logging sector supported an additional 4,202 full- and part-time jobs along with nearly $173 million in labor income in supporting sectors, such as equipment sales and repair. Leveraging the BEA RIMS II multipliers allows for a broad economic contribution analysis of the economic activity generated and cycled through Idaho's economy by different sectors within the forest industry. It should be noted that we do not aggregate sectors and avoid providing estimates of the total employment and labor income contribution for the entire forest industry to avoid double counting—given that some employment and labor income shows up as both direct contributions to their sector and indirect contributions to other sectors. For example, some or all of the direct employment and labor income in the forestry and logging sector would be included with the indirect and induced contributions from primary wood products manufacturing since these manufacturers rely upon forestry and logging business to supply their raw material inputs.

The findings from the 2015 census of Idaho's forest products industry demonstrate an overall improvement in the primary wood products sector since the 2011 census, indicating recovery from the Great Recession. The average inflation-adjusted wages for workers have increased over time, thus indicating the role jobs within Idaho's forest industry have in the State economy. At a time when continuing discussions focus on maintaining good paying jobs in

rural communities, the jobs sustained through harvesting and processing Idaho timber can be vital in many locations. The number of workers employed, associated labor income and the volume of timber processed can vary substantially across the forest industry sectors. Idaho communities where timber harvesting and wood processing co-exist have a strong economic reliance on timber harvest levels within their region. Efforts to further analyze the economic contribution of Idaho's forest products industry indicate increasing levels of direct and support employment, labor income and State gross domestic product (GDP) generated by the harvest and processing of wood products (Alward et al. 2018).

References

Alward, G.; Becker, D.; Pregitzer, K.S. 2018. Economic contributions of Idaho's forest products industry 2017. Station Bulletin 107. Moscow, ID: Idaho Forest, Wildlife and Range Experiment Station, College of Natural Resources, University of Idaho. 2 p. https://idahoforests.org/wp-content/uploads/U-Idaho-contributions-for-Idaho-Forest-Products-Industry_2016.pdf [Accessed August 9, 2023]

Brandt, J.P.; Morgan, T.A.; Keegan, C.E. III.; [et al.]. 2012. Idaho's forest products industry and timber harvest, 2006. Resour. Bull. RMRS-RB-12. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 45 p. https://doi.org/10.2737/RMRS-RB-12

Bureau of Business and Economic Research (BBER). 2017. Forest Industries Data Collection System (FIDACS). Missoula, MT: The University of Montana, Bureau of Business and Economic Research, Forest Industry Research Program. Unpublished dataset.

Keegan, C.E., III; Jackson, T.P.; Johnson, M.C. 1982. Idaho's forest products industry: A descriptive analysis, 1979. Missoula, MT: The University of Montana, Bureau of Business and Economic Research. 98 p.

Keegan, C.E., III; Martin, K.J.; Johnson, M.C.; [et al.]. 1988. Idaho's forest products industry: A descriptive analysis, 1985. Missoula, MT: The University of Montana, Bureau of Business and Economic Research. 90 p.

Keegan, C.E.; Morgan, T.A.; Blatner, K.A. 2010. Trends in lumber processing in the western United States. Part II: Overrun and lumber recovery factors. Forest Products Journal. 60(2): 140-143. https://doi.org/10.1093/jof/104.5.262

Keegan, C.E. III; Morgan, T.A.; Gebert, K.M.; [et al.]. 2006. Timber-processing capacity and capabilities in the western United States. Journal of Forestry. 104(5): 262-268. https://doi.org/10.1093/jof/104.5.262

Keegan, C.E.; Sorenson, C.B.; Morgan, T.A.; [et al.]. 2012. Impact of the Great Recession and housing collapse on the forest products industry in the western United States. Forest Products Journal. 61(8):625-634. https://doi.org/10.13073/0015-7473-61.8.625

Keegan, C.E., III; Wichman, D.P.; Van Hooser, D.D.; [et al.]. 1992. Idaho's forest products industry: A descriptive analysis 1990. Missoula, MT: The University of Montana, Bureau of Business and Economic Research. 51p.

Keegan, C.E., III; Wichman, D.P.; Van Hooser, D.D.; [et al.]. 1997. Idaho's forest products industry: A descriptive analysis 1979-1996. Missoula, MT: The University of Montana, Bureau of Business and Economic Research. 68 p.

Miles, P.D. Thu May 18 10:54:27 CDT 2017. Forest Inventory EVALIDator web-application Version 1.6.0.03. St. Paul, MN: U.S. Department of Agriculture, Forest Service, Northern Research Station. Online: EVALIDator | Step 1 of 5 (usda.gov) [Accessed 2017 May 18]

Morgan, T.A.; Keegan C.E. III; Spoelma, T.P.; Dillon, T.; DeBlander L. 2004. Idaho's forest products industry: A descriptive analysis. Resour. Bull. RMRS-RB-4. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 31 p. https://doi.org/10.2737/RMRS-RB-4

National Bureau of Economic Research (NBER). 2010. U.S. business cycle expansions and contractions. http://www.nber.org/cycles/cyclesmain.html [Accessed 2017 June 26]

Random Lengths. 2011, 2015. Random lengths yardstick: The monthly measure of the forest products statistics. Annual price averages special report. Eugene, OR: Random Lengths. Various pagings. https://www.fastmarkets.com/

Setzer, T.S.; Wilson, A.K. 1970. Timber products in the Rocky Mountain States, 1966. Resour. Bull. INT-9. Ogden, UT: U.S. Department of Agriculture, Forest Service, Intermountain Forest and Range Experiment Station. 89 p.

Simmons, E.A.; Hayes, S.W.; Morgan, T.A.; Keegan, C.E. III.; and Witt, C. 2014. Idaho's forest products industry and timber harvest, 2011. Resour. Bull. RMRS-RB-19. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 46 p. https://doi.org/10.2737/RMRS-RB-19

U.S. Department of Commerce, Bureau of Economic Analysis (USDC BEA). 2017a. Table SA05N. Personal income by major source of earnings by NAICS industry. https://www.bea.gov/ [Accessed 2017 June 30]

U.S. Department of Commerce, Bureau of Economic Analysis (USDC BEA). 2017b. Table SA25N. Total full-time and part-time employment by NAICS industry. [2017 June 30]. https://www.bea.gov/ [Accessed 2017 June 30]

U.S. Department of Commerce, Bureau of Economic Analysis (USDC BEA), 2015. Regional Input-Output Modeling System (RIMS II). https://www.bea.gov/regional/rims/rimsii/

U.S. Department of Commerce, Census Bureau (USDC CB). 2017. County business patterns. http://censtats.census.gov/cbpnaic/cbpnaic.shtml [Accessed 2017 June 30]

U.S. Department of Labor, Bureau of Labor Statistics (USDL BLS). 2017. Quarterly census of employment and wages (QCEW). https://www.bls.gov/cew/ [Accessed 2017 June 30]

Watson, P.; Wilson, J.; Thilmany, D.; Winter, S. 2007. Determining economic contributions and impacts: What is the difference and why do we care? The Journal of Regional Analysis and Policy. 37(2): 140-146. https://jrap.scholasticahq.com/article/9291-determining-economic-contributions-and-impacts-what-is-the-difference-and-why-do-we-care [Accessed 2024 August 9]

Western Wood Products Association [WWPA]. 1964-2016. Statistical yearbook of the western lumber industry. Portland, OR: Western Wood Products Association. Various pagings.

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