



THE FOREST PRODUCTS INDUSTRY IN IDAHO

PART 1: TIMBER HARVEST, PRODUCTS AND FLOW

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INTRODUCTION

This Forest Industry Brief is part of a series of reports presenting findings from a Bureau of Business and Economic Research (BBER) study of Idaho's primary forest products industry. Part 1 of this series 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.

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, 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 (Figure 1).

IDAHO'S TIMBER HARVEST

Timber harvest in Idaho totaled 1,135.5 MMBF Scribner during 2015 (Figure 2). This marked a 6.5 percent increase

compared to the 2011 harvest of 1,065.9 MMBF (Simmons and others 2014) and a 1.3 percent increase from the 2006 harvest of 1,120.6 MMBF (Brandt and others 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 and others 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.

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 like 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

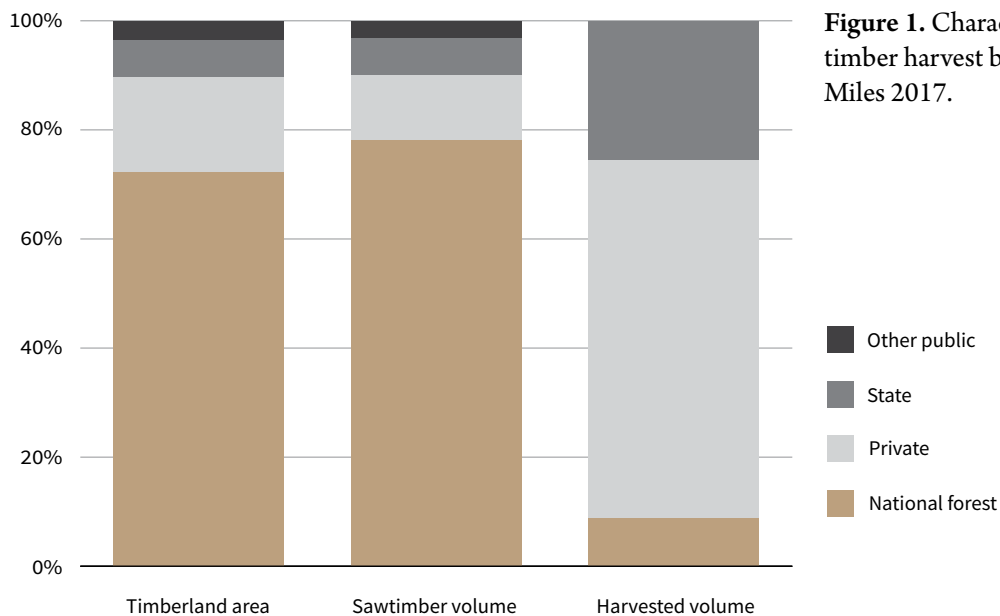


Figure 1. Characteristics of Idaho's timberland and timber harvest by ownership class, 2015. Source: Miles 2017.

(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 and others 2014). Much of this drop was in pulpwood with residue related facilities using somewhat less roundwood and more sawmill residue during 2015.

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. NFS lands provide over 22 percent of the house log harvest. Approximately 2.5 percent (28.6 MMBF) of the 2015 harvest were 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

Figure 2. Idaho timber harvest by ownership class, selected years. Sources: Brandt and others 2012; Keegan and others 1982, 1988, 1992, 1997; Morgan and others 2004; Simmons and others 2014.

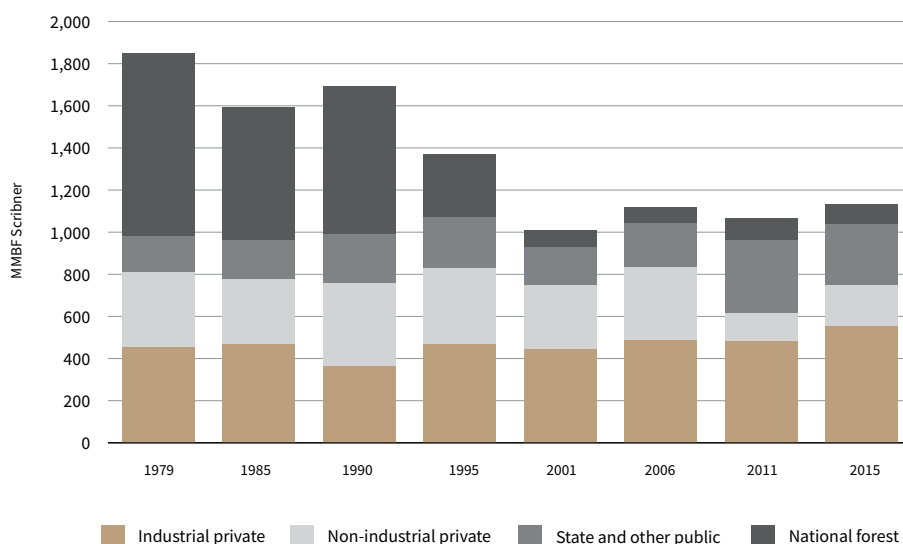


Table 1. Idaho timber harvest by ownership class and timber product, 2015.

Ownership class	Saw and veneer logs ^a	Cedar products	House logs	Other products ^b	All products
----- Thousand board feet, Scribner -----					
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^e	1,015,082	31,168	856	88,419	1,135,525

^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.

^e Totals may not sum due to rounding.

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 (Figure 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.

Table 2. Proportion of Idaho timber harvest by species, selected years. Sources: Setzer 1970; Morgan and others 2004; Brandt and others 2012; Simmons and others 2014.

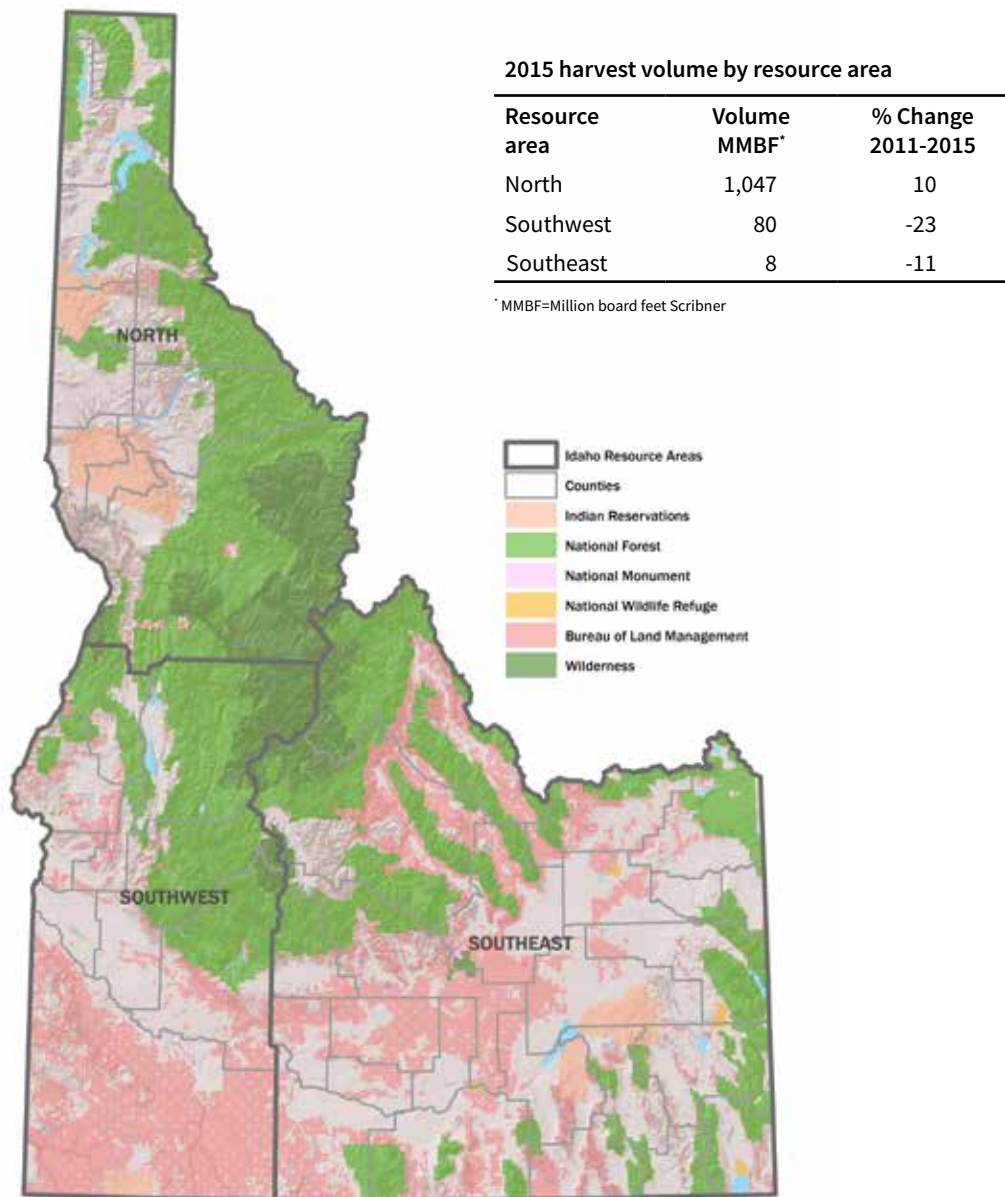
Species	1969	1979	1985	1990	1995	2001	2006	2011	2015
----- Percentage of harvest (MBF, Scribner) -----									
True firs	24	22	27	23	25	24	34	35	36
Douglas-fir	18	20	21	22	27	26	28	24	29
Western red cedar	7	11	10	11	9	10	13	12	9
Ponderosa pine	14	13	12	18	17	7	7	10	8
Western larch	6	6	6	6	6	10	5	6	6
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^e	100	100	100	100	100	100	100	100	100

^a Western hemlock and Engelmann spruce were included in the other species category in 1969.

- Less than 0.5 percent.

^e Totals may not sum due to rounding.

Figure 3. Idaho's geographic resource areas.



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. (Morgan and others 2004; Brandt and others 2012.)

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

Table 3. Log flow into and out of Idaho by product, 2015.

Timber products	Log flow into Idaho	Log flow out of Idaho	Net inflow (net outflow)
-----Thousand board feet, Scribner-----			
Saw and veneer logs	76,565	84,959	(8,395)
House logs	1,423	10,451	(9,027)
Cedar products	4,300	128	4,172
Other products ^a	1,978	968	1,010
All products^a	84,266	96,506	(12,240)

^a Other products include logs for pulpwood, posts and poles, log furniture and industrial fuelwood.

* Totals may not sum due to rounding.

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 (Keegan and others 1997; Morgan and others 2004; Brandt and others 2012; Simmons and others 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.

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.

END USES OF IDAHO'S TIMBER HARVEST

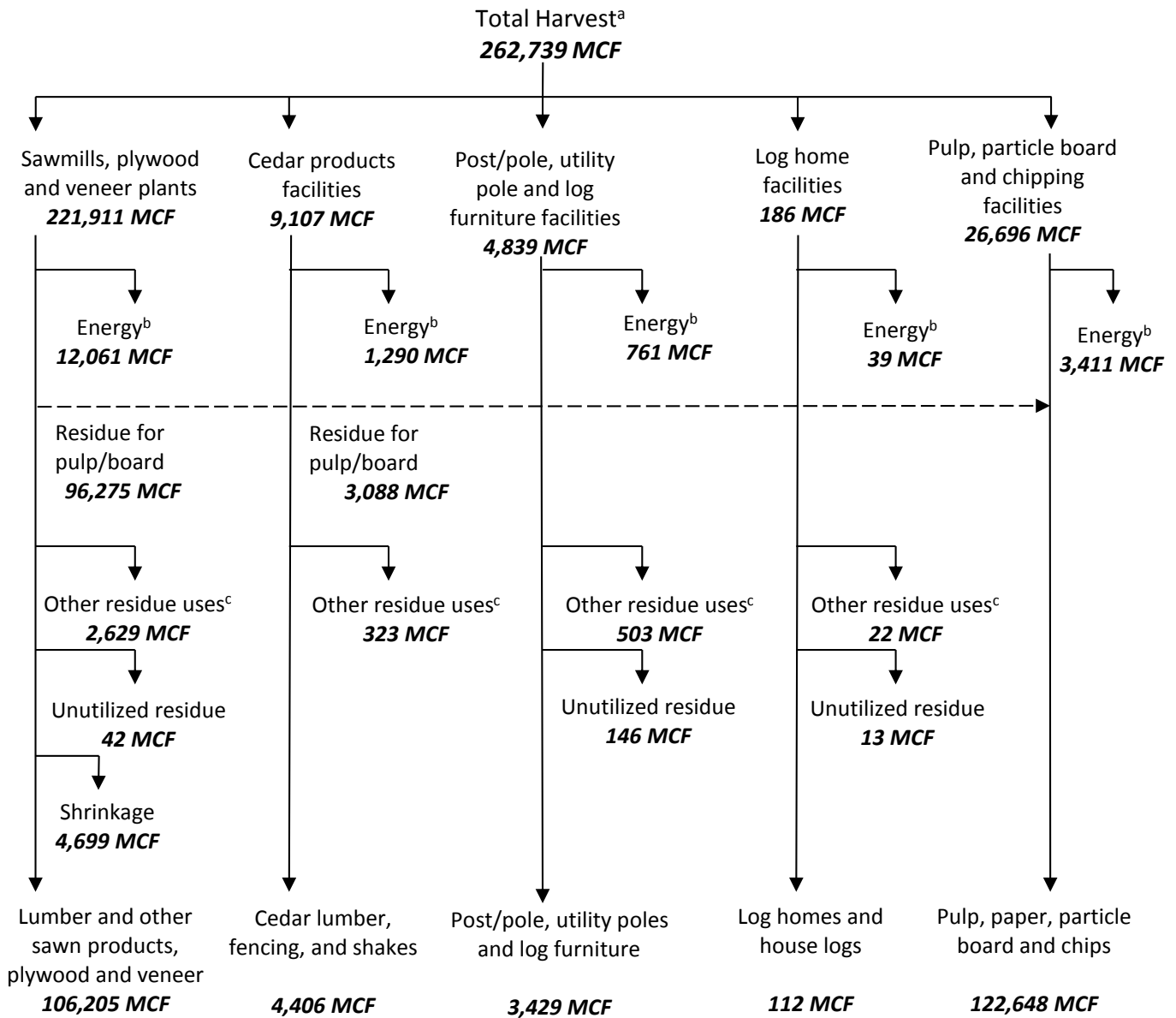
Idaho's 2015 timber harvest was about 262.7 million cubic feet (MMCF) excluding bark (Figure 4). About 84 percent (221.9 MMCF) went to sawmills and plywood plants, and 10 percent (26.7 MMCF) went to chipping, pulp or particleboard facilities. Over 3 percent went to cedar products facilities, almost 2 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.

Table 4. Source and destination of Idaho timber harvest, 2015.

Region of timber harvest	Region where timber was processed			
	Northern Idaho	Southwestern Idaho	Southeastern Idaho	Out-of-state
----- Thousand board feet, Scribner -----				
Northern Idaho	970,654	5,585	30	71,227
Southwestern Idaho	25,324	35,459	13	19,020
Southeastern Idaho	--	375	1,583	6,259

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



^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.

See also, **Part 2: Industry Sectors, Capacity and Outputs** (BBER-FIB-11), **Part 3: Sales, Employment and Contribution to the State's Economy** (BBER-FIB-12), and **Idaho 2015 Data Tables and Figures**.

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:



Researchers from the Forest Industry Research Program measure timber in Idaho. (Eric Simmons, BBER)

- 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 from other sources. 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 state-wide harvest and 78 percent of the timber volume processed in Idaho during calendar year 2015.

In cooperation with the Forest Inventory and Analysis (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 the BBER.

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

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A full set of data tables are also available at: <http://www.bber.umt.edu/pubs/forest/fidacs/ID2015Tables.pdf>

