



Montana's Forest Products Industry and Timber Harvest, 2014

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Part IV: Supplemental Tables

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The University of Montana's Bureau of Business and Economic Research (BBER), in conjunction with the Interior West Forest Inventory and Analysis (IW-FIA) Program of the US Forest Service, conducted a census of Montana's timber processors that operated during calendar year 2014. Through a written questionnaire, phone or in-person interview, timber-processing and residue-utilizing facilities provided information about their 2014 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

The facility-level information was then compiled and summarized. Because this study is based on a census, rather than statistical sample of firms, there is no

statistical error associated with the estimates presented. Possibilities of reporting and measurement error exist, but are minimized by cross checking data against other public and private information sources and through data checking for internal consistency. Summary data tables and figures are reviewed by wood products researchers, state and federal agency personnel, and members of the state's forest products industry. However, firm-level data are confidential and will not be released.

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Table 1—Montana nonreserved timberland by ownership class (source: Interior West Forest Inventory and Analysis, 2014, BBER est.).

Ownership class	Thousand acres	Percentage of nonreserved timberland
National Forest	12,097	61.2
Non-industrial private	5,060	25.6
State	890	4.5
Industrial	867	4.4
Bureau of Land Management	844	4.3
Other public	22	0.1
All owners ^a	19,780	100

^aPercentage detail may not sum to 100% due to rounding.

Table 2—Montana timber harvest by ownership class, selected years (sources: Keegan 1980; Keegan and others 1983, 1990, 1995, 2001; Spoelma and others 2008; McIver and others 2013).

Ownership class	1981	1988	1993	1998	2004	2009	2014
<i>----- Thousand Board Feet, Scribner -----</i>							
Private	583,413	689,986	694,160	640,709	602,043	211,210	265,597
Industrial	351,744	397,853	304,854	354,430	285,324	115,590	94,943
Non-industrial private	208,815	235,381	353,092	262,566	265,691	95,619	170,654
Tribal	22,854	56,752	36,214	23,713	51,028	^a	^a
Public	451,664	546,308	307,069	228,699	182,915	162,329	145,998
National Forest	412,867	496,803	282,324	190,870	116,965	93,580	83,148
Other public ^b	38,797	49,505	24,745	37,829	65,950	68,749	62,850
All owners	1,035,077	1,236,294	1,001,229	869,408	784,958	373,538	411,595
<i>----- Percentage of harvest -----</i>							
Private	56.4	55.8	69.3	73.7	77.0	56.5	64.5
Industrial	34.0	32.2	30.4	40.8	36.0	30.9	23.1
Non-industrial private	20.2	19.0	35.3	30.2	34.0	25.6	41.5
Tribal	2.2	4.6	3.6	2.7	7.0	^a	^a
Public	43.6	44.2	30.7	26.3	23.0	43.5	35.5
National Forest	39.9	40.2	28.2	22.0	15.0	25.1	20.2
Other public ^b	3.7	4.0	2.5	4.3	8.0	18.4	15.3
All owners ^c	100	100	100	100	100	100	100

^aIndustrial and Tribal combined to prevent disclosure

^bOther public includes state and BLM

^cPercentage detail may not sum to 100% due to rounding.

Table 3—Proportion of Montana timber harvest (MBF, Scribner) by species, selected years (sources: Keegan 1980; Keegan and others 1983, 1990, 1995, 2001; Spoelma and others 2008; McIver and others 2013).

Species	1981	1988	1993	1998	2004	2009	2014
----- Percentage of harvest -----							
Douglas-fir	27	27	29	34	38	31	41
Lodgepole pine	25	28	26	25	18	35	21
Ponderosa pine	12	17	19	15	19	15	16
Spruces	8	7	6	8	7	8	8
Western larch	16	14	12	10	12	7	7
Other species ^a	12	7	8	7	6	4	7
All species ^b	100	100	100	100	100	100	100

^aOther species include: true firs, western white pine, western redcedar, western hemlock, Rocky Mountain juniper, aspen and cottonwood, and other softwoods.

^bPercentage detail may not sum to 100% due to rounding.

Table 4—Proportion of Montana timber harvest (MBF, Scribner) by product, selected years (sources: Keegan 1980; Keegan and others 1983, 1990, 1995, 2001; Spoelma and others 2008; McIver and others 2013).

Product	1981	1988	1993	1998	2004	2009	2014
----- Percentage of harvest -----							
Sawlogs	71	81	79	77	76	73	89
Veneer logs	22	17	17	18	16	^c	^c
Other timber products ^a	7	3	5	6	8	27	11
All products ^b	100	100	100	100	100	100	100

^aOther timber products include logs used for pulpwood, posts and poles, house logs, cedar products, log furniture, and industrial fuelwood.

^bPercentage detail may not sum to 100% due to rounding.

^cHarvest of veneer logs included in sawlog category to prevent disclosure.

Table 5—Montana timber harvest (million board feet, Scribner) by county, selected years (sources: Keegan 1980; Keegan and others 1983, 1990, 1995, 2001; Spoelma and others 2008; McIver and others 2013).

County	1981		1988		1993		1998		2004		2009		2014	
	MMBF, Scribner	Percent of Total	MMBF, Scribner	Percent of Total	MMBF, Scribner	Percent of Total	MMBF, Scribner	Percent of Total	MMBF, Scribner	Percent of Total	MMBF, Scribner	Percent of Total	MMBF, Scribner	Percent of Total
Northwest Montana	633	61.1	725	58.6	519	51.8	415	47.7	383	48.7	171	45.9	222	54.0
Flathead	245	23.6	255	20.6	150	15.0	148	17.0	156	19.8	79	21.2	91	22.2
Lake	28	2.7	53	4.3	53	5.3	38	4.4	33	4.2	23	6.2	31	7.5
Lincoln	267	25.8	324	26.2	208	20.8	153	17.6	119	15.1	43	11.6	60	14.6
Sanders	93	9.0	93	7.5	107	10.7	76	8.7	75	9.6	26	6.9	40	9.7
Western Montana	229	22.3	246	20.0	229	22.9	203	23.3	189	24.0	79	21.2	70	17.1
Granite	23	2.3	29	2.4	21	2.1	31	3.6	25	3.2	6	1.6	7	1.7
Mineral	45	4.4	40	3.3	32	3.2	20	2.3	41	5.2	13	3.4	16	4.0
Missoula	120	11.6	141	11.4	136	13.6	129	14.8	109	13.9	56	15.0	43	10.5
Ravalli	41	4.0	36	2.9	40	4.0	23	2.6	13	1.7	4	1.2	4	0.9
Southwest Montana	68	6.5	88	7.0	72	7.0	32	3.7	37	4.8	32	8.5	28	6.7
Beaverhead	10	1.0	16	1.3	5	0.5	2	0.2	6	0.8	11	2.9	5	1.2
Deer Lodge	8	0.7	6	0.5	11	1.1	8	0.9	4	0.5	7	1.9	2	0.4
Gallatin	36	3.5	29	2.3	30	2.9	4	0.5	8	1.0	2	0.5	8	1.8
Madison	3	0.3	18	1.4	9	0.9	11	1.3	5	0.7	3	0.8	9	2.3
Park	8	0.8	16	1.3	11	1.1	6	0.7	8	1.1	6	1.5	4	0.9
Silver Bow	3	0.2	3	0.2	5	0.5	1	0.1	5	0.7	3	0.8	1	0.1
West-Central Montana	80	7.6	105	8.6	80	8.0	136	15.8	92	11.7	70	18.7	65	15.9
Broadwater	7	0.7	2	0.2	4	0.4	4	0.5	2	0.3	8	2.2	1	0.1
Cascade	1	0.1	5	0.4	1	0.1	10	1.2	3	0.4	1	0.2	2	0.5
Jefferson	8	0.7	8	0.7	3	0.3	6	0.7	12	1.5	6	1.7	5	1.1
Judith Basin	1	0.1	-	0.0	3	0.3	5	0.6	0	0.1	0	0.0	-	-
Lewis & Clark	26	2.5	17	1.4	13	1.3	30	3.5	21	2.7	24	6.4	31	7.5
Meagher	17	1.6	15	1.2	12	1.2	27	3.1	6	0.8	3	0.7	11	2.7
Powell	20	1.9	56	4.6	43	4.3	50	5.7	46	5.9	27	7.3	14	3.4
Wheatland	-	0.0	1	0.1	1	0.1	4	0.5	-	0.0	1	0.2	2	0.6

(Continued)

Table 5—Continued.

County	1981		1988		1993		1998		2004		2009		2014	
	MMBF, Scribner	Percent of Total	MMBF, Scribner	Percent of Total	MMBF, Scribner	Percent of Total	MMBF, Scribner	Percent of Total	MMBF, Scribner	Percent of Total	MMBF, Scribner	Percent of Total	MMBF, Scribner	Percent of Total
Eastern Montana	26	2.4	73	6.0	102	10.3	73	8.4	84	10.8	20	5.4	26	6.4
Big Horn	3	0.3	12	1.0	13	1.3	12	1.4	16	2.0	3	0.7	1	0.2
Fergus	9	0.9	11	0.9	24	2.4	9	1.0	15	2.0	3	0.9	3	0.8
Musselshell	2	0.1	4	0.3	13	1.3	6	0.7	1	0.2	1	0.2	2	0.4
Powder River	1	0.1	15	1.2	11	1.1	8	0.9	18	2.3	-	0.0	1	0.2
Rosebud	6	0.6	12	1.0	8	0.8	11	1.3	6	0.8	-	0.0	1	0.1
Other counties	4	0.4	19	1.6	34	3.4	26	3.1	28	3.5	14	3.6	19	4.6
Unspecified	-	0.0	-	0.0	-	0.0	10	1.1	-	0.0	1	0.4	-	-
All counties ^a	1,035	100	1,236	100	1,001	100	869	100	785	100	373	100	412	100

^aPercentage detail may not sum to 100 percent due to rounding.

Table 6—Montana timber harvest by ownership class and species, 2014.

Ownership class	Douglas-fir	Lodgepole pine	Ponderosa pine	Spruces	Other species ^a	Western larch	All species
	----- Thousand board feet, Scribner -----						
Private	113,602	55,453	39,890	18,771	18,111	19,771	265,597
Industrial and Tribal ^b	41,240	13,714	13,560	5,937	7,884	12,608	94,943
Non-industrial private	72,362	41,739	26,330	12,834	10,227	7,163	170,654
Public	56,266	32,794	24,627	12,111	11,636	8,564	145,998
National Forest	29,157	19,754	16,482	6,435	7,626	3,695	83,149
Other public	27,109	13,040	8,145	5,676	4,010	4,869	62,849
All owners	169,868	88,247	64,517	30,882	29,747	28,335	411,595
	----- Percentage of harvest -----						
Private	27.6	13.5	9.7	4.6	4.4	4.8	64.5
Industrial and Tribal ^b	10.0	3.3	3.3	1.4	1.9	3.1	23.1
Non-industrial private	17.6	10.1	6.4	3.1	2.5	1.7	41.5
Public	13.7	8.0	6.0	2.9	2.8	2.1	35.5
National Forest	7.1	4.8	4.0	1.6	1.9	0.9	20.2
Other public	6.6	3.2	2.0	1.4	1.0	1.2	15.3
All owners ^c	41.3	21.4	15.7	7.5	7.2	6.9	100.0

^aOther species include: true firs, western white pine, western redcedar, western hemlock, Rocky Mountain juniper, aspen and cottonwood, and other softwoods.

^bIndustrial and Tribal combined to prevent disclosure.

^cPercentage detail may not sum to 100% due to rounding.

Table 7—Montana timber harvest by ownership class and product, 2014.

Ownership class	Saw and veneer logs	House logs	Other products ^a	All products
----- Thousand board feet, Scribner -----				
Private	243,826	962	20,809	265,597
Industrial and Tribal ^b	90,460	354	4,129	94,943
Non-industrial private	153,366	608	16,680	170,654
Public	121,008	770	24,220	145,998
National Forest	65,008	453	17,687	83,148
Other public	56,000	317	6,533	62,850
All owners	364,834	1,732	45,029	411,595
----- Percentage of harvest -----				
Private	59.2	0.2	5.1	64.5
Industrial and Tribal ^b	22.0	0.1	1.0	23.1
Non-industrial private	37.3	0.1	4.1	41.5
Public	29.4	0.2	5.9	35.5
National Forest	15.8	0.1	4.3	20.2
Other public	13.6	0.1	1.6	15.3
All owners ^c	88.6	0.4	10.9	100.0

^aOther products include logs used for pulpwood, posts and poles, cedar products, log furniture, and industrial fuelwood.

^bIndustrial and Tribal combined to prevent disclosure.

^cOther public includes state and BLM.

^dPercentage detail may not sum to 100% due to rounding.

Table 8—Montana timber harvest by species and product, 2014.

Species	Saw and veneer logs	House logs	Other products ^a	All products ^b
----- Thousand board feet, Scribner -----				
Douglas-fir	156,949	195	12,724	169,868
Lodgepole pine	68,028	1,123	19,096	88,247
Ponderosa pine	55,745	-	8,772	64,517
Spruces	30,442	209	231	30,882
Other species ^c	27,104	-	2,643	29,747
Western larch	26,566	205	1,563	28,334
All species	364,834	1,732	45,029	411,595
----- Percentage of harvest -----				
Douglas-fir	38.1	0.0	3.1	41.3
Lodgepole pine	16.5	0.3	4.6	21.4
Ponderosa pine	13.5	0.0	2.1	15.7
Spruces	7.4	0.1	0.1	7.5
Other species ^c	6.6	0.0	0.6	7.2
Western larch	6.5	0.0	0.4	6.9
All species ^b	88.6	0.4	10.9	100.0

^aOther products include logs used for pulpwood, posts and poles, cedar products, log furniture, and industrial fuelwood.

^bPercentage detail may not sum to 100% due to rounding.

Table 9—Timber flow into and out of Montana, 2014.

Timber products	Log flow into Montana	Log flow out of Montana	Net inflow (net outflow)
----- Thousand board feet, Scribner -----			
Saw and veneer logs	36,228	14,729	21,499
House logs	2,730	-	2,730
Other products ^a	792	-	792
All products	39,750	14,729	25,021

^aOther products include logs for pulpwood and posts and poles.

Table 10—Active Montana primary wood products facilities by county and product during 2014 and other years (sources: Keegan 1980; Keegan and others 1983, 1990, 1995, 2001; Spoelma and others 2008; McIver and others 2013).

County	Lumber	Plywood	Pulp and particle board	Post and poles	Log homes	Log furniture	Other products ^a	All products
Northwest Montana	10	2	1	2	5	2	8	30
Flathead	5	2	1	-	4	2	5	19
Lake	2	-	-	1	-	-	-	3
Lincoln	1	-	-	1	1	-	2	5
Sanders	2	-	-	-	-	-	1	3
Western Montana	7	-	1	4	11	2	7	32
Granite	-	-	-	1	-	-	1	2
Mineral	1	-	-	1	-	-	2	4
Missoula	3	-	1	1	2	-	2	9
Ravalli	3	-	-	1	9	2	2	17
Southwest Montana	3	-	-	3	7	-	4	17
Beaverhead	1	-	-	1	-	-	1	3
Deerlodge	-	-	-	-	-	-	1	1
Gallatin	-	-	-	-	4	-	2	6
Madison	-	-	-	1	3	-	-	4
Park	1	-	-	1	-	-	-	2
Silver Bow	1	-	-	-	-	-	-	1
West-Central Montana	6	-	-	2	-	-	3	11
Broadwater	1	-	-	-	-	-	1	2
Cascade	1	-	-	-	-	-	-	1
Jefferson	1	-	-	1	-	-	-	2
Lewis & Clark	2	-	-	1	-	-	-	3
Powell	1	-	-	-	-	-	2	3
Eastern Montana	6	-	-	1	2	1	2	12
Carbon	-	-	-	-	1	-	-	1
Chouteau	-	-	-	-	-	1	-	1
Fergus	2	-	-	-	-	-	-	2
Musselshell	2	-	-	1	-	-	-	3
Stillwater	1	-	-	-	-	-	-	1
Yellowstone	1	-	-	-	1	-	2	4
2014 Total	32	2	2	12	25	5	24	102
2009 Total	41	2	3	14	33	14	20	127
2004 Total	57	3	3	22	88	29	13	215
1998 Total	73	4	3	29	75	25	11	220
1993 Total	86	4	3	31	59	4	10	197
1988 Total	87	4	3	37	35	2	15	183
1981 Total	142	4	3	35	27	0	17	228

^aOther products include biomass energy, cedar shakes and shingles, decorative bark and mulch, roundwood pulp-chip conversion, and fuel pellets.

Table 11—Proportion of timber received by Montana facilities (MBF, Scribner) by ownership class, selected years (sources: Keegan 1980; Keegan and others 1983, 1990, 1995, 2001; Spoelma and others 2008; McIver and others 2013).

Ownership class	1981	1988	1993	1998	2004	2009	2014
----- <i>Percentage of timber received</i> -----							
Private	56	55	67	73	74	55	60
Industrial	34	34	31	43	39	31	20
Non-industrial private	20	18	33	27	31	24	40
Tribal	2	4	3	3	5	^a	^a
Public	44	45	33	27	26	45	40
National Forest	41	40	30	22	15	24	23
Other public ^b	4	5	2	5	11	21	17
All owners ^c	100	100	100	100	100	100	100

^aIndustrial and Tribal combined to prevent disclosure.

^bIncludes timber received from unspecified out-of-state sources.

^cPercentage detail may not sum to 100% due to rounding.

Table 12—Timber received by Montana facilities by ownership class and product, 2014.

Ownership class	Saw and veneer logs	House logs	Other products ^a	All products
----- <i>Thousand board feet, Scribner</i> -----				
Private	240,504	1,701	21,149	263,354
Industrial and Tribal ^b	85,544	734	4,129	90,407
Non-industrial private	154,960	967	17,020	172,947
Public	144,896	910	24,671	170,477
National Forest	79,486	593	17,899	97,978
Other public	65,410	317	6,772	72,499
Canadian and unspecified^c	933	1,852	0	2,785
All owners	386,333	4,463	45,820	436,616

^aOther products include logs used for pulpwood, posts and poles, log furniture, and industrial fuelwood.

^bIndustrial and Tribal combined to prevent disclosure.

^cIncludes timber received from Canada and unspecified out-of-state owners.

Table 13—Proportion of timber received by Montana facilities (MBF, Scribner) by product, selected years (sources: Keegan 1980; Keegan and others 1983, 1990, 1995, 2001; Spoelma and others 2008; McIver and others 2013).

Product	1981	1988	1993	1998	2004	2009	2014
----- <i>Percentage of timber received</i> -----							
Saw and veneer logs	92	97	95	94	89	72	88
Other timber products ^a	8	3	5	6	11	28	12
All products	100	100	100	100	100	100	100

^aOther timber products include logs used for posts and poles, house logs, pulpwood, log furniture, and industrial fuelwood.

Table 14—Timber received by Montana facilities by species and product, 2014.

Species	Saw and veneer logs	House logs	Other products ^a	All products ^b
----- <i>Thousand board feet, Scribner</i> -----				
Douglas-fir	164,830	704	13,041	178,575
Lodgepole pine	71,419	2,427	19,293	93,139
Ponderosa pine	60,503	-	8,931	69,434
Spruces	33,067	878	231	34,176
Other species ^c	29,489	-	2,721	32,210
Western larch	27,026	453	1,603	29,082
All species	386,334	4,462	45,820	436,616
----- <i>Percentage of timber received</i> -----				
Douglas-fir	37.8	0.2	3.0	40.9
Lodgepole pine	16.4	0.6	4.4	21.3
Ponderosa pine	13.9	-	2.0	15.9
Spruces	7.6	0.2	0.1	7.8
Other species ^c	6.8	-	0.6	7.4
Western larch	6.2	0.1	0.4	6.7
All species ^b	88.5	1.0	10.5	100.0

^aOther products include logs used for pulpwood, posts and poles, log furniture, and industrial fuelwood.

^bPercentage detail may not sum to 100% due to rounding.

^cOther species include: true firs, western white pine, western redcedar, western hemlock, Rocky Mountain juniper, cottonwood and poplar, and other softwoods.

Table 15—Timber received by Montana facilities by ownership class and species, 2014.

Ownership class	Douglas-fir	Lodgepole pine	Ponderosa pine	Spruces	Other species ^a	Western larch	All species
----- Thousand board feet, Scribner -----							
Private	112,579	55,954	40,302	18,701	16,683	19,135	263,354
Industrial and Tribal ^b	39,120	13,722	13,560	5,637	6,419	11,949	90,407
Non-industrial private	73,459	42,232	26,742	13,064	10,264	7,186	172,947
Public	65,602	35,997	28,781	14,906	15,482	9,709	170,477
National Forest	34,572	21,443	18,740	8,406	10,320	4,497	97,978
Other public	31,030	14,554	10,041	6,500	5,162	5,212	72,499
Canadian and unspecified^c	394	1,188	351	569	45	238	2,785
All owners	178,575	93,139	69,434	34,176	32,210	29,082	436,616
----- Percentage of timber received -----							
Private	25.8	12.8	9.2	4.3	3.8	4.4	60.3
Industrial and Tribal ^b	9.0	3.1	3.1	1.3	1.5	2.7	20.7
Non-industrial private	16.8	9.7	6.1	3.0	2.4	1.6	39.6
Public	15.0	8.2	6.6	3.4	3.5	2.2	39.0
National Forest	7.9	4.9	4.3	1.9	2.4	1.0	22.4
Other public	7.1	3.3	2.3	1.5	1.2	1.2	16.6
Canadian and unspecified^c	0.1	0.3	0.1	0.1	0.0	0.1	0.6
All owners ^d	40.9	21.3	15.9	7.8	7.4	6.7	100.0

^aOther species include: true fir, western white pine, western redcedar, western hemlock, rocky mountain juniper, cottonwood and aspen, and other softwood species.

^bIndustrial and Tribal combined to prevent disclosure.

^cIncludes timber receipts from Canada and unspecified out-of-state owners.

^dPercentage detail may not sum to 100% due to rounding.

Table 16—Montana lumber overrun and lumber recovery factor (LRF), selected years (sources: Keegan and others 1983, 1990, 1995, 2001; Spoelma and others 2008; McIver and others 2013).

Year	Timber processed	Lumber produced	Overrun	LRF ^b
	<i>MMBF^a Scribner</i>	<i>MMBF^a Lumber tally</i>		
2014	337	611	1.81	7.11
2009	237	449	1.89	7.35
2004	521	1,040	2.00	7.26
1998	725	1,287	1.78	7.17
1993	782	1,367	1.75	6.97
1988	985	1,558	1.58	6.79
1981	739	1,071	1.45	6.67

^aMMBF = million board feet.

^bLRF = board feet of lumber per cubic foot of log input.

Table 17—Number of Montana sawmills by annual lumber production, selected years (sources: Schweitzer and others 1975; Setzer and Wilson 1970; Keegan 1980; Keegan and others 1983, 1990, 1995, 2001; Spoelma and others 2008; McIver and others 2013).

Year	Annual lumber production			Total mills
	<i>Less than 10 MMBF^a</i>	<i>10 MMBF^a to 50 MMBF</i>	<i>More than 50 MMBF^a</i>	
2014	23	3	6	32
2009	30	6	5	41
2004	43	3	11	57
1998	54	8	11	73
1993	60	14	12	86
1988	58	16	13	87
1981	114	23	5	142
1976	68	24	6	98
1973	86	22	7	115
1966	111	37	b	148
1956	307	26	b	333

^aMMBF = million board feet, lumber tally.

^bMills with production over 50 MMBF are included in the 10 MMBF to 50 MMBF category.

Table 18—Proportion of Montana lumber production by sawmill size class, selected years (sources: Schweitzer and others 1975; Setzer and Wilson 1970; Keegan 1980; Keegan and others 1983, 1990, 1995, 2001; Spoelma and others 2008; McIver and others 2013).

Year	Less than 10 MMBF ^a	More than 10 MMBF ^a	Total lumber production	Average production per mill
	<i>Percentage of production</i>		<i>Million board feet</i>	
2014	2	98	611	19.09
2009	2	98	449	10.96
2004	3	97	1,040	18.24
1998	2	98	1,287	17.63
1993	4	96	1,367	15.90
1988	4	96	1,558	17.91
1981	8	92	1,071	7.54
1976	4	96	1,176	12.00
1966	10	90	1,375	11.96
1962	13	87	1,259	8.51
1956	33	67	979	2.97

^aMMBF = million board feet, lumber tally.

Table 19—Lumber production by Montana sawmills, 2014.

Lumber production size class	Number of mills	Percentage of production	Lumber production	Average production per mill
	<i>----- Million board feet -----</i>			
More than 50 MMBF ^a	6	75	459	77.00
10 to 50 MMBF	3	23	139	46.00
1 to 10 MMBF	7	1	9	1.29
Less than 1 MMBF	16	1	4	0.25
Total	32	100	611	19.09

^aMMBF = million board feet, lumber tally.

Table 20—Sawtimber processing capacity and utilization, selected years (sources: Keegan 1980; Keegan and others 1983, 1990, 1995, 2001; Spoelma and others 2008; McIver and others 2013).

Plant Type	Processing capacity	Volume processed	Percentage of capacity utilized
----- Million Board Feet, Scribner -----			
----- 2014 -----			
Sawmills	546	337	62%
Other sawtimber users ^a	89	57	64%
Total	635	394	62%
----- 2009 ^b -----			
Sawmills	554	237	43%
Other sawtimber users ^a	106	66	62%
Total	660	303	46%
----- 2004 -----			
Sawmills	743	521	70%
Other sawtimber users ^a	191	135	71%
Total	934	656	70%
----- 1998 -----			
Sawmills	844	725	86%
Other sawtimber users ^a	247	221	89%
Total	1,091	946	87%
----- 1993 -----			
Sawmills	964	782	81%
Other sawtimber users ^a	287	234	82%
Total	1,251	1,016	81%
----- 1988 -----			
Sawmills	1,237	985	80%
Other sawtimber users ^a	324	241	74%
Total	1,561	1,226	79%
----- 1981 -----			
Sawmills	1,207	739	61%
Other sawtimber users ^a	276	241	87%
Total	1,483	980	66%

^aOther sawtimber users include plywood and veneer plants, house log manufacturers, and utility pole plants.

^b2009 numbers revised from McIver et al. 2013.

Table 21—Montana sawmill residue factors, selected years (sources: Keegan and others 1983, 1990, 1995, 2001; Spoelma and others 2008; McIver and others 2013).

Type of residue	1981	1988	1993	1998	2004	2009	2014
----- BDU of residue per MBF lumber tally ^a -----							
Coarse	0.47	0.51	0.48	0.49	0.47	0.44	0.42
Sawdust	0.25	0.22	0.23	0.22	0.19	0.21	0.21
Bark	0.23	0.21	0.21	0.19	0.20	0.19	0.16
Planer Shavings	0.22	0.18	0.16	0.17	0.15	0.14	0.12
Total	1.17	1.12	1.08	1.07	1.01	0.98	0.91

^aBone-dry unit (BDU = 2,400 lb of oven-dry wood) of residue generated for every 1,000 board feet of lumber manufactured.

Table 22—Production and disposition of residues from Montana sawmills and plywood plants, 2014.

Residue type	Total utilized	Pulp and particle board	Energy	Mulch or animal bedding	Unspecified use	Unutilized	Total produced
----- Bone dry units ^a -----							
Coarse	309,176	289,626	17,703	-	1,847	27	309,203
Fine	205,394	197,590	4,741	2,420	643	512	205,906
Sawdust	132,143	125,332	4,601	1,811	399	332	132,475
Planer shavings	73,251	72,258	140	609	244	180	73,431
Bark	126,857	-	92,698	34,159	-	1,276	128,133
All residues	641,427	487,216	115,142	36,579	2,490	1,815	643,242
----- Percentage of residue use by type -----							
Coarse	100.0	93.7	5.7	-	0.6	0.0	100
Fine	99.8	96.0	2.3	1.2	0.3	0.2	100
Sawdust	99.7	94.6	3.5	1.4	0.3	0.3	100
Planer shavings	99.8	98.4	0.2	0.8	0.3	0.2	100
Bark	99.0	-	72.3	26.7	-	1.0	100
All residues	99.7	75.7	17.9	5.7	0.4	0.3	100

^aBone dry unit= 2,400 lb oven-dry wood.

Table 23—Production and disposition of residues from Montana's primary wood products sectors, 2014.

Sector	Total utilized	Pulp and particle board	Energy	Mulch or animal bedding	Unspecified use	Unutilized	Total produced
----- Bone dry units ^a -----							
Lumber, plywood and other sawn products	641,427	487,216	115,142	36,579	2,490	1,815	643,242
House logs and log homes	4,326	-	3,343	323	660	506	4,832
Posts and poles	14,572	1,300	8,737	4,384	151	1,116	15,688
Other sectors ^b	15,295	-	15,103	190	2	72	15,367
All sectors	675,620	488,516	142,325	41,476	3,303	3,509	679,129
----- Percentage of residue use production and use by sector -----							
Sawmill and plywood	99.7	75.7	17.9	5.7	0.4	0.3	100
House log and log home	89.5	-	69.2	6.7	13.7	10.5	100
Post and pole	92.9	8.3	55.7	27.9	1.0	7.1	100
Other sectors ^b	99.5	-	98.3	1.2	0.0	0.5	100
All sectors	99.5	71.9	21.0	6.1	0.5	0.5	100

^aBone dry unit= 2,400 lb oven-dry wood.

^bOther sectors include firewood, pulp chipping and log furniture.

Table 24—Proportion of finished product sales of Montana's primary wood products sectors, selected years (sources: Keegan and others 1983, 1990, 1995, 2001; Spoelma and others 2008; McIver and others 2013).

Sector	1981	1988	1993	1998	2004	2009	2014
----- Percentage of sales value -----							
Lumber, plywood, and other sawn products	58	55	67	60	53	29	57
Pulp, particle board, and residue-related products	38	41	28	30	39	63	36
House logs and log homes	2	3	5	9	7	4	4
Other products ^a	2	1	1	1	1	4	3
All products ^b	100	100	100	100	100	100	100

^aOther products include: posts and poles, log furniture, and energy products.

^bPercentage detail may not sum to 100% due to rounding.

Table 25—Destination and sales value of Montana's primary wood products, 2014.

Product	North Central ^a	Far West ^b	South ^c	Montana	Rockies ^d	Northeast ^e	Other countries ^f	Total
----- Thousand 2014 dollars -----								
Lumber, plywood, and other sawn products	115,369	19,982	74,726	54,876	52,357	17,818	7,508	342,636
House logs and log homes	2,862	4,379	2,371	6,714	3,527	1,410	1,106	22,369
Residue-related products ^g	69,239	71,103	15,911	12,217	24,466	1,826	25,381	220,143
Other finished products	340	5,560	445	10,180	2,239	582	77	19,423
All products and residues	187,810	101,024	93,453	83,987	82,589	21,636	34,072	604,571
----- Percentage of sales -----								
Lumber, plywood, and other sawn products	19	3	12	9	9	3	1	57
House logs and log homes	<1	1	0	1	1	<1	<1	4
Residue-related products ^g	11	12	3	2	4	<1	4	36
Other finished products	<1	1	0	2	0	<1	<1	3
All products and residues ^h	31	17	15	14	14	4	6	100

^aNorth Central includes Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin.

^bFar West includes Alaska, California, Hawaii, Oregon, and Washington

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

^dRocky Mountains includes Arizona, Colorado, Idaho, Nevada, New Mexico, Utah, and Wyoming.

^eNortheast includes Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, Pennsylvania, Rhode Island, and Vermont.

^fOther countries include Canada, Pacific Rim countries, and other countries.

^gResidue-related products include pulp chips, MDF and particleboard, fuel pellets, and bark products.

^hPercentage detail may not sum to 100% due to rounding.

Table 26—Proportion of Montana primary wood product sales by market region, selected years (sources: Keegan and others 1983, 1990, 1995, 2001; Spoelma and others 2008; McIver and others 2013).

Market area	1981	1988	1993	1998	2004 ^c	2009 ^c	2014 ^c
----- Percentage of sales -----							
North Central	34	40	37	28	28	27	31
Far West	22	17	15	19	17	18	17
South	10	10	11	16	15	13	15
Montana	7	5	10	12	12	12	14
Rocky Mountains	14	11	15	13	10	11	14
Northeast	6	7	6	9	12	8	4
Other countries ^a	3	9	6	4	6	10	6
Unknown	4	1	0	0	0	0	0
All areas ^b	100	100	100	101	100	100	100

^aOther countries include Canada, Pacific Rim countries, and other countries.

^bPercentage detail may not sum to 100% due to rounding.

^cIncludes mill residue sales; previous years do not include residue sales.

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