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# Utah's Forest Products Industry and Timber Harvest, 2020

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**Abstract:** This report traces the flow of timber harvested in Utah during calendar year 2020; describes the composition and operations of the State's primary forest products industry; and quantifies volumes and uses of wood fiber. Recent wood products industry changes are discussed, as well as trends in timber harvest, production, and sales of primary wood products.

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**Keywords:** employment, forest economics, lumber production, mill residuals, mill capacity, primary forest products, timber products

**Cover:** Courtesy photo by Bergen Eskildsen, Utah Department of Natural Resources.

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## HIGHLIGHTS

- The 2020 timber harvest in Utah was 15 percent higher than in 2016, primarily due to an increase in the harvest of industrial fuelwood, furniture logs, fiber logs, and posts and poles from National Forests.
- Sanpete, Sevier, and Beaver Counties saw the largest increases in timber harvests in 2020, as compared to 2016.
- San Juan, Rich, and Duchesne Counties saw the largest decreases in timber harvests in 2020, as compared to 2016.
- Utah saw an increase of 77 percent in spruce harvested in 2020, increasing from 31 percent of total timber harvested in 2016 to 48 percent in 2020.
- Net outflow of timber products from Utah was 25 percent lower in 2020 than in 2016, dominated by a decline in the outflow of sawlogs.
- In 2020, 89 percent of the timber received by Utah mills came from National Forest lands, compared to 72 percent in 2016.
- Active Utah primary wood product facilities totaled 23 in 2020, up from 18 in 2016.
- Sales of finished products from Utah's primary wood products facilities was 20 percent greater in 2020 than in 2016.
- Utah's sawmill lumber output declined by 20 percent between 2016 and 2020, with average production per mill declining by 35 percent.
- Total capacity of active sawmills in Utah was 46 percent lower in 2020 than in 2016.
- Total residuals produced by Utah's primary wood products facilities were 21 percent greater in 2020 than in 2016.
- Employment in Utah's forest industry was approximately 6,100 in 2020, about the same as in 2016.

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## INTRODUCTION

This report presents the detailed results of a Statewide census of Utah’s primary forest products industry for 2020. It includes a discussion of trends since the last industry census in 2016, as well as longer-term historic trends drawn from previous reports. The primary goals of this report are to determine the utilization of Utah’s timber harvest, identify the types and number of primary forest products facilities operating in the State during 2020, identify their sources of raw material, and quantify outputs and sales values of finished products and residuals.

The University of Montana’s Bureau of Business and Economic Research (BBER) and the USDA Forest Service, Forest Inventory and Analysis (FIA) Program (Ogden, Utah) cooperated in the analysis and preparation of this report. BBER, in cooperation with FIA programs at the Rocky Mountain and Pacific Northwest research stations, has developed a system to collect, compile, and make available State and county-level information on timber harvest and the operations of the forest products industry—the Forest Industries Data Collection System (FIDACS). The system is administered in all western States.

### Forest Industries Data Collection System

The current Utah report represents the fifth application of FIDACS in Utah, but the first stand-alone such publication. In previous years, reporting on the Utah mill census has been combined with the results of censuses in Arizona, Colorado, and New Mexico and reported as the “Four Corners.” As such, the last comprehensive study of the State’s industrial roundwood production and mill residuals was conducted in 2016 (Hayes et al. 2021), and earlier data years include 1966 (Setzer and Wilson 1970), 1969 (Setzer 1971), 1970 (Green and Setzer 1974), 1974 (Setzer and Throssell 1977), 1992 (Keegan et al. 1995), 2002 (Morgan et al. 2006), 2007 (Hayes et al. 2012), and 2012 (Sorenson et al. 2016). FIDACS is based on censuses of primary forest product manufacturers located in a given State. Primary forest product manufacturers are firms that process timber into manufactured lumber, house logs, or other roundwood timber products, and facilities using residuals generated by timber-processing facilities. Utah’s manufacturers were identified through participation in previous studies and with the assistance of Bergen Eskildsen, Forest Products & Business Program Coordinator with Utah Division of Forestry, Fire and State Lands.

Through a written questionnaire, phone interview, or in-person interview, manufacturers provide the following detailed information for each timber-processing facility for a given calendar year:

- facility type, location, contact information, and opening date
- installed equipment and employment
- number of operating days, shifts per day, and shift length
- shift and annual production capacity in units of output
- preferred and accepted log sizes
- volume of raw material received by timber product, county, and ownership

- species and live/dead proportions of timber received
- beginning- and end-of-year raw material inventory
- volume and destination of log transfers
- finished product types, volumes, sales value, and market locations
- beginning- and end-of-year finished product inventory
- production, utilization, and sales of manufacturing residuals

Volume and characteristics of Utah timber processed by out-of-state firms was determined through surveys of mills in adjacent States. Published sources and information provided by Federal, State, and industry representatives were used to estimate volumes received by any nonrespondent firms and to verify estimates of the State's total timber harvest, lumber production, and sales value of primary wood products.

Information collected through FIDACS is stored at BBER. Because of the substantial detail on the industry and its timber use, there is a time lag between the conducting of the census and the publication of this report. To make the collected data available in a timelier manner, results and a highlights summary are published online as they are compiled and reviewed. Key data from other sources are included to provide the most recent measures of general industry activity, as are references to other publications dealing with industry conditions. Additional information is available by request. However, firm-level data are confidential and will not be released.

## UTAH'S TIMBER HARVEST, FLOW, AND USE

In 2020, Utah had approximately 3.7 million acres in nonreserved timberland, with National Forests accounting for 76 percent, private and tribal owners accounting for 15 percent, and other public agencies accounting for the remaining 9 percent (table 1). All private timberland was classified as nonindustrial private (NIPF), as Utah had no large tracts of timberland owned by entities operating primary wood processing facilities. Sawtimber volume on nonreserved timberlands was estimated at 3.9 billion cubic feet, or approximately 20 billion board feet Scribner in 2020.

**Table 1**—Utah nonreserved timberland by ownership class, 2019 (source: USDA FS 2023).

Ownership class	Thousand acres	Percentage of nonreserved timberland
National Forest	2,702	73
Private and tribal	642	17
Other public	349	10
<b>Total</b>	<b>3,693</b>	<b>100</b>

### Timber Harvest

Utah's 2020 commercial timber harvest was 28.5 MMBF Scribner (table 2), 14 percent higher than the 2016 harvest of approximately 24.9 MMBF Scribner (Hayes et al. 2021). Although this volume is higher than in other recent years, at a 47 percent increase since 2012, it represents a 56 percent decline since 1992, when the harvest was close to 65 MMBF Scribner (Keegan et al. 1995) (table 2, fig 1). At the time of harvest, 69 percent of the 2020 harvest volume was salvage or standing dead. As in most western States, decreasing Federal timber harvests during the 1990s led to greater shares of annual harvest coming from other ownerships; however, in Utah this trend has since been reversed.

**Table 2a**—Utah timber harvest by year and ownership class, thousand board feet, Scribner. (Source: Keegan and others 1995; Morgan and others 2006; Hayes and others 2012; Sorenson and others 2016; Hayes and others 2021).

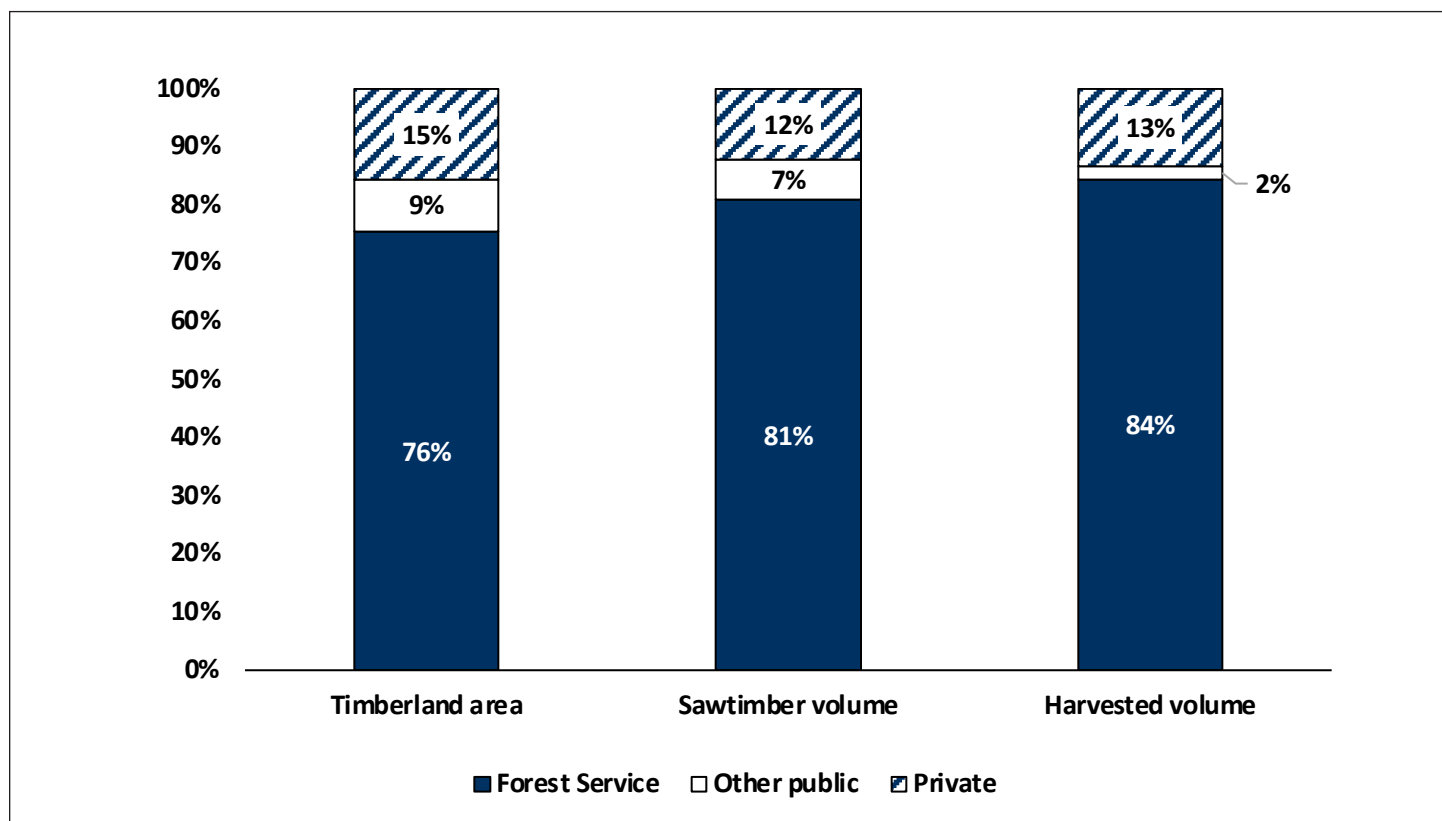
Ownership class	2007	2012	2016	2020
Private and tribal timberland	11,669	6,292	3,581	3,773
Public timberland	18,652	13,064	21,297	24,734
National Forest	15,490	10,117	19,848	24,054
Other Public <sup>a</sup>	3,162	2,947	1,449	680
<b>All owners</b>	<b>30,321</b>	<b>19,356</b>	<b>24,878</b>	<b>28,507</b>

<sup>a</sup> Other public ownership includes BLM and state.

**Table 2b**—Utah timber harvest by year and ownership class, percent of harvest. (Source: Keegan and others 1995; Morgan and others 2006; Hayes and others 2012; Sorenson and others 2016; Hayes and others 2021).

Ownership class	2007	2012	2016	2020
Private and tribal timberland	38.5	32.5	14.4	13.2
Public timberland	61.5	67.5	85.6	86.8
National Forest	51.1	52.3	79.8	84.4
Other Public <sup>a</sup>	10.4	15.2	5.8	2.4
<b>All owners</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

<sup>a</sup> Other public ownership includes BLM and state.



**Figure 1**—Characteristics of Utah’s timberland and harvest by ownership class, 2019.

This report is the first in the series where it is possible to estimate removals from FIA plot data, in addition to the mill survey methods used in all previous reports. FIA plot-based estimates of removals are derived from plots that have been remeasured over the course of 10 years, with the most recent measurement year referred to as the inventory year. Plot-based estimates are available for Utah annually from 2015 to 2019. These removal estimates are available using the public-facing Evaluator tool ([EVALIDator 2.1.0](#)) (USDA Forest Service 2023). Comparisons between the survey and plot-based estimates are discussed below by ownership and tree species.

Most of Utah's 2020 timber harvest volumes originated from National Forest lands (84 percent), and the increase between 2012 and 2020 occurred exclusively on these lands (up 138 percent), while harvest on other public lands and on private and tribal lands decreased sharply (down 77 percent and 40 percent, respectively). Private and tribal lands accounted for 13 percent of the 2020 harvest, while harvest from Bureau of Land Management (BLM) and other State lands in Utah constituted approximately 2 percent of the total.

Plot-based estimates of Utah removals by ownership result in the same rank order, but somewhat different totals and proportions as compared to the survey-based values in table 2. Plot-based estimates also suggest differences in trend, which is not unusual considering that surveys are restricted to single years, whereas the 10-year window used for plot-based estimates tends to have a smoothing effect. Total removals by plot-based estimate are 18.4 MMBF for 2016 and 14.0 MMBF for 2019 (2020 not yet available), as compared to 24.9 MMBF and 28.5 MMBF for the 2016 and 2020 survey-based estimates. This suggests contrasting trends in overall removals. However, the proportions among ownerships in the plot-based estimates for all available years is very consistent, with removals from National Forest land at 96.4 percent, private and tribal lands at about 3.0 percent, and other public lands at 0.7 percent. It is interesting to note that the plot-based estimate for 2016 (18.4 MMBF) uses data collected during the 2007, 2012, and 2016 survey years, which resulted in estimates of 30.3, 19.4, and 24.9 MMBF, respectively, and averaging to 24.9 MMBF. So, although the plot-based estimates are somewhat lower than the average of survey-based estimates done over similar time spans, the plot-based estimates of proportions coming from National Forest land are consistently higher.

National Forests provided most of the sawlogs and house logs harvested in Utah in 2020, at 75 and 84 percent, respectively, as well as the majority of logs for other products (e.g., furniture logs, posts and poles, fiber logs) at over 98 percent (table 3a). Sawlogs accounted for 52 percent (14.9 MMBF Scribner) of total volume harvested in 2020 and house logs constituted 11 percent (3.1 MMBF Scribner), with logs for other products making up the remaining 37 percent (table 3b) (10.5 MMBF Scribner).

**Table 3a**—Utah timber harvest by product type and ownership class, 2020, thousand board feet, Scribner.

Ownership class	Sawlogs	House logs	Other products <sup>a</sup>	All products
National Forests	11,127	2,605	10,322	24,054
Private and tribal timberland	3,265	502	6	3,773
Other public <sup>b</sup>	500	—	180	680
<b>All owners</b>	<b>14,892</b>	<b>3,107</b>	<b>10,508</b>	<b>28,507</b>

<sup>a</sup> Other products include industrial fuelwood, furniture logs, fiber logs, posts, and poles.

<sup>b</sup> Other public ownership includes BLM and State.

**Table 3b**—Utah timber harvest by product type and ownership class, 2020, percentage of total harvest.

Ownership class	Sawlogs	House logs	Other products <sup>a</sup>	All products
National Forests	74.7	83.8	98.2	84.4
Private and tribal timberland	21.9	16.2	0.1	13.2
Other public <sup>b</sup>	3.4	—	1.7	2.4
<b>All owners</b>	<b>52.2</b>	<b>10.9</b>	<b>36.9</b>	<b>100</b>

<sup>a</sup> Other products include industrial fuelwood, furniture logs, fiber logs, posts, and poles.

<sup>b</sup> Other public ownership includes BLM and State.

In terms of the geographic origin of Utah's 2020 timber harvest, the largest share originated in Summit County (8.1 MMBF Scribner or 28 percent), followed by Sanpete and Sevier Counties at 17 and 12 percent, respectively (tables 4a and 4b). Harvest from Kane County constituted 8 percent of the State total, Wasatch County 7 percent, and Beaver County 5 percent. Summit County yielded the largest harvest volume in 2016 as well, with 29 percent, followed by Kane and Sanpete Counties with 13 and 8 percent, respectively.

**Table 4a**—Utah timber harvest by county, selected years, thousand board feet, Scribner (Sources: Hayes et al. 2012; Hayes et al. 2021; Sorenson et al. 2016).

<b>County</b>	<b>2007</b>	<b>2012</b>	<b>2016</b>	<b>2020</b>
Beaver	468	200	290	1,452
Cache	1,150	—	—	262
Carbon	1,564	1,480	213	50
Daggett	—	25	103	—
Davis	—	—	—	—
Duchesne	1,793	515	1,301	640
Emery	284	1,500	1,	1,200
Garfield	3,141	965	840	1,097
Grand	1,925	—	5	0
Iron	1,554	200	718	370
Juab	—	—	—	—
Kane	60	—	3,192	2,292
Millard	—	—	144	—
Morgan	150	100	60	90
Piute	500	—	—	270
Rich	—	1,500	808	—
Salt Lake	59	74	253	180
San Juan	1,865	1,400	1,400	—
Sanpete	3,800	1,500	1,875	4,950
Sevier	1,483	155	1,707	3,330
Summit	2,700	6,430	7,258	8,091
Uintah	1,398	2,300	539	1,119
Unknown	—	—	—	80
Utah	793	—	546	—
Wasatch	4,300	1,012	1,333	1,998
Washington	1,334	—	224	224
Wayne	—	—	292	812
Weber	—	—	—	—
<b>Total</b>	<b>30,321</b>	<b>19,356</b>	<b>24,878</b>	<b>28,507</b>

— Indicates 0.

**Table 4b**—Utah timber harvest by county, selected years, percentage of harvest (Sources: Hayes et al. 2012; Hayes et al. 2021; Sorenson et al. 2016).

County	2007	2012	2016	2020
Beaver	1.5	1.0	1.2	5.1
Cache	3.8	—	—	0.9
Carbon	5.2	7.6	0.9	0.2
Daggett	—	<sup>a</sup>	0.4	—
Davis	—	—	—	<sup>a</sup>
Duchesne	5.9	2.7	5.2	2.2
Emery	0.9	7.7	7.1	4.2
Garfield	10.4	5.0	3.4	3.8
Grand	6.3	—	0.0	<sup>a</sup>
Iron	5.1	1.0	2.9	1.3
Juab	—	—	—	<sup>a</sup>
Kane	0.2	—	12.8	8.0
Millard	—	—	0.6	—
Morgan	0.5	0.5	0.2	0.3
Piute	1.6	—	—	0.9
Rich	—	7.7	3.2	—
Salt Lake	0.2	0.4	1.0	0.6
San Juan	6.2	7.2	5.6	—
Sanpete	12.5	7.7	7.5	17.4
Sevier	4.9	0.8	6.9	11.7
Summit	8.9	33.2	29.2	28.4
Uintah	4.6	11.9	2.2	3.9
Unknown	—	—	—	0.3
Utah	2.6	—	2.2	—
Wasatch	14.2	5.2	5.4	7.0
Washington	4.4	—	0.9	0.8
Wayne	—	—	1.2	2.8
Weber	—	—	—	<sup>a</sup>
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

<sup>a</sup> Less than 0.05 percent.

— Indicates 0

Spruce, including Engelmann and blue spruce, was the leading species harvested in Utah in 2020, accounting for 48 percent (13.8 MMBF) of the harvest in 2020, while ponderosa pine accounted for 20 percent, lodgepole pine accounted for 16 percent, and Douglas-fir 7 percent (table 5). This species composition is similar to that observed in 2016, but constitutes a continuing shift from 2012, when the spruce harvest made up only 31 percent of the State harvest. Another marked change was the absence of aspen and cottonwood in the 2020 harvest, whereas in 2016 these species combined made up 6 percent of the total (Hayes et al. 2021). During the 1960s and 1970s, ponderosa pine was the leading species harvested, accounting for 30 to 50 percent, whereas lodgepole pine and spruces each accounted for 15 to 25 percent of the total (Green and Setzer 1974; Setzer 1971; Setzer and Throssell 1977; Setzer and Wilson 1970).

**Table 5**—Proportion of Utah timber harvest by species, selected years, percentage of harvest (Sources: Hayes et al. 2012; Hayes et al. 2021; Keegan et al. 1995; Morgan et al. 2006; Setzer 1971c; Setzer and Throssell 1977b; Setzer and Wilson 1970; Sorenson et al. 2016).

Species	1966	1969	1974	1992	2002	2007	2012	2016	2020
Spruces	19	13	22	35	44	42	31	31	48
Ponderosa pine	50	43	33	5	13	3	4	25	20
Lodgepole pine	18	18	27	46	23	13	41	22	16
Douglas-fir	3	11	8	4	8	11	11	15	7
Aspen and cottonwood	c	c	4	5	10	29	10	6	—
True firs <sup>a</sup>	4	7	3	5	2	2	2	1	7
Other species <sup>b</sup>	6	8	3	c	c	c	1	0	2
<b>All species</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

<sup>a</sup> True firs include white, subalpine, and corkbark fir.

<sup>b</sup> Other species include juniper and western white pine.

<sup>c</sup> Less than 0.5 percent

— Indicates 0

As with proportions by ownership origin, plot-based estimates are somewhat different by species. Spruces rank highest using both methods, and the proportions are similar for different inventory years, especially when averaging over the same survey years that contribute to plot-based estimates. One notable difference is that lodgepole pine accounts for a consistently lower proportion in the plot-based estimates, which is possibly related to salvage harvest of beetle-killed trees. Some of these may not be identified as removals in the plot-based inventory. The differences that are more difficult to explain are the cases of ponderosa pine and true firs, which show substantial differences and opposite patterns.

Ponderosa pine accounts for just over 1 percent of volume in the plot-based inventories in all time periods, whereas it accounts for 3 to 25 percent (average 13 percent) in the surveys. This difference has no obvious explanation, with the possible exception that ponderosa pine arriving at mills is largely being sourced from a particularly focused area and not being

detected on the FIA plot network. Over the past 2 decades, the proportion of ponderosa pine has been highly variable, which could support this possibility.

True firs, on the other hand, account for 32.7 to 34.25 percent of removals by plot-based estimates, but only 1 to 7 percent (average 2.8 percent) in the surveys. There is relatively little variability over time within each method. Some insight might be gained by the fact that Engelmann spruce accounted for the highest proportion of the 2020 timber harvest volume according to the survey, and that subalpine fir tends to be highly intermixed with Engelmann spruce in spruce-fir forest types. The true fir total generally includes about 6 percent of white fir, which is not generally found in the spruce-fir type, resulting in 67 to 70 percent of all removals coming from Engelmann spruce and subalpine fir combined. The ratio of spruce to subalpine fir (61 percent spruce, 39 percent fir) is generally consistent with composition in many acres of spruce-fir forest. This raises a question of utilization—i.e., the difference between plot-based and survey-based estimates might be explained by the fate of each species at the harvest site. For example, it might be a necessity to harvest subalpine fir to achieve the regeneration objectives of the silvicultural prescription, but the fir component might not be suitable for similar forest products as the spruce. As a result, fir removals might be decked and sold by firewood permitting, or otherwise disposed of on-site rather than being delivered to a timber-processing facility. This is known to occur locally, but more investigation could confirm how prevalent this practice is.

By timber product, spruce was the leading species harvested for all products, accounting for 36 percent (5,338 MBF) of the sawlog harvest, 66 percent (2,051 MBF) of the house log harvest, and 61 percent (6,384 MBF) of the harvest of logs for other products (tables 6a and 6b). Ponderosa pine and lodgepole pine were harvested for sawlogs in nearly equal measure (18 and 19 percent, respectively), whereas lodgepole pine constituted 24 percent (757 MBF) of the house log harvest, but only 9 percent (965 MBF) of the harvest of logs used for other products. Ponderosa pine's share of the house log harvest was negligible, at less than 1 percent.

**Table 6a**—Utah timber harvest by species and product type, 2020, thousand board feet, Scribner.

Species	Sawlogs	House logs	Other products <sup>c</sup>	All products
Spruces	5,338	2,051	6,384	13,773
Ponderosa pine	2,688	23	3,018	5,729
Lodgepole pine	2,790	757	965	4,513
Douglas-fir	1,851	155	25	2,032
True firs <sup>a</sup>	1,833	46	9	1,889
Other species <sup>b</sup>	392	75	105	572
<b>All species</b>	<b>14,892</b>	<b>3,107</b>	<b>10,508</b>	<b>28,507</b>

<sup>a</sup> True firs include white, subalpine, and corkbark fir.

<sup>b</sup> Other species include Western Red Cedar, Aspen and Western Larch.

<sup>c</sup> Other products include industrial fuelwood, furniture logs, fiber logs, posts, and poles.

**Table 6b**—Utah timber harvest by species and product type, 2020, percentage of product by species.

Species	Sawlogs	House logs	Other products <sup>c</sup>	All products
Spruces	35.8	66.0	60.8	48.3
Ponderosa pine	18.0	0.7	28.7	20.1
Lodgepole pine	18.7	24.4	9.2	15.8
Douglas-fir	12.4	5.0	0.2	7.1
True firs <sup>a</sup>	12.3	1.5	0.1	6.6
Other species <sup>b</sup>	2.6	<sup>d</sup>	<sup>d</sup>	2.0
<b>All species</b>	<b>52.2</b>	<b>10.9</b>	<b>36.9</b>	<b>100</b>

<sup>a</sup> True firs include white, subalpine, and corkbark fir.

<sup>b</sup> Other species include Western Red Cedar, Aspen and Western Larch.

<sup>c</sup> Other products include industrial fuelwood, furniture logs, fiber logs, posts, and poles.

<sup>d</sup> Less than 0.1 percent

## Timber Flow

Over two-thirds (68 percent, or 19.4 MMBF Scribner) of Utah's 2020 timber harvest was processed in-state, with the remainder being shipped mostly to adjacent States for processing, representing 9.1 MMBF Scribner or 32 percent of the harvest (table 7).

**Table 7**—Timber product flow into and out of Utah, 2020, thousand board feet, Scribner.

Timber product	Log flow into Utah	Log flow out of Utah	Net inflow (net outflow)
Sawlogs	—	5,533	(5,533)
House logs	—	392	(392)
Other products <sup>a</sup>	—	3,164	(3,164)
<b>All products</b>	—	<b>9,089</b>	<b>(9,089)</b>

<sup>a</sup> Other products include industrial fuelwood, furniture logs, fiber logs, posts, and poles.

— Indicates 0

Timber processors in Utah received 19,418 MBF Scribner of timber in 2020, none of it harvested outside the State according to survey responses. National Forests yielded 17,292 MBF Scribner (89 percent) (tables 8a and 8b) of timber receipts, a volume more than double that of 2016 (8,542 MBF Scribner) and higher than any National Forest volume since the early 2000s (Morgan et al. 2006; Hayes et al. 2012; Sorenson et al. 2016; Hayes et al. 2021). During 2020, National Forests provided Utah timber processors with 81 percent of sawlogs, over 94 percent of house logs, and 98 percent of logs for other products (table 9b). Private landowners provided 14 percent of sawlogs, close to 6 percent of house logs, and less than 1 percent of logs for other products. State lands provided less than 3 percent of timber received by Utah mills in 2020.

**Table 8a**—Timber received by Utah mills, by year and ownership class, thousand board feet, Scribner. (Sources: Hayes et al. 2021; Keegan et al. 1995; Morgan et al. 2006; Sorenson et al. 2016).

Ownership class	1992	2002	2012	2016	2020
Private timberland	11,341	9,241	5,177	3,333	1,446
Public timberland	46,927	23,245	6,264	9,217	17,792
National Forest	46,595	21,898	6,034	8,542	17,292
State lands	332	1,346	230	675	500
Other owners <sup>a</sup>	485	33	47	181	180
<b>All owners</b>	<b>58,753</b>	<b>32,518</b>	<b>11,488</b>	<b>12,731</b>	<b>19,418</b>

<sup>a</sup> Other owners include the BLM, Canada, and (for 1992) unknown owners.

**Table 8b**—Timber received by Utah mills, by year and ownership class, percentage of total. (Sources: Hayes et al. 2021; Keegan et al. 1995; Morgan et al. 2006; Sorenson et al. 2016).

Ownership class	1992	2002	2012	2016	2020
Private timberland	19.3	28.4	45.1	26.2	7.4
Public timberland	79.9	71.5	54.5	72.4	91.6
National Forest	79.3	67.3	52.5	67.1	89.1
State lands	0.6	4.1	2.0	5.3	2.6
Other owners <sup>a</sup>	0.8	0.1	0.4	1.4	0.9
<b>All owners</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

<sup>a</sup> Other owners include the BLM, Canada, and (for 1992) unknown owners.

**Table 9a**—Timber received by Utah forest products industry by ownership class and product type, 2020, thousand board feet, Scribner.

Ownership class	Sawlogs	House logs	Other products <sup>b</sup>	All products
Private timberland	1,290	150	6	1,446
Public timberland	8,069	2,565	7,158	17,792
National Forest	7,569	2,565	7,158	17,292
State lands	500	—	—	500
Other owners <sup>a</sup>	—	—	180	180
<b>All owners</b>	<b>9,359</b>	<b>2,715</b>	<b>7,344</b>	<b>19,418</b>

<sup>a</sup> Other owners include the BLM and Canada.

<sup>b</sup> Other products include furniture logs, fiber logs, posts and poles.

— Indicates 0

**Table 9b**—Timber received by Utah forest products industry by ownership class and product type, 2020, percentage of product by owner.

Ownership class	Sawlogs	House logs	Other products <sup>b</sup>	All products
Private timberland	13.8	5.5	0.1	7.4
Public timberland	86.2	94.5	97.5	91.6
National Forest	80.9	94.5	97.5	89.1
State lands	5.3	—	—	2.6
Other owners <sup>a</sup>	—	—	2.5	0.9
<b>All owners</b>	<b>48.2</b>	<b>14.0</b>	<b>37.8</b>	<b>100</b>

<sup>a</sup> Other owners include the BLM and Canada.

<sup>b</sup> Other products include furniture logs, fiber logs, posts and poles.

— Indicates 0

## Timber Use

Utah's 2020 timber harvest—approximately 6,656 thousand cubic feet (MCF), exclusive of bark (fig. 2)—was used by several manufacturing sectors both within and outside of the State. Of the total harvest volume, 3,010 MCF went as logs to sawmills, 1,062 MCF went to log home manufacturers, and 2,584 MCF went to other facilities, such as log furniture, post and pole, and fire/fuelwood facilities. The following conversion factors were used in converting Scribner board foot volume into cubic feet:

- Sawlogs: 5.12 board feet per cubic foot
- House logs: 5.45 board feet per cubic foot
- All other products: 2.83 board feet per cubic foot

Of the 3,010 MCF of timber received by sawmills, 1,209 MCF (40 percent) was milled into finished lumber or other sawn products, 991 MCF (33 percent) went to unspecified internal uses, and about 57 MCF (2 percent) was lost to shrinkage. The remaining 754 MCF (25 percent) was mill residuals, of which 742 MCF (98 percent) was utilized, primarily for other products. Of the 1,062 MCF of timber received by log home manufacturers, about 917 MCF (86 percent) was processed into house logs, while the remaining 145 MCF (14 percent) was either used for other products (113 MCF) or remained unused (32 MCF). The sector for facilities generating other products received 2,584 MCF directly from harvested volume, in addition to 855 MCF in residuals from sawmill and log home sectors, for a total of 3,439 MCF. From this volume about 3,406 MCF was turned into solid wood products such as log furniture, posts and poles, and fire/fuelwood. No residuals from the other sectors went unused.

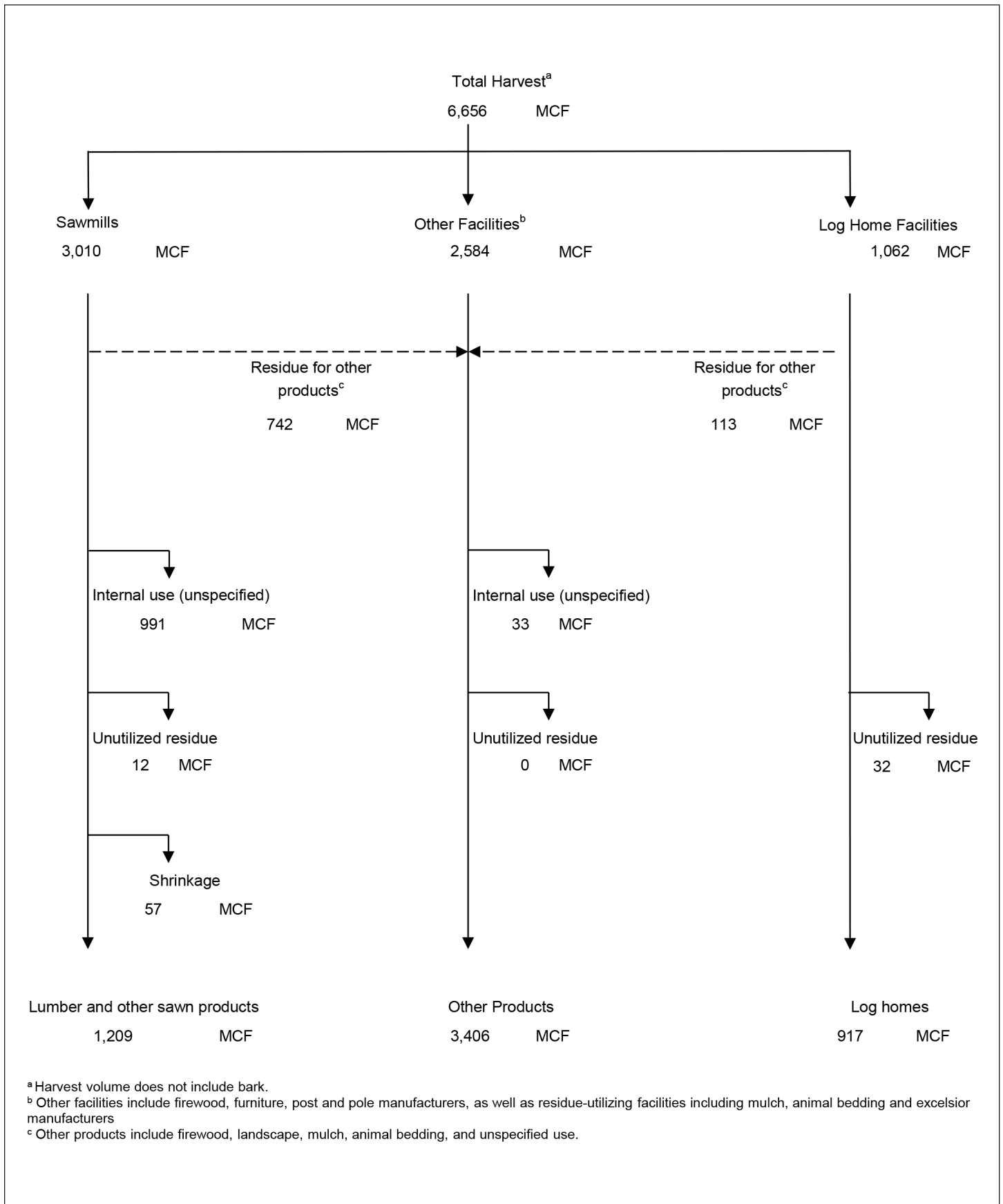


Figure 2—Utah timber harvest and flow, 2020.

## Forest Industry Sectors

Utah's primary forest products industry in 2020 consisted of 23 active manufacturers in 15 counties (table 10a), 5 more than in 2016, but 4 fewer than in 2007 (table 10b). Facilities tend to be located near the forest resources along the mountainous central spine of the State (fig. 3). Changes in Utah's industry structure over the past 30 years have been similar to those experienced throughout the West, with the number of sawmills decreasing and the number and diversity of other manufacturers increasing (Hayes et al. 2012; Hayes et al. 2021; Keegan et al. 1995, 2001a,b; Morgan et al. 2004; Morgan et al. 2006; Sorenson et al. 2016;). Utah's sawmill sector, which manufactures lumber and other sawn products, was the largest, comprised of 11 mills. Seven facilities produced house logs and log homes, and there were five manufacturers of log furniture and other products. The total number of active facilities for 2020 constitutes an increase of 5 facilities compared to 2016 (18 facilities) but a decrease since 2007 (27 facilities).

While the number of active processors in Utah in 2020 was up 28 percent compared to 2016, total sales were about 31 percent higher in 2020 than in 2016 (\$27.9 million and \$21.3 million in 2020 dollars, respectively) (table 11). While the sawmill sector accounted for only 19 percent (\$5.2 million) of total sales, sales within this sector increased by 60 percent between 2016 and 2020. Lumber prices in the United States reached record highs during 2020 and again during 2021, in part because of increased wood products demand and constrained production during the COVID-19 pandemic (van Kooten and Schmitz 2022). Sales within the other sectors accounted for 81 percent (\$22.7 million) of the 2020 total but saw a more modest 26 percent growth between 2016 and 2020.

**Table 10a**—Active Utah primary wood products facilities by county and product type, 2020 (Sources: Hayes et al. 2012; Hayes et al. 2021; Keegan et al. 1995; Morgan et al. 2006; Sorenson et al. 2016).

County	Lumber	Log homes and house logs	Log furniture and other products <sup>a</sup>	Total
Beaver	1	—	—	1
Carbon	—	1	—	1
Duchesne	3	—	—	3
Garfield	1	—	—	1
Iron	1	—	1	2
Morgan	1	—	—	1
Rich	1	—	—	1
Salt Lake	—	—	1	1
Sanpete	—	1	1	2
Servier	—	—	1	1
Summit	1	—	—	1
Uintah	—	2	1	3
Wasatch	1	1	—	2
Wayne	1	1	—	2
Weber	—	1	—	1
<b>2020 Total</b>	<b>11</b>	<b>7</b>	<b>5</b>	<b>23</b>

<sup>a</sup> Other products include posts, poles, and bark products.

— Indicates 0

**Table 10b**—Active Utah primary wood products facilities by select years and product type (Sources: Hayes et al. 2012; Hayes et al. 2021; Keegan et al. 1995; Morgan et al. 2006; Sorenson et al. 2016).

Select year	Lumber	Log homes and house logs	Log furniture and other products <sup>a</sup>	Total
2020 Total	11	7	5	23
2016 Total	9	6	3	18
2012 Total	8	7	3	18
2007 Total	12	10	5	27
2002 Total	23	14	12	49
1992 Total	34	13	4	51

<sup>a</sup> Other products include posts, poles, and bark products.

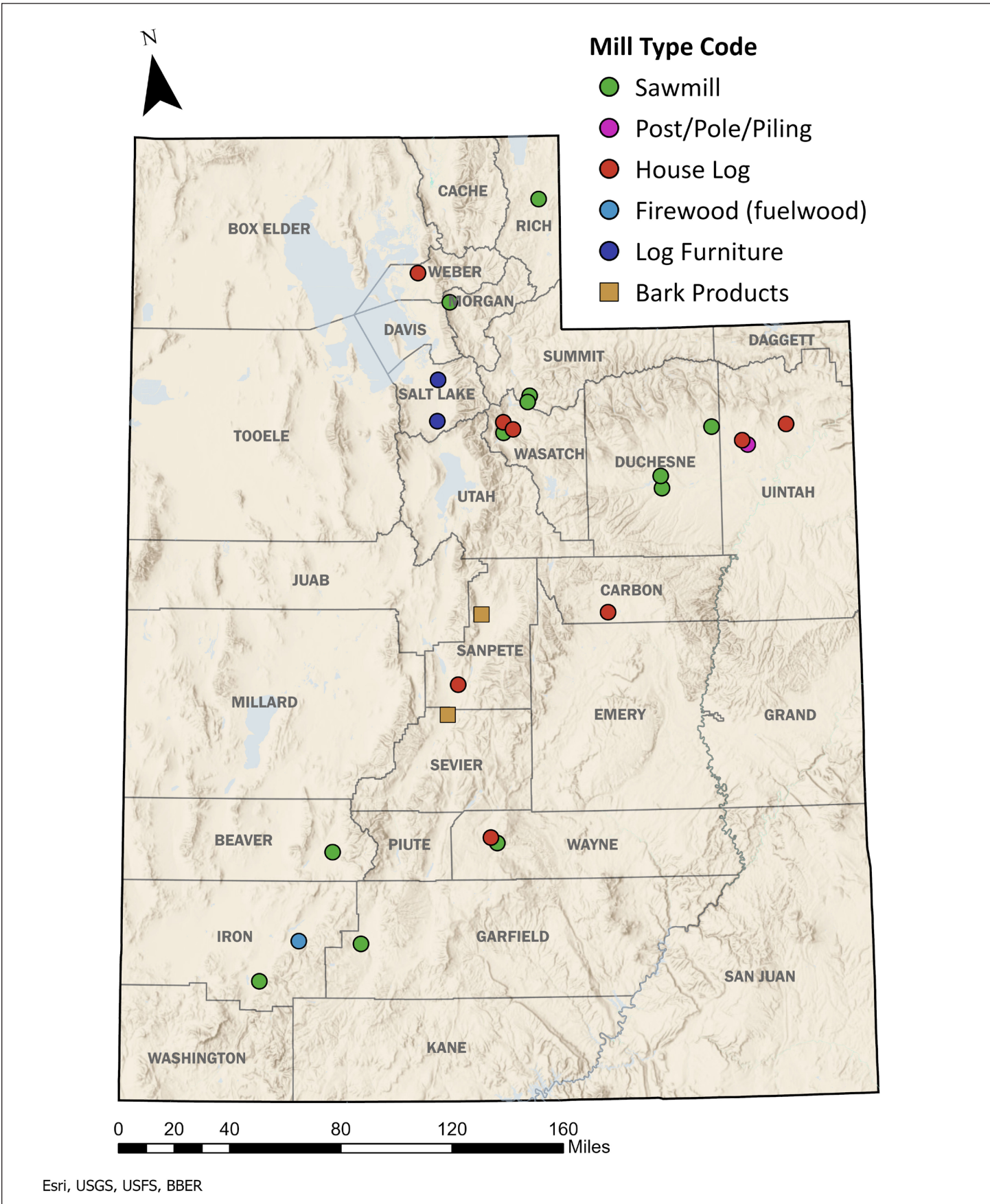


Figure 3—The types and locations of Utah’s forest product facilities.

**Table 11**—Sales value of finished products from Utah's primary wood products sectors by year, thousands of 2020 dollars.

Sector	1992	2002	2007	2012	2016	2020
Sawmills	33,787	18,045	10,009	3,890	3,251	5,207
Log homes and other sectors <sup>a</sup>	12,570	29,972	23,707	13,207	18,033	22,725
<b>Total<sup>b</sup></b>	<b>46,357</b>	<b>48,017</b>	<b>33,716</b>	<b>17,098</b>	<b>21,284</b>	<b>27,932</b>

<sup>a</sup> Other sectors include producers of posts, poles, and log furniture. Mill residues, firewood, mulch, and bark products not included for comparison to previous years.

<sup>b</sup> All sales are reported f.o.b. the manufacturer's plant.

### **Sawmill Sector**

Despite the number of active sawmills increasing by two between 2016 and 2020, lumber production was 20 percent lower in 2020 than in 2016 but on par with 2012, when only eight sawmills were operating in Utah (tables 12a, 12b, and 13). Lumber production in 2020 was 60 percent lower than in 2007, 86 percent lower than in 1992, and 87 percent lower than in 1966. The number of mills also decreased considerably, from 50 in 1966, 34 in 1992, and 12 in 2007 (Hayes et al. 2012; Hayes et al. 2021; Keegan et al. 1995; Morgan et al. 2006; Setzer and Wilson 1970; Sorenson et al. 2016). In 2020, the combination of sawmill size classes was such that data are not reported by size class to avoid disclosure of proprietary information.

**Table 12a**—Utah sawmills by production size class, selected years (Sources: Hayes et al. 2012; Hayes et al. 2021; Keegan et al. 1995; Morgan et al. 2006; Setzer and Wilson 1970; Sorenson et al. 2016).

Year	Under 1 MMBF <sup>a</sup>	Over 1 MMBF <sup>a</sup>	Total
2020	(combined to prevent disclosure)		11
2016	6	3	9
2012	4	4	8
2007	7	5	12
2002	17	6	23
1992	25	9	34
1966	37	13	50

<sup>a</sup> Size class is based on reported lumber production. MMBF = million board feet lumber tally.

**Table 12b**—Utah sawmills percentage of lumber output by volume (MBF<sup>a</sup>), selected years (Sources: Hayes et al. 2012; Hayes et al. 2021; Keegan et al. 1995; Morgan et al. 2006; Setzer and Wilson 1970; Sorenson et al. 2016).

Year	Under 1 MMBF <sup>b</sup>	Over 1 MMBF <sup>b</sup>	Total
2020	(combined to prevent disclosure)		9,104
2016	14	86	11,431
2012	13	87	9,553
2007	6	94	22,892
2002	13	87	26,524
1992	13	87	63,637
1966	10	90	72,000

<sup>a</sup> MBF = thousand board feet lumber tally.

<sup>b</sup> Size class is based on reported lumber production. MMBF = million board feet lumber tally.

**Table 13**—Number of Utah sawmills and average lumber production, MMBF<sup>a</sup>, selected years (Sources: Hayes et al. 2012; Hayes et al. 2021; Keegan et al. 1995; Morgan et al. 2006; Setzer and Wilson 1970; Sorenson et al. 2016).

Year	Number of sawmills	Average production per mill
2020	11	0.8
2016	9	1.3
2012	8	1.2
2007	12	1.9
2002	23	1.2
1992	34	1.9
1966	50	1.4

<sup>a</sup> MMBF = million board feet lumber tally.

On average, Utah sawmills produced approximately 1.4 board feet of lumber for every board foot Scribner of timber processed in 2020. This average overrun of 40 percent is the same as was seen in 2016 (tables 14a and 14b).

**Table 14a**—Active Utah sawmills, annual lumber production capacity and capacity utilization by size class, 2020.

Production capacity size class	Number of mills	Capacity MBF <sup>a</sup>	Percentage of total capacity	Average mill capacity by size class
≥ 1 MMBF <sup>b</sup>	5	19,000	85	3,800
< 1 MMBF	6	3,280	15	547
<b>Total</b>	<b>11</b>	<b>22,280</b>	<b>100</b>	<b>2,025</b>

<sup>a</sup> MBF = Thousand board feet lumber tally.

<sup>b</sup> MMBF = Million board feet lumber tally

**Table 14b**—Active Utah sawmills, annual lumber production and capacity utilization by size class, 2020.

Production capacity size class	Production MBF <sup>a</sup>	Percentage of total production	Average mill production by size class	Percentage of capacity utilization
≥ 1 MMBF <sup>b</sup>	6,501	71	1,300	34
< 1 MMBF	2,603	29	434	79
<b>Total</b>	<b>9,104</b>	<b>100</b>	<b>828</b>	<b>41</b>

<sup>a</sup> MBF = Thousand board feet lumber tally.

<sup>b</sup> MMBF = Million board feet lumber tally

Sales from the sawmill sector accounted for 19 percent (\$5.2 million) of Utah timber processors' finished product sales in 2020, a small increase over 2016. Combined output from the log home sector and all other sectors totaled \$27.9 million (table 11).

### **Log Homes and Other Products Sectors**

The number of Utah facilities that produce log homes and other products increased by three between 2016 and 2020. It is important to note that only firms that process timber and manufacture house logs or log homes are included in the FIDACS censuses; log home distributors are excluded. In 2020, Utah's manufacturers of log homes and of other products processed 10.1 MMBF of timber and generated \$22.7 million in product sales. Additional detail about the other products sector is withheld to protect the confidentiality of firm-level information.

### **Capacity and Utilization**

Mills were asked to specify lumber production capacity, the volume of finished product their facility is capable of producing, both per 8-hour shift and annually, given sufficient supplies of raw materials and firm market demand for products. Sawtimber processors reported production capacity in a variety of units. Sawmills reported production capacity in thousand board feet, lumber tally. Utility pole production capacity was reported in numbers of pieces of a given size, and house log capacity in lineal feet. To combine the production capacity figures from different sectors and estimate the industry's total capacity to process sawtimber,

production capacity was converted to units of timber input (MMBF Scribner) on a mill-by-mill basis, using each facility's product recovery factor.

Timber-processing capacity for sawmills was calculated by dividing lumber production capacity by each mill's lumber recovery. Utility pole and house log capacities were adjusted to MMBF Scribner by multiplying capacity in the given finished product unit by an average Scribner board foot volume per piece or per lineal foot.

Utah's annual sawmill lumber production capacity was 22.3 MMBF in 2020, with sawmills producing 9.1 MMBF (lumber tally) of lumber, utilizing 41 percent of total production capacity (table 14) compared to 28 percent capacity utilization in 2016 (Hayes et al. 2021). Across all industry sectors, total timber-processing capacity was 30.6 MBF Scribner. Accounting for changes in mills' log inventories, a total of 15.8 MBF Scribner was processed by Utah firms in 2020, making total timber-processing capacity utilization about 50 percent.

### **Mill Residual Volumes, Types, and Uses**

Across all sectors, Utah timber processors produced 21,033 BDU of mill residuals in 2020, with 97 percent being utilized (tables 15a and 15b). Total residual production increased, up from 17,426 BDU in 2016, as did the proportion of residuals that were utilized, up from 93 percent in 2016 (Hayes et al. 2021). Sawmills—the leading timber processors—are the main producers of residuals in Utah, generating 1.07 BDU of residuals per MBF of lumber produced in 2020 (table 16).

**Table 15a**—Production and disposition of Utah mill residues, bone-dry units<sup>a</sup>, 2020.

Residue type	Total utilized	Pulp and board	Energy	Mulch/ bedding	Unspecified use	Unused	Total produced
Coarse	10,495	—	4,215	—	6,280	298	10,793
Fine	6,904	—	4,117	2,177	610	70	6,974
Sawdust	4,957	—	3,810	1,147	0	45	5,002
Planer shavings	1,947	—	307	1,030	610	26	1,973
Bark	2,992	—	788	1,020	1,184	273	3,266
<b>Total</b>	<b>20,391</b>	<b>—</b>	<b>9,120</b>	<b>3,197</b>	<b>8,074</b>	<b>642</b>	<b>21,033</b>

<sup>a</sup> Bone-dry unit = 2,400 lb oven-dry wood.

— Less than 0.5 percent.

**Table 15b**—Production and disposition of Utah mill residues, percentage of residue type, 2020.

Residue type	Total utilized	Pulp and board	Energy	Mulch/ bedding	Unspecified use	Unused	Total produced
Coarse	97.2	—	39.1	—	58.2	2.8	51.3
Fine	99.0	—	59.0	31.2	8.7	1.0	33.2
Sawdust	99.1	—	76.2	22.9	0.0	0.9	23.8
Planer shavings	98.7	—	15.6	52.2	30.9	1.3	9.4
Bark	91.6	—	24.1	31.2	36.3	8.4	15.5
<b>Total</b>	<b>96.9</b>	<b>—</b>	<b>43.4</b>	<b>15.2</b>	<b>38.4</b>	<b>3.1</b>	<b>100</b>

— Less than 0.5 percent.

**Table 16**—Utah sawmill residue factors, BDU/MBF lumber tally<sup>a</sup>, 1992, 2002, 2007, 2012, 2016 and 2020 (sources: Hayes et al. 2012; Hayes et al. 2021; Keegan et al. 1995; Morgan et al. 2006; Sorenson et al. 2016).

Type of residue	1992	2002	2007	2012	2016	2020
Coarse	0.56	0.48	0.44	0.64	0.62	0.67
Sawdust	0.19	0.19	0.21	0.14	0.14	0.09
Planer shavings	0.06	0.10	0.15	0.10	0.11	0.10
Bark	0.28	0.21	0.20	0.25	0.21	0.21
<b>Total</b>	<b>1.09</b>	<b>0.98</b>	<b>1.00</b>	<b>1.13</b>	<b>1.08</b>	<b>1.07</b>

<sup>a</sup> Bone-dry unit (BDU = 2,400 lb oven-dry wood) of residue generated for every 1,000 board feet of lumber manufactured.

Coarse residuals were the State's largest residual category, at 51 percent (10,793 BDU) of all residuals in 2020, with 97 percent utilized (table 15). Utah facilities utilized 6,280 BDU of the coarse material for unspecified uses, with the remaining 4,215 BDU being used for energy. Fine residuals—sawdust and planer shavings—comprised 33 percent (6,974 BDU) of Utah mill residuals in 2020, nearly all of which were utilized for either energy (59 percent) or mulch and animal bedding (31 percent). Bark accounted for 16 percent of all residuals, with 1,184 BDU (36 percent) going to unspecified uses, 1,020 BDU (31 percent) going to mulch or animal bedding, and the remaining 788 BDU being used for energy.

### **Primary Forest Products Sales**

Sales from Utah's primary wood products industry totaled \$27.9 million in 2020, including finished products and residuals (table 17a). This amount constitutes a 22 percent increase over 2016, with the bulk of the growth taking place in the "other products" sector, reflecting a large increase in firewood sales primarily due to a firewood facility coming online in 2020, which absorbed a large quantity of timber. Lumber, timbers, and other sawn products accounted for approximately 33 percent (\$9.1 million) (table 17b) of total sales, and house logs and log homes accounted for 30 percent (\$8.3 million), while other products and residuals accounted for 38 percent (\$10.5 million). Utah was the leading market area for all product categories, with in-state sales accounting for 47 percent (\$13.2 million) of the 2020 total. The other Four Corners States (Arizona, Colorado, and New Mexico) accounted for 9 percent (\$2.6 million) of sales, with house logs and log homes constituting 57 percent (\$1.5 million) of this share. Outside the Four Corners, the North Central region accounted for the largest portion of sales, at 16 percent (\$4.5 million) of the total, the Northeast at 12 percent (\$3.2 million), and the South at 9 percent (\$2.6 million). Only 6 percent (\$1.6 million) went to other Rocky Mountain States, and a negligible amount (\$104,000) went to the Far West States.

With the advent of the COVID-19 pandemic in 2020, business shut-downs, quarantining, and isolation orders across the United States confined many people in their homes. As a result, do-it-yourself home renovation projects and new home construction increased dramatically across the country, causing a soaring demand for lumber and other lumber-derived wood products. Combined with supply constraints in the form of limited timber supplies, and production slowdowns and curtailments as the virus impacted mill workers and supply chains, wood product prices climbed to record highs (Morgan and Hayes 2021). Thus, the higher prices primarily benefited private landowners who were able to charge higher stumpage fees (van Kooten and Schmitz 2021).

**Table 17a**—Destination and sales value of Utah's primary wood products and mill residues, 2020, thousand 2020 dollars.

Product	Utah	Other Four-Corner States	Other Rocky Mtn States <sup>a</sup>	Far West <sup>b</sup>	Northeast <sup>c</sup>	South <sup>d</sup>	North Central <sup>e</sup>	Total	2016 (adjusted)	% change
Lumber, timbers, and other sawn products	4,597	1,050	665	5	650	648	1,503	9,118	\$7,180	27%
House logs and log homes	2,853	1,476	977	99	991	941	941	8,279	\$8,172	1%
Other products <sup>f</sup>	5,762	75	—	—	1,560	1,040	2,080	10,517	\$7,458	41%
<b>Total</b>	<b>13,212</b>	<b>2,601</b>	<b>1,642</b>	<b>104</b>	<b>3,201</b>	<b>2,629</b>	<b>4,524</b>	<b>27,914</b>	<b>\$22,809</b>	<b>22%</b>

<sup>a</sup> Other Rocky Mountains includes Idaho, Montana, Nevada.

<sup>b</sup> Far West includes Alaska, California, Hawaii, Oregon, and Washington.

<sup>c</sup> Northeast includes Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont.

<sup>d</sup> South includes Alabama, Arkansas, Delaware, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia.

<sup>e</sup> North Central includes Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin.

<sup>f</sup> Other products include posts, poles, log furniture, fire wood, and mill residues.

**Table 17b**—Destination and percentage of regional sales by product of Utah’s primary wood products and mill residues, 2020.

Product	Utah	Other Four-Corner States	Other Rocky Mtn States <sup>a</sup>	Far West <sup>b</sup>	Northeast <sup>c</sup>	South <sup>d</sup>	North Central <sup>e</sup>	Total
Lumber, timbers, and other sawn products	34.8	40.4	40.5	4.7	20.3	24.6	33.2	32.7
House logs and log homes	21.6	56.7	59.5	95.3	31.0	35.8	20.8	29.7
Other products <sup>f</sup>	43.6	2.9	—	—	48.7	39.6	46.0	37.7
<b>Total</b>	<b>47.3</b>	<b>9.3</b>	<b>5.9</b>	<b>0.4</b>	<b>11.5</b>	<b>9.4</b>	<b>16.2</b>	<b>100</b>

<sup>a</sup> Other Rocky Mountains includes Idaho, Montana, Nevada.

<sup>b</sup> Far West includes Alaska, California, Hawaii, Oregon, and Washington.

<sup>c</sup> Northeast includes Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont.

<sup>d</sup> South includes Alabama, Arkansas, Delaware, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia.

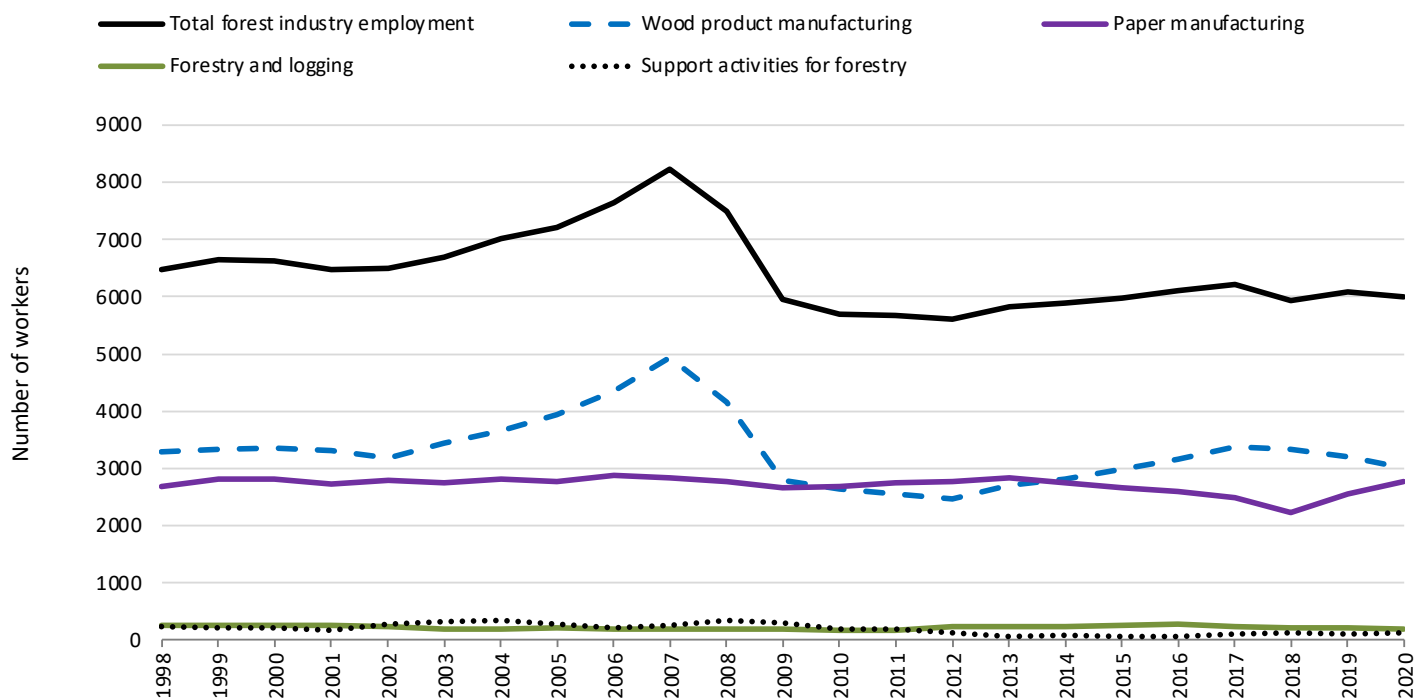
<sup>e</sup> North Central includes Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin.

<sup>f</sup> Other products include posts, poles, log furniture, fire wood, and mill residues.

## Forest Industry Employment and Labor Income

The primary forest products manufacturers characterized in BBER’s periodic census are just one component of the broader forest industry in Utah. The classification of the forest industry sectors used here follows the North American Industry Classification System (NAICS) available at the U.S. Department of Commerce’s Census Bureau website. Utah’s forest industry can be described using three categories: NAICS 113—forestry and logging; NAICS 321—wood products manufacturing; and NAICS 322—paper manufacturing. These categories include employees who work in both the primary and secondary wood products and paper manufacturing sectors. It should be noted that these NAICS categories likely underestimate total employment in the forest industry because they do not include 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. These publicly available data provide a point of comparison for BBER estimates of employees and labor income for the primary forest products manufacturers, as well as additional information on the larger forest industry.

Between 2016 and 2020, Utah saw virtually no change in direct employment in the primary and secondary forest industries, with both years posting approximately 6,100 jobs (Hayes et al. 2021; USDC BEA 2018a) (fig. 4). Differences include a small decrease in employment within wood products manufacturing and within forestry and logging, and a doubling of the number of forestry support jobs, along with a modest increase in paper manufacturing jobs. In 2020, approximately 1,100 full-time and part-time jobs were in the primary sector of Utah’s forest industry, reflecting an increase of over 100 percent over 2016. The remaining 5,000 jobs are considered secondary, or jobs that involve further processing of primary sector outputs.



**Figure 4**—Utah forest industry employment, 1998–2020.

Utah’s forest industry worker earnings were close to \$420 million (USDC BEA 2018b) in 2020, a 20 percent increase over 2016 (adjusted for inflation), recovering to about the 2007 earnings levels (figure 5). The largest percentage increase was seen in the forestry support sector, where direct employment doubled during the 2016–2020 period, from 65 to 129 jobs, and direct labor income went from \$2.0 million in 2016 to \$7.1 million in 2020. Support activities for forestry encompass 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 can be explained by a number of interrelated factors, such as commercial timber harvesting diversifying into noncommercial activities, causing reclassification of some businesses from forestry and logging to support activities for forestry. Further, investments in noncommercial forest management activities have increased in western States in the wake of the mountain pine beetle epidemic, and forest fire fighting has increased as a result of increasingly severe drought and fire conditions. For example, the 2020 Utah fire season resulted in burnt acreage of close to 330,000 (National Interagency Fire Center 2020), more than three times the acreage burned in 2016 (National Interagency Fire Center 2016), and thus more labor intensive and costlier to combat.

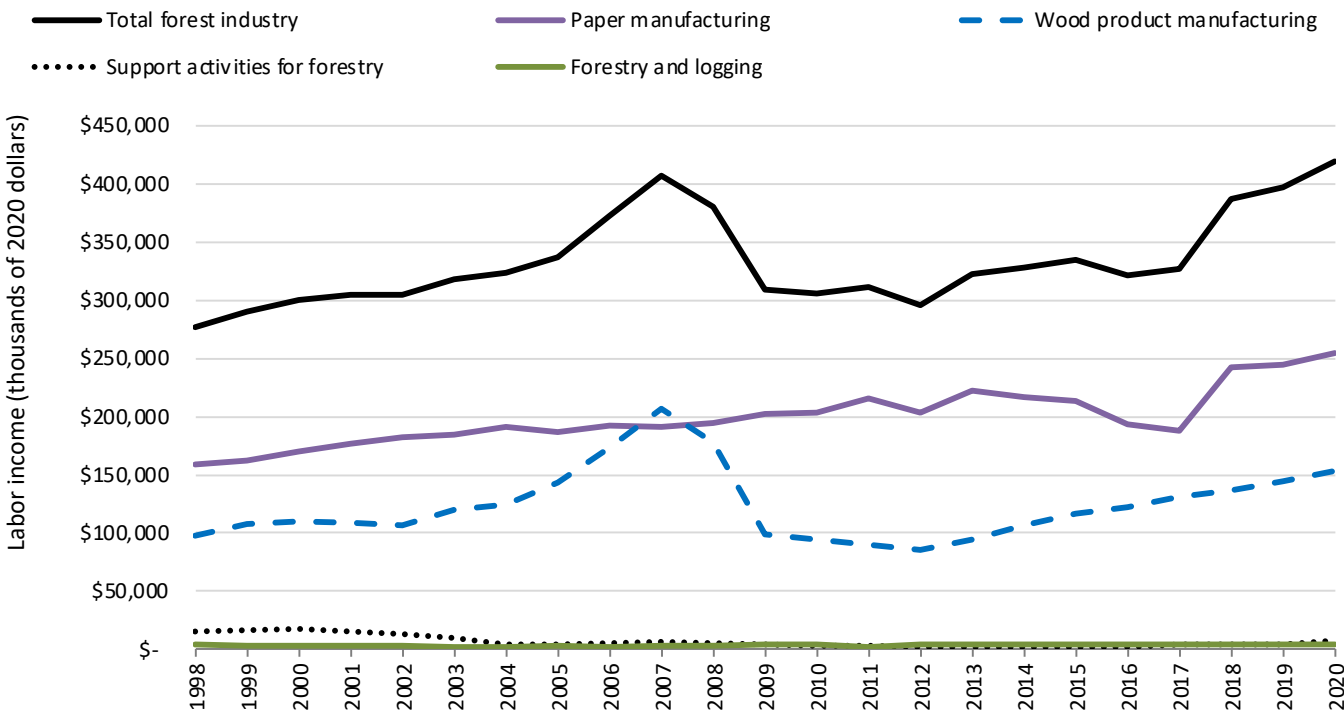


Figure 5—Utah forest industry labor income, 1998–2020.

It is not unusual to see a greater change in labor income than employment. Employees who were previously part-time and/or seasonal are likely to add more hours or days of work, or extend employment into shoulder seasons, all of which increase wages paid by businesses but have less impact on overall employment estimates. Similarly, decreases in wages paid without equivalent decreases in employment would be the result of reduced work hours rather than a reduction in the number of workers.

The various sectors comprising the forest products industry in Utah directly contributed approximately 6,100 jobs in 2020 and almost \$420 million in labor income to the State economy. Using regional data and existing linkages within Utah's economy represented by the Bureau of Economic Analysis's (BEA's) Regional Input-Output Modeling System (RIMS II, USDC BEA 2020) , BBER has estimated that wood products manufacturing directly and indirectly supported approximately 6,400 full- and part-time jobs in Utah in 2020, with an associated \$363 million in labor income (table 18). In other words, for every wood products manufacturing job in the State, another 1.13 jobs were supported in other sectors, and for every \$1.00 paid in labor income by wood products manufacturing firms, another \$1.36 was paid in supporting sectors. Sectors supporting forest products include trucking, wholesale trade, and management.

Likewise, BBER has estimated that the 193 people directly employed in the forestry and logging sector in Utah in 2020 indirectly supported an additional 102 jobs in supporting sectors, such as equipment sales and repair. These 102 additional jobs generated \$2.6 million in labor income, bringing the total economic impact of the forestry and logging sector to \$6.6 million.

Leveraging the BEA RIMS II multipliers allows for a broad contribution analysis of economic activity generated in and cycled through Utah's economy by the different sectors comprising the forest industry. It should be noted that we do not aggregate sectors and avoid providing estimates for the total employment and labor income impacts of the entire forest industry in order to avoid double-counting, as some employment and labor income constitute 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 on forestry and logging businesses to supply their raw material inputs.

**Table 18**—Average annual employment and labor income contributions from Utah’s forest industry 2020.

Sector	Direct employment	Indirect and induced employment	Total employment contribution <sup>a</sup>	Direct labor income	Indirect and induced labor income	Total labor income contribution <sup>a</sup>
Forestry and logging	193	102	295	\$4,017	\$2,601	\$6,618
Forestry support activities	129	38	167	\$7,109	\$3,667	\$10,776
Wood products manufacturing	3,008	3,408	6,416	\$153,783	\$209,684	\$363,467
Primary wood products mfg	781	941	1,722	\$36,135	\$50,047	\$86,182
Secondary wood products mfg	2,227	2,467	4,694	\$117,648	\$159,637	\$277,285
Paper manufacturing	2,771	7,440	10,211	\$254,559	\$382,042	\$636,601
<b>Total forest industry</b>	<b>6,101</b>	<b>a</b>	<b>a</b>	<b>\$419,468</b>	<b>a</b>	<b>a</b>

<sup>a</sup> Indirect and induced employment and labor income should not be summed for multiple sectors due to some employment and income contribute directly to their sector and indirectly to other sectors.

## CONCLUSION

Utah has over 18 million acres of forestland, but only 3.7 million acres of this are classified as nonreserved timberlands, meaning that the land is both open to management and is capable of producing at least 10 cubic feet of wood volume per acre per year. About three-quarters of nonreserved timberland is in the National Forest System, making public lands an important source of raw material for the industry and the wood products industry an important outlet for material removed from the forest during restoration or fuels reduction. Sales of finished products by Utah's primary wood products sectors have increased over the past decade but still lag behind the sales values seen in the 1990s and early 2000s. However, total forest industry income is the highest in over 20 years, surpassing the previous high that occurred in 2007. During the past 20 years the total wood volume in Utah has declined about 12 percent due to fire, drought, insects, and disease, but recent inventories suggest that the decline has leveled off or reversed. As a result, recent trends in forest volume, manufacturing sales, and labor income point to a potentially brighter future for forest resources and the wood products industry in Utah.

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