Educational information regarding forestry and the forest products industry in Montana

This booklet is produced by the Montana Wood Products Association.
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Mission Statement

To promote healthy forests and healthy communities through management of Montana’s forests.
Montana’s Forest Products Industry

Montana’s timber industry is about more than jobs. It’s about people. Many towns were formed around the processing of timber, and timber companies and their employees are still the foundation of many communities. Besides direct employment, forest products businesses make huge contributions to local economies, and their employees donate countless time and money to support local organizations.

For 2013, about 7000 of the 22,148 total manufacturing jobs in Montana are in the forest products industry. Annually, the manufacturing segment of Montana’s economy contributes about $1.1 billion in labor earnings and $14 billion in sales to the total state economy. Wood products manufacturing ranks first in the manufacturing sector in Montana in terms of jobs, contributing significantly to the state’s economy.

Montana forest industry workers are well-paid, earning an average $49,300 per year. This is above the statewide average annual labor income of about $40,800. Labor income from primary and value-added wood products manufacturing was $296 million in 2013.

The 15 mills listed in Figure 1 are the major players in Montana’s Forest Products Industry. These mills rely on a predictable supply of logs.

Summary of Montana Sawmills in 2014

In order to continue operations and maintain the employees they have, the annual volume requirements for maintaining these mills at full capacity is approximately 400-450 million board feet. This equates an average of 90,000 loaded log trucks per year!

Timber Facts at a Glance

Labor income in Montana’s forest industry was estimated at $296 million during 2013, about 4 percent higher than 2012.

Employment during 2013 was about 7,000 workers (including private sector foresters and loggers, primary and secondary wood product manufacturers, and forestry support activities), up a little over 2 percent from 2012.

Montana’s timber harvest volume during 2013 was about 365 million board feet.

Availability of timber continues to be a major challenge to Montana’s forest industry. Without a reliable and affordable supply of timber, mills cannot respond to increasing demand for wood products.

Wood products manufacturing ranks first in the manufacturing sector in Montana in terms of jobs, contributing significantly to the state’s economy.
“Made in Montana”

Montana’s timber industry turns trees, a renewable resource, into a wide array of products, including lumber, plywood, particle board, linerboard for cardboard boxes, posts and rails, log homes, wood pellets, furniture and biofuels.

Nothing is wasted. Slabs and edgings, formerly burned in incinerators, are chipped and made into paper products. Sawdust is used for paper and panel products. Planer shavings are made into finer board. Even bark is utilized for industrial fuel and landscaping.

Current & Future Market Conditions

High levels of domestic lumber consumption are responsible for recent lumber price increases. These nearly record prices follow 3 to 4 years of record lows. The positive shift in wood product prices is primarily due to a combination of the following:

- Low mortgage rates and high levels of building activity.
- A sharp decline in the value of the U.S. dollar against most major currencies.

Raw material availability continues to constrain Montanan’s wood products industry. Federal timber sale offerings continue to decline, while litigation of timber projects has shown an increase. Timber harvest from private ownerships increased in response to higher prices and increased competition for timber.

Perhaps the most threatening issues affecting Montana mill operations is the availability of raw materials. Uncertainty over log supply involves public and private forestlands. Harvest from public lands may increase in response to fire hazard reduction and ecosystem restoration projects that often have high levels of sub-merchantable materials with limited use as timber products. The products that produce commercial products are frequently targeted for appeals and litigation. Private harvest may decrease in parts of the state where harvest levels have been high for many years.
Who Uses Wood?

Population growth impacts our need for space and resources. U.S. Census Bureau projections now indicate that the number of households will grow by nearly 24 million between 2000 and 2020. This breaks down to a need for approximately 1.2 million new homes each year. In order to accommodate these homes and the businesses that come with them, by 2030, the U.S. will require 44% more built-up space (developed land) than existed in the year 2000.

The average American home is larger today. Today’s average home is approximately 2,200 sq. ft. in size compared to the 1,400 sq. ft. of the average home built in the 1970’s. The size figure includes apartments and condos, which make up over 32% of U.S. housing. A typical 2,500 sq. ft. home is built with approximately 15,000 board feet of timber and wood paneling, or 2-3 truckloads of raw logs. Depending on the size and species of tree, about 130-180 trees would be needed to build that 2,500 sq. ft. home. In addition, the average U.S. citizen uses about 12 lbs. of wood fiber each day in their consumption of cardboard, paper, lumber, and household products. One source estimated this to be the equivalent of each person using a 100-ft., 18 in. diameter tree each year!

In 2013, the U.S. imported $14.71 billion of our wood products to supply the growing demand for this valuable resource. The demand for land to build on will further exacerbate this problem as more private and agricultural land is sold for residential use.

“Wood is Good”

When we are good stewards of our forestlands, wood is a renewable resource that continues growing and fulfilling our needs into the future. In addition, wood is 100% biodegradable, recyclable and natural. Did you also know a recent study in cold, snowy Minnesota revealed that a wood frame constructed home uses 17% less energy to heat than comparable steel construction and 16% less than a concrete structure? The study was conducted by the Consortium for Research on Renewable Industrial Materials (CORRIM). Additional climate benefits show that the growth of wood in renewable forests works to sequester and remove carbon from the atmosphere, and fewer carbon emissions are created during wood product manufacturing than their steel and concrete counterparts. This makes wood a good choice for those seeking environmentally-friendly products and building materials.

Growth & Mortality

Sustainable Forest Management. According to the most recent inventory data available, tree growth in Montana far exceeds natural mortality and harvest combined. Theoretically, if only the volume equivalent to the annual growth and mortality were harvested each year, there would be little impact on existing forest volumes.

[Table: Gross Growth & Mortality on Timberland for Top 6 Volume Species Groups]

- Western larch
- Ponderosa pine
- Lodgepole pine
- Douglas fir
- Engelmann and other spruces
- True fir

[Bar chart showing gross growth and mortality for different species]
Diverse forests of the Big Sky.
The forests of Montana are as diverse as her landscape. Seventeen coniferous tree species cover about ¼ of Montana’s land area, or about 22.5 million acres. Forests on the east side of the Continental Divide are dominated by ponderosa pine and Douglas Fir. In western Montana, many more species are present, mostly due to higher precipitation levels. These species include, western larch, lodgepole pine, western white pine, grant fir, alpine fir Engelmann spruce, western hemlock and western red cedar.

Forest Acres: Then and Now.
Changes reflect human influence such as harvesting and settlement, as well as natural events, such as forest fires and disease infestation. Some changes are also due to modification in how “forestland is classified.

Ownership of Montana’s Forests.
Montana’s forests contain about 22.5 million acres of classified forestland. Over 9.6 million federal acres (43% of all forested acres) are “reserved” or unavailable for harvest of wood products. Of this, 3.4 million acres are in National Forest Wilderness Areas, National Parks and National Monuments, while an additional 6.2 million acres of U.S. Forest Service lands are also unavailable for harvest due to their status as proposed wilderness areas, roadless areas, experimental stations, and other special management considerations. The remaining 12.9 million acres of non-reserved land (57% of total forestland), is comprised of the following suitable for timber production and harvest:

5.2 million acres
National Forest System Land administered by 8 National Forests in Montana.

726,662 acres
Forested State Trust Lands administered by the Department of Natural Resources & Conservation (DNRC).

6 million acres
Private land owned by farmers, ranchers and other “non-industrial” private landowners.

900,000 acres
Owned by the forest products industry. This equates to 8% of the forestland in Montana.
A Look at Harvest Trends. Harvest levels typically mirror the health of the nation’s economy. Harvest levels plummeted during the recession of the early 1980’s. However, recent declines in federal harvest levels are politically driven, and run counter to the nation’s robust economy. During the last 25 years, harvest from national forests in Montana have fallen 80%, even as U.S. house starts reached record levels. The federal harvest decline is a direct result of regulatory constraints, timber sale appeals and litigation.

Growing Tomorrow’s Forest Today. Forest managers in Montana believe it’s not enough to simply care for existing forests’ we must also ensure that future generations have the same abundant forests we enjoy today. That’s why foresters in Montana are committed to reforestation of harvest areas through tree planting or planned natural regeneration. On average, nearly 20,000 acres of forestland in Montana were regenerated through planting and seeding. This does not include areas naturally regenerated every year with seeds from surrounding trees.

Management of Our Public Forests

Why Manage Our National Forests? You may have heard this question raised by those who believe we shouldn’t cut trees from our National Forests. The truth is timber management has many benefits besides production of useful forest products from our renewable resource. Timber harvesting is used to improve wildlife habitat, reduce losses to insects and disease, improve the growth and vigor of our forests, reduce the risk of high intensity wildfires and restore forests to historic conditions.

The Cost of Restoration. In recent years, the federal timber program has come under scrutiny for “below cost” timber sales, where costs of selling timber exceed revenues. The reasons behind this phenomenon are complex and varied. Even though the National Forest harvest levels have plummeted, a large staff is still required to conduct all environmental assessments for timber projects. Timber sales are being designed to remove smaller trees with less volume per acre, and specialized logging equipment is often required. These factors result in higher logging costs and reduced federal timber revenues. Many timber sales contain requirements for work that has no timber output, such a streambed restoration. Yet, the cost of these projects is billed to the timber program.
Despite the large size of our National Forest System in Montana, there are surprisingly large tracts that are classified for other uses and will not have trees cut or removed. Suitable acres are those currently available for timber production and roaded for multiple use management.

**State Trust Land Management**

In 1889, Congress granted certain tracts of land to the states for the support of schools. The Department of Natural Resources and Conservation (DNRC) manages timber, and surface and mineral resources on over 6.3 million acres of state trust lands in Montana, of which about 11% is forested. Revenues from each specific tract of land are dedicated to the support of an assigned beneficiary institution, or to the common school trust. In fiscal year 2013, the sale of timber from state trust lands contributed roughly $15 million to support endowed institutions in Montana. See figure below. In 2003, the State Legislature passed HB 537, which directed the DNRC to conduct a sustained yield study to set a new annual timber sale target based on updated forest inventory information. The study found that annually, 53.2 million board feet could be sustainably harvested from state trust lands, while still protecting fisheries, wildlife and recreation values. With the state Land Board adoption of the Habitat Conservation Plan, the sustained yield increased to 57.6 million board feet annually.

**Trust Returns by Resource | Montana Department of Natural Resources & Conservation**

<table>
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<tr>
<th>Resource</th>
<th>Bureau</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
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<tbody>
<tr>
<td>Agriculture &amp; Grazing</td>
<td>17,956,610</td>
<td>20,714,158</td>
<td>23,898,972</td>
<td>27,827,321</td>
<td>28,495,222</td>
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<td>Forest Management</td>
<td>9,241,157</td>
<td>10,496,231</td>
<td>7,173,483</td>
<td>10,504,738</td>
<td>11,204,002</td>
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<td>Minerals (Mining)</td>
<td>118,060,706</td>
<td>41,781,055</td>
<td>45,846,476</td>
<td>38,873,679</td>
<td>39,116,340</td>
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<tr>
<td>Real Estate (Leases)</td>
<td>7,732,549</td>
<td>8,243,871</td>
<td>9,028,381</td>
<td>13,757,776</td>
<td>11,041,050</td>
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<tr>
<td>Recreation</td>
<td>1,087,310</td>
<td>1,043,707</td>
<td>1,101,020</td>
<td>1,089,037</td>
<td>1,101,392</td>
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<tr>
<td><strong>Totals</strong></td>
<td><strong>177,413,333</strong></td>
<td><strong>105,600,229</strong></td>
<td><strong>111,591,970</strong></td>
<td><strong>115,484,304</strong></td>
<td><strong>114,418,828</strong></td>
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**Shared Revenues.** Since the Federal Government does not pay taxes to counties in which national forestlands are located, a system of support was established whereby counties share in revenues from federal land. Under the Weeks Law of 1911, the Payment in Lieu of Taxes (PILT) of 1976, and the Secure rural Schools and Community Self-Determination Act of 2000, all 56 Montana counties are eligible for various amounts of compensation to aid in funding county roads and schools. Thirty-four counties have USFS lands within their boundaries. The remaining 22 counties contain other Federal lands managed for timber, rangeland, agriculture and oil/minerals. PILT payments to Montana counties totaled $28,809,242 in fiscal year 2014.
Montana’s Forest Policy Approach. When it comes to protecting our natural resources, Montana has chosen education over regulation. A network of dedicated individuals, organizations and programs ensures timber harvesting techniques in Montana are among the best in the nation. Loggers do what’s right for the land because they understand the need for careful practices. When harvesting next to a stream, operations must follow the rules of Streamside Management Zone (SMZ) laws. Areas along a stream are very special and important places in the forest – they are home to wildlife, they provide shading for streams, and they act as natural filtration zones. The SMZ is a buffer along each side of a stream and is at least 50 feet wide. On steeper slopes, the buffer is 100 feet wide and management activities are modified within all SMZ buffers. Some aspects of a harvesting job, such as equipment operation and road building, are prohibited unless an alternative practice permit is granted. This ensures that Montana’s streams remain cold and clear for generations to come.

Commitment to Excellence. For over 20 years, timber harvesting professionals have proved their dedication to continual improvement. Educational workshops designed by the Montana Forest Council, including Montana Logging Association, Montana State University (MSU) Extension Forestry, and the Department of Natural Resources and Conservation, give loggers reasons not just rules. In 1994, the Accredited Logging Professionals (ALP) program was conceived by loggers to advance professionalism in timber harvesting. ALP graduates are required to attend 56 hours of training, including a 40 hour Forest Stewardship Workshop. Training topics include BMP’s, the Streamside Management Zone laws, the Endangered Species Act, forest ecology, insects and disease, business, safety, and first aid. Once accredited, an ALP logger must attend 32 hours of training per year to retain accreditation.

Forestry Best Management Practices. Loggers and foresters follow voluntary guidelines called Best Management Practices (BMPs) to ensure their operations minimize soil disturbance and protect water quality. BMPs cover every aspect of a harvest from layout and design of roads, to road construction and stream crossings, to skidding. Loggers even use BMPs when leaving a job, to ensure roads are drained adequately and disturbed areas are grass seeded.
References and Resources

For additional information on the facts and figures presented in this booklet, visit the following websites:

Montana Wood Products Association | http://www.montanaforests.com

U.S. Department of Commerce | http://www.commerce.gov

U.S. Forest Service | Northern Region | http://www.fs.usda.gov/r1

Department of Natural Resources & Conservation | Forestry Assistance Bureau http://dnrc.mt.gov/Forestry/Assistance/Practices/default.asp


International Wood Products Association | http://www.iwpawood.org/

Montana Association of Counties (MACo) | http://www.mtcounties.org

Montana Logging Association | http://www.logging.org

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