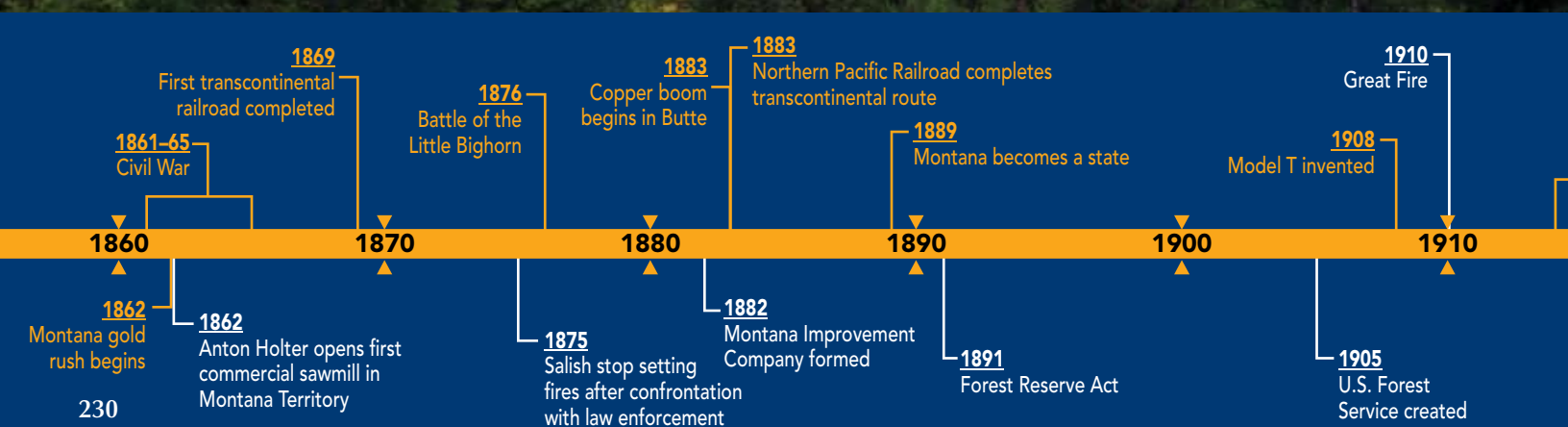


12 Logging in the “High Lonesome” — 1862-1949



FIGURE 12.1: “The Swan Range,” photograph by Donnie Sexton, no date





READ TO FIND OUT:

- How American Indians traditionally used fire
- Who controlled Montana’s timber industry
- What it was like to work as a lumberjack
- When and why fire policy changed

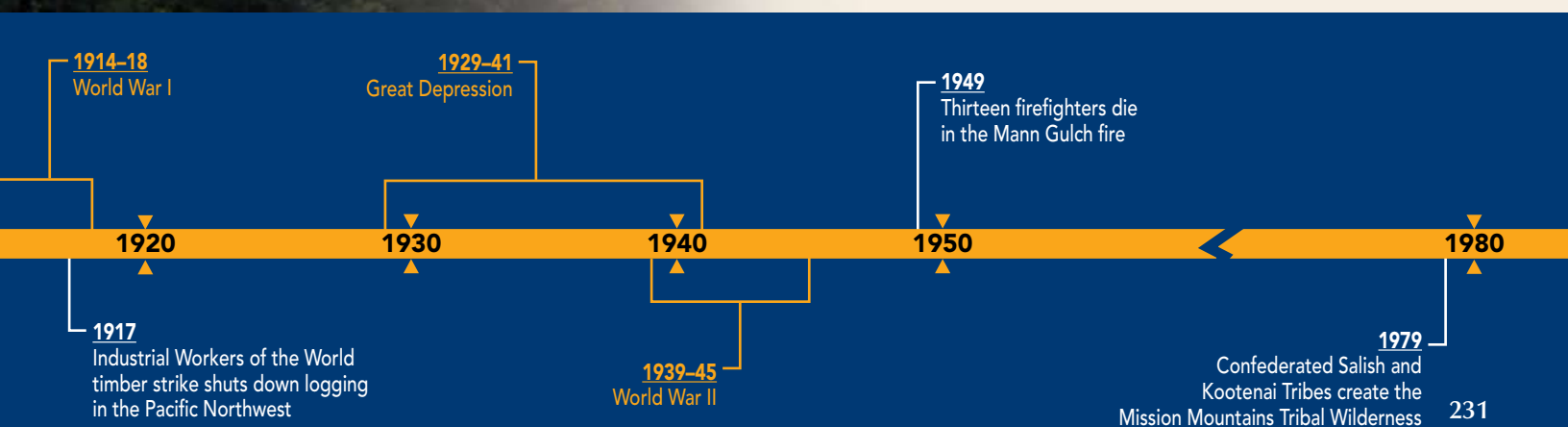
The Big Picture

For thousands of years people have used forests to fill many different needs. Montana’s forestlands support our economy, our communities, our homes, and our lives. Forests have always been important to life in Montana.

Have you ever sat under a tall pine tree, looked up at its branches sweeping the sky, and wondered what was happening when that tree first sprouted? Some trees in Montana are 300 or 400 years old—the oldest living creatures in the state. They rooted before horses came to the Plains. Think of all that has happened within their life spans.

Trees and forests are a big part of life in Montana. They support our economy, employ our people, build our homes, protect our rivers, provide habitat for wildlife, influence politics, and give us beautiful places to play and be quiet.

Forests can be recreational places of peace. Yet Montana’s forestlands have also seen turmoil, struggles, strikes, and wildfires. Even today they lie at the center of nationwide arguments.



The Forests of Montana

One-quarter of Montana is forestland. Forests protect river drainages by helping retain water in the soil. They prevent **erosion** (the wearing away of soil) by keeping soil from washing away into the streams. They convert carbon dioxide into oxygen through the process of photosynthesis. They provide food and shelter for many kinds of wildlife.

The three regions of Montana have different combinations of **precipitation** (rain and snow), average hot and cold temperatures, and growing season. Therefore, each region supports a slightly different kind of forest. Some trees, like ponderosa pine, Douglas fir, willow, and cottonwood, grow in all three regions.

Nearly 75 percent of Montana's timber grows in the relatively moist western region, and logging is one of the most important industries in this region. This region also grows the widest variety of trees. The principal commercial species here are ponderosa pine (also called western yellow pine), Douglas fir, western larch, white pine, hemlock, western red cedar, spruce, and lodgepole pine.

Central Montana is drier than the western region, yet its hills and mountains retain enough moisture and snowmelt to sustain scattered stands—called island forests—of ponderosa pine, Douglas fir, spruce, cottonwood, and aspen. Some logging occurs in the central region, but not as much as in the western region. The principal commercial species are ponderosa pine, Douglas fir, and spruce.

In the dry, windy eastern region, trees do not grow very fast. Pine and juniper grow along the rivers and streams. Lodgepole pine, ponderosa pine, and Douglas fir grow in thick stands on hillsides. The principal commercial species here are lodgepole pine, ponderosa pine, and Douglas fir. Some cottonwood and juniper is also cut for local use.



FIGURE 12.2: Western larch, or tamarack, grow west of the Continental Divide. Their needles turn yellow and fall just like leaves do, but they look like conifers. These deciduous trees also produce softwood.

FIGURE 12.3: Different kinds of trees produce different kinds of wood. Coniferous trees—evergreens that bear cones—produce softwoods.



Indian Tribes Managed Forests with Fire

The dense woodlands of western Montana did not always look as they do today. American Indians who lived in the forested areas used fire as a tool to shape their landscape. They set small blazes to clear underbrush, open trails, control insects, and encourage certain medicinal or food plants to grow. They sometimes set grassland fires to herd bison. They started these fires in the fall when it was cool and wet so that the fires would not get too big.

In the Salish and Pend d'Oreille traditions, the person in charge of the use of fire was called

the Sx^wpaám (s-wh-pah-am). The Sx^wpaám passed his knowledge down from generation to generation.

Trappers and missionaries coming to Montana in the early 1800s found many clearings of grassland and mountainsides lush with huckleberries. They saw very little underbrush in the parklike forests. Today some elders on the Flathead Reservation say that their grandparents camped and gathered food in clearings that now are so densely forested you cannot even find their old trails.

Under threat from the whites, Indian people stopped using fire. In November 1875 a group of Pend d'Oreille Indians crossed to the eastern side of the Rocky Mountains near the Canadian border for a bison hunt. They set a fire as part of their traditional practices. White law enforcement officers reacted in fear. They shot and killed two of the Pend d'Oreille men for setting the fire. After that, the tribes stopped setting fires, and dense forests covered much of western Montana from the valleys to the **treeline** (the line above which trees do not grow).

“In our tradition, fire is not a destructive and evil force to be feared and battled. It is a gift from the Creator brought to us by the animals.”

—SALISH EDUCATOR GERMAINE WHITE

Early Timber Harvesting

American Indians harvested timber for lodge poles, horse **travois** (a transport device made of two joined poles and drawn by an animal), arrows, bows, **bison pounds** (corral-like enclosures used to trap bison), and other uses. Before metal tools arrived, they cut trees with stone mauls and choppers and smoothed them with tools made of bone or

FIGURE 12.4: Many American Indian tribes used fire as an agricultural tool. Contemporary Anishanabe artist John Potter painted this scene of a woman gathering roots while, in the distance, a small fire clears underbrush from the forest.



antler. They harvested trees in the spring when the sap was running and bark was easy to remove. They also collected poles from burned areas.

Tree cutting was **labor-intensive** (requiring work and time), so people stored poles near a campsite for later use when a group moved on. People from the forests often traded tipi poles made of fir, lodgepole pine, and red cedar to tribes farther east where these trees did not grow.

Lumber for Trading Posts and Missions

Trappers and traders built log buildings. They cut planks for flooring, shed roofs, and wagons. They sawed planks from logs with a **whipsaw** (a long, two-handled saw; also called a pit saw).

When the Jesuit missionary Father Anthony Ravalli came to the Bitterroot Valley in the 1840s, he introduced the **circular saw**—a circular blade turned by water power from a stream. Father Ravalli did not have a circular blade, so he made his own by flattening out an iron-rimmed wagon wheel and cutting teeth into it. This water-powered mill was the first sawmill in Montana.

Gold Rush: Suddenly a World of Need

In 1862 came the gold rush. Suddenly people needed lumber for everything—sluice boxes, firewood, cabins, stores, wagons, and bridges. Anton Holter was one of the first to establish a sawmill to fill these needs. In 1862 he used ox wagons to haul his heavy equipment to the Ruby Valley, near Virginia City. But when he unpacked, he realized he was

missing several important parts. He was 500 miles from any machine shop or parts store. So, like Father Ravalli, he **improvised** (invented something on the spot). He made a blacksmith's bellows out of his rubber coat, cut an untanned ox hide to make belts to turn his saw, and drove a broadaxe into a stump to serve as an anvil. With these homemade tools, he made the parts he needed.

Montana's lumber industry followed the same **boom-and-bust** cycles (sudden economic activity followed by decline, then a

FIGURE 12.5: A whipsaw allowed two men to cut planks from logs. They dug a pit, or built a tall structure like this one, and secured the log so it would not roll. Then, with one man on top and one below, they drew a long, two-handled saw up and down through the length of the log.



period of quiet, and then another burst of activity) that mining did. As placer mining boomed, demand for lumber boomed, too, and prices remained high. Soon dozens of small, steam-powered or water-powered lumber mills operated in many communities. But when placer mining slacked off, so did the demand for lumber.

The 1880s: Everything Boomed

When the railroads arrived in the 1880s, all of Montana's industries boomed (see Chapter 9). Railroads, mines, smelters, and towns all used enormous amounts of lumber. The railroads laid millions of ties beneath its tracks and used more timbers to brace tunnels and support trestles and bridges.

Mines required millions of timbers to support miles of underground tunnels and shafts. The Anaconda Copper Mining Company used more than 200,000 board feet of timber every day in its mines.

Early Butte smelters burned thousands of cords of wood per day in a process called heap roasting. It was the first step toward transforming **ore** (rock containing precious metals) into copper. Workers laid timbers over an area about the size of a city block. Then they poured a layer of copper ore over the wood. They stacked up layers of wood and ore until they had a heap six or seven feet tall. They lit the heap on fire and let it burn for days, filling the air with toxic haze.

Later, smelters used unimaginable amounts of lumber to build buildings and water **flumes** (channels) and to operate the smelter. In 1888 the Anaconda Company burned nearly 1,000 cords of wood every day in its smelter.

Meanwhile, people built towns, houses, barns, fences, and chicken coops all across the region. By 1890 more than 100 lumber mills, producing 130 million board feet of lumber

How Much Is a Cord or a Board Foot?

Lumber mills measure lumber by the **board foot** (which equals a board 1 foot long, 1 foot wide, and 1 inch thick), or 144 cubic inches of wood. An 8-foot-long, 2-inch-by-6-inch board is 8 board feet. So is an 8-foot-long, 1-inch-by-12-inch board. It takes about 3,000 board feet of lumber to build one small, three-bedroom house.

A **cord** is a unit of volume for measuring cut timber. One cord is 128 cubic feet, equal to a tightly stacked woodpile 8 feet long, 4 feet wide, and 4 feet tall—just a bit smaller than a regulation pool table.

FIGURE 12.6: Steamboats required enormous supplies of firewood to feed their engines. Steamboat companies hired woodcutters (called "woodhawks") to cut and stack firewood along the Missouri River so the steamboats could reload as they progressed upriver.



per year, could hardly fill the demand. That year the value of Montana's lumber nearly equaled the value of its gold and silver output.

Three Industries Form a Powerful Triangle

No one in Montana used more lumber than the copper interests and the railroads. It did not take long for mine and railroad owners to invest in their own lumber companies so they could control price and supply.

In the 1880s Marcus Daly, who owned the Anaconda Company, and the Northern Pacific Railroad bought up several small lumber companies and created the Montana Improvement Company. These three companies formed a powerful corporate triangle. They were run by just a few men, and they employed more workers, made more money, owned more land, and controlled more transportation routes than anyone else in the entire region.

The copper and railroad interests already dominated the largest sectors of Montana's economy. Now they were even more powerful, and sometimes they acted as if they were above the law.

FIGURE 12.7: Nearly 10,000 miles of mine tunnels threaded beneath Butte Hill alone. To keep the tunnels from collapsing, workers placed massive timbers every few feet.



Stealing Timber or Developing a Frontier?

The tremendous need for wood drove lumber companies to cut trees wherever they could. The Montana Improvement Company was the most aggressive. It cut trees on millions of acres of land owned by the Northern Pacific Railroad. Then it began cutting timber illegally on public land and on the Flathead Indian Reservation.

In 1885 the government sued the Montana Improvement Company, saying it had illegally cut \$600,000 (almost \$13 million in today's dollars) worth of timber in 1885 alone. But Marcus Daly (who ran the Anaconda Company and was part owner of the Montana Improvement Company) told Congress that if it stopped the illegal logging, 10,000 Montanans would lose their jobs.

The Northern Pacific Railroad (another part owner of the Montana Improvement Company) used its power to gain the support of Montana's territorial governor. In addition to being governor, Samuel T. Hauser owned a bank. The Northern Pacific said it would take all its money out of Hauser's bank if he did not oppose the federal government's lawsuits. The lawsuits went on for years—and so did the illegal timber cutting.

Logging on the Reservations

In 1883 the Northern Pacific Railroad laid tracks through the southern end of the Flathead Reservation. The railroad agreed to pay the tribes cash and cut only as much timber as it paid for. But once timber cutting began, it was hard to manage. Lumber companies logged and milled at a furious pace. It was hard to enforce any rules at all.

By this time the Salish and Kootenai were already frustrated by timber policies on the **reservation** (land the tribes had reserved for their own use through treaties). Throughout the early reservation years, government agents sold off tribally owned timber to pay reservation expenses that the government—under treaty with the tribes—should have paid for. In the 1860s the Flathead Reservation agent had purchased sawmill equipment with tribal funds but had located the mill far from where the Indians lived, so they rarely got a chance to use it.

On several of Montana's timbered reservations, the government allowed settlers to cut reservation timber for their own use. Settlers trespassed onto reservation lands, cut down trees, and set up sawmills to cut lumber. They did not think the Indians had any use for their timber, so they did not see it as stealing.

Over time the tribes developed their own lumber industries on their reservations. During the 1900s Montana's Indian tribes regained some control over their forestlands. The reservations became important sources of lumber for the U.S. military during World War II. After the war, America's housing market boomed (see Chapter 20). Logging and milling became an even more important economic activity for the tribes.

Over the past 50 years, the Confederated Salish and Kootenai Tribes have developed a forest management program that has become a model for other regions across the country. They also became the first Indian nation in the country to designate a

Pressuring the Governor

In 1885 T. F. Oakes, vice-president of the Northern Pacific Railroad, wrote to territorial governor Samuel T. Hauser (also a Montana bank owner and businessman) demanding that Hauser protect the railroad from any federal effort to stop logging on public lands.

"Read this over carefully," Oakes wrote. "If we have no rights in this property you will respect, I shall at once withdraw our deposits from your bank . . . and in every other respect make things so hot for you, you will think the devil is after you."

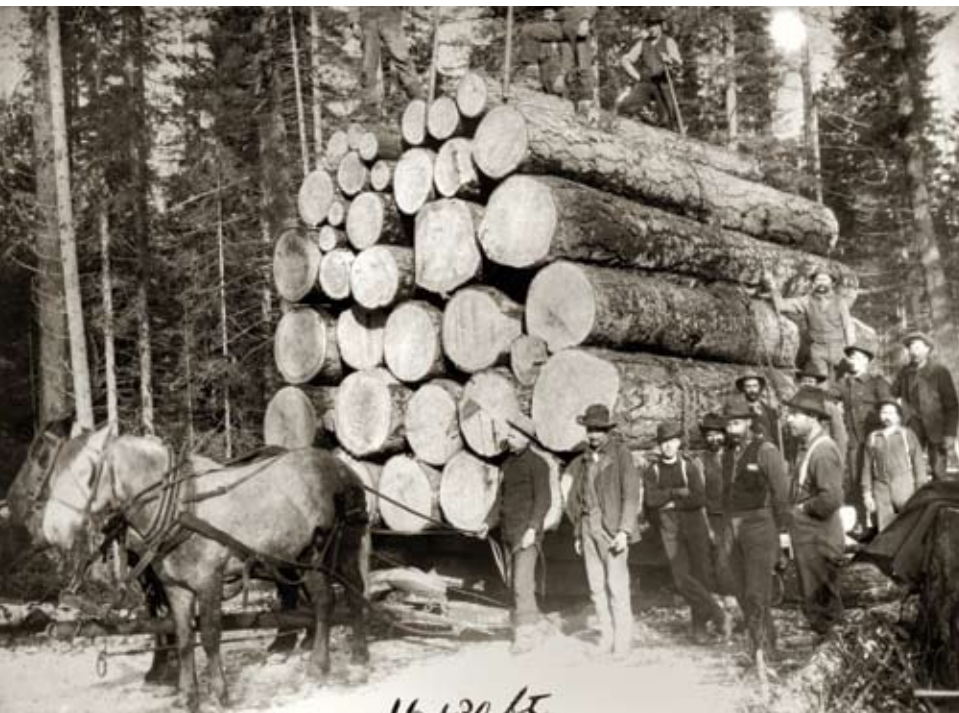
FIGURE 12.8: Loggers reduced this once-wooded valley to 50,000 cords of firewood, gathered into stacks, or "ricks." Lumber companies worked so fast—and the need for wood was so great—that they sometimes did not care that they were trespassing or cutting illegally.





FIGURE 12.9: The Crow built their own sawmill and purchased equipment with tribal funds. The sawmill provided both jobs and lumber for the Crow for many years. This photo was taken in the 1930s.

FIGURE 12.10: Horses helped transport logs to the river, where they were stacked until the spring river drive. This photo shows the Baker brothers hauling 16,130 feet of logs near Whitefish in 1900. How do you suppose they loaded those logs onto the sled?



wilderness area when they created the Mission Mountains Tribal Wilderness in 1979.

Timber also feeds the economies of the Blackfeet, Rocky Boy's, Fort Belknap, Crow, and Northern Cheyenne Reservations. For example, timber covers nearly one-third of the Northern Cheyenne Reservation. Logging and lumber milling employ more Northern Cheyenne people than any other single industry.

The Work of the Lumberjack

The life of an early lumberjack was difficult and dangerous. Men who cut down the trees were called **fallers** or **sawyers**. Sawyers first cut a notch in one side of the tree to control the direction of its fall. Then

they sawed through the base of the tree using a two-man crosscut saw (sometimes called a "miserable whip" because if it was not filed just right it made a man's work miserable).

After the sawyers felled a tree, other men de-limbed it with a double-headed axe. Another team would transport the logs to a river by horse-drawn wagon, or later by train. Sometimes they built a V-shaped chute down a hillside and sent the logs down it like torpedoes. They stacked the logs by the river until spring, when the water ran high, and then floated the logs downriver in a river drive to the sawmill (see "How It Worked" at the end of this chapter).

Lumberjacks first cut trees where it was easiest—around mills, near roads,

and along the rivers nearest the settlements. Soon the hills around every town were bare of trees. Woodcutters had to travel farther to get timber.

Some lumber companies built railroad tracks into heavily timbered areas. They used powerful locomotives that could climb steep slopes fully loaded with logs. The locomotives could work in weather too hard on animals. Logging trains allowed the mills to stay open for more of the year to fill the increasing demand.

After 1913 some loggers began using steam donkeys. Steam donkeys were steam-powered engines with a 100-ton winch that could mechanically haul logs through the brush to a road or railroad car. Steam donkeys made logging easier, especially when it was too icy or snowy for the animals to work.

The 1920s brought gasoline-powered tractors, trucks, and other vehicles. Loggers cleared brush and built roads with bulldozers and stacked logs with cranes. Soon gas-powered logging trucks took over, and logging railroads became things of the past.

Lumber Milling Becomes More Mechanized

The first sawmills ran on water power and produced rough, **green** (not dried) planks for buildings, sluice boxes, and mines. Early sawmills operated only in the warm seasons when the rivers ran, because the mills depended on the river to float logs and power the mills. When the mill had sawed all the logs from that year's river drive, it shut down until the following spring.

As the lumber industry developed, milling became more efficient and more **mechanized** (with machines doing work previously done by people or animals). The mills replaced the huge circular saws with **band saws** (a saw made of a continuous toothed steel band looped over two wheels), which could cut larger logs. Over time the mills developed chain rigs, pulleys, ramps, and other mechanical devices to lift and move logs. Specialized equipment produced finished lumber, shingles, window sashes and doors, wooden boxes, and **lath** (thin, flat strips of wood used beneath plastering).



FIGURE 12.11: One of the easiest ways to move logs overland was along a greased chute. Here lumberjacks roll logs off the chute (far right) for loading onto a railroad donkey engine, which transported logs to the mill.

“You never seen the camp in daylight, only on Sunday. And they were all lousy [full of lice] and bedbugs . . . But you had to put up with them. And I didn’t mind the lice, but the bedbugs, I never could stand them. They’d keep me awake.”

—BERT WILKE, A LOGGER IN FORTINE, EUREKA, AND LIBBY, AND MEMBER OF THE IWW

FIGURE 12.12: Many loggers were immigrants who did not speak much English. They worked to exhaustion every day except Sunday. There may have been a few opportunities for the man on the right to play his instrument, but not many.



Life in a Logging Camp

Dangerous, exhausting, and lonely—that is how workers described life in a logging camp in the late 1800s. Lumberjacks woke before daylight, ate a breakfast of hard-fried eggs (some called them “crackleberries”), and hiked to the work site, arriving at first light. They labored 12 to 14 hours a day in extreme heat or freezing cold, amid mosquitoes and constant danger. Then they hiked back to camp for a huge supper of pork fat, beans, and whatever else was available. Men

bunked 30 or more to a bunkhouse and often two to a bed. They had no bathrooms and no showers, and they dressed in the same smelly, wet clothes every day.

Loggers working deep in the woods lived far away from their families. They sometimes went weeks without mail. Some moved from camp to camp throughout the Northwest and seldom spent any time in town. Some men were known only by nicknames, such as Wood-em-up George or Moonlight Joe.

“One hears little of laughter and jokes in a logging camp,” wrote early forester Elers Koch. “Men eat their enormous meals silently, and sit in the bunkhouse or outside them, tired from the heavy work that goes with the job of man-handling big logs.”

Swinging axes, felling trees, balancing on rolling logs, and riding a river drive made very dangerous work for lumberjacks. Logs could crush them, falling branches could kill them, and saws and axes could maim and injure. On river drives, they could be squashed between floating logs. In wintertime their hands and feet froze. Discomfort and danger were the logger’s constant companions.

Loggers Protest Working Conditions

Three interconnected trends changed life in the United States in the early 1900s: **industrialization** (the creation of factories), **urbanization** (the growth of cities), and **immigration** (people moving to a new country). These trends all affected the timber industry. For example, industrialization attracted new

immigrants. This caused America's cities to grow quickly after 1900. The growth of cities dramatically increased the demand for lumber.

Not all of the new immigrants settled in cities, and many of them were desperate for jobs. Some became **bindlestiffs** (migrant lumber workers who carried their bedrolls on their backs). These men traveled from logging camp to logging camp looking for work. Many of them did not speak English very well. All of them were willing to risk serious injury for low wages.

Some lumber companies treated these workers almost like slaves. In some places, employment agents recruited men by the thousands with bright promises of good jobs. But to get those jobs, they had to pay an employment fee, a dollar for the hospital, and other charges. Sometimes they would work just long enough to pay off the fees before getting fired. A man could work several days and receive a paycheck of five cents.

Into the logging camps came union organizers from the IWW—the Industrial Workers of the World, also called the Wobblies. They drew support with slogans like “Workers of the world, unite!” and “An injury to one is an injury to all.”

It was not easy for loggers to organize into **labor unions** (organizations of employees that bargain with employers) because they were spread far apart in remote areas and their employers were so powerful. But as conditions got worse, loggers and sawmill workers listened to the Wobblies.

In March 1917 lumbermen in Montana and the Pacific Northwest formed an IWW union. In April they called a **strike** (an organized protest in which workers refuse to work) against the Eureka Lumber Company in Lincoln County. The union demanded higher wages, eight-hour workdays, no work on Sundays, better meals, and other improvements like showers and beds with springs. The strike spread across the Northwest. Loggers from Montana to Seattle refused to cut trees until they got what they asked for.

Mill owners and their corporate partners did not want to give in to the union's demands. They wanted to crush the union. America had just joined World War I against Germany (see Chapter 16). Corporate owners claimed that the Wobblies were enemies of American industry and that the strike would hurt the war effort. They turned public opinion against the Wobblies.

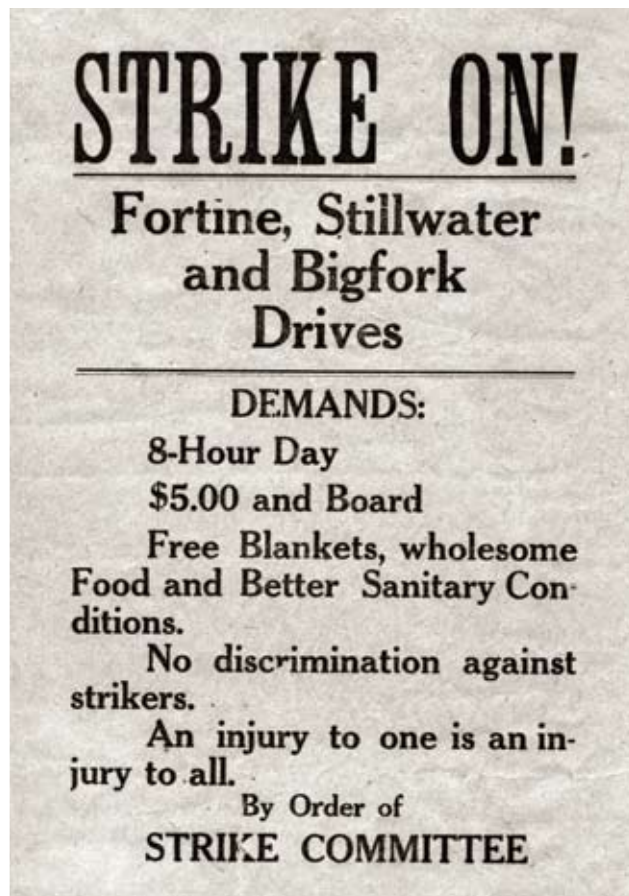
The government called in military soldiers to end the

“[I lived in] these logging camps [with] as many as 200 men. I've been in those bunk houses . . . And you know what they had to sleep on? They had a pile of straw in a log bunk.

So the Wobblies came along. When the Wobblies got through they had beds, mattresses, sheets and shower baths. And so my sympathies are all with the Wobblies. Because they forced the logging companies to make a lumberjack a human being.”

—CHAMP HANNON, A GOVERNMENT FORESTER AT DARBY

FIGURE 12.13: Copies of this strike bulletin spread to logging camps throughout western Montana and the Pacific Northwest in 1917. The \$5 a day the loggers asked for would be equal to \$79 today (less than \$10 an hour).



strike. Armed troops raided union meeting halls across the Northwest, arrested union leaders, and charged the leaders with **sedition** (speech or conduct that encourages rebellion against the government).

Even though the government stopped the loggers' strike, it did agree to investigate their complaints. These investigations showed that strikers had good reasons for striking. The owners of Montana's lumber companies began to negotiate with the loggers and compromised on wages, logging camp conditions, and an eight-hour workday.

The Idea of Conservation Emerges

Meanwhile, people around the United States began to realize that too much logging threatened the nation's forests. Already vast forestlands from the Great Lakes to California had been logged to bare soil. Americans began pressuring the government to manage forests more carefully.

Two ideas emerged at this time. The first was **preservation** (preserving something from destruction). A movement began to preserve the nation's natural wonders by creating national parks. The second idea was **conservation** (reducing the use of something to make it last a long time). The government conserved public forestlands for long-term use by creating national forests. In the national forests, the government controlled how much timber could be cut at one time.

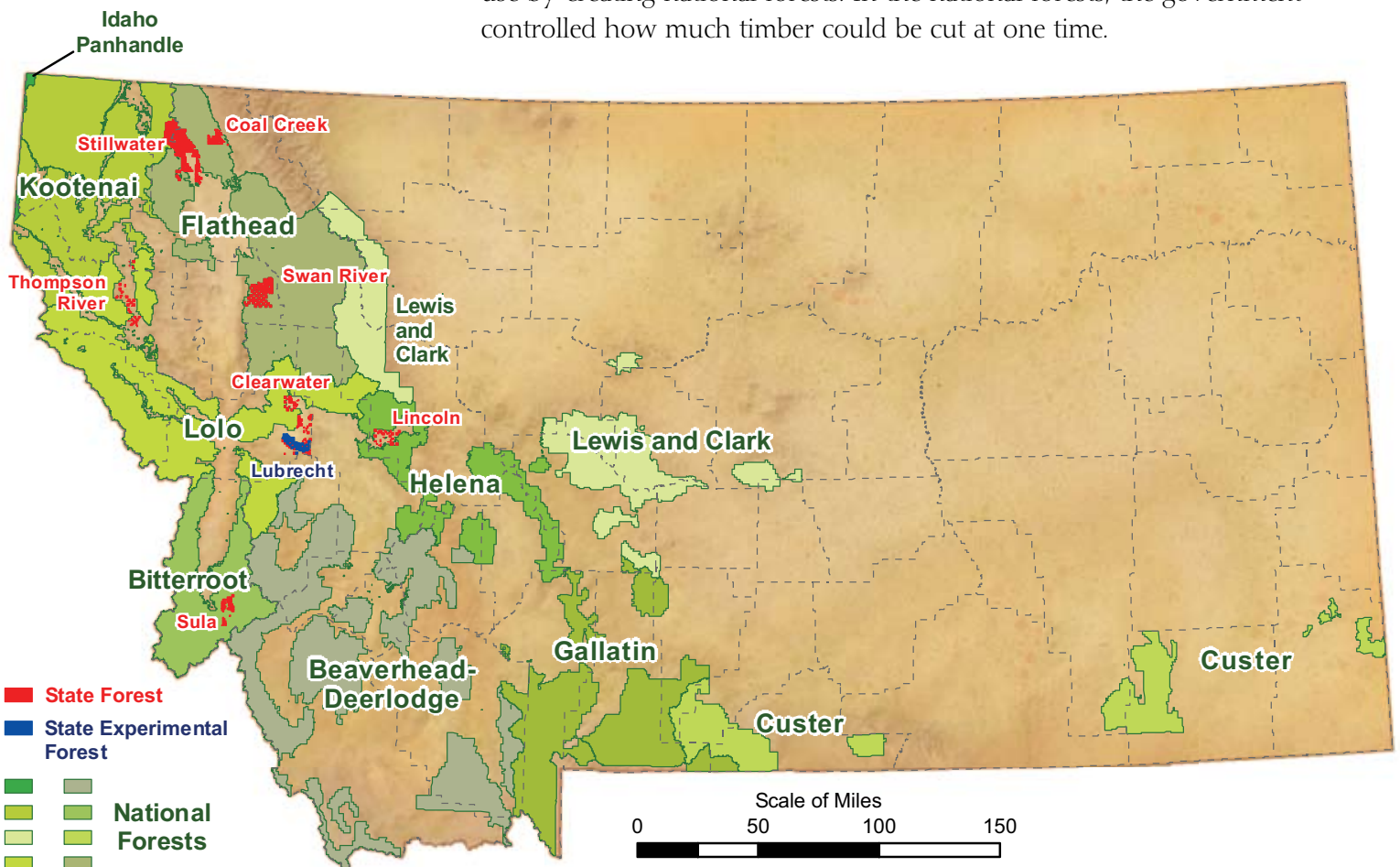


FIGURE 12.14

Montana's National and State Forests

Congress passed the Forest Reserve Act in 1891. It created 15 forest reserves, which the government managed for long-term conservation. The Forest Reserve Act stated that grazing and timber cutting in these areas was a *privilege* but not a *right*. Private companies could log on the forest reserves, but they had to get permission and follow certain rules.

Lumbermen, miners, and cattle and sheep ranchers in the West protested the forest reserves. They wanted to use the natural resources of the West as they saw fit. They had different goals from those of national leaders in the faraway East. Many of these conflicts continue today.

Birth of the U.S. Forest Service

In 1905 President Theodore Roosevelt created the U.S. Forest Service. The 15 forest reserves became part of the national forest system.

National forests are managed both for their beauty and for their economic value. They work as a kind of savings account of trees, grazing lands, minerals, and other resources that the government protects for the long term. So today national forests permit people to graze livestock, harvest timber, hunt animals, mine minerals, and collect mushrooms, berries, firewood, and Christmas trees if they get permits and follow the rules. This is called “managing for multiple uses.”

State Forests Help Pay for Your School

States set aside forests, too, but state forests are used in a different way than national forests. Montana’s eight state forests are part of an enormous 5.1-million-acre land trust owned by the state. A land trust is a kind of savings account of land set up to benefit the people of Montana. The state earns money by selling and leasing trust lands and by selling timber on the state forestlands. The money that is earned goes to benefit Montana’s public schools and other important institutions like the Montana Veterans Home. So the next time you drive through one of Montana’s state forests, think about your school.

Fire!

Fire is nature’s way of renewing forests. Fires clean out diseased and dead wood, clear underbrush from the forest floor, and help new trees to grow. Fire also can destroy homes, businesses, and trees that could be used for lumber.

Up until 1910, however, the government did little to prevent forest fires. The Great Fire of 1910 was a turning point. The summer of 1910 was the driest summer anyone could remember. The woods were so dry they crackled. Hundreds of little forest fires ignited across western Montana.

Suddenly, on August 20, a fierce wind came up and whipped all the little fires into one immense wildfire. It generated hurricane-force

FIGURE 12.15: Fire is an annual threat, and firefighting has become an important part of Montana’s economy. Many Montanans find jobs with the forest service during the fire season.



A World on Fire

“In a matter of hours, fires became firestorms, and trees by the millions became exploding candles. Millions more, sucked from the ground, roots and all, became flying blow-torches. It was dark by four in the afternoon, save for wind-powered fireballs that rolled from ridge top to ridge top at seventy miles an hour. They leaped canyons a half-mile wide in one fluid motion. Entire mountainsides ignited in an instant. It was like nothing anyone had ever seen before.”

—“THE 1910 FIRE,” *EVERGREEN MAGAZINE*

FIGURE 12.16: The Great Fire of 1910 burned enough timber to fill a freight train 2,400 miles long—the distance from Seattle to New York City. It generated so much smoke that ships 500 miles out in the Atlantic Ocean could not navigate by the stars. It killed 86 people and destroyed several towns, including DeBorgia, shown here after the fire.



winds and tore across 3 million acres of timberland in two days. It killed 86 people, destroyed five whole towns in western Montana (Sylvanite, Taft, DeBorgia, Haugan, and Tuscor), and terrified everyone.

The Northern Pacific and the Milwaukee Road sent trains to rescue townspeople in the area. The trains raced through fire so close that it blistered the paint off the locomotives. One of the trains just made it across a wooden trestle before the fire burned it up.

Ten thousand men came to help local lumbermen fight the fire, including Butte miners, Idaho loggers, Washington farmers, Indian firefighters from many tribes, and an all-black regiment of the U.S. Army's Company G. Finally, an early September snowfall put out the fire. If you visit the Kootenai National Forest today, you can see blackened **snags** (standing dead trees) from the 1910 fire.

After the Inferno: Developing Ways to Fight Forest Fires

The Great Fire of 1910 shocked people into action. Never again did the American public want to be unprepared for a major forest fire. People urged the government to protect forests from fires. The U.S. Forest Service (and, later, other agencies, too) began programs to develop new firefighting equipment and techniques.

The Forest Service also began a massive program to build trails and roads on the national forests to give firefighters better access into the forests. Lumber companies organized into forestry associations that worked with the government to prevent and fight wildfires.

Firefighting created a new industry in Montana—with new dangers. Firefighters were sometimes killed by **burnovers** (fires that overtake firefighters or their equipment), in plane crashes, by falling trees, or by heart attack from extreme exertion in the heat.

The most devastating example of this was the 1949 Mann Gulch fire near Helena. Thirteen firefighters

died when the fire they were fighting raced up a steep slope and overtook them. The Mann Gulch fire was a tragedy that affected the Forest Service for years to come. It taught firefighters many things about fire behavior, and fire experts continue to study it to this day.

After many years of fire **suppression** (stopping or limiting something), forests grew more unhealthy. Without regular fires, brush grew thickly on forest floors. Dead trees increased. Decayed leaves, branches, and tree trunks covered the ground. The forests became more vulnerable to catastrophic fire because fires burn hotter and spread more quickly where there is a lot of brush than they do in a healthy forest. This unnatural state led to devastating fires at the end of the twentieth century.

The Lumber Industry in the Twentieth Century

After expanding so rapidly in the late 1800s, Montana's lumber business went through several big changes in the 1900s. It followed the same ups and downs as the construction industry, which expanded and contracted with the overall economy

In the 1920s drought brought economic collapse to Montana. Then, in the 1930s, came the Great Depression and almost a decade of economic hardship across the country. People did not have the money

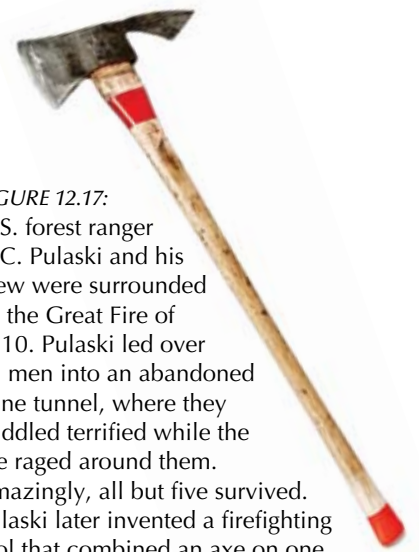


FIGURE 12.17: U.S. forest ranger E. C. Pulaski and his crew were surrounded by the Great Fire of 1910. Pulaski led over 40 men into an abandoned mine tunnel, where they huddled terrified while the fire raged around them. Amazingly, all but five survived. Pulaski later invented a firefighting tool that combined an axe on one side and a hoe on the other. The tool is called a Pulaski and is widely used by firefighters everywhere.

FIGURE 12.18: Two elk stand in the East Fork of the Bitterroot River, near Sula, Montana, in August 2000 while forest fires burned 945,000 acres. This photo was taken by John McColgan, a fire behavior analyst who was working on the fire for the Bureau of Land Management.





FIGURE 12.19: At one time Eureka was known as the Christmas tree capital of the world. Christmas tree farms still dot northwest Montana, including the Wolf Creek Tree Farm near Bigfork, pictured here.

to build new homes and buildings (see Chapter 18). The timber industry declined. Then came World War II (1939–45). The military needed lumber to build barracks, crates, and thousands of other military supplies. The lumber business boomed again.

By 1948 Montana had 434 lumber mills. Along with board lumber, they produced new building products like plywood and **particle board** (panels made of wood fibers glued together). Montana also began raising, selling, and shipping across the country one special product important in many houses every year: Christmas trees.

The Land Gives Many Gifts

Forests have been important to Montanans for thousands of years. How people have used the forests has changed over time. So has people's understanding of forest fires. What has not changed is how much humans need forests—for firewood, shelter, food, and beauty.

Today there are trees standing in Montana's forests that have lived through 400 years of history. There are also **saplings** (young trees), just now starting to grow, that will tower over the people living here 400 years from now. The decisions we make today about forest management will shape the lives of those trees—and affect the lives of those people far in the future.

“Without natural resources life itself is impossible . . . Without abundant resources prosperity is out of reach.”

—GIFFORD PINCHOT, FIRST CHIEF OF THE U.S. FOREST SERVICE

How It Worked

Log Chutes and River Drives

Cutting trees was the easy part. Moving enormous logs to the sawmill was tougher. In the days before trucks and machinery, the easiest way to get logs off the mountain was to build chutes and let gravity do the work.

Loggers built chutes that sometimes stretched for miles down a hillside. Then a greaser slathered thick grease onto the sides of the chute with a wooden paddle to make the logs slide better. As lumberman Mark Watkins said, "The greaser had to keep alert as the logs traveled at high speed and would sometimes jump the chute at the curves." In the winter, they poured water over the chute to freeze, making it even more slippery.

FIGURE 12.20: Pack animals (middle left) hauled timber to load onto this long, curvy flume, photographed about 1887. Flume tenders stood on the little walkway bordering the flume so they could keep the logs moving.





FIGURE 12.21: Skilled river drivers could navigate thousands of logs downriver at one time.

FIGURE 12.22: Rocks, dead trees, or other obstacles in the water could cause a logjam. As a last resort, the “river pigs” blew them apart with dynamite, which damaged the logs and posed extreme danger to the workers. This is a photo of a huge logjam on the Blackfoot River in 1908.



If building a chute was not possible, the men used horse teams to drag logs out of the woods to a riverbank or roadside for transport to the mill. This worked best in wintertime, when snow or ice helped the loads to slide along. Young men called “sand monkeys” spread sand or ashes on icy tracks to keep the heavy loads of logs from overtaking the teams of horses.

The best way to get logs to the sawmill was to float them down a river. A river drive was a spectacular sight. Men called “river pigs” drove thousands of enormous logs down Montana’s waterways, leaping from log to log with the skill and balance of dancers. They prodded logs with a **peavey** (a spiked iron pole) to keep them from jamming.

A logjam could be disastrous. A bad jam could pitch logs into the air and could easily squash workers. When logjams did occur, the backed-up river created tremendous pressure behind the jam. It took skilled river pigs to find the key logs to release a jam, dislodge them, and get out of the way *fast*.

River drives were late spring and early summer events, when the waters ran high. In wintertime, loggers banked huge stacks of logs by the riverbank to wait for the spring thaw, when the river drive could begin.

CHAPTER 12 REVIEW

► CHECK FOR UNDERSTANDING

1. Identify: (a) steam donkeys; (b) IWW
2. Define: (a) precipitation; (b) pound; (c) cord; (d) board foot; (e) sawyer; (f) bindlestiff; (g) strike; (h) sedition; (i) snag; (j) burnover
3. Identify the types of trees found in the three main regions of Montana.
4. What brought about the need for a strong lumber industry?
5. Describe the process of heap roasting.
6. What were the connections among the three most powerful industries in Montana?
7. Why was timber being cut illegally in Montana in the late 1800s?
8. Describe the three national trends that changed life in the United States in the early 1900s.
9. What is the difference between preservation and conservation of our natural resources?
10. What was the Great Fire of 1910, and how did it change fire policy?

► CRITICAL THINKING

1. Compare and contrast the ways the different cultures you have studied (Indian and non-Indian) viewed and used timber and fire.
2. Consider the following statement by Salish educator Germaine White: "There has been a notion popular among some that we need to restore our wildlands to what they would be like if people did not live here . . . But North America was not a virgin wilderness before European settlers arrived. It was an inhabited and known land. Native peoples were not passive residents of the land. They were responsible managers who affected their environment in profound ways." What evidence is there to support this view?
3. In the nineteenth century many people came to Montana to trap, mine, ranch, and log. What do you think motivated them to come? If you could (or had to) work at one of these jobs, which would it be and why?
4. Review the information you read in Chapter 10 about the miners' unions. How does the history of those unions compare with the attempts to unionize the lumberjacks?
5. Why do you think so many loggers were immigrants? Do you think this had any impact on working conditions in the camps? Why or why not?

► PAST TO PRESENT

1. Research changes in fire policy since the Great Fire of 1910. What are the main causes of these changes?
2. Some Montanans resent the fact that people who live far away have a say in how national forests are managed. Who do you think should make decisions about Montana's national forests: people who live near them; state government agencies; or federal government agencies? Explain your answer.
3. Research the state of the rainforests in Africa, South America, or South Asia. Compare and contrast the way rainforests in these countries are used and protected to the way the forests of North America are used and protected.

► MAKE IT LOCAL

1. If you live in an area where timber was historically important, how has the decline in the industry affected your town?
2. How has wildfire affected your area?

► EXTENSION ACTIVITIES

1. More Montanans are living in or near the national and state forests. Create a poster examining one of the problems caused by this situation and suggesting possible solutions.
2. Research, and then debate, the merits of logging versus preservation on public lands. Divide the class into two groups. In smaller groups within each side, create posters and talking points.
3. Create a thematic map of Montana illustrating the areas protected from development (state or national parks and wilderness areas). What percentage of Montana is available for development, and what percentage is held in trust for forest and/or wildlife preservation?
4. Write a letter home from a logger describing his life in Montana before, during, or after the 1917 loggers' strike.
5. Create a poster or PowerPoint presentation on one of the following topics: the history of smoke jumping; how the Salish traditionally used fire; or the history of the U.S. Forest Service.

Credits

The following abbreviations are used in the credits:

BBHC Buffalo Bill Historical Center, Cody, Wyoming
GNPA Glacier National Park Archives
LOC Library of Congress
MAC Montana Arts Council, Helena
MDEQ Montana Department of Environmental Quality, Helena
MDT Montana Department of Transportation, Helena
MFWP Montana Fish, Wildlife and Parks, Helena
MHS Montana Historical Society, Helena
MHSA Montana Historical Society Archives, Helena
MHSL Montana Historical Society Library, Helena
MHS Mus. Montana Historical Society Museum, Helena
MHS PA Montana Historical Society Photograph Archives, Helena
MSU COT Montana State University College of Technology, Billings
NMAI National Museum American Indian, Smithsonian Institution, Washington, D.C.
MSU Billings Special Collections, Montana State University Billings Library
NARA National Archives and Records Administration
NPS National Park Service
NRIS Natural Resource Information System, Montana State Library, Helena
SHPO State Historic Preservation Office, Montana Historical Society, Helena
TM Travel Montana, Helena
UM Missoula Archives & Special Collections, The University of Montana-Missoula
USDA United States Department of Agriculture
USFS United States Forest Service
WMM World Museum of Mining, Butte

Chapter 12

- FIG. 12.1** Swan Range, Flathead National Forest near Condon, MT, photo by Donnie Sexton, TM
- FIG. 12.2** Western larch, photo by Lisa and Jaime Johnson, Lincoln, MT
- FIG. 12.3** Conifer branch, photo by Lisa and Jaime Johnson, Lincoln, MT
- FIG. 12.4** *Gathering*, John Potter, MHS Mus.
- FIG. 12.5** Detail of photo of man using whipsaw, University of Idaho, Special Collections & Archives, 26-P101
- FIG. 12.6** Steamboat *Helena*, photo by W. E. Hook, MHS PA
- FIG. 12.7** Miner shoring timbers in Butte mine, Butte-Silver Bow Public Archives
- FIG. 12.8** Cords of wood near Anaconda, MT, ca. 1887, MHS PA PAc 78-50.8
- FIG. 12.9** Crow sawmill, 1959, MHS PA 955-788
- FIG. 12.10** Baker brothers hauling logs, ca. 1900, MHS PA 949-126
- FIG. 12.11** Loading donkey engine near Libby, MT, MHS PA PAc 75-67.5
- FIG. 12.12** Logging camp, MHS PA PAc 90-62
- FIG. 12.13** Strike bulletin, courtesy Mark Johnston, Eureka, MT
- FIG. 12.14** Montana's national and state forests, map by MHS, base map courtesy NRIS
- FIG. 12.15** Firefighter, photo by Donnie Sexton, TM
- FIG. 12.16** DeBorgia, MT, after 1910 fire, MHS PA 946-689
- FIG. 12.17** Pulaski, courtesy Helena Hotshots, Helena National Forest, USFS
- FIG. 12.18** Elk in Bitterroot River, photo by John McColgan
- FIG. 12.19** Christmas Tree farm, courtesy Don Schiltz, Bigfork, MT
- FIG. 12.20** Flume near Anaconda, MT, ca. 1887, MHS PA PAc 78-50.6
- FIG. 12.21** Eureka Lumber Company Log Drive, Tobacco Valley Improvement Association, Board of History, Eureka, MT
- FIG. 12.22** Logjam in Blackfoot River, MT, MHS PA 949-119