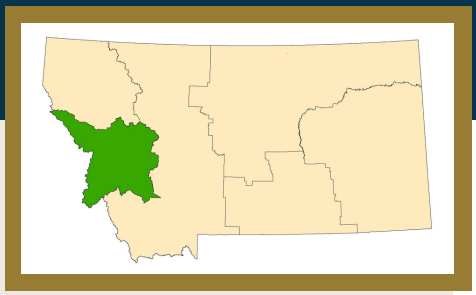
FOREST LANDOWNER

West-Central Montana GUIDE



With the Bitterroot Mountains to the west, ranges off the Crown of the Continent to the east, and the Clark Fork River and many blue-ribbon fishery streams throughout, West-Central Montana has maintained its natural legacy. This landscape contains endless recreational opportunities, is rich in culture and tradition, and supports excellent habitat for Montana's residents and wildlife.

Some of the many species of wildlife that call this area home are Clark's nutcracker, Canada lynx, grizzly bear, wolverine, Coeur d'Alene salamander, and bull trout.

The millions of acres that host these treasures exist in a patchwork of public and private lands. The diversity of ecological systems in this region sustain working lands which support local economies and play an essential role in land management and connectivity for wildlife and ecosystem health. A portion of the Flathead Reservation resides as a sovereign nation within the West-Central Region, stewarding this renowned landscape as they have since time immemorial. We hope you will find the information in this guide useful as you continue to steward your land for your values and goals.

DOING YOUR PART - Protecting Your Home, Your Habitat

When landowners take personal responsibility for applying and maintaining wildfire risk reduction practices on their property, they greatly increase the chances of their homes surviving a wildfire. Studies show that as many as 80% of the homes lost to wildland fire could have been saved by owners that followed a few simple fire-safe practices.

- Create and maintain an area 5 feet away from a home that is free of anything that will burn, such as wood piles, dried leaves, and lawn furniture.
- Regularly clean the roof and gutters.
- Remove branches overhanging or touching the roof of a home to a distance of at least 10 feet.
- Prune tree branches 10 feet high to prevent them from acting as ladder fuels in a perimeter 5 to 30 feet around your home.
- Maintain a minimum of 18 feet between trees/clumps of trees in the area 5 to 30 feet from your home.

To learn more about how to address wildland fire issues connect with fire prevention resources by visiting: mtfireinfo.org

Fire resistant construction materials offer homes the best chance to survive a wildland fire.

- The roof is the most vulnerable part of a home. Roofs made of composite shingles, metal or tile, are fire ignition resistant.
- Embers can easily enter a home through vents. All vent openings should be covered with a 1/8-inch corrosive-resistant metal mesh.
- Open windows and gaps under garage doors allow embers to readily enter a home. Ensure all windows and doors can securely close.

Photo by Brontë Wittpen, The Missoulian

DOING YOUR PART - Understanding Fire in the Forest

Fire has been an important process in Northern Rocky Mountain forests for thousands of years. The main forest ecosystem type in the West-Central Region is Rocky Mountain dry-mesic montane mixed conifer forest. These forests are primarily composed of western larch and ponderosa pine, with Douglas-fir and grand-fir throughout, as well as lodgepole at higher elevation sites. Ponderosa pine dominated forests historically experienced primarily low-severity fires every 6-13 years in this region. Frequent surface fires maintained an open forest structure, favoring fire-resistant trees such as western larch and ponderosa pine with their thick bark and deep roots. Forest composed more dominantly of Douglas-fir mixed with ponderosa pine historically experienced low to moderate severity fires every 6 to 50 years, maintaining healthy spacing between trees and fire-resistant understory vegetation. While not fire-resistant, lodgepole pines are fire dependent and some have serotinous cones which only open to extreme heat such as a stand-replacing fire. These lodgepole pine seedlings then can embed into the rich soil and are able to rapidly grow, making them excellent post-fire colonizers. These forests historically experienced these stand replacement fires every 100 to 250 years.

Fire frequency has decreased in these forest types, but severity has increased due to landscape change, including over a century of fire suppression. Without frequent, low-severity fires these forests have increased in density. This overcrowding has led to a decline in forest health and increase in outbreaks of insects and diseases, allowing dead fuels to accumulate. The more fuel, the easier fire can climb ladder fuels from the ground up into the canopy and become catastrophic, crown fires. Increased frequency of large, severe fires has been associated with increases in warmer and drier weather trends. These fires not only threaten to replace these stands, but also put an increasing number of homes, communities, and wildlife at risk.

Management should include thinning to reduce fuels, restoring an open forest structure, and, where feasible, returning fire to the landscape.

Management of these forested areas span across varied ownership, including tribal, federal, private, and state lands. It is important to gain understanding of the cultural considerations to fire and fuels management. Tribal Historic fire use in Montana was a common practice amongst First Nations peoples.

Tribal resource professionals are providing leadership and guidance to reintroduce fire, working across jurisdictions while integrating cultural and ecological knowledge. This type of information will allow land managers across all ownerships to implement strategies that benefit landscapes at a larger scale.

Land management agencies are an invaluable resource for combining traditional and modern approaches while adjusting to a changing climate.

To learn more about specific First Nations natural resource departments visit:

- **Confederated Salish and Kootenai Tribes' Tribal Division of Fire Management - http://www.csktfire.org**
- **Montana Governor's Office of Indian Affairs Tribal Nations - https://tribalnations.mt.gov**

To learn more about how to address wildland forest fire issues as a landowner please connect with the following resources:

- **Montana Department of Natural Resources and Conservation – Missoula, MT, (406) 542-4200 or visit: dnrc.mt.gov/serviceforestry**

If interested in reducing your wildfire risk, there may be financial assistance available with local organizations and governments. To find a partner in your area and connect on available programs visit:

- **Montana DNRC Hazardous Fuel Reduction Program, Partner Map - dnrc.mt.gov/forestry/resources/resources-for-landowners**

DOING YOUR PART - Sustaining Working Forests and Addressing Invasive Weeds

The working forests of West-Central Montana support forest products and livestock in grazed forest land. Sustainable timber harvesting and grazed forest lands not only provide jobs, but also play an important role in protecting habitat and connectivity for wildlife, providing access to recreation on public lands, and maintaining ecosystem services for the region. As fire has been suppressed, these working family forests are increasingly experiencing loss of income from high-severity, catastrophic wildfires.

However, many family forest landowners are actively and sustainably managing their forest to maintain forest health and reduce wildfire risk. Working forests in this region play an essential role in reducing wildfire risk across the landscape. Conservation of working forests is critical to effective forest management and restoration.

The management tools and decisions depend on the goals of each forest landowner, but both mechanical treatments and prescribed fire are options. Thinning your forest is essential to maintaining a resilient, healthy forest. Opening up a forest reduces overcrowding and stress among trees, allowing remaining desired species grow and stay healthy. Healthier stands overall support higher quality and quantity of trees for generations to come. Selective thinning can also help to reduce the fuel load and fuel ladders in your forest, minimizing risk of catastrophic, stand replacement fires.

Forests that have been both mechanically thinned and burned have proven to be the most resistant to high-severity fire. Carefully planned and applied prescribed fire can improve nutrient cycling in the soil and wildlife habitat, while also reducing the amount of hazardous fuel in your forest. Fire experts work hard to make sure prescribed burns are successful and as safe as possible. If interested in bringing prescribed fire to your land, reaching out to your service forester is a good place to learn more.

Invasive species rapidly spread with complete disregard for property boundaries. Working with your neighboring landowners is crucial for successful containment and control.

The Montana Weed Control Association (MWCA) is a great organization to learn more about preventing spread and addressing invasive weeds. MWCA is committed to working across Montana to increase awareness, provide education, and support channels that encourage collaboration across neighbor and county lines to address invasive weeds. While they do not provide weed identification or make treatment recommendations, on their website you can find your local county weed district and education on integrated weed management. Their educational resources focus on creating a long-term plan that integrates a variety of control treatments and takes into consideration local ecological conditions of the land. Some of the approaches being used and combined are:

- Application of herbicides
- Biocontrol using insects, fungus, or sheep and goats
- Mowing and cultivation
- Hand-pulling/digging
- Revegetation after eradicating weeds to keep other weeds from becoming established
- Prevention - through education and awareness working to prevent weed establishment in the first place!

An Insect Used for Spotted Knapweed Biological Control

Photo by Melissa Maggio, Montana Biological Weed Control

For educational resources on addressing invasive weeds call:

- **Montana Weed Control Association at (406) 925-0708 or visit: mtweed.org**

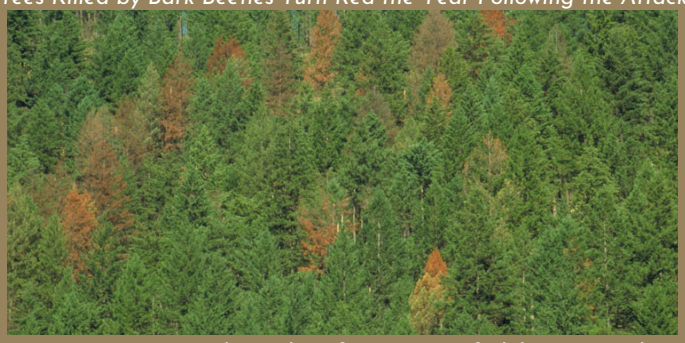
For treatment recommendations to control weeds on your land contact your local weed district:

- **To find your local weed district visit: mtweed.org/weed-district/ and navigate to your county**

DOING YOUR PART – Mitigating Forest Insects and Diseases

Forest insects and diseases naturally occur in forest ecosystems. These organisms only become pests when they interfere with management objectives such as timber production, wildlife habitat, recreation, or aesthetics. Although not always a cause for concern, the following are some insect and disease issues common to the West-Central Region that you may see in your local forests.

Trees Killed by Bark Beetles Turn Red the Year Following the Attack



Chris Schnepf, University of Idaho, Bugwood.org

Most tree species in Montana are attacked by at least one type of bark beetle. Adult bark beetles seek appropriate hosts, bore under the bark, and excavate distinctive egg galleries. Boring dust, a mixture of sawdust and frass, accumulates in bark crevices and serves as an indicator of successful attack. Some tree species also respond to attack by producing masses of pitch. Thinning stands to reduce competition and increase residual tree vigor can mitigate bark beetle impacts in a stand. Identifying and removing infested trees can also reduce the population of beetles, but it's imperative that infested logs and firewood are removed from the stand.

Western Spruce Budworm

Photo by Natural Resources Canada

Western spruce budworm feeds on the needles of Douglas-fir, true firs, spruce, and larch. Crowns of affected trees will appear thinned, scorched and sometimes draped in silk webbing. Healthy, mature trees can usually withstand repeat years of moderate defoliation, but most understory trees don't have adequate nutrient reserves to sustain damage. Western spruce budworm outbreaks can be mitigated by promoting non-host tree species, thinning stands to increase residual tree vigor, or creating single storied canopies to interrupt caterpillar dispersal.

Western Gall Rust Producing Orange, Powdery Spores

Western gall rust stimulates the growth of round swellings that eventually kill branches or create weak points in the main stem of pines, including lodgepole and ponderosa. Live galls produce bright orange, powdery spores that infect other pines. Trees can live with western gall rust for many years but as branches continue to be infected and die, tree vigor declines.

To learn more about how to address insect and disease issues please connect with the following resources:

- **Montana DNRC Forest Pest Management Program - visit: dnrc.mt.gov/forestpests**
- **Contact your local service forester - visit: dnrc.mt.gov/serviceforestry**

The funding for the development of this landowner guide was derived in part from a federal award of the U.S. Forest Service, Department of Agriculture, awarded to the Montana Department of Natural Resources and Conservation, Forestry Division.

Content Resources

Introduction
- Montana Natural Heritage Program, Map Viewer

Protecting Your Home, Your Habitat
- MT Fire Info
- Montana DNRC Fire Prevention and Preparedness

Understanding Fire in the Forest
- Montana Natural Heritage Program, Ecological Systems
- US Forest Service Fire Effects Information System

Sustaining Working Forests and Addressing Invasive Weeds
- Montana Forest Action Plan
- Montana Weed Control Association

Mitigating Forest Insects and Diseases
- Forest Pest Managment Program, Montana DNRC