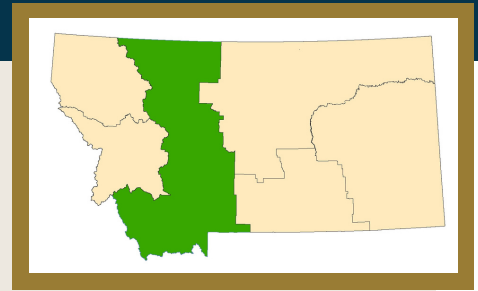




FOREST LANDOWNER Central Montana GUIDE

From the rugged slopes of the Rocky Mountain Front to the broad shoulders of the Big Belt Mountains, and along the Upper Missouri, this landscape is renowned for its scenic beauty, exceptional wildlife habitat, and abundant recreational opportunities. The convergence of mountains and plains produces one of the most biologically rich regions in country, including 64 Montana's 89 fish species, 75 of Montana's 109

mammals, and 338 of the state's birds. The millions of acres that host these treasures exist in a patchwork of public and private ownership.



The ecosystems of this region sustain working farms, ranches, and forests. These working lands support local economies while also playing an essential role in land conservation and ecosystem health. The Little Shell Chippewa Tribe and the Blackfeet Nation reside as sovereign nations within the 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.

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

- 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.

- 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.

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

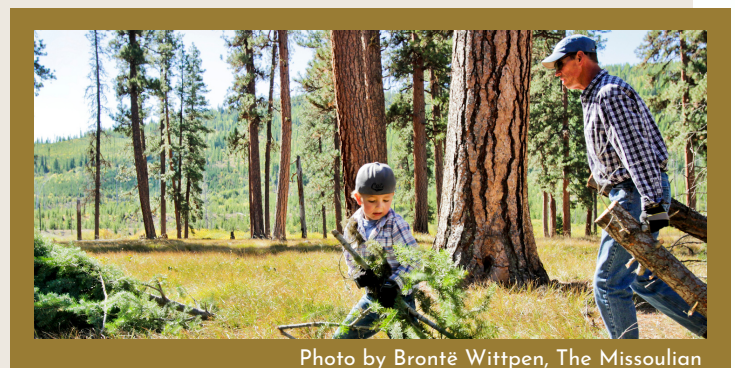


Photo by Brontë Wittpen, The Missoulian

DOING YOUR PART - Understanding Fire in the Forest

Fire has been an important process in Northern Rocky Mountain forests for thousands of years. Ponderosa pine forests in this region historically burned every 6-13 years. Frequent surface fires maintained an open forest structure, primarily composed of large, thick-barked ponderosa pines. Lodgepole pine forests in this region historically experienced mixed-severity fire regimes, which included both low-severity, surface fires as well as high-severity, stand-replacing crown fires. Lodgepole pines in Montana often have serotinous cones, which only open to extreme heat such as a stand-replacing fire. Early seed production, high seedling survival, and rapid growth ensure lodgepole pine forests flourish following fire. Mid to low elevation limber pine forests in this region typically mix with Douglas-fir stands or Rocky Mountain juniper that merge into sagebrush steppe. These limber pine and Douglas-fir forests historically experienced fire every 20 to 100 years.

Over a century of fire suppression has altered forest structure and composition. Fire intolerant, small diameter fir species have proliferated, increasing forest density and ladder fuels. Lack of historic fire regimes in forests bordering sagebrush and grasslands has led to conifer encroachment and a decrease in diversity of native grasses.



Fire frequency has decreased, but fire severity has increased in forests of the Northern Rocky Mountains due to land-use change, including fire suppression. Fire suppression efforts have increased time between fire events, which allow trees time to grow and dead fuels time to accumulate. Current fuel loads are ten times higher in many ponderosa pine forests than historically. Dense, contiguous fuel loads allow flames from the surface to climb into the canopy and become crown fires. Increased frequency of severe fires has been associated with increases in warmer and drier weather trends in recent years.

Managing for resilience in these fire-suppressed forests requires thinning dense forests to reduce fuels, restoring open forest structure and, where feasible, returning frequent 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:

- **Montana Governor's Office of Indian Affairs Tribal Nations - 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 – Helena, MT, (406) 458-3500 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 Combating Invasive Weeds

The working forests of the Central Region provide forest products and support livestock in grazed forestland. These working family lands support local economies while also aiding in protecting open space and wildlife habitat, providing access to recreation on public lands, and maintaining ecosystem services such as air and water filtration for the region. Particularly, these lands play an essential role in reducing wildfire risk to Montana's forests and communities.

Conservation of working forested lands is critical to effective forest management and restoration.



Photo by Berkshire Hathaway

Many family forest landowners are actively and sustainably managing their forests to maintain forest health and mitigate wildfire risk. Management tools and decisions depend on the objectives and goals of each forest landowner, but both thinning and prescribed burns are options. When applied correctly, thinning reduces overcrowding among stressed trees and increases availability of resources. This allows remaining trees to grow healthy and resilient while also complementing grass and forb production on the forest floor and reducing severe wildfire risk through clearing away excess fuels.

Forests that have been both mechanically thinned and burned are most resistant to high-severity fire. When feasible, applying periodic prescribed fire can have numerous benefits for your forest. In the past, reoccurring fire played an essential role in nutrient cycling and stimulating plant growth. Carefully planned and applied prescribed fire can be used to increase grass and forb production for livestock, reduce the spread of insects and diseases, decrease hazardous fuel load in the forest, and reduce conifer encroachment onto rangelands.

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.

Invasive weeds - The Rocky Mountain Front Weed Round Table (Round Table) addresses invasive plant issues with innovative approaches. The Round Table works to prevent expansion of invasive plant infestations in order to maintain agricultural economic values. Findings from years of research strongly suggest the most effective invasive weed treatments address large, established patches, rather than trying to snuff out every weed on the landscape. This approach is achieved through:

- Perimeter herbicide spraying
- Interior release of biological control insects
- Eradicating new outbreaks by appropriate aggressive treatment
- Targeting vectors of invasive plant dispersal, including aggressive treatments of roads and ditches

An Insect Used for Spotted Knapweed Biological Control



Photo by Melissa Maggio, Montana Biological Weed Control

To learn more about addressing invasive weeds contact:

- **Rocky Mountain Front Weed Roundtable, (406) 466-2155 or visit: rmfweedroundtable.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 Central Region that you may see in your local forests.

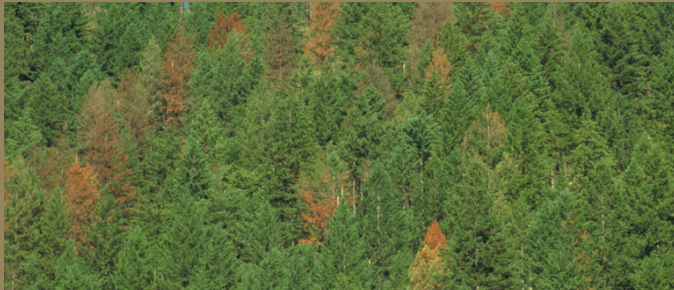
Western Spruce Budworm



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.

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.

White Pine Blister Rust



White pine blister rust is an invasive fungus that infects 5-needle pines including western white, limber, and whitebark pines. Infections cause cankers that erupt with bright orange, powdery spores in the early summer. These spores must reproduce on alternate host plants before infecting another pine. Therefore, removing infected trees has little effect on disease transmission. Individual trees can be protected by pruning off branch cankers that are within 6 inches of the main stem. Cankers on the main stem will eventually girdle the tree.

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**



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Content Resources

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 - Sustaining Working Forests and Addressing Invasive Weeds
 - Rocky Mountain Front Weed Roundtable
 - Montana Forest Action Plan
- Mitigating Forest Insects and Diseases
- Forest Pest Management Program, Montana DNRC