

Red Lodge Mountain Fuels Reduction Project Comments

Submitted by the Carbon County Resource Council

The Carbon County Resource Council (CCRC) welcomes this opportunity to comment on the proposed Red Lodge Mountain Fuels Reduction Project (RLMFRP). CCRC has been represented on the RLMFRP Forest Collaborative by three representatives, Karen Walmsley, Becky Grey, and Scott Hancock, who have attempted to keep our 90+ members informed on the evolving nature of the Project. Many of the comments presented here originated from our representatives' participation in the Collaborative, and we hope the USFS gives careful consideration to these perspectives. We recognize that the planning for this Project is a work in progress, and so it is difficult for us to comment on plans for specific treatment units.

Although we have significant concerns with many of the proposed plans in the RLMFRP, we want to acknowledge positive aspects of the Collaborative process. District Ranger Ken Coffin and Fuels Specialist Drew Grimes have been generous and transparent in answering queries and providing further information about changing plans. They have responded by rerouting and reducing the mileage of some temporary roads and reducing the size and treatment plans of certain treatment units. They have expressed concern over the visual impacts of the Project, and they have supported the use of prescribed fire where feasible. They have listened carefully and consistently requested feedback. Ken's and Drew's assistance in helping us understand the changing nature and potential consequences of the Project has been commendable. Likewise, we have attempted to maintain open minds as our knowledge, positions and concerns have evolved as well.

CCRC fully recognizes the economic and social importance of the ski area, the surrounding wildlands, and the Wildland-Urban Interface to the residents of Red Lodge and Carbon County. Our goal is to ensure that any fuel reduction treatments and related activities in the Project area are necessary, justifiable, consistent with current ecological concepts, and will promote desired outcomes and avoid short and long term negative and unintended consequences. The Project cannot be viewed in isolation but must consider past, present and future land uses in surrounding areas. We believe it cannot be considered independently of the adjacent Greater Red Lodge Area Vegetative and Habitat Management Project (aka GRLA) treatments which are currently subject to a lawsuit which will not be decided until later in 2023. The cumulative effects of all area land uses must be carefully examined.

The following paragraphs represent comments related to specific areas of concern with the Red Lodge Mountain Fuel Reduction Project. The comments reflect the views of many, but not all, CCRC members. More specific comments may emerge as plans for specific treatment units become known.

VIEWSHED IMPACTS

It is important that the Collaboration and the public understand the potential impacts to the current viewshed of Red Lodge Mountain and adjacent areas due to the RLM Fuels Reduction Project. This project includes forest fuels reduction treatments including forest thinning,

prescribed burning and group shelterwood harvesting (that can end up removing 50-70% of the trees in a zone). CCRC would like to know the rationale of group shelterwood cuts within lodgepole pine stands. Why is this treatment favored in these stands? Group shelterwood cuts, by removing a majority of the trees, will significantly impact the viewshed, as well as area wildlife, soils, water quality, etc.

To give a visual representation of how Red Lodge Mountain and the surrounding areas' viewshed could be changed for many decades to come, maps need to be easily available to the general public for review and comment. These maps provide color coded areas of proposed fuel reduction treatments, descriptions of the treatment proposed for those areas and simulations of the viewshed post-treatment.

In addition to depicting potential impacts to the mountain visible from major highways and roads in the area, impacts would also be seen by skiers on the mountain, golfers on the golf course, hikers on area trails as well as homeowners and visitors throughout many areas in and around Carbon County.

ROADS

The building of over five miles of new roads in the RLM Fuel Reduction area is regrettably integral to the project's current treatment plans. The rerouting of some roads (as a result of Collaborative discussion) to take advantage of existing zones of disturbance (as in lower Nichols Creek) and to reduce new areas affected by road construction and use is commended. New project road design and construction, however, must take care to protect riparian zone integrity and reduce soil disturbance on sensitive slopes and soils. New temporary roads must be designed, constructed and monitored so as not to significantly impact wildlife security zones, cover and linkages. These projected roads have been labeled as "temporary" meaning they are scheduled to be regraded and reclaimed within three years of the completion of treatment. They are intended to be continually closed to motorized public use throughout their lifespan. We urge that all new roads and related log decks, skid trails, etc must be kept to a minimum and must be continually closed to motorized public use throughout their lifespan. In the longer term, they must be regraded, revegetated with native species as soon as possible, reclaimed to the highest standards possible and permanently closed to both public and administrative motorized use. One question to be addressed by the USFS is how many years will the "temporary" roads need to be kept usable to carry out post-project treatment activities such as weed control, burning, and repeated thinning, etc. Roding this area for this project is a significant concern that should occur with only the most careful planning and restraint to minimize area disturbance. The USFS should have a plan for how these temporary roads will be monitored for non-motorized use, potential soil degradation, wildlife habitat damage, water quality and aquatic species health.

ACTIVELY MANAGED FORESTS, FIRE SEVERITY AND NEED FOR INDEPENDENT RESEARCH

Thus far to date, the RLM Fuels Reduction Project Collaborative has not focused our discussions on forest research data regarding the scientific basis for proposed fuel reduction treatments. A broad range of current research concerning forest management and factors affecting fire occurrence and severity exists and needs to be given full consideration in designing and implementing this RLMFRP. The Collaborative has not yet discussed independent peer reviewed forest research data regarding the pros and cons of fuel reduction treatments in subalpine forests such as found on RLM and in surrounding areas.

Conclusions and recommendations of current forest management research have suggested different causes of large wildland and urban/wildland interface fires. As a result, a wide variety of fire management approaches and techniques have been recommended. Some research data tends to favor fire suppression by reducing fuels via fuel breaks, prescribed burning, small tree treatments, clear cut harvests, thinning harvests, and group shelterwood harvest. Other research data tends to support allowing natural processes to occur (natural fire cycles), hardening of critical man-made structures, etc. Such research notes that variations in climate and weather rather than fuels appear to exert the largest influence on the size, timing and severity of fires in subalpine forests. (Romme & et al; Despain 1989, Bessie & et al; Johnson 1995, Nash & et al; Johnson 1996, Rollins et al. 2002.) Climatic variation, through its effects on the moisture content of live fuels and larger dead fuels, is the predominant influence on fire frequency and severity (Schoennagel, Veblen, Romme July 2004).

Independent peer reviewed scientific research must justify the proposals for making significant alterations to the project area's overall ecosystem - including wildlife habitat, watershed/aquatic, soil, and viewshed integrity, given that potential fuel treatments proposed may or may not have some future impact on decreasing urban/wildland forest fire occurrence. There is much credible independent forest research data that indicates many fuel reduction treatments are ineffective at best, or at worst, increase the potential for hotter, more severe intensity fires.

Published in 2017 in the Proceedings of the National Academy of Sciences, a research paper reviewed the amount of federal land that received mechanical fuel treatments and compared it with the number of acres that burned in the following 10 year period. Only 10% of the acreage mechanically treated actually burned during that same 10 year period. The authors concluded that "forested areas considerably exceeded the area treated, so it is relatively rare that treatments encounter wildfire." This led the authors to state that given the limited time for which a treatment retains its effectiveness- generally 10 to 20 years without maintenance- most treatments have little influence on wildfire. The authors argued for an "adaptive resilience" approach involving a shift away from all-out fire suppression to a strategy that included public education regarding the inevitability of living with increasing fire in the West, prescribed burning and managed wildfire. (Montana Free Press, Ebert,A., 8/27/21).

George Wuerthner, an ecologist from Livingston, MT, who's written two books on wildfire ecology says it's misguided to focus significantly on the fuels piece of the wildfire equation and not acknowledge the role of short-term weather and long-term climate trends. He has visited a

number of headline capturing wildfires over the past 30 years and has seen certain fires burn straight through areas treated by logging, thinning and prescribed fire. He noted that when the right mix of wind and hot, dry air saps moisture out of grasses, brush and trees, fires blow right through—even clearcuts (Montana Free Press, Ebert,A., 8/27/21).

In an article dated July 13, 2021 in the Daily Montanan, Wuertner noted that the amount of forest fuel is often the least important factor in fires spreading. When forests are thinned there is greater wind penetration and opening up the canopy allows greater solar penetration meaning fuels and soils dry out that much more quickly. He notes that the most significant drivers of large fires are drought, low humidity, high temperatures, and, lastly, wind (Daily Montanan 7/13/21).

STREAMS AND RIPARIAN ZONES

The RLM Fuel Reduction Project will impact riparian zones in the West Fork of Rock Creek, Willow Creek and Red Lodge Creek drainages. New roads and extensive treatment areas will impact area soils and vegetative cover which will affect soil erosion and stream sedimentation, channel stability, streamside vegetative cover, water flow and temperature, and water quality and quantity both in and downstream of the project area. Riparian zone disturbance can also negatively affect wildlife and aquatic ecosystems. It is important to note that Willow Creek is an area waterway that still contains native Yellowstone cutthroat trout. Adhering to and exceeding USFS Riparian Zone Management standards will be imperative to protect streams and adjacent riparian areas. Such a priority will require careful monitoring by the USFS and contractors of road-building and treatment activities. We urge that riparian and stream disturbance be kept to an absolute minimum to protect these valuable resources.

WILDLIFE

The Red Lodge Mountain Fuels Reduction Project may have significant impacts on area wildlife habitat, movements, connectivity and populations, and these impacts must be taken into careful consideration when analyzing this project. In all cases, the cumulative impacts of 1) this Project's forest treatments and related road-building, 2) the Greater Red Lodge Area Vegetation and Habitat Management(GRLA) Project, 3) neighboring private land activities (such as adjacent clearcuts and home-building)), 4) increasing recreational use, and 5) climate change impacts must be taken into consideration as the RLM Fuels Reduction Project interfaces with all these land uses and pressures.

A wide variety of mammalian and avian species such as marten, wolverine, moose, black and grizzly bears, goshawks, great gray owls, peregrine falcons etc. are known to be present within or near to the Project area. In addition, the Nichols Creek drainage is known to be an important wildlife corridor and habitat to a diversity of migrant and resident bird species. Any Project treatments must take into careful account the protection of sufficient wildlife security cover and linkage, thermal cover and ensure that connectivity routes along the Beartooth Front are adequate. Temporary roads must be closed to all public motorized use during their existence and the routes reclaimed as soon as possible. In addition to the location and spacing of treatment units, the timing of Project activities will also be important. For example, bears can be

dependent on the availability of whitebark pine nuts in the fall for their required prehibernation hyperphagia and weight-gain. Thus, high elevation Project treatments in September, October and early November should be curtailed to avoid disturbance of this feeding activity. Similarly, thinning activities during the nesting season for resident birds can seriously impact the survival of nestlings as trees are dropped and nests destroyed. Thinning activities, if necessary, should be carefully timed to minimize these losses. Moose are an iconic species of the area and Beartooth Front and their population has declined by approximately 50% in the last ten years. The reasons for this abrupt decline are complex but protection of moose winter range and year-round habitat may assist in stabilization and rebound of this population. If the RLM Fuels Reduction Project moves forward, the impacts on area and regional wildlife must be studied, analyzed and given conscientious consideration as well as creating a viable plan for mitigating such impacts.

WEEDS AND WEED CONTROL

Invasive plant species will become an increasing issue as the RLM Fuel Reduction Project unfolds. Invasive species such as spotted knapweed, cheatgrass, smooth brome and timothy are already present in the project area providing a seed source for their future spread. The soils and vegetation within the project area will inevitably undergo considerable disturbance due to the projected road-building, mechanical harvesting operations, landings, etc involved in any such commercial and non-commercial treatments. Soils in treatment areas will be more exposed with greater potential for higher surface temperatures and lower soil moisture. These areas of soil and ground cover disturbance (where currently there is little to no disturbance) will be vulnerable to a wide variety of invasive plant species for years to come. In addition, machinery and increased human activity in the project area will undoubtedly bring more weed species into the project area. An increase in the presence of invasive plant species will have far-ranging effects on wildlife, soil stability, revegetation and soil quality and will have impacts on adjacent lands and landowners. An extensive weed control monitoring program involving repeated hand treatment/chemical spraying/biocontrol will be required over many years to responsibly control the presence and effects of these invasives. This will be a significant commitment by land managers well into the future whether or not the prescribed treatment actually reduces the risk of devastating fire to the ski area and structures within the wildland-urban interface. Our organization wants weed control to be a long-term and consistent priority of the RLM Fuel Reduction Project.

SOILS

The RLM Fuels Reduction Project will have a significant impact on area soils and their productivity, stability, nutrient recycling, carbon sequestration, hydrology, etc. Soil quality in the project area will be affected by such factors as the building of roads and landings, extensive surface disturbance from skidding and log removal, exposure to the desiccating effects of wind and solar radiation - particularly on steep and south facing slopes. The Custer Gallatin Forest Plan (p.20-21) states that new management activities, such as those in this project, "shall not create detrimental soil conditions on more than 15 percent of an activity area." To meet this required standard the USFS will need to establish parameters by which the potential impacts to soil quality can be evaluated, monitored and assessed.

- 1) How will pretreatment assessments be completed to establish baseline soil quality conditions based on soil types within the treatment units?
- 2) How will treatment operations be continually and carefully monitored to minimize soil disturbances?
- 3) How will post-treatment monitoring over time be completed to determine impacts of treatment on soil quality and, if detrimental, to determine soil disturbance has not exceeded 15 percent?

Such comprehensive assessment and monitoring will be essential to assure that inevitable soil impacts are minimized and meet the Forest Plan directives. Forest regeneration, wildlife habitat, riparian zone health, weed control and overall ecosystem health in the project area will be dependent on maintaining short- and long-term soil health.

WHITEBARK PINE

Whitebark pine is a keystone species due to its influence on the health and life cycle of other native plants and animals (Tomback 2001). It is a high- energy food source for 13 species of birds and 3 species of mammals (especially Grizzly bears). When stands are healthy, they are essential in their capacity to slow runoff from snowmelt and in reducing soil erosion, particularly on steep rocky slopes. For this reason they are beneficial in protecting watersheds thus helping agriculture and drinking water sources.

As a keystone species, these pines increase the biodiversity of the natural community.

They are able to tolerate poor soils and harsh conditions and can grow in areas that other conifers are limited or find inhospitable (Arno & Hoff 1990).

Whitebark pine is an important and dwindling tree species found within the RLM Fuel Reduction Project Area. Previously noted as an “ At Risk” plant species in the Custer Gallatin Forest Plan(p31-32), the whitebark pine was recently given new status when it was designated as a “threatened” species under the Endangered Species Act by the U.S. Fish and Wildlife Service. The USFS in its evolving RLM Project plan has, to its credit, been attempting to exclude whitebark pine removal from all the planned treatment areas. The new threatened species designation backs these efforts by making it illegal to remove or damage any whitebark pines growing on federal lands. The higher elevation project units will need to be carefully surveyed and assessed to assure that whitebark pines present are not adversely impacted or removed or damaged in error. In addition, efforts should be taken in project treatment areas to improve and promote whitebark regeneration.

FOREST REGENERATION

A recent independent, non-government research study examining increasing fire activity in the western US has explored the relationship between annual climate change and post-fire tree regeneration of two dominant, low elevation conifers - ponderosa pine and douglas fir. This leads to questioning whether high climate change can push low-elevation forests across a critical climate threshold for tree regeneration. In the study, concentrating on particularly dry areas, seasonal to annual climate conditions over the past 20 years have crossed thresholds to the point that conditions have become increasingly unsuitable for regeneration. This could lead to ecosystem transitions in low-level ponderosa and douglas fir forests across the western

United States. Of note it is increasingly unlikely that future climate conditions will be favorable (cool or wet year) for subsequent regeneration episodes.
(PNAS 1/31/2019 edited by Hely, Etudes)

NEED FOR RECURRING FUELS REDUCTION TREATMENTS

Once fuels reduction treatments are initiated (in this case on RLM and surrounding areas), they generally tend to be redone in a matter of 5-15 year spans, as conditions change over time. The same initial concerns and issues originally occurring for this Project are then applicable to each re-treatment cycle, thus setting up a recurring cycle of treatments. This cycle will have cumulative effects on the forest ecosystem. The USFS must address these cumulative effects with a plan for establishing baselines, conducting periodic assessments to measure impacts and in remediating undesirable effects on: soil health and stability, native vegetation/ invasive species, temporary roads, aquatic health/ecology, riparian areas, wildlife and their habitats, overall forest ecosystem health, etc.

STRUCTURAL HARDENING/ ALSO KNOWN AS FIRE HARDENING

Thus far the Collaborative has not spent time on a discussion of structural hardening as an alternative to or in addition to proposed forest mechanical and hand fuel reduction treatments on RLM and surrounding areas.

Structural hardening consists of pre-fire activities that owners can take to reduce the risk of ignition around homes and structures, such as creating defensible space around property and buildings. Defensible space acts to slow down or stop the spread of wildfires. It can include removing dead and dying vegetation and/or removing live vegetation that is too close to buildings or too close to adjoining properties. Landscape planning can assist in 1) avoiding plantings such as those with natural oils, waxes and resins; 2) having an open planting structure; 3) considering the rapidity of growth and whether vegetation sheds any bark, 4) using hardscape, especially within the first 5 feet of a home (hardscape examples - gravel, pavers, concrete etc.), and 5) avoiding use of bark or mulch.

Structural hardening also includes consideration of the physical structure of buildings. Roofs are the most vulnerable part of a home or building in the case of a wildfire and can be built or retrofitted with fire resistant materials. Other remedies include 1) consideration of vents (cover all vents or use ember and flame resistant vents), 2) eaves and soffits made of fire resistant material, 3) windows (dual pane and limiting windows that face large areas of vegetation), 4) exterior walls made of fire resistant materials (stucco, fiber cement, or brick) and 5) fire resistant decks, garages, fences etc.

We request that the USFS coordinate/collaborate even more extensively with the local community fire department, other regional fire services, county government and area planning boards to provide outreach and education for those living/working in or near the urban wildland interface and those planning any future developments/subdivisions. There are organizations specializing in helping communities to develop plans to make them more fire resistant and these services should be further explored.

CLIMATE CHANGE IMPACTS

The collaborative has thus far not adequately explored the effects of climate change on the project area ecosystem that may occur with the implementation of the proposed fuel reduction treatments for Nichols and Willow Creek drainages and other project areas.

Per the Greater Yellowstone Area (GYA) Climate Assessment of June 2021, there has been a steady decline in snowpack since the 1980's based on tree ring reconstructions. The Project area sits near the northeastern edge of the GYA. Per this GYA climate assessment and other climate research done previously in the GYA. (Chang et al; Hansen 2015; Tercek et al. 2015; Leppi et al. 2021), temperatures in the GYA have risen, snowfall has declined and peak stream flows have shifted to earlier in the spring as temperatures melt the snow earlier. (Greater Yellowstone Area Climate Assessment -June 2021). More frequent and severe fires are expected in the future as temperatures rise, snowpack is reduced and summers become dryer. The GYA assessment data is significant when considering how to maintain ecologically healthy forests that are more resistant to high intensity fires. With overall climatic warming and drying trends in the future, careful consideration must be made about how fuel reduction treatments may potentially add to the overall drying effect, making trees less robust and seedling mortality more likely to occur when reforestation efforts are made.

Removing trees from forests has impacts on greenhouse gas emissions, particularly carbon dioxide. Soil compaction, biomass removal, mechanized treatments, and burning from logging related activities can reduce forest carbon dioxide storage and increase greenhouse gas emissions. (C. T. Hanson 2021). This project could be seen as one small piece of an overall worldwide process of deforestation.

The Carbon County Resource Council would again like to thank the USFS for their careful consideration of these comments as further plans for the RLMFRP are developed. CCRC appreciates that we were invited to be a part of the Collaborative planning process, and we are grateful for the time Ken and Drew have invested in helping us learn about this important project. We expect to offer further comments as the project plans develop.

Sincerely and respectfully,



Sue Beug, President
Carbon County Resource Council