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Comments: Attached are AFRC's Draft EA Comments on the Flat Tail Project. This is a good project and should be implemented quickly.

AFRC is a regional trade association whose purpose is to advocate for sustained yield timber harvests on public timberlands throughout the West to enhance forest health and resistance to fire, insects, and disease. We do this by promoting active management to attain productive public forests, protect adjoining private forests, and assure community stability. We work to improve federal and state laws, regulations, policies, and decisions regarding access to and management of public forest lands and protection of all forest lands. Many of our members have their operations in communities within and adjacent to the Kootenai National Forest and management on these lands ultimately dictates not only the viability of their businesses, but also the economic health of the communities themselves

The Flat Tail analysis area encompasses lands southwest of Highway 200, between Big Beaver Creek Road and White Pine Creek Road and includes Larch Point, Set Creek, Larch Creek, and Basin Creek which are north and west of Thompson Falls, Montana. The area is a high priority for treatment with its location next to the Wildland Urban Interface (WUI) and having an abundance of forest health issues including insects, disease, and root rot. The area was designated as a priority for treatment under the Montana Forest Action Plan.

AFRC provided pre-scoping comments on this project on October 16, 2024. At that time, we suggested that you consider using the 3,000 acre categorical exclusion under HFRA. However, now the project area covers 3,699 acres and we strongly support preparation of an Environmental Assessment. We also support the Emergency Situation Determination (ESD) under Section 40807 of the Infrastructure Investment and Jobs Act to expedite implementation.

AFRC continues to support the Purpose and Need for the Project which includes:

- * Promote forest health and resilience through stand management.
- * Reduce hazardous fuels in the project area.

While AFRC and our members support this Project we offer the following comments that we hope will help during implementation.

We remain disappointed that providing raw materials for the existing sawmilling infrastructure was not one of the Project's Purpose and Needs. The Draft EA states: "Communities in rural areas like those in Western Montana rely on a robust and sustainable timber industry which provides jobs, brings money in to supporting businesses, and has long been a part of the cultural fabric of these areas. These communities have seen periods of both prosperity and hardship related to the vitality of the timber industry." AFRC believes a stronger statement on economics would have been helpful since Montana's forest products industry is one of the largest components of manufacturing in the state and employs roughly 7,000 workers earning about \$300 million annually. There are several sawmills, post and pole, and smaller wood operations in the Project's vicinity. Without the raw material sold by the Forest Service these mills would be unable to produce the amount of wood products that the citizens of this country demand. Without this material, our members would also be unable to run their mills at capacities that keep their employees working, which is crucial to the health of the communities that they operate in. These

benefits can only be realized if the Forest Service sells their timber products through sales that are economically viable. This viability is tied to both the volume and type of timber products sold and the manner in which these products are permitted to be delivered from the forest to the mills. Studies in Montana show that for every one million board feet harvested 12- 15 direct and indirect jobs are created.

Having visited the project area many times, AFRC believes that the extent of the WUI and the desire by Sanders County to reduce wildfire impacts to local residents warrants consideration of shaded fuel breaks along the major ingress and egress roads. These shaded fuel breaks should include density reduction at least 200 feet on each side of the road to assist with fire suppression and improve forest health. This could complement the overall Project. We are, however, pleased to see that some work will be done: "Roadside thinning is proposed along Forest System Road (FSR) 2253. The purpose of the treatment is to remove fuels along the roadside, which reinforces the road as a viable holding feature for future wildfire suppression response. Treatments would remove understory vegetation using heavy equipment. Some overstory trees would be retained. Some units overlap areas along the roadside with different treatment prescriptions. Where overlap occurs, more overstory trees may be removed to match the overlapping treatment type."

AFRC appreciates the acknowledgement regarding our comments asking for flexibility in the logging systems. The District stated: "Submissions described the importance of a viable timber sale for the local economy and suggested ways to maximize feasibility including flexibility in timing restrictions and equipment or harvest techniques, minimizing road construction requirements, and providing opportunities for other products such as post and pole or firewood. For the Flat Tail project, to keep up with increased adoption and evolution of tethered logging, this report will analyze all conventional cable units for the option of both tethered harvesting and tethered skidding, shoveling, and forwarding.

We still believe it is incumbent for the District to recognize that one of the primary issues affecting the ability of our members to feasibly deliver logs to their mills is firm operating restrictions. As stated above, we understand that the Forest Service must take necessary precautions to protect their resources; however, we believe that in many cases there are conditions that exist on the ground that are not in step with many of the restrictions described in Forest Service contracts (i.e. dry conditions during wet season, wet conditions during dry season). We would like the Forest Service to shift their methods for protecting resources from that of firm prescriptive restrictions to one that focuses on descriptive end-results; in other words, describe what you would like the end result to be rather than prescribing how to get there. There are a variety of operators that work in the Kootenai market area with a variety of skills and equipment. Developing a contract that firmly describes how any given unit shall be logged may inherently limit the abilities of certain operators. For example, restricting certain types of ground-based equipment rather than describing what condition the soils should be at the end of the contract period unnecessarily limits the ability of certain operators to complete a sale in an appropriate manner with the proper and cautious use of their equipment. To address this issue, we would like to see flexibility in your planning and contract to allow a variety of equipment to the sale areas. We feel that there are several ways to properly harvest any piece of ground, and certain restrictive language can limit some potential operators. Though some of the proposal area is planned for cable harvest, there are opportunities to use certain ground equipment such as fellerbunchers and processors in the units to make cable yarding more efficient. Allowing the use of processors and fellerbunchers throughout these units can greatly increase its economic viability, and in some cases decrease disturbance by decreasing the amount of cable corridors, reduce damage to the residual stand and provide a more even distribution of woody debris following harvest. Please implement the project in a manner that will facilitate flexibility in the use of various types of equipment. AFRC believes that consideration of the modern logging technology mentioned above could result in less ground impact than what was analyzed. Please allow ground-based equipment to operate on slopes over 45% where and when possible.

Finally, AFRC would like the Forest to examine the days that operations and haul are shut down due to hunting seasons and other outdoor recreation. The logging community has limited operating time at best, and further reductions such as these only makes surviving in the logging business much more difficult.

AFRC supports the use of regeneration treatments to address some of the forest health issues found in the project area, and we support the reasoning for using regeneration: "Undesirable species, such as Douglas-fir, grand fir, and lodgepole pine, are the preferred host organism for the root disease fungi and beetles present in the project area. Thinning these areas would leave the remaining trees vulnerable to attack, weakening, and eventually killing the trees. Natural regrowth would produce the same species, which continues the cycle of increased tree mortality. Regeneration harvest allows us to establish desirable species, such as ponderosa pine, western larch, and western white pine, which are resistant to the present root diseases and insect."

Furthermore, to efficiently treat these areas of root rot and beetles it will be necessary to create three openings over 40-acres in size. AFRC supports these treatments and the District's efforts to implement treatments based on the needs of the stands in question.

We provided a detailed list of studies and information regarding the benefits of active forest management through timber harvest as it relates to CO₂ emissions and carbon stocks. We are pleased to see that your analysis incorporated much of the information we submitted. "We received comments regarding the carbon sequestration benefits that the proposed treatments may have. The Forest Carbon Assessment for the Kootenai National Forest (Carbon Whitepaper) (Strom and Reed 2025) discusses the role of forest management in climate change mitigation and the factors influencing forest carbon dynamics at the Forest level. By reducing the threat of wildfire, the proposed action would create conditions more advantageous for supporting forest health in a changing climate and reducing greenhouse gas emissions over the long term."

AFRC continues to stress that in the absence of commercial thinning, the forest where this proposed action would take place would thin naturally from mortality-inducing natural disturbances and other processes resulting in dead trees that would decay over time, emitting carbon to the atmosphere. Conversely, the wood and fiber removed from the forest in this proposed action would be transferred to the wood products sector for a variety of uses, each of which has different effects on carbon (Skog et al. 2014). Carbon can be stored in wood products for a variable length of time, depending on the commodity produced. It can also be burned to produce heat or electrical energy or converted to liquid transportation fuels and chemicals that would otherwise come from fossil fuels. In addition, a substitution effect occurs when wood products are used in place of other products that emit more GHGs in manufacturing, such as concrete and steel (Gustavasson et al. 2006, Lippke et al. 2011, and McKinley et al. 2011). In fact, removing carbon from forests for human use can result in a lower net contribution of GHGs to the atmosphere than if the forest were not managed (McKinley et al. 2011, Bergman et al. 2014, and Skog et al. 2014). The IPCC recognizes wood and fiber as a renewable resource that can provide lasting climate related mitigation benefits that can increase over time with active management (IPCC 2000). Furthermore, by reducing stand density, the proposed action may also reduce the risk of more severe disturbances, such as insect and disease outbreak and severe wildfires, which may result in lower forest carbon stocks and greater GHG emissions.

Finally, our forests currently absorb 11 percent of U.S carbon emissions, or 150 million metric tons of carbon a year, equivalent to the combined emissions from 40 coal power plants. However, starting in 2025, their ability to hold carbon may start plummeting and could emit up to 100 million metric tons of carbon a year as their emissions from decaying trees exceed their carbon absorption.

The map below shows the proposed treatment areas and their proximity to private lands and the WUI.

AFRC strongly recommends prescriptions that retain 40 sq. ft. of basal area per acre in these areas. This will accomplish the needed fuels reduction and forest health treatments as well as improving tree vigor for the remaining trees. This silvicultural regime would be best carried out in the improvement cuts and commercial thinning acreages listed below in Table 6. (see the AFRC letter)

In addition, we believe it would bolster the record if you included a new study published by Johnston et al. that focuses on the benefits of mechanical thinning in regards to wildfire mitigation.

Johnston, James D., Olszewski, Julia H., Miller, Becky A., Schmidt, Micah R., Vernon, Michael J., Ellsworth, Lisa M. Mechanical thinning without prescribed fire moderates wildfire behavior in an Eastern Oregon, USA ponderosa pine forest. *Forestry and Ecology*. 501 (2021) 119674.

Key points of the Johnston paper include:

- * Mechanical thinning can moderate fire behavior in the absence of prescribed fire. * Modeled crown fire potential declined immediately following thinning, undoubtedly due to significant reductions of ladder fuels that carry fire into the crown and crown density that facilitates spread between crowns.

- * Increase in surface fuel and modeled fire behavior was offset by a steady decline in litter and a dramatic decline in duff over time

- * Fuel loading in a dry ponderosa pine forest increased for a year or two after thinning and then declined.

- * Woody fuel particles increased somewhat following thinning but litter and duff fuel loading declined dramatically as a result of thinning.

Furthermore, the following studies should also be incorporated to illustrate the scientifically proven benefits following thinning and density reduction treatments.

Van Mantgem, P.J., Falk, D.A., Williams, E.C., Das, A.J. and Stephenson, N.L. 2018. Pre-fire drought and competition mediate post-fire conifer mortality in western U.S. National Parks. *Ecological Applications*, 28(7), 1730-1739.

- * Thinning treatments can improve forest resistance to wildfire

Fettig, C.J., Klepzig, K.D., Billings, R.F., Munson, A.S., Nebeker, T.E., Negrón, J.F. and Nowak, J.T. 2007. The effectiveness of vegetation management practices for prevention and control of bark beetle infestations in coniferous forests of the western and southern United States. *Forest Ecology and Management* 238, 24-53.

- * Factors involving tree density are consistently associated with the occurrence and severity of bark beetle infestations. Management to reduce stand or landscape level susceptibility to bark beetles must address factors related to tree density.

- * Thinning's effectiveness as a preventative measure to reduce the amount of bark beetle caused tree mortality is supported by the scientific literature.

Hood, S.E. 2017. Radial and stand-level thinning treatments; 15-year growth response of legacy ponderosa and Jeffrey pine trees. *Restoration Ecology*, 1-7.

- * Shade-intolerant old trees can respond to density-reduction treatments. Stand thinning caused an immediate, sustained increase in BAI compared to radial thinning and unthinned stands in large, old ponderosa and Jeffrey pines.

- * Thinning seemed to mitigate the effects of extreme drought conditions that occurred the year after treatment, such that growth reductions were much less than the control and radial thinning trees.

Bradford JB, Bell DM (2017) A window of opportunity for climate-change adaptation: easing tree mortality by reducing forest basal area. *Frontiers in Ecology and the Environment* 15:11-17.

- * Reducing forest basal area can decrease tree competition, which may reduce drought- induced tree mortality.

Latham, P. and Tappeiner, J. 2002. Response of old-growth conifers to reduction in stand density in western Oregon forests. *Tree Physiology* 22, 137-146.

- * Cutting trees to reduce density in old-growth stands or to modify the amount and distribution of fuels can be beneficial to residual large old-growth trees.

- * Reduction of stand density around individual trees with full crowns is likely to increase the basal area growth of a high proportion of the trees for several decades.

McDowell, N., Brooks, J. R., Fitzgerald, S. A. and Bond, B. J., 2003. Carbon isotope discrimination and growth response of old *Pinus ponderosa* trees to stand density reductions. *Plant, Cell & Environment*, 26: 631-644. doi: 10.1046/j.1365-3040.2003.00999.x.

- * The growth and physiology of old ponderosa pine trees are responsive to stand density reductions and have the potential to increase growth dramatically after these reductions.

As we mentioned in our pre-scoping letter, the project area includes a number of creeks and streams where some riparian management may occur. We would like the Forest to know that it has been well documented that thinning in riparian areas accelerates the stand's trajectory to produce large conifer trees and has minimal effect on stream temperature with adequate buffers. Removal of suppressed trees has an insignificant short-term effect on down wood, and ultimately a positive effect on long-term creation of large down woody debris and large in stream wood, which is what provides the real benefit to wildlife and stream health. We encourage the Forest Service to focus their riparian reserve treatments on a variety of native habitats. The tradeoffs that the Forest Service will likely be considering will be between achieving these forest health benefits and potentially having adverse impacts to streams. These impacts to streams typically include stream temperature, wood recruitment, and sedimentation associated with active management.

Stream temperature

Janisch, Jack E, Wondzell, Steven M., Ehinger, William J. 2012. Headwater stream temperature: Interpreting response after logging, with and without riparian buffers, Washington, USA. *Forest Ecology and Management*, 270, 302-313.

Key points of the Janisch paper include:

- * The amount of canopy cover retained in the riparian buffer was not a strong explanatory variable to stream temperature.

- * Very small headwater streams may be fundamentally different than many larger streams because factors other than shade from the overstory tree canopy can have sufficient influence on stream temperature.

Anderson P.D., Larson D.J., Chan, S.S. 2007 Riparian Buffer and Density Management Influences on Microclimate of Young Headwater Forests of Western Oregon. *Forest Science*, 53(2):254-269.

Key points of the Anderson paper include:

* With no-harvest buffers of 15 meters (49 feet), maximum air temperature above stream centers was less than one-degree Celsius greater than for unthinned stands.

Riparian reserve gaps

Warren, Dana R., Keeton, William S., Bechtold, Heather A., Rosi-Marshall, Emma J. 2013. Comparing streambed light availability and canopy cover in streams with old-growth versus early-mature riparian forests in western Oregon. *Aquatic Sciences* 75:547-558.

Key points of the Warren paper include:

- * Canopy gaps were particularly important in creating variable light within and between reaches.
- * Reaches with complex old growth riparian forests had frequent canopy gaps which led to greater stream light availability compared to adjacent reaches with simpler second-growth riparian forests.

Wood Recruitment

Burton, Julia I., Olson, Deanna H., and Puettmann, Klaus J. 2016. Effects of riparian buffer width on wood loading in headwater streams after repeated forest thinning. *Forest Ecology and Management*. 372 (2016) 247-257.

Key points of the Burton paper include:

- * Wood volume in early stages of decay was higher in stream reaches with a narrow 6- meter buffer than in stream reaches with larger 15- and 70-meter buffers and in unthinned reference units.
- * 82% of sourced wood in early stages of decay originated from within 15 meters of streams.

Sedimentation

Rashin, E., C. Clishe, A. Loch and J. Bell. 2006. Effectiveness of timber harvest practices for controlling sediment related water quality impacts. *Journal of the American Water Resources Association*. Paper No. 01162

Key points of the Rashin paper include:

- * Vegetated buffers that are greater than 33 feet in width have been shown to be effective at trapping and storing sediment.

Dry Forests

Messier, Michael S., Shatford, Jeff P.A., and Hibbs, David E. 2011. Fire Exclusion effects on riparian forest dynamics in southwestern Oregon. *Forest Ecology and Management*. 264 (2012) 60-71.

Key points of the Messier paper include:

- * Fire exclusion has altered the structure, composition, and successional trajectory of riparian forests in fire-prone landscapes.
- * Fire exclusion has been associated with an increase in tree density and recruitment of shade-tolerant species

that may replace large diameter, more decay-resistant Douglas-fir trees.

* A hands-off management regime for these riparian forests will have ecologically undesirable consequences.

Collectively, we believe that this literature suggests that there exists a declining rate of returns for "protective" measures such as no-cut buffers beyond 30-40 feet. Resource values such as thermal regulation and coarse wood recruitment begin to diminish in scale as no-cut buffers become much larger. We believe that the benefits in forest health achieved through density management will greatly outweigh the potential minor tradeoffs in stream temperature and wood recruitment, based on this scientific literature. We urge the Forest Service to establish no-cut buffers along streams no larger than 40 feet and maximize forest health outcomes beyond this buffer.

AFRC supports the Road Management Plan for the Project listed below:

Road reconstruction and maintenance activities would be implemented on approximately 18 miles of haul roads. This work would include implementation of Best Management Practices to reduce road related sediment and work to provide safe timber transport. Approximately 1.5 miles of new permanent system road would be constructed to access treatment units. About 0.95 miles would be constructed on previously decommissioned road (2253C) where a partial prism still exists; the remaining 0.55 miles would be an extension of the previously decommissioned road. The road would be gated yearlong with access limited to administrative use only. Public access would not change. This road usage would have little impact to listed species such as grizzly bear.

AFRC has commented on several past projects where we don't believe the No Action Alternative portrays an accurate picture of what will happen if needed restoration work is not performed. We very much appreciate the accurate discussion in this Draft EA of what would occur under the No Action Alternative: "The no action alternative does not fit the needs of the landscape in addressing the buildup of hazardous fuels from years of fire suppression and other ecological disturbances. Contemporary wildfires are burning on a larger, more severe scale than we have seen historically, and hazardous fuel accumulations on the forest pose a direct threat to the communities they border. Due to limited access and control features in the project area, in the event of a large-scale fire which has escaped initial attack, fire managers would have few if any options for control lines in the area and would likely have to move down to the valley floor and prioritize the protection of life, property and infrastructure. By not implementing the project, the project area would continue to have an increase in fuel loading. Timber harvest, prescribed burning, hand slashing and piling, and precommercial thinning would not be used to reduce crown densities and ladder fuels. Existing surface fuels would not be treated and would remain a hazard. The opportunity to provide improved access and egress for public and firefighters that contribute to safer conditions through road maintenance, reconstruction, and new road construction would be missed."

This analysis clearly describes what could and ultimately will happen to this area if restoration work is not completed. Clear concise impacts of what will happen by taking no action are needed in any EA.

AFRC believes the District did a good job of analyzing impacts to Endangered and Threatened Species, for example:

Grizzly Bear: Considering the rationale used in the analysis, the environmental baseline, the effects of the action, and cumulative effects, the determination for grizzly bear is "May Affect, Not Likely to Adversely Affect."

North American Wolverine: "Only modeled dispersal habitat is found in the project area. The nearest primary habitat is over five miles to the east or west. The nearest maternal habitat is nearly 20 miles to the north. Project activities would occur in dispersal habitat only and not change vegetation structural conditions that would alter wolverine behavior. The project is not likely to adversely affect the North American wolverine."

Canada lynx: "The project area and units do not include currently suitable snowshoe hare habitat. The project stands that intersect the lynx analysis unit are in a stem exclusion stage and lack a dense horizontal structure. Suitable lynx and snowshoe hare habitat would not be impacted. The project area does not include Critical Habitat, so there is No Effect."

The issue of air quality has become more important to the public. New studies are finding that smoke from wildfires have a direct effect on people's health, especially for people that are already compromised by respiratory ailments. AFRC is pleased to see the District addresses this in the Draft EA. "The Flat Tail project is designed to serve the need for a landscape level hazardous fuels treatment that addresses the threat of large-scale fire to communities and infrastructure. As outlined in the Environmental Impacts and the Assumptions and Methodology sections of the fuels report, returning the project area to a more natural fire return interval would improve stand health and resiliency to wildfire and alter forest composition in a way that lessens the likelihood of sustained crown fire. This will give fire managers more options for safe and effective suppression efforts in an area that currently affords few options in terms of control lines/features in the event of fires exhibiting a high resistance to control."

Thank you for the opportunity to provide Draft EA comments for the Flat Tail Project. We would like to see this Project move forward quickly using the expedited ESD Authorities.

Sincerely,

Tom Partin

AFRC Consultant