



VIA Link: <https://www.fs.usda.gov/project/?project=63295>

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Michelle Peterson
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Dear Michelle:

On behalf of the American Forest Resource Council (AFRC) and its members, thank you for the opportunity to comment on the Basin Creek-Butte Watershed Project.

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 Beaverhead-Deerlodge 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 Basin Creek Watershed provides up to nearly 60% of the City of Butte's municipal water supply, supporting over 34,200 residents. Two reservoirs- Upper and Lower Basin Reservoirs- were constructed in the late 1800s to provide reliable storage and delivery of drinking water to the booming mining community of Butte. Up until 2017, the Basin Creek source was operated as an unfiltered municipal water supply without water treatment facilities. Unfortunately, the very restrictions set in place to safeguard the municipal watershed have inadvertently created a situation that could result in significant harm to the watershed in the event of a wildland fire. Along with much of southwestern Montana, the watershed suffered significant impacts from Mountain Pine beetle following consecutive years of severe drought. Most of the lodgepole pine stands that reside within the watershed have succumbed to the beetle and are now standing dead or jack-strawed across the forest floor. Lack of vegetation treatments in the watershed has caused lodgepole pine mortality that contributes to substantial hazardous fuels build-up that pose a real risk to the City's water source should a wildland fire occur in the watershed.

AFRC supports the Purpose of this Project which is to protect the Basin Creek Municipal Watershed by restoring and improving forest composition and structure to help reduce the risk of uncharacteristic wildfires. Reducing intensity of wildfires and increasing fire suppression effectiveness would improve protection measures for the surrounding communities and key municipal watershed infrastructure. These actions would reduce the probability of post-fire wildfire impacts in the Basin Creek municipal watershed. In addition, sources of anthropogenic sediment to streams need to be addressed to improve water quality, watershed function, and other resource values in the project area. Water treatment operators estimate that a high severity wildland fire event could lead to millions of dollars (upwards of \$50M) in infrastructure damage and ultimately render the Basin Creek water source and treatment facility inoperable for a decade.

While AFRC supports the Project and agrees with the Purpose, we offer the following suggestions and information that we believe will make the Project analysis stronger.

1. AFRC has visited the Project area twice and witnessed firsthand the mortality in the lodgepole and the extreme threat of wildfire. The pictures below point out the acute problem found in the basin:



AFRC strongly believes that a large portion of the 15,178 acres in the Project area needs to be commercially treated to reduce the fuels loading. Unfortunately at this time only 2,436 acres are being proposed for silvicultural treatments followed by prescribed fire.

AFRC would like the District to reassess the project area to determine if more acres warrant commercial treatment to remove dead and dying material and provide more

sawlogs, poles and firewood to the local markets that depend on these materials. Treating more acres also adds to the timber volume that will be produced. The National Forests in Montana are very important for providing the raw materials that sawmills within the State need to operate. The timber products provided by the Forest Service are crucial to the health of our membership. 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. Specifically, studies in Montana have shown that 12-15 direct and indirect jobs are created for every one million board feet of timber harvested. 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 way these products are permitted to be delivered from the forest to the mills.

Additionally, 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. Much of the industry is centered in western Montana, and this Project is crucial to the infrastructure located in and around the Flathead National Forest.

Further, AFRC members depend on a predictable and economical supply of timber products off Forest Service land to run their businesses and to provide useful wood products to the American public. This supply is important for present day needs but also important for future needs. This future need for timber products hinges on the types of treatments implemented by the Forest Service today. Of importance is how those treatments effect the long-term sustainability of the timber resources on Forest Service managed land. Not managing the maximum number of acres today will impact the ability to produce the timber needed in the future.

2. AFRC strongly supports the District's plan to conduct some activities in the inventoried roadless areas (IRA). These activities are to maintain or restore the characteristics of ecosystem composition and structure, such as to reduce the risk of uncharacteristic wildfire effects, within the range of variability that would be expected to occur under natural disturbance regimes of the current climatic period.

The Forest proposes to utilize off-road, mechanical equipment in the IRA to implement silviculture treatments, which includes the removal of live and dead vegetation. No permanent or temporary roads are being proposed in the inventoried roadless area. Alternative vegetation removal methods, such as log forwarder or helicopter are being considered.

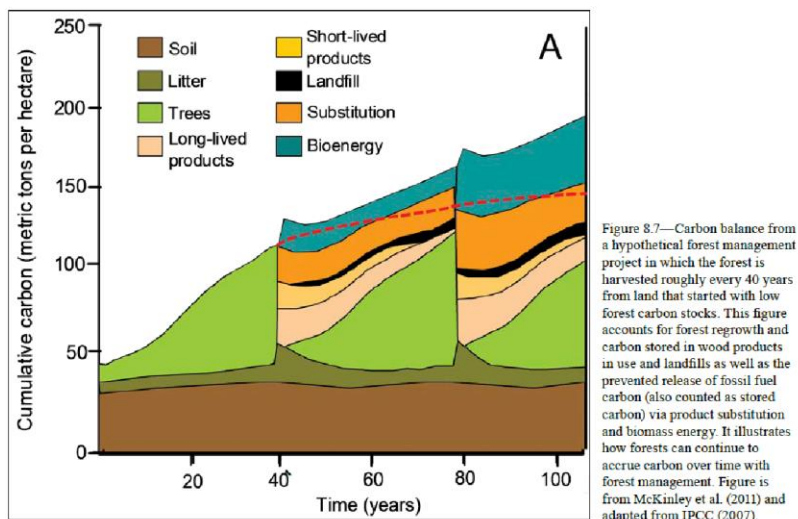
Should helicopter logging be planned we suggest two possible options. First, those acres should either be listed as optional or implemented with an IRSC where the Forest can put dollars in the Project to offset costs.

3. AFRC supports the roughly 400-foot-wide shaded fuel-break that is being proposed in areas that can be accessed by mechanized equipment. The treatments would be similar to other treatments described, with residual basal areas on the lower end of the range. Snags would be maintained where available, as directed by the Forest Plan. Like treatments listed above, most existing downed woody material would be removed, and enough downed woody debris would be retained, where available, to meet Forest Plan standards.
4. AFRC supports the silvicultural treatments that are being proposed. At this time regeneration harvests are being considered, and based on our assessment, we believe much of the area needs regeneration harvest. These should be considered in areas where much of the lodgepole is dead as shown in the pictures above. Intermediate harvest thinning is proposed in Douglas-fir and lodgepole pine stands, and some of this stand thinning will occur in the IRAs. The District is planning on leaving tree densities of 40-80 square feet of basal area where available. AFRC strongly believes that the basal area should be reduced to 40 sq.ft. on additional acres. The material needs to be removed for fuels reduction and to enhance the vigor of the remaining trees.
5. We would like the District to recognize that one of the primary issues affecting the ability of our members to feasibly deliver logs to their mills are 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 B-D market area with a variety of skills and equipment. Developing this EA and future 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 the EA 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. If some of the proposal area is planned for cable harvest, there could be 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 feller-bunchers throughout these units can greatly increase its economic viability, reduce damage to the residual stand, and provide a more even distribution of woody debris following harvest by decreasing the amount of cable corridors. Please prepare your NEPA analysis documents in a manner that will facilitate flexibility in the use of various types of equipment. AFRC believes that the impacts could even be less than those analyzed by permitting some of the lighter touch logging methods outlined above.

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 a limited operating time at best, and further reductions such as these only makes surviving in the logging business that much more difficult.

6. While the focus of this Project is to protect Butte's drinking water, a second benefit is how the Project will affect carbon sequestration. The issue of carbon sequestration and greenhouse gasses should be discussed in every Project. AFRC asks the Forest to consider the points below from a technical report by the Climate Change Vulnerability Assessment and Adaptation Project (SWOAP) in Southwest Oregon. This would bolster the Revised Draft EA.
 - Wood harvested from the forest, especially timber used for durable structures, can be reservoirs of long-term carbon storage (Bergman et al. 2014).
 - Forests and their products embody a closed-loop system in which emissions associated with harvests and product use are eventually recovered as forests regrow.
 - Although products may be retired in solid waste disposal sites, they decompose quite slowly, causing carbon to continue to be stored for many decades.
 - Products derived from the harvest of timber from national forests reduce carbon emissions by substituting for more energy-intensive materials including concrete, steel, and plastics.

Please see the graph below from the IPCC (2007) that captures the ability of forests to “stack” carbon sequestration and storage through continual harvests. **Please consider adopting this graph into the Dry Riverside project analysis.**



We believe that this graph encapsulates the forest management paradigm that would be most effective at maximizing carbon sequestration on a per-acre basis by “stacking” storage in wood products and regrowth of newly planted trees.

We would like to encourage the District to consider several documents related to carbon sequestration related to forest management.

McCauley, Lisa A., Robles, Marcos D., Wooley, Travis, Marshall, Robert M., Kretchun, Alec, Gori, David F. 2019. Large-scale forest restoration stabilizes carbon under climate change in Southwest United States. *Ecological Applications*, 0(0), 2019, e01979.

Key points of the McCauley paper include:

- Modeling scenarios showed early decreases in ecosystem carbon due to initial thinning/prescribed fire treatments, but total ecosystem carbon increased by 9–18% when compared to no harvest by the end of the simulation.
- This modeled scenario of increased carbon storage equated to the removal of carbon emissions from 55,000 to 110,000 passenger vehicles per year until the end of the century.
- Results demonstrated that large-scale forest restoration can increase the potential for carbon storage and stability and those benefits could increase as the pace of restoration accelerates.

We believe that this study supports the notion that timber harvest and fuels reduction practices collectively increase the overall carbon sequestration capability of any given acre of forest land and, in the long term, generate net benefits toward climate change mitigation.

Gray, A. N., T. R. Whittier, and M. E. Harmon. 2016. Carbon stocks and accumulation rates in Pacific Northwest forests: role of stand age, plant community, and productivity. *Ecosphere* 7(1):e01224. 10.1002/ecs2.1224

Key points of the Gray paper include:

- Although large trees accumulated C at a faster rate than small trees on an individual basis, their contribution to C accumulation rates was smaller on an area basis, and their importance relative to small trees declined in older stands compared to younger stands.
- Old-growth and large trees are important C stocks, but they play a minor role in additional C accumulation.

We believe that this study supports the notion that, if the role of forests in the fight against climate change is to reduce global greenhouse gasses through maximizing the sequestration of carbon from atmospheric CO₂, then increasing the acreage of young, fast growing small trees is the most prudent management approach.

Gustavsson, L., Madlener, R., Hoen, H.-F., Jungmeier, G., Karjalainen, T., Klöhn, S., ... Spelter, H. (2006). The Role of Wood Material for Greenhouse Gas Mitigation. *Mitigation and Adaptation Strategies for Global Change*, 11(5–6), 1097–1127.

Lippke, B., Oneil, E., Harrison, R., Skog, K., Gustavsson, L., Sathre, R. 2011 Life cycle impacts of forest management and wood utilization on carbon mitigation: knowns and unknowns, *Carbon Management*, 2:3, 303-333.

McKinley, D.C., Ryan, M.G., Birdsey, R.A., Giardina, C.P., Harmon, M.E., Heath, L.S., Houghton, R.A., Jackson, R.B., Morrison, J.F., Murray, B.C., Pataki, D.E., Skog, K.E. 2011. A synthesis of current knowledge on forests and carbon storage in the United States. *Ecological Applications*. 21(6): 1902-1924.

Skog, K.E., McKinley, D.C., Birdsey, R.A., Hines, S.J., Woodall, C.W., Reinhardt, E.D., Vose, J.M. 2014. Chapter 7: Managing Carbon. In: *Climate Change and United States Forests, Advances in Global Change Research* 57 2014; pp. 151-182.

AFRC believes 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.

7. Finally, we believe that this Project can really move the landscape into a much safer and healthy condition regarding wildfire, siltation, and forest health. The pictures below show some hand work that has been done adjacent to the reservoir on land owned by the Silver Bow Water District.



This Project needs to be implemented quickly and time is of the essence. The drainage is only one wildfire away from destroying this basin that the drinking water for Butte. We encourage the District to expedite the Project and begin implementation before the next fire season.

Thank you for the opportunity to provide scoping comments on the Basin Creek-Butte Watershed Project. I look forward to commenting on the Draft EA when it is released.

Sincerely,

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