



December 28, 2018

Kevin Warner
Acting District Ranger
c/o Christopher McDonald

Dear Kevin and Christopher,

Aspen Center for Environmental Studies (ACES) applauds the work done by the United States Forest Service (USFS) to protect our communities during the Lake Christine Fire. The effective outreach and communication both during and after the fire has been exemplary. Furthermore, we would like to thank the staff of the White River National Forest (WRNF) for restoring public access to the burn area so quickly after the fire. While ACES supports a number of the actions outlined in the Notice of Proposed Action (NOPA) there are several important issues that should be addressed to ensure the project aligns with the stated goal to “Promote ecosystem health”.

Of the 2,802 acres proposed for salvage and restoration the majority, 2,228 acres, has been identified for salvage logging. While there is little evidence which supports salvage logging resulting in improved ecosystem health (DellaSala et al., 2006), there are significant potential negative ecological impacts of salvage logging. At best studies have shown salvage logging to have no impact when compared to unsalvaged sites (e.g. Knapp & Ritchie, 2016). ACES recognizes that residents and visitors of the Roaring Fork Valley depend on forest products and understands that some logging is necessary, but would like to ensure it minimizes ecological impact and does not impede forest recovery on Basalt Mountain.

Salvage Logging

ACES has several concerns with the salvage logging as described in the NOPA. We realize that the design features have not yet been specified and most or all of our concerns may be addressed when the project design is finalized.

Leave Trees: The NOPA specifies Clearcutting with Leave Tree for the salvage units. The leave trees are specified as “Islands of unburned trees”. While unburned trees will be an important seed source going forward, ACES suggests that the USFS considers leaving select groups of burned trees, especially large diameter trees. Burned trees interspersed throughout the logged area will provide important habit for cavity nesting wildlife and shade (Thorn et al., 2018). Shade provided by remaining burned trees will protect soils from overheating (McIver & Starr, 2000), and provide important cover for shade dependant species such as Englemann spruce to germinate (Roe, Beaufait, Lyon, & Oltman, 1971). Furthermore, when large trees fall they bring more fertile soil to the surface boosting fertility

and providing a place for plants to germinate (Norton, 1989). This could be accomplished by limiting the salvage of especially large trees in addition to live ones which will be left throughout the clear cut.

Timing: Salvage logging on Basalt Mountain is scheduled to occur between 2-8 years. Research on several different species of tree has shown timing of salvage operations impacts post-fire recovery (Donato et al., 2006; Greene, Gauthier, Noël, Rousseau, & Bergeron, 2006; Mclver & Starr, 2000). If salvage logging is permitted after seedlings have established, it can cause sufficient disturbance to kill newly germinated seeds (Mclver & Starr, 2000). Conversely in tree species that retain viable seed banks following wildfire (such as lodgepole pine) the removal of cone bearing branches along with trunks reduces the seedbank and leads to lower regeneration rates (Greene et al., 2006). ACES requests that restrictions be placed on logging in areas where recovery has already begun and that branches and other slash which may retain viable seeds be left in place.

Soil Erosion: Increased erosion and soil compaction is a well documented impact of ground based salvage logging (Karr et al., 2004; Lindenmayer, Burton, & Franklin, 2008; Mclver & Starr, 2000; Shakesby, Boakes, Coelho, Gonçalves, & Walsh, 1996; Wagenbrenner, MacDonald, Coats, Robichaud, & Brown, 2015). While forests can recover in human timescales, soils damaged by additional disturbance can take thousands of years to regenerate (Karr et al., 2004). ACES understands that alternative methods (helicopter logging or skyline logging) are not cost-effective or practical on Basalt Mountain. We request that design features take steps to minimize erosion and soil compaction. This could include specifying that additional slash be deposited on skidder trails, prohibiting skidder trails in severely burned areas, and limiting the amount of new temporary road construction (Karr et al., 2004; Wagenbrenner et al., 2015).

Invasive Weeds

While all logging operations have the potential to introduce noxious weeds, there is an increased concern in freshly burned landscapes ripe for colonization by invasives (Lindenmayer, Burton, & Franklin, 2008). We believe that the increased risk warrants an increased effort to prevent the additional introduction of noxious weeds. The 2002 Hayman Fire offers a cautionary tale even when best practices are employed. The project used Colorado Certified Weed Free Hay which contained cheatgrass seeds, apparently not an uncommon occurrence (Robichaud et al., 2003). Additional precautions could include additional inspections of equipment, increased monitoring for invasives in salvage areas, and nonorganic sediment controls such as silt fences, or geotextiles.

Hazard Trees

ACES supports the USFS proposal to clear hazard trees from existing roads.

Defensible Space

ACES supports the creation of defensible space on National Forest that abuts private property to help ensure the safety of residents and wildland firefighters in the event of a future fire. We request additional information regarding the inclusion of unit 101 for salvage. This relatively small unit is the

only Inventoried Roadless area identified for salvage logging. If possible we would like to see this unit removed to allow the higher quality habitat in roadless areas to regenerate naturally.

Tree Planting

After over a century of fire suppression the Roaring Fork Valley has very few early-successional ecosystems. These sites attract a unique and diverse group of species which depend on woody debris and a diversity of shrubs and herbs often found on post disturbance sites (Swanson et al., 2011; Thorn et al., 2018). While recovery to previous states may take hundreds of years these sites create landscape heterogeneity resulting in a more diverse and resilient forest. We encourage the WRNF to restrict tree planting in roadless areas and allow these site to proceed through natural forest succession.

Monitoring

We realize that monitoring and research is not required to be included in an Environmental Assessment but feel that the entire community will benefit from extensive monitoring of the Lake Christine Fire. As the WRNF staff has repeatedly told the community, this is likely just the beginning of a future where our watershed continues to experience increased fire. It would be especially beneficial to monitor regeneration in salvage vs. unsalvaged sites. The body of research around salvage logging shows a wide diversity of outcomes dependent on a number of variables. Understanding how local forests respond to salvage following wildfire will help inform postfire management across the valley. Furthermore, the Lake Christine burn site offers the first opportunity to study natural regeneration in the Roaring Fork Valley under a warming and drying climate. ACES is happy to help coordinate or support these efforts.

Conclusion

ACES appreciates the opportunity to comment on the Basalt Mountain Salvage and Rehabilitation Project. We greatly appreciate the dedication of the WRNF staff to working with the community and ensuring our forest remain as healthy and resilient as possible. We are confident that through continued community dialogue a postfire plan for the Lake Christine burn area can be developed that meets all the goals outlined in the NOPA.

Sincerely,



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