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Comments: RE: South Zone Post-Disturbance Hazardous Tree Management Project Dear Ms. Eberlien: AFRC is an Oregon nonprofit corporation that represents the forest products industry throughout Oregon, Washington, Idaho, Montana, and California. FRC's mission 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. AFRC represents over 50 forest product businesses and forest landowners throughout the West. The South Zone Hazard Tree Project will benefit AFRC's members through an addition to a critically needed timber supply and will help ensure safe travel corridors for our members and the public. AFRC, in general, supports the proposed action for the Environmental Assessments (EAs) for each Zone (North, Central Sierra, and Southern Sierra). Our comments are specific to the Southern Sierra EA, but we believe these comments are appropriate for all three EAs.

Purpose and Need Although the EA thoroughly discloses the multiple risk factors driving the need to conduct the felling and removing of hazard trees, it fails to acknowledge the human population that is at the highest risk: loggers and contractors tasked with completing the work. That risk level escalates every day since the fires due to the progression of deterioration. Those dead and dying trees are deteriorating each day they remain standing. The safety risk to fallers is higher today than it was a year ago, and it will be higher a year from now than it is today. This risk factor should also be a contributing rationale for not conducting hazard tree felling in multiple phases. The bottom of page 6 outlines why a phased approach, with multiple felling entries, is inefficient. We would like the Forest Service to also acknowledge that such an approach is also extremely unsafe for timber fallers. Felling dead, dying, and structurally unsound trees on any given acre is dangerous; felling half of those dead, dying, and structurally unsound trees and not the other half is even more dangerous. In fact, doing so likely violates components of California's OSHA regulations. Hazard Tree Guidelines The EA discloses the relevant guidelines related to identifying hazard trees. However, some additional disclosure and description is advisable given the ongoing challenges by special interest groups against hazard tree removal. Recent court rulings have indicated some confusion regarding the use of the Field Guide to identify hazard trees that have potential to impact roads. In particular, there have been questions regarding whether a specific tree poses an imminent hazard. Therefore, we recommend that you highlight and outline certain components of your guidelines in the final Decision-Memo/Notice including:

- Thorough explanation of tree falling dynamics on level ground, including the effects of wind events, force of breakage, and how fallen trees may impact other nearby trees (causing broken tops, etc.)
- Thorough explanation of tree falling dynamics on sloped ground, including the likelihood of downslope trees falling uphill

Climate Change The Forest Service response to Issue 6 related to climate change appears incomplete. Opponents of any form of salvage logging contend that logging activities emit greenhouse gasses but ignore the longer-term benefits of removing dead trees and storing their previously sequestered carbon in long-lasting wood products rather than leaving them on site to deteriorate and emit that sequestered carbon back into the atmosphere. Dead trees do not sequester carbon, they only release it. In the absence of timber salvage, these dead trees would decay over time, emitting carbon into 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 (Gustavsson 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.

Gustavsson, L., Madlener, R., Hoen, H.-F., Jungmeier, G., Karjalainen, T., Kl[Ouml]hn, S., [hellip] Spelter, H. (2006). The Role of Wood Material for Greenhouse Gas Mitigation. *Mitigation and Adaptation Strategies for Global Change*, 11(5[ndash]6), 1097[ndash]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.

Sediment and Erosion Although the analysis considers a large amount of scientific literature related to salvage impacts on soils and sedimentation, we would like to offer a few additional items for your consideration.

Cole RP, Bladon, KD, Wagenbrenner, JW, Coe Drew B.R. Hillslope sediment production after wildfire and post-fire forest management in northern California. *Hydrological Processes*. 2020;1-18

Key points/findings of the Cole paper include:

- Sediment yields two years following the fire event were highest in areas that did not include timber salvage.
- Sediment yields were lower on areas that were salvaged.
- Post-fire management resulted in lower rates of erosion and sediment delivery.

Niemeyer RJ, Bladon KD, Woodsmith, RD. Long-term hydrological recovery after wildfire and post-fire forest management in the interior Pacific Northwest. *Hydrological Processes*. 2020;1-16.

Key points/findings of the Niemeyer paper include:

- Spikes in streamflow and runoff recovered more quickly on timber salvaged areas than on areas not salvaged.
- Post fire land management strategies, including timber salvage, may have increased the rate of hydrologic recovery in the long term when compared to unmanaged areas.

Robichaud PR, Lewis SA, Brown RE, Bone ED, Brooks ES. Evaluating post-wildfire logging-slash cover treatment to reduce hillslope erosion after salvage logging using ground measurements and remote sensing. *Hydrological Processes*. 2020;1[ndash]15.

Key points/findings of the Robichaud paper include:

- Logging slash applied at a rate to achieve a mean ground cover >60% was found to be an ineffective treatment to reduce post-salvage runoff and soil erosion.

Project Design Features Page 9, Activity-generated wood fuels, and page 66, -Design Features [ndash] HA 15, 16, 17, discuss hand piling but do not discuss machine piling, which is allowed and will be the dominant method of slash disposal. Further, hand piling should be avoided as it is expensive and creates [ldquo]jackpot[rdquo] piles that the burning crew in future burn windows would have to return and burn. This has been a common problem all over the Region in that insufficient burn windows, and insufficient burning crew time to burn the piles, leaves piles on the landscape at risk to another wildfire. In addition, it may not be possible to implement the multiple Design Features for placement and construction of hand piles in some areas.

Project Design Features listed on pages 62-80 appear to be overly restrictive and may not be implementable as written without applying a reasonable [ldquo]tolerance[rdquo] to the individual Feature. An example is Design Feature HA-11, page 69 [ldquo]No fueling of any mechanical equipment (such as chainsaws) will occur within 100 feet of any flowing water course or intermittent drainage.[rdquo] It is impractical to expect a contractor to move 100 feet away from a dry intermittent drainage to add a pint or two of fuel to his/her chainsaw and then move back to finish the task. This Design Feature and several others would appear to require special timber sale or service contract provisions to enforce.

Design Feature HA-1, page 65 appears to need revision as it is written. [ldquo]All activities within or outside of the Normal Operating Season will be implemented according to the Forest Wet Weather Operating Plan. Project activities within the Normal Operating Season would generally not trigger the need for a [ldquo]Wet Weather Operating Plan.[rdquo]

AFRC appreciates the opportunity to provide comments to the Draft EAs. In addition, we encourage the Region to pursue the Emergency Situation Determination. As part of this assessment, Region 5 has identified 6,000 miles (400,000 acres) of affected by post-disturbance hazard trees. The hazard trees will generally only have economic value for about two years following the disturbance. Further, moving the affected 6,000 miles to a safe condition for public, administrative, and commercial use is of utmost importance.