Data Submitted (UTC 11): 8/27/2023 4:00:00 AM
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Comments: General Comment: This document says (in very general terms) what the FS will do. But it never clarifies why these steps are needed. It claims that it will improve wildlife habitat, tree diversity and health, etc. but what do these terms mean? Which wildlife species will be helped and why is this necessary? Why should deformed/diseased trees be removed, since such trees provide homes (snags, holes, etc) for multiple species and food for even more. Dying/dead trees are an important part of the ecosystem,, and their final rot creates the duff on the forest floor. And what constitutes such a tree is the FS' view? The forest is a constantly changing ecosystem, and the American experience has generally been that attempts to alter/engineer it, such as fire suppression, have been disasters.

At this time, our forest is under tremendous stress. The combination of invasive pests, the diseases some of those pests have brought, pollution and past harvesting has weakened our forests and eliminated certain species. Added to this is the current action and future threat of climate change. The actions proposed by the FS will add to these stresses.

A more specific comment about soil:

Under soils, the FS document says,

"The proposed action will not have significant impacts to soil resources. Short-term negative effects including soil displacement and soil compaction are anticipated from the proposed action. However, based on a review of the best available science, and the context and intensity of effects, no detrimental impacts to soil productivity as measured by soil displacement (erosion) or soil compaction are anticipated. Effects are consistent with the forest plan and will be minimized by implementation of best management practices and project design features. Analysis and discussion of effects is documented in project soils report".

The idea that erosion and compaction are the sole concerns seems like returning to outdated concepts that saw soil as an agglomeration of mineral particles. We now know that soil is a living ecosystem, composed of fungal webs, and uncounted numbers of bacteria, insects, worms and more. We now know that the roots of every tree and shrub have fungal or bacterial symbionts, and that both the roots and the symbionts are exchanging nutrients with the soil's inhabitants. We know that when a tree's stem is cut that this exchange stops, and the animals and microorganisms that it supported will die . The mycorrhizal fungi and the rhizobial bacteria will die because they are no longer supported by photosynthesis, and they will be replaced by saprophytes, rotting the underground parts of the cut trees. When this process of rot is complete, the hyphal network and the roots that held the soil together will be gone, resulting in erosion, seepage of nutrients into streams, and loss of carbon.

This carbon loss is significant. Although the casual observer may see the above ground trees as the major forest carbon storage, the EPA's 2023 Greenhouse Gas Inventory states that the largest pool was forest soils, which contained approximately 52% of total forest carbon in 2022. (Source: Data from EPA, Table 6-10 in Chapter 6, "Land Use, Land-Use Change, and Forestry," U.S. National Greenhouse Gas Inventory, April 2023.)

To claim that cutting trees at the stem will result in the loss of only above ground carbon is inaccurate. And to claim that the only soil issues are compaction and erosion is untrue - until the destruction of the rhizosphere makes it happen.

I've been talking about stem cutting tree removal. Whole tree removal speeds up the destruction.

In the conclusion of their paper, Clearcutting alters decomposition processes and initiates complex restructuring of fungal communities in soil and tree roots. ISME J 12, 692-703 (2018), Kohout et al. state that, "This study demonstrates that clearcutting leads to profound changes in soil decomposition processes and fungal community composition. The rhizosphere, as an active compartment of high enzyme activity and high fungal biomass, ceases to exist and starts to resemble bulk soil."

Thank you for reading this comment. It would be appreciated if the final comment period could be extended past the current stated deadline.