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First name: Laura

Last name: Jackson

Organization:

Title:

Comments: Land Management Plan Direction for Old-Growth Forest Conditions Across the National Forest System #65356

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All plan components need to reference "mature" as well as old-growth forest patches. The outcome regulations of this document need to be forward looking. As the document states, "On April 22, 2022, President Biden issued Executive Order 14072 Strengthening the Nation's Forests, Communities, and Local Economies. Section 2 of the Executive Order (E.O.) recognizes the distinctive role that Federal forest lands play in sustaining ecological, social, and economic benefits throughout the nation and calls particular attention to the importance of mature and old-growth forests on Federal lands for their role in contributing to nature-based climate solutions by storing large amounts of carbon and increasing biodiversity, mitigating wildfire risks, enhancing climate resilience, enabling subsistence and cultural uses, providing outdoor recreational opportunities, and promoting sustainable local economic development."

Activities considered, recommended or restricted in this EIS should apply to mature as well as old-growth patches since, again, as the scoping document notes, "This proposed amendment is intended to create a consistent approach to manage for old-growth forest conditions with sufficient distribution, abundance, and ecological integrity (composition, structure, function, connectivity) to be persistent over the long term, in the context of climate amplified stressors." "Over the long term" must mean that future old-growth evolving in the course of time through mature forest patches should be in the planned EIS.

Ongoing protection of mature forest patches, as well as those presently classified as old-growth is essential to accomplish the stated " purpose of this amendment is to establish consistent plan direction to foster ecologically appropriate management across the National Forest System by maintaining and developing old-growth forest conditions while improving and expanding their abundance and distribution and protecting them from the increasing threats posed by climate change, wildfire, insects and disease, encroachment pressures from urban development, and other potential stressors, within the context of the National Forest System's multiple-use mandate." However, natural processes should not be classified as threats to mature and old-growth patches. When these forests experience natural disturbance processes, including patches of high-intensity fire, the resulting habitat is highly biodiverse and carbon-rich. Old-growth and mature forests experiencing natural processes, including insect outbreaks, wildfires, wind storms, or other natural processes, should be permanently protected from invasive management treatments and logging.

Mortality of trees should not be the primary consideration used in evaluating threats to mature and old growth forest patches. Mortality from natural causes is part of systemic forest succession patterns such that what might have once been negatively labeled "overly mature" or "decadent old-growth," should now be appreciated positively as part of an evolving systemic process. Science is being constantly forced to reconsider what we still do not know about the interrelation of multiple forest systems above and below ground. A guiding description for patches addressed in this plan might better be "forest ecosystems long undisturbed by human intervention/management." This descriptor would properly distinguish between threats related to human intended management and those natural threats through which forests have long evolved and survived, often by interrelated systemic processes we are only beginning to appreciate.

History should teach us that just as, "management practices, including timber harvest and fire suppression, contributed to current vulnerabilities in the distribution, abundance, and resilience of old-growth forest characteristics," so also may our further present management practices, however well-intended. These forests

have successfully long evolved with wildfires, insects and diseases. It is essential to understand that such threats have long been part of the natural system quite distinct from the disruptions caused by logging and heavy equipment. In the light of this understanding, it is unscientific hubris to claim, "that tree cutting is now a relatively minor threat compared to climate amplified disturbances such as wildfire, insects and disease." The latter may currently be having increasing impact on what we humans believe to be an ideal old growth forest, but our preventive/protective/resource enhancing strategies applied to such forest patches have largely proved inherently faulty in the context of complex systems which historically respond in unexpected and negative, if not disastrous, ways to our interventions.

Quite simply, terms like "strategic conservation, and proactive stewardship and management" encourage interventions that may produce outcomes as regrettable as the historic fire suppression mandate. This proposed plan should very clearly and specifically restrict rather than encourage such so called strategic and proactive interventions in all remaining long undisturbed forest patches. It is simply incorrect to state, "Mortality from wildfires is currently the leading threat to mature and old-growth forest conditions." Mortality from wildfire is an inherent part of mature and old growth forest systems and has to be primarily understood as such and not allowed as an excuse for logging or "debris" removal. Wildfire per se is not a threat long term to undisturbed forests. It is also important to recognize that even in the case of large wildfires, they only consume less than 2% of tree carbon. In contrast, thinning operations release a considerably higher amount of carbon into the atmosphere over an equivalent area when compared to wildfires.

The following paragraph illustrates a bias in relation to wildfire management in this proposal that needs correction.

"Given the key threat that rapidly changing wildfire disturbances pose to national forest ecosystems and watersheds and the old-growth forests therein, this proposed action is intended to complement the Department's continued focus on, funding, and implementation of the Forest Service's Wildfire Crisis Strategy. Providing consistent national direction that recognizes the beneficial role that functional old-growth forest conditions play in enhancing forest resiliency to wildfire further strengthens efforts to abate the wildfire crisis. The proposed action also recognizes the importance of strategic conservation and proactive stewardship for wildfire resilience efforts, including science-based vegetation treatments and restoring prescribed fire in fire-adapted ecosystems, for the long-term retention and future recruitment of old-growth forest conditions."

The paragraph does give a hint of acknowledgement to extensive recent research that suggests that old-growth actually mitigates fire risk on the ground, not only as it maintains a carbon storage base that mitigates the aridity and extreme wind events accompanying the current climate trends but also in direct relationship to active fire behavior. This research needs to be fully acknowledged and old-growth be directly understood as a vital factor in protecting from fire communities and habitats long term.

Once disturbed, previously long undisturbed forest patches cannot be recreated in their essential natural complexity within any reasonable management timeframe. It is vital that these systems be protected as is, not intrusively managed for what we assume is their value while labeling natural processes as a threat to these resilient forests. Alternatives in the proposed EIS should all include banning logging in old-growth and mature forest forests, both before and after natural processes.

This proposal does not include any clear reference to research showing that landscape wide reduction of fuels loading may not reduce wildfire risk. A large body of recent research, and some dating back to the 1990's, shows that larger, homogeneous open areas increase fire risk. Projects that increase open savannah type areas increase our fire risk. They result in hotter and dryer areas that, especially after mechanized logging, have weedy, non-native understories which data now indicates have double the speed of fire spread compared to undisturbed native vegetation (which better retains moisture, slowing fire spread). This is especially of concern in our present and predicted climate conditions including more frequent high wind events. Undisturbed old-growth

also has been shown to act as a wind buffer.

There is also strong data showing us that untreated forest areas in the western USA burn with lower fire intensity, in spite of having heavier fuels loading (abstract at <https://esajournals.onlinelibrary.wiley.com/action/doSearch?AllField=does+increased+forest+protection+correspond&SeriesKey=21508925#>.)

Recent devastating fires in Boulder, CO, Denton, MT (which destroyed more structures than our Roaring Lion Fire), and Maui, illustrate what another recent research paper concluded: "Grassland and shrubland fires burn more land and destroy more homes across the United States than forest fires." ([https://www.nytimes.com/2023/11/09/climate/forest-fires-grasslands.html?campaign\\_id=2&emc=edit\\_th\\_20231109&instance\\_id=107398&nl=todaysheadlines&regi\\_id=59904115&segment\\_id=149667&user\\_id=ecbb303f670299141a74bb57ddb963a4](https://www.nytimes.com/2023/11/09/climate/forest-fires-grasslands.html?campaign_id=2&emc=edit_th_20231109&instance_id=107398&nl=todaysheadlines&regi_id=59904115&segment_id=149667&user_id=ecbb303f670299141a74bb57ddb963a4)). Fuel loading reduction treatments that increase grass and shrubland beyond the HIZ cannot now be assumed to be preferable to shaded, moister, established/undisturbed habitats for fire risk reduction, even if the latter areas have heavier fuel loading.

Research for the USFS also questions the emphasis on fuels treatment not directly adjacent to structures (HIZ): "Research for the Structure Ignition Assessment Model (SIAM) that includes modeling, experiments, and case studies indicates that effective residential fire loss mitigation must focus on the home and its immediate surroundings. This has significant implications for agency policy and specific activities such as hazard mapping and fuel management." ([https://www.fs.usda.gov/rm/pubs\\_other/rmrs\\_1999\\_cohen\\_j001.pdf](https://www.fs.usda.gov/rm/pubs_other/rmrs_1999_cohen_j001.pdf) )

To be convincing the EIS alternatives should have mention of these considerations as essential in prioritizing and establishing parameters for fuel load reduction projects. The claim is that these alternatives will be science based. A lot of relevant research and fire behavior analysis has been done in this century. We ignore it at our peril.

This proposal does mention that climate change is increasing our fire risk. Could we at least have a statement that all projects given approval among the proposed alternatives prioritize reducing climate caused fire risk factors. Even HFRA in 2003 suggests carbon sequestration is a desirable goal. Beyond that, twenty years later generally accepted science indicates that digging and pumping up the planet's stored carbon and using it in ways that add heat trapping gasses to our atmosphere is a major factor in the climate changes we are experiencing.

The loss of mature and old-growth trees and undisturbed native habitat and soil areas will significantly reduce carbon storage/sequestration in our forests. Science shows that tree sapling plantations take at least 20 years to sequester carbon. Young tree plantations actively emit carbon; mature and old growth patches pull carbon from the air and sequester it long term. Heavy equipment, employed for logging efficiency, compacts soils, reducing their carbon and moisture storage capacity. This is clearly of the essence, given the stated goals to encourage preservation of current carbon storage and sequestration capabilities.