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Comments: Thank you for the opportunity to comment on the proposed Forestwide Prescribed Fire Project, Helena - Lewis and Clark National Forest.

Having grown up in a logging household, I learned at the knees of a logger how back logging and prescribed fires can be so my initial response to the proposal was, Whoa! Wait a minute. What does the science say?

So I looked at some science, and it overwhelming suggests that the assumptions underlying the misguided proposal are wrong. A major revision is appropriate. Community hardening, from the home and community outward, is the scientific consensus on how to deal with wildfire, at least the consensus beyond scientists funded by the Forest Service. Fire managers seem to dismiss the Forest Service approach of suppressing fires in the wild.

The Forest Service clearly defined the agency's policy in its 2022 strategy published as Confronting the Wildfire Crisis: "the U.S. Department of Agriculture, Forest Service is establishing a strategy for working with partners to dramatically increase fuels and forest health treatments by up to four times current treatment levels in the West." This is wrong for the Forest Service. It is wrongn for the Helena - Lewis and Clark National Forest.

The Helena - Lewis and Clark National Forest proposes to adopt that misguided policy; for example, saying "Much of the 2.9-million-acre Forest is at risk of wildfire and other disturbances that are larger and more intense than they were historically. Current dense forests across many areas create conditions that make forests susceptible to high levels of mortality. This makes it challenging to support persistence of important habitats and poses a heightened risk to communities in and around central Montana."

Bevington (2021) compiled articles on wildfires in California. He said in the introduction, "Running faster in the wrong direction is not a solution." Furthermore, wildfire is not a forest management issue per se but a public safety issue, so the solution, the policy should be to fight fires from the home and community outward rather than in wildlands. Resources should be reassigned to protecting homes and communities rather than continue the proven fruitless fire suppression in the forests.

Hanson covered common myths about forests and fires. Wolf and Nowicki explained why forest biomass energy is not a good idea.

In Bevington (2021), Ingalsbee reported the 20th-century fire suppression policy and practices that are not appropriate for the 21st-century climate. He concluded:

"Wildland fires are ecologically necessary and inevitable, but losses of life and property in urban fire disasters need not be inevitable if we adopt new fire management policies and practices suitable for 21st century climate conditions. We need to move away from 20th century mechanized fire suppression strategies, tactics, and tools (e.g., large airtankers) that are inappropriate and increasingly ineffective in the current climate. Suppression resources should be redirected away from fighting fires in remote wildlands where fire is ecologically necessary and instead focused on directly protecting communities."

Also in Bevington (2021), Cohen explained that "disastrous community wildfire destruction (greater than 100 homes destroyed) has only occurred during extreme wildfire conditions when high wind speeds, low relative humidity and continuous flammable vegetation result in rapid fire growth rates and numerous spot ignitions from showers of burning embers (firebrands); that is, the conditions when wildfire control fails (Cohen 2010, Calkin et

al. 2014)."

Altering forests releases carbon into the atmosphere. That is contrary to efforts to reduce greenhouse gasses in the atmosphere and thereby mitigate climate change. DellaSala discussed that in his article in Bevington (2021). According to DellaSala:

"Most of the carbon in a forest remains on site after a wildfire (Campbell et al. 2007, Meigs et al. 2009, Mitchell 2015). Total annual emissions from wildfires over large regions are generally much less (~10% in active fire seasons) than total annual emissions from logging in the same region (Meigs et al. 2009, Campbell et al. 2012, Law et al. 2018, Oregon Global Warming Commission 2018). Some prior estimates of wildfire emissions have grossly exaggerated combustion of carbon during a wildfire. In reality, however; only a small portion of a trees' biomass (mainly twigs and leaves) is actually combusted. Moreover, about half the carbon in burned forests remains bound to the soils for nearly a century, the rest of the soil carbon builds over millennia (Singh et al. 2012). After fires, growth of surviving trees and new vegetation sequester carbon, offsetting emissions within about 5-50 years (depending on site factors; Meigs et al. 2009, Mitchell 2015)."

DellaSala provides citations to studies on the release of carbon by logging and by thinning, as well as by wildfire. This is important. Morgan and Apt (2024) put it bluntly in their editorial in the journal Science: "Stop arguing and cut emissions." Rather than argue over what is the perfect solution to climate change, recognize that reducing greenhouse gas emissions is a key tactic. Adopt policies that reduce carbon emissions!

Wolf and Nowicki dismiss burning biomass to generate electricity as polluting , ineffecie, and expensive; that is, biomass burning is not environmentally appropriate. Their article and sources are in Bevington (2021).

Traditionally among indigenous peoples (cultural burning), and historically, prescribed fires have been small, local burns. Baker and Bevington, in Bevington (2021), identified five myths about prescribed fire. Rather than reduce fire and smoke overall, prescribed fire increases fire and smoke. That's their first point. Second, prescribed fire is inefficient for public safety compared to home and community hardening. Third, prescribed fire is less efficient wildfire for ecological restoration because fire is necessary to the ecosystems of wildlands. Additionally, forests where fire has been suppressed do not now burn up for lack of prescribed fire or fuel treatments. Baker and Bevington recommend "managed wildfire" over fire suppression. The fourth myth is that prescribed fire is "good fire." The fact is, prescribed fire can be good, but it can also cause ecological damage and harm public health. Therefore: "projects involving prescribed fire should not be exempted from proper environmental review." Finally, Baker and Bevington point out, cultural burning is not prescribed fire as practiced by the Forest Service.

Cheatgrass is not an excuse for prescribed fire. Not according to the science on cheatgrass as summarized in a literature review by Molvar et al. (2024). Cheatgrass is a problem, "arguably the most problematic, invasive weed in North America," according to Molvar et al. But, the authors add, "The relationship between cheatgrass and fire can most accurately be described as a livestock-cheatgrass-fire cycle," and, "Ultimately, livestock grazing drives the cheatgrass-fire cycle." Reducing or totally removing livestock and letting nature heal over decades is more effective than prescribed fire for controlling cheatgrass. Prescribed fire has proven ineffective, or in some regimes effective only in the short term, and repeated burning to decrease cheatgrass abundance increases erosion and other noxious weeds. Molvar et al. concluded, "Applying prescribed fire in cheagrass-infested areas poses a strong risk of exacerbating the infestation."

Greenstripping is also not recommended by Molvar et al., who noted that "there is little evidence that the extensive and previously constructed system of greenstrips and fuel breaks that has existed for the past sixty years has made a decisive difference in fire size or spread."

Extreme weather already happens. Russell et al. (2024) documented the extreme weather event of September

2020, when dry easterly winds fanned wildfires, killed nine people, and destroyed over 5,000 homes and businesses in Oregon. And the harmful wildfire smoke spread the harm far from the wildfires themselves. The same weather system brought early snowfall to parts of the Rocky Mountains.

Wildlife need more consideration. How would the logging, thinning, prescribed burns, fuel breaks, shrub and forest (vegetative) treatments affect, for example, lizards? Forests provide cooling shade to lizards in hot weather. Remove or reduce these sanctuaries and what happens to tree-dwelling lizards? Zlotnick et al. (2024) concluded in a recent study that most lizards in North America will be negatively affected by the combination of deforestation and climate change.

Wildfire is natural. It is a key driver of the Earth's biodiversity. He et al. (2019) concluded that based on extensive, scientific evidence, "fire is a major ecological and evolutionary force that promotes and maintains biodiversity at local, regional and global scales." Fire consumes biomass, creates environmental heterogeneity that drives biodiversity, and, they add, "promotes and maintains biodiversity by serving as an agent of natural selection in evolution and speciation, and by regulating nutrient cycles and biotic interactions."

I recommend a full environmental assessment of the forestwide proposal. The science I see does not support the current proposal. Please do not disregard any of my sources as being published after preparation of your proposal as the evidence, the sources cited therein were available at the time your proposal was in preparation.

Sources cited in my comments

Bevington, Douglas, compiler. 2021 Working from the Home Outward: Lessons from California for Federal Wildfire Policy. Environment Now, 5 May 2021.

He, Tianhua, Byron B. Lamont, and Juli G. Pausas. 2019. Fire as a key driver of Earth's biodiversity. Biological Review (of the Cambridge Philosophical Society), Vol. 94, pp. 1983-2010. DOI: 10.1111/brv.12544/

Molvar, Erik, Roger Rosentreter, Don Mansfield, and Greta Anderson. 2024. Chatgrass Invasions: History, Causes, Consequences, and Solutions. Hailey, ID: Western Watersheds Project. https://www.academia.edu/114954170/Cheatgrass_invasions_History_causes_consequences_and_solutions

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U.S. Department of Agriculture, Forest Service. 2022. Confronting the Wildfire Crisis: A Strategy for Protecting Communities and Improving Resilience in America's Forests. FS-1187a. January 2022. https://www.fs.usda.gov/sites/default/files/fs_media/fs_document/Confronting-the-Wildfire-Crisis.pdf/ See also https://www.fs.usda.gov/managing-land/wildfire-crisis/

Zlotnick, Omer B., Keith N. Musselman, Ofir Levy. 2024. Deforestation poses deleterious effects to tree-climbing species under climate change. Nature Climate Change, 2024; DOI: 10.1038/s41558-024-01939-x/

ATTACHMENTS:

Cheatgrass-Literature-Review-final.pdf

Bevington 2021 Confronting-the-Wildfire-Crisis.pdf

He fire biodiversity.pdf

Zlotnick Deforestation tree-climbing species under climate change Nature Climate Change.pdf

Russell et al extreme weather.pdf