Data Submitted (UTC 11): 5/2/2023 3:05:31 PM
First name: Wyatt
Last name: Oswald
Organization:
Title:
Comments: Thank you for the opportunity to provide feedback on the USFS Hale's Location Wildfire Resiliency Project. I am an academic researcher with a focus on the postglacial history of New England ecosystems. I have not conducted research in the vicinity of the proposed project, but I have worked in other parts of northern New England (Oswald and Foster 2011; Oswald et al. 2018). After reviewing the project documents, including the slides from the public presentation, I have a handful of observations and questions.

1.The project newsletter states: "Historically, we know that fire shaped this area, particularly in the Moat Mountain area where between the years of 1792-1905 nine separate fires occurred, a median of fire every 12.5 years." It is important to understand that 1792-1905 is an interval of anomalously high fire activity across New England, as European colonists cleared forests and burned slash, purposefully and accidentally. Lake-sediment charcoal records show that, regionally, fire activity during the colonial period was higher than during the previous ~8000 years (Oswald et al. 2020). Is there some aspect of the proposed management units that makes them unusually prone to fire, like well-drained sandy soils? If not, selecting the interval of European colonization and forest clearance as a target for the restoration of fire as a "natural process" strikes me as an odd decision.

2.The project newsletter states: "Both [proposed management] units contain white pine, pitch pine, and oak with scattered hemlock and northern hardwoods." The public presentation (slide 11) suggests that the prescribed-fire treatment would result in "Some mortality in the overstory, particularly hardwoods", while creating "Improved potential for pine and oak germination." Lake-sediment pollen data (Shuman et al. 2005) and colonial-era forest surveys (Thompson et al. 2013) from the Hale's Location area show that pre-European forests were dominated by beech, birch, and hemlock, with smaller amounts of spruce, white pine, and oak. The goal of the project seems to be to advantage the early successional species that currently occur thanks to colonial-era disturbances (Thompson et al. 2013), while disadvantaging the late successional species that were present for millennia prior to European forest clearance. Is there any evidence that the forest of the proposed management units differed in composition from the broader landscape prior to European arrival?

3.The project newsletter states: "This area contains vegetation types and hazardous fuel loads that can result in fire behavior that is challenging to suppress." The public presentation (slide 9) shows a map of the Hale's Location area with "flame length" determined by fire-behavior modeling. I do not have expertise in fire suppression or this type of modeling, but a couple of questions occur to me: (a) What are the assumptions (e.g. weather conditions) behind this specific model run? (b) The flame length in the proposed management units seems to be mainly in the range of 1-4 feet, the second lowest of the categories. This would appear to be a relatively low-intensity surface fire, in contrast to the nearby areas with flame lengths >25 feet. Under what conditions would the modeled fire (i.e. 1-4 foot flame length) occur, and is that type of fire truly "challenging to suppress"? If the forests in the proposed management units were allowed to succeed to hardwoods over coming decades, what would be the modeled flame length for that type of forest?

4.Out of curiosity, I used the website realtor.com to find a property for sale in the neighborhood northeast of the proposed management units. For each property, the website provides information about "environmental risk", including flooding and wildfire. For this particular property, the stated wildfire risk is "minor", with the following explanation: "This property has a less than 1% risk of wildfire over 30 years. This property's risk of wildfire is not changing." Environmental-risk assessment is crucially important to homeowners and prospective home buyers. There seem to be mixed messages, and I worry that the USFS may be creating confusion through their rationale for the proposed project.

5.If there is a legitimate wildfire risk for the neighboring community, what other options for risk mitigation have

been assessed alongside prescribed fire? For example, has there been consideration of updated building codes or abatement of fuels within the neighborhood? If this project goes forward, does the neighboring community have any guarantee that treatments will continue every 2-25 years? I worry about the sustainability of the project over decades with changes in USFS personnel, priorities, and funding.

6.How do we weigh the purported need for "wildfire resiliency" against the benefits of mature forests? For example, carbon storage would be much higher in a late successional forest than in a routinely burned early successional forest. Has the full range of ecosystem services been assessed?

7.As I understand it, Section 605 of Healthy Forests Restoration Act (HFRA) allows for the use of Categorical Exclusions (CEs) for wildfire resilience projects. With CEs, formal environmental assessments and environmental impact statements are not required. In large areas of the western US, where historic fire suppression and ongoing climate change have brought about major changes in fire regimes, the use of CEs seems reasonable, as it hastens mitigation projects, including forest thinning and prescribed fire. But I wonder if the use of CEs under HFRA Section 605 is appropriate in northern New England, a region classified by the USFS (Dillon et al. 2015) as having "very low" wildfire hazard potential? Just because the CE mechanism is available doesn't mean it should be used to bypass standard assessments of environmental impacts.

References

Dillon et al. 2015.
https://www.fs.usda.gov/research/treesearch/49429

Oswald and Foster 2011.
https://harvardforest1.fas.harvard.edu/sites/harvardforest.fas.harvard.edu/files/publications/pdfs/Oswald_Holocene_2011.pdf

Oswald et al. 2018
https://harvardforest1.fas.harvard.edu/sites/harvardforest.fas.harvard.edu/files/publications/pdfs/Oswald_JBiogeography_2018.pdf

Oswald et al. 2020.
https://harvardforest1.fas.harvard.edu/sites/harvardforest.fas.harvard.edu/files/publications/pdfs/Oswald_NatureSust_2020.pdf

Shuman et al. 2005.
https://www.tandfonline.com/doi/abs/10.1111/j.1467-8306.2005.00458.x

Thompson et al. 2013.
https://harvardforest1.fas.harvard.edu/sites/harvardforest.fas.harvard.edu/files/publications/pdfs/Thompson_PLoS1_2013.pdf