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Submitted: electronically with attachments on the Forest Service website:
https://cara.fs2c.usda.gov/Public//CommentInput?Project=57392

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Title: Objection to the Sandwich Range Vegetation Management Project Final Environmental Assessment and the Finding of No Significant Impact

Summary: My comments to the Forest Service both during scoping (2020-07-07) and in response to the SVMP Draft EA (2023-08-30) noted that the entire world is engulfed in a climate crisis of unprecedented magnitude. Forests and human manipulation of them is an important source of the emissions that are causing the problem, and also an important – if not the most important – nature-based remedy for that problem. As I noted, the SVMP stands directly opposed to public policy, including that enunciated in at least three Executive Orders, and does not reflect the current state of forestry and climate science. Although some FS scientists have acknowledged a great deal of uncertainty in climate science at this point in time, the creators of the SVMP chose to cherry pick from the available science to justify their logging and burning plan. In spite of many references to current science by myself and many others during the comment periods, the SVMP

has changed only superficially since the *Notice of Proposed Action: Sandwich Vegetation Management Project* was first published in early 2020.

Remedy Requested:

Pause implementation until a full consideration of a no-action alternative is made.

The Purpose and Need cannot reasonably be based only upon a forest plan that does not recognize the existence of climate change. Broader consideration of forest science and its uncertainties is needed before a no-action alternative can be rejected.

I. Background

Today the acceleration of climate change is stunning as it strikes all parts of the world with increasing and frightening violence. It is hard to remember now just how different the idea of "global warming" seemed to us two decades ago when the when the current WMNF Forest Plan was being finalized. Of course, even then most of us believed that it was a real result of human activity, and that it would gradually increase. But it took sharp eyes to spots effects of it, and many people were hopeful that natural gas or some other technical fix could forestall, perhaps indefinitely, the arrival of the dire results that were predicted. International agreements like the UN Framework Convention on Climate Change seemed like a good idea, but certainly not vital to the world economy, let alone our environment or our own safety.

So it is not surprising that the 2005 WMNF Forest Plan makes no mention whatsoever of greenhouse gases, carbon, climate change or global warming. (The EIS for the Forest Plan did mention, as a very minor point, that the Forest offered "ecosystem" services, and towards the bottom of that paragraph, almost as an afterthought, noted that "forests also act as a carbon sink.")

However, that was then, and this is now. Today climate is a top national and global priority. Forests have moved from the periphery of the climate crisis response much closer to its the core. In the United States, Presidential Executive orders direct federal agencies: to "[Lead] the Nation on a firm path to net-zero emissions by 2050" [Executive Order 14057, sec 101], to "protect America's natural treasures, increase reforestation" [Executive Order 14008, sec. 214], and to "conserve America's mature and old-growth forests on Federal lands" [Executive Order 14072, sec 1].

At this moment in history, it is at best incomplete, and at worst unreasonable and irresponsible to develop the "Purpose and Need" for a proposed forestry operation with likely climate impacts from a Forest Plan that does not even acknowledge the existence of climate change.

II. Science

As I stated in my scoping comments: “It is unfortunate -- and surprising -- that the "Notice of Proposed Action - Sandwich Vegetation Management Project" makes no reference to climate change.”

To the credit of FS personnel, the SVMP Final EA adds a section on Climate Change and Carbon. Yet there is no corresponding change in the plan. From our meetings with Forest Service personnel, I know that this is because they believe the science unequivocally supports the active forest management approach of the SWMP. But as I will now demonstrate (by fleshing out my 2022 & 2023 comments), the assertion that active forest management is the best strategy in the face of climate change is a result of a conscious choice to work inside an informational bubble that excludes the opinions of much of the scientific community.

In view of the emergent nature of the climate crisis, scientific work in academic, governmental and non-profit spheres has been extremely active for a number of years. The world’s forests are an important focus of this work. So-called "Natural Climate Solutions" -- by far the largest part of which involve forests -- "can provide over one-third of the cost-effective climate mitigation needed between now and 2030 to stabilize warming below 2 degrees C." Furthermore, this estimate “can be considered conservative with respect to an initial 50-year period of halting global timber harvests within natural production forests.” During that 50 year period the world’s need for wood and fiber would be accommodated by “by increased yields from Improved Plantations and additional wood production due to Reforestation” [Griscom et al., "Natural climate solutions", Proceedings of the National Academy of Sciences (2017). Attached]

Research in Oregon showed that better forestry – particularly lengthened harvest cycles on private land and restricting harvest on public land – could improve net carbon balance by 56%. The same analysis framework could be applied to other temperate forests. [Law et al., “Land use strategies to mitigate climate change in carbon dense temperate forests”, Proceedings of the National Academy of Sciences (2018). Attached]

More recently an extensive survey of the scientific literature concluded: “accepting change with natural stewardship and exposure to natural disturbances and processes generally increases structural complexity, carbon storage, and tree species and other diversity. These accruing benefits, in turn, make forests more resistant and resilient to many future natural challenges and provide mitigation against climate change. Given the limited resources for actively managing forests, the mixed evidence of management promoting young trees and reducing fire and other risks, and little evidence that we can actively resist or direct change in unknown future conditions better than nature can, protecting more forests with natural stewardship is a cost effective way to harness the inherent adaptation and mitigation powers in forests . . .” [Faison et al., “The importance of natural forest stewardship in adaptation planning in the United States”, Conservation Science and Practice (2023). Attached]

The SVMP supports timber cutting to increase "early succession forest habitat". But this type of forest sequesters less carbon than mature forest, has less structural diversity, and far less biodiversity according to a recent literature review. [Kellett et al., "Forest-clearing to create early-successional habitats: Questionable benefits, significant costs", Frontiers in Forests and Global Change (2023). Attached]

I present this small sample of interesting research not to dispute the science cited by the Forest Service, but simply to illustrate the point that many excellent scientists have a different point of view. If, as physicist Gregory Benford wrote: "Science is a continuing dialog among diverse and conflicting voices, no one ever wholly right or wholly wrong, but a steady conversation forever provisional . . .", then to get the whole picture, the Forest Service needs to be open to conflicting views.

Yet it is clear that desire to push the SVMP ahead precluded a full understanding of the complete ecosystem and the global climate challenge. The "Forest Carbon Assessment for the White Mountain National Forest in the Forest Service's Eastern Region" Dugan et al, Version 2.0 January 2024, actually presents the science as it is at this point: certainly uncertain.

In fact Dugan et al use the term "uncertain" 37 times in their report. That reflects not only the current state of the science, but also difficulty seeing into the future. By contrast, the Saco District's "Carbon and Greenhouse Gas Emissions Assessment" updated January 2024 uses the term exactly once, and the Final EA uses it not at all. I would maintain that reflects the authors' over-confidence.

Unfortunately, it also seems possible that this isolation of a segment of FS scientists from the broader spectrum of scientific discovery may reach far beyond the Saco District.

Just last November a worldwide team of over 200 scientists combined ground-sourced and satellite imaging techniques to measure the carbon sequestration potential of various land use types. They found that existing natural forests have the potential to absorb 139 Gt of Carbon if allowed to recover. (Although the greatest potential exists in the tropics, their maps show significant opportunity in the Northeastern United States as well.) [Integrated Global Assessment – Nature 2023. Attached]

However, of the 26 US-based authors only one listed a USDA or FS affiliation. (That was NH's own Dr. Yude Pan, USFS Northern Research Station, Durham.)

III. Critique of "Carbon and Greenhouse Gas Emissions Assessment"

1. The report claims "carbon emissions during the implementation of the proposed action would have only a momentary influence on atmospheric carbon concentrations. This is because carbon will be removed from the atmosphere with time as the forest regrows, further minimizing or mitigating any potential cumulative effects." There are two logical fallacies here. One is that the "moment" invoked is actually many decades, depending on the age, size and species removed. The other fallacy is that this statement creates a dog chasing its tail: the carbon loss to the atmosphere will never be recaptured as long as the Forest Service continues cutting on the WMNF. The statement could only be true of the last cut ever made.

2. In several places the report resorts to what can best be described as distraction. For example: "The largest source of greenhouse gas emissions in the forestry sector globally is deforestation". The whole paragraph states facts that have nothing to do with cutting and burning in the Sandwich Range. It is also true that it will be impossible to control our climate without drastic cuts in use of fossil fuels. But in order to establish a logical connection between those facts and the SVMP, the authors would have to establish that not logging and burning would somehow lead to less effort being applied to those larger problems. Yet the opposite may be closer to the truth. Some of the opponents of the SVMP who commented feel that drawing attention to climate and logging could energize, at least in a small way, larger climate initiatives.

3. "In the absence of forest harvest, the forest where this proposed action would take place will thin naturally from mortality-inducing natural disturbances and other processes resulting in dead trees that will decay over time, emitting carbon to the atmosphere." This is an interesting statement. Where is the evidence for it? If true, doesn't it indicate that operation to thin these stands is unnecessary, since nature will do it for free?

4. "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 . . ." Wildfire in the WMNF is a very remote risk. Although insects and diseases are certainly present, they have so far had little effect on carbon storage. The real threat is harvest. See, for example, Figure 10 in Dugan et al.

5. "The prescribed treatments also enhance the diversity of tree species, ages, and structures that are present in forest ecosystems, and this diversity can increase the ability of forests to withstand increasing pressures from climate change and other stressors." This statement is highly debatable. As pointed out above, some good science – although not made a part of the Final EA – says that the most effective way to enhance that diversity is to just let mature forests grow. [Kellett et al 2023]

6. The unfortunate conclusion reached by this paper is: "In summary [the proposed operation] might contribute an extremely small quantity of greenhouse gas emissions relative to national and global emissions." The Final EA uses the same words.

There are many problems with this type of rationalization. Most obviously, if everyone took this approach, GHG emissions will never be controlled. As with any of these "Tragedy of the Commons" situations (defined as individuals' tendencies to make decisions based on their personal needs, regardless of the negative impact it may have on the common good), the FS feels its greenhouse gas emissions are too important to restrict. But understanding the environmental impact depends on extending that attitude to others as well – the fellow with the gas guzzling pickup, the gas stove, the one who turns up the heat instead of putting on a sweater – all of them also feels their GHG emissions are too important to restrict.

Moreover, the Forest Service is supposed to be a leader and a model of desirable behaviors. And globally, if the world's richest country won't control carbon emissions, how can we expect poor nations to do so?

Also, this de minimis argument is completely reversible. Let's take a hard look at the six million board feet of forest products the Final EA promises over 5-10 years. It amounts to less than 1 one-thousandth of 1 percent of total US forest products consumption. That certainly meets the criteria of "an extremely small quantity". So why bother? Why go to all that expense, release all that carbon, risk injuries, antagonize a large regional clientele of hikers, skiers, dog-walkers and amateur naturalists, and waste FS time which is certainly needed elsewhere? Why make such a mess for less than a thousandth of a percent?

IV. Final Note and Meditation

I always loved this poem . . . it seemed so profoundly accurate about medical intervention in human health and disease. But until I began to work on this objection statement, it never occurred to me that it referred to any profession other than my own. Suddenly it is so clear that the poet, who could never have known this exact situation, none-the-less profoundly understood the current dilemma of the Forest Service.

Surgeons must be very careful
When they take the knife!
Underneath their fine incisions
Stirs the Culprit – *Life!*

– Emily Dickinson