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Title:

Comments: Hi Suzanne, I have some comments about your proposed project, but the web links designated for comments don't open on my browser for some reason. So, I am sending these comments directly to you. First off: What an ambitious and meticulously planned project! Congratulations on jumping through all those regulatory hoops. My main concern is about "institutional consistency/persistence"...in other words, that you aren't starting something that will never be brought to fruition because the USFS will move on to other things after you depart for greener pastures. Fire regimes are a long-term affair. Our fire records from Bolton and Battell suggest that red pine cohorts established during periods lasting several decades when burns recurred frequently. It makes sense that red pines need repeated burns to knock down their thin-barked, angiosperm competitors. The other nagging concern is that macro-climate and land use have changed so fundamentally that it is no longer possible to recreate the conditions required for regeneration of these fire-dependent communities. All the red pines in the Battell Forest established during the 1800s during the Little Ice Age (LIA). (SEE FIGURE BELOW) Probably, the LIA saw more variable climate in Vermont because of more frequent incursions of polar high pressure systems during both summer and winter. Were summer droughts more frequent? Possibly. The 1830s-1850s were also a period of intense forest clearance in the adjacent lowland, which meant there was a lot of anthropogenic burning. Bottomline: There is a high probability that in the current climate milieu, controlled burns cannot like these create the conditions that red pine and pitch pine communities need to regenerate along the escarpment. But here is the upside: We need to do something to assist these threatened plant communities, and the attempt can provide valuable new insights. My suggestion is to approach this project as a series of experiments designed to address a series of questions like these: What are the relative resistances of different tree species to the same ground fire? (There is anecdotal evidence about these differences, but we need to know the specific answer for the Northern Escarpment and its tree species.) Do red pine and pitch pine respond to fire damage by producing cone crops? What season of burning is most effective at killing different tree species? What are the effects of fires that are repeated at different intervals? (This is a key hypothesis: Burning must be repeated every few years for at least a decade in order to coincide with a peak in pine-cone production.) A final comment is simply this: Records of the primeval fire regime are needed before trying to recreate them in the present day. Fire science has progressed greatly Out West, and there are now methods for estimating fire frequency and fire severity using charcoal preserved in lake sediment. Join those records with the fire-scar records from trees, and you might gain a reasonable idea of what the "natural" regime was. Were fire regimes fundamentally different in the early 1800s than today? How much anthropogenic burning was going on then? Maybe the Native peoples burned as much or more than European settlers. More research is needed before messing with Mother Nature. I think it is great what you are setting out to do. For some of the reasons described above, there is a high probability that it will come to naught. But you have begun, and that is something really fine.