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Comments: Proposed actions for the Devil's Hen's Nest area that concern me include extensive commercial logging and prescribed fire. Justifications for these plans follow a "Forest Plan" which was formulated before the need to address human induced climate change was recognized except by a relatively small cadre of climate scientists. While changes in planning may require action from higher levels of management, it is not unreasonable for local managers to be proactive in their management decisions when there are opportunities to address global concerns. Specifically, leaving growing forests intact and unburned can contribute by sequestering carbon and maintaining natural biodiversity.

Young, growing trees sequester carbon more rapidly than mature trees, but maximal storage occurs in mature forests. During early successional stages, photosynthesis exceeds total respiration (P>R) and there is net storage of carbon in biomass and soil organic matter. In a mature forest, overall respiration, including decomposing biomass, approximately matches photosynthesis (P=R) and total carbon storage is maximal. Any disturbance, windfalls, logging or burning, alters this balance and carbon storage is reduced (P<R).

Forests under consideration here are mostly in late stages of recovery from previous disturbance, with large and increasing total carbon storage. The value in leaving these forests intact may exceed any possible value derived by setting back succession and releasing sequestered carbon. It would take many decades to recover the level of stored carbon that exists today, or that could be reached in the next few decades of further growth of existing trees.

Prescribed fire in the southern Appalachians, where lighting-caused fires are relatively rare, is problematic. Evidence of fire in the southern Appalachians over the last ten thousand years is convincing, but does not indicate that this represents a "natural" fire regime. Humans have lived here for the last ten thousand years -- Humans who used fire regularly, but had neither the means nor motivation to control it.

Burning a single unit (gram, pound or ton) of biomass releases about 1.4 units of carbon dioxide. Is burning to change forest composition (maple to oak) sufficient reason to release so much carbon?

Except for the introduction and proliferation of non-native invasive species, biodiversity may be compromised by human disturbance. Mature forests support high diversity, including species that require protection from disturbance and species that inhabit naturally occurring disturbed areas, such as windfalls. Increasing disturbance to favor the latter species is ethically questionable.

Collective, incremental human profligacy give rise to global problems including pollution and climate change. It will take collective responsibility to undo the damage. The opportunity to enhance the planet by protecting a nearly natural biotic community from drastic disturbance is worth serious consideration. Minimally mechanized highly selective harvesting only near existing roads is a reasonable alternative.

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