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Re: Prescribed Fire Draft Environmental Assessment & Finding of No Significant Impact

January 12, 2024

Robbie and prescribed fire project ID team members,

On behalf of the Chattooga Conservancy and its constituents, we are submitting these comments regarding the Andrew Pickens Ranger District's (APD) Prescribed Fire Draft Environmental Assessment & Finding of No Significant Impact (hereinafter referred to as "Fire EA," "draft EA," "Burning Project" or "Project") dated December 2023. The Fire EA proposes applying prescribed burning on 41,000 acres (roughly half of the entire APD), including 334 miles of fire line to be used, with "8 miles of this to be new control lines constructed by dozer or hand tools" (Magniez, 2023a. p.4), with a target of burning 4,000-9,000 acres annually, at a fire return frequency of every 2-8 years.

Standing

The Chattooga Conservancy is a non-profit conservation organization working to protect, promote, and restore the natural ecological integrity of Chattooga River watershed ecosystems; to ensure the viability of native species in harmony with the need for a healthy human environment; and, to educate and empower communities to practice good stewardship on public and private lands. The Chattooga Conservancy has an organizational interest in the proper and lawful management of public lands within the Chattooga River watershed, including in the Sumter National Forest. Our members, staff and board members participate in a wide range of activities in this national forest, including those areas that would be impacted by the proposal set forth in the Fire EA. Our collective membership also includes citizens whose private lands, inclusive of its air and water quality, would be directly impacted by the Burning Project. We represent approximately 600 members that support the Chattooga Conservancy's work.

As a preliminary matter, we appreciate the APD's efforts in presenting the proposed Burning Project at the drop-in meeting on 1/23/23 at the Walhalla Depot, and the opportunity to submit comments during the Project's scoping process. However, we are aware of no significant changes to the Burning Project from its coming out at the 1/23/23 drop-in, through scoping process, to the current draft EA. We are left to conclude that our concerns have been discounted, ignored, or sidestepped.

Comments

We believe that our scoping comments were a valid and reasonable response to the proposed Project. Thus, please note that Chattooga Conservancy's scoping comments for the Project are herein incorporated by reference, as well as our comments on the APD's recent "AP FY 24 Prescribed Fire," specifically concerning burning and the APD's proposed treatment of threatened and endangered bats, because the Fire EA proposes this very same treatment. Both aforementioned documents are attached and are incorporated herein by reference. The Chattooga Conservancy has additional comments and concerns about the Fire EA with respect to the draft EA's justifications, or lack thereof, in support of its proposed actions. These are discussed below in greater detail, as follows.

Forest Types, Prescribed Burning, Burning Cycles

The biophysical settings of different forest types intermixed in the proposed burn blocks would be subjected to imprecise methods that burn certain forest types in a time scale that is quicker than even LANDFIRE simulations suggest. For example, the draft EA proposes that a dry-mesic oak forest would be burned on a shorter interval than is claimed historic. Dry-mesic oak is the most abundant biophysical setting in the APD where fire possibly occurred naturally on the "order of 12-15 years OR MORE" (Roy, 2023, p.6). However, under this Project proposal, dry-mesic oak forest would be burned as one with short leaf pine/oak forest and woodland. The short-leaf pine/oak forest and woodland composes possibly upwards of 25% of the acres in the proposed Burning Project area, is found on drier slopes and ridgetops, and as we have stated in previous comments, did historically burn on a regular basis with low severity surface fires. However, the draft EA proposes that all three of these forest types be burned simultaneously, which would force shorter burn intervals upon dry-mesic oak forests than occurs naturally, to "move the forests to the more open desired conditions" (Magniez, 2023a, p.2). This is inappropriate because the scope and burning frequency will be beyond what even LANDFIRE has predicted (as well as what we believe is a more accurate fire return frequency as determined from historical records, which indicate much less frequent fire return cycles in the APD).

Cove and similar forest components are interspersed throughout the APD, and as per the draft EA would also be burned discretionarily. This is inappropriate as these areas burned typically every "30-100 years OR MORE" (Roy, 2023, p.6). None of the scientific, historic, and social data and sources support a 2-to-8-year rotation in burning cycles. This Burning Project is unnatural, too large, too frequent, and disproportionally weighted to favor creating open forest canopies.

As stated in previous comments, the Chattooga Conservancy is not opposed to the use of prescribed fire in a targeted manner that is consistent with natural fire return cycles. Prescribed fires can be advantageous for smaller, appropriate parcels to be restored to recreate areas of historic open canopy forest, such areas that include species of reduced abundance such as Table Mountain Pine and Smooth Coneflower, which helps create a mosaic of habitats across the landscape. However, the Burning Project proposes a universal application of frequent and large-scale prescribed fire, which is geared to treating each habitat in a similar fashion.

The creation of a mosaic of habitats by employing fire on a smaller scale in select locations such as dry ridges on the landscape, is supported by the Chattooga Conservancy as stated previously, but not the large-scale homogeneous management of landscapes with fire. Magniez (2023b) states, "natural fire

within mixed mesophytic forests” were “likely small and restricted to specific topographic positions, such as xeric ridges (Harmon et al. 1983)” (p.2). From the contents of the draft EA and associated documents, it appears that this Burning Project is primarily designed to cultivate desired crop tree species of pine and oak for commercial timber production. Through the documents provided to the public, it appears that “desired species” of trees are the end goal, with “commercial thinnings or stand improvement activities” (Roy, 2023, p.13) in concert with the proposed prescribed fire, is designed to further push forest species composition and stocking toward tree crops that are commercially preferred.

The language in the draft EA of fire as a tool to control (and eliminate) shade tolerant species, and in turn allow for the flourishing of “desirable trees” (Magniez, 2023c, p.2) reveals one of the plain goals of the Burning Project. This indicates that the proposed large scale prescribed fire program is not really to restore the forest to its previous condition as continuously stated, but as another management tool to produce commercially viable timber products of oaks and pines. In fact, all activities in APD will continue (e.g. thinning) for the foreseeable future at the current rate, except for “prescribed burning and timber management, which are expected to increase” (Magniez, 2023a, p.21).

Wildfire Risk

Seemingly with mesophication-producing conditions that are “shadier, cooler, and moister” and “reduce flammability” (Roy, 2023, p.11), this would indicate that the wildfire risk for the APD forest—which is low in the first place—is further decreased, and the whole plethora of associated risks with conducting an intensive prescribed fire program would be avoided. Moreover, the ecosystems in the Chattooga River watershed are extremely wet, and are categorized as temperate rainforest ecosystems, which naturally lead to greatly reduced wildfire risk.

Further, prescribed burning does not prevent catastrophic wildfire. Noted fire ecologist George Wuerther, in a recent article entitled “The Problems of Prescribed Fire,” (The Hill 7/09/2021) points out that a wildfire on the western slopes of the Cascade Mountains in Oregon “...charred hundreds of thousands of acres of forest that had been previously treated with prescribed burns for fuel reduction.” Wuerther also points out that extreme weather conditions, including drought, high temperature, low humidity and wind, are what drives wildfire, regardless of prescribed burning for fuel reduction.

Mesic Forests

The Burning Project would put mesic forests at particular risk. With “higher temperatures, lower relative humidity, and decreased fuel moisture during dry periods, mesic habitats could be adversely affected by prescribed burning” (Magniez, 2023a, p. 20). Several species associated with mesic forest types are known to be sensitive to fire-induced habitat changes. A noteworthy genus, for example, is plethodon salamanders, including the threatened Green Salamander, which is “especially sensitive due to reduction of woody debris and leaf litter that provide refugia and foraging opportunities” (Magniez, 2023a, p.20). In addition, the construction of 8 miles of new control lines “could directly affect botanical species associated with mesic forests” (Magniez, 2023a, p.17). And though “priority migratory birds” that are associated with early successional forests and open woodlands are targeted as benefitting by this Burn Project proposal, this is at the expense of other groups of migratory birds associated with mixed mesophytic forests (Magniez, 2023b). Native mid-story and understory woody plants that favor mesic

forests do not burn at a frequency of every 2-8 years and include some of our native azaleas (e.g. Flame), as well as mountain camellia (*Stewartia ovata*), fringe tree (*Chionanthus*) and redbuds (*Cercis canadensis*) to name just a few. Prescribed burning repeated on 2–8-year fire return cycles may also cause mortality of more sensitive understory plants and federally-listed threatened species such as the Small Whorled Pogonia (*Isotria medeoloides*). These diverse mid and understory layers of forest comprise the rich biological diversity of our native forests, and provide valuable ecosystem services in the APD.

Using National & Eligible Wild and Scenic River Corridors as Fire Lines

The proposed use of both the Chattooga National Wild and Scenic River Corridor and the eligible Chauga Wild and Scenic River Corridor as fire lines for this Burning Project is inappropriate for these rivers' designated purposes. Areas within protected river corridors should be left alone, and dominated by natural disturbance regimes and natural landscape processes.

The Chattooga Wild and Scenic River's outstandingly remarkable values (ORV) include "scenery." The Burning Project claims that any impacts to scenery are temporary, but the integrity of scenery ORVs can still be violated with "temporary" impacts. In fact, the Chattooga Conservancy has received numerous complaints from the public about the unexpected and unsightly effects of past prescribed burning within the SC side of the Chattooga River corridor.

Recreation

The Burning Project is anticipated to impact "58 miles of 30 authorized trails" (McBride, 2023, p.6). It is unclear from the draft EA documents if these trails are planned to be directly used as fire lines or impacted merely by being in the burn block. Either way, this is simply another indication (in addition to the ORV impacts described above) that the Burning Project is too large and expansive in its scope.

Non-Native Invasive Species (NNIS)

Prescribed fire aids the spread of non-native invasive species such as *Elaeagnus sp.* including autumn olive, Russian olive and silverthorn. The Forest Service has identified invasive species as "one of the four critical threats to our nation's ecosystems" (Magniez, 2023d, p.1). The use of dozers and heavy equipment to create fire lines will "likely introduce and spread new infestations of non-native invasive plant species" (Magniez, 2023d, p.3). Residents and frequent users of the forest have documented by direct observations that in frequently burned areas of the APD, a corresponding explosion of *Elaeagnus* has occurred and is spreading across the landscape. This plant is considered by the USDA as one of the most harmful NNIS. Many common NNIS follow disturbances, such as Japanese Knotweed (*Polygonum cuspidatum*) and Japanese Stiltgrass (*Microstegium vimineum*). In addition, prescribed burning to mitigate invasive species in any capacity has been questioned (Magniez, 2023d, p.3), and NNIS populations would be expected to increase in the event of widespread burning.

Soil Impacts

One of our biggest concerns is the impact and variability for "hot" fires, which may be caused by this type of large scale intensive Burning Project. The draft EA's documents state that there is "potential for a significant environmental effect" on soil conditions and could "approach a threshold" (Jennings, 2023,

p.1). This threshold is often only noticed after alterations of “the physical, chemical, and biological processes” have been affected, and it is too late.

The Project documents provided by the APD highlight the extreme variability of fire management in the district, and that some previous fires have burned more intensely than were intended and planned for. In these cases of unintentional “hot” fires, “adaptative management” may be used to restore what was lost. This calls into question the assurances that the proposed fires will be, and can be, controlled at a low intensity level. The Boatwright unit is one example where a previous prescribed fire burned hotter than anticipated on steep slopes, and erosion in this unit is occurring. Other areas with reduced organic surface depth due to previous prescribed fires include Spy Rock, Moss Mill, and Turkey Ridge.

The intensity of prescribed burns is notoriously hard to judge, and fires may not appear to be severe but can consume large amounts of organic matter (Neary et al. 2000). With the steep slope topography of the APD, soil loss is of great concern as this has been documented with prescribed burning (Neary et al. 2000). The only option that provides protection for future soil health within the APD is reduced soil disturbance activities including small scale, targeted prescribed burning on sites that are historically appropriate.

As the Forest Service documents state, “management goals may not be completely complementary with respect to soil quality” (Jennings, 2023, p.5). This has the potential to not only reduce soil health but also increase erosion and stream sedimentation throughout the burn area. The disturbance of soil during project preparation and construction of firelines, reduced soil organic matter, as well as unique characteristics across the landscape (e.g. topography) will exacerbate this problem. With fire severity higher on steeper slopes and the tops of ridges, these areas will be “more susceptible to erosion when litter and duff is removed” (Jennings, 2023, p.5). Thus “sedimentation would be a concern in areas where severe burns occur on steep slopes adjacent to surface waters” (Jennings, 2023, p.5). This is of utmost concern as many streams occur in the Project area, as well as both designated and eligible National Wild and Scenic River Corridors and their surrounding, oftentimes steep lands in the proposed burning zones.

Water Resources

The calculation of impacts on water resources within the burn block areas by simulation seems under representative of the potential impact to soil health and erosion that has been already stated in previous sections. Adding to this concern is that these proposed burn areas, with potentially large sediment impacts, include the sensitive nature of protected areas such as designated and eligible National Wild and Scenic Rivers. In addition to this, the mountains of southeastern United States and in particular the Chattooga River watershed receives much higher amounts of precipitation than the rest of the U.S. except the Pacific Northwest. A larger percentage of this precipitation falls in the winter (Lucas, 2023, p.7), which would also coincide with the planned time of these large-scale prescribed burns, further adding to the risk of erosion and resultant water impairment. In addition, the use of burning in areas where previous soil disturbances have occurred (e.g. timber harvesting) increases the probability of soil erosion after treatment (Swift et al. 1993). These cumulative effects from repeated activities typically

result in “localized loss in soil productivity due to compaction, rutting, soil displacement, erosion, or the removal of the organic surface” (Jennings, 2023, p.9).

The draft EA documents appear to contradict when they state that “aquatic management zone buffers are required around all water features,” but then also state that the streams and rivers within burn zones would be used as firebreaks themselves. The draft EA documents also provide confusion in assurances of water quality in that “proposed treatments would not increase sedimentation into streams” (Lucas, 2023, p.5) but that also “actual runoff, erosion, and sedimentation would vary depending upon various watershed and weather conditions, and project implementation” (Lucas, 2023, p.18). The proposed large scale burning and construction of fire lines as Magniez (2023a) states, “could adversely affect aquatic habitats through increased sedimentation in creeks and streams” (p.19).

Lack of Monitoring Data

The continued difficulty of monitoring and lack of current monitoring data calls into question any high-risk proposal such as this. We have participated in several Fire Learning Network meetings and other forums. Monitoring the effects of prescribed burning across the landscape has been discussed, and land managers have admitted lacking adequate resources for monitoring to document the effects of large scale prescribed burning programs. As one simple example, the effects of a prescribed burn at the Russell Cane Fields was not monitored despite repeated requests by the river cane restoration project partners that follow up monitoring occur (and in fact, the burn killed the best stand of cane). The APD’s prescribed fire programs have greatly increased in the last decade; however, evidence of specific monitoring data related to past prescribed burns is scant. As shown in the previous section and documented in Jennings, 2023, it is unquestionable that some previous prescribed fires in the APD burned hotter than anticipated. The APD asserts in the draft EA that the district’s resources are stretched thin (for executing a timber sale program of more than 500 acres per year), and it is unclear how the effects of burning thousands of acres annually could be monitored and documented in a timely manner.

Climate Change

As stated in the Burning Project’s reports, “It is not feasible to quantify the indirect effects of individual or multiple projects on global climate change” and thus “determining significant effects of those projects...on global climate change cannot be made at any scale” (Martinez and Williams, 2023, p.4). However, it is plainly disingenuous to correlate climate change impacts on the APD to a global scale, as a strategy to discount any quantifiable effects at the forest level. This is especially true in light of Martinez and Williams (2023) stating that, “The primary effects of the project to climate change would be the production of greenhouse gases from prescribed burning” (p.19).

This proposed large scale burn program is just one of many actions occurring on the APD that are unfortunately adding to climate change impacts. The ongoing silvicultural projects of other intensive timber harvesting projects ongoing in the APD, including the Loblolly Project and the White Pine Project, involve large blocks of clearcutting and large amounts of associated soil disturbance. The release of carbon from these projects is not acknowledged or included in the cumulative effects analysis concerning climate change (draft EA appendix E), which simply lists negative effects of climate change

while completely failing to include a cumulative effects analysis of the Burning Project plus the thousands of acres of clearcutting/select cutting and soil disturbance of the ongoing Loblolly and White Pine projects in the APD.

Meanwhile, all of these factors taken as a whole also lead us to believe that this project is part of an overall top-down, one size fits all vision and implementation of the 2009 Federal Land Assistance, Management and Enhancement Act (the FLAME Act). We believe this Act has pushed and freed up funds to manage and push forests towards being “fire adapted” and containing “desired species” for forest products. This was created in large part due to threats in the much different landscape of the arid western United States. We hold that this management prerogative is not in the best interest for our national forests in the Southern Appalachians, or for the citizens who use these public lands.

Air Quality

Frequent prescribed burning can add significant amounts of particulate matter to the air and result in negative health impacts. Although smoke from individual prescribed fires may disperse during a 24-hour time period, the annual and cumulative impacts of frequent prescribed burning at the scale and intensity described by the APD’s long-term Burning Project proposal can reasonably be expected to cause regular episodes of poor air quality conditions for citizens in the surrounding residences and communities on private lands in the APD.

Bat Species

As stated in our previous APD FY 2024 burning comments, critical bat habitat and threatened and endangered species of bats are not being adequately safeguarded with this Burning Project proposal. This is true of all bat species, but especially so of endangered bat species found in the APD. The targeted removal of federally listed bat habitat at any time is a clear violation of the Endangered Species Act. The proposed Project will jeopardize federally listed species and cause significant adverse impacts to their habitat. Further, such actions as described in the draft EA to avoid a direct taking of Northern Long Eared Bat, to facilitate a questionable proposed widespread action of prescribed burning, sets a potentially dangerous precedent for how this species and its habitat will be treated in the APD. The removal of critical habitat in bat life cycles across large acreages will jeopardize the future of a struggling species on our public lands.

Fire History of the Appalachian Region: A Review and Synthesis (Lafon et al. 2017)

We agree with the statement in Appendix D section of the APD – Draft Environmental Assessment and Finding of No Significant Impact, that with the APD is indeed in the Blue Ridge physiographic province. We also agree with the point that precipitation and fire regimes in this area are very much different from those of the Appalachian Plateau. The Blue Ridge Province gets considerably more precipitation and stays significantly wetter than the Appalachian Plateau region. For example, Highlands, NC, in the Chattooga River watershed receives an annual average of 81 inches of precipitation a year, and was documented to exceed 136 inches in 2020. Precipitation in the Appalachian Plateau region averages, for instance in central West Virginia, only around 40-45 inches per year. Due to these differences and parts of APD being categorized as a temperate rainforest, we would agree with the APD again that these areas would have much different fire regimes as well. With more than twice the amount of average annual

rainfall, one can only conclude that historically, fire was less frequent in the South Appalachians and escarpment than in the Appalachian Plateau region.

Request

Based on the draft EA, and even if previously planned and ongoing silvicultural treatments still occur (Roy, 2023, p.8) due to forest management goals of the APD, the presence of these other widespread intensive timber harvesting methods do not warrant the addition of unnecessary or ahistorical fire management. As stated in the draft EA supplemental materials, the more combined activities, the greater the risk and chance of negative consequences such as soil erosion, stream sedimentation, and decrease of soil health. And as Roy (2023) states, the LANDFIRE simulations “did not result in drastic shifts in species composition” (p.11). Since this would not seemingly meet the APD goals of reshaping forest habitat in favor of open-canopy species for their management goals, the Chattooga Conservancy respectfully requests that since there are so many other risks and variables with this level of fire treatment, this Burning Project should be abandoned immediately, and redesigned at a much smaller scale and intensity.

/s/

Chattooga Conservancy

References

- Jennings, J. (2023). *Andrew Pickens Prescribed Fire Environmental Assessment: Soil Effects Analysis*. USDA Forest Service, Francis Marion and Sumter National Forest.
- Lucas, J. (2023). *Andrew Pickens Prescribed Fire Environmental Assessment: Water Resources Effects Analysis*. USDA Forest Service, Francis Marion and Sumter National Forest.
- Magniez, J. (2023a). *Andrew Pickens Prescribed Fire Environmental Assessment: Draft Biological Assessment and Biological Evaluation*. USDA Forest Service, Francis Marion and Sumter National Forest.
- Magniez, J. (2023b). *Andrew Pickens Prescribed Fire Environmental Assessment: Migratory Birds Effects Analysis*. USDA Forest Service, Francis Marion and Sumter National Forest.
- Magniez, J. (2023c). *Andrew Pickens Prescribed Fire Environmental Assessment: Management Indicator Species Effects Analysis*. USDA Forest Service, Francis Marion and Sumter National Forest.
- Magniez, J. (2023d). *Andrew Pickens Prescribed Fire Environmental Assessment: Non-native Invasive Plants Effects Analysis*. USDA Forest Service, Francis Marion and Sumter National Forest.

- Martinez, M. and Williams, S. (2023). *Andrew Pickens Prescribed Fire Environmental Assessment: Air Quality and Climate Change Effects Analysis*. USDA Forest Service, Francis Marion and Sumter National Forest.
- McBride, S. (2023). *Andrew Pickens Prescribed Fire Environmental Assessment: Recreation Effects Analysis*. USDA Forest Service, Francis Marion and Sumter National Forest.
- Neary, D., Robichaud, P and Beyers, J. (2000). *Burned Area Emergency Watershed Rehabilitation: Program Goals, Techniques, Effectiveness, and Future Directions in the 21st Century*. U.S. Department of Agriculture, Forest Service Proceedings RMRS–P–13.
- Roy, C. (2023). *Andrew Pickens Prescribed Fire Environmental Assessment: Forest Vegetation Effects Analysis*. USDA Forest Service, Francis Marion and Sumter National Forest.
- Swift, L., Elliot, K, Ottmar, R, and Vihnanek, R. (1993). Site preparation burning to improve southern Appalachian pine-hardwood stands: fire characteristics and soil erosion, moisture, and temperature. *Canadian Journal of Forest Research* 23: 2242-2254.
- U.S. Department of Agriculture, Forest Service, Southern Region. (2004). *Revised Land and Resource Management Plan, Sumter National Forest*. 208 pages. Available online at: <https://www.fs.usda.gov/detailfull/scnfs/landmanagement/planning/?cid=stelprdb5261413&width=full>