September 14, 2015

Thomas Speaks, Reviewing Officer
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NOTICE OF OBJECTION

Re: Lower Cowpasture Restoration and Management Project Final Environmental Assessment (EA); Draft Decision Notice (DN) and Finding of No Significant Impact (FONSI)

Dear Reviewing Officer Speaks:

This letter is a formal objection to the Lower Cowpasture Draft Decision, FONSI and Final EA pursuant to 36 C.F.R. § 218. [36 C.F.R. § 218.8(d)(4)]. The Responsible Official is James River and Warm Springs District Ranger Patrick Sheridan who will implement the project in the George Washington National Forest's James River and Warm Springs Ranger Districts. The objection letter is submitted on behalf of Wild Virginia and Heartwood who submitted timely scoping comments and are eligible to file an objection under 36 C.F.R. § 218.5.

Previous comments on behalf of the objectors have been submitted July 31, 2014 and June 15, 2015. These include extensive discussion of assumptions that have driven this project from its inception and which have not been sufficiently addressed or responded to. These previous comments are intended to be used as references for the basis of the the present objections.

Ernie Reed of Wild Virginia is the lead objector pursuant to 36 C.F.R. § 218.8(d)(3).

Wild Virginia is a grassroots, non-profit organization dedicated to preserving wild forest ecosystems in Virginia's national forests through education and advocacy. Wild Virginia members, directors, and staff all are regular users of the forest through the Wild Virginia outings and forest watch programs. Members of the Wild Virginia staff, board and membership body have also participated in meetings and fieldtrips associated with the Lower Cowpasture Project.

Heartwood is a cooperative network of grassroots groups, individuals, and businesses working to protect and sustain healthy forests and vital human communities in the nation's heartland and

in the central and southern Appalachians. Heartwood, Heartwood members and member groups, including Wild Virginia and Virginia Forest Watch regularly use the George Washington National Forest and have participated in meetings and fieldtrips associated with the Lower Cowpasture Project. Concerns for impacts to flora, fauna, water resources, and recreation inform these comments.

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Introduction

Wild Virginia and Heartwood wish to thank the Supervisor, District Ranger and staff for doing what we consider a thorough job over the past few years identifying issues, engaging the public, and facilitating interaction among various members of the public regarding this project.

Finding of No Significant Impact, Monitoring and Adaptive Management

We object to the fact that as a result of the Environmental Assessment (EA), the agency has concluded that there were found no significant impacts resulting from the preferred alternative.

We find that there are numerous specific "significant" impacts inherent to this alternative, as we will note throughout this objection. Also of note are the numerous environmental impacts referenced throughout the EA. Labeling these as having "no significance' is not based on objective data but instead is based on an arbitrary standard of "significance."

An effective monitoring program is vital to assess if any significant impacts are in fact occurring as a result of management actions under the preferred alternative. Monitoring is also necessary to assess if management goals and objectives have been met by management under the preferred alternative.

An effective Adaptive Management program would require changes in specific management activities when actual significant impacts have been noted and documented. The clear description of the process that would implement this Adaptive Management program should be clearly specified in the environmental analysis.

Impacts to Water and Air

We object to Proposed Alternative 3 and to the other Alternatives analyzed in the Environmental Assessment (EA), because those Alternatives fail to include adequate monitoring to ensure proper protection of air and water resources.

The EA must commit the Service to develop additional and more specific monitoring programs, to begin implementation of those monitoring programs before project management activities begin and to continue monitoring throughout the life of the project. Adaptive management would require that steps should be taken to cease or change specific management activities immediately or as soon as possible where negative impacts to air or water are discovered.

We are willing and anxious to be part of a monitoring design and review team and believe these objections can be met, in part, by such an effort. However, we believe the Forest Service must commit to such an approach in a final EA. Further, the Service should agree either to abide by the guidance of such a team or be prepared to publicly state its reasons for rejecting that guidance.

It is universally acknowledged that timber cutting and prescribed burns may have detrimental impacts on the quality of surface waters and on the hydrologic conditions in affected areas. It is also clear that burning of forests will affect air quality. While the EA discusses many of these possible impacts and concludes that the favored Alternative 3 would not result in unacceptable changes in water or air quality or in the patterns of water runoff/infiltration, we question a number of the assumptions upon which these conclusions are based.

We discuss our concerns with those some of these assumptions and cite authorities and analyses that support our concerns below. However, we recognize that the most comprehensive literature review possible and a more thorough analysis that integrates all of that literature would still leave uncertainties and that certain assumptions will still be necessary.

While we believe the assumptions we make as to these issues are valid and preferable to some of those offered in the EA, the Service, of course, has great expertise and is granted substantial deference in interpreting scientific information and drawing conclusions. Therefore, we choose not to engage in what could be a fruitless battle over assumptions at this point.

However, we believe that a much-enhanced monitoring program to test the assumptions about how proposed activities will impact air quality, water quality, and hydrologic patterns is not only desirable but that the Forest Service will fail to meet its legal mandates without changes and additions to the proposed monitoring. Therefore, we object to the EA on these bases and assert that Appendix C. must be revised before this process may be judged to meet required NEPA standards.

Air Quality

The Introduction to Chapter 3 of the EA for this project states the "[t]his chapter summarizes the existing condition of physical, biological, and social resources in the Lower Cowpasture project

area as well as the direct, indirect or cumulative effects of carrying out the proposed alternatives." Knowing the existing condition of resources is vital to our ability to understand cause and effect relationships and to make reasonable predictions about impacts of future actions.

Unfortunately, information on existing air quality conditions in the areas most likely to be affected by emissions from prescribed burning proposed for this project is poor or nonexistent. The EA explains that there "is just one ozone monitor within 50 kilometers of the Project, and there are no fine particulate matter reference monitors within that area. . . . Ozone is monitored in Rockbridge County, VA, approximately 32 kilometers southeast of the nearest proposed burn unit."

The lack of a monitor for particulate matter within 50 km of the project area should, alone, require a delay in the prescribed burning under this project until monitoring can begin. Likewise, the fact that a monitor for ozone is 32 km away and that the EA contains no analysis as to whether the prevailing air flow patterns make this site of substantial value for measuring the worst impacts from this project make pre-activity monitoring in an appropriate location imperative. (EA p. 53)

As noted above, there are a number of assumptions, both stated and un-stated, that the Service has apparently relied upon in concluding that prescribed burns in this project won't cause or contribute to unacceptable conditions. Below, we discuss weaknesses in a few of these assumptions to demonstrate the necessity for improved air monitoring:

The EA includes the statement "[t]he visibility impairment caused by the proposed prescribed fires is likely to be short-term (less than 24 hours) in duration, and reductions in visibility (distance, color and texture) are likely to decrease as a person moves away from the prescribed fire." (EA p. 53) While these assertions may well be true, we still find no convincing analysis to support an assumption that such a result is acceptable. We question whether the visibility "impairment" is acceptable if it affects persons living or recreating in nearby areas for as much as 24 hours and this prediction does not address possible cumulative effects. How will reductions in visibility decrease over distances and at what distance will they cease?

The three-year rolling averages for ozone depicted in the chart on page 49 of the EA, show ozone levels in every period from 2008 to 2013 at around 80% of the National Ambient Air Quality Standard (NAAQS). Even if we accepted an assumption that these 3-year average conditions represented impacts from the Cowpasture project area and other sources adequately, it seems likely that the NAAQS standard would have been exceeded for some significant periods during each period. We would reject any assumption that this result is an acceptable outcome or that additional prescribed burns, as proposed, could be executed without violating Forest Service mandates.

The assertion on page 51 of the EA, that the long-term and cumulative impacts of Alternative 1 (the "no action" alternative), would be negative as regards air quality is unconvincing and unsupported. While the absence of additional prescribed burns may well result in an accumulation of "fuel loadings," the assumption that the number and nature of wildfires that

could result would produce more air pollution and be equally or more harmful during the next ten years within this project area are not supported.

While we offer just a few comments here on weak assumptions in the EA regarding possible air quality results, there are many more. The only way to overcome the danger that these bad assumptions pose is to test the assumptions through adequate monitoring, or to eliminate the prescribed burns from the project. An analysis as to the preferred location for a new monitor must be done and a monitor must be installed before burning proposed in the EA begins.

Water Quality and Hydrologic Patterns

An increase in the runoff of pollutants to water bodies may, and often has, resulted from commercial timbering, prescribed burning, non-commercial tree cutting, and removal of biomass for energy production. The levels at which these activities would be practiced under the EA's alternatives 2 and 3 will contribute to such pollution and the monitoring currently proposed in Appendix C is inadequate to determine whether those pollution levels are legally permissible.

As in the section above on air quality, we assert that a number of the assumptions made about the likely impacts on water quality are untrue and/or poorly supported when the larger body scientific literature is consulted. The truth as to actual water pollution impacts that would result from this project must be sought through much-enhanced and targeted monitoring, rather than continuing to rest management actions on assumptions drawn from studies on different landscapes. An improved monitoring program must begin before any of the activities cited above begin.

Along with the transport of pollutants to surface waters, the activities planned in this project may significantly alter the hydrologic cycles on and around the sites. In fact, changes in flow cycles in streams, including in small tributaries, can contribute greatly to waters downstream where the impacts of non-national forest actions have or are already changing hydrological patterns.

Our differences with the conclusions the EA presents regarding water pollution and flows are based on the availability of authoritative technical research papers that find somewhat different results than those cited in the EA. In some cases where the EA's authors drew strong conclusions from the sources they cited, we believe other sources require more caution or even refute EA findings that impacts to water quality and flows will not be substantial or legally prohibited.

We can provide such examples and will be prepared to do so at the meeting/hearing with your staff, if you would like to have that information. However, it will be no surprise to you that research from different places and under different conditions finds different results. We can assert with great confidence that few, if any, of the findings cited in the EA are representative of the whole field of evidence at hand. Also, since few, if any, of the sources studied watersheds that mirror those in this project area, we believe it is perilous to place too much weight on them.

That is the reason we continue to focus on the need for the best monitoring possible, and make this objection on that basis. Below, we briefly outline some additional or revised components that should be included in a monitoring program:

One aspect of both water quality and hydrological conditions that must have a more prominent part in the monitoring scheme is the intensive monitoring of a variety of sites before, during, and after storm events. The EA describes a water quality monitoring program conducted between 1989 and 1996, which seems to reflect the kind of sampling regime needed, though we have not reviewed the details of their protocol (EA p. 82). In any case, some such methods must be used at representative sites to characterize impacts from the various management actions. Both concentrations and loadings of pollutants during one storm can easily make up the majority of an annual discharge from a site. Therefore, periodic grab samples are of much less value here than in some other situations.

Developing stream hydrographs and measuring changes in flow patterns, during both high flow and drought conditions is imperative. We see no mention of such efforts in Appendix C and believe the Service must make a commitment to incorporate this into the EA.

Certain BMPs generally used on sites, including silt fencing and temporary sediment basins have very broad ranges of pollutant removal effectiveness. Much of this variation is due to soil types and slopes. Rather than assuming that each of a certain type of BMP achieves average treatment efficiencies, it is necessary to assess the performance of BMPs used on the Forest in difference circumstances. Further, the reduction of pollutant discharge from a site may not automatically meet water quality standards, especially the antidegradation policy. The EA describes antidegradation rules in Virginia merely to protect the existing uses but a lowering of water quality, even for a short period of time, can violate the policy, whether uses have been clearly impacted or not. The goal of antidegradation is to prevent negative impacts on uses by prohibiting negative changes to water quality - not to wait until more serious changes result.

As stated above, we are willing to participate in processes to design and even conduct water monitoring and can provide additional details on what we consider necessary and appropriate.

<u>Wilson Creek Dam</u>

The EA states that “[n]othing is proposed for the Wilson Creek Dam in Alternative 3, because of archeology concerns. This would continue to be a barrier to aquatic species as well as eliminate the natural form and function of the stream at that location. (EA p. 173) This is true despite finding that “removal would connect a 20 km reach upstream of the dam to a 19 km reach downstream of the dam, for a total connected reach of 39 km. Removing the dam would provide a greater increase in connectivity than improvement of any single road crossing within the Lower Cowpasture project area.”

While we prefer that the dam not be stabilized or rebuilt, as was called for in Alternative 2, **we object to the choice to leave the dam in place, because the EA does not contain a sufficient discussion of the relative weights the Forest Service is legally obligated to**

assign to the competing values - archaeological/historical integrity vs. biological integrity of the stream.

We understand and support the Service's commitment and obligation "to avoid, minimize, or mitigate negative effects on potentially significant cultural resources (Forest Plan, p. 4-19)." (EA p. 39) We simply believe that this important interest may be of lesser public value than removal of the dam and the great ecological benefits that would result. We believe it is unacceptable for the EA to simply reject the dam removal option, based on the cultural resource value, unless that value can be affirmatively shown to outweigh the biological values.

According to the EA a team of "aquatic and stream restoration specialists" determined that the dam would have to be removed for aquatic/stream restoration." (EA p. 39) We have no basis to question that assessment but request that the EA provide some further discussion on this issue. If the dam has partly deteriorated and will not be structurally stabilized, then it seems that the dam will continue to deteriorate and eventually fail. If this is likely and if eventual failure of the structure would restore fish passage, then the no action alternative actually results in a positive restoration management decision.

Again, our objection on this issue can be resolved simply by including a fuller discussion and analysis in the EA. If that discussion still supports the decision to do nothing to the existing structure, then we would support that choice.

<u>Biomass</u>

Until the finalizing of the 2014 Land and Resource Management Plan, removal of timber for biomass burning was considered an incompatible use of the forest. The fact that the Lower Cowpasture Project is the first project that has ever implemented biomass removal for burning is significant as our previous comments have documented throughout the project planning process. It is also the first project ever to award forest resources to a single, pre-determined user. We are not in favor of creating single-user, single beneficiary resource streams in the GWNF, that require no return to the agency, treasury or the public.
The environmental impacts inherent to the removal of logging slash, logging of small diameter trees, tops, limbs and trees of *any* size that are not considered merchantable in traditional markets are many, extremely problematic and not sufficiently addressed in the EA.

There is no limitation placed the removal of trees of any size that are subjectively "not considered merchantable." This creates conditions where it is extremely possible, if not likely, that the removal of these larger, healthy trees could comprise the majority of biomass removed from the 1,217 acres where it is to be allowed.

Also significant is the 300% increase in acres logged for biomass burning in the preferred alternative from the original scoping proposal. The trend to increase and facilitate biomass removal and burning on the forest is highly problematic.

The statement in the EA that the preferred alternative for biomass removal "is not expected to have long-term effects on soil productivity" (EA pg. 74) is clearly unsubstantiated. Table 3A2-6 (pg. 74) does not reasonably estimate the effects on soil given the fact that entire trees of *any*

dbh are allowed to be removed. It takes no consideration for the impacts to soil inherent to the logging itself, to existing soil profiles through compaction and drying of the soil, and mortality in the understory inherent to mechanical logging. It does not account for losses in carbon storage in standing trees, understory and soils, and increases in erosion rates from the removal of forest canopy.

The EA also fails to consider the cumulative impacts to air quality inherent in the removal and incineration of biomass which is, as considered in the EA, the only and therefore the ultimate use of this process. This is an issue that we have raised in all previous comments yet remains unconsidered in the project's environmental analysis.

While we are pleased to see that the agency is considering an "approved research study" as part of the biomass program, it does not change the aforementioned concerns. Without baseline data on soil moisture, composition and carbon levels; species inventories and distribution analysis of flora, fauna, fungi and decomposers; air quality data, such research cannot be deemed credible. Since trees of any size can be removed this research cannot be considered relevant only to "stem weight below 4 inches in diameter."

Until a credible research plan is proposed and agreed upon by those raising these issues and until a clear monitoring program is in place to study long, mid and short-term effects of small diameter woody biomass on soils and fauna and air quality, we submit that no biomass removal should be implemented as part of this project. We also ask that the amount of biomass removal be scaled back so that research can be implemented on all biomass removal sites.

All research should be conducted by teams consisting of agency and non-agency resource scientists with backgrounds, not only in forestry, but also air, soil and climate research. Before and after research and ongoing monitoring of conditions would be vital to this analysis.

Recommendations for study would include gathering data on:

- Carbon storage and loss estimates based on
  - volume of biomass removed
  - soil impacts,
  - root structures
- Soil and air temperature, moisture and humidity
- Plant diversity, distribution and populations
- Amphibian diversity, distribution and populations
- Small mammal diversity and populations
- Fungi and decomposer diversity, distribution and populations
- Invasive species diversity, distribution and populations
- Air quality/particulates (from burning)
- Air quality/CO2 (from burning)

Research should begin with benchmark data accumulated before management actions have begun in spring and fall, at the end of management activities, and at two-year intervals for the duration of the project.

Fire and Natural Disturbances

The Project and the EA places an overemphasis on logging and fire to achieve desired future conditions. The analysis fails to consider natural disturbance events that contribute to achieving Desired Conditions for Ecological Systems Diversity. Natural disturbances are significant contributors to the creation of desired future conditions. In addition, natural disturbance events are predicted to increase over the time-range of the project.

Monitoring should include natural disturbance events as they contribute significantly to meeting the goals and objectives of the project. Adaptive management should prioritize the identification and consideration of these events and reevaluate and review desired structural conditions for cove, oak forests and woodlands, and pine forests and woodlands to meet goals for ecosystem diversity. This analysis can be done spatially over the project area and be reviewed yearly to potentially reduce the need for management. This may include tree mortality or canopy removal from insect predation, drought, windthrow, ice storm, flood, drought (Klos, 2009; Anderegg, 2015) or naturally occurring fire.

Monitoring should begin with benchmark data accumulated before management actions have begun in spring and fall, at the end of management activities, and at two-year intervals for the duration of the project. Adaptive management recommendations should be tied to monitoring information.

Recommendations for monitoring would include gathering data on:

- Carbon storage and loss estimates based on
  - volume of biomass removed
  - soil impacts,
  - root structures
- Soil and air temperature, moisture and humidity
- Plant diversity, distribution and populations
- Amphibian diversity, distribution and populations
- Small mammal diversity and populations
- Fungi and decomposer diversity, distribution and populations
- Invasive species diversity, distribution and populations
- Air quality/particulates
- Air quality/CO2

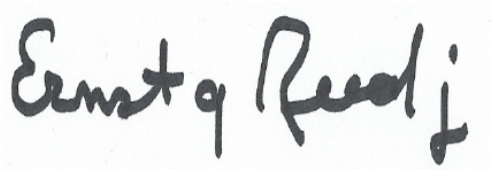
The Lower Cowpasture project proposes 12.8 miles of dozer lines (EA, pg. 24). The environmental effects of these are significant, often more than even temporary roads, as they can become permanent fixtures by their continued illegal use. Dozer lines are areas of accelerated stream and sediment movement and erosion. Like unauthorized roads, dozer lines are vectors for illegal orv/atv/bicycle use and non-native invasive species.

There are nearly 3 miles of dozer line proposed along the top of Little Mountain in the Cigar Ridge Area. This ridgetop is a special ecotone where NW/SE slopes join. Cigar Ridge, being a dry, high elevation ridgetop is a likely target for natural lightning strike and naturally occurring fire or other climate-induced mortality (Anderegg, 2015; McDowell, 2015; Neimi, 2015) without

the detrimental impacts of the dozer lines which has similar impacts to a temporary road that can be used for illegal access later. **We request that the Cigar Ridge Burn Unit be dropped from the project.**

We look forward to meeting with you regarding this objection and in considering possible proposals for its resolution.

Sincerely,



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Additional References

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