West Virginia Highlands Conservancy
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May 15, 2020

Mr. Jack Tribble, District Ranger
Monongahela National Forest, Greenbrier Ranger District
P.O. Box 67
Bartow, WV 24920

RE: Comments of the West Virginia Highlands Conservancy on the draft Environmental Assessment for the proposed Greenbrier Southeast project

Dear Mr. Tribble:

With this letter, the West Virginia Highlands Conservancy (WVHC) provides its official comments on the draft Environmental Assessment (EA) for the proposed Greenbrier Southeast project, which was published by the Forest Service on April 16, 2020. WVHC promotes, encourages and works for the conservation – including both preservation and wise management – and appreciation of the natural resources of West Virginia and the Nation. We focus primarily on the Highlands Region of West Virginia, but our work is for the cultural, social, educational, physical health, spiritual and economic benefit of present and future generations of residents and visitors alike.

As we noted in our scoping comments for the project (letter dated August 15, 2019), we think that the Forest Service has designed a project that works toward the desired conditions identified for the project area by the Forest Plan. The project includes a variety of activities that are needed to achieve desired conditions and are appropriate for the Management Prescriptions assigned by the Forest Plan. These activities include commercial timber harvest, wildlife habitat improvement, ecosystem restoration, and recreational improvements. In general, WVHC supports such projects that have the potential to contribute to the local economy, enhance wildlife habitat, and enhance the visitor experience, provided they are conducted in a manner that protects sensitive environmental resources. We are especially supportive of the proposed spruce restoration, watershed and aquatic habitat restoration, and recreation and cultural heritage improvements, all of which are high priorities for WVHC.

We appreciate the opportunity to provide these comments, and we also appreciate the ongoing dialogue that the Forest Service has maintained with us throughout the development of the

proposed project. We believe that early, frequent, and thorough public involvement is the key to designing a project that can achieve a consensus of support among the agency and the full spectrum of stakeholders. Up to this point, the Forest Service has demonstrated a commitment to such public involvement during the planning process for the Greenbrier Southeast project.

Moving forward, our main focus for this project is ensuring that sensitive environmental resources are appropriately protected. To accomplish this protection, the EA must provide a well-reasoned and factually supported accounting of environmental impacts, and it must clearly outline specific protection measures to avoid, minimize, and mitigate adverse impacts. Our review has identified a number of instances where the draft EA falls short of these two objectives. We understand that the Forest Service is trying to change the way it conducts National Environmental Policy Act (NEPA) analyses and related processes, with the main goals being to shorten the often lengthy time frame of the process, to shorten and focus unwieldy NEPA documents, and to reduce the overall amount of effort and money that is required. We are not opposed to these goals. However, we believe it is possible (and imperative) to write a concise, focused EA that reaches conclusions through logical arguments supported by evidence.

Of particular concern to us is the draft EA's heavy reliance on conclusory statements. In the effort to shorten and summarize the effects analysis, it appears that the Forest Service eliminated much of the rationale for its conclusions. In some places the draft EA references additional analysis in the Biological Assessment (BA), Biological Evaluation (BE), and other material in the project file. However, when we requested this additional material, we were told that the BA and BE had not been completed yet, and that no other specialist material would be available to the public. It is extremely difficult to conduct a meaningful review of a draft EA that largely consists of unsupported conclusions, and it is a disservice to the public to hold a notice and comment period on such a document with no supporting information.

We request that the Forest Service provide the missing information, including the BA, BE, and all other project file materials that were used to prepare the draft EA, and then hold another 30-day public comment period. A new comment period would be in the best interests of both the public and the Forest Service because it would allow the public to identify any issues with the analysis prior to the release of the final EA. The Forest Service could then address the issues raised by the public when it prepares the final EA. Without this step, the public's only recourse in dealing with unresolved issues would be to file a formal objection when the Forest Service publishes the final EA and draft Decision Notice, which would delay the final decision and implementation of the project.

The remainder of this letter presents our specific, page-by-page comments on the draft EA.

PROPOSED ACTION

Vegetation Management for Age Class Diversity

P. 8, proposed soil spot grid herbicide applications. The EA should clarify how much soil spot grid herbicide application is proposed vs. the other methods. The locations also should be disclosed. Soil spot grid is a broader application than the other methods, and it uses soil-mobile

herbicides, which have a higher potential for off-target impacts and impacts to water. Each resource area needs to specifically analyze the potential impacts of this application method and propose any protection measures that may be needed.

Pp. 7 & 8, discussion of "thinning shelterwood harvest." The EA gives a confusing description of 705 acres of proposed "thinning shelterwood harvest." Table 4 seems to imply that this harvest consists of thinning, whereas the text describes shelterwood regeneration. The contradiction needs to be resolved, and each section of the Environmental Impacts section needs to be checked to ensure that the correct type of harvest was analyzed.

P. 9, definitions of temporary road and skid trail. The definitions given for temporary road and skid trail are not consistent with the definitions given in the Forest Service Handbook (FSH) and the Code of Federal Regulations (CFR). According to the FSH 2409.15, the term skid trail applies only to trails that are created by the act of dragging logs over the land surface (i.e., no cut-and-fill to create a travel surface). Skid routes that are created by excavation are defined by the FSH 2409.15 as tractor roads. And the definition of temporary road contained in 36 CFR 212.1 is broad enough that it includes both tractor roads and skid trails. Terms that are clearly defined in the regulations and the handbook cannot be re-defined at the project level. These definitions are important because the regulations and directives require temporary roads to be decommissioned to a watershed-neutral status upon completion of use. Therefore, the definitions given in the EA should be revised to be consistent with the existing definitions in the higher level direction.

P. 9, inclusion of unspecified future salvage harvests. Unspecified future salvage harvests should not be included in this decision. Such harvests would require their own NEPA decisions (most likely categorical exclusions) if/when salvage opportunities arise. There is no way to analyze the site-specific effects of such unspecified salvage harvest in this NEPA document.

P. 9, NNIS management strategy. Forest Plan direction requires a site-specific strategy for mitigating the spread of existing infestations (Standard VE22, Guideline VE24). The general statement about relying on the existing Forest-wide NNIS EA does not satisfy this plan direction. However, in informal communication with us, you said that the Forest Service has already identified the specific sites that need management to prevent the spread of infestations, and that the treatments are already occurring to reduce the infestations as much as possible prior to any disturbance associated with the proposed project. We applaud this approach, and we suggest that the EA be revised to disclose the locations and the treatments so that the project clearly demonstrates compliance with the Forest Plan direction.

P. 9, NNIS prevention measures. We agree with the measures that are proposed; however, the measures also need to include a stipulation that all equipment will be clean when it first arrives in the project area. This is critical for preventing new infestations due to propagules being brought in from other sites.

Habitat Restoration using Prescribed Fire

We are generally supportive of prescribed fire in the proposed locations. Such fire is an appropriate tool for the restoration of upland oak ecosystems.

Spruce Enhancement and Connectivity

We are generally in favor of the proposed spruce restoration work, with one exception.

P. 11, clearcuts for spruce regeneration. While this proposed technique should eventually produce an overstory that contains a substantial red spruce component, many decades would pass before the desired mature stand structure develops. Spruce ecosystem restoration involves not only increasing the amount of red spruce in the overstory, but also developing a mature, uneven-aged stand structure (or maintaining such structure where it already exists). A better technique for achieving spruce ecosystem restoration goals would involve a partial harvest that leaves most of the canopy intact, followed by underplanting of red spruce and any needed control of overtopping midstory vegetation. This technique would jump-start the development of the mature, uneven-aged stand structure, while also increasing the spruce component.

Wildlife Habitat Enhancement

We are generally supportive of the proposed wildlife habitat enhancement.

Riparian and Stream Habitat Enhancement & Hydrology Improvement

We support the proposed riparian, stream habitat, and hydrology improvements, with one caveat.

P. 13, re-establishment of vegetation in 47 acres of open riparian area. The Forest Service should make sure this activity would not adversely impact naturally open wetlands and associated rare plants.

Recreation and Cultural Heritage Improvements at Smoke Camp Knob

We support the proposed activities, provided adverse impacts to sensitive resources are avoided.

Range Allotment Improvements at Camp Allegheny

We support the proposed activities, provided adverse impacts to sensitive resources are avoided.

Max Rothkugel Plantation Management

We support the proposed activities, provided adverse impacts to sensitive resources are avoided.

ENVIRONMENTAL IMPACTS

Aquatics and Watershed

Pp. 20-21, analysis of skid systems. The analysis of tractor roads and skid trails asserts that the risk of hydrologic impacts is low due to avoidance of the most sensitive areas of the landscape and the proposed post-harvest mitigations. But the rationale consists of just a sentence stating that assertion. No supporting rationale or documentation of the effectiveness of the mitigations is provided. Appendix C (assumptions for skid trail methodology) explains the proposed approach to decommissioning skid roads, but it does not provide any evidentiary support for that approach. The mitigation measures (Appendix B, GSE-1) require partial recontouring of skid roads on slopes >30%, but only decompaction and application of basic best management practices (BMPs) elsewhere.

Past Forest Service monitoring has documented the failure of basic BMPs to prevent skid systems from adversely impacting watersheds. Several passages in the draft EA for the Big Rock project discuss this problem in detail (pp. 21, 43-48), and in particular speak to the need for recontouring in addition to decompaction. Therefore, the proposed skid system treatments for the Greenbrier Southeast project must be supported by information that demonstrates their effectiveness, or they should be changed to include recontouring throughout the project. Given the presence of the endangered candy darter (and its proposed critical habitat) in the project area, it is especially important to make sure that the skid systems are decommissioned in a manner that renders them truly watershed-neutral for the long term.

Pp. 21-22, road construction. The discussion of road construction gives almost no project-specific assessment of impacts; it relies instead on broad statements about the effects of road construction in general. We are encouraged by the location of new roads in ridgetop locations, but the analysis still needs to disclose the expected impacts of these particular roads on the particular watersheds in which they are to be constructed.

P. 25, Analysis of percent of basal area to be removed. The paragraph discussing the hydrologic impacts of basal area removal is a good example of a well-reasoned argument that supports the conclusion that was reached. Although it is not long or highly detailed, the discussion details specific effects on specific watersheds, and it uses factual information and logically connected reasoning to establish the conclusion. We appreciate the details of specific effects on specific watersheds, the factual information and reasoning that establish the conclusion.

Pp. 26-27, analysis of impacts to the candy darter. The EA says that a BA analyzing effects on the candy darter is located in the project record. However, when we requested a copy, we were told that it has not been completed yet. The analysis that should be contained in the BA is critical for supporting conclusions about effects to the candy darter, and it is also critical for facilitating meaningful review by the public.

The EA says, *"Within these segments, candy darter have been collected throughout the East Fork segment, but only in the most downstream two miles of the Little River segment. They may occur in some of the downstream segments of the larger tributaries of the Little River and East*

Fork, (e.g., Buffalo Fork, Long Run), but have not been documented. Extensive sampling in the 1st and 2nd order streams in the project area have not collected candy darter, and suitable habitat in the tributaries occurs only near the confluences with the Little River and East Fork. Candy darter are habitat specialists and do not occur uniformly in occupied stream segments, with multiple stream reaches often devoid of suitable habitat and, subsequently, presence." These statements need to be backed up by citations, and the cited literature needs to be provided if it is not widely available. Unpublished data that are used to support conclusions should be made available to the public in summary form (i.e., without specific collection locations).

The EA needs to provide documentation that the conservation measures for candy darter will be effective. In particular, reliance on BMPs seems to be ill advised due to the lack of supporting information to demonstrate their effectiveness.

The EA states, *"For candy darter, the proposed action may affect, but is not likely to adversely affect the species or proposed critical habitat."* No analysis or other rationale is given to support this statement.

Pp. 27-29, Aquatic Regional Forester's Sensitive Species. For most species the EA asserts that the project design features, BMPs, etc. will eliminate negative impacts. As noted previously, the document does not provide adequate evidentiary support for this assertion. For three species (New River shiner, Kanawha minnow, and Greenbrier River crayfish), The EA notes their occurrence in the project area but provides no discussion at all of potential project effects on the species.

Soils

P. 30, ground-based skidding on steep slopes. The EA states that conventional harvest units (ground-based skidding) would avoid slopes over 50%. But Forest Plan standard SW07 requires special protections on slopes over 40%. With no discussion of activities on slopes over 40%, the EA cannot determine whether the project is in compliance with standard SW07. The clearest way to demonstrate compliance with SW07 is to avoid ground-based yarding on slopes over 40%. If any ground-based yarding is proposed on slopes over 40%, the EA must demonstrate that the methods of operation will maintain soil stability.

P. 30, re-use of existing skid systems. The EA states, *"[t]he use of existing skid trails helps preserve soil quality because they reduce the length of new skid trail construction required."* This statement implies that existing tractor roads would be re-used, but no information is given to allow the reader to gauge how much of the total tractor road mileage would be re-use vs. new construction. Therefore, the extent of skid system impacts on soil quality has not been fully disclosed.

P. 31, road construction on steep slopes. The EA says, *"[j]ust over 400 feet of proposed system road construction intersects slopes greater than 50%. Per Forest Plan Standard SW07, the interdisciplinary team reviewed this proposed activity, made recommendations for the layout and design of the road to minimize soil and water effects, and the line officer approved those recommendations."* The EA does not elaborate on these recommendations, nor are they included

with the design features in Appendix B. They need to be made available to the public and included in the EA. The EA also needs to evaluate road construction on slopes over 40% to demonstrate compliance with SW07.

P. 31, road reconstruction on steep slopes. The EA states, *"[t]he road reconstruction would result in approximately 6.8 acres of short-term detrimental disturbance in steeply sloping terrain."* The EA needs to address how compliance with SW07 will be maintained.

P. 31, temporary road construction on steep slopes. The EA says, *"[l]imited short, discontinuous segments (<100 feet) of temporary road intersect slopes greater than 50%."* The EA needs to address how compliance with SW07 will be maintained, including for slopes over 40%.

P. 32, herbicide impacts in light of site-specific soil characteristics. The EA says, *"[s]oils within the project area that have a higher level of rock fragment than was used to develop the SERA risk assessment models pose a greater risk for mobility than described in the SERA assessments."* This statement implies that impacts of herbicide use in the project area will be greater than the impacts projected by the SERA assessments, which would seem to negate the statement in the previous paragraph that *"The risks of having herbicides leave the site prior to reaching their half-life and degrading is low according to the risk assessments developed by Syracuse Environmental Research Associates (SERA) for each herbicide (SERA, 2003; SERA, 2004; SERA, 2005; SERA, 2011)."* This contradiction needs to be resolved by disclosing the actual expected effects of the herbicide use in the project area.

The EA also says, *"[t]he effects of herbicides on the soil resource are dependent upon soil properties and environmental conditions."* The actual effects expected on the soils present in the project area need to be disclosed.

P. 33, effects of riparian and aquatic enhancement activities on soils. [t]he EA notes that riparian and aquatic habitat enhancement activities have the potential to adversely impact wet soils and soils that are prone to slippage. It then goes on to list several mitigation measures to limit these impacts, but the mitigation measures do not appear in Appendix B. They need to be added to Appendix B to ensure that they are implemented.

P. 34, cumulative effects analysis for soils. The soils cumulative effects section talks about the impacts of activities on private lands, but it says nothing about the project's contribution to the cumulative effects of past, present, and reasonably foreseeable future actions. The project's contribution is the *raison d'etre* for the cumulative impacts analysis.

Prescribed Fire

Some of the material in this section should be moved to the Purpose and Need section and the Proposed Action section, as it is largely a justification for, and description of, the proposed prescribed fire activity. This section contains very little discussion of the effects of prescribed fire, and those discussions it does contain are probably best left to the other resource area sections.

The only effects described here that are not better discussed in the other resource sections are the effects of smoke emissions. The emissions paragraph (p. 36) contains several conclusory statements. These statements need to be supported by literature citations, data, and/or a logically connected rationale.

Wildlife

P. 36, availability of the BA. The EA says that this section summarizes analysis from the BA, which is in the project record. As previously noted, we were told that the BA has not been completed yet. The analysis that is supposed to be contained in the BA is critical for supporting conclusions reached regarding federally-listed species.

P. 37, rusty-patched bumblebee. The only mention of the rusty-patched bumblebee is a line in Table 15, which says that the project would have no effect on the species. The rusty-patched bumblebee appears to have been inappropriately dismissed from the analysis. A maximum entropy-based habitat model has been prepared for this species in the Appalachians. This model suggests that the species has a high probability of occurrence in the Greenbrier Southeast project area. See Figure 4, p. 16 in: Richardson, L. 2019. Rusty-patched bumble bee inventory, Virginia and West Virginia. Stone Environmental, 23 pp. (copy attached). Due to the high probability of occurrence, the BA and the EA must include an analysis of potential effects on the rusty-patched bumblebee.

Pp. 37-38, endangered bats analysis. This section relies on the unavailable BA to conclude that the project is in compliance with the existing programmatic consultations for the Indiana bat and northern long-eared bat.

P. 39, Likelihood of Occurrence table. The Regional Forester's Sensitive Species (RFSS) section says that the Likelihood of Occurrence (LOO) table was used to determine which species to analyze, and that the table is contained in the project file. However, when we requested a copy of the Biological Evaluation (BE, which should contain the LOO table), we were told that it had not been completed yet. Without the LOO table, the determinations of which species to analyze in the BE and the EA are unsupported and cannot be evaluated by the public.

P. 39, other supporting information in the project file. The EA says, *"[f]or the 19 species further analyzed, a brief description, including natural history and information relevant to this effects analysis is summarized in the project file."* When we asked for copies of all specialist reports from the project file, were told that no specialist reports were written. Therefore, the information that is needed to support the analysis of effects to RFSS is missing.

P. 39, bald eagle. The EA states, *"[a]lthough transient bald eagles could frequent the project area, there are no documented instances of nesting."* The EA does not address whether adequate survey work has been done to establish the absence of nesting bald eagles in the project area.

P. 40, effects of timber harvest on RFSS. In discussing the effects of timber harvesting and other vegetation management on RFSS, the EA says that creating young forest habitat would *"…generally improve wildlife habitat into the future by perpetuating young forest habitat and improving tree composition to favor tree species desirable to wildlife into the future."* This statement is not supported by any rationale or literature citations, and it is unlikely to be true when applied in blanket form to all RFSS.

P. 44, reports of SERA modeling for herbicide impacts. Analysis of herbicide impacts on sensitive species relies on SERA models, which the EA says are contained in the project file. However, we were told that specialist reports did not exist. Therefore, the conclusions reached regarding herbicide impacts on RFSS are not supported.

Pp. 40-44, summary tables of impacts. Tables 17, 18, and 19 present good summaries of potential impacts to sensitive species, but by themselves they are merely a series of conclusory statements. The statements need to be supported by citations and evidence, and the underlying analysis needs to be made available to the public.

P. 44, cumulative effects analysis for RFSS. The cumulative effects section says, *"[u]nder the action alternative, the potential for direct and indirect effects to wildlife RFSS is so small it is considered discountable."* But the preceding analysis of direct and indirect effects did not provide any evidence to support this statement; it just made a series of conclusory statements.

The cumulative effects section also says, *"[w]ith a few minor exceptions that could improve habitat, no ongoing or reasonably foreseeable future Forest Service actions would impact known occurrences of the impacted RFSS."* The only support offered for this statement appears a few lines later: *"In addition to potential habitat for the RFSS in the project area, all other species have potential habitat with known occurrences in locations scattered across the Forest (USFS unpublished data). None of these occurrences are expected to be impacted in the foreseeable future."* It appears that these are just conclusory statements, and that no attempt was made to determine the potential effects of the many ongoing and reasonably foreseeable Forest Service actions, not to mention the actions of other entities, within the MNF proclamation boundary. Without seeing the unpublished analysis that is referenced, it is difficult to believe that none of those actions have any potential to affect the sensitive species that are considered in this EA.

P. 45, RFSS effect determinations. *"[t]he amount of NFS lands within the project area, regardless of habitat type and whether any activities are proposed, constitutes less than 5% of the available habitat for all RFSS analyzed except for the Appalachian cottontail, southern bog lemming and the geometrid moth."* The analysis that determined the amount of available habitat for RFSS across the Forest needs to be made available to the public. The analysis relies on the fact that the project would affect small percentages of the total available habitat. However, it does not disclose the percentage that would be affected by other ongoing and proposed activities, or whether the cumulative effect of all these activities would have an appreciable effect on populations.

P. 45, analysis for MIS cerulean warbler. *"[o]ne of the three terrestrial MIS, the cerulean warbler, has certain unique habitat requirements that are not present in the project area.*

Therefore, it is dismissed from further analysis." The analysis needs to explain those habitat requirements and disclose how it was determined that they are not present in the project area.

P. 46, delineation of West Virginia northern flying squirrel habitat. We are pleased to see that the standard time-tested method for delineating WV northern flying squirrel habitat was used on this project. However, the document needs to show that the delineation was done in collaboration with WV DNR and USFWS, and that all capture locations were included, as required by Forest Plan standard TE63.

The map of WVNFS habitat needs to include an overlay of all proposed activities so that the public can evaluate where and how the habitat would be impacted.

P. 47-48, spruce commercial restoration impacts to WVNFS habitat. Based on our understanding of commercial spruce restoration treatments in WVNFS habitat, we believe that this paragraph is generally accurate. However, the statements that are made need to be supported by references to the scientific studies that established the habitat preferences of the WVNFS and the effects of the harvest techniques on the habitat.

P. 48, spruce commercial restoration impacts to adult WVNFS. This is a very good section with a well-thought-out, appropriately referenced rationale. It uses specific pertinent information to reach supportable conclusions without being excessively long and detailed. This paragraph would be a good example to follow when revising the sections of the EA that are plagued by conclusory statements.

P. 48, impacts to immobile young WVNFS. The EA says, *"[t]here is no documentation of WVNFS occupancy (especially females with young) in areas proposed for spruce commercial restoration."* The EA should address whether adequate survey work has been done to establish the absence of WVNFS occupancy in areas proposed for spruce commercial restoration.

Pp. 49-50, Table 21 (design features for WVNFS). The footnote says that these measures have been incorporated into the either the proposed action or the list of design features and mitigation measures in Appendix B. However, they are not included as written in Table 21. Specific issues include:

- The design feature for protection of WVNFS in commercial spruce restoration units does not appear in either the proposed action or Appendix B. Also, the research component will only be done "if funding and resources allow." This is not a firm commitment to do the research, and therefore it does not meet the research requirement specified in Forest Plan standard TE64.
- The design feature for protection of WVNFS in riparian treatment areas does not appear in either the proposed action or Appendix B.

To avoid confusion and contradiction, we strongly recommend that all design features and mitigation measures for all resource areas be collected in one place, preferably in a table that appears in the proposed action section of the EA.

Botany and Ecology

P. 51, post-decisional botany surveys. The footnote on p. 51 says, *"[a]lthough all areas proposed for soil restoration activities on legacy features and non-commercial mulching of young stands have not been surveyed, surveys would be conducted after issuance of a NEPA decision but prior to implementation. If any TES plants are found in post-decisional surveys, locations would be avoided."* This statement partially contradicts the design feature for post-decisional surveys that is included in Appendix B. The design feature in Appendix B says it would apply to timber units and road construction areas, which suggests that not all such areas of major disturbance have been surveyed. The footnote and text on p. 51 seem to indicate that all timber units have been surveyed. Also, the footnote appears to commit to total avoidance of impact, whereas the design feature in Appendix B allows for translocation, and appears to leave the protection measures very open-ended. Surveys of all areas of major disturbance (including timber units and road construction/reconstruction areas) need to be subject to pre-decisional surveys, because it is unlikely that such features would be re-designed to completely avoid sensitive plants. In the absence of such pre-decisional surveys, the NEPA analysis cannot disclose the true impacts to sensitive plants. For activities where complete avoidance is possible, post-decisional surveys could be done, but only if paired with a solid commitment to completely avoid adverse impacts. If they do not commit to complete avoidance, then the NEPA analysis is underestimating the impact.

Based on a recent conversation with you, it appears that all areas proposed for major disturbance have been surveyed, and the post decisional surveys would apply only to some mulcher units and linear features that would be subject to soil restoration activities. Further, you suggested in the conversation that any new RFSS plant occurrences that are found by post-decisional surveys would be avoided. In that case, it appears that the design feature in Appendix B needs to be revised to conform with the language on p. 51.

P. 52, availability of the BA. The EA says, *"[a] biological assessment (BA) to determine the effects of the proposed action alternative on federally-listed species is in the project record. This section summarizes the effects on federally listed plants."* As noted previously, we were told that the BA has not been completed, which leaves the summary and conclusions in the EA without support.

P. 52, potential habitat for Virginia spiraea and shale barren rockcress. The EA says, *"[t]here is no potential habitat in the project area for the Virginia spiraea and shale barren rockcress."* The EA needs to explain the habitat requirements and state how it was determined that those habitats are not present in the project area.

P. 52, habitat for running buffalo clover. The EA states, *"[o]verall, typical habitat (soils with high calcium availability) for running buffalo clover does not exist in the project area. However, a small patch of running buffalo clover (11 rooted crowns) was discovered in the project area on a legacy feature. Therefore, this small isolated population is not likely to naturally occur in the surrounding forest."* The third sentence does not follow from the previous two. The EA needs to explain how the legacy feature provides habitat characteristics that the surrounding forest does not provide.

P. 52-53, potential beneficial effects on running buffalo clover and small whorled pogonia. The EA makes a couple of claims regarding potential beneficial effects on running buffalo clover and small whorled pogonia. These need to be supported by citations or other rationale.

P. 53, Impacts to TE plants from NNIS. The EA says, *"NNIS are likely to increase overall as a result of the proposed action; however, planned targeted treatments of NNIS in the project area through the NNIS ForestWide EA should help to reduce the impacts of NNIS proliferation and the possible impacts to TE plants."* As previously noted, Forest plan direction requires a project-specific/site-specific strategy for mapping and controlling NNIS that may be spread by project activities. Also as previously noted, it appears that such site-specific management has been planned and is already occurring, in which case the management just needs to be explained in the EA.

P. 53, availability of the LOO table. The EA states, "[b]*ased on the Likelihood of Occurrence assessment (see project file), potential habitat exists for 30 RFSS plants."* As previously noted, the LOO table needs to be made available to the public. Without it, there is no rationale for dismissing the other 40 species from this analysis.

P. 54, design features to protect RFSS plants. The EA says that the five sensitive plant species with known occurrences in the activity areas likely would not suffer adverse impacts due to design features and mitigation measures. However, the only design feature for sensitive plants that is included in Appendix B is worded such that it appears to apply only to those areas that are subject to post-decisional surveys, which would leave the known occurrences in activity areas unprotected. The design feature in Appendix B needs to be re-worded so that it clearly applies to all occurrences of sensitive plants, including those that are already known and any that may be discovered by future surveys.

P. 54-55, Table 24, summary of effects on RFSS plants. This table presents a good summary of possible effects on the sensitive plants with isolated occurrences in activity areas. However, it is just a summary, and its conclusions are not supported by rationale and citations. Presumably the BE contains such rationale and citations, so it needs to be available to the public. Also, the avoidance measures described in this table are too general to be of any use in making determinations of minimal or no adverse impacts. We have no way of knowing what exactly will happen and whether it will be effective. Specific criteria (buffer distances, methods, etc.) need to be discussed, along with information demonstrating the effectiveness of the measures.

Pp. 55-56, discussion of Roan Mountain sedge. Table 25 suffers from the same defects identified for Table 24. However, assuming that the details of avoidance buffers can be worked out, the overall strategy for reducing impacts on Roan Mountain sedge reflects a very good effort to live up to Forest Plan direction to avoid, minimize, and mitigate impacts to the maximum extent practical. The effects analysis presents a logical rationale, and the proposed monitoring should generate valuable information for the future management of this species. The cumulative impacts analysis for Roan Mountain sedge is very good, which leads to a well-supported viability determination. The analysis for Roan Mountain sedge could serve as a good example

when making revisions to the analyses for most other RFSS (animals and plants), which are overly reliant on conclusory statements.

Pp. 57-58, discussion of Blue Ridge St. John's wort. Table 26 has the same issues with poorly defined avoidance measures. The effects analysis generally is good; it contains a good rationale, it is properly referenced, it tells us how much the species will be impacted and the likely intensity of the impacts, and it lays out a strategy for monitoring impacts to inform future management actions. However, the cumulative effects analysis does not put the project's impacts in the context of how many total occurrences exist on the Forest. Therefore, it does not disclose how bad the impact to the Forest-wide population will be. This information is needed to reach an effect determination.

P. 58, effects determination for RFSS plants. The EA states, *"[t]he nature and extent of these effects are uncertain, but the occurrences are unlikely to be extirpated and population viability within the project area or on a Forest-wide basis likely would not be impacted."* While we concur with the conclusion that population viability would not be impacted, we do not think the effects analysis on pp. 55-56 supports the contention that no occurrences of Roan Mountain sedge would be extirpated. The analysis plainly states that multiple occurrences in timber units would be subject to negative impacts, and it gives no reason to expect that such impacts could not lead to extirpation of one or more occurrences.

Nonnative Invasive Plants

P. 59-60, design features for NNIS. The EA says, *"[t]he risks posed by commercial timber harvest would be reduced by project design features built into the proposed action, which include controlling existing infestations in and near activity areas before, during, and after harvest, control of new or expanded infestations, cleaning equipment off-site prior to use, and use of low-risk seed and mulch sources"* The design features currently do not include any of these measures. The proposed action does include use of low-risk seed and mulch sources, but it does not include cleaning of equipment prior to arrival on site, and it does not include a strategy for identifying and controlling infestations before, during, and after harvest (as required by Forest Plan direction). All of these measures need to be included in a consolidated list of design criteria.

The EA also says, *"[s]ite preparation likely would not completely eradicate existing infestations because it would not include follow-up monitoring and treatment. Site preparation activities also may present some risk of spreading invasive plants due to the use of spray vehicles for broadcast herbicide application. However, such vehicles are required by project design features to be clean when they arrive at the project site, therefore the risk is reduced."* Currently there is no such requirement included in the project design (but it should be included, of course).

Vegetation

P. 61, discussion of current age class distribution. The EA says, *"[t]he project area is dominated by late successional stands. Approximately 89% of the stands in the project area are greater than 80 years old, while only 5% of the stands are less than 19 years old, early*

successional habitat." Eighty-year-old stands are not late successional. The Forest Plan defines late successional stands as those older than 120 years old. According to Tables 28 and 29, the project area is dominated by mid-late successional stands (80-120 years old). The proportion of the project area in late successional stands is within the desired conditions for MP 6.1, and only slightly over the desired conditions for MP 3.0.

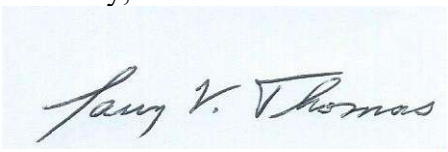
P. 63, benefit of young stands for wildlife. The EA states, *"[i]ncreasing the amount of young stands in the project area would provide stands for timber production it would also improve habitat for many wildlife species, such as ruffed grouse, deer and songbirds."* Songbirds is a very broad category. Some songbird species would benefit from the increase in young stands, whereas other species would be harmed by the loss of mid-late and late successional forest.

P. 66, assessment of compliance with Forest Plan Standard 6122. *"[t]he Forest Plan provides in Standard 6122 that no more than 40% of forested NFS within each 6.1 MP area unit shall be harvested over a ten-year period. This project area is contained within a MP area unit that consists of 171,579 acres and runs southwest through the Marlinton and White Sulphur Springs Ranger Districts. This project proposes to harvest 1% of the acreage within the 6.1 MP unit."* This is an incorrect interpretation of standard 6122. The standard applies to "each 6.1 prescription area unit." The Forest Plan glossary defines a prescription area unit as "A mapped block of NFS lands that has a single management prescription (MP). For example, each of the 5 wilderness areas on the Forest is a separate prescription area unit for MP 5.0." The mapped block of MP 6.1 in the project area does not extend into the Marlinton-White Sulphur District. It is a small block that does not extend far beyond the project boundary. The calculation should be revised using the appropriate prescription area unit.

This concludes our comments on the draft EA for the proposed Greenbrier Southeast project. Once again, we appreciate the opportunity to provide comments, and we appreciate the ongoing collaboration with you and your staff. We look forward to continuing to work with you on the development and implementation of a project that can provide economic opportunities for the local economy while also protecting sensitive and important environmental resources.

Should you have questions or additional information to share, please feel free to contact me. You may also contact the Chairperson of our Public Lands Committee, Kent Karriker, at 304-636-8651 (bykarriker@suddenlink.net).

Sincerely,



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