SOUTHERN ENVIRONMENTAL LAW CENTER

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Submitted by E-mail and U.S. Mail:

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Forest Supervisor
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Re: Nettle Patch Vegetation Management Project (Clinch District, Jefferson National Forest)

Dear Reviewing Officer Timm:

We respectfully submit this objection to the Nettle Patch Vegetation Management Project (NPP or Project) on behalf of The Clinch Coalition (TCC) and the Southern Environmental Law Center (SELC). As discussed previously with Ms. Davalos, the new District Ranger for the Clinch District, we look forward to meeting with her and other Forrest Service staff to discuss our Objection, which we hope can be resolved.

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1. **Notice of Objection**

The Clinch Coalition and the Southern Environmental Law Center (SELC) hereby file this letter of objection to the draft Decision Notice (DN) and Finding of No Significant Impact (FONSI) and Final Environmental Assessment (EA) for the Nettle Patch Vegetation Management Project ("NPP" or "Project"), pursuant to 36 C.F.R. Part 218 and § 218.8.[1] The NPP project area is located within the Clinch District on the Jefferson National Forest (JNF), in Wise County, Virginia. The responsible official for this project is Michelle Davalos, District Ranger for the Clinch District. The legal notice of the opportunity to object was published in The Coalfield Progress on December 22, 2017. This letter of objection, therefore, is timely. In accordance with 36 C.F.R. §§ 218.8 and 218.2, SELC shall serve as the Lead Objector who represents the other objector for the purposes of communication regarding the objection.

STATEMENT OF REASONS

2. Introduction

After working hard for several years to help improve the flawed Nettle Patch project, we are disappointed to be filing this Objection today.[2] While we are pleased the Final Environmental Assessment (EA) contains analysis not included in the Draft EA and the District made some important changes, particularly reducing the proposed commercial harvest in Compartment 2059, we believe aspects of the proposed project still are inconsistent with the Jefferson Forest Plan and still violate the National Environmental Policy Act (NEPA), the National Forest Management Act (NFMA), the Clean Water Act, and Virginia water quality standards.

The likely impacts of this proposed timber sale, while unacceptable anywhere, are particularly regrettable in an area as ecologically rich and unique as this. Indeed, the Nettle Patch project area and the surrounding High Knob massif are significant on a local, regional, and even global scale. This Nettle Patch project area is part of a large and extremely valuable network of connected southern Appalachian forests that provide

[1] See below for Objectors' contact information. Objectors actively participate in the management of the Jefferson National Forest, submitted written comments at all stages of this project, and participated in field trips and public meetings regarding this project. Objectors are very familiar with this project area, their members use and appreciate these specific lands and the many values and resources of these lands, and this project will directly and significantly affect their members' use and enjoyment of these lands.

[2] All previous comments submitted by our organizations are fully incorporated herein by reference. The connections between our prior comments and this letter are referenced throughout by letter and page number.

clean air, clean water, recreation, and critical habitat for an incredible diversity of wildlife.[3]

In addition, EPA has recognized the Clinch River Management Area as the most biologically diverse aquatic system in the country.[4] The District's namesake Clinch River has more species of endangered and rare freshwater mussels than anywhere else in the world.[5] The Nature Conservancy has identified this area as a "key stronghold for biodiversity, water quality, and long-term ecological resiliency[.]"[6]

The area is popular for recreation, including hiking, hunting, and fishing. The Nettle Patch project area is situated on the northern slope of Stone Mountain, and High Knob, Flag Rock, Eagle Rock, Osborn Rock, and Robinson Knob are just outside the project area.[7] These attractions, combined with the ecological richness of the area, make the Clinch River Management Area one of the most popular recreation areas on the District.[8]

This is also a rugged, mountainous area with a long history of being "heavily exploited for its resources" including coal and timber.[9] In light of this, the Forest Service recognizes that the Jefferson National Forest serves as a "forest oasis" for many local residents, including members of The Clinch Coalition.

With this as background, we believe there are several significant issues with the Final EA and Proposed Finding of No Significant Impact (FONSI) that demand attention.

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[3] See comments from The Nature Conservancy regarding the Nettle Patch Project (April 28, 2016).
[4] Final EA ("FEA") at 8.
[5] See, e.g., Va. Dept. and Conservation and Recreation and VCU Ctr. for Envl. Studies, Healthy Waters: a new ecological approach to identifying and protecting healthy waters in Virginia, 20, available for download at http://www.dcr.virginia.gov/natural-heritage/healthywaters (U.S. Fish and Wildlife Services says "[i]t's globally important. All of Europe and most of the western states don't have that level of mussel diversity.").
[6] See The Nature Conservancy comments regarding Nettle Patch Project (April 28, 2016); see also Va. Dept. and Conservation and Recreation and VCU Ctr. for Envl. Studies, Healthy Waters: a new ecological approach to identifying and protecting healthy waters in Virginia, 20, available for download at http://www.dcr.virginia.gov/natural-heritage/healthywaters.; see also The Clinch Coalition website, Where We Work tab, available at https://www.clinchcoalition.net/where-we-work (including videos "Southwest Virginia: One of the Last Great Places on Earth").
[7] Draft EA ("DEA") at 6.
[8] See below sections on the "Effects on Scenic, Recreation, Tourism Resources and the Local Economy" and "Economic Analysis of the Project."
[9] See FEA at 21.

First, as the District acknowledges in the Final EA, the proposed logging and related construction of landings and roads will increase sediment pollution into Eastland Creek and the Guest River, both of which are already listed on Virginia's 303(d) list as impaired for sediment. This would violate Virginia's water quality standards, which in turn violates the Clean Water Act. It also violates Forest Plan direction that the District's activities will not contribute to impaired water segment. And because the proposed timber harvest would not protect watershed conditions, it violates the Forest Plan and the NFMA. In addition to these substantive violations, the Final EA analysis does not support the proposed finding of no significant impact.

Second, we are very concerned that the Forest Service is proposing extensive logging, burning, and other activities within an area of great ecological importance and sensitivity, without first understanding what actually exists here. In many meetings and in detailed written comments, we presented reputable and relevant information showing northern hardwood and mesophytic forest types predominate in much of this cool, wet, northern-slope dominated project area. We explained and presented data regarding the role the High Knob Massif , which us has the wettest climate in Virginia in this area, with 80 to 100 inches of precipitation and moisture per year.

Yet, without addressing the information and data we have supplied, the District continues to insist that oaks "dominate the landscape" and prioritize the regeneration of oaks and pines. The major discrepancies between the Forest Service's description of the forests/natural communities in this project area and the data/information that our organizations have gathered highlights the serious need for responsible experts – botanists, ecologists, biologists, and foresters within the Forest Service and reputable citizens with local knowledge and experts outside the agency – to work together to take a careful, hard look at the on-the-ground conditions here and to try to better understand why our respective descriptions of the existing forest conditions are so different and to try to arrive at a common understanding of what exists here or at least to bring our respective descriptions closer together.

And until that is done, there is simply no basis for a Finding of No Significant Impact. To the contrary, we believe much of the proposed logging and burning would likely have significant adverse impacts on many forest resources, including water, soil, plant, and the diversity of plant and animal communities. The information we have reviewed and our knowledge of the area indicates the District is proposing to "work against the grain" of nature with many aspects of this project, proposing:

- Over 1,000 acres of prescribed burns in:
    - the wettest climate in Virginia, which can receive up to 100 inches of precipitation per year;

- in mesic forest or primarily mesic forest not appropriate for prescribed burns according to the Forest Plan;

- Over 1,000 acres of commercial logging to "restore oaks and pines" in mesic forest types, on naturally mesic sites, where oak and pine do not predominate;

- Logging unique northern hardwood and mesic forests that should be conserved and protected as a buffer against climate change and a refuge for biodiversity;

- Ground disturbance (including logging and constriction of landings, temporary roads, bladed skid trails, and dozer firelines):

    - in areas with steep slopes and soils types that can be classified as "inherently wet," having a "high erosion hazard," and/or "prone to failure," i.e. landslides;

    - in an area that is among the most landslide-prone areas in the entire country, has had major landslides in the past, and where the Final EA admits that proposed logging activities "may result in landslides";

    - the Final EA admits will increase sedimentation into waters:

        - Virginia has placed on its 303(d) list as impaired for sediment;

        - are part of the most biologically diverse aquatic system in the country;

        - within the Clinch River Management Area, in which the Forest Plan states "Forest Service activities will not contribute to impaired water segments" and the "emphasis is to protect habitat for rare species, particularly aquatic species.";

        - part of a Priority Watershed identified by the National Forest, for which the Plan instructs the District to work collaboratively with private landowners and other agencies to restore water quality or maintain and restore aquatic habitat;

    - Fragments intact native forest that plays a critical role in connecting southern Appalachian forests.

Throughout project development and review, we have worked hard to identify and address these issues with the Forest Service. Our comments have been lengthy precisely because we sought to provide the information needed to improve this project

and to explain its relevance and application to this project's analysis. We have met with District and Forest staff on several occasions to discuss our concerns. Unfortunately, it feels like we have made relatively little headway on several key issues.

It seems likely like the near-constant transition of leadership on the Clinch District throughout this project has hindered these discussions. Since filing over 80 pages of comments on the Draft EA last April, we have talked to and/or met with (1) previous District Ranger Garten, (2) Acting District Ranger Beth Christensen, who was on the district for a few months while on detail from Kentucky, (3) Acting District Ranger Cano, who was on the District for several months while on detail from Puerto Rico, and now (4) District Ranger Michelle Davalos, as well as staff at the Forest Level. Other relatively recent retirements and transitions across the George Washington and Jefferson National Forests, including in the Forest Supervisor's Office, probably have exacerbated the disconnects in our efforts to productively discuss and address our concerns with the agency. It was frustrating for us to request and schedule meetings to attempt to resolve issues, only to arrive and find that Forest Staff had not read the entirety of our comments and/or was not prepared to discuss specific issues and possible resolutions. Indicative of the struggles we have had with learning more about and analyzing this project, we filed one FOIA request in December 2016 and followed up multiple times, only to receive a response to some of the original questions today - the day we are filing this Objection and over one year later.

As we said to Ms. Davalos, we are relieved the District now has a District Ranger in place, and we look forward to meeting to discuss our objection. We hope you will allow yourself, your staff, and our organizations the time to dig into these remaining issues and concerns, because we believe there can be a path forward for acceptable management activities in this project area, if the District is interested in pursuing solutions with us. We understand the District staff have put energy into this project over the years, feel a certain fatigue, and are eager to move on to implementation. While the Forest Service staff may be ready to implement, we believe this project and its mandatory analyses are not ready for implementation, and the project requires modification or the preparation of an Environmental Impact Statement (EIS) to move forward.

One of our overarching concerns is that the draft Finding of No Significant Impact is not adequately supported, and therefore is not adequate under NEPA. On some issues, the conclusions in the EA and FONSI are entirely unsupported, contradicted, or called into question by the EA's own analysis. On other issues, the EA and FONSI conflict with or are undermined by other relevant, reliable information we provided, which has not been considered or disclosed in the EA. Another overarching concern are the several inconsistencies between the proposed activities, the ecology of this project area, and the Forest Plan direction for the Clinch Management Area, impaired streams, and mesic forests. We want to emphasize that we believe the project activities could be modified and scaled-down to avoid the most controversial, most

questionable activities and sites within the project area, thus potentially avoiding the need for extensive additional environmental analysis and reducing impacts to below-significant levels. A modified project proposal could offer a way for some management activities in this project area to move forward relatively soon. Please see further discussion in the Objection and its Request for Relief regarding the specific modifications that would address our concerns.

Finally, we want to remind the District that The Clinch Coalition and Southern Environmental Law Center successfully resolved an administrative appeal of the Wells Branch timber sale in 2012. After the appeal was filed, a series of positive, constructive discussions with then-District Ranger Jorge Hersel led to an agreement to modify the project and make other improvements, and we withdrew our appeal. The willingness of Mr. Hersel and his staff to patiently work towards greater understanding of our central concerns and to proactively negotiate and resolve them allowed portions of the Wells Branch project to move forward and led us all to hope for fewer conflicts and greater collaboration in the future. In fact, at the time, the District agreed to and we expected more open, constructive dialogue with District staff prior to and during future project development. Although this unfortunately has not transpired as we hoped and envisioned, we now share the same hope for a much-improved Nettle Patch project and ongoing engagement with you and this District.

3. Hydrology, Soils Resources, and Water Quality

A. Any additional sedimentation into a 303(d) impaired stream for sediment would violate state and federal law.

The Clean Water Act requires all federal agencies to comply with state water quality standards.[10] We raised a number of concerns with the proposed project's impacts on water quality in our Draft EA comments.[11] As the EA acknowledges, the Forest Service must comply with state water quality standards, including those related to sedimentation.[12] Moreover, Virginia's anti-degradation policy prohibits the Forest Service's actions in this project from degrading existing beneficial uses of these waters.[13] Therefore, the Forest Service may not cause or contribute to the impairment of streams. As proposed, this project would impermissibly violate the Clean Water Act and Virginia state water quality standards, the National Environmental Policy Act, and the National Forest Management Act.

The project area is within 2 subwatersheds of the Guest River: Toms Creek-Guest

[10] 33 U.S.C. § 1323(a).
[11] See our comments on the Draft EA ("DEA Comments") at 28-41.
[12] FEA at 113-114 (quoting 9 Va. Code § 25-260-20).
[13] Id.

River (060102050601) and Rock Fork-Guest River (060102050503).[14] The project area is drained by several smaller watersheds, including: Lost Creek, Eastland Creek, Clear Creek, Machine Creek, Burns Creek, Mill Creek, and two unnamed tributaries into the Guest River.[15]

The Final EA properly documents that sediment pollution is a significant problem in this area. Machine Creek was previously listed as impaired due to benthic impairment.[16] Within the project area, Eastland Creek is designated as impaired for sediment on Virginia's 303(d) list.[17] In addition, the segment of the Guest River that is immediately downstream of this project area is designated as impaired for sediment on Virginia's 303(d) list.[18] The Guest River Total Maximum Daily Load Implementation Plan (TMDL) determined that the sediment loads in the Guest River need to be reduced by 29% to meet water quality standards.[19]

The Forest Plan identifies about 54,500 acres in this region – including the entire Nettle Patch project area – as the Upper Clinch River Management Area.[20] The Environmental Protection Agency (EPA) has described this Management Area as the most biologically diverse aquatic system in the Nation.[21]For this area, the Forest Plan's management "emphasis is to protect habitat for rare species, particularly aquatic species."[22] Beneficial uses of the water are to be maintained or improved. Importantly, "Forest Service activities will not contribute to impaired water segments."[23]

As a result of the impairments noted above, and due to possessing below average aquatic biodiversity, the Forest Plan identifies the Guest River, at its confluence with project area streams, as a Priority Watershed.[24] This is because the impaired stream segments are "in close proximity to the Jefferson National Forest, where forest management actions may make a difference."[25] Within these watersheds, the Plan instructs that the District must work collaboratively with private landowners and other agencies to restore water quality or maintain and restore aquatic habitat.[26] In addition, the Forest Service should commit to additional inventory and monitoring in this project

[14] Id. at 97.
[15] Id.
[16] Id. at 86.
[17] Id. at 96
[18] Id. at 96, 100 (It is listed along most of its length for multiple pollutants.).
[19] Guest River TMDL at 4-8.
[20] FEA at 8; Jefferson National Forest Plan ("Plan") at 4-29 to 4-31.
[21] FEA at 8; Plan at 4-29.
[22] Plan at 4-31.
[23] Plan at 4-31; FEA at 19.
[24] Plan at 2-2.
[25] FEA 100; Plan at 2-2 to 2-3.
[26] Plan at 2-4 (emphasis added).

area "beyond what is required in this Forest Plan and project-specific plans."[27]

Despite these existing impairments and Plan statements that the Forest Service will not contribute to impaired water segments, the Forest Service admits in the EA that the ground disturbance proposed for this project would exacerbate the sedimentation impairments in Eastland Creek and the Guest River segment immediately downstream of the Nettle Patch project area:

- *303(d) Eastland Creek* - With regard to modeled cumulative sediment impacts into Eastland Creek, the District estimates a 5.1 to 17.3% increase of sedimentation into already- impaired Eastland Creek.[28]

It is not clear how the agency arrived at this estimate because, unlike the other subwatersheds in the project area, the District failed to provide the modeled cumulative sediment impacts into Eastland Creek.[29] Eastland Creek is a tributary of Clear Creek so it is possible that the agency merged the Eastland Creek estimates into results for Clear Creek. This would be improper given the need to separately analyze the modeled sedimentation impacts for impaired Eastland Creek. Moreover, the EA must explain how it handled this analysis. Without this, it is not clear whether or how the District has considered the impacts into Eastland Creek or the basis for its conclusions. A failure to conduct this analysis is a violation of NEPA.[30]

- *303(d) Guest River segments:* With regard to the immediately downstream, impaired segments of the Guest River, the EA provides: [E]xcess sediment from the proposed project could affect the 303d reach currently impaired [for sediment]….The projected sediment increase from this project presents a 6.5% increase over the background sediment load of the Guest River at that point. Sand and silt from the proposed action and associated activities could eventually end up being deposited in the impaired reach of the Guest River…Because of the degree of existing impairment, it is not possible to determine if the proposed actions will have an additional significant impact beyond those already outlined in the TMDL performed for the Guest River. The macroinvertebrate and fish fauna of the Guest River have been heavily impacted; to the point that only the most tolerant native and nonnative fish remain. What can be said is that sediment from the proposed action could delay recovery."[31]

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[27] Id. at 2-3.
[28] FEA at 126.
[29] Id. at 125.
[30] Idaho Conservation League v. Bennett, No. CV 04-447-S-MHW, 2005WL1041396 at *6 (D. Idaho 2005) (Forest Service's failure to analyze how proposed project may impact already degraded environment "falls in the category of merely perfunctory analysis.").
[31] FEA at 128 (emphasis added).

The descriptions of impacts above highlight clear violations of NEPA, the CWA, and NFMA.[32] The analysis admits that "it is not possible to determine if the proposed actions will have an additional significant impact."[33] The issuance of a Final EA and FONSI based on such analysis violates NEPA, because one major purpose an EA is to determine whether effects are significant and, if so, the agency moves on to prepare an EIS.[34] Yet this EA admits that the analysis conducted thus far cannot answer that central question. This plainly demonstrates that the finding of no significant impact is unsupported, is arbitrary and capricious, and is a violation of NEPA and CEQ regulations.[35] The analysis highlights a violation of the CWA because it states that the Forest Service will further degrade impaired streams, in violation of Virginia water quality standards and in turn the Clean Water Act.[36]

Finally, this is a violation of NFMA for two reasons. First, because it is plainly inconsistent with the Forest Plan requirement that "Forest Service activities will not contribute to impaired water segments,"[37] in violation of the consistency provision of the NFMA.[38] Second, it violates NFMA itself, which states that "timber will be harvested from National Forest System lands only where – soil, slope, or other watershed conditions will not be irreversibly damaged."[39]

Since the entire project area drains into impaired segments of the Guest River, all proposed ground disturbance plays into the analysis, including:

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[32] Save Our Cabinets v. United States Dept. or Ag., 254 F. Supp. 3d 1241, 1248 (finding "Forest Service's approval of the Project despite noncompliance with Montana's nondegradation standards is arbitrary and capricious).
[33] FEA at 128.
[34] 40 C.F.R. § 1508.9(a)(1).
[35] Blue Mountain Biodiversity Project v. Blackwood, 161 F.3d 1208, 1213 (9th Cir. 1998) (general statement "about 'possible effects' and 'some risk' does not constitute a 'hard look' absent a justification regarding why more definitive information could not be provided.").
[36] 33 U.S.C. § 1323(a) (federal agencies required to comply with state water quality standards); 9 Va. Admin. Code §§ 25-260-20, 25-260-30; see also Guest River TMDL.
[37] Plan at 4-31; 36 C.F.R. § 219.8 (Forest Services regulations requiring Forest Plans to include components to maintain or restore water quality).
[38] All projects or activities in national forests must be consistent with the forest management plan. 16 U.S.C. § 1604(i); see, e.g., Sierra Club v. Martin, 168 F.3d 1, 4-5 (11th Cir. 1999); Cherokee Forest Voices v. U.S. Forest Serv., 182 F. App'x 488 (6th Cir. 2006). The Forest Service bears the burden of demonstrating this compliance. See Lands Council v. McNair, 537 F.3d 981, 994 (9th Cir. 2008) (Forest Service must support its conclusions that a project meets the requirements of the NFMA and relevant Forest Plan); Neighbors of Cuddy Mountain v. U.S. Forest Serv., 137 F.3d 1372, 1377 (9th Cir. 1998) ("Forest Service must demonstrate that a site-specific project would be consistent with the land resource management plan").
[39] 16 U.S.C. § 1604(g)(3)(E)(i).

- 308 acres of proposed regeneration harvest;
- 564 acres of commercial thinning;
- 167 acres of commercial thinning-woodland;
- 9 acres of 1anding construction;
- 1.7 miles of dozer line for prescribed fire. [40]

Regarding the impaired Eastland Creek watershed specifically, the following proposed harvest units involve ground disturbance that would contribute directly to (i.e., increase) sedimentation into the already-impaired Eastland Creek:

- 2059-24 (16 acres of regeneration harvest)
- 2059-31 (20 acres of regeneration harvest)
- 2059-31 (4 acres of commercial thinning)
- 2059-59 (8 acres of regeneration harvest)

The hydrology survey results presented in indicate a hydrological connection between each of these units and impaired Eastland Creek.[41]

Again, these proposed actions would impermissibly violate the Clean Water Act and Virginia state water quality standards, the National Environmental Policy Act, and the National Forest Management Act.[42] In order to comply with federal and state statutory requirements, the District must modify the project so it will not contribute to or cause additional impairment and must drop the abovementioned units from the project and/or determine whether it can sufficiently modify the silvicultural prescription for these units to exclude the ground disturbance that would increase sedimentation into Eastland Creek.

In addition, because the Forest Service cannot determine if the proposed actions will have a significant impact on the impaired Guest River, NEPA requires the agency to prepare an Environmental Impact Statement (EIS) if it wishes to pursue the action as proposed.[43] Alternatively, the District must modify the project and reduce the

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[40] FEA at 39, 97, 14.

[41] See FEA (Appendix C, Figure 5); FEA at 110 (approximately 80% of the Eastland Creek watershed consists of national forest land. The Final EA vaguely attributes the stream's high sediment load to "past poor road locations from historic logging and the parent geology of mudstone/siltstone."). Yet the EA does not even attempt to reconcile the facts that logging in this erosion-prone area caused (or was a cause) of the impairment, and now further logging is proposed. And the EA does not even attempt to explain how such an action squares with its Clean Water Act obligations.

[42] 33 U.S.C. § 1323(a); 42 U.S.C. § 4332(2)(C); Va. Code §§ 25-260-20, 25-260-30; 16 U.S.C. § 1604(g)(3)(E)(i).

[43] 40 C.F.R. § 1508.27(b)(5) ("degree to which the possible effects … are highly uncertain or involved … unknown risks" counsels in favor of preparing an EIS).

sedimentation impacts so that there is a reasonable basis for a finding of no significant impact.

B. The analysis of impacts on water resources is inadequate and does not support of finding of no significant impact on water resource.

While we appreciate that the District conducted sediment modeling to inform its evaluation, the model itself is subject to significant limitations that the District does not fully reckon with. When using a model, the District must acknowledge and disclose its limitations.[44] Here, the sedimentation model is "based on a number of assumptions that may not be accurately reflected on the ground."[45] Despite our request that the District identify such assumptions and where they do not reflect realities in the project area, the Final EA and Response to Comments did not address or acknowledge this request.[46] In the Final EA, as in the Draft EA, the District has misapplied the model, utilized unreliable and undisclosed data, has likely significantly underestimated the amount of sediment, and has over-relied on the use of BMPs to remedy the impacts from the proposed action.

i. The District Misapplied the Sediment Model

The Model is to be used as a tool for comparison of alternatives; it has limited ability to accurately predict ultimate sediment outputs. The Final EA admits that "[t]he results provide very rough approximations of the changes in sediment delivery that might be expected as a result of proposed activities. Nevertheless, they allow a comparison of the impacts of various alternatives and provide a measure of relative risk to the aquatic ecosystem."[47] However, the District fails to heed this limitation. Rather than using this model as a comparison of impacts in order to understand relative risk, the District uses this model to reach absolute, substantive conclusions about impacts. Using this model to provide a key basis for its finding of no significant impact exceeds the scope of the model. The District flatly concludes that, because estimated sediment yield falls within the interannual variability of the system, there should be no change in the stream bed composition or in aquatic habitat quality or complexity from sediment related to the project. This misapplication of the model, to reach absolute conclusions regarding impacts, is a violation of NEPA and of NFMA because it fails to adequately demonstrate that the project will not harm water resources.[48]

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[44] FEA at 116.
[45] Id.
[46] DEA Comments at 28; RTC at 148.
[47] DEA comments at 28 (emphasis added).
[48] See Or. Nat. Res. Council Fund v. Brong, No. Civ. 04-693-AA, 2004WL2554575 at *17-19 (D. Or. Nov. 8, 2004) (Finding Forest Service violated NEPA where it used a habitat model contrary to recommendations of model's authors); 36 C.F.R. § 219.8 (Forest Services regulations requiring Forest Plans to include components to maintain or restore soil and water quality).

The assumption that additional sediment is not significant if the extra amount falls within the interannual variability of sediment levels in the stream system has a number of flaws under NEPA. One flaw pointed out by an expert, Barry Sulkin, is that this approach masks the natural baseline conditions and the true significance of the likely impacts, particularly cumulative impacts.[49] Second, this approach seems to pretend that natural forces, by definition, do not have significant impacts. In fact, natural forces, such as major storms and floods, can significantly affect the environment. Simply because the effects of an agency action fall within the range of natural forces does not automatically render the effects of that agency action insignificant. The effects of the extra sediment this project will deliver to the area's steams may still have significant effects, either on its own or when considered cumulatively and added to the effects of existing and likely future sedimentation from other sources. And unlike sediment from natural forces, such as major storms, here the District may choose whether to add extra sediment to these already-impaired streams or whether to refrain from logging in order to avoid exacerbating the sediment overloads. NEPA requires the agency to forthrightly acknowledge this choice and the risks and trade-offs of the alternatives.

ii. Reliance on Models Masks Localized and Site-Specific Impacts

With respect to the District's use of the Whiting Study, we are curious to know if they the District used its own data or if they relied on the data in the Great Lakes Model. While we recognize that the study states that it is transferable elsewhere, in order for this equation to adequately consider background sediment levels, the District must use location specific data. It would go without saying that the District cannot rely on data from the Great Lakes Region to determine background sediment levels in the Clinch District. Did the District use a USGS gage like that used in the Great Lakes Study? Or did it rely on the outdated, visual surveys mentioned in the Final EA – which would not provide an accurate measure of sediment. This data must be disclosed to the public in order to comply with NEPA.

We are also concerned that the District's precipitation range in the Final EA is inaccurate. The Final EA estimates that annual precipitation over the project area averages from 48 inches to over 55 inches and total precipitation in the highest elevations of the project area is likely close to 70 inches.[50] In contrast to these estimates, our own expert estimates that the annual precipitation over the project area is firmly within the 78.7 to 98.4 inches range.[51] This demonstrates that even the high end of the Final EA's prediction is still less than the low end of our own data. It does not appear that the model was adjusted for this known project-specific factor.

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[49] See Sulkin Statement at 4.

[50] FEA at 97.

[51] Browning Statement at 5.

Finally, a model estimating comparative sediment impacts cannot be, and is not, a substitute for analysis of localized impacts at the stand or road level.[52] Although data exists in the EA and underlying documentation about slopes and soils in these stands, the District neglected to analyze and deal with this data to ascertain site-specific impacts from sedimentation on water quality. Erosion and sedimentation are significant water quality threats; however, the District does not take the information considered in the soils and slopes section – the WEPP and Inherent Wetness Model – and apply these as layers in the sedimentation analysis. As a result, the District's use of the sedimentation model and consideration of cumulative impacts on water quality is far from complete. If the District were to consider all of this information together, it may help determine that some stands proposed for logging need to be dropped or should not receive ground-based logging. These considerations are necessary to afford adequate protection to water resources, as required by NFMA, and to inform the public of reasonable alternatives to the proposed project, as required by NEPA.[53]

iii. The Model Likely Underestimates the Quantity of Sediment

There are a number of issues with the model that have likely led to a significant underestimation of sedimentation. We requested in our Draft EA comments that the District disclose what level of uncertainty these models present. They failed to provide an answer to this question and failed to justify this omission in the Response to Comments.[54] It is our experience that the predictive value of these models is limited by large margins of error, which were undisclosed in this case. Indeed, both the Whiting Study have a 50 percent margin of error.[55] This large margin of error means that much higher sediment levels are entirely possible.

We also still have questions and concerns about how the model handles a number of proposed ground disturbing activities, including the proposed 17.7 miles of unbladed "primary" skid trails and the 1.7 miles of dozer fireline (half of the length of which traverses a very steep slope, the other half is located in close proximity to

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[52] See Pacific Coast Fed'n v. Nat'l Marine Fisheries Serv., 265 F.3d 1028, 1036 (9th Cir. 2001) (a watershed scale cannot be used to mask impacts to certain aquatic habitats or aquatic species or to ignore the effects of individual sites.).

[53] Idaho Sporting Congress v. Thomas, 137 F.3d 1146, 1150 (9th Cir. 1998) (overruled on other grounds by Lands Council v. McNair, 537 F.3d 981 (9th Cir. 2008)) (agency must provide public with adequate environmental data and "a basis for evaluating the impact" of the proposal.); 40 C.F.R. § 1500.1(b) ("NEPA procedures must insure that environmental information … be of high quality. Accurate scientific analysis … [is] essential to implementing NEPA.").

[54] DEA Comments at 28; RTC at 148.

[55] Peter J. Whiting, Estimating TMDL Background Suspended Sediment Loading to Great Lakes Tributaries From Existing Data, Journal of American Water Resources Association at 775 (2006).

Stidham Fork (perennial stream)).[56] While we noted these concerns in our Draft EA comments, it appears that the model does not address sediment produced by these types of proposed ground disturbing activities. Without incorporation of these activities, the Final EA likely significantly underestimates sediment loads. The Response to Comments did not even provide an explanation for this significant omission.[57]

Finally, to add to the numerous concerns discussed above with respect to limitations on both the model and the data used within the model, the District has applied its results improperly. First, the District has failed to include sedimentation into tributaries of Mill Creek in its results. In considering private timber harvest and cumulative impacts on sedimentation the Final EA states that "[f]irst-year sediment production for the sale was calculated at 19.5 tons delivered to Mill Creek and 13.7 tons to its tributary Stidham Fork.[58] A small, unnamed system to the west of Shingle Creek was called Tacoma Creek for the purposes of this analysis. Tacoma Creek will receive 1.21 tons of sediment from private timber sale."[59] Despite recognizing impacts to Mill Creek and two tributaries, Table 37, summarizing sediment effects and impacts from activities on private lands, only includes 19.51 tons for sediment into Mill Creek.[60] Neither of the tributaries appear anywhere in the Table.

A similar discrepancy exists for sediment into the Guest River. In considering sediment impacts from Norton Riverwalk, the Final EA noted that the project would yield a sediment total of 2.84 tons into Guest River for the first year.[61] However, Guest River is not mentioned in Table 37.[62] Why were these 2.84 tons not included in the table summarizing impacts from activities on private lands in the Project area watersheds?

Finally, Eastland Creek was similarly excluded from Table 37. Despite omitting Eastland Creek from the table summarizing sediment impacts from the proposed action, the Final EA states that the predicted increase of sediment in Eastland Creek is 5.1% over background sediment and 17.3% over pristine background. However, the public and decision-makers cannot know how the District reached these percent increases without knowing the amount of increased sediment from the proposed project or from private timber harvests into Eastland Creek. Failure to incorporate these

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[56] It was unclear whether the model included 1.1 miles of temporary roads and whether stream crossings were addressed. We request that the District clarify this as these would also be important to an adequate review of sedimentation.
[57] Response To Comments ("RTC") at 144-46 (only responding to a single paragraph, regarding sediment analysis in small stream, of our eight paragraphs on site-specific sedimentation analysis and limitations on the sedimentation model).
[58] We believe this label is a clerical error, as Stidham Fork is a tributary of Clear Creek, not Mill Creek. We believe this is an unnamed tributary.
[59] FEA at 118.
[60] Id. at 125.
[61] Id. at 118.
[62] Id. at 125.

numbers, as well as those associated with Mill Creek and the Guest River, is a violation of NEPA.

Particularly troubling is the fact that even with these likely significant underestimates or sedimentation increases, some of the increases are getting very close to the interannual variability. Assuming the District has in fact underestimated sediment increases, increases into Burns Creek and Mill Creek are likely over the interannual variability and thus cannot justify a finding of no significant impact on water resources, as required by NEPA and NFMA.

iv. The District Over-Relies on BMPs

The District's analysis inappropriately relies upon unrealistic BMP effectiveness and neglects to account for the probability and effects of a BMP failure. This over-reliance on the effectiveness of BMPs is a significant defect in the EA's analysis of sediment impacts. It is common knowledge in this field that BMPs are rarely, if ever, fully met or carried out.

The EA fails to disclose, discuss, or evaluate the in-field effectiveness of BMPs, generally or specifically in Virginia. As our expert noted, BMPs rarely are effective in preventing pollution of streams, river, and other water bodies associated with logging and road building.[63] This frequent failure of BMPs is the result of a number of factors, including BMPs not being followed or fully implemented, BMPs that are inappropriate for a given situation, a lack of maintenance and follow-up, and activities occurring in inappropriate situations. At a minimum, the Forest Service should not propose logging in degraded watersheds without fully disclosing whether its BMPs have succeeded or failed in the past and how this history bears on the current project.[64]

As laid out in our Comments on the Draft EA and in the comments above, we have a number of significant concerns with the District's sedimentation model and analyses. Despite raising many of these concerns in our Draft EA comments, the District failed to address any of our concerns or remedy any of the issues we noted. At every

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[63] See Sulkin Statement at 5-6.

[64] See Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 352 (1989) (finding incomplete discussion of mitigation measures violates NEPA); Idaho Sporting Congress v. Thomas, 137 F.3d 1146, 1151 (9th Cir. 1998) (overruled on other grounds by Lands Council v. McNair, 537 F.3d 981 (9th Cir. 2008)) ("Without analytical data to support the proposed mitigation measures, we are not persuaded that they amount to anything more than a 'mere listing' of good management practices."). Agencies may use mitigation measures to justify a FONSI only when their efficacy is "supported by substantial evidence. . . ." National Audubon Soc'y v. Hoffman, 132 F.3d 7, 30 (2nd Cir. 1997) (Without "substantial evidence to support the efficacy" of the mitigation measure at issue in that case, including monitoring to determine how effective it was, and detailed alternatives in the event that it failed, the Forest Service's consideration of the proposed action was inadequate and violated NEPA).

turn, whether estimating background levels of sediment or the increase from the project, there are high margins of error. The District did not disclose this significant limitation to the public and did not address it in the Final EA. Beyond the flaws inherent in the models, themselves, the District misapplied the sediment increase model by drawing absolute, substantive conclusion based on its results, rather than using it to understand relative risk. Finally, in addition to the flawed model and inappropriate use, the District misapplied the results of the model and omitted important data that is necessary for an informed public review of the project's impacts on water resources.

All of these issues with the model used by the District demonstrate clear NEPA and NFMA violations. The District has violated NEPA by failing to provide the public high integrity, accurate data, by failing to disclose underlying assumptions and data that provided the basis for its finding of no significant impact, and by failing to disclose the limitations and gaps in its analysis and the resulting uncertainties and risks in the projected environmental effects.[65] The project is inconsistent with the Forest Plan and violates NFMA's mandate that forest management not further degrade soil and water resources because its analysis of sedimentation simply has not demonstrated that these harms will not occur as a result of the proposed project.[66]

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[65] See 40 C.F.R. § 1502.24; see also Idaho Sporting Congress v. Thomas, 137 F.3d 1146, 1150 (9th Cir. 1998) (overruled on other grounds by Lands Council v. McNair, 537 F.3d 981 (9th Cir. 2008)) (agency must provide public with adequate environmental data and "a basis for evaluating the impact" of the proposal.); 40 C.F.R. § 1500.1(b) ("NEPA procedures must insure that environmental information … be of high quality. Accurate scientific analysis … [is] essential to implementing NEPA."). NEPA requires the Forest Service to address the uncertainties surrounding the evidence on which its management strategies rest and to disclose the risks posed by the agency's proposed action. Otherwise, environmental study cannot serve its purpose of informing the decisionmaker and the public. See Seattle Audubon Soc'y v. Espy, 998 F. 2d 699, 704 (9th Cir. 1993) overruled on other grounds by Lands Council v. McNair, 537 F.3d 981 (9th Cir. 2008); Seattle Audubon Soc'y v. Moseley, 798 F. Supp. 1473, 1478-79 (W.D. Wash. 1992) (overruled, in part, on other grounds by Wilderness Soc'y v. United States Forest Serv., 630 F.3d 1173 (9th Cir. Idaho 2011)). The agency cannot sweep complex and troublesome issues under the rug. Seattle Audubon Soc'y v. Moseley, 798 F. Supp. 1473, 1479. The agency also must disclose, not ignore, reputable scientific criticism. See Hughes River Watershed Conservancy v. Glickman, 81 F.3d 437, 445-446 (4th Cir. W. Va. 1996); Seattle Audubon Soc'y v. Espy, 998 F.2d 699, 704. When the agency uses a model, it must openly disclose the limitations of the method used. See Blue Mountains Biodiversity Project v. Blackwood, 161 F.3d 1208 (9th Cir. 1998) cert. denied, 527 U.S. 1003 (1999); Lands Council v. Powell, 395 F.3d 1019(9th Cir. Idaho 2005)(rev'd on other grounds by Lands Council v. McNair, 494 F.3d 771 (9th Cir. Idaho 2007)); Lands Council v. Vaught, 198 F. Supp. 2d 1211 (E.D. Wash. 2002).

[66] 16 U.S.C. § 1604(i); Plan at 4-31 ("Forest Service activities will not contribute to impaired water segments."); 36 C.F.R. § 219.8 (Forest Services regulations requiring Forest Plans to include components to maintain or restore soil and water quality); 16 U.S.C. § 1604(g)(3)(E)(i).

In light of these clear issues with the model, we request that proposed actions further degrading Eastland Creek are dropped, we request an increased buffer of 150 feet around perennial streams, lakes, ponds, wetlands, springs, or seeps regardless of slope class, an increased buffer of 100 feet around all intermittent stream, regardless of slope class, and the addition of a 50 foot buffer around ephemeral streams.[67] We also request specific monitoring commitments to be implemented during project implementation to help verify the predictions in the model. Given the high degree of uncertainty and likely underestimation of sediment increases, these requests are necessary to ensure adequate protection for water resources.

C. Soils

We are glad that the District has conducted more analysis related to soil as required by the Plan, NEPA, and NFMA. And we look forward to learning more about the tools used, including the Inherent Wetness Model ("IWM") and the Watershed Erosion Prediction Project Model ("WEPP"). However, while these models may provide useful tools, the District's analysis and conclusions still are not enough to conclude there will be no damage to soil resources and some of the concerns raised in our comments on the Draft EA remain unaddressed.[68] In light of this, we still have a number of concerns regarding these models and the District's soils analysis.

The District does not provide enough information about the IWM to allow for adequate public review of the model, the results, and the conclusions drawn. For example, the Final EA states that Wetness Index Ratings of 6 and higher indicate wet soils susceptible to damage from mechanical activity.[69] Why is 6 or higher the cut off for soils susceptible to damage? Is this based on other data or a separate application of the model? The District must explain how it reached this conclusion in order for the public to conclude that the District has in fact ensured soils will not be damaged by the proposed project. Another area of confusion is the placement of temporary roads and the impacts on wet soils. The Final EA states that analysis of temporary road locations indicate that the majority of these activities do not occur on wet soils.[70] The Final EA also states that "[e]xplicit spatial locations of temporary roads proposed for the project" are incomplete or unavailable.[71] How can the Final EA conclude that temporary roads do not occur on wet soils if the locations of temporary roads remain incomplete or unavailable? These contradictions are troubling.

We have similar concerns about the WEPP model used in the Final EA. First, as mentioned in more detail in the sedimentation section, the District's average

[67] Sulkin Statement at 6.
[68] DEA Comments at 16-28.
[69] FEA at 149.
[70] Id.
[71] Id. at 141.

precipitation levels are inaccurate. With respect to the WEPP model, the Final EA states that an average year precipitation estimate is around 42 inches, the estimate for moderately wet year is 55 inches, and estimates for very wet year is 66 inches. In contrast to these numbers, our own estimates indicate that mean annual input of moisture into the landscape is approximately within the range of 80 to 100 inches.[72]

Further, the results of the WEPP model indicate that "essentially no sediment is produced from mature forest or thinned areas under any of the three precipitation years" and that almost no sediment is produced for regeneration until the 30-year precipitation year.[73] Contrary to these conclusions, though, the District has already identified sedimentation for each unit within the project area. How can it be that there is existing sedimentation in the project area streams; however, there will not be any sedimentation increase from forest management activities under the WEPP model? These two conclusions simply do not make sense. The District must address this discrepancy and provide more information regarding the WEPP model and analysis.

Despite raising these concerns in our Draft EA comments, the District failed to respond to these comments or the map we provided.[74] While our analysis was different and utilized different tools, it was based on reputable data and provided useful information, including highlighting area where, at a minimum, winching will be needed.

Without a more detailed explanation of the models used to determine soil impacts, based on a number of contradictory and confusing statements, and because the District failed to adequately address the concerns we raised or provide an explanation for why it did not utilize the tools and analysis we offered, the current soils analysis simply cannot provide an adequate basis for a finding of no significant impact on soils in the project area. Without adequate assurances that the project will not harm soils in the project area, the Final EA violates NEPA and NFMA.[75]

We have similar questions about a lack of detail and explanation with respect to treatment of sustained slopes in the project area. In our Draft EA comments we raised concerns about logging on sleep slopes with highly-erosive or hydric soil types.[76] In response, the Forest Service seems to think that it can claim erosion risk is not high risk

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[72] Browning Statement at 5.
[73] FEA at 151.
[74] DEA Comments at 16-23.
[75] Idaho Sporting Congress v. Thomas, 137 F.3d 1146, 1150 (agency must provide public with adequate environmental data and "a basis for evaluating the impact" of the proposal.); 40 C.F.R. § 1500.1(b) ("NEPA procedures must insure that environmental information … be of high quality. Accurate scientific analysis … [is] essential to implementing NEPA."); 36 C.F.R. § 219.8 (Forest Services regulations requiring Forest Plans to include components to maintain or restore soil quality).
[76] DEA Comments at 18.

because of ground cover.[77] We are confused by this statement. There is an entire body of research and GIS analysis that determines erosion risk that consider far more that ground cover. We disagree with the District's simplistic view and need to further discuss the applicability of the meaning of "high erosion hazard" and "failure prone."[78] We also need to further discuss the meaning of what constitutes "sustained slopes."[79]

4. Ecological Characterization, Biodiversity, Rare Communities, and Rare Species

One of the three primary objectives of the project, as stated in the Final EA, is to "sustain forest and ecosystem health." In our previous comments, we expressed concerns that, for a variety of reasons, the proposed management is likely to do just the opposite.[80]

A. Improper Characterization of Existing Forest Community Types and Inappropriate Management

The District has not accurately described and characterized the forest community types that currently exist in the Nettle Patch project area. Without having done so, it is not surprising that the District has also set goals and proposed management - such as widespread oak and pine regeneration – that are inappropriate for much of the project area. This violates NEPA and the National Forest Management Act (NFMA).

The National Forest Management Act requires the Forest Service to "provide for diversity of plant and animal communities…and provide, where appropriate, to the degree practicable, for steps to be taken to preserve the diversity of tree species similar to that existing in the region controlled by the plan."[81] For example, regarding tree diversity, if a stand "is properly a hardwood management site, it would be improper for the [Forest Service] to regenerate the site as a pine plantation."[82] Any reductions in diversity must be well-justified and supported by significant analysis.[83]

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[77] RTC at 177 ("The erosion hazard is for bare soils. Soils in the general harvest areas are covered with logging slash and the organic horizons of the forest floor. Bare soil dos not generally occur in the general harvest areas, so … potential erosion hazard, would not be high (severe).")
[78] See Plan at 2-33 to 2-34 (FW-111 and FW-118).
[79] See DEA Comments at 16-25.
[80] See, e.g., DEA comments at 45-53.
[81] 16 U.S.C. § 1604(g)(3)(B); see Conservation Cong. v. U.S. Forest Serv., No. 2:12-cv-02800-TLN-CKD, 2014 U.S. Dist. LEXIS 68636, at *43 (E.D. Cal., May 19, 2014); see also Chattooga Watershed Coalition v. U.S. Forest Serv., 93 F. Supp. 2d 1246, 1249 (N.D. Ga. 2000).
[82] Chattooga Watershed Coalition, 93 F. Supp. at 1249.
[83] Sierra Club v. Glickman, 974 F. Supp. 905, 922 (E.D. Tex. 1997), aff'd, 185 F.3d 349 (5th Cir. 1999), vacated on other grounds, 228 F.3d 559 (5th Cir. 2000) ("Reductions in diversity – such as forest type conversions – are permitted only where needed to meet overall multiple-use objectives and must be justified by an elaborate analysis of potential consequences," quoting

This NFMA requirement intersects with the District's NEPA obligations. In order to provide for diversity of plant communities and to preserve the existing species diversity, or justify any reductions, the District must first identify and document the existing species that exists on-the-ground. The District must research, consider, and disclose to the public "high quality" information and "accurate scientific analysis" specific to the project area.[84]

A core objective of NEPA is to "ensure that the agency will not act on incomplete information, only to regret its decision after it is too late to correct."[85] The EA and/or EIS requirements further that objective by "ensur[ing] that the agency, in reaching its decision, will have available, and will carefully consider, detailed information concerning significant environmental impacts" and by "guarantee[ing] that the relevant information will be made available to the larger audience that may also play a role in both the decisionmaking process and the implementation of that decision."[86] In short, when relevant information about a project and its impacts is available, the agency must consider and disclose it.

Agencies also have an affirmative duty to research, uncover, and disclose information about potential impacts from projects. Agencies cannot research impacts "in a cursory manner nor sweep[] negative evidence under the rug."[87] "[A]gencies violate NEPA when they fail to disclose that their analysis contains incomplete information."[88] Withholding "up-front disclosures of relevant shortcomings in the data or models" violates NEPA.[89] Here, the District has relevant data about existing vegetation that it has neither considered, addressed, nor disclosed to the public.

In the Final EA, the District claims that "[o]aks dominate the landscape, varying between chestnut oak-scarlet oak stands on the drier ridges to northern red oak and white oak in areas of deeper soils and more moisture" and "[m]ost regeneration cuts

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CHARLES F. WILKINSON & H. MICHAEL ANDERSON, LAND AND RESOURCE PLANNING IN THE NATIONAL FORESTS at 195 (1987)).

[84] See 40 C.F.R. § 1500.1(b); Dep't of Transp. v. Pub. Citizen, 541 U.S. 752, 768, 124 S. Ct. 2204, 2215-16, 159 L. Ed. 2d 60 (2004)(citation omitted); Sierra Nevada Forest Prot. Campaign v. Weingardt, 376 F. Supp. 2d 984, 990 (E.D. Cal. 2005).

[85] Friends of the Clearwater v. Dombeck, 222 F.3d 552, 557 (9th Cir.2000).

[86] Dep't of Transp. v. Pub. Citizen, 541 U.S. 752, 768, 124 S. Ct. 2204, 2215-16, 159 L. Ed. 2d 60 (2004)(citation omitted).

[87] Nat'l Audubon Soc'y v. Dep't of Navy, 422 F.3d 174, 194 (4th Cir. 2005).

[88] N. Carolina Wildlife Fed'n v. N. Carolina Dep't of Transp., 677 F.3d 596, 603 (4th Cir. 2012); see also Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto Ins. Co., 463 U.S. 29 (1983) (holding that an agency acts arbitrarily and capriciously when it fails to "examine the relevant data and articulate a satisfactory explanation for its action including a rational connection between the facts found and the choice made") (internal quotation marks omitted).

[89] Lands Council v. Powell, 395 F.3d 1019, 1032 (9th Cir.2005).

done over the past 50 years have resulted in an oak dominated stand."[90] For anyone who has spent any time in the project area, these descriptions raise concerns and, as described below, are belied by statements in the Forest Plan and Plan EIS, and other data.[91]

A possible explanation for some of these mischaracterizations is that the District copied language from a 2016 EA for the Tub Run timber sale, which took place on the Eastern Divide District in an area that is rather different from the Clinch District and this project area.[92]

[90] Final EA at 55. We are especially skeptical of the assertion that most recent timber cuts in this project area, or even on this district, regenerated oak-dominated stands. Given the widely acknowledged difficulties in oak regeneration, the EA should support this assertion with data, such as on-the-ground surveys of forest composition in recent harvest units on this district, such as units in the CMB Timber Sale and Wells Branch project.

[91] See Browning Statement at 3.

[92] See attached excerpt of EA for the Tub Run Ruffed Grouse Vegetation Management Project Environmental Assessment, 2016.

Comparison of Language in Tub Run and Nettle Patch EAs	
Tub Run[93]	**Nettle Patch[94]**
"Much of the Tub Run project area is overstocked and of coppice origin. Oaks dominate the landscape, varying between chestnut oak-scarlet oak stands on the higher, drier ridges to northern red oak and white oak in areas of deeper soils and more moisture."	"Much of the Nettle Patch project area is overstocked and of coppice origin. Oaks dominate the landscape, varying between chestnut oak-scarlet oak stands on the drier ridges to northern red oak and white oak in areas of deeper soils and more moisture."
"Most regeneration cuts done over the past 50 years have resulted in an oak dominated stand. Some stands on higher site indexes are currently regenerating as mixed poplar-white oak-northern red oak stands. This is as expected, particularly with the absence of fire. The composition of these stands prior to harvest is unknown; however, the presence of large poplar in coves is noted in the purchase notes from 1935."	"Most regeneration cuts done over the past 50 years have resulted in an oak dominated stand. Some stands on higher site indexes are currently regenerating as mixed poplar-white oak-northern red oak stands. This is as expected, particularly with the absence of fire. The composition of these stands prior to harvest is unknown; however, the presence of large poplar in coves is noted in the purchase notes from 1935. "
"Advanced oak regeneration is sparse and is generally no more than 12 inches in height."	"Advanced oak regeneration is sparse and is generally no more than 12 inches in height."
"The composition of these stands prior to harvest is unknown; however, the presence of large poplar in coves is noted in the purchase notes from 1935."	"The composition of these stands prior to harvest is unknown; however, the presence of large poplar in coves is noted in the purchase notes from 1935."
"Many of these stands reflect cutting from the early 1900s and evidence of past fire is found throughout the project area."	"Many of these stands reflect cutting from the early 1900s and evidence of past fire is found throughout the project area."

[93] Tub Run EA at 29

[94] FEA at 55.

Note that we do not take issue with the District using language from another EA, so long as the project areas are similar, so the description would be accurate for both. As detailed below, however, does not appear to be the case here.[95] This also calls into question the credibility of other similar statements about the Nettle Patch area, much of which contradicts TCC members' knowledge of the area. Is there really evidence of past fire found throughout the project area?[96] Does the District have evidence that most regeneration cuts over the past 50 years have resulted in an oak- dominated stands? Given that TCC has consistently raised these questions, the District should have fully addressed them in the Final EA.

In attempting to respond to comments that the District has not properly characterized the forest community types present in the project area, the District states:

> [A]ccording to the Ecological Zones on the Jefferson National Forest Study Area: 1st Approximation (Simon, 2013) roughly 11% of the Nettle Patch area would be expected to be forested with mixed mesophytic vegetation (Northern Hardwoods, Cove, and/or Floodplains, Wetlands, and Riparian area Ecosystem Groups). Conversely about 83% of the area should be Oak Forest and Woodlands.[97]

While we recognize the value of this data for some purposes, it does not capture or reflect the on-the-ground realities of this project area.

Nor does this actually respond to the many site-specific characteristics of the area that we have raised with the District on many occasions now, presenting detailed and reliable information.[98] As TCC and Wayne Browning, a TCC member, have explained in numerous rounds of comments and meetings with Forest and District staff, this project area is part of the High Knob Massif, which has the wettest climate in Virginia.[99] In fact, the effective mean annual input of moisture into this area is around 80 to 100 inches annually. This area is particularly unique and requires specific consideration of

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[95] For example, low site indices (half of the 26 stands < 60) and the presence of more xeric forest types (20 and 45) indicate the Tub Run area is markedly different from the Nettle Patch area.
[96] In our comments on the Draft EA, we specifically asked for more information about the evidence for this past fire. We also requested No information was provided.
[97] RTC at 12.
[98] See DEA Comments at 48-49. In addition to written comments, we presented information on these points to Forest and District staff on June 6 (meeting with Acting District Ranger Beth Christensen and Deputy Forest Supervisor Beth LeMaster), August 8 (meeting with Acting District Ranger Felipe Cano, IDT Leader/Silviculturist Shelby Williams, Biologist/Hydrologist Chuck Layne, Fire Management Officer Terry Adams, Editor Jessie Howard (by phone)), and October 18, 2017 (Acting District Ranger Felipe Cano, IDT Leader/Silviculturist Shelby Williams, Biologist/Hydrologist Chuck Layne).
[99] See Browning Statement at 8.

site specific characteristics.[100] According to Mr. Browning, cold air drainages possess unique mixtures of flora and fauna that greatly add to the biodiversity of basin such as that of Clear Creek, Machine Creek, and Burns Creek. However, basins like these have never been systematically studied in any extensive or intensive manner and are not recognized by the Forest Service.[101] This cool, wet climate, and the many miroclimates created by the array of complex terrain figures present, has produced extensive Northern Hardwood forests in the project area.[102] These conditions allow northern species to live at lower elevations.[103] In light of these conditions, we believe Mesohpytic forest types, including Northern Hardwoods, comprise a large part of this project area.

While no model is perfect, we believe analysis of the Landfire Existing Vegetation data provides a more accurate approximation of the relative prevalence of (broadly-defined) forest community types that currently exist in the project area.[104] The District should address this relevant and readily available data that, to some degree, contradicts the above data. This is also reliable data that the Forest Service should consider given that (1) the District used it to describe Existing Vegetation in its Inherent Wetness Model to analyze soil impacts and (2) that the Forest Service, along with the U.S. Department of the Interior, is a Principal Partner for the Landfire program, which provides tools and databases that aid forest management planning and analysis. [105]

As illustrated below, Landfire data reflects that mesophytic forest types, including Northern Hardwoods, Cove, and/or Floodplains, Wetlands, and Riparian area Ecosystem Groups, comprise over 70% of the project area while Oak comprises closer to 20%.[106]

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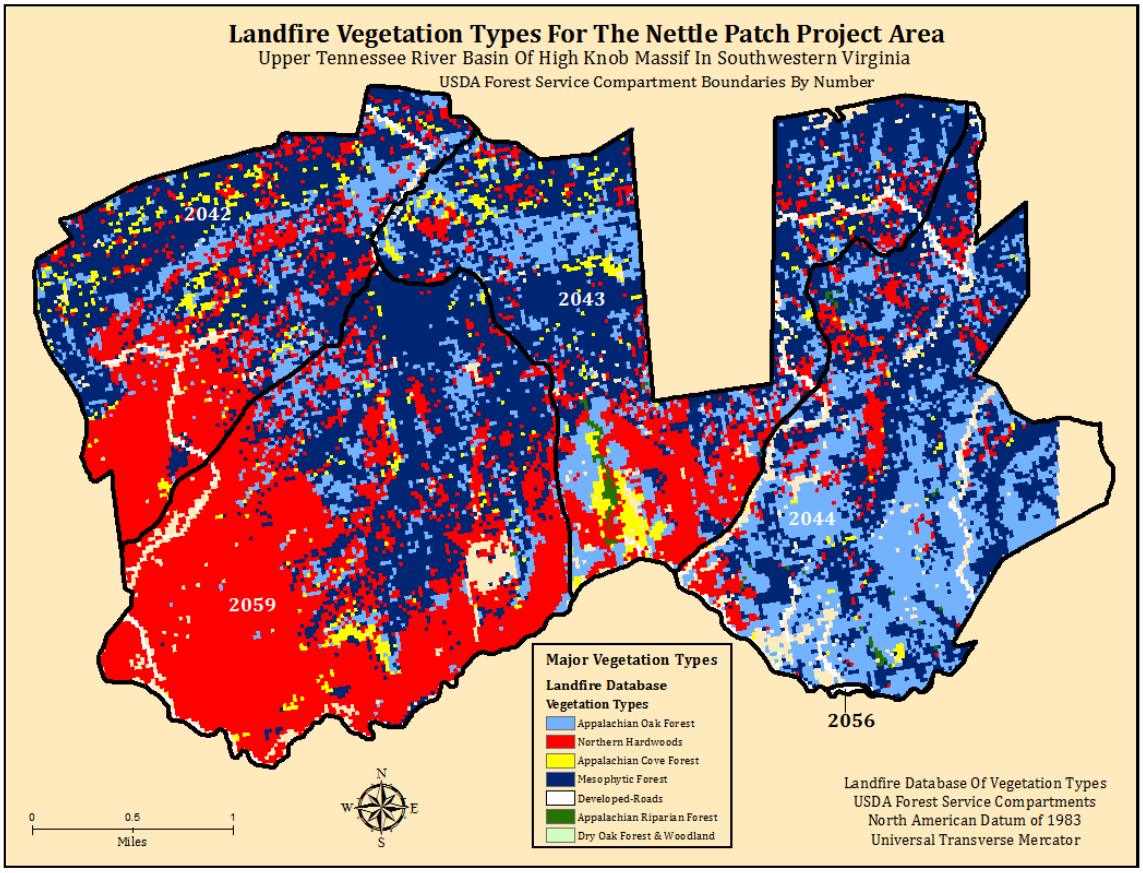
[100] Id. at 6.
[101] Id. at 12.
[102] See DEA Comments at 48-49; Browning Statement at 7 (noting, for example, that: climate supports ecosystem naturally trending towards Northern Hardwoods, High Knob Massif is the wettest area in Virginia and possesses unique topography with great width, many elevated valleys, hollows, drainages-gorges).
[103] See DEA Comments at 48-49; Browning Statement at 5.
[104] FEA at 142, 144.
[105] https://landfire.gov/index.php and https://landfire.gov/evt.php . The agencies have a strong and vested interest in Landfire and serve as sponsors that provides financial support and programmatic direction. https://landfire.gov/lf_partners.php
[106] See attached excerpt of LANDFIRE Vegetation Type Descriptions.

Major Landfire Existing Vegetation Types for Nettle Patch project area			
Forest Type	**Acres**	**% of Project Area**	**Cumulative Major Mesic Forest Types**
Mesophytic Forest[107]	2,952	40%	**73% Major Mesic Forest Types%** (Mesophytic, Northern Hardwood, Cove)
Northern Hardwood Forest[108]	2,241	30%	
Appalachian Oak Forest[109]	1,565	21%	
Appalachian Cove Forest[110]	223	3%	

We also attach data that presents this information by Compartment.[111] In addition, this map illustrates the data spatially: [112]

[107] "Mesophytic Forest" refers to Landfire's "South-Central Interior Mesophytic Forest" vegetation type.
[108] "Northern Hardwood Forest" refers to Landfire's "Southern Appalachian Northern Hardwood Forest" vegetation type.
[109] "Appalachian Oak Forest" refers to Landfire's "Southern and Central Appalachian Cove Forest" vegetation type.
[110] "Appalachian Cove Forest" refers to Landfire's Appalachian Cove Forest" vegetation type.
[111] See attached "Nettle Patch: Major Landfire Existing Vegetation Types by Compartment."
[112] This map also is attached as a high-resolution TIFF image.



The Landfire results better correspond to TCC members' local, "on-the-ground" knowledge of the project area and to the Environmental Impact Statement for the 2004 Forest Plan. The EIS confirms that while these mesic northern hardwood forests are relatively uncommon in the Southern Appalachian mountains, the Clinch District is home to higher concentrations of this mesic forest.[113] The EIS also notes that these mesic sites with rich productive soils are "generally found on the more northerly or easterly aspects" like the Nettle Patch project area, which is northern slope dominated.[114] Moreover, the Forest Plan EIS confirms that "oak-pine forests only comprise about 146,600 acres and very little of this community is found on the Clinch Ranger District."[115] This is relevant and credible information that the District should have disclosed, considered, and addressed.[116]

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[113] Plan EIS at 3-50.

[114] See Plan EIS at 3-54; see also Browning Statement at 7.

[115] Plan EIS at 3-55.

[116] Browning Statement at 5 (effective mean annual input of moisture, including precipitation, fog drip from trees, and rime deposition on trees, ranges from 2000 to 2500 mm); see also Charles W. Lafon, et. al., Fire History of the Appalachian Region: A Review and Synthesis at 20 (Jan. 2017) ("Fire History of the Appalachian Region") ("The climate is cool and moist on the high eastern edge of the Appalachian Plateau, standing in as it does in the path of eastward-

The District did not adequately consider the unique characteristic of the Clinch District, as described above and in previous comments. For example, without addressing the fact that the High Knob Massif is the wettest climate in Virginia, the District states that precipitation in the area ranges from 48 to 70 inches.[117] This is in contrast to Mr. Browning's finding, mentioned earlier, that mean annual input of moisture into the area is around 80 to 100 inches. Nor has the District responded to our substantive questions about that stand exam data that contradicts the forest type assigned.[118]

The Final EA and decision are based upon an incomplete review of the conditions in the project area and an incomplete review of existing science. Some inaccuracies arise from extrapolating from generalized descriptions of typical forest conditions across the Jefferson National Forest or the Appalachians, without considering the unique, site-specific characteristics of High Knob. For example, the District should have responded to the data presented to it regarding the unique climate and microclimate of the High Knob Massif. We have provided additional information regarding the project area's precipitation, climate, other site conditions, and forest/ecosystem types, based on reputable scientific information and verified by site-specific "on the ground" observations. This information reveals the proposed project would have worse environmental effects than considered thus far, and points to alternative management approaches which have not yet been considered. While NEPA does not require the Forest Service to choose any one particular management option, it certainly requires the agency to disclose the existence of different, reputable information and scientific views, address it, and provide a rational explanation for its choices. The EA has not done this and therefore is inadequate under NEPA. [119]

NEPA requires that direct, indirect, and cumulative impacts be considered. Yet there is almost a complete lack of cumulative impacts analysis in the Final EA. High Knob massif, including the project area, is extraordinary and perhaps unique at multiple scales – within the coalfields of western Virginia, the Jefferson National Forest, the Southern Appalachian Mountains, and the United States, and even the globe. Among other reasons, the area contains nationally- and globally- significant levels of biodiversity. The area's unusually cool and wet climate supports these species

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moving storms. Orographic enhancement of the precipitation makes this one of the wettest and snowiest areas in the Eastern United States. The rain and late-lying snow probably keep the litter moist during much of the spring and thwart the ignition and spread of fire, and the mesophytic forests that cover most of the landscape yield relatively incombustible leaf litter.").

[117] FEA at 97.

[118] For example, stands in Compartment 2059 that are dominated by sugar maple, yellow birch, and beech trees but are typed as *56 =Yellow Poplar, White oak, Northern Red Oak. *See* Draft EA comments at 48-49.

[119] The agency must disclose, not ignore, reputable scientific criticism. See Hughes River Watershed Conservancy v. Glickman, 81 F.3d 437, 445-446 (4th Cir. W. Va. 1996).

and may allow the area to serve as a future refuge for these and other species as climate change makes habitats elsewhere inhospitable.[120]

It is essential that the EA disclose and consider effects in this light, particularly effects to northern hardwood and mixed-mesophytic forests and their associated species. Despite NEPA's mandate, the EA fails to consider the cumulative impacts of this project combined with past, present, and reasonably foreseeable effects of coal mining, gas drilling, and other disturbances on surrounding lands in the coalfields. Essentially, the Final EA looks at cumulative impacts with blinders on, confining the cumulative impacts analysis to the immediate boundaries of the project area, and then concluding cumulative impacts are insignificant. Given the significance of the High Knob "island," this is not a meaningful scale for cumulative impacts analysis. In fact, logging and burning here would reduce and degrade mature forest and ecosystems which are significant in the local, regional, and national contexts, are already in short supply, and cannot be assumed to be provided off of national forest lands in this area of the country where intensive coal mining, gas drilling, and other disturbances are prevalent.

In short, the District's broad-brush approach, replete with over-generalized models, unverified assumptions, inaccurate information, and lack of site-specific analysis amounts to an attempt to touch up an oil masterpiece with a paint roller. The finer-scale presence of certain forest types and species and the impacts to them has not been disclosed or considered by the District. The District has also not acknowledged that its desired objectives would actually work against the grain of nature. Natural conditions are relevant to a proper analysis of this proposal and NEPA requires the agency to forthrightly disclose that its chosen objectives would work against the grain of nature, and to disclose the effects, risks, and uncertainties of doing so, and provide a rational basis for its choice. Without this explanation and without a site-specific analysis, the District has violated NEPA.

In light of the above informational discrepancies, the District has developed management actions that are inappropriate for the area. The District attempts to justify its management decisions in light of the conditions described above. The District claims "[f]ire exclusion and lack of disturbance have led to the mesophication of what should otherwise be dominated by structurally diverse oak forests and woodlands."[121]

In other words, the District (1) admits that existing forest types in the project area are mesophytic, (2) attributes this to fire exclusion and lack of disturbance in the area, and (3) states that the areas "should" be dominated by oak forest and woodlands.

In so doing, the District seeks to justify management – prescribed burns and

[120] Browning Statement at 6.
[121] RTC at 12; FEA at 26.

timber harvest to promote oak and pine regeneration – that would otherwise be inappropriate in large portions of the project area.

As discussed in more detail below, the District presents little to no site-specific information to support this justification. Moreover, the Environmental Impact Statement for the 2004 Forest Plan ("Plan EIS") flatly contradicts it, explaining that such mesic deciduous forest (including northern hardwood, mixed mesophytic, river floodplain hardwood, and eastern riverfront forest community types) "are characterized by relatively low levels of disturbance[.]"[122] Without addressing the information provided and concerns raised in our DEA comments about explaining why the District believes prescribed burns and timber harvest are appropriate management activities for this area, the District has not met its NEPA obligations and has violated NFMA and the Plan. Similarly, the District did not disclose and consider the possibility, raised by the information we submitted, that the current conditions actually reflect the natural and ecologically appropriate conditions for this area, rather than being problems to be fixed with logging and burning.

The Plan EIS indicates that the prescribed burn is likely inappropriate throughout much of the project area, providing that these mesic deciduous forests "are not benefited by fire and many associated species are fire intolerant."[123] Accordingly, forest-wide objectives and standards were established "to minimize the acreage of these forests prescribed burned and reduce the impacts of prescribed fire in these communities when included as part of landscape-level burn units."[124] These include:

> FW-147: Do not plan prescribed fires in mesic deciduous forest communities (northern hardwood, mixed mesophytic, and river floodplain hardwood) that do not contain a significant oak component. When practical and without resulting in increased fireline construction, avoid burning these communities when implementing prescribed fires in adjacent forest communities.[125]
>
> FW-148: When necessary to include mesic deciduous forest communities within burning blocks, direct firing will not be done unless necessary to secure control lines. In these cases, allow low

[122] Jefferson Plan Final Environmental Impact Statement (Plan EIS) at 3-49 (emphasis added). The EIS also provides that "from a habitat perspective, their primary value is providing habitat for a variety of species dependent on mid- and late successional forest stages." Plan EIS at 3-49.
[123] Plan EIS at 3-53.
[124] Plan EIS at 3-53.
[125] Jefferson Plan at 2-39. This standard should have been included in Appendix B - Forest Wide Standards with Specific Applicability to the Nettle Patch Project).

intensity fires. Exceptions are allowed when the fire is designed to encourage oak regeneration.[126]

The District, however, is proposing over 1,000 acres of prescribed burn, most of which would take place in northern hardwood and other mesic forest types. This is inconsistent with the Plan and Plan EIS and violates the NFMA.[127] In fact, Landfire analysis estimates that Compartments 2042 and 2043 (where the burns are proposed) are composed of 82%and 72% mesic forest types respectively.[128]

Even setting aside that the proposed burn in large amounts of mesic deciduous forest would likely violate the Forest Plan (and thus NFMA), the District does not explain why prescribed fire would otherwise be appropriate here. As explained above, the High Knob Massif is the wettest climate in Virginia, with other unique characteristics that set it apart from other areas in this region.[129] the District must consider how these site-specific conditions influence the role of fire at this site.

While we acknowledge that fire has been a factor shaping/influencing past and present vegetation of the Appalachians, the History and Need of Fire section in the Final EA lacks site-specific analysis, instead referring primarily to the entire Appalachian region. As such, it has little demonstrated applicability to this project area.[130] Indeed, Mr. Browning notes that the proposed use of fire in this area, coupled with its objective of facilitating oak and pine species, is illogical.[131]

For example, the Final EA references the Fire History of the Appalachian Region: A Review and Synthesis. Yet, despite the fact that this project area "lies entirely within the Appalachian Plateau physiographic province," the District largely ignores analysis in the report related specifically to the Appalachian Plateau.[132] This report notes that the "high abundance of mesophytic species" in the Appalachian Plateau likely reflects the "relatively unfavorable fire environment (e.g., wetter climate) of the plateau

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[126] Jefferson Plan at 2-39.

[127] 16 U.S.C. § 1604(i) (all projects or activities in national forests must be consistent with the forest management plan); 16 U.S.C. § 1604(i); see, e.g., Sierra Club v. Martin, 168 F.3d 1, 4-5 (11th Cir. 1999); Cherokee Forest Voices v. U.S. Forest Serv., 182 F. App'x 488 (6th Cir. 2006). The Forest Service bears the burden of demonstrating this compliance. See Lands Council v. McNair, 537 F.3d 981, 994 (9th Cir. 2008) (Forest Service must support its conclusions that a project meets the requirements of the NFMA and relevant Forest Plan); Neighbors of Cuddy Mountain v. U.S. Forest Serv., 137 F.3d 1372, 1377 (9th Cir. 1998) ("Forest Service must demonstrate that a site-specific project would be consistent with the land resource management plan").

[128] See attached "Nettle Patch: Major Landfire Existing Vegetation Types by Compartment."

[129] Browning Statement at 3-8, 11-12.

[130] FEA at 25-26.

[131] Browning Statement at 11.

[132] FEA at 7.

compared to the other physiographic provinces" in Appalachia.[133] This report further explains:

> The climate is cool and moist on the high eastern edge of the Appalachian Plateau, standing in as it does in the path of eastward-moving storms. Orographic enhancement of the precipitation makes this one of the wettest and snowiest areas in the Eastern United States. The rain and late-lying snow probably keep the litter moist during much of the spring and thwart the ignition and spread of fire, and the mesophytic forests that cover most of the landscape yield relatively incombustible leaf litter."[134]

This stands in stark contrast to the report's discussion of the nearby but much drier Ridge and Valley province, noting the environmental conditions in the Ridge and Valley have "favored the extensive cover of oak- and pine- dominated forest that produce flammable litter."[135] It is these "broad, dry slopes, covered with xerophytic forest" that make the Ridge and Valley province more conducive to fire. [136]

Moreover, the District presents no fire history research conducted locally to determine fire's role or relative importance in the immediate area.[137] The data presented on wildfires (2000-2016) in Tables 6 and 7 in the Final EA suggest that natural ignitions occur less frequently on the Clinch District than the rest of the Forest.[138]

In light of the above, the analysis in the Final EA simply does not constitute the level of analysis mandated by NEPA, which requires that agencies ensure the "professional integrity, including scientific integrity" of material relied upon.[139] Moreover, the proposed use of prescribed fire to promote oak and pine regeneration in

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[133] Fire History of the Appalachian Region at 20.
[134] Fire History of the Appalachian Region at 9.
[135] Fire History of the Appalachian Region at 10.
[136] Id.
[137] Browning Statement at 9 ("[a]ctivities based upon such erroneous assumptions, via attribution of the climate of the High Knob area as being analogous to other places in Virginia, are dangerous to both its environment and the communities surrounding the many watersheds which are contained within its sprawling mountain mass.").
[138] FEA at 26-27; we recognize it is not appropriate to draw conclusions based on the short time frame referenced; See Browning Statement at 11.
[139] See 40 C.F.R. § 1502.24; see also Idaho Sporting Congress v. Thomas, 137 F.3d 1146, 1150 (agency must provide public with adequate environmental data and "a basis for evaluating the impact" of the proposal.); 40 C.F.R. § 1500.1(b) ("NEPA procedures must insure that environmental information … be of high quality. Accurate scientific analysis … [is] essential to implementing NEPA.").

such large swaths of mesic deciduous forest likely violates standards set forth in the Plan, thereby violating the NFMA also.[140]

As stated above, NFMA requires the Forest Service to take steps to "preserve the diversity of tree species similar to that existing in the region controlled by the plan."[141] Even a reduction in diversity must be well-justified and supported by significant analysis.[142]

The express goals of the Nettle Patch project, however, seem largely inconsistent with these authorities. Here, the District proposes 1,049 acres of commercial timber harvest, including 318 acres of regeneration harvest and 882 acres of even-aged commercial thinning (564 acres of commercial thinning, and 167 acres of "commercial thinning woodland."). With all of these, the promotion of oak and/or pine regeneration is a priority for the District.[143] The Final EA states the one project objective is to "[s]ustain forest and ecosystem health." In meeting this objective, the District described the "Desired Condition" as "a resilient ecosystem characterized by overall structure heterogeneity … Regeneration of pines and … oaks frequently occurs on appropriate sites."[144]

As detailed above, however, oak and pine forest are not what currently exists across the entire project area and are not appropriate for the entire area. In all four compartments, mesic forest types (including northern hardwood, mesophytic, and cove) predominate.[145] On the western half of the project area, oak forest types are estimated to constitute only 9% and 14% of the existing forest types in Compartment 2059 and 2042.[146] Even Compartment 2044, which has the largest existing oak component, has more mesic forest types on-the-ground than oak forest.[147] And pine forest types simply are not a major forest type in this project area.[148] Indeed, Mr. Browning notes the District's attempt to move the project area toward Pine-Oak is

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[140] 16 U.S.C. § 1604(i).
[141] 16 U.S.C. § 1604(g)(3)(B); see Conservation Cong. v. U.S. Forest Serv., No. 2:12-cv-02800-TLN-CKD, 2014 U.S. Dist. LEXIS 68636, at *43 (E.D. Cal., May 19, 2014); see also Chattooga Watershed Coalition v. U.S. Forest Serv., 93 F. Supp. 2d 1246, 1249 (N.D. Ga. 2000).
[142] Sierra Club v. Glickman, 974 F. Supp. 905, 922 (E.D. Tex. 1997), aff'd, 185 F.3d 349 (5th Cir. 1999), vacated, 228 F.3d 559 (5th Cir. 2000) ("Reductions in diversity – such as forest type conversions – are permitted only where needed to meet overall multiple-use objectives and must be justified by an elaborate analysis of potential consequences," quoting CHARLES F. WILKINSON & H. MICHAEL ANDERSON, LAND AND RESOURCE PLANNING IN THE NATIONAL FORESTS at 195 (1987)).
[143] See FEA at 23-28, 56-60.
[144] FEA at 18.
[145] See attached "Nettle Patch: Major Landfire Existing Vegetation Types by Compartment."
[146] See Id.
[147] See Id.
[148] See Id.

"directly in opposition to nature[,]" and "in opposition to the type of biodiversity conservation needed[.]"[149]

Moreover, based on the Forest Service's own research regarding the lack of oak regeneration in heavily logged areas,[150] the elements of this project that involve more intensive cutting may backfire and significantly reduce or eliminate the oak component, instead. According to the Coweeta article, thinning also seems unlikely to achieve oak regeneration here.[151] Either way, the project seems likely to result in different forest type and less diverse stands than presently exist. Such stands may also be less resilient to climate change and disruption. Mesic forests, such as northern hardwood forests, are relatively uncommon on the Jefferson National Forest and the entire Southern Appalachian region, the Clinch District is one of the few places on the Jefferson with higher concentrations of these mesic forests, and High Knob contains particularly high-quality, important examples of these forests. Therefore, reducing mesic forests here is likely to impermissibly reduce the quality, abundance, and distribution of this forest type across the planning area (the Jefferson National Forest) and perhaps even across the Southern Appalachian region. Such a reduction in diversity would violate the NFMA, especially if done without environmental analysis that discloses the reduction, considers its effects, and justifies it (if it can be justified)[152] We are also concerned that treatments opening the forest canopy will result in a reduction or loss in cooler-weather ephemeral plant species found in more mesic stands. To the extent the Forest Service thinks it is acceptable to convert the forest, rather than preserve it, it must justify this in light of NFMA.

While significant from an ecological perspective, the proper identification of mesic forests in the project area is essential for compliance with other NEPA and NFMA obligations as well. In addition to the restrictions on burning in mesic forests, the Jefferson National Forest plan and EIS limit timber harvest in mesic forests. Notably,

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[149] Browning Statement at 5, 8, 10, 11.

[150] See attached Katherine J. Elliott (USFS Coweeta), Lindsay R. Boring (UGA School of Forest Resources & Jones Ecological Research Center), Wayne T. Swank (Coweeta), Bruce R. Haines (UGA Botany Dept.), Successional changes in plant species diversity and composition after clearcutting a Southern Appalachian watershed, Forest Ecology and Management 92, pp. 67-85 (1997).

[151] Id.

[152] 16 U.S.C. § 1604(g)(3)(B) ("provide for a diversity of plant and animal communities based on suitability and capability of the specific land area … preserve the diversity of tree species similar to that existing in the region controlled by the plan[.]"). See FEIS for Forest Plan at 3-49 to 3-51 (mesic forests relatively uncommon in the Southern Appalachian Assessment area and in Jefferson NF, comprising approximately 10% of the SAA area and 12% of the JNF; mesic forests are characterized by relatively low levels of disturbance; mesic forests' primary value is habitat for species dependent on mid- and late- successional forest, including a number of viability concern species associated with mature mesic forests and with high-elevation mature mesic forests).

the forest plan's FEIS estimated only a total of 166 acres of canopy gaps and thinning in mesic forests within the first decade of plan implementation.[153] The EIS explains that expected management in mesic forests relates to creation on canopy gaps, and we can find no discussion or estimates of more intensive regeneration harvest in mesic forests (e.g., even-aged or two-aged harvest).[154] Under NEPA, forest plan implementation, through projects such as Nettle Patch, cannot exceed the activities and effects set forth in the plan and its EIS, unless the agency first prepares a supplement to the forest plan EIS.[155] Project-level decision-making and environmental analysis tiers to the plan-level EIS, so the District could not attempt to proceed with this project in isolation from the underlying forest plan and plan EIS. The District must ascertain whether the JNF has met or exceeded its mesic forest harvest estimate already and, if it has not, ensure that the project does not exceed that threshold.

The project also includes the creation of open woodlands by thinning stands to a structure that "resembles a woodland."[156] The District provides very little information about this objective in the Final EA. Aside from describing a "grassy to brushy understory" with occasional canopy openings.[157] First, the District has not provided any information to support the claim that "historic conditions" included woodland.[158] Indeed, the mesic nature of the stand makes it entirely inappropriate for the woodland treatment. Woodland is more appropriately placed in low-productivity sites located on dry, south- or west-facing slopes with poor soils and the proposed thinning (woodland) treatment areas do not meet this description. For example, the Final EA proposes thinning (woodland) treatment for all of Stand 12 in Compartment 2042 where "inherently wet soils" have been mapped.[159] Because the stands seem inappropriate sites for woodland, having richer, mesic soils with higher stand productivity than found in open woodlands, timber harvest will initiate a response inconsistent with the District's woodland goals. Facilitating woodland and creating an ecosystem where it does not belong is an example of where the District is likely creating tomorrow's restoration need in the process of addressing today's management desires.

As reiterated throughout this section, NFMA requires the Forest Service to take steps to "preserve the diversity of tree species similar to that existing in the region

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[153] Plan FEIS at 3-53.

[154] Plan FEIS at 3-53. For example, compare Plan FEIS at 3-53 (Table 3-17 re: expected activity levels for mesic forests) with Plan FEIS at 3-58 (Table 3-20 re: expected annual activity levels for oak and oak-pine forests).

[155] Northwoods Wilderness Recovery, Inc. v. USFS, 323 F.3d 405, 411-12 (6th Cir. 2003) (logging more acres than estimated in the Forest Plan and analyzed in the plan EIS violated NEPA because those impacts have not been meaningfully analyzed and subject to public comment).

[156] FEA at 16.

[157] FEA at 57.

[158] Id. at 16.

[159] FEA at 150 (Figure 14).

controlled by the plan."[160] With respect to the proposed timber harvest, this is not possible where the District (1) has not acknowledged the diversity of northern hardwood and other mesic forest types that dominate this project area, (2) prioritizes the regeneration oak and pine species – which are not dominant species in many of the proposed harvest units – over the existing diverse species currently existing, and (3) proposes to facilitate woodland in an inappropriate location. In light of this, there is no basis for the District's claim that "[e]xisting forest types would be renewed and perpetuated."[161]

The project objectives and proposed management actions are simply not in agreement with NFMA or the Plan and do not disclose and address these issues as required by NEPA. The District must justify its proposed plans if it intends to convert, rather than preserve, the existing forest types in the area. Even reductions in diversity must be well-justified and supported by significant analysis.[162]

We remain concerned that characterization (of composition and structure) has been assessed with a utilitarian (timber) bias, and/or misrepresented. A timber bias is exemplified by the following, stated repeatedly in response to these concerns: "Silvicultural Examinations collects and records site and stand characteristic needed to identify existing stand conditions, capabilities and trends. The examination includes the metrics needed for the diagnosis and silvicultural prescription."[163] These "conditions, capabilities, and trends" are timber-related, and the "diagnosis and silvicultural prescription" may or may not correlate with management that would encourage ecologic potential and/or increase resiliency.

Throughout the development and review of this project, we have provided additional information regarding the project area's precipitation, climate, other site conditions, and forest/ecosystem types, based on reputable scientific information and verified by site-specific "on the ground" observations. A failure to acknowledge this information and provide an explanation for not incorporating it violates NEPA's "hard look" and public review requirements.

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[160] 16 U.S.C. § 1604(g)(3)(B); see Conservation Cong. v. U.S. Forest Serv., No. 2:12-cv-02800-TLN-CKD, 2014 U.S. Dist. LEXIS 68636, at *43 (E.D. Cal., May 19, 2014); see also Chattooga Watershed Coalition v. U.S. Forest Serv., 93 F. Supp. 2d 1246, 1249 (N.D. Ga. 2000).

[161] FEA at 57.

[162] Sierra Club v. Glickman, 974 F. Supp. 905, 922 (E.D. Tex. 1997), aff'd, 185 F.3d 349 (5th Cir. 1999), vacated, 228 F.3d 559 (5th Cir. 2000) ("Reductions in diversity – such as forest type conversions – are permitted only where needed to meet overall multiple-use objectives and must be justified by an elaborate analysis of potential consequences," quoting CHARLES F. WILKINSON & H. MICHAEL ANDERSON, LAND AND RESOURCE PLANNING IN THE NATIONAL FORESTS at 195 (1987)).

[163] RTC at 12 (emphasis added).

In short, the EA and draft Finding of No Significant Impact are based upon inadequate information and unverified assumptions of the conditions in the project area, such as the existing forest types and associated species. Some inaccuracies in the Final EA arise from the District's extrapolation from generalized descriptions of typical forest conditions across the Jefferson National Forest or the Appalachians, without considering the unique, site-specific characteristics of High Knob. NEPA may not require the Forest Service to choose any one particular management option, but it certainly requires the agency to disclose the existence of different, reputable information and scientific views, address it, and provide a rational explanation for its choices. Because the Final EA has not done this, it is inadequate under NEPA and fails to support a finding of no significant impact.

Additionally, the District has failed to justify its objectives of converting the forest to Oak-Pine and woodland in areas where these ecosystems are simply not appropriate. The District must also justify its seemingly inappropriate use of prescribed burn in an area that has been described as a "relatively unfavorable fire environment." In light of NFMA's mandate that the Forest Service preserve existing conditions, the District must justify its significant departure from existing conditions.

B. Rare Species and Rare Communities

Our concerns, about the lack of assessment of existing conditions, extend also to the native diversity, and rare species and communities that may be present in the project area. The February 6, 2017 project review letter from the Department of Conservation and Recreation indicates there are two Conservation Sites that may be impacted by the project. These sites are "key areas of the landscape that warrant further review for possible conservation action because of the natural heritage resources and habitat they support." As such, these Sites should have been mentioned in the Final EA, and impacts on natural heritage resources addressed.

Impacts to rare species have been unduly discounted. For example, impacts to 18 rare plant species are simply dismissed with the assertion that they are protected by the riparian standards.[164] While this may be true to some extent, planned harvest in the extended area of the riparian corridors, where these species would be found, could certainly impact these species. Absolute reliance on the riparian standards to protect these rare species cannot justify a finding of no significant impact. Instead, we suggest dropping stands due to the high frequency and extent of riparian areas.[165]

Some rare species received no apparent consideration at all, a concern we noted in our Draft EA comments, which has not been addressed. One example of this is the absence of any mention of or discussion with respect to possible impacts to a federally

[164] FEA at 95 (Table 29).
[165] Compartment 2043/Stands 7, 43.

threatened plant species, small whorled pogonia (Isotria medeoloides), a species with a recorded occurrence in adjacent Lee County. Using the "step down" process in the Biological Evaluation, this species was assigned an OAR code of 3: "habitat present and the species has been searched for, but has not been found."[166] As a result of being coded in this manner, small whorled pogonia and nine other vascular plant species were "eliminated from further consideration."[167] In response to our concerns about the unaccounted-for presence of rare species in the project area, the response to comments states: "No survey methodology would detect all species. That is why the presence of a species is assumed in the BE even if the species is not found in surveys."[168] This is a false statement and especially frustrating given it is one of the very few responses actually provided to numerous substantive comments.

Another species that deserved a much higher level of consideration is the High Knob mimic millipede (Brachoria insolita). The Final EA does acknowledge that individuals of this millipede species could be affected. Because known occurrences of this species are limited to five collection sites within or in immediate proximity to the project area[169], we question the validity of the conclusion that "there should be no effects to the High Knob millipede that would affect continued representation [.]"[170] We remain concerned about the minimal consideration, which may have resulted from taxonomic bias.

We acknowledge and appreciate the level of consideration afforded the green salamander (Aneides aeneus), and the inclusion of required mitigation measures for its protection. Our remaining concerns relate primarily to the feasibility of the required mitigation. We understand potential habitat will be identified during timber marking and layout, followed by further review and field surveys by FS biologists. Depending on the frequency of potential habitat occurrence, this mitigation approach may impact greatly impact efficiency levels if areas have to be re-marked. There is also the probability that numerous occurrences may be documented in single stands, and the extensive buffers required may preclude planned management. There are also timing-related issues; the time windows for field surveys are restricted by season and weather conditions. For these reasons, completing the habitat screening and surveying, prior to marking and layout, would be prudent.

As we have stated throughout this section, NEPA requires agencies to take a "hard look" at environmental impacts and that the analysis use high quality"

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[166] Biological Evaluation at 7.
[167] Id.
[168] RTC at 239.
[169] Paul Marek, A revision of the Appalachian millipede genus *Brachoria* Chamberlin, 1939 (Polydesmida: Xystodesmidae: Aphelorinini), ZOOLOGICAL JOURNAL OF THE LINNAEN SOCIETY 159: 817-889 (2010).
[170] FEA at 94.

information and an "accurate scientific analysis."[171] Agencies cannot research impacts "in a cursory manner nor sweep[] negative evidence under the rug."[172] Further, NFMA requires that the Forest Service "provide for diversity of plant and animal communities." [173] The District cursory and superficial consideration of impacts on the rare species mentioned above does not meet the mandates of NEPA and indicates a plan not developed to achieve diversity of plans and animal communities.

5. Non-Native Invasive Species

NNIS control is a complex, challenging issue for all land management agencies. The Forest Service has identified NNIS as a primary threat to native biodiversity and the Final EA states: "There is a need to reduce current infestations and future spread of non-native invasive plants."[174] Contrary to this stated need, the Final EA actually states the proposed actions are likely to encourage the spread of NNIS: "The potential for establishment of NNIS would be increased on all of the disturbed areas."[175] Given such an admission, and the resulting adverse impacts on native biodiversity, project development should have thoroughly considered cumulative impacts from NNIS and identified effective ways to mitigate those impacts. Although this is acknowledged in the EA[176], we have seen no evidence of such efforts to date.

In our extensive and substantive comments on the Draft EA, we clearly outlined our concerns regarding NNIS and provided suggestions for improvements.[177] Unfortunately, the Response to Comments and Final EA are either non-responsive or misleading.[178]

As an initial matter, the Final EA and Response to Comments still do not provide a clear picture of the NNIS treatments they propose to implement. For example, the Forest Service has not explained how the 84 acres of NNIS proposed for herbicide treatment was calculated, nor has it provided details on targeted locations or species. Is

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[171] See Kleppe v. Sierra Club, 427 U.S. 390, 410 (1976); see also 40 C.F.R. § 1500.1(b).
[172] Nat'l Audubon Soc'y v. Dep't of Navy, 422 F.3d 174, 194 (4th Cir. 2005).
[173] 16 U.S.C. § 1604(g)(3)(B).
[174] FEA at 18.
[175] FEA at 59 (The increased potential for establishment would not be restricted to the areas of disturbance, but would also result in adjacent areas).
[176] FEA at 10 ("The control on non-native (NNIS) competing with native vegetation is also a desired activity [ ] creating the need for control measures and careful monitoring during project implementation and maintenance.").
[177] DEA Comments at 53-59.
[178] See RTC at 135-40, 142-43 (the Response to Comments indicates that every NNIS occurrence within and adjacent to a harvest unit will be treated, which surely is not the case: "NNIS are treated in harvest units when found. The marking crew covers every square foot of a harvest unit. When detected inside or adjacent to a harvest unit, the NNIS is treated appropriately prior to implementation of a timber sale.").

the 84 acre estimate a percentage of acres to be harvested? Is there a formula utilized to reach this number? Did on-the-ground knowledge inform this estimate, or was it purely theoretical?

In order for the public to be able to truly consider the proposed action, the following must be provided: the location and extent of existing NNIS infestations, the relative threat of these infestations to forest health, the relative probability of increased rates of spread and establishment resulting from proposed actions, and the cost/feasibility of monitoring and treating current and future infestations.. Without this information and analysis, there is no basis to conclude resulting impacts will not be significant.

With respect to general mitigation measures proposed by the District, when seeding and revegetating temporary roads, skid trails, and landings the District must seed these areas with a suitable mixture of native, non-invasive, or naturalized grass species.[179] This is necessary to prevent an increased threat of infestation from invasive species.

A. Improper Tiering to NNIS EA

The Response to Comments and Final EA fail to address the additional concerns we raised in our Draft EA comments regarding improper tiering to the NNIS EA. [180]

The Final EA still lacks project-level details and analyses that are required to develop an adequate treatment plan for NNIS. The Response to Comments did not justify this omission. To our knowledge, the District has not inventoried or mapped NNIS in the project area and adjacent areas, has not conducted species-specific reviews, assessed risks to individual areas/stands, performed cost/benefit analyses, developed plans for pretreatment and monitoring, or outlined effective required mitigations. Without this analysis, there is no basis for a finding of no significant impact.

Our attempts to obtain documentation of these efforts through information requests remain unanswered. Thus, we can only assume the District has failed to complete this work. Casual observation of NNIS occurrences that may have occurred during other fieldwork in the project area would not be adequate. Examples of factors to consider in relation to this inventory include 1) staff's familiarity with, and ability to identify, the herbaceous and woody NNIS that are potentially present, 2) timing, 3) scope of adjacent area included in survey efforts, 4) and intensity of survey required. This comprehensive inventory for NNIS in the project area is important for both establishing where NNIS populations currently exist and establishing the absence of NNIS in particular areas.

[179] See FEA at 49, 51.
[180] DEA Comments at 55.

We reiterate that the District cannot simply rely on guidance documents, including the NNIS EA and Forest Plan, to satisfy its NEPA obligations and other requirements for project planning. Without applying the guidance to the specific conditions, objectives, and methods of this Project the Forest Service cannot justify a finding of no significant impact.[181] The Forest-wide NNIS EA, which is programmatic in nature, requires site-specific review. Proper tiering to the NNIS EA requires completion of "site-specific Implementation Checklist of Required Reviews" to ensure that potential environmental impacts are within the scope of the impacts disclosed in NEPA documents before a specific treatment could occur.[182] In addition, the NNIS EA contains mitigation measures and design criteria for site-specific implementation and monitoring recommendations.[183] The NNIS EA also lists relevant Plan Standards for the Jefferson that must be complied with.[184] Planning for NNIS identification and treatment is based on site-specific complexities, which must be analyzed during project development. In addition to the NNIS EA site-specific requirement, proper tiering under NEPA similarly requires this site-specific analysis.[185]

The NNIS Priority Ranking found in the NNIS EA was completed for the Forest as a whole, and includes 26 species. The Final EA mentions only five of these, two of which have extremely limited distribution in the project area (Tree of Heaven and Royal Paulownia). No shade-tolerant, herbaceous species, which pose the greatest threat to native plants (and processes), are mentioned, much less discussed. Japanese stiltgrass, "the most abundant, invasive, and rapidly spreading nonnative plant in Virginia today,"[186] is found along most public and forest roads in the project area. We are aware the District has failed to control the spread of this, and other, species in recent timber sales. A proper basis for a finding of no significant impact is lacking, because there has been no consideration of the NNIS that pose the greatest threat, and results from past management have not informed decision-making

A general risk assessment, such as that found in USDA Forest Service Southern Regional Framework for Non-Native Invasive Species Appendix B (2003), for the whole project area should be completed well ahead of implementation. Impact levels on different stands/community types will vary, necessitating a more detailed risk

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[181] See FSM 2904.08 (The District Ranger is responsible for "[d]etermin[ing] the risk of invasive species introduction or spread as part of the project planning and analysis process for proposed actions, especially for ground disturbing and site altering activities, and public use activities.")
[182] See NNIS EA at 7; Appendix E (Checklist).
[183] Id. at 7, 20-21.
[184] Id. at 21-25.
[185] See 40 C.F.R. § 1508.28 ("[t]iering refers to the coverage of general matters in broader environmental impact statements ... with subsequent narrower statements or environmental analyses ... ultimately site-specific statements … concentrating solely on issues specific to the statement subsequently prepared.").
[186] Alan S. Weakley et al., Flora of Virginia (2012).

assessment for individual areas that accounts for susceptibility to infestation, extent of proposed ground disturbance, existing levels of ecological integrity, etc. Because the District has failed to conduct this assessment on logging sites, illegal ATV and jeep trails, and areas with high ecological value, the Final EA does not provide an adequate basis for a finding of no significant impact. The District also did not respond to our concerns that impacts are likely to be more severe in the more mesic areas with high native diversity. All of the above must be considered in an assessment of the risk of the introduction, spread, and establishment of NNIS in the project area. Without such consideration, the environmental analysis is inadequate.

Because the District failed to conduct these site-specific analyses, it improperly tiered to the NNIS EA, and there is no basis for a finding of no significant impact.

B. Implementation and Monitoring

While the Response to Comments superficially addresses concerns we raised regarding prevention of the introduction and spread of NNIS[187], it lacks any details, guarantees, or support for whether or not this monitoring and implementation has been, or will be, carried out during project implementation, and how it fits in to NNIS management on the District. We sent FOIA requests twice, seeking documentation of on the ground treatment of NNIS carried out on the District. To this date, we have not received a response. Moreover, the Final EA states that past use of herbicides on the District has been "minimal." This leads us to believe that on the ground implementation and monitoring, which the Response to Comments claims to carry out, is not occurring and will continue to not occur. Without actual on the ground implementation, NNIS will continue to be one of the four most critical threats to Forest Service-managed lands and there is no basis for a finding of no significant impact for this project.[188]

We reiterate that the use of prevention management of NNIS should be considered. Healthy, intact areas of forest where NNIS occurrence is uniquely and remarkably low, and risk of invasion resulting from project action is high, should be excluded from treatment as a preventative measure. As we highlighted in our previous comments, Forest Service documents state that "[p]revention of introduction and establishment is the most effective strategy for management of NNIS" and that "[t]he most effective strategy against non-native invasive species is to prevent these from ever

[187] RTC at 135-40, 142-43 (The following was stated repeatedly as a response to numerous, detailed NNIS-related concerns and questions: "The invasive species treatment included in the EA centers on locating and identification of non-native populations through general searches, pre ground-disturbance activity searches, and post activity surveys. Areas with significant invasive species populations, areas of disturbance with road access, or areas found to have invasive species becoming established are identified and prioritized for herbicide treatment.").
[188] See NNIS EA at 6.

being introduced and established."[189] These documents go on to state that "[p]reventive measures typically offer the most cost-effective means to minimize or eliminate environmental and economic impacts."[190] Why was prevention not considered? If it was considered, why did the District decide not to pursue this management method for more areas?

We also raised concerns in our comments on the Draft EA that the staffing and budget levels on the Clinch would preclude the implementation of the extensive and intensive monitoring and treatment effort that would be required.[191] The Response to Comments indicates timber staff will be tasked with monitoring and treatment. We have concerns that timber staff's marking crew do not have the expertise to identify the suite of NNIS that may be present, some of which may closely resemble native species. We requested that the District estimate costs of plan implementation and assess the short and long-term security of funding. Neither the Final EA nor the Response to Comments provided the public with this critical information.

For the reasons we outlined above and in our Draft EA comments, we still believe that the adverse impacts from NNIS species will outweigh the benefits of the Project, at least in some areas. Given the fast-moving, tenacious nature of NNIS and the difficulty in eradicating them once established, there is a serious risk that the project as a whole will increase the occurrence of NNIS and significantly impact native biodiversity. In light of the severity of that risk, the Forest Service's failure to adequately analyze NNIS at the project level, the improper attempt to tier to the Forest-Wide NNIS EA, and the lack of any guarantees or support for the mitigation and implementation proposed, the finding of no significant impact is unjustified.

A response to our FOIA request for NNIS information was provided on the day this objection was due, limiting our ability to consider the response fully and incorporate new knowledge into discussions. Unfortunately the dearth of provided documentation related to NNIS management on the District validates our concerns that NNIS management has been, and will continue to be, extremely limited. Over the past five years, District-wide NNIS management has been limited to the following:

- 2015 a.one day, one person treated autumn olive, multiflora rose, and mimosa, 20 gal herbicide[192], b. two days, one person, 20 acres autumn olive and multiflora rose, 3 gal herbicide[193]
- 2015 one day, one person, 1 acre, .5 gal herbicide[194]

[189] 2013 FS-1017 Forest Service National Strategy Framework for Invasive Species Management; USDA Forest Service Southern Regional Framework for Non-Native Invasive Species (2003).
[190] USDA Forest Service Southern Regional Framework for Non-Native Invasive Species (2003).
[191] DEA Comments at 58.
[192] FOIA ITEM G 20150924 Email Bier to Lane
[193] FOIA ITEM G report for RMEF herbicide to Fred Huber

- 2016 (only summary provided) 33 acres total, 28 of those incidental from wildlife clearing and road maintenance (mowing), 4 total acres treated with herbicide, amount not provided[195]
- 2017 7 days, one person, 12.5 acres, NNIS species not reported 3.62 gal[196]

There have been no apparent efforts to identify areas of existing NNIS infestations, prioritize NNIS treatment, or monitor treatment efficacy on the district; this indicates efforts are not tiered to the Forest-wide NNIS EA. The documentation provided also indicates that reviews and documentation for herbicide use required by the Forest-wide NNIS EA are not being completed. For example, herbicide was applied in three different locations in 2016, yet the FOIA response included no Implementation Checklists from 2016.

There were no documents provided in response to our request for project-level NNIS information, and this only serves to heighten our concern about the NNIS impacts that will result from project implementation. We are now are aware that there have been no attempts made to account for NNIS that currently exists in the project area, and no surveys have been completed.[197] Several stakeholders expressed concern about NNIS during the scoping process, and NNIS impacts were identified as a significant issue purported to be considered during project development. An obvious and necessary first step to address concerns, and assess project impacts from NNIS, would have been to inventory existing infestations. These surveys should have documented what species are present and the extent of infestations. Without this basic and essential information, planning and mitigation is impossible. The finding of no significant impact from NNIS has no basis and must be revisited.

6. <u>Old Growth</u>

We have a keen interest in the identification and protection of existing old growth in the project area and are very glad that no old growth will be harvested in this project. We commend the District for committing in Response to Comments that "where a few small patches … of old growth patches were discovered, the patch will be protected by incorporating the patch in retained trees within the silvicultural prescription for the specific stand."[198] We request that the District commit to this old growth protection in the Final Decision Notice.

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[194] FOIA ITEM G report for opening opposite 2020
[195] FOIA ITEM G 2016 FY report to SO_Fred Huber
[196] FOIA ITEM G FY17 Report for Herbicide
[197] FOIA ITEM E Answers to Questions_SWilliams
[198] RTC at 32.

We still have a number of concerns that we raised in our Draft EA comments[199], and which remain unaddressed by the Final EA and Response to Comments. [200]

First, the inventory identified new existing old growth that will be delineated in FSVeg spatial. We still do not know where those areas are. The only old growth related maps that we received were the "NP 2020 Vision Draft Maps" for Compartments 2043, 2042, 2044, and 2059. As we stated before, we cannot see new areas of existing old growth anywhere on these map. These maps are illegible for the purpose of identifying old growth. NEPA requires that "an agency give environmental information to the public and then provide an opportunity for informed comments to the agency."[201] This information must be high quality.[202] The maps provided in response to question raised in our Draft EA comments and in response to FOIA requests clearly do not meet this standard.

In response to our comments noting the problems with the maps, as well as concerns we raised about mis-typing and connectivity between old growth patches[203], the Forest Service's response was not helpful.[204] The response did not address the many concerns we raised about mis-typing. For example, we still would like to know which areas were involved in the 7 acres of alleged mis-typed forest habitat from the scoping notice. What new forest type has been applied to this area and does the old growth surveyor decide the appropriate forest type on the ground? Answers to all of these questions are essential to allow the public to ensure the District's proposed actions adequately protect old growth, as they have committed to doing. More troubling is the concern we raised about the absence of CISC Forest Type 81 Sugar maple-beech-yellow birch from the old growth tally sheet, despite the fact that we know stands of this forest type are present in the project area. Our Draft EA comments deserved an explanation to this discrepancy. The Final EA also notes that yellow pines are present in greatest numbers in Stands 12 and 16 of Compartment 2042. Individual mortality of these tree species presumably occurred during the pine beetle outbreak that occurred in the mid-1990s. Larger/older trees may now be "missing," resulting in lower "old trees per acre" (TPA) values. Old growth determinations rely on minimum TPAs, which in this case

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[199] DEA Comments at 65-67.

[200] We received a response to our FOIA today (February 5, 2018). We will look through and be in touch with the Forest Service. For now, our concerns about Old Growth in the project area remain.

[201] Sierra Nevada Forest Protection Campaign v. Weingardt, 376 F. Supp. 2d 984, 990 (E.D. al. 2005).

[202] See 40 C.F.R. § 1502.24; see also Idaho Sporting Congress v. Thomas, 137 F.3d 1146, 1150 (agency must provide public with adequate environmental data and "a basis for evaluating the impact" of the proposal.); 40 C.F.R. § 1500.1(b) ("NEPA procedures must insure that environmental information … be of high quality. Accurate scientific analysis … [is] essential to implementing NEPA.").

[203] DEA Comments at 65-66.

[204] RTC at 248.

may have been skewed due to pine mortality. Was this considered during OG surveys? This information is important to allowing the public to consider the impacts and analysis conducted for this project.

We are also troubled by the District's response that it "stand maps of unfinished examinations will be provided once complete."[205] The Forest Service's commitment not to harvest old growth requires completion of these examinations prior to implementation of the project. Please complete these examinations and provide them to us for review. We look forward to following up and ensuring that all old growth is identified and protected prior to and during implementation. Until these are complete and furnished to the public for consideration, moving forward with the proposed action without confirming the location and existence of old growth in the project area cannot justify a finding of no significant impact and would require an EIS to ensure impacts on old growth are adequately considered.

Additionally, we have not received old growth surveys for the following stands (Compartment/Stand):

- 2042/12 (36 acres, thinning-woodland)
- 2043/26 (34 acres, regeneration)
- 2044/10 (73 acres, thinning)
- 2044/12 (110 acres, thinning)
- 2059/15 (11 acres, thinning)
- 2059/24 (16 acres, regeneration)

The Response to Comments states that "[a]ll Old Growth Surveys have been completed … and all copies of surveys were provided to interested parties."[206] However, we are still missing the above mentioned surveys. If the Forest Service has changed the Compartment/Stand designation for any of the above, it is important that this information is provided to us. Without this information, it is not possible to confirm that we have in fact received all old growth surveys. These surveys are necessary to allow the opportunity for proper analysis of the project.

Regarding implementation and future efforts to identify and protect old growth, we look forward to continuing to work with the District and to learn more about the training, guidance, and protocol used by District staff in identifying old growth. As we noted in our Draft EA comments, we were glad to see the District used the GWJNF's updated Old Growth Field Tally sheet and were particularly pleased to see that several surveyors provided notes with relevant information about the stands they were looking at. We hope that in addition to this, District staff were provided and trained with the Recommendations for GWJNF Old Growth Survey Protocol, which provides helpful

[205] RTC at 249.
[206] RTC at 250.

information to those surveying and is part of the official revised old growth survey protocol. Based on the District's response to our comments on this topic – "All Old Growth Surveys have been completed in accordance with the March 10, 2016 approved survey protocol" – we assume they have utilized this important and helpful resource. In addition to continuing to work with the District and learn more about their protocol for identifying old growth, we are still curious to know whether District staff had an option to core from prioritized species in several of the plots we identified in our Draft EA comments.[207] We are also still curious about stand 2043-007 and whether the 1.5 acres of old growth is within the project area or whether it did not meet the old growth criteria for some reason. We look forward to discussing the above questions and interests with the District and continuing to work closely with the District to protect old growth in the project area.

7. Travel/Roads Analysis

As we stated in our Draft EA comments, the Forest Service must disclose and analyze the TAP recommendations for roads in the project area and any related road decisions in the Nettle Patch project area.[208] NEPA requires this analysis.[209] The analysis between the Draft EA and Final EA has not changed at all. The Response to Comments does not justify the District's failure to disclose and analyze TAP recommendations for project area roads. The Response to Comments sites the District's Roads Analysis Report to address our entire Travel/Roads Analysis section.[210] However, upon review of the Report, it is clear that they did not consider the TAP. Indeed, the Report even stated under Other Specific Information That May Be Needed To Support Project Level Decision that "The Jefferson Forest does not have any transportation analysis units." This is simply not true. The GW and Jefferson National Forest TAP specifically addressed roads in the project area and made specific recommendations for six of them. Indeed several roads proposed for maintenance were recommended for downgrading or decommissioning in the TAP:[211]

- FSR 2020: Downgrade Objective Maintenance Level
- FSR 2430: Downgrade Objective Maintenance Level
- FSR 2420: Downgrade Objective Maintenance Level
- FSR 2446: "Downgrade to OML 1. Possible decomm road."

[207] DEA Comments at 67 (2042-16, 2044-002, 2059-54, 2059-56, 2059-59, 2042-32).
[208] DEA Comments at 67-69.
[209] See Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto Ins. Co., 463 U.S. 29, 57 (1983) ("[T]he agency must examine the relevant data and articulate a satisfactory explanation for its action including an internal rational connection between the facts found and the choice made.").
[210] RTC at 208-10.
[211] See attached George Washington and Jefferson National Forest's Travel Analysis Report; TAP Road Data, Clinch District, Road Data.

The agency should not invest any resources in improving or maintaining roads that the TAP has recommended downgrading or decommissioning. [212]

The TAP also recommends the following for other roads in the project area:[213]

- FSR 2435: "Road to Well V4019 not on system. Needs GPS."
- FSR 2442: "Need to GPS additional mileage"
- FSR 293: Downgrade Objective Maintenance Level; "Gate past private Property and seasonally close. Downgrade all but first 1/2 mile to OML 2, keep first 2600 ft in OML 3?"
- FSR 293G: "Decommission if not ROW"
- FSR 2444: Downgrade Objective Maintenance Level

Why did the District not consider or mention these recommendations in the Roads Analysis? Why did the District not implement any of these recommendations? Without any analysis of the TAP, the District has violated its duties under NEPA.

The Final EA and the Roads Analysis Report also fail to provide sufficient information to fulfill the agency's obligation because it does not address the financial sustainability of the transportation system, or the role of project-area roads in meeting (or failing to meet) forest-wide constraints. Indeed, the District acknowledges that Forest Service policy and regulations require roads analyses provide critical information for developing road systems that are, among other things, affordable and cost-effective. However, there is no mention of finances in the Roads Analysis Report or the Final EA. Further, as noted earlier, the Project proposes maintenance on several roads the TAP has recommended for downgrading or decommissioning. This does not seem to be a cost-effective measure and the District must provide an explanation for why they have not adopted the TAP recommendations for these roads.

Our understanding is that the Roads Analysis indicates that the Forest cannot maintain its current road system. We raised this concern in our Draft EA comments, yet it remains unaddressed.[214] The Forest Plan has a goal of decommissioning 30 miles of road per decade.[215] And where the road system is financially unsustainable, it is, as a result, also environmentally unsustainable: if the Forest cannot maintain road BMPs at the forest-wide level, the systematic maintenance deficits will likely impact roads in this project area. Therefore, it was improper for the access decisions made in connection with this project to assume that roads will be maintained adequately to meet the requirements of law, including the Clean Water Act and state water quality laws. And the Final EA, as the Draft EA, cannot lean on BMP requirements to conclude there will

[212] See DEA Comments at 69.
[213] Id.
[214] See DEA Comments at 68.
[215] Plan at 2-57.

be no significant impacts when the District has presented no support for the idea that funding will be adequate to meet BMP requirements.

Without an adequate funding analysis and without analysis and consideration of the TAP recommendations for roads in the project area, the District's Final EA violates NEPA and cannot provide the basis for a finding of no significant impact.

8. Herbicides

Despite the issues we raised in our Draft EA comments regarding the Forest Service's use of the Environmental Assessment of Forest-Wide Non-Native Invasive Plant Control ("NNIS EA") George Washington and Jefferson National Forests (2010) to tier its NEPA analysis of herbicide use and potential impacts for this project, little has changed in the Final EA. The Forest Service still has not provided the information to show that they have properly tiered to the NNIS EA for herbicide use on non-native invasive species and still improperly tiers to the NNIS EA for native vegetation.

A. Non-Native Invasive Species

The Forest Service must provide more information to show they have properly tiered to the NNIS EA for herbicide treatment of NNIS in the project area. This includes identification of aquifers, public water sources, riparian corridors, open water or wells, rock outcrops and sinkholes, and other sensitive areas in order to ensure proper protections are in place, as well as the establishment of the 200 foot buffer required by the NNIS EA.[216] Without this and the above requested information and analysis, the Final EA cannot provide a basis for a finding of no significant impact.

Despite our comments noting the absence of critical information on herbicides in the Draft EA[217], the Final EA still does not provide any information regarding either the quantity of herbicides that will be applied over the lifetime of the Project, nor an estimate of area (acres) to be treated.[218] The Final EA, as the Draft EA did, states that herbicide use in the project area has been "minimal," but that the herbicides available for use under the proposed alternative "are widely and effectively used by the Forest Service."[219] We requested that the EA specify what constitutes "minimal" use in the project area in order to provide the public with sufficient information on which to base meaningful comments and to adequately analyze cumulative impacts. However, the Forest Service did not include this in the Final EA. The Final EA also still does not describe uses in areas outside the project area within the same watersheds, which may

[216] NNIS EA at 24.
[217] See DEA Comments at 42-45.
[218] Herbicide use is planned as a component of the following treatments: 318 acres of regeneration, 167 acres of woodland thinning, 564 acres of commercial thinning, 477 acres of TSI/midstory. There is no estimation provided for the extent of treatment across those acres.
[219] FEA at 172.

contribute to the same streams as those possibly impacted by this project. Without such information, it is impossible to assess the likelihood of adverse impacts and in turn assess the validity of the Forest Service's finding of no significant impact. The Final EA analysis did not fix the issues with the Draft EA and the Response to Comments did not justify this failure. Without an analysis of these site-specific and project specific information, it is clear the District has not properly tiered to the NNIS EA for herbicide use on NNIS in the project area.

Moreover, we twice submitted FOIA requests for the missing information described above and to date have not received any of the requested information. Without this information, which should be readily available to the public, we cannot assess the potential impacts from herbicides in the District.

B. Native Vegetation

The Forest Service cannot tier to the NNIS EA for use of herbicides on native vegetation. The Forest Service stated in its Response to Comments that there is a site-specific analysis for native vegetation in the EA. This is false. The Final EA does not include a separate analysis of the impacts of its proposal to use these herbicides to treat native vegetation, which is an activity not addressed in the programmatic non-native EA. The Final EA still seeks to tier its use of herbicides to treat native vegetation.[220] The Forest Service states that the NNIS EA analyzes the impacts "(from the same pesticides used in this EA) to the same resources (water, plant, animal, human, health) as is under analysis with this EA [and] as such this part of that EA is relevant. The only difference is the pesticides in this EA will be used to treat both non-native invasive species and undesirable native vegetation."[221] This is an important difference. The NNIS EA is clear that treating native vegetation is not within the scope of the EA.[222] Indeed, the NNIS EA states: "The use of any method of treatment or herbicide that is not addressed in this EA will require a new decision."[223]

Adding a new use of herbicides – to kill native vegetation – far exceeds the scope of the analysis conducted in the NNIS EA and requires a separate cumulative impacts analysis. With the NNIS EA, the Forest Service and public analyzed the use of specific herbicides to treat a percentage of Forest Service land with NNIS infestations using these herbicides. However, applied across the Forest, the District's proposal to treat "undesirable native" vegetation with these chemicals would essentially open up the entire forest to use of these herbicides without analysis of herbicide use at entirely new

[220] FEA at 13, 112.
[221] FEA at 112.
[222] See, e.g., NNIS EA at 7 ("The current proposal is intended to be programmatic in nature, to allow the integrated use of manual, mechanical, chemical, and cultural methods for the treatment of invasive plant infestations.").
[223] Id.

levels. This new use of herbicides raises a number of questions. For example, does this use count toward the 12,000 acre per year limit of hand-applied, licensed herbicide application[224]? Or would this herbicide use be in addition to this 12,000 acre per year limit? It is crucial to proper environmental review that the Forest Service provide information about how this new herbicide use will impact and fit into the current uses for non-native species control analyzed in the NNIS EA.

Moreover, we remain concerned about the plans to treat "undesirables" such as mountain laurel and rhododendron with foliar spray. As stated in our Draft EA comments, because of the nature of their growth/cover, foliar applications of these understory species are likely to be more accurately typed as broadcast treatments instead of spot treatments. There is a much higher risk of impacting non-target species with this type of application. In our Draft EA comments we requested that either mountain laurel or rhododendron not be considered "undesirables" requiring treatment, or that herbicide application to these species be restricted to basal bark or cut stump.[225] Such an approach would minimize herbicide quantities and impacts on non-target species.

We also requested that the Forest Service disclose exactly what species will be considered "undesirable," and the conceptual framework for such a determination. For example, it was, and remains, concerning that the objective to regenerate oak may lead to elements being classified as "undesirable" without adequate justification. Several stands included in proposed understory treatments are older (86-113) with high site indices (80-110). The natural tendency for these stands may be towards an increased component of non-oak species. The ecological basis for killing native vegetation simply to promote oak regeneration in these stands should be explained. Likewise, continuous stands of mountain laurel or rhododendron are naturally found in drier stands or those with lower site indices. The indiscriminate spraying of these areas would be inappropriate, and must be justified.

The Final EA fails to address any of the concerns discussed above because of the improper attempt to tier herbicide use on native vegetation to the NNIS EA. The NNIS EA simply does not provide an adequate environmental impact analysis for this proposed action. The Response to Comments is similarly useless, failing to provide a list of "undesirable" species or the reasoning for such a determination and inaccurately stating that a site-specific analysis for herbicide use on native vegetation was included in the EA

[224] NNIS EA at 7.
[225] DEA at 44.

C. Other Problems with Herbicide Analysis

The Final EA provides that it may mix the herbicides "to increase effectiveness for target species."[226] However, if such a practice is not approved in the programmatic NNIS EA, the Forest Service cannot issue a finding of no significant impact without providing the public with additional information.[227] The Final EA also failed to respond to our questions regarding the factors that will guide the choice between the three listed herbicides or a combination of the three and our questions regarding an order of preference for use of the different substances in the project area. We remain concerned about the use of glyphosate, which – unlike the other two herbicides proposed for use – is described as "non-selective," meaning it may affect non-target species. Without this information, the Final EA cannot provide an adequate basis for a finding of no significant impact. This is particularly true when rare species are present in the area of treatment.

The Final EA and response to comments also failed to address the concerns we raised regarding the carcinogenic effect of glyphosate.[228] Simply incorporating by reference the 2011 SERA RA is not appropriate. The Forest Service should review existing scientific literature since the NNIS EA's and SERA RA's 2010 and 2011 release dates to confirm that information in the Final EA, including potential health impacts of herbicides, is up-to-date.

D. Monitoring and Implementation

Depending on the planned extent of herbicide use, and rates of application, we also would like to reiterate that the Forest Service should commit to doing targeted monitoring around herbicide application sites and in state waters as part of this project. Testing should account for differences in application methods and the nature of soils and ground cover. Samples of soils at various distances from application sites and other water should be collected.[229] We look forward to discussing implementation in greater detail, including reviewing the checklists for treatment of NNIP species.

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[226] FEA at 173.

[227] See, e.g., NNIS EA at 7 ("The use of any method of treatment or herbicide that is not addressed in this EA will require a new decision.")

[228] Guyton, Kathryn Z., Dana Loomis, Yann Grosse, Fatiha El Ghissassi, Lamia Benbrahim-Tellaa, Neela Guha, Chiara Scoccianti, Heidi Mattock, Hurt Straif, Carcinogenicity of tetrachlorvinphos, parathion, malathion, diazinon, and glyphosate, The Lancet, Vol. 16, No. 5, at 490-91 (May 2015).

[229] See Monitoring section for additional discussion.

9. Effects on Scenic, Recreation, Tourism Resources and the Local Economy

We remain concerned about many of the issues we raised in our Draft EA comments regarding impacts to critical scenic, recreation, and tourism resources important to local economies.[230] The Final EA notes:

> The EPA has described this Management Area as the most biologically diverse aquatic system in the Nation. The area's biological richness combined with its proximity to the City of Norton and the towns of Wise and Coeburn are contributing factors for this Management Area being one of the most popular areas for recreational use on the Clinch District.[231]

The three management areas impacted by this project all have a strong emphasis on recreation.[232] This area also places an emphasis on protecting habitat for rare species.[233] The District should have conducted a more well-rounded analysis of the impacts of the proposed project on this highly valued recreational area. [234]

While the Response to Comments notes that the project may enhance the experience for hunters and wildlife viewers, it and the Final EA fail to adequately consider the impact on those seeking intact forest.[235] This is not a full review of impacts. The Response to Comments also did not consider the impact of the project on proposed trails and recreation areas very near the project area. The scope of analysis for impacts on scenic, recreation, and tourism resources is not limited to only what is within the project area. A failure to consider impacts on resources very near the project area is a failure to conduct a full review of impacts. We reiterate our request that the Forest Service commit to mitigation measures that will protect local communities' plans to develop recreation opportunities in these areas abutting the National Forest.

The proposed burning stands in the face of community concerns and shows little regard for the consequences to the local community and economic benefits of recreation and tourism. Moreover, the District has not considered contrary, reputable scientific information that illustrates potentially adverse environmental impacts of the propped burn and even shows the way towards an alternative, beneficial management approach.[236]

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[230] DEA Comments at 73-74.
[231] FEA at 8.
[232] Plan at 4-29 to 4-36.
[233] Id.
[234] In future analyses, we recommend the Forest Service provide unit numbers when describing impacts on SIO. Without this information, which is readily available to the Forest Service, the reader must cross reference between acreage, management type, and location.
[235] RTC at 191-92.
[236] Browning Statement at 9.

Recognizing the importance of this area to local communities and recreationists, we noted in our comments on the Draft EA some concerns about impacts of the project on highly valued viewsheds.[237] As UVa-Wise, the city of Norton, the towns of Wise and Coeburn, and the larger region continue to shift local economies to outdoor recreation and ecotourism, this change in the viewshed could be detrimental, especially given the prominent views from High Knob and adjacent summits and their role as a centerpiece in ongoing economic diversification efforts.

While we commend the District's discussion of Scenic Integrity Objectives and proposed mitigation, there are a number of mitigation measures that we would like to see incorporated and implemented to further protect these valuable resources. For example, with respect to impacts on Low SIO, the Final EA states that "[b]y avoiding geometric shapes, ripping and seeding temporary roads and skid trails to reduce color contrast, and not introducing infrastructure that will remain visible long-term from middleground distances, the units borrow from elements in the characteristic landscape. This will meet the low SIO."[238] We request the District actually commit to this mitigation in Low SIO areas. Mitigation measures for High and Moderate SIO are explicitly adopted in the Mitigation Measures section of the Final EA and the same should be done for Low SIO areas.[239] In order to ensure "the project will not contribute to acres on the Jefferson National Forest that do not meet [SIO]" the District must commit to implementing mitigation measures protect High, Moderate, and Low SIO.

The District should also commit to additional measures in High and Moderate SIO areas. Mitigation is particularly important for the views from High Knob Tower given not only its importance in the region, but due to the fact that the Forest Service guidance mandates that the area from High Knob to Bark Camp be managed to enhance recreation.[240] Scenic viewsheds from High Knob are an important component of this management mandate. The George Washington National Forest Plan, which was more recently updated than the Jefferson Plan, provides a useful tool for developing clear and robust mitigation measures to protect SIO.[241] The GW Plan offers a list of management activities and various treatments for meeting the desired conditions for scenery based on activity proposed.[242] The GW Plan provides the following treatment guidance relevant to the proposed project:

[237] See DEA Comments at 73-74.
[238] FEA at 165.
[239] FEA at 49-51.
[240] Plan at 4-13.
[241] George Washington National Forest Plan at 3-19 to 3-22.
[242] Id. at 3-20.

Thinning in High and Moderate SIO:

- Trees should be selectively removed to improve scenery within high use areas, vista points, and along interpretive trails;
- Flowering and other visually attractive trees and understory shrubs should be favored when leaving vegetation,
- During temporary road construction, eliminate or remove from view, slash and root wads as viewed from the immediate foreground of High SIO viewing platforms;
- Slash should be removed, burned, chipped or lopped to within an average of 2 feet of ground, when visible within 100-foot zone of concern level 1 and 2 travelways and use areas;
- Leave tree or unit marking should be applied so as to not be visible within 100 feet of concern level 1 and 2 viewing platforms;
- Consider scheduling work on roads leading to recreation facilities outside of major recreation seasons;
- Special road and landing design should be used and when possible, log landings, roads and bladed skip trails should be located out of view to avoid bare mineral soil observation from concern level 2 viewing platforms.

Shelterwood with Reserves in High SIO: All of the above treatments, as well as:

- Trees should be selectively removed to improve scenery within high use areas, vista points, and along interpretive trails.
- Flowering and other visually attractive trees and understory shrubs should be favored when leaving vegetation.
- During temporary or permanent road construction, eliminate or remove from view, slash and root wads as viewed from the immediate foreground of High and Moderate SIO viewing platforms to the extent possible.
- Some slash may be aligned parallel to roads at the base of fill slopes to collect silt.
- Slash should be removed, burned, chipped or lopped to within an average of 2 feet of ground, when visible within 100-foot zone of concern level 1 and 2 travelways and use areas.
- Leave tree or unit marking should be applied so as to not be visible within 100 feet of concern level 1 and 2 viewing platforms
- Scheduling work outside of major recreation seasons should be considered on roads leading to recreation facilities.
- Special road and landing design should be used. When possible, log landings, roads and bladed skid trails should be located out of view to avoid bare mineral soil observation from concern level 2 viewing platforms*. (See also forestwide standards in Chapter 4 that address road, skid trail and landing design in concern level 1 travel routes.)

- An actual opening size up to 10 acres could occur in the foreground zone and 25 acres in middleground and background zone visible from concern level 1 & 2 viewing platforms.
- Along concern level 1 and 2 travel routes, openings should be spaced at a minimum of 1000 feet apart next to the travel route.
- Along concern level 1 and 2 travel routes with a high SIO, openings of up to 200 feet could occur.
- No adjacent regeneration cutting should occur until dominant and codominant species reach 20 percent of height of tallest adjacent stands for even-aged timber harvest cutting methods.
- Openings should be shaped and oriented to contours and existing vegetation patterns to blend with existing landscape characteristics. Edges should be shaped and/or feathered where appropriate. No geometric shapes should be used.

Shelterwood with Reserves in Moderate SIO: Similar to above treatment, as well as:

- An actual opening size up to 40 acres could occur.

Prescribed Fire in High and Moderate SIO:

- Consider scheduling work on roads leading to recreation facilities outside of major recreation seasons;
- For areas visible in the Foreground and Middleground Zones from Sensitivity Level 1 and Level 2 viewing platform(s)*, there should be visual diversity and visual links to surrounding forested landscape (mosaic of openings) following the use of prescribed fire.
- For areas visible in the Foreground Zone (up to ½ mile) from Sensitivity Level 1 viewing platforms*, and the immediate Foreground (300 feet) from Sensitivity Level 2 viewing platforms, the perimeter of the burned area should appear random and natural, not controlled. Visual impacts of constructed line would be mitigated.
- For areas visible in the immediate Foreground Zone (300 feet) from Sensitivity Level 1 and 2 viewing platforms*, minimize permanent scarring or damage to important scenic features.
- Protect recreation infrastructure including minor constructed features (like trail signs, information boards, etc.) from scarring and damage.
- Minimize the visual impact of linear corridors created by fire lines.

Temporary Road Construction:

- During temporary or permanent road construction, eliminate or remove from view, slash and root wads as viewed from the immediate foreground of High and Moderate SIO viewing platforms to the extent possible.

- Scheduling work outside of major recreation seasons should be considered on roads leading to recreation facilities.
- Special road and landing design should be used. When possible, log landings, roads and bladed skid trails should be located out of view to avoid bare mineral soil observation from concern level 2 viewing platforms*. (See also forestwide standards in Chapter 4 that address road, skid trail and landing design in concern level 1 travel routes.)
- The visual impression of roads should be blended so that they remain subordinate to the existing landscape character in size, form, line, color, and texture.
- Gravel pits and borrow areas should be excluded from seen area of visually sensitive travelways and viewing points.
- Cut and fill slopes should be revegetated.

In addition to the above mitigation measures, we urge the District to apply FW-186 to all proposed actions in High and Moderate SIO.[243]

We also have questions regarding specific mitigation measures adopted in the Final EA. We are curious to know the concern levels associated with the travelways and viewer platforms listed in the Final EA.[244] In both the Final EA and the Jefferson National Forest Plan, certain mitigation measures depend on this level of concern.[245] It is important to inform the public of the designation for each of the travelways and platforms considered in the District's analysis. With respect to the proposed thinning along FSR 2420 and 2420C, the Final EA states that "[t]he extent of the thinning and the basal area retained will dictate the degree of contrast to texture and color, particularly if openings are created in the canopy. If this occurs, the skid trails may also become visible and could introduce line and changes in color."[246] We would like to know the basal area necessary to keep this change from becoming noticeable to the casual observer.

We appreciate the District's recognition of the scenic and recreation values in the project area and it's consideration of SIO. To ensure the greatest protection for this resource, we urge the District to adopt the mitigation measures discussed above.

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[243] FW-186: "Shape and orient vegetative management openings in the forest canopy to contours and existing vegetation patterns to blend with existing landscape characteristics. Shape and feather edges in High and Moderate SIO areas. … Do not use geometric shapes.").
[244] FEA at 161.
[245] FEA at 50; Plan at 2-48.
[246] FEA at 163.

10. Climate Change

The Draft EA recognized that "[a]lthough the impacts of the action alternatives on global carbon sequestration, atmospheric concentrations of CO2 and the contribution of greenhouse gases would be miniscule, this must be taken into consideration because the nature of the climate change challenge is the diverse relatively small individual sources of emissions collectively have a large impact."[247] Contrary to this earlier statement, the Forest Service has simply disposed of its obligation to consider project impacts on climate change in the Final EA. The EA's climate change analysis has been reduced to a cursory statement that "impacts to climate change … are not quantifiable" and a brief and narrow consideration of the "proposal's ability to impact how the areas proposed for prescribed burn treatments respond to climate change stressors."[248] This narrow and cursory analysis, contradicting earlier statements in the Draft EA, cannot provide a basis for a finding of no significant impact.

As stated in our Draft EA comments, the Forest Service has recognized the importance of incorporating climate change considerations into its land management decisions.[249] In 2016, the Forest Service amended the Forest Plan to incorporate monitoring evaluation reports to meet requirements to monitor "measureable changes on the plan area related to climate change and other stressors that may be affecting the plan area."[250] In July 2010, the Forest Service released a Roadmap for Responding to Climate Change as a guide to achieve the departmental goal set by the USDA Strategic Plan for 2010-2015 to "[e]nsure our national forests and private working lands are conserved, restored, and made more resilient to climate change, while enhancing our water resources."[251] The management actions in the Roadmap included "[p]rotecting

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[247] DEA at 130 (emphasis added).
[248] FEA at 157-59.
[249] DEA Comments at 69-73.
[250] See 36 C.F.R. 219.12(a)(5)(iv).
[251] Forest Service Roadmap for Responding to Climate Change, July 2010, at 2 ("Roadmap"). This roadmap built on prior guidance for considering and incorporating climate change into project-level decision-making, which recognized this adaptation/resilience issue and stated that the agency may propose projects "to increase the adaptive capacity of ecosystems it manages" or to "mitigate climate change effects on those ecosystems," and that project proposals can "meet the Agency's mission while also enhancing the resilience or adaptive capacity of resources to the potential impacts of climate change." See Letter from Joel D. Holtrop, Deputy Chief for NFS to Regional Foresters, et al., re: Considering Climate Change in Land Management and Project Planning (Jan. 16, 2009), attaching guidance for "Climate Change Considerations in Project Level NEPA Analysis," at 1-2 (Jan. 13, 2009), both available at www.fs.fed.us/emc/nepa/climate_change (attached). See also USDA Forest Service Strategic Plan 2007-2012, at 4 ("Climate change will impact forest, range, and human well-being by potentially altering the ability of ecosystems to provide life-supporting goods and services. The implication for natural resource management is to be flexible and adapt management strategies to help mitigate the effects of climate change.").

rare and sensitive species by restoring and reconnecting their habitats" and addressing climate change in planning and analysis by "[i]ncorporating climate-related vulnerabilities and uncertainties into land management and project-level environmental analyses."[252] The guidance recognized the importance of "collaborat[ing] with partners to develop land management plans that establish priority locations for maintaining and restoring habitat connectivity to mitigate effects of climate change," "manag[ing] forest and grassland ecosystems to decrease fragmentation," and "continu[ing] to develop and restore important corridors for fish and wildlife."[253]

The Forest Service also has aligned itself with this international mindset in its own publications, including its Climate Change Performance Scorecard guidance document, which explains that "[i]n addition to adapting to climate change, the Forest Service is contributing to worldwide efforts to mitigate climate change and reducing greenhouse gas emissions from its land management activities."[254] That document further reiterates that "[o]ur nation's forests and grasslands play a critical role in storing carbon and helping to reduce the amount of greenhouse gases that are released into the atmosphere. We as an Agency continue to play a strong role in helping to mitigate greenhouse gas emissions by conserving and restoring forest and grassland ecosystems."[255]

The document then stresses the importance of carbon assessments and explains that they can help the Forest Service to implement management activities with the potential to reduce carbon emissions.[256] The document also warns that climate change may "cause [the Forest Service] to reconsider whether our current goals and objectives can be met using our current management activities. Treatments may need to be adjusted in time and place, or different treatments may be needed to achieve the same goals. In some cases, goals and objectives themselves may need to be re-evaluated."[257]

The document then lays out several strategies the Forest Service may use to better manage the forest to adapt to climate change. These adaptation actions include a) resilience, which "is the degree to which systems … can recover from one or more disturbances without a major (and perhaps irreversible) shift in composition or function,"[258] b) resistance, or "the ability of an organism, population, community, or ecosystem … to withstand perturbations without significant loss of structure or

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[252] Roadmap at 27.
[253] Roadmap at 27-28.
[254] Office of the Climate Change Advisor, U.S. Forest Serv., Navigating the Climate Change Performance Scorecard 39 (2011).
[255] Id. at 40
[256] Id. ("Carbon assessments can help you understand how much carbon is currently stored in your forest and grasslands and how the potential to reduce atmospheric greenhouse gases may be influenced by management activities and disturbance regimes.")
[257] Id. at 34.
[258] Id.

function. From a management perspective, resistance includes 1) the concept of taking advantage of and boosting the inherent (biological) degree to which species are able to resist change, and 2) manipulation of the physical environment to counteract and resist physical and biological change,"[259] and c) approaches that facilitate transitions, which "are strategic actions that work directly with the changes that climate is provoking and ease transitions to future states by mitigation and minimizing undesired and disruptive outcomes while maintaining essential functions."[260] The actions can be included in project plans.[261]

Climate change is a function of the impacts of not just one isolated project but of the cumulative impacts from actions across the forest and around the world. Cumulative impacts can result from *individually minor* but collectively significant actions taking place over a period of time."[262] Further, courts have explained that the "impact of greenhouse gas emissions on climate change is precisely the kind of cumulative impacts analysis that NEPA requires agencies to conduct."[263]

Here, the Final EA has backtracked with regard to the adequacy of its climate change analysis. Rather than address the concerns we raised in our comments on the Draft EA – including overall concerns with the cursory nature of the climate change analysis, failure to offer support for statements, and failure to address or disclose contradictory research – the Final EA changes the entire analysis and states that "although alternatives 1 and 3 may reduce the long term carbon sequestration potential of the stands proposed for regeneration and commercial thinning, these levels of carbon are meaningless to quantify when considered at a Forest level."[264] The Final EA continues by concluding that "[m]eaningful and reliable climate change analysis and discussion should occur at a Forest or Regional scale as the impacts to climate change from a project specific scale are so miniscule they cannot be quantified."[265] Without any project-level or regional analysis of impacts to climate change, the Final EA is wholly inadequate in this regard and does not justify a finding of no significant impact.

After summarily disposing of the duty to consider impacts of the project on climate change, in contradiction of earlier statements made in the Draft EA, the Final EA provides a brief and narrow discussion, unsupported by evidence, about how the project areas proposed for prescribed burns will better respond to climate change stressors.[266] This narrow and unsubstantiated consideration of resiliency does not

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[259] Id.
[260] Id.
[261] Id. at 36.
[262] 40 C.F.R. § 1508.7 (emphasis added)
[263] Ctr. for Biological Diversity v. NHTSA, 538 F.3d 1172, 1217 (9th Cir. 2008).
[264] FEA at 157-58.
[265] Id.
[266] FEA at 158.

constitute the "hard look" that NEPA requires. For example, the Forest Service did not address concerns raised in comments on the Draft EA regarding the project's effects on preserving habitat connectivity for species movement in light of the changing climate. Despite the commitment in Forest Service guidance to "maintain and restore habitat connectivity to mitigate effects of climate change," and "manage forest and grassland ecosystems to decrease fragmentation," the proposed logging of mature forest habitat may cause habitat fragmentation and lead to reduced nesting, denning, and foraging areas for wildlife species as they move and adapt to climate change. Preserving landscape connectivity between core conservation areas to allow for species movement in response to climate shifts should be a key strategy for wildlife adaptation. The EA's failure to consider this project in light of the direct, indirect, and cumulative impacts of climate change on forest ecosystems completely disregards this important environmental impact.

The Forest Service's analysis in the Final EA not only ignores a large body of research and our comments on the Draft EA, it also contradicts the consistent guidance and direction issued by its own agency to promote ecosystem adaptation to climate change. The EA failed to provide a full and fair discussion of the project's impacts on forest ecosystems' and species' adaptation to climate change. This violates NEPA's requirement that an EA offer "evidence and analysis for determining whether to prepare an environmental impact statement or a finding of no significant impacts."[267] For the reasons stated above, the Forest Service's climate change analysis cannot provide the basis for a finding of no significant impact.

11. Monitoring and Adaptive Management

We reiterate our comments on the Draft EA that it is essential that the Forest Service describe and commit to a detailed monitoring plan for the Nettle Patch Project.[268] Monitoring is not option. Unfortunately, the Final EA and Appendix F Monitoring Plan do not fully and adequately address monitoring. Robust monitoring has many important purposes, including assessing whether the stated desired conditions, goals, and objectives of a particular project are being met, verifying assumptions about project results and impacts, and informing any adaptation that is needed during implementation.[269] Monitoring and evaluation also help determine if the anticipated costs of implementation are the actual costs.[270] And as with other critical

[267] Anderson v. Evans, 371 F.3d 475, 488 (9th Cir. 2004) (citation omitted); see also Foundation for N. America Wild Sheep v. U.S. Dep't of Agriculture, 681 F.2d 1172, 1178 (9th Cir. 1982) (holding that failure to address "certain crucial factors, consideration of which [is] essential to a truly informed decision whether or not to prepare an EIS," renders an agency's EA arbitrary in violation of NEPA.).
[268] See DEA Comments at 79-82.
[269] See Plan at 5-3
[270] Id. at 5-2.

components of a project, adequate monitoring plans must be developed during project development and analysis, not after the fact. Robust monitoring plans, developed prior to project implementation, are a crucial part of ensuring that addressing today's management goals or desires avoids creating tomorrow's restoration needs.

We question why the District did not utilize the Monitoring Questions, Monitoring Elements, and Task Sheets provided by the Forest Plan. This would have been a useful starting point for an effective monitoring and evaluation program.[271] While the District did create a table adapted from the 2017 Forestry BMP Monitoring Report for the Cherokee NF, the scope of this monitoring is very limited. This table[272] still does not address the concerns we raised regarding NNIS, overall data collection methods, reliability, and frequency, or assignment of monitoring responsibilities. It also did not address our concerns regarding overall effectiveness of implementation of the entire project, forest vegetation structure and composition in the overstory, midstory, and understory for the entire project area, nor did the District actually commit to monitoring prescribed burn units in any meaningful way.[273]

The Forest Service must state the specific, quantifiable conditions that the agency is seeking and will assess during monitoring to assess structural heterogeneity, pine regeneration, and oak generation. Before moving forward with this proposed project, the District must: (1) clearly define the reference conditions, the existing conditions, and the desired conditions for the proposed treatments ;(2) set specific, measurable objectives for treatments to achieve, including vegetation structure and composition; (3) commit to project-level monitoring that can and will measure whether and to what extent those objectives have been met; and (4) commit to evaluating the monitoring results, including considering the need to adjust later phases of this project and/or future projects.

As stated before, the Appendix F monitoring plan is also far too limited in scope. It is intended to monitor the effectiveness of BMP, project design criteria, and specific soils impacts required in project area determined to have inherently wet soils.[274] However, this still leaves our concerns regarding prescribed fire and NNIS monitoring unaddressed. Moreover, we note that because the nearby and impaired Guest River is a Priority Watershed, the Forest Plan instructs the District to commit to monitoring in the Nettle Patch project area "beyond what is required in [the Plan] and project-specific plans."[275]

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[271] Plan at 5-2; see also 36 C.F.R. § 219.12(k).
[272] We also request an explanation for what the "//////"used throughout the table indicate.
[273] FEA at 52 (The Final EA only promises to monitor prescribed burn units "as personnel time allows.")
[274] FEA (Appendix F).
[275] Plan at 2-3.

Moreover, as stated in the section on NNIS, NNIS poses one of the four most critical threats to Forest Service-managed lands and we have concerns that the proposed action will increase this threat. Thus, developing a monitoring plan for NNIS prior to plan implementation is critical to ensure the harmful impacts of the proposed action do not outweigh the benefits. Before any ground disturbance activities take place, the agency should commit to identifying existing or potential NNIS threats in the management area, develop a control/eradication plan, and develop a detailed implementation plan. If, as a result of this analysis, the District determines that NNIS control/eradication is likely not possible in a given area, ground disturbing activities should not more forward.

While we appreciate that the District incorporated monitoring of prescribed burn units into the Final EA, which reiterate our earlier point that the District actually commit to this implementation. There should also be vegetation and fuels data collected prior to implementation of any Rx burning. The Final EA still does not provide evidence that the areas proposed to be treated with Rx fire actually support fire dependent community types. Such data would help provide support that fire is actually needed in the Project Area. The District should also commit to monitoring potential harm by fire, e.g., to determine if oak and pine saplings are killed by the fires or if fires are damaging mesic areas. The monitoring suggested in the Final EA does not accomplish this. A monitoring plan that can suggest only that more fire is needed, but ignores potential harm, is a recipe for future damaging fires. The prescribed fire monitoring plan should include identification of any damage caused by the proposed changes in the fire regime (growing season burns and higher intensity fires), including the spread of NNIS, loss of critical forest-floor wildlife (particularly amphibians), and impacts on aquatic species dependent on cool, clear headwaters, in particular native brook trout.

We successfully worked with the Warm Spring's District to develop a monitoring guide for the Lower Cowpasture Restoration and Management Project. This Guide included a description of the monitoring activity, as well as designation of the party responsible for implementation. In addition to the above monitoring activities, the District should adopt the following monitoring commitments:

- Review the project prior to implementation to ensure that the locations of any access routes, sale boundaries, and the silvicultural prescriptions are carried out as described by the EA.
- Ensure actual operation of the timber sales follow measures described in this EA.
- Field inspection of timber sale activities during implementation to ensure State BMPs, Forest Standards, and project specific mitigations are being met.

- Survey stands 3 years post-harvest to determine harvest areas have regenerated adequately and monitor control needs for NNIS.[276]
- Monitor temporary road locations, landings, and bladed skid roads following sale closure to ensure sites are stable and adequately re-vegetated.
- Review the project prior to implementation to ensure that the construction and location of National Forest System trails are carried out as described in the EA.
- Review the project prior to implementation to ensure that the locations of any dozer lines, hand lines, and prescribed burn unit boundaries are carried out as described by the EA.
- Ensure actual operation of prescribed burns follows measures described in this EA.
- Conduct prescribed burn monitoring in accordance with forest-wide monitoring protocols for prescribed burns and as described in the previous paragraph on prescribed fire monitoring
- Monitor wildlife clearings after construction to ensure sites are adequately vegetated and monitor control needs for non-native invasive plant species
- Assess the need to treat NNIS within regeneration harvest units in conjunction with site preparation work which typically occurs in the first or second growing season after final harvest, and in conjunction with regeneration surveys which typically occurs in third growing season after final harvest. In addition, the agency should commit to assess the need to treat NNIS in non-regeneration harvest units based on the degree of infestation and threat levels. And in addition to assessing these needs, the agency must of course commit to treating areas that are determined to need treatment.[277]
- Monitor forest (vegetation) structure and composition in the overstory, midstory, and understory within three to five years after harvest. This monitoring will be accomplished in conjunction with regeneration surveys which typically occurs in the third growing season after final harvest.
- Any bladed skid trails/roads required for ground based logging on slopes of 35% or greater will be less than approximately 300 feet in length.

In addition to the monitoring efforts discussed above, in an effort to engage in a collaborative process, the Forest Service should commit to informing the Southern

[276] See previous paragraph for additional NNIS monitoring activities

[277] See also Forest-Wide Non-Native Invasive Plant Control EA (Dec. 2010) at 27-28 ("Sites would be monitored, as required by regional policy, to ensure that control of NNIP populations has been accomplished. It is anticipated that many infested sites would require multiple treatments over several years to gain the desired level of control. Treatment effectiveness monitoring would be a necessary component in determining the frequency and type of successive treatments.").

Environmental Law Center and partners when any of the Nettle Patch projects are scheduled for implementation and should invite and host field trips. For example, when commercial vegetative management is planned, the Forest Service will invite participants on field trips to discuss sale preparation activities such as unit layout, marking, stream management zones, temporary roads, and skip trail locations with Forest Service staff before the sale is advertised for bids. Post sale field trips will also occur. The Forest Service will also notify the Southern Environmental Law Center and partners when cutting units are open for harvest, and when logging operations are planned. Field trips will be scheduled to avoid active sale preparation activities and active logging operations.

The above are just examples of aspects of monitoring the agency needs to address. The Southern Environmental Law Center and partners had several productive discussions with the George Washington National Forest's Warm Springs District regarding monitoring for the Lower Cowpasture Restoration and Management Project, and we would welcome the opportunity to further discuss these issues with the Clinch District.

We also reiterate our recommendation that the Forest Service commit to an adaptive management approach to the project.[278] The concept of adaptive management is foundational for Forest Plan implementation in a dynamic environment.[279] Employing adaptive management practices allow quick resolution to changing circumstances and would allow the Forest Service to learn and potentially change course during the duration of the project in order to promote this objective.

12. <u>Alternatives</u>

We offered extensive comments on the importance of ecological restoration in Forest Service policy, the Forest Plan, and Project objectives, as well as a detailed explanation for what such an alternative would consider.[280] We also offered comments on why the proposed alternative greatly overemphasized creation of Early Successional Habitat.[281] The third alternative and proposed modified alternative in the Final EA did not incorporate or address any of our comments or concerns. Indeed the Final EA still states that "lack of early seral habitat … has shaped the project proposal"[282] and there is

[278] Adaptive management is defined as "A system of management practices based on clearly identified intended outcomes and monitoring to determine if management actions are meeting those outcomes; and if not, to facility management changes that will best ensure that those outcomes are met or re-evaluated. Adaptive management stems from the recognition that knowledge about natural resources systems is sometimes uncertain." 36 C.F.R. § 220.3.
[279] Plan at 5-3.
[280] <u>See</u> DEA Comments at 8-12.
[281] <u>See</u> DEA Comments at 12-16.
[282] FEA at 23.

only a single mention of ecological restoration in the almost 200 page document.[283] The Forest Service failed to provide an explanation for this omission in its Response to Comments, stating only: "[c]omment noted" or "[a] third alternative was developed from issues brought forward through public [c]omment."[284] Both of these are non-responsive. Stating "comment noted" does not explain why the Forest Service decided not to develop an ecological restoration alternative or how the proposed project does not over-emphasize ESH. Noting that a third alternative was developed in response to comments received was a similarly superficial response. This third alternative did not incorporate ecological restoration and still overemphasizes ESH. Citing the third alternative and the modified alternative was not an adequate response to our comments on reasonable, omitted alternatives.

Because the District has failed to make any meaningful change to its alternatives analysis with respect to ecological restoration and ESH, we fully incorporate by reference our comments on the Draft EA.[285]

13. Cumulative Impacts

Under NEPA, an agency may prepare an EA to determine whether the environmental impact of a proposed action is significant enough to warrant preparation of an EIS. In considering this, an EA must discuss all impacts, including cumulative impacts.[286] A "cumulative impact" is defined as an impact that "results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency (Federal or non-Federal) or person undertakes the action."[287] A cumulative impact may result from "individually minor but collectively significant actions taking place over a period of time."[288]

In considering cumulative impacts in an EA, the Forest Service must "give a sufficiently detailed catalogue of past, present, and future projects, and provide adequate analysis about how these projects, and differences between the projects, are thought to have impacted the environment."[289]

Issues with the Forest Service's analysis of cumulative impacts are discussed throughout this objection. Here, we focus on several issues that are particularly lacking in regards to a cumulative impacts analysis. In our comments on the Draft EA, we expressed concerns about the Forest Service's failure to consider a number of

[283] FEA at 73.
[284] RTC at 216-21.
[285] See DEA Comments at 7-16.
[286] 40 C.F.R. § 1508.9(b); § 1508.27(b)(7).
[287] 40 C.F.R. § 1508.7.
[288] Id.
[289] Te-Moak Tribe of W. Shoshone of Nev. v. U.S. Dep't of Interior, 608 F.3d 592, 603 (9th Cir. 2010).

cumulative impacts.[290] The analysis in the Final EA did not resolve these issues and the Response to Comments did not justify this failure to do so. Without a thorough consideration of cumulative impacts, the Final EA cannot justify a finding of no significant impact. CEQ regulations make clear that "NEPA procedures must insure that environmental information is available to public officials and citizens before decisions are made and before actions are taken."[291] In this light, courts have required considerable quantified information as necessary to constitute the hard look of cumulative impacts required by NEPA.[292]

A. Increased Sedimentation Into 303(d) Streams

The Forest Service's inadequate consideration of increased sedimentation into the Guest and Clinch Rivers cannot provide a basis for a finding of no significant impact. Our comments on the Draft EA raised concerns about adequate consideration of cumulative impacts on water quality of increased sedimentation into the Guest River, a 303(d) listed (impaired) stream.[293] However, the Final EA remains inadequate in this regard. There is little difference in the Draft EA analysis and the Final EA. The Final EA merely states that "[b]ecause of the degree of existing impairment, it is not possible to determine if the proposed actions will have an additional significant impact beyond those already outlined in the TMDL performed for the Guest River[, but] [w]hat can be said is that sediment from the proposed action could delay recovery."[294] This clearly cannot justify a finding of no significant impact. This type of general statement "about 'possible effects' and 'some risk' does not constitute a 'hard look' absent a justification regarding why more definitive information could not be provided."[295] Indeed, uncertainty regarding the impact that may result from proposed actions counsels in favor of preparing an environmental impact statement in order to fully understand the impacts of a proposed project.[296]

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[290] DEA Comments at 82-84.
[291] 40 C.F.R. § 1500.1(b).
[292] Klamath-Siskiyou Wildlands Ctr. v. Bureau of Land Mgmt., 387 F.3d 989, 993-94 (9th Cir. 2004) (quoting Ocean Advocates v. U.S. Army Corps of Eng'rs, 361 F.3d 1108, 1128 (9th Cir. 2004); Neighbors of Cuddy Mountain v. United States Forest Serv., 137 F.3d 1372, 1379-90 (9th Cir. 1998) ("A proper consideration of the cumulative impacts of a project requires some quantified or detailed information;… [g]eneral statements about possible effects and some risk do not constitute a hard look absent a justification regarding why more definitive information could not be provided.") (internal quotations omitted).
[293] DEA Comments at 83.
[294] FEA at 123.
[295] Blue Mountain Biodiversity Project v. Blackwood, 161 F.3d 1208, 1213 (9th Cir. 1998).
[296] 40 C.F.R. § 1508.27(b)(5).

B. Illegal ATV and Jeep Use

The Final EA also does not address concerns raised in our comments on the Draft EA regarding the cumulative impacts of continued illegal ATV and jeep use in the area.[297] As the Draft EA and Final EA acknowledge, these uses increase sedimentation because off-road vehicles will use the newly created logging and skid roads for the Project, particularly those that connect to old road systems.[298] However, the Final EA still did not provide a full and realistic assessment of the likelihood of illegal use that will be caused by construction of roads and skid trails, nor did it provide proper mitigation measures supported by a likelihood of success. Indeed, the Forest Service fails to provide an explanation of direct, indirect, or cumulative effects of the proposed project on the two creeks likely to be impacted by illegal ATV and jeep use.[299] In contrast, the Final EA provided a conclusion for every other waterbody considered.[300] This does not meet NEPA's mandate that the Forest Service conduct a thorough review of impacts and mitigation measures when assessing cumulative impacts of proposed projects. General statements that "[m]onitoring will be required to ensure that the illegal trail remains closed" does not meet NEPA requirements.[301]

C. Use of Herbicides on Native Species

The Response to Comments states that the EA addresses site specific analyses for herbicide treatment of native species.[302] This is false. There is no site specific analysis for treatment of native species with herbicides in the Final EA. As with the Draft EA, the Final EA merely tiers to the non-native invasive species EA. As we stated in our comments on the Draft EA, the District cannot rely on the NNIS EA to address impacts of the proposed use of herbicides on native vegetation.[303] Any plans to use these herbicides to kill native vegetation far exceed the scope of the NNIS analysis. The NNIS EA impacts analysis was conducted with the scale of NNIS treatment in the National Forest. Reliance on the NNIS EA constitutes a failure to adequately analyze the cumulative impacts of this Project's proposed treatment of both NNIS and native vegetation, in violation of NEPA.

Adding native vegetation treatment greatly expands the scale of possible herbicide use and in turn would likely have a far greater impact on the Forest. This

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[297] DEA Comments at 83.
[298] DEA at 63; FEA at 88.
[299] FEA at 88-90.
[300] Id.
[301] FEA at 99; National Audubon Soc'y v. Hoffman, 132 F.3d 7, 12-17 (2d Cir. 1997) (finding EA inadequate where it acknowledged that increased illegal ATV use would occur as a result of the proposed activities but failed to present substantial evidence of likely effectiveness of mitigation measures proposed).
[302] RTC at 185, 187, 190.
[303] DEA Comments at 83, 43-44.

significantly increased scale of herbicide use must be considered in a proper cumulative impacts analysis. Crucial information relevant to these impacts is missing from the Final EA, including any mention of the estimated amounts of herbicide to be used and an explanation for the ecological basis for oak selection in all the treatment areas. In order to adequately address the cumulative impacts of herbicide use on native vegetation, the Forest Service must discuss the objectives for treatment, must describe which species will be treated, why that species is non-desirable, how much of the species will be treated, and provide prioritization. The Forest Service must explain how herbicides are used through-out the district and watershed and how the proposed use relates to current herbicide use and the 12,000 acre maximum. Without this information and necessary analysis, the Final EA cannot provide an adequate basis for a finding of no significant impact with respect to herbicide use on native vegetation in the project area.

D. Early Successional Habitat

The Final EA also failed to adequately consider early successional habitat in its cumulative impacts analysis. In developing overall ESH objectives, the EA failed to consider the approximately 620 acres of clearcut logging occurring on nearby private land. While the District considered impacts of it in various sub-sections of the Final EA, the EA does not discuss how private logging influenced the overall volume of ESH proposed for the project.[304]

The EA also does not consider all past, present, and future foreseeable impacts that have created or will likely create additional ESH. With respect to present and future foreseeable impacts, the EA does not mention the chipping facility in Tacoma or the demand for biomass at the nearby Virginia City Hybrid Energy Center, both of which are large scale operations likely to increase coverage of ESH. Dominion estimated direct purchase of 225,000 tons of biomass for the Virginia City plant and highlighted a 50-mile radius to define the supply circle, which included the project area.[305] An adequate analysis of cumulative impacts must mention this facility, which can only run on a massive amount of nearby logging. This is clearly within the range of present and future foreseeable impacts. The District must also consider the CMB timber sale and Bark Camp timber sale in past impacts. However, consideration of the 965 acre CMB timber sale is inappropriately limited to a narrow consideration of past actions that could have caused sedimentation in the Project area. The Bark Creek timber sale is not mentioned at all in the Final EA. Consideration of past actions is not restricted to the project area alone, but applies to the larger watershed that will be impacted by the

[304] See FEA at 21-25, 63, 65, 98-100.

[305] Available at http://www.valoggers.org/wp-content/uploads/Dominion-Virginia-Power-Biomass-Presentation.pdf; see also attached Dominion, Virginia City Hybrid Energy Center fact sheet (June 2013), available for download at https://www.dom.com/about-us/making-energy/coal-oil-and-gas/virginia-city-hybrid-energy-center.

proposed project. The cumulative impacts of all these activities, in combination with the impacts from the proposed Project, must be assessed to comply with NEPA.

There also appears to be a disconnect between the fact that fire is being used to meet the yellow pine restoration objective and the assertion that burning will not create early successional habitat conditions. High intensity fire is necessary for successful yellow pine regeneration.[306] High intensity fire typically results in areas of overstory mortality, creating the open canopy conditions associated with ESH. The ESH conditions required for successful yellow pine regeneration are recognized in the Final EA: "[ ] early successional, shade intolerant yellow pine such as shortleaf and pitch pine [ ]" and "Pitch pine and table mountain pine require open, exposed sites for germination, are drought tolerant shade intolerant [ ]."[307] Previous District burns have created ESH conditions as evidenced by the North Fork Rx Burn monitoring photographs provided in the Final EA. The post-burn monitoring photo, Figure 3, in the Final EA depicts an area with "dominance of woody growth of regenerating shrubs, [ ], and relatively low density or absent overstory," conditions characterizing ESH.[308] The Response to Comments state that "prescribed fire is not being used to create early seral habitat,"[309] and the Final EA does not account for any acreage of ESH resulting from burning. We remain confused about how burning will encourage yellow pine regeneration without the creation of ESH conditions.[310] This discrepancy must be addressed by the District.

Finally, as discussed at length in our Draft EA comments, the Draft EA's climate change analysis did not account for the cumulative impacts from actions across the forest and the world.[311] The Final EA has failed to remedy this issue.[312] Courts have held that the "impact of greenhouse gas emissions on climate change is precisely the kind of cumulative impacts analysis that NEPA requires agencies to conduct."[313]

The Final EA failed to live up to its obligation to "give a sufficiently detailed catalogue of past, present, and future projects, and provide adequate analysis about how these projects, and differences between the projects, are thought to have impacted

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[306] Jenkins, M.; Klein, R.; McDaniel, V., Yellow pine regeneration as a function of fire severity and post-burn stand structure in the southern Appalachian Mountains, FOREST ECOLOGY AND MANAGEMENT 262: 681-691 (2011).
[307] FEA at 28
[308] Plan EIS at 3-106; FEA at 17.
[309] RTC at 193
[310] See for example Chattahoochee-Oconee Forest Plan (even-aged and two-aged regeneration cutting, prescribed burning, or other vegetation management treatments that create open canopy conditions and relatively uniform and dense regeneration of woody species across patches larger than 2 acres, may create early-successional forest.).
[311] DEA Comments at 69-73, 83-84.
[312] See Climate Change section.
[313] Ctr. for Biological Diversity v. NHTSA, 538 f.3d 1172, 1217 (9th Cir. 2008).

the environment."[314] The Forest Service's inadequate consideration of the cumulative impacts of the project clearly cannot justify a finding of no significant impact.

14. Economic Analysis of Project

In our comments on the Draft EA, we noted, among other concerns, that the failure to fully and fairly disclose all monetary costs associated with the project, as required by both NEPA and Forest Service policy.[315] Without such disclosure, a misleading cost/benefit ratio is presented and there is a lack of assurance about the feasibility of implementation of important aspects of the projects, including NNIS treatment, as well as monitoring and other proposed mitigation. The Final EA did not address this concern, and included only one aspect of the project, commercial harvest treatment, in the financial analysis. This is not acceptable.

Superficial and dismissive attempts to address our concerns in the Response to Comments include the assertion that some costs "will quite likely be financed by the value of timber through Knutson-Vandenburgh authority."[316] There is a high level of uncertainty regarding the amount of future funding from K-V moneys and thus it is unwise and inappropriate for the District to discount significant project costs based on these unconfirmed and potentially unlikely funding sources. What's more, Forest Service policy requires accounting for all costs, regardless of funding source.[317] Because the financial analysis only considers commercial harvest, there are significant project-related costs that were not included. The costs associated with the following management actions should be estimated and considered in the financial analysis[318]:

- NNIS management (monitoring and treatment): 84 acres
- Rx fire (prep, implementation, monitoring): 1,118 acres
- Crop tree release: 678 acres
- Understory oak culturing: 477 acres
- Mechanical Site Prep: 443 acres
- Grass/Forb Wildlife Habitat Creation: 27.2 acres

Our concern about full consideration of project-related costs stems from the knowledge that recent Forest Service budget cuts are likely to continue and will further reduce limited capacity. We are aware Forest and District staff numbers and expertise have been greatly reduced in recent years, and are concerned about the feasibility of

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[314] Te-Moak Tribe of W. Shoshone of Nev. v. U.S. Dep't of Interior, 608 F.3d 592, 603 (9th Cir. 2010).
[315] See DEA Comments at 74-79.
[316] RTC at 32, 197 (emphasis added).
[317] FSH 32.22 ("Include all costs that are anticipated as a result of the project, regardless of funding source.").
[318] They are included in other Forest EAs (Lower Cowpasture).

managing and/or implementing the non-commercial proposed treatments. If accomplishing project objectives relies on implementation of those non-commercial treatments, it is imperative to realistically account for those costs and future availability of funding. When an agency's environmental analysis includes misleading information that skews the analysis and prevents adequate public knowledge and consideration of a project, it violates NEPA.[319]

For example, to mitigate the spread of NNIS due to ground disturbance in the project area, intensive management efforts will be required for the long term. Assurances must be provided to show the public this mitigation is financially feasible, which in turn, requires a realistic estimate of associated costs. Absent such assurances of the ability to provide mitigation, the finding of no significant impact from NNIS would not be appropriate. This conclusion applies for all the monitoring and mitigation proposed in the Final EA, whether for NNIS, illegal ATV use, prescribed burn, or protecting SIO area. Without an adequate consideration of the likelihood that this crucial monitoring and mitigation will in fact be carried out, there is no basis for a finding of no significant impact.[320] Indeed, uncertainty surrounding important components of a proposed project weighs heavily in favor of preparation of an EIS to adequately understand the environmental consequences of a proposed action.[321]

The Response to Comments does not justify the failure of the Final EA to accurately account for the costs described above. A number of times, in response to our Draft EA comments, the District states: "[b]y minimizing the negative impacts (costs) on some resources through mitigation, while achieving benefits in other areas … there is an overall net gain in non-monetary benefits."[322] This response, however, clearly fails to address our concern that there will not be funding available for the very mitigation the District claims will offset any adverse impacts.

In addition to our concerns regarding the availability of funding, we have concerns regarding the accuracy of the estimated values provided in the economic analysis. The most obvious inaccuracy is the value provided for Economic Efficiency.[323] Table 66 includes a positive value ($239,952.00) for economic efficiency, indicating that revenue is greater than cost. The opposite is clearly true, so this is very misleading. The differences found when comparing estimated stumpage values in the Draft EA and Final EA are also troubling because the financial efficiency may be even lower than that

[319] See Duck River Pres. Ass'n v. TVA, 410 F. Supp. 758, 765 (E.D. Tenn. 1974).
[320] National Audubon Soc'y v. Hoffman, 132 F.3d 7, 12-17 (2d Cir. 1997) (finding EA inadequate where it acknowledged adverse impacts use would occur as a result of the proposed activities but failed to present substantial evidence of likely effectiveness of mitigation measures proposed).
[321] 40 C.F.R. § 1508.27(b)(5).
[322] RTC at 197.
[323] FEA at 169 (Table 66).

estimated in the Final EA. Based on averages from the last three timber sales, the Draft EA assigns a stumpage value of $58.65/CCF to sawtimber, and $1.00/CCF to pulpwood. The Final EA combines the sawtimber and pulpwood stumpage and estimates a value of $43.00/CCF. Given that the percentage of volume from pulpwood (56%) is greater than the volume of sawtimber (44%), $43.00/CCF appears to an inflated estimate. Inflated estimates of the benefits of a project deprive the public of a full and fair ability to adequately consider the benefits and drawbacks of a proposed project. This use of inflated estimates is a violation of NEPA.[324]

The District's economic analysis cannot meet the mandate of NEPA that the public be provided with accurate information to allow full consideration of both the benefits and adverse impacts of a proposed project. By not considering reasonably foreseeable limitations in funding for both the proposed action and proposed mitigation and monitoring and by inflating economic benefits of the project, the District has violated NEPA.

15. District's Response to Comments is Inadequate Under NEPA.

NEPA documents serve two purposes: (1) they "ensure[] that the agency, in reaching its decision, will have available, and will carefully consider, detailed information concerning significant environmental impacts" and (2) they "guarantee[] that the relevant information will be made available to the larger audience that may also play a role in both the decisionmaking process and the implementation of that decision."[325] To respond adequately, the agency may "[s]upplement, improve, or modify its analyses" or "[m]ake factual corrections."[326] If the agency finds the comments do not warrant further agency action, the agency must nevertheless "[e]xplain why the comments do not warrant further agency response, citing the sources, authorities, or reasons which support the agency's position and, if appropriate, indicate those circumstances which would trigger agency reappraisal or further response."[327]

The Response to Comments on the Draft EA (Appendix D) only partially addresses significant and complex comments, often responding to only a portion of a lengthy comment with a few insubstantial remarks that obviously sought only to justify the proposal, rather than to consider and respond meaningfully to suggestions. The responses often misread the comment, simply provided no response, or responded only to a small, isolated part of a broader point. Consequently, a valuable opportunity for

[324] Hughes River Watershed Conservancy v. Glickman, 81 F.3d 437, 448 (4th Cir. 1996) (finding use of inflated economic estimate impaired the function of an environmental review by depriving the public of accurate information to enable them to evaluate the proposed project.).
[325] Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 349 (1982).
[326] 40 C.F.R. § 1503.4(a)(3)(4).
[327] 40 C.F.R. § 1503.4(a)(3)(5) (emphasis added).

increased public engagement and understanding was lost. For example, stakeholders expressed numerous, distinctive concerns and asked unique questions regarding issues related to the native diversity, ecology, and fire history of the project area. A generic response to these numerous comments was repeated no less than 19 times, presented seemingly contradictory information, and referenced questionable results of a model with limited applicability.[328]

Most troubling is the fact that there appear to be a number of responses that are simply false. For example, we raised concerns regarding the decision to tier to the Non-Native Invasive Species EA for use of herbicides on native vegetation. The Response to Comments states: "[s]ee EA for addressing site specificity analysis for treatment of native species."[329] This analysis cannot be found in the EA. The Forest Service continues to tier to the NNIS EA for herbicide use on native vegetation. Similarly, we raised concerns regarding the Forest Service's failure to consider illegal ATV use and cumulative impacts on sedimentation. In response, the Forest Service states that "illegal ATV use is considered in the sediment model."[330] This is false. The Final EA merely notes that illegal ATV use is occurring, may lead to increased sedimentation in Clear Creek and Burns Creek, but then fails provide any conclusion or analysis about direct, indirect, or cumulative impacts on sedimentation.[331] An additional concern stems from the recent response to a FOIA request, which indicates that documents referenced in the response to comments do not actually exist.[332]

In addition to these inaccurate and misleading responses, there are numerous superficial and conclusory statements. Throughout the document, the Forest Service repeatedly states "[s]ee EA[,]" "comment noted[,]" or "[a]ddressed in EA" without providing any further explanation, or referencing a specific section of the Final EA where the comment is addressed.[333] Yet more responses appear to be selective, only responding to one, part of a lengthy and complex comment. For example, in our section on old growth we asked whether there is existing old growth within any of the non-commercial timber treatment areas.[334] And if so, whether any old growth would be

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328 "The Nettle Patch project area contains a wide variety of aspects, slopes, elevations, and soils, All of which should result in an equally wide diversity of ecological systems, not all of which are classified as "mixed mesophytic.." Indeed, according to the ecological Zones on the Jefferson National Forest Study Area: 1st Approximation (Simon, 2013) roughly 11% of the Nettle Patch area would be expected to be forested with mixed mesophytic vegetation [ ]. Conversely about 83% of the area should be Oak Forest and woodlands." RTC at 234.

329 RTC at 185.

330 RTC at 206.

331 FEA at 88-89.

332 The documents that were requested, but could not be provided: Hydrology Report, RTC at 152. and final specialist report, RTC at 157.

333 RTC at 136, 141, 144, 163, 189, 202, 210-12, 215-19, 224, 241-42, 247, 253-56, 259.

334 DEA Comments at 65.

impacted in those units.[335] In the same section, we mentioned connectivity of old growth area.[336] The Response to Comments chose only to discuss connecting old growth patches, without addressing the other explicit questions asked in this section.[337]

Other responses merely quote language from the Plan or other binding documents without applying that language in any way to respond to the comment. For example, we commented that the Draft EA did not fully and adequately address monitoring for the Project.[338] Rather than responding to these comments, the Forest Service merely cited "Tiering to Chapter 5, Implementation, Monitoring, and Evaluation, effectiveness monitoring: dealing with whether desired conditions are resulting" without actually applying this to the numerous issues we raised in our comments on monitoring. A single response, citing to a document and not applying the language to the comment, is certainly not an adequate response for three pages worth of comments.

NEPA requires the District to openly acknowledge and respond to differing views in environmental documents, instead of attempting to minimize them and sweep them under the rug. Taken as a whole, the response to Objectors' comments contained in Appendix D fails to adequately address the bulk of issues raised by Objectors (and others). There appears to be a selective approach: answers were provided to those issues to which the District had a ready response, but the rest were largely ignored. The Response to Comments fell short of the mark NEPA and CEQ require in their content by referencing documents and analysis that do not exist, failing to provide responsive answers to substantive questions and concerns, and ignoring new, relevant information provided.

16. An Environmental Impact Statement (EIS) is Required

An EIS is required if this project "may" have a significant effect on the environment.[339] Courts have held that "an EIS must be prepared if substantial questions are raised as to whether a project … may cause significant degradation of some human environmental factor."[340] Objectors "need not show that significant effects will in fact occur, raising substantial questions whether a project may have a significant effect is

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[335] Id.
[336] Id.
[337] RTC at 248.
[338] DEA Comments at 79-81.
[339] 42 U.S.C. § 4332(2)(C) (all agencies shall include environmental impact statement in proposals for "major Federal actions significantly affecting the quality of the human environment"); 40 C.F.R. § 1508.3 ("'Affecting' means will or may have an effect on.").
[340] Idaho Sporting Congress v. Thomas, 137 F.3d 1146, 1151 (9th Cir. 1998), overruled on other ground by Land Council v. McNair, 537 F.3d 981 (9th Cir. 2008).

sufficient."[341] A decision not to prepare an EIS is unreasonable if the agency fails to "supply a convincing statement of reasons why potential effects are insignificant."[342]

The Council of Environmental Quality (CEQ) regulations define "significance" in terms of context and intensity and provide factors to consider in evaluating significance.[343] Weighing the significance of an impact requires evaluation of both context and intensity. All these factors do not have to exist in order for an impact to be significant.[344] According to the CEQ regulations, the analysis of significance requires the consideration of certain factors, many of which this project implicates. The factors are discussed below; see further discussion of some issues above.

(a) Context: The significance of an action "must be analyzed in several contexts such as society as a whole (human, national), the affected region, the affected interests, and the locality. Significance varies with setting of the proposed action. … [I]n the case of a site-specific action, significance would usually depend upon the effects in the locale[.] … Both short- and long-term effects are relevant."

The context for this project is addressed throughout these comments. The Environmental Protection Agency (EPA) has described the Clinch River as the most biologically diverse aquatic system in the Nation.[345] The Clinch River watershed, and High Knob in particular, contain nationally- and globally- significant levels of biodiversity. High Knob's unusually cool and wet climate supports high levels of biodiversity and may allow the area to serve as a future refuge for many species as climate change makes habitats elsewhere inhospitable.[346] This "biological richness combined with its proximity to the City of Norton and the towns of Wise and Coeburn are contributing factors for this Management Area being one of the most popular areas for recreational use on the Clinch District."[347] These rich biological resources are surrounded by intensive coal mining, gas drilling, and industrial logging on private lands in the coalfields region. The local communities consider the national forest to be a "forest oasis" amid this surrounding activity.[348] It is clear that the Clinch watershed and the High Knob Massif, including the project area, have extraordinary, unique, and irreplaceable biological resources and community/cultural value at multiple scales –

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[341] Id. at 1150.
[342] Save the Yaak Committee v. Block, 840 F.2d 714, 717 (9th Cir. 1988).
[343] 40 C.F.R § 1508.27.
[344] See Ocean Advocates v. U.S. Army Corp of Eng'rs, 402 F.3d 846, 865 (9th Cir. 2005) (noting that in some cases, the existence of a single one of these factors may be sufficient to require preparation of an EIS.).
[345] FEA at 8; Plan at 4-29.
[346] Browning Statement at 6.
[347] FEA at 8.
[348] Plan at 4-30.

within the coalfields of western Virginia, the Jefferson National Forest, the Southern Appalachian Mountains, and the United States, and even the globe.

The context becomes even more significant when considering that logging and prescribed burning are proposed in already-impaired priority watersheds, on sites which Objectors allege are not ecologically appropriate for such management, and in contradiction with the Forest Plan for this area.

(b) Intensity: "This refers to the severity of impact." This project implicates the following intensity factors:

a. Impacts, both beneficial and adverse: As discussed previously, the proposed activities are likely to have significant impacts on the forest, soil, and water resources, even if the Forest Service believes that, on the whole, the project will be beneficial.

b. Public health and safety: We are aware that the City of Coeburn has raised concerns about a new study regarding the carcinogenic effect of glyphosate, an herbicide the District proposes to use, and the potential impacts on the City's drinking water supplies.[349]

c. Unique characteristics: See above discussion of context. The Clinch River watershed and High Knob are ecologically critical areas of national and regional importance. The project area is part of a national forest "oasis" that is unique in the coalfields.

d. Controversy: The project is scientifically controversial, in that it seeks to create certain forest types on ecologically inappropriate sites, without sufficient justification or consideration of relevant, responsible opposing data and views submitted by Objectors. The project also is opposed by many local citizens.

e. Uncertainty; Unique or Unknown Risks: The EA candidly admits that "it is not possible to determine if the proposed actions will have an additional significant impact"[350] on already 303(d) designated (impaired) streams in a Priority Watershed. Effects on mesic forests and associated species are unknown and uncertain, as the EA does not acknowledge their presence or consider impacts to them.

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[349] Guyton, Kathryn Z., Dana Loomis, Yann Grosse, Fatiha El Ghissassi, Lamia Benbrahim-Tellaa, Neela Guha, Chiara Scoccianti, Heidi Mattock, Hurt Straif, Carcinogenicity of tetrachlorvinphos, parathion, malathion, diazinon, and glyphosate, The Lancet, Vol. 16, No. 5, at 490-91 (May 2015).

[350] FEA at 128.

Uncertainties and risks involved in timber harvest on steep slopes and erosive soils have not been fully disclosed or considered. Given our knowledge about recent Forest Service budget trends, and whether the agency will continue to further reduce limited capacity, the feasibility of monitoring implementation and mitigating adverse impacts of the project, such as NNIS treatment, are highly uncertain.

f. Precedential value: This project may establish precedent or represent a decision in principle for future actions, including a low regard for Forest Plan direction for the Clinch Management Area and for the extraordinary High Knob area, allowing continued sediment pollution into already impaired waters, conversion of mesic forest types to oak and oak-pine forest that tend dominate drier areas..

g. Cumulative impacts: Adding sediment to streams already overloaded with sedimentation, including streams already impaired due to sediment, may have a significant cumulative impact on water quality and aquatic species habitat. The cumulative impacts associated with this project are discussed further above.

h. Scientific, cultural and historic resources: Many of the unique or ecologically critical resources discussed above also have significant value for science, local culture, or natural heritage, e.g., particularly the project area adjacent to High Knob Recreation Area and the biologically diverse aquatic system.

i. Legality: As explained elsewhere this project, as currently proposed, threatens violation of the governing Forest Plan and Federal law, specifically the National Forest Management Act, the National Environmental Policy Act, and the Clean Water Act, as well as Virginia state water quality standards.

The environmental concerns laid out in detail above – including the ecologically inappropriate management actions and objectives for selected units, the admitted degradation of already impaired streams and of a Priority Watershed, and high degree of uncertainty with respect to feasibility of monitoring and mitigation measure – all underscore the significance of the environmental impacts of the Project. The Final EA leaves substantial questions about these effects unanswered. Given the significant of the project's effects in several respects, an EIS must be prepared for the Nettle Patch Project, as currently proposed.[351]

[351] See Blue Mountain Biodiversity Project v. Blackwood, 161 F.3d 1208, 1213-214, 1216 (9th Cir. 1998) (holding that Forest Service made clear error of judgment in only preparing an EA where

17. <u>Request for Relief</u>

For the foregoing reasons, The Clinch Coalition and the Southern Environmental Law Center ("Objectors") respectfully request:

1. If the Forest Service intends to pursue the action as proposed in the Final Environmental Assessment and Draft Decision Notice and Finding of No Significant Impact, prepare an Environmental Impact Statement; or

2. Through further discussions with Objectors, modify the project, including but not limited to all of the following modifications:

    a. Commit to the following minimum riparian buffers for the entire project area (areas with no timber harvest or other ground-disturbing activities):

        i. 150 feet around perennial streams, lakes, ponds, wetlands, springs, or seeps, regardless of slope class;

        ii. 100 feet around all intermittent streams, regardless of slope class; and

        iii. 50 feet around all ephemeral stream channels, regardless of slope class.

    b. Drop harvest units in the impaired Eastland Creek watershed or sufficiently modify the silvicultural prescription for these units to exclude any ground disturbance that would increase sedimentation into impaired Eastland Creek. These include but may not be limited to the following units:

        i. 2059-24 (16 acres of regeneration harvest)

        ii. 2059-31 (20 acres of regeneration harvest)

        iii. 2059-31 (4 acres of commercial thinning)

        iv. 2059-59 (8 acres of regeneration harvest).

    c. Drop the following harvest units or sufficiently modify the silvicultural prescription for these units to exclude any ground disturbance, to address various concerns with these sites:

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it failed to consider controversy surrounding the project, unknown and uncertain risks of the project, and cumulative impacts.).

i. 2042-12

ii. 2042-16

iii. 2042-15

iv. 2042-23

v. 2042-30.

d. Eliminate or reduce logging and prescribed burns in mesic forest types, particularly in the sites we believe are the most controversial and questionable in this project area. This includes but is not limited to: Compartments 2059, 2042, and 2043.

e. Commit to additional monitoring of the project's effects on forests and water quality. Additional monitoring that Objectors wish to discuss includes but is not necessarily limited to: monitoring forest vegetation structure and composition in the overstory, midstory, and understory after timber harvest, in a representative sample of stands; and monitoring of water quality, e.g., turbidity and/or aquatic habitat. Information regarding all project monitoring would be made available to Objectors upon request.

f. Keep Objectors informed during implementation. Provide relevant documents, such as the following, upon request: all timber harvest plans and maps; all sale inspection and sale administration notes, reports, etc.; and all BMP monitoring and other project monitoring results, reports, etc.

g. Commit to contacting representatives from The Clinch Coalition and the Southern Environmental Law Center to inform them when any Nettle Patch projects are scheduled for implementation and inviting Objectors out in the field to show and discuss sale preparation activities such as unit layout, marking, stream management zones, temporary road, and skid road/ trails, before advertising the sale(s) for bids. These field visit(s) would occur before and will be separate from any "pre-bid" showing or "show me trip" for prospective bidders on the timber sale. The Forest Service would make the invitation(s) as far in advance of the expected sale advertisement date(s) as possible and the field visit(s) will be scheduled for mutually agreeable date(s) and time(s). The Forest Service would also notify contact representatives from The Clinch Coalition and the Southern Environmental Law Center when cutting units are open for harvest, and when logging operations are planned.

h. Commit to additional, proven measures to mitigate erosion and stream sedimentation. This may include but is not limited to: installing equipment to monitor water quality, including sediment; adding limitations on logging and road construction/reconstruction based on season, weather, and/or precipitation.

i. Clearly define the "sustained slopes" referenced in Forest Plan standards related to the use of ground based harvest and advanced harvest methods.

j. Commit to immediately halt project implementation activities and openly re-evaluate the project if effects of logging and other project activities on erosion, sedimentation, and water quality are observed to be worse than the effects predicted in the EA.

k. Commit to assessing the need to treat non-native invasive species within all commercial harvest units and treating areas determined to need treatment.

l. Commit that all patches of existing old growth identified in the project area per Regional Guidance and the GW/JNF forest old growth protocols will not be harvested, including any old growth identified during project implementation.

m. Commit to additional proven measures to prevent illegal ATV and other vehicle use of any temporary roads and skid roads/trails in the project area and continued monitoring to ensure such use in not occurring.

n. Consider the TAP referenced in the Travel/Roads Analysis section of this Objection.

Respectfully submitted,

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Attachments