Chattooga Conservancy • Defenders of Wildlife • Georgia ForestWatch • Sierra Club • Southern Environmental Law Center • The Wilderness Society

Via U.S. Mail and Electronic Mail

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RE: Foothills Landscape Project Draft EA Comments

Dear Ms. Jewett:

Thank you for the opportunity to comment on the Foothills Landscape Project Draft Environmental Assessment ("Draft EA"). Please accept these comments on behalf of the Chattooga Conservancy, Defenders of Wildlife, Georgia ForestWatch, Sierra Club, Southern Environmental Law Center, and The Wilderness Society.

As you know, many of us have participated in the process to develop the Foothills Landscape Project ("Foothills Project" or the "Project") from the very beginning. We have attended nearly every public meeting, field trip, workshop, and symposium. We submitted comments at every formal and informal opportunity and we participated in the agency's online discussion forum. Every time we saw a problem, we named it; every time we could offer support, we did. We have done everything the agency has asked of us even when we questioned the value in it.

We continue to do that in this letter, recommending ways to improve the various proposed treatments even though we are deeply troubled by your approach to implementing those treatments.

The staff of the Chattahoochee-Oconee National Forest ("the Chattahoochee" or "the Forest") has clearly put significant time and energy into this project, which we greatly appreciate. But they are being told to force a square peg through a round hole – and its shows. As a result, these comments are overwhelmingly critical of the analysis in the Draft EA but they are certainly not critical of the staff or the effort they have put forward. We know the agency can complete sufficient analysis; we have seen it do so before. Its flawed pursuit of condition-based management has led it far afield here.

Every major concern raised in this letter has been brought to your attention previously, most of them over two years ago. We paired our concerns with suggested resolutions that would allow the agency to expeditiously pursue its goals, including, in the spirit of partnership, goals we do not share. Regrettably, the Forest Service has wholly disregarded our core suggestions. The Draft EA is rife with errors stemming from the same fundamental problems we have been pointing out to you for years. If this project is delayed because the agency has to take extra time to resolve these problems, it is not because we have not been exceedingly upfront about our concerns.

What should we have done differently to bring these concerns to your attention? We too have invested significant time and energy in this process with the hope that it would succeed. You are of course free to ignore us but do not expect us to stop raising these concerns. We can have different opinions but our concerns are not "nonsense."[1]

With this single project, the agency is proposing in 20% of the acreage of the Chattahoochee National Forest more logging than occurred from 2009-2019 on the Chattahoochee, Cherokee, George Washington-Jefferson, and Pisgah-Nantahala National Forests *combined*.[2] This is on top of 50,000 acres of prescribed burning,[3] up to 74,500 acres of herbicide application,[4] untold "new temporary" road construction,[5] potential undisclosed changes to over 100 miles of trails,[6] over 350 miles of new bulldozed fire lines,[7] and converting wood to chips on potentially 80,000 acres.[8] The list does not stop there. These activities will affect endangered and threatened species,[9] wetlands,[10] cultural resources,[11] a Wild and Scenic River,[12] and Inventoried Roadless Areas.[13] The proposal is "not constrained by a time limit"[14] and the "pace and scale" of work is predicted to remain the same[15] as the agency's present work on the Forest. At that rate, it will take more than 40 years to complete. Yet the agency has not proposed *any*

[1] *See* Attachment 1.

[2] *See* Southern Appalachian Project Analysis, included as Attachment 2.

[3] Draft EA, App'x B.

[4] Vegetation Report, AP7.

[5] Soil Report, 22.

[6] Draft EA, App'x B.

[7] Soil Report, 32.

[8] Aquatic Resource Report, 25.

[9] *See* Terrestrial Wildlife Resources Report, Aquatic Resources Report, Botanical and Rare Communities Report.

[10] Botanical and Rare Communities Report, 12.

[11] *See* Cultural Resources Report.

[12] *See* Draft EA, 70; Draft EA Maps 15-17.

[13] *See* Inventoried Roadless Areas Report.

[14] Scoping Summary Report, 11.

[15] *See* Attachment 1 (Deciding officer: "As far as implementation, the pace and scale will be the same").

specific locations for the work, just general concepts that will be pursued somewhere within a 157,000-acre area.

The agency hosted multiple public meetings to discuss these general concepts, and we appreciate that effort. But we have repeatedly raised concerns about the approach being implemented at these meetings and questioned whether the meetings were moving towards any specific conclusion.[16] The approach taken in the Draft EA – general concepts with no specificity, no timeline, and no NEPA-mandated public participation – is exactly what we spent all of that energy trying to avoid. The agency seems to expect the public to trade away its right to participate in decades of site-specific decision making—a right it is guaranteed under the National Environmental Policy Act ("NEPA")—in exchange for a handful of meetings where concepts behind work already occurring on the forest were discussed.[17] Surely the agency sees that is a terrible trade for the public.

We understand the agency is promising to offer once-a-year meetings with the Districts as they implement this project, as well as the possibility of field trips. But NEPA defines meaningful public participation as requiring the agency to take a hard look at the impacts of its action, disclose its analysis to the public, respond to public concerns, and consider alternative methods of achieving its goals. Many of our concerns would evaporate if the agency would just commit to offer public participation opportunities under NEPA when it proposes site-specific actions in the future. Its refusal to do so forces us to conclude that the agency will not offer that caliber of opportunity. As we explain in these comments, that is illegal. For a steward of public lands, it is also wrong. As the agency's first Chief said, "consult[ing] the public … is what you are hired for."[18]

After two years of little to no public involvement, the agency found it imperative to offer this comment period over holidays at the end of 2019 and beginning of 2020, which it knew was the hardest time of year for the public to devote attention to these issues. Numerous requests[19] from the public to delay the comment period until after the holidays were denied.[20] That does not inspire confidence that the agency is committed to widening public understanding. Nor does the agency's attempt to satisfy NEPA by offering a single opportunity for public participation, now, for a decades-long project with no site-specific proposals. If you are not trying to remove

[16] *See, e.g.*, Patrick Hunter, SELC, phone call with Angie Bell, USFS Foothills Team Leader (Jan. 19, 2017); Letter from Chattooga Conservancy to Chattahoochee National Forest (March 19, 2017); Letter from Georgia ForestWatch et al. to Angie Bell, USFS Foothills Team Leader (June 9, 2017); Patrick Hunter, SELC, phone call with Betty Jewett, Angie Bell, and Nelson Gonzalez-Sullow, USFS (Aug. 15, 2017); Georgia ForestWatch et al. Comments on Draft Restoration Plan (Sept. 28, 2017); Letter from Chattooga Conservancy et al. to Angie Bell, USFS Foothills Team Leader (Oct. 16, 2017); Meeting at the Forest Supervisor's Office to discuss the Foothills Project's approach to NEPA compliance (Nov. 14, 2017); Letter from Georgia ForestWatch et al. to Betty Jewett, Forest Supervisor (Dec. 22, 2017); Letter from Georgia ForestWatch et al. to Stephanie Israel, USFS Foothills Team Leader (Feb. 1, 2019); numerous additional personal communications.

[17] *See* Attachment 1 (Deciding officer: "the work we are proposing is work we have been doing for years").

[18] Gifford Pinchot's 11 Maxims.

[19] *See, e.g.*, Letter from Chattooga Conservancy, et al. to Betty Jewett (Dec. 6, 2019).

[20] *See, e.g.*, Letter from Betty Jewett to Patrick Hunter (Dec. 13, 2019).

the public from the process of making site-specific decisions, why not alter your approach? We have long suggested other ways to increase the pace of work on the forest without cutting the public out.

Our repeated calls for meaningful public participation have not been calls for more meetings. We can meet until we are blue in the face but that is not a replacement for meaningful disclosure of critical information: specifically, *what* the agency is proposing to do*, when*, *how*, and *where*. We do not ask for this information as pointless specificity; these decisions, which the Forest Service wants to defer until a time when the public can no longer participate through NEPA, are consequential. Where, how, and when project activities occur (and how rapidly) matters immensely. The same actions in different locations often cause very different environmental harms in a landscape as complex, both ecologically and culturally, as the Foothills area. In such a complex area, site-specific information is the foundation of any public understanding of the actions envisioned under this project, but the agency has not provided it in the Draft EA or elsewhere. Lengthy analyses are not a substitute for quality analyses.

We remain confused by many decisions the agency has made with this project. Early on we suggested bypassing preparation of the Draft EA and moving straight to an Environmental Impact Statement ("EIS"). That would have saved significant time. The Draft EA only confirms the agency is going to have to take that step now, despite the deciding officer's claim that the public can "see what happens . . . when I issue the [Finding of No Significant Impact]."[21]

We have repeatedly explained ways the agency could use a condition-based approach to accomplish work across a landscape in compliance with NEPA.[22] Those recommendations were ignored and the proposal reflected in the Draft EA does not come close to complying with many basic legal requirements. Again, we do not fault the staff here; they have been given an impossible task. To the extent the agency believes proposed revisions to its NEPA regulations– if approved – may allow it to implement these activities; the agency is taking a risky gamble.[23] Implementing an agency regulation before it is finalized is grounds for vacatur. It also makes a mockery of public comment periods which presumably could lead the agency to change or abandon its proposal. That is obviously not a possibility if the agency begins implementing the regulation *before* it is finalized. Regardless, if the Foothills approach to condition-based management is what the agency envisioned in its proposed NEPA Rule, then for all the reasons explained in this letter, condition-based management does not comply with NEPA or allow compliance with the National Forest Management Act.

As we cautioned at the very beginning of this process, the agency's approach needlessly puts the public in a bind. If the Forest Service moves forward with this proposal, the public will have only one more opportunity guaranteed by law to have a say in the management of this area for potentially the next 40 years: filing an administrative objection. Even if members of the public agreed with every general course of action the Forest Service is proposing, should they

[21] *See* Attachment 1.

[22] *See supra* n. 16.

[23] *See* Attachment 1 (Deciding officer: "We will have to see what happens . . . [with] the NEPA rule change.").

trade away legal protections ensuring their say in the management of these lands for decades? Similarly, the statute of limitations for actions against the government is typically six years. This project would continue far beyond that – in what capacity is unknown, because the Draft EA contains no specific proposals. Should the public litigate now or trade away the option of legal recourse with the hope that decisions made ten, fifteen, or twenty years from now, by an entirely different staff, will be acceptable? That is a hard sell. We have no idea what may change in that timeframe.

Nor do we know what motivations the agency will have over that period. Maybe it will face even more pressure to log; maybe it will not commercially log at all. What is clear is that despite promises of transparency, the agency is not being transparent about all of its motivations *now*, for *this* project. Agency-wide, the Forest Service is under pressure to meet increased timber targets.[24] The Southern Region needs more NEPA-ready timber sales "on the shelf" to meet those targets.[25] And the Chattahoochee-Oconee's Five-Year Timber Plan already incorporates specific sales from this project.[26] We understand that the agency needs to log to meet these targets but the agency needs to be upfront with the public about that reality. It shapes this project by forcing work into commercially viable stands of trees, not just those with ecological needs or that offer the greatest wildlife benefit. When the Forest Service asserts that all of its actions are restoration-focused, yet simultaneously admits it does not know "underlying causes of ecological degradation"[27] and fails to mention timber at all in its Draft EA, we question whether it is being totally forthcoming. To reiterate, we do not fault the agency for pursuing actions to meet assigned timber targets; it just needs to disclose that piece of the puzzle.[28]

Finally, we hope past experience on this Forest underscores why relying on computer analysis with no in-field review is not a substitute for a hard look. In 2011, the agency proposed a project to "thin 6,375 acres of over-stocked pine stands" identified using agency data.[29] Two years later it had to re-scope the project after "on-the-ground examination found that many of the stands" were not over-stocked pines.[30] The final project was only 713 acres. Using the agency's data may be a great first step to identifying possible treatments, but it is not the final step for NEPA compliance.

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[24] *See* Forest Service Washington Office Memorandum, included as Attachment 3, discussing increased timber targets; *see also* Executive Order 13855 (Dec. 21, 2018), calling on the Forest Service to increase timber production to "at least 3.8 billion board feet" in fiscal year 2019.

[25] *See id*.

[26] *See* Attachment 4.

[27] Draft EA, 11.

[28] Even while this comment period was pending the Forest Service issued a press release celebrating that it "sold more timber in this year than we have in any of the past 21 years" and committing to do as much or more for 2020. *See* Forest Service Press Release (Dec. 19, 2019) available at https://www.fs.usda.gov/news/releases/usda-forest-service-surpasses-goals-and-breaks-records-2019. Clearly, timber—one of the "flagship targets"—is an important agency objective.

[29] *See* Attachment 5.

[30] *See* Attachment 6.

The deeply unfortunate part about all of this is that we support many of the priorities the agency is articulating. For example, we agree that some of the landscape would benefit from prescribed fire; that early-successional and other wildlife habitats are lacking; and that old pine plantations need to be restored. We understand the need to accomplish some of this work with commercial timber sales and that Congress has decided our national forests will be managed in part for timber purposes. And we recognize that the landscape would benefit from quick implementation of some of these activities. We have been involved in this project because we see value in those ideas and we have worked with the agency to see them successfully implemented in past projects. But priorities, even when we agree with them, are not projects. How and where the agency pursues these priorities matters. We support those efforts but we cannot support their implementation through the process the agency has chosen here.

Finally, because of the extent of the problems with the proposal and the inadequate time allotted, these comments may not be a model of clarity throughout. If we can answer questions or clarify concerns, please do not hesitate to ask.

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I. The Foothills Project May Significantly Affect the Human Environment, Necessitating Preparation of an Environmental Impact Statement

NEPA requires federal agencies to prepare an EIS for any "major Federal actions significantly affecting the quality of the human environment."[31] "Affecting" includes actions that "will *or may* have an effect."[32] Restated, if a major federal action *may* have a significant effect on the human environment, federal agencies *must* prepare an EIS. A decision not to prepare an EIS is unreasonable "[i]f substantial questions are raised regarding whether the proposed action may have a significant effect upon the human environment."[33] There is no question that the Foothills Project may have a significant effect upon the human environment.

A. The Sheer Scope of Work Proposed Demands an EIS

As part of the Foothills Project the Forest Service is proposing (among other things):

- Over 60,000 acres of commercial timber harvest[34]
- Additional noncommercial timber harvest so that mechanized harvest would occur on up to 80,681 acres[35]
- 50,000 acres of prescribed burning[36]
- 360 miles of new bulldozer lines to facilitate prescribed burning[37]
- Up to 74,500 acres of herbicide application[38]
- Grinding vegetation to wood chips using industrial masticators on up to 83,850 acres[39]
- Building an undisclosed amount of "new temporary" roads[40]
- Rerouting up to 111 miles of trail though specific trails and reroute locations are undisclosed[41]

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[31] 42 U.S.C. § 4332(C).

[32] 40 C.F.R. § 1508.3 (emphasis added); *see Idaho Sporting Congress v. Thomas*, 137 F.3d 1146, 1149 (9th Cir. 1998)), *overruled, in part, on other grounds Lands Council v. McNair*, 537 F.3d 981 (9th Cir. Idaho 2008) (An EIS "*must* be prepared if substantial questions are raised as to whether a project . . . *may* cause significant degradation of some human environmental factor") (internal citation omitted) (emphasis in original).

[33] *Save the Yaak Committee v. Block*, 840 F.2d 714, 717 (9th Cir. 1988) (internal citations omitted).

[34] Draft EA, App'x B.

[35] Aquatic Resource Report, 25.

[36] Draft EA, App'x B.

[37] Soil Report, 32.

[38] Vegetation Report, AP7.

[39] Aquatic Resource Report, 25.

[40] Soil Report, 22.

[41] Draft EA, App'x B.

This will all occur in a 157,625-acre area.[42] Two out of every three acres in the area will see some type of active management likely involving the use of large-scale, mechanical equipment. Some as-yet-undetermined acreage will see repeat entries for multiple activities (e.g., logging, masticating, burning). The agency's highly conservative estimate is that this will result in long-term detrimental impacts to soils across at least 7,432 acres.[43] The activity risks degrading water quality in multiple streams below water quality standards assigned under the Clean Water Act.[44] The project is "not constrained by any time limit"[45] and at the current pace of logging on the forest[46] it will take more than four decades – an entire generation – to accomplish. Forest plans, by law, last for 15 years. In the fifteen years since the Chattahoochee-Oconee National Forest's Land and Resource Management Plan ("Forest Plan") was revised (the plan's entire lawful lifespan), the Forest Service has completed mechanical timber harvest on approximately 15,700 acres.[47] The Foothills Project proposes over quadruple the amount of mechanized harvest that has been completed over the entire life of the Forest Plan and will concentrate that work in approximately 1/5 of the forest acreage. If the Forest Plan required an EIS, *see* 36 C.F.R. § 219.15(a)(2), then certainly a single project four times as big and with work 20 times as densely concentrated as the entire plan does too.

Between 2009-2019, Southern Appalachian national forests in Georgia, Tennessee, North Carolina, and Virginia authorized approximately 37,373 acres of commercial timber harvest *combined*.[48] This has clearly and intentionally had a significant impact on the human environment. A federal action can have a significant impact necessitating preparation of an EIS even if the majority of effects are beneficial. The Foothills Project proposes to authorize more commercial logging than was authorized across six national forests in four states over a period of ten years. To say the scope of the work is unprecedented is an understatement. Undoubtedly, it may have a significant effect on the human environment.

The Forest Service is well aware that this scope of work necessitates preparation of an EIS. Across the country, the Forest Service routinely prepares EISs for projects of this magnitude.[49] The Chattahoochee National Forest does not typically prepare EISs but only

[42] Draft EA, 1.

[43] Soil Report, 55.

[44] *See infra* 206-209.

[45] Scoping Summary Report, 11

[46] *See* Scoping Summary Report, Table 4.

[47] This number was developed using the information in Table 4 of the Scoping Summary Report and extrapolating the pace of work completed between 2004-2016 to include 2016-2018.

[48] *See* Attachment 2.

[49] *See, e.g.*, Bitterroot National Forest, Gold Butterfly Project Final Environmental Impact Statement (October 2019) (contemplating commercial logging on 5,621 acres); Umatilla National Forest, Ragged Ruby Project Final Environmental Impact Statement (September 2019) (contemplating commercial and noncommercial logging on

because this Forest does not typically propose such expansive projects. The fact that the Chattahoochee does not routinely prepare EISs does not excuse it from NEPA's clear requirement to prepare one in this instance. Notably, the Forest's preparation of DN/FONSIs for prior projects establishes only that the Forest has *predicted* that its actions will have no significant impact. It does not have baseline or post-implementation monitoring data that is anywhere close to comprehensive, however, and the Forest has not shown why it can reliably extrapolate from the cherry-picked data it does collect to conclude that prior proposed activities have not caused significant impacts. Moreover, even if it could make that showing, the Forest *cannot* establish that the proposed activities will not have significant impacts in the future. As explained elsewhere in these comments, site-specific public input is the primary reason that previous projects have avoided significant impacts, and such input would be lost under Alternative 2.

The deciding officer for this project recently disclaimed the connection between a project's size and the potential for significant effects.[50] This is the connection: as the size of projects increase, more soils are adversely impacted through use of mechanical equipment, more habitat is changed (purposefully or otherwise) through timber harvest, there is more sediment runoff into streams, invasive species are spread across a greater area, more cultural resources are put at risk, and the likelihood of affecting rare species increases. We can disagree about the *degree* of impact commercial logging has on national forests but it indisputably has *some* impact. Surely it is not the Forest Service's position that commercially logging national forests has *no* impact on the environment. In fact logging activities are specifically intended *to have an impact* albeit one the Forest Service considers largely positive. But projects can cross the significance threshold even if their impacts are largely beneficial.[51] The more logging that occurs (i.e., the larger projects become), the greater impacts – intended or collateral – become. At some point, those impacts cross a significance threshold. This project is well over that line. Finally, with

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9,170 acres); Helena-Lewis and Clark National Forest, Castle Mountains Restoration Project Final Environmental Impact Statement (2019) (contemplating approximately 14,500 acres of commercial and noncommercial logging); Ochoco National Forest, Black Mountain Vegetation Management Project Final Environmental Impact Statement (July 2019) (contemplating commercial and noncommercial logging on 6,585 acres); Caribou-Targhee National Forest, John Wood Forest Management Project (April 2019) (contemplating commercial and noncommercial logging on 797 acres); Nez-Perce Clearwater National Forest, Little Boulder Project Final Environmental Impact Statement (February 2019) (contemplating commercial and noncommercial logging on 1,501 acres); Umatilla National Forest, Sunrise Vegetation and Fuels Management Project Final Environmental Impact Statement (December 2018) (contemplating commercial and noncommercial logging on 7,790 acres); Shawnee National Forest, Cretaceous Hills Ecological Restoration Project Final Environmental Impact Statement (April 2018) (contemplating commercial and noncommercial harvest on 3,200 acres); Rio Grande National Forest, CP District-wide Salvage Project Final Environmental Impact Statement (March 2018) (contemplating salvage logging across 17,000 acres). These EISs are all available here: https://cdxnodengn.epa.gov/cdx-enepa-public/action/eis/search. Please let us know if you would like us to provide an individual copy.

[50] *See* Attachment 1.

[51] 40 C.F.R. § 1508.27(b)(1).

larger projects comes increased possibility that something could go substantially awry leading to significant acute detrimental impacts.

In addition, this massive project contains no limitation on the pace of work. It authorizes the entire bolus of logging in a single decision, leaving it up to the agency's discretion how quickly, and in what areas, logging will occur. Indeed, because of the way "implementation areas" are set up, it is likely that harvest activities will be concentrated in smaller portions of the landscape area at any given time, with a pace and density of work at that scale which is far greater than other project activities in the past. In the past, the Forest has accomplished only 1,286 acres per year of harvest.[52] Even assuming that 1,286 acres of harvest per year has not had a significant impact, and assuming further that increasing the raw acreage of harvest will somehow avoid causing an increased impact, a faster pace of logging makes a significant difference. More logging *annually* will, for example, make a bigger difference in the age structure of the forest, shifting the balance from a forest that is slowly maturing and recovering from historical logging, to a much younger forest overall. While this may bring benefits for some wildlife species and forest communities, it will undoubtedly carry negative effects for others. Making these changes at the landscape level will profoundly alter the forest's age class distribution for over a century.

As discussed more below, significance for NEPA purposes is assessed according to two factors: context and intensity. Size relates to both factors. For instance, if the Forest Service proposed to complete all of the work considered in the Foothills Project during a 10- or 15-year period, it would constitute the most concentrated work effort the forest has seen in decades. Within a 157,000-acre area, more work would occur than has been completed across six Southern Appalachian national forests in four states over a similar time period. The "intensity" of the work would be unmatched on the Chattahoochee. Alternatively, if the Forest Service continued working at its same general pace (which we understand to be the plan), it would take four decades or more to complete the entire suite of work. Put in "context," the Forest Service would be seeking authorization for work that will not be completed for a generation. That is clearly significant. Either way, the potential for significant impacts increases as the size of a project increases.

B. Forest Service Regulations Require an EIS

One of the first steps in determining whether to prepare an EIS is to "[d]etermine under [Forest Service NEPA] regulations . . . whether the proposal is one which . . . [n]ormally requires an environmental impact statement."[53] Forest Service regulations establish that the Foothills Project is one that normally requires an EIS.

[52] Scoping Summary Report, Table 4 (sum of annual harvest activities).
[53] 40 C.F.R. § 1501.4(a).

Under the agency's regulations that are two classes of actions "normally requiring environmental impact statements."[54] The second class includes "[p]roposals that would substantially alter the undeveloped character of an inventoried roadless area or a potential wilderness area. Examples include but are not limited to . . . [c]onstructing roads and harvesting timber in an inventoried roadless area where the proposed road and harvest units impact a substantial part of the inventoried roadless area."[55]

The Foothills Project contemplates performing various management activities in five inventoried roadless areas.[56] Two of the areas are located wholly within the Foothills Project boundary.[57] There are no concrete proposals for what will happen in these areas but the Forest Service appears to be contemplating mechanical timber harvest, road maintenance or reconstruction, and work on trails or recreation facilities.[58] The agency also seeks authorization to conduct untold work to "respond to insect and disease outbreak . . . on a case-by-case basis" in inventoried roadless areas even though it has submitted no evidence that there are insect or disease problems within these areas.[59] Because there is no time limit for this project,[60] the agency is apparently seeking NEPA coverage for these undisclosed amounts of management in inventoried roadless areas that may take place over the next several decades.

Because the Foothills Project does not include any site-specific proposals, we do not know how the agency could conclude that its proposal will "not substantially alter the undeveloped character of an inventoried roadless area."[61] The agency is reserving the ability to do undisclosed work at undisclosed locations within these areas. Without more specifics, the agency cannot know the effect its actions will have on the roadless character of these areas. If all the agency needed to do was promise that its work would not "substantially alter the undeveloped character" of the area, then the requirement at 36 C.F.R. § 220.5(a)(2) to prepare EISs for proposals that may alter the undeveloped character of an inventoried roadless area would be superfluous. The Roadless Rule already largely prohibits the Forest Service from pursuing road building or timber harvesting that would disrupt the undeveloped character of roadless areas. The point of 36 C.F.R. § 220.5(a)(2) is to require the agency to prepare a detailed analysis of whether its actions will violate that requirement *before* it authorizes them. It cannot sidestep the requirement with conclusory statements that nothing it authorizes will risk adversely affecting the roadless character of impacted areas.

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[54] 36 C.F.R. § 220.5.

[55] *Id*. § 220.5(a)(2).

[56] Inventoried Roadless Area Report, 2.

[57] Inventoried Roadless Area Report, 2.

[58] Inventoried Roadless Area Report, 4-6.

[59] Inventoried Roadless Area Report, 6.

[60] Scoping Summary Report, 11.

[61] 36 C.F.R. § 220.5(a)(2).

The agency recognizes that activities similar to those it is proposing – "harvesting activity" and work on "access roads," in particular – can categorically result in a "noticeable intrusion" on the roadless character of these areas.[62] Even without knowing where these activities may occur in the roadless areas, the agency concludes that completing them at all will result in a "downward" trend in the landscape character and integrity of the area.[63]

Maps produced with the Draft EA indicate that substantial portions of the Miller Creek and Boggs Creek inventoried roadless areas may see mechanical timber harvest. For instance, according to the maps, both areas are appropriate for "yellow pine restoration."[64] "Yellow pine restoration" is effectively described as clearcutting, where "the majority of the overstory trees would be removed."[65] The maps also suggest the Forest Service plans "pitch pine maintenance" in these areas.[66] "Pitch pine maintenance" is not specifically described in the Draft EA but it appears to involve mechanically thinning half or more of the trees from a specific area.[67] Substantial woodland treatments are also proposed in the two areas.[68] This management technique involves removing approximately 2/3 to 3/4 of the trees from a specific area.[69] Canopy gaps are also proposed for the two areas.[70] This involves not only creating obvious gaps in the canopy but also mechanically thinning areas surrounding the gaps.[71] Finally, the Forest Service is proposing substantial "oak maintenance or regeneration" in both areas.[72] This management activity not only contemplates substantial mechanical tree harvesting, including near clearcutting to create early-successional habitat, but also mastication and widespread use of herbicide.[73]

All told, the maps attached to the EA – which are the most site-specific information the Forest Service has provided for this project – forecast mechanical harvesting in the *vast majority* of the Boggs Creek and Miller Creek inventoried roadless areas. Under the agency's NEPA regulations, this requires preparation of an EIS.

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[62] Inventoried Roadless Area Report, 3.

[63] Inventoried Roadless Area Report, 8.

[64] *Compare* Draft EA, Map 18 *with* Inventoried Roadless Area Report, Map 1. We note that it is difficult to make this comparison given the maps the agency has provided and lack of any site-specific proposal.

[65] Draft EA, 48.

[66] See *supra* n. 64.

[67] Draft EA, 46.

[68] *Compare* EA, Map 20 *with* Inventoried Roadless Area Report, Map 1.

[69] Draft EA, 52.

[70] *See supra* n. 68.

[71] Draft EA, 52.

[72] *Compare* EA, Map 19 *with* Inventoried Roadless Report, Map 1.

[73] Draft EA, 48-51.

C. The Forest Service Appears to Misunderstand its Obligation to Disclose Significant Impacts

Repeatedly in its analysis, the Forest Service concludes that impacts to the human environment will not be significant because of the existence of a legal prohibition or Forest Plan standard. To the contrary, NEPA exists *because* other laws allow agencies to undertake actions with significant impacts. If significant impacts were prohibited by other environmental laws, there would simply be no need for a law requiring agencies to disclose them.

The agency's assessment of impacts to roadless areas is no exception. The agency dismisses the severity of impacts in these areas pointing to "the limitations set forth in overarching law, policy and regulation"[74] and the existence of "Forest Plan standards."[75] This reveals a fundamental misunderstanding of the agency's obligation under NEPA which undermines the entire Draft EA. NEPA's requirement to assess and disclose environmental impacts, and to prepare an EIS when those impacts may be significant, is a separate, independent requirement from those established under other laws (such as the 2001 Roadless Rule) or agency documents (such as the Forest Plan). In other words, the existence of the Roadless Rule does not mean that impacts in roadless areas cannot rise to a significant level for purposes of NEPA; the Roadless Rule was not promulgated for purposes of NEPA effects analysis.

The Forest Service's regulation requiring preparation of an EIS when "harvesting timber in an inventoried roadless area where the proposed road and harvest units impact a substantial part of the inventoried roadless area" proves the point.[76] This regulation assumes the Forest Service is not trying to violate the 2001 Roadless Rule but recognizes that even if a project complies with the Roadless Rule it can still cause a significant impact necessitating preparation of an EIS.

Throughout the Draft EA, the Forest Service repeatedly concludes that effects will not be significant because of the existence of the Forest Plan. For instance, almost all impacts to soils are dismissed as insignificant so long as at least "85% of an activity area is left in a condition of acceptable potential soil productivity following land management activities."[77] The agency takes that threshold from its Forest Plan: "Per [Forest Plan] standard FW-068, detrimental soil disturbance must not exceed 15% of the activity area."[78] But compliance with the Forest Plan *does not mean that impacts will not rise to a level of significance for purposes of NEPA*. If all the agency had to do to conclude that effects would not be significant is point to the existence of

[74] Inventoried Roadless Area Report, 1.

[75] Inventoried Roadless Area Report, 8.

[76] 36 C.F.R. § 220.5(a)(2).

[77] Soil Report, 2. The Forest Service uses the 85% threshold to find impacts "not significant" in Tables 16, 17, 18, 20, 21, 26, and 28 of the Soil Report.

[78] Hydrology Report, 22.

its Forest Plan, then there would be no need for impacts analysis under NEPA because the mere existence of the Forest Plan would decide the issue.

The agency knows that is not true and routinely assesses environmental impacts under NEPA for site-specific projects despite protective limits in its Forest Plan. The Plan itself defers the significance analysis to projects: "Any decisions on projects to implement the Plan are based on *site-specific* analysis in compliance with the National Environmental Policy Act."[79] "Site specific analysis of proposed management actions will identify any protective measures needed *in addition* to Forest Plan standards."[80] When the Forest Service revised its Forest Plan it reserved for itself significant flexibility to pursue a variety of actions on the landscape, some of which could have a significant effect on the human environment. Those projects must go through their own site-specific NEPA analysis to evaluate effects and the significance of those effects. Now that the agency is preparing those projects, it cannot attempt to point back to its Forest Plan to argue that the significance determination for site-specific projects was made there; it cannot reserve for itself in its Forest Plan the ability to implement projects that may have a significant impact on the environment and simultaneously argue that any action implementing the Forest Plan will not have a significant impact because of the existence of the plan. The existence of Forest Plan standards does not mean impacts from projects implemented under that Plan cannot be significant.

The Foothills Project illustrates why this approach will not work under the current Forest Plan. This Project will result in long-term detrimental impacts to at least 7,432 acres of soil.[81] The Forest Service considers the impact insignificant because the agency has given itself a 157,000-acre project area, asserts that 7,432 acres of impacts to soil across such an expansive area complies with the Forest Plan, and therefore is not significant for NEPA purposes. If instead this impact occurred in a 20,000-acre area it would unquestionably violate the Forest Plan (because detrimental soil disturbance would exceed 15% of the activity area) which would lead the Forest Service to consider it a significant impact for NEPA purposes. But the impact is the same – long-term detrimental impacts to soil across at least 7,432 acres. The significance of that impact is not decided by the Forest Plan. Nor does it turn on how expansively the Forest Service defines its project boundary. If that were the case the Forest Service could always avoid significant impacts simply by drawing larger project boundaries even if it had no intention of completing activities in the vast majority of the project area. The relevant question is whether for NEPA purposes 7,432 acres of long-term detrimental impacts to soils is a significant impact. Unquestionably, it is.

[79] Forest Plan, 2-2 (emphasis added).

[80] FW-029, Forest Plan 2-13.

[81] Soil Report, 55.

This is such a fundamental error pervasive throughout the EA that it bears repeating: the agency cannot point to the existence of its Forest Plan or other legal standards to conclude under NEPA that impacts will not be significant.

D. The Foothills Project Meets the Council on Environmental Quality's Factors Necessitating Preparation of an EIS

As explained above, NEPA requires federal agencies to prepare an EIS for any "major Federal actions significantly affecting the quality of the human environment."[82] "Human environment" is a "comprehensive[]" term that includes "the natural and physical environment and the relationship of people with that environment."[83] Nearly all actions on national forests affect the "human environment" to some degree.

An action is a "federal action" for purposes of NEPA if it is "potentially subject to Federal control and responsibility."[84] All actions on national forests are potentially subject to Federal control and responsibility.

The adjective "major" for purposes of NEPA "does not have a meaning independent of significantly."[85] Significance is determined based on two factors: "context" and "intensity."[86]

To evaluate "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."[87] "Both short- and long-term effects are relevant."[88] "Significance varies with the setting of the proposed action. For instance, in the case of a site-specific action, significance would usually depend upon the effects in the locale rather than in the world as a whole."[89]

The Foothills Project is significant in context. The Forest Service is proposing to log or burn 2/3 of a 157,000-acre area which will be the most significant impact this area has seen potentially since acquisition by the Forest Service. In many ways the Forest Service has promoted the project by highlighting its significance and unprecedented nature. The project is the first of its kind on the Chattahoochee National Forest "developed with collaborative input"

[82] 42 U.S.C. § 4332(C).

[83] 40 C.F.R. § 1508.14.

[84] 40 C.F.R. § 1508.18.

[85] 40 C.F.R. § 1508.18.

[86] 40 C.F.R. § 1508.27.

[87] 40 C.F.R. § 1508.27.

[88] *Id.*

[89] *Id.; see Am. Rivers v. Fed. Energy Regulatory Comm'n,* 895 F.3d 32, 49 (D.C. Cir. 2018) (stating the same).

over the course of a year.[90] The project is the largest that we are aware of in the history of the Chattahoochee National Forest. The project touches every Ranger District on the forest and is spread across eight counties. The project proposes to utilize a new "toolbox approach" during implementation; a significant departure from past practice.[91] The project purposefully impacts nearly every "interest" on the national forest with recreational, logging, road building, wildlife, conservation, and restoration aspects to name a few. The project is the first under a new proposed "Integrated Landscape Restoration Strategy" that will apply forest-wide.[92] And the project identifies forest management activities to be completed over multiple decades. In the context of the Chattahoochee National Forest and the people who use it, it is difficult to imagine a more "significant" action.

"Intensity" "refers to the severity of impact."[93] CEQ provided 10 factors to consider when analyzing the "intensity" of an action.[94] "Implicating any one of the factors may be sufficient to require development of an EIS."[95] The Foothills Project triggers every factor.

The first factor clarifies that agencies must consider both adverse and beneficial impacts.[96] "A significant effect may exist even if the Federal agency believes that on balance the effect will be beneficial."[97] The entire purpose of the Foothills Project, as articulated by the Forest Service, is to have a significant beneficial impact. The project intends to "restore" an entire landscape.[98] It aims to further that objective through burning and mechanical harvesting on over 100,000 acres. There is no reason to pursue such a broad program of work if the Forest Service does not intend it to have significant impacts, whether beneficial or adverse.

The second factor considers the "degree to which the proposed action affects public health or safety."[99] Many of the actions proposed as part of the Foothills Project are intended to affect public safety. There are actions to "improve public and firefighter safety,"[100] "reduc[e] hazards to visitors for safety,"[101] improve roads to reduce public "safety hazards,"[102] and change

[90] Draft EA, 10.

[91] Draft EA, 10.

[92] Draft EA, 10.

[93] 40 C.F.R. § 1508.27(b).

[94] *Id.*

[95] *Nat'l Parks Conservation Ass'n v. Semonite*, 916 F.3d 1075, 1082 (D.C. Cir.), *amended on reh'g in part*, 925 F.3d 500 (D.C. Cir. 2019) (citation omitted).

[96] 40 C.F.R. § 1508.27(b)(1).

[97] *Id*.

[98] Draft EA, 10-12.

[99] 40 C.F.R. § 1508.27(b)(2).

[100] Draft EA, 57.

[101] Draft EA, 59.

recreational settings to "[m]itigate health and safety concerns."[103] In fact, if the Forest Service does not implement Alternative 2, it predicts that "visitor safety . . . [is] likely to decrease over time."[104] In other words, an underlying purpose of the project is to affect public health and safety. The significant amount of burning and logging proposed may affect the safety of visitors to the national forest. Finally, the proposal calls for application of herbicides at levels that exceed hazard quotients in some scenarios.[105]

The third factor to consider is the "[u]nique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas."[106] A stated purpose of the project is specifically "to improve, maintain or restore *unique* habitats."[107] The project plans numerous changes to the Wild and Scenic Chattooga River corridor.[108] It also proposes harvesting existing old growth forest which is extremely rare in the Southern Appalachians.[109] The Forest Service estimates that the project area includes "more than 2,300 acres of wetland habitat including Bogs, Fens, Seeps, and Seasonal Ponds" and proposes specific management activities in those areas.[110] Other parts of the project are intended to "enhance rare communities."[111] Some of these areas are identified as ecologically critical to the recovery of threatened, endangered, and rare species.[112] The agency also estimates that "a total of approximately 1,687 archaeological sites are present with Foothills area."[113] Some of these sites may be destroyed as a result of the project.[114] And as mentioned above, the project plans impacts to several Inventoried Roadless Areas. The proposal will not only have collateral effects on the unique characteristics of the Foothills project area, but some of the proposed actions specifically target those unique areas.

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[102] Draft EA, 67.

[103] Draft EA, App'x E.

[104] Draft EA, 104.

[105] *See* Vegetation Report, App'x B.

[106] 40 C.F.R. § 1508.27(b)(3).

[107] Draft EA, 25 (emphasis added).

[108] Draft EA, 106.

[109] Vegetation Report, 290.

[110] Botanical and Rare Communities Report, 12; *see also* Draft EA, 8 ("Several rare communities such as mountain bogs, wetlands, canebrakes, caves, and rock outcrops are also found within the project area").

[111] Botanical and Rare Communities Report, 2.

[112] Botanical and Rare Communities Report, 13 (discussing recovery potential for swamp pink); 14 (the same for white fringeless orchid).

[113] Cultural Resources Report, 12

[114] Cultural Resources Report, Table 3.

The fourth factor is the "degree to which the effects on the quality of the human environment are likely to be highly controversial."[115] Apparently, the Forest Service designed the project in part to be controversial. The project was designed with "collaborative input" which was solicited in part to "debate the restoration needs on the landscape."[116] If the Forest Service is seeking to instigate debate amongst its stakeholders, it must realize it is proposing a controversial action. The Forest Service is also seeking to utilize the same condition-based approach with Foothills that the agency is attempting to codify in revised NEPA procedures.[117] That proposal was controversial enough to garner over 100,000 public comments.[118] Finally, the effects of logging on climate change are subject to scientific controversy; their effects certainly cannot be limited to the perimeter of the Chattahoochee-Oconee National Forest.[119]

An action can also be "highly controversial where there is a substantial dispute about the size, nature or effect of a federal action."[120] As pointed out elsewhere, there is a dispute about the size and effects of this action because they are unknown. The agency does not know where on the ground it will conduct certain activities and without that information cannot know what the effect of the action will be. The agency acknowledges as much, stating that "site characteristics . . . determin[ing] existing baseline conditions and . . . any underlying causes of ecological degradation" have not been assessed.[121]

The fifth factor is the "degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks."[122] This project easily triggers this factor. The Forest Service does not know where on the landscape it will implement certain actions. If it does not know where on the landscape it will take action, it cannot know what impact its actions will have or how to effectively mitigate impacts associated with that action. *See infra* Section XII(S) (discussion of the inadequacy of proposed mitigation). As an example, building a road on 30% slope with highly erosive soils adjacent to a trout stream has the potential for different impacts than building a road on 5% slope with stable soils nowhere near a stream. Until the Forest Service decides where its proposed actions will take place, the effects of those actions will remain highly uncertain. This is especially true considering the Forest Service is working with

[115] 40 C.F.R. § 1508.27(b)(4).

[116] Scoping Summary Report, 1.

[117] *See* Proposed NEPA Revision, 84 Fed. Reg. 27,544 (June 13, 2019).

[118] *See* Federal Register Docket FS-2019-0010.

[119] Climate Change Report, 3.

[120] *Georgia River Network v. U.S. Army Corps of Engineers*, 334 F. Supp. 2d 1329, 1338 (N.D. Ga. 2003)

[121] Draft EA, 11.

[122] 40 C.F.R. § 1508.27(b)(5).

"imperfect information" including no assessment of "baseline conditions" or an understanding of "underlying causes of ecological degradation."[123]

The Forest Service is also proposing some experimental treatments which by definition have unique or unknown risks. The agency is "working with the University of North Georgia, [Southern Research Station], Georgia Forestry Commission, and other specialists" to develop new "silvicultural treatments [for] the conservation of hemlock."[124] The Forest Service is also proposing to utilize an "expanding-gap silvicultural method" in conjunction with the Southern Research Station.[125] This is also an experimental treatment; the Southern Research Station recently embarked on a "region-wide trial" for the approach.[126] Despite its experimental nature, the Forest Service proposes implementing this management technique across over 14,000 acres.[127] Applying a silvicultural approach that is still going through trials across 14,000 acres involves unique or unknown risks.

The sheer size of this project implicates unique or unknown risks. The agency is contemplating burning or logging approximately 100,000 acres across a 157,000-acre area. We are unaware of any project that has sought to so substantially and comprehensively alter the existing landscape in the Southern Appalachians. The effects of such an expansive approach are unknown.

The Forest Service appears to concede that the effects of its action are uncertain and involve unknown risks. For instance, the agency cannot fully evaluate the effect of the project on soil because (among other reasons) "at the time of this analysis it is difficult to infer which activities may actually overlap in space."[128] In other words, without knowing whether a piece of ground will experience prescribed burning only, or prescribed burning in combination with commercial timber harvest, mastication, and herbicide application, the effects on soils remain relatively unknown. As mentioned above, the agency also admits that it does not currently know "baseline conditions and . . . any underlying causes of ecological degradation" in the project area.[129] How can the agency know the effects and risks associated with its actions if it does not know the condition of the area where the action will occur? Finally, the agency acknowledges

[123] Draft EA, 11.

[124] Draft EA, 54.

[125] Draft EA, 57.

[126] *See* Lhotka, John M.; Saunders, Michael R.; Kabrick, John M.; Dey, Daniel C. 2013. Regenerating oak-dominated forests using irregular, gap-based silvicultural systems. In: Guldin, James M., ed. 2013. Proceedings of the 15th biennial southern silvicultural research conference. e-Gen. Tech. Rep. SRS-GTR-175. Asheville, NC: U.S. Department of Agriculture, Forest Service, Southern Research Station. 507-508.

[127] Draft EA, 50.

[128] Soil Report, 52.

[129] Draft EA, 11.

that additional "management or maintenance treatments" may be necessary depending on the "effects of activities" proposed in the project.[130] In other words, the Forest Service will respond to the effects of its proposed activities once it sees what those effects are – a clear indication that even the agency does not understand the possible effects of its actions.

Finally, the Forest Service recognizes that "[m]any of the Foothills proposed actions could potentially affect existing [non-native invasive species] or introduce [non-native invasive species]."[131] The effects of widespread introduction of non-native invasive species ("NNIS") across a 157,000-acre area are both unknown and controversial.

The sixth factor is the "degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration."[132] This project has precedential value because the Forest Service plans to replicate this style of analysis across seven other landscapes on the Chattahoochee National Forest.[133] The Foothills Project is the first of those proposals to move through the NEPA process and will set a standard for future landscape-scale analyses. The Foothills project also represents a decision in principle about a future consideration. As discussed elsewhere, the Forest Service is proposing to log, burn, and build roads in several areas that currently qualify for inclusion in the agency's next potential wilderness inventory.[134] By conducting intensive management activities in those areas now, the agency is making a decision in principle about how, and potentially if, they will be considered in the future for Wilderness or similar designations.

The seventh factor is "[w]hether the action is related to other actions with individually insignificant but cumulatively significant impacts. Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment."[135] The Foothills Project alone will cause a significant impact necessitating preparation of an EIS but that conclusion is even more inescapable when the effect of the Foothill Project is combined with other projects ongoing in the project area. Table 20 of the Draft EA lists *thousands* of acres of additional logging and burning that either have occurred in the recent past, are currently being implemented, or will be implemented in the future – all within or "touching" the project area.[136] As an example, in the 8,177-acre Sumac Creek watershed, the Forest Service is contemplating 6,654 acres of mechanical treatments as part of the Foothills project.[137] This is in addition to 6,213 acres of

[130] Draft EA, 12.

[131] Non-native Invasive Species Report, 7.

[132] 40 C.F.R. § 1508.27(b)(6).

[133] *See* Chattahoochee-Oconee National Forest Integrated Landscape Restoration Strategy (Oct. 2017).

[134] *See infra* 162-165.

[135] 40 C.F.R. § 1508.27(b)(7).

[136] Draft EA, Table 20.

[137] Hydrology Report, Table 7.

past, present, or reasonably foreseeable actions already occurring or planned for the same watershed.[138] Nearly 13,000 acres of mechanical activity are anticipated for this 8,177-acre watershed. It is beyond reasonable to anticipate a cumulatively significant impact from these actions.

The eighth factor is the "degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources."[139] It is anticipated "that a total of approximately 1,687 archaeological sites are present with Foothills area."[140] The Forest Service estimates that 489 of those sites are either eligible for inclusion in the National Register of Historic Places or require protection until their eligibility can be evaluated.[141] These sites "can be severely impacted by activities that disturb the ground surface."[142] As a result, the agency predicts that "commercial timber harvest, road reconstruction, temporary road construction, plowing, and any other activity utilizing heavy machinery" will cause direct and indirect adverse effects to historical and cultural resources within the Foothills area.[143]

The ninth factor is the "degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973."[144] The project will affect numerous threatened and endangered species and the Forest Service has determined that the project will have an adverse effect on the endangered Indiana bat.[145] As discussed elsewhere,[146] the project also stands to impact designated critical habitat for the Fine-lined pocketbook (threatened), Alabama moccasinshell (threatened), Coosa moccasinshell (endangered), Ovate clubshell (endangered), Southern clubshell (endangered), Triangular kidneyshell (endangered), and Southern pigtoe (endangered); as well as the gray bat (endangered), swamp pink (threatened), white fringeless orchid (threatened), small whorled pogonia (threatened), and smooth coneflower (endangered).

The tenth factor is whether "the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment."[147] As discussed throughout

[138] Hydrology Report, A9.

[139] 40 C.F.R. § 1508.27(b)(8).

[140] Cultural Resources Report, 12.

[141] *Id.*

[142] Cultural Resources Report, 27.

[143] Cultural Resources Report ,27.

[144] 40 C.F.R. § 1508.27(b)(9).

[145] Terrestrial Wildlife Resources Report, 43.

[146] *See infra* 209-210.

[147] 40 C.F.R. § 1508.27(b)(10).

these comments, this project threatens violations of numerous laws imposed for the protection of the environment.

The Foothills Project meets all of the criteria requiring preparation of an EIS.

E. The Requirement to Complete an EIS Has Substantive Implications

In our scoping comments, we raised the necessity of preparing an EIS for this project. The agency dismissed that concern as "a procedural concern which is already decided by law, policy, or regulation."[148] To the contrary, a decision about whether to prepare an EIS is fact-specific, not wholly decided by law. But more to the point, we want to clarify that the distinction between preparing an EA and EIS is not just a procedural distinction but carries with it substantive obligations.

EISs and EAs serve two different purposes. An EIS must "provide full and fair discussion of significant environmental impacts and shall inform decisionmakers and the public of the reasonable alternatives which would avoid or minimize adverse impacts or enhance the quality of the human environment." 40 C.F.R. § 1502.1. An EA is ultimately meant to "provide sufficient evidence and analysis for determining whether to prepare an environmental impact statement."[149]

Because the documents serve two different purposes, different legal requirements attach to each. For instance, courts have found that "whereas with an EIS, an agency is required to rigorously explore and objectively evaluate all reasonable alternatives, with an EA, an agency only is required to include a brief discussion of reasonable alternatives."[150] As another example, Forest Service regulations require longer comment periods for EISs than EAs.[151]

The agency's effort to shoehorn this project into an EA shortcuts these requirements and harms the public by denying it the depth of analysis and opportunity for participation required by the statute for intensive projects like the Foothills Project. The agency must go back and prepare an EIS if it is to move forward with anything resembling the current form of this project.

II. The Proposed "Condition-Based" Decision is Unlawful

As we have explained on a number of occasions, the Foothills Project, even if well intended, is conceptually flawed. The Project attempts to use a novel approach known as "condition-based" decision-making but implement it in a way that does not comply with NEPA.

[148] Scoping Summary Report, 24.

[149] 40 C.F.R. § 1508.9(a).

[150] *N. Idaho Cmty. Action Network v. U.S. Dep't of Transp*., 545 F.3d 1147, 1153 (9th Cir. 2008) (citations and quotations omitted).

[151] *See* 36 C.F.R. § 218.25(a).

We explain throughout these comments why its application in the Foothills leads to violations of other laws, but here we focus on the overall legal shortcomings of this approach.

Using this "condition-based" decision-making approach, rather than identifying particular sites where particular actions will occur, the Forest instead offers a kitchen sink of "conditions"—broad enough to apply to essentially every acre in the analysis area—and a "toolbox" of actions to address those conditions. Critically, the decision whether and how to act in specific locations would be deferred to the future. Any action that the Forest *might* want to take in this landscape in the next several decades would be authorized now, once and for all, by a decision unsupported by analysis of the individual and cumulative effects of those future site-specific choices. The theoretically "bounded" analysis offered now would address impacts only at the most general, abstract level, and would obscure the consequences of future choices. By approving this project, the Forest would write itself a blank check for decades' worth of work.

As the Draft EA explains:

> This 'flexible toolbox approach' allows land managers to choose the appropriate management activity for each specific location from a suite of potential treatment activities, or 'tools,' within the project area. The selected treatment activities have specified limitations, identified in the proposed action and project design features, and are only implemented if deemed appropriate upon evaluation of conditions on the ground. The [Summary of Alternative 2 Actions] represent[s] the maximum amount proposed and analyzed to meet the purpose and need of the project.[152]

The application of discretion at the site-specific level—i.e., gathering information, assessing needs, identifying treatments, and balancing site-level needs against landscape-level considerations—would occur during implementation, after the decision is final under NEPA:

> In this approach to project-level planning, the condition of forest stands, and sites will be assessed prior to implementation to confirm the restoration needs align with the objectives identified and analyzed in this document. Site characteristics would be assessed to determine existing baseline conditions and understand any underlying causes of ecologic degradation. Examples of site characteristics may be stand composition, structure, stand health, age, slope, hydrologic or soil conditions. The existing conditions of a site are also evaluated in the larger context of desired pattern, composition, and structure of the landscape ecosystem.[153]

As proposed, the Foothills Project would undoubtedly authorize much good work: restoration of aquatic connectivity, realignment of roads and trails to make them more sustainable, beneficial ecological restoration on appropriate sites, and integration of silvicultural treatments with

[152] Draft EA, 10.

[153] Draft EA, 11.

prescribed fire. Much of the work that could be done as part of the Foothills Project would have our support.

At the same time, much of the work that could be done under the Foothills Project will cause harm. Every action, even when taken with the best of ecological intentions, will cause ancillary impacts. Habitat created for one species is lost to another, for example. The degree of harm depends on both the location of the action and the spatial and temporal relationship of the action to other similar actions, including the overall pace of those actions at relevant scales. Deciding whether a proposed action's harms are outweighed by its benefits has always required, and still does require, timely, accurate, and *site-specific* information and analysis.

The Forest's decisions whether to act, how much action will generally occur in which management areas, and what broad sideboards will apply to those actions, have already been made in the Forest Plan. The remaining, critical decisions—location and pace—must be made with site-specific information, analysis, and consideration of alternatives. Yet these are precisely the decisions that the Forest is postponing in the Foothills Project. Those decisions would instead be made some time in the future, without any additional analysis or public participation under NEPA. Because such decisions are consequential, and because they are not categorically excluded from NEPA analysis, the Foothills Project cannot now authorize the actions that will flow from those future decisions.

A. <u>The Proposed Condition-Based Approach Will Lead to Worse Outcomes on the Ground</u>

The proposed condition-based decision-making process would eliminate one of the Forest's best sources of information about important ecological and social values—the input of forest users who care about those resources. As explained below in detail, public input has greatly improved site-specific proposals over time, helping the Forest avoid significant harmful effects. Without that input, future proposals would not be similarly improved.

Consequently, even if this project was legally compliant, it would not improve outcomes on the ground. We worry that in the views of some members of the agency, this boils down to "trust." First, we are not sure who we are being asked to trust in this multi-decade project. The Forest Service today? The Forest Service fifteen years from now? The federal government generally? Even accepting the agency's good intentions to conduct ecologically beneficial actions, however, NEPA is still a critical step in applying those intentions to forest communities on the ground. The benefits of an action at any given location must be weighed against its harms to the forest's ecological, social, and economic values, each of which have different relative importance in different locations. Simply put, the Forest's good intentions do not excuse it from making informed, site-specific decisions.[154]

[154] *Oak Ridge Envtl. Peace Alliance (OREPA) v. Perry*, 2019 WL 4655904, *51-52 (E.D. Tenn. Sep. 24, 2019) ("While [the agency's] present intentions … are commendable, [they do] not allow it to avoid conducting a transparent and complete analysis in a timely fashion" that "help[s] the public fully comprehend the difference"

Informed decisions, moreover, require public input. The public provides information about these relative values that the Forest Service would not otherwise have. For example, members of the public often alert the Forest Service to the presence of rare and endangered species. It is difficult to ensure that rare species are actually found during surveys. These sometimes-elusive species can be overlooked simply because the survey does not occur at the right time of year, and different species may require surveys during different seasons. For example, just across the state line in the Nantahala National Forest's Southside project, rare green salamanders were initially missed because they were in an arboreal phase of their life cycle during the survey, and Forest Service staff were looking for them in the rock crevices where they nest at other times of the year. Examples of overlooked rare plants are even more common, and for similar reasons: seasonal morphological changes can make locating and identifying rare plants difficult and time consuming. Members of the public who study these species and value the opportunity to see them in the wild can supplement the Forest Service's own surveys and provide a backstop when occurrences are overlooked. The public also has proven more capable than Forest staff when identifying other rare ecological values, such as forests that qualify as existing old growth under the Region 8 guidelines. And finally, with significant turnover in the agency, the public simply knows these lands better - that is not a criticism of the agency but a testament to the public's interest in these lands.

Just as important, the public provides information about different sites' relative social and economic values. Many (if not most) management actions can be taken in any number of locations, with different effects to the resources that support social and economic uses. Recreation settings, scenic quality, and access are just a few of the resources that can be differently impacted by the same action in different locations. The choice of location therefore requires timely and specific information about what the public values in that location. Further, the choice requires public feedback on a concrete, site-specific proposal. The public cannot possibly be expected to provide feedback on how any possible action in any possible location might affect their values. That only produces academic or ideological debates better suited to forest planning if anywhere. Project design, by contrast, is supposed to be about refining and considering alternatives to specific, concrete proposals in light of a specific need.

Over time, public input has made a profound difference on the ground. Even though the Forest Service nationwide is looking for ways to avoid site-specific public input, such input has been effective in avoiding, minimizing, and mitigating the harmful effects of many agency proposals. If the Forest jettisons NEPA analysis for site-specific proposals, then similar improvements would not happen in the future. This is a tangible environmental consequence of the proposal—perhaps the most important consequence—and it is utterly absent from the Draft EA's analysis.

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between potential alternatives."); *Richardson v. BLM*, 565 F.3d 683, 706 (10th Cir. 2009) (agency's intention "to minimize impacts" in the future did not excuse it from site-specific analysis).

We undertook a comprehensive review of all vegetation management projects completed on the Chattahoochee National Forest from 2009 to 2019. During that time, projects changed substantially from proposal to final decision. Cumulatively, at least 2,467 acres (14% of proposed acres) were either dropped or added to projects during NEPA processes.[155] More acres were dropped than added, with a net decrease of 2,226 acres of total harvest and 1,949 acres of commercial harvest.[156] In addition, in the eight projects completed during the decade, the Forest agreed to mitigate a number of potentially significant impacts: impacts to uninventoried roadless areas (once), to old growth (twice), to rare species (six times) and to water/soil (eight times).[157]

These improvements are consistent with the changes attributable to the NEPA process on other forests across the country. Based on the Forest Service's own random sample of projects, 17% of proposed harvest acres, on average, are dropped from final decisions.[158] Furthermore, 4 out of 5 substantive changes were driven by public comment, as opposed to internal project review.[159] Notably, none of these changes were the result of litigation. Where stands were dropped, it was because the Forest Service agreed that their harms outweighed their benefits, in light of input from the public.

Also notably, the improvement to these projects by reducing treatments is not fully measured by acreage numbers. This not a commentary on the concept of logging; less logging is not defined as being "better." Acreage reduction is just the best data we have. These changes represent improvements to projects because they addressed issues that were unknown when the agency initially scoped its proposal.

Clearly, line officers have benefitted from public input on the Chattahoochee and throughout the National Forest System. We are aware that the Forest believes that it can work at a "larger scale" without public involvement because the Forest routinely prepares DN/FONSIs for its smaller scale projects. However, without the improvements prompted by public input, the Forest's projects would have included many more serious impacts to old growth, unroaded areas,

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[155] *See* Attachment 2. The actual total is likely higher, because this figure accounts only for the *net* changes in each project and does not count acres of stands that were dropped but replaced by other stands within the same project. It also does not account for changes made between the 2011 and 2013 version of the Forest Health Stewardship Project. Public involvement through NEPA was critical in uncovering that vegetation types in 5,662 acers proposed for treatment were wrongly identified in the agency's stand data. This saved the District the significant financial expense of preparing a timber sale it would not have been able to implement because the trees it was targeting were not there. Finally, in preparing this letter we noticed a mathematical error in the acreage number for the Chattahoochee. The Table shows a net decrease in harvest of 1,985 acres but summing the figures in the column produces a total of 2,226 acres; similarly the Table shows a decrease of 1,312 acres of commercial harvest but summing the decreases equates to 1,949 acres.

[156] *Id*.

[157] *Id*.

[158] *Id*.

[159] *Id*. Of the 68 sampled projects, 54 changed substantively between proposal and decision; 43 projects changed due to public input, while only 11 changed due solely to internal review.

rare habitats, and soil and water. Over time, repeated impacts to these values raises, at the very least, the *potential* for significant impacts.[160]

No amount of "trust building" can eliminate the need for, or the utility of, this input. There is no distrust of the Forest Service because people think it is *trying* to adversely impact unique values and needs to be checked. Nor can the improvements attributable to site-specific NEPA be replaced by informal, unstructured public input. Although the Forest has made vague promises of future input, it has committed only to an annual notification of the upcoming year's work plan.[161] And the fact that there is no plan for how this would occur suggests it is not a Forest Service priority – it is another in the long litany of aspects of this project that will be figured out sometime later. Regardless, notice is meaningless unless it is disseminated in a predictable way that is calculated to reach all interested persons. Even when appropriately disseminated, notice without an opportunity to comment is meaningless. Likewise, an opportunity to comment and offer alternatives is meaningless without a concomitant obligation by the agency to take a "hard look" at those comments and make an informed choice between the alternatives. And the obligation to take a hard look is meaningless without an explanation of how the agency resolved competing considerations.

These, of course, are the simple and fundamental requirements of NEPA. If the Forest intends to provide *meaningful* public participation on site-specific proposals, then it will have to meet or exceed these minimum requirements of NEPA, which are the irreducible essentials of public involvement. In that case, the Forest would gain nothing by declining to comply with NEPA's formalities. If on the other hand the Forest does *not* intend to provide meaningful public participation, then it cannot assume that its own internal processes will be adequate to prevent significant impacts in the future.[162]

Unfortunately, the Forest has indicated that it will bypass formal public participation so that line officers can move forward with stands that, if the public were involved during NEPA, might have been dropped, modified, or would have at least required further consideration and analysis. The deciding officer asserts that "public engagement will be strong post decision," but simultaneously observes that Alternative 2 will allow the Forest to overcome its "biggest challenge"—namely, "groups [who] believe the only way to influence us is during the NEPA process and court."[163] Those groups' involvement in project development sometimes involves asking the agency to drop or trade stands with sensitive ecological or social values like old growth, rare species habitat, or presence of an undeveloped area with backcountry character. Stated differently, therefore, the Forest hopes to avoid attrition during the preparation of future

[160] *See* 40 C.F.R. §§ 1502.3; 1508.3.

[161] Draft EA, AP50.

[162] *See United Keetowah Band v. FCC*, No. 19-1129, slip op. at 26 (2019) ("The lack of significant impact should be a testament to the value of the review process in these instances, not negate its necessity.").

[163] *See* Attachment 1.

timber sales; if the public lacks the right to object, then even the riskiest and most controversial stands can move forward unimpeded.

Again, the Forest not committed to *any* public engagement except annual updates on the Districts' work plans, unaccompanied by any right to comment or object as would be available in the NEPA process.[164] A single field trip is "expected" in each district, where the District Ranger believes "public input would be valuable."[165] It is troubling that the Forest believes "strong" public engagement can exist without meaningful rights of public participation: to understand the proposal's intent and effects, to offer concerns and alternatives, to have those concerns met with answers, and, if needed, to object and even challenge the decision in court. . If the agency has no obligation to respond to public concerns and explain its choices, then it can simply ignore input with which it disagrees. That is not public participation.

To be clear, public participation does not turn on the number of meetings the agency holds. The agency could have *no* meetings but provide quality information on the issues that matter, and respond to issues raised, and still have meaningful public participation. The agency could have endless meetings but never discuss the substantive issues (like locations of treatments) and have ineffective public participation (which is what we fear has happened here). In our experience, face-time with the agency is not, standing alone, what most of the public wants; the public wants to be involved in the decision-making whether that happens through meetings, letters, tweets, or any other avenue.

The Forest Service would apparently prefer to remove their ability to make the public's preferences (or at least the entirety of the public, not just select portions) known. The agency appears to believe that if it has the *discretion* under the Forest Plan to implement the treatments it will propose in the future, then it should be able to do so with no further input, analysis, or consideration of alternatives. To the contrary, NEPA applies to those future decisions *because* the Forest Service will be exercising its discretion. The Forest Service is obligated to "study, develop, and describe appropriate alternatives" to any proposal, whether significant or not, if it is applying discretion in the use of agency resources.[166] It is troubling that the Forest does not appreciate this basic premise. Interested members of the public "ha[ve] expertise" and "should be at the table in discussing and planning [forest management] projects."[167] This includes the ability to present location alternatives for management activities that could meet the agency's stated goals.[168]

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[164] Draft EAAP, 50.

[165] *Id.*

[166] 42 U.S.C. § 4223(2)(E).

[167] *Klamath Siskiyou Wildlands Ctr. v. BLM*, No. 1:17-cv-997, Dkt. 57, slip op. at 14 (D. Or. Feb. 20, 2019) (R&R adopted Dkt. 67).

[168] *Id.* at 14-15.

In short, the NEPA process—informed public input and reciprocal agency obligations to consider that input and explain decisions—leads to beneficial changes on the ground. To be sure, NEPA does not prohibit unwise action; it instead prohibits uninformed action.[169] Yet compliance with the NEPA process does in fact lead to better outcomes—wiser actions—just as Congress intended.[170] NEPA works by exposing unwise actions, forcing agencies to change course or face public accountability.[171]

In addition, bad ideas are more difficult to move through the NEPA process than good ones, and that is by design. NEPA creates friction around agency proposals when their impacts are uncertain, unnecessary, or unresolved. First, if a project's risks are uncertain, then they are more likely to be significant.[172] To avoid preparing an EIS, agencies must conduct additional analysis to show that the risk is nonsignificant. For example, if logging is proposed on soils and slopes that caused substantial impairment of soil productivity in a recent logging project, the agency's analysis would need to distinguish the new proposal and show how similar impacts will be avoided in the future. Second, if a project's impacts are unnecessary, either because they could be avoided by adopting an alternative or otherwise be mitigated, then the analysis must develop, describe, and study the alternative(s).[173] For example, if the Forest Service proposes to create needed young forest habitat by logging existing old growth, yet could accomplish the same purpose by restoring a degraded pine plantation, then the analysis must disclose and compare the relevant, site-specific effects of the choice. Finally, if a project proposal implicates landscape-level issues that have not been resolved at a prior, programmatic level of decision-making (usually the forest plan), then the agency must analyze the relationship of the specific proposal to the landscape-level issue.[174] For example, if a programmatic analysis defers a decision whether to develop a particular area with roads and timber harvest, then a site-specific proposal to take such an action could not "tier" to the prior decision, but would instead be required to analyze the effects to roadless characteristics and eligibility for future designation.[175]

The process envisioned by the Forest Service for this project would undermine NEPA's role in "foster[ing] excellent action."[176] It would break the feedback loop that otherwise would

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[169] *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 351 (1989).

[170] *See*, *e.g.*, *United Keetowah Band*, *supra*.

[171] *Richardson v. BLM*, 565 F.3d 683, 703 (10th Cir. 2009) (explaining that NEPA's guarantee of public involvement ensures that impacts are disclosed so that the "political process [can] check [agency] decisions").

[172] 40 C.F.R. § 1508.27(b)(4), (5).

[173] 42 U.S.C. § 4332(2)(E).

[174] Memorandum from Michael Boots, CEQ, to Heads of Federal Departments and Agencies, "Effective Use of Programmatic NEPA Reviews" at 15 (Dec. 18, 2014) (explaining that issues deferred from the programmatic to the site-specific level must be evaluated at the time the agency proposes to make an irreversible and irretrievable commitment in the use of resources).

[175] *E.g.*, *Lands Council v. Martin*, 529 F.3d 1219 (9th Circ. 2008).

[176] *See* 40 C.F.R. § 1500.1.

alert the Forest Service that its proposals are unnecessarily risky or harmful. It would also remove transparency and accountability in decision-making, increasing the likelihood that unwise proposals move forward unchecked. In the longer term, it would destroy any trust that the Forest Service has earned, as stakeholders begin to see more harmful on-the-ground impacts, particularly through a process that shuts the public out.

The Draft EA does not acknowledge the impacts that will result from the elimination of public input. Some of these impacts are qualitative, such as the loss of trust over time, but many are quantifiable. Indeed, we have quantified them in the analysis summarized above. Over a decade of projects, the Forest dropped 2,226 acres of total harvest out of 17,669 proposed and 1,949 acres of commercial harvest out of 15,549 proposed.[177] In other words, the Forest dropped 12.5% of all harvest acres and also 12.5% of commercial harvest acres. The Forest also changed its projects to mitigate 31 potentially significant impacts (from roadless area impacts to rare species to soil and water), avoiding a potentially significant impact for approximately every 500 acres commercially harvested. Had these impacts not been avoided or mitigated, they would have been significant. Their significance is all the more obvious when considered at the scale of work anticipated by the Foothills Project. According to Appendix B, the Foothills Project would authorize up to 60,000+ acres of commercial harvest. Based on prior performance, therefore, site-specific public input would result in dropping or substituting over 7,500 of those acres, along with other project changes that would mitigate up to 120 potentially significant impacts.

The Forest cannot plausibly argue that impacts of this type and at this scale are not significant. Accordingly, as explained more fully elsewhere in these comments, this project cannot proceed without an EIS. If the Forest continues by preparing an EA, however, the EA must at least attempt to characterize and quantify the project improvements that would not occur under Alternative 2, as opposed to continuing to do the same type of work with site-specific NEPA processes.

B. <u>The Foothills Project is a Premature and Unlawful Attempt to Implement Proposed Agency-wide NEPA Regulations</u>

We understand that the Forest is developing this project in anticipation of new agency-wide NEPA regulations. As proposed, those new regulations purport to authorize the use of condition-based decision-making:

> *Condition-based management*. A system of management practices based on implementation of specific design elements from a broader proposed action, where the design elements vary according to a range of on-the-ground conditions in order to meet intended outcomes. Condition-based management stems from the recognition that the environment is dynamic, changing as ecosystems respond to changing natural and human caused events.

[177] *See* Attachment 2.

…

> The proposed action and any alternatives may include condition-based management. A condition-based management alternative must clearly identify the management actions that will be undertaken, and any design elements that will be implemented, when a certain set or range of conditions are present. The NEPA analysis must disclose the effects of all condition-based actions, taking into account design elements that limit such actions. Such proposal or alternative must also describe the process by which conditions will be validated prior to implementation.[178]

To begin with, the reasons for condition-based management in the Foothills Project do not fall within the scope of the reasons for the proposed authority.[179] The Forest has not made any case that a flexible approach is needed to respond to changing conditions during the implementation phase, nor is the proposal tailored to respond to the kinds of conditions that the agency reasonably foresees may change in the short term. Instead, the Forest is attempting to create a long-term procedural shortcut to overcome its lack of capacity.

Even if the Foothills Project were within the scope of the proposed authority, the Forest should not make decisions now in reliance on a regulation that is not likely to be finalized or survive legal challenge. The proposed authorities are as yet speculative. The process for revising NEPA regulations is governed by the Administrative Procedure Act ("APA"). According to that statute, agencies are required to follow formal requirements when they engage in substantive rule makings.[180] In addition to providing notice of the rule making,[181] the agency must "give interested persons an opportunity to participate in the rule making through submission of written data, views, or arguments with or without opportunity for oral presentation."[182] The agency must then consider public comments and respond to it by "incorporat[ing] in the rules adopted a concise general statement of their basis and purpose."[183] The agency must then publish the final rule, which cannot become effective until at least 30 days following publication.[184]

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[178] 84 Fed. Reg. 27544, 27552-53 (proposed 36 C.F.R. §§ 220.3; 220.4(k)).

[179] *See id*. at 27550 (condition-based approach "provides flexibility to account for changing conditions on the ground over time").

[180] *See* 5 U.S.C. § 553. There is also no question that the proposed rule is a substantive rule, not an interpretative rule. *See id*. § 553. The rule is intended explicitly "to increase the pace and scale of forest and grassland management operations on the ground." *See* 84 Fed. Reg. at 27,550. And the agency clearly intends the rule to have the force and effect of law and be accorded weight in adjudicatory processes. *See Perez v. Mortg. Bankers Ass'n*, 575 U.S. 92, 97 (2015) (stating interpretive rules do not have the force and effect of law and are accorded no weight in adjudicatory processes).

[181] *Id.* § 553(b).

[182] *Id.* § 553(c).

[183] *Id.*

[184] *Id.* § 553(d).

A fundamental tenet of this process is that an agency may not propose a rule and then begin implementing that rule before it finishes the rule-making process.[185] The condition-based approach is novel; it is not an authority that the Forest Service currently has. If the agency felt it had sufficient authority to pursue this practice, there would be no need for a formal rule making. While a few projects are being developed using this approach now, their lawfulness is in serious doubt. Other agencies' attempts to conduct analogous processes have been struck down.[186]

Jumping the gun by implementing a proposed rule would not only be unwise; it would also make a mockery of the APA's formal requirements for the rule-making process. Numerous commenters wrote the agency during the comment period on the proposed revisions explaining why the agency's attempt to codify condition-based management for site-specific decisions violated NEPA's statutory requirements. Similarly, many commenters also explained why the proposed categorical exclusions are unlawful. Those commenters and others are dutifully awaiting the agency's response to their concerns. Presumably, the agency is still contemplating the public's concerns. In response, the agency may choose to abandon the condition-based approach or modify it to comply with NEPA, such as limiting its application only to programmatic (not site-specific) analyses or requiring that specific sites be identified for prescriptive but adaptive treatments.

Nevertheless, while the public waits for a response to its comments, the Forest Service is moving full steam ahead with applying this proposed management practice here. The Foothills Project "is a condition-based restoration project where specific geographic locations (i.e., stands, in the case of vegetation management) for proposed activities, with a few noted exceptions, are not specified."[187] As explained in the "Frequently Asked Questions" brochure distributed by the Forest Service at recent public meetings: "For the first time in Georgia . . . [a] project uses condition-based planning."

To put a point on this, the Forest Service is going through formal rule-making procedures under the APA to create new authority for "condition-based management." Many members of the public have asked that the Forest Service abandon or amend that approach in formal comments. The agency has not responded to those comments, nor finalized its proposed rule, and is yet already implementing the very practice it is attempting to codify. It is beyond the pale that an agency would propose a new rule, seek public feedback, and then simply start implementing that rule before responding to public concerns and concluding the rule making.

As we wrote to the Secretary regarding the rule making, the Forest Service will not conclude the NEPA rulemaking successfully. The proposed rule is deeply and fatally flawed in its current form. The final rule will likely differ from the proposal and, if it does not, it will be

[185] *See*, *e.g.*, *Paulsen v. Daniels*, 413 F.3d 999, 1005 (9th Cir. 2005) ("It is antithetical to the structure and purpose of the APA for an agency to implement a rule first, and then seek comment later").

[186] *E.g.*, *OREPA*, 2019 WL 4655904.

[187] Vegetation Report, 10.

invalidated by the courts. The Forest should not overextend its legitimate authority in reliance on regulations that are themselves unlawful.

Additionally, this Forest's actions in this project threaten the rulemaking process. The Foothills example makes it impossible for the Forest Service to claim that it will use the authority in a judicious or limited manner. If this is what the agency means by condition-based decision-making, then the entire concept risks being invalidated. There are lawful ways to use condition-based frameworks within the bounds of NEPA, explained further below, but this project's approach is far beyond the agency's lawful authority. In addition, the agency's actions with respect to the Foothills Project strongly suggest that the agency intends to charge ahead with its proposed rule regardless of public feedback, showing that the agency has already made its decision before complying with the APA's required procedures. This is an independent basis for invalidating the rule.

C. The Proposed Condition-Based Approach Violates NFMA's Plan-to-Project Decisionmaking Structure

Under NFMA, each national forest unit must develop a forest plan.[188] The plan provides broad guidance for the unit, including "forest management systems, harvesting levels, and procedures."[189] Projects must be "consistent" with the forest plan.[190]

Since at least the 1980s, forest plans have uniformly been conceived of as programmatic documents, and analyses of those plans have accordingly committed to further analysis and public participation for site-specific decisions. The Forest Service Chief explained that forest plans are programmatic documents in 1988, in "landmark" appeal decisions for the Idaho Panhandle and Flathead National Forest plans.[191] As programmatic documents, forest plans are not self-implementing. Implementation—defined as "the activity to accomplish the management direction of a forest plan"—occurs at the site-specific level.[192]

Under the 1982 planning rule, which provides the context for interpreting the Chattahoochee National Forest's Forest Plan, implementation begins with identification of a proposed action—a specific action in a specific location that could help to achieve the plan's goals and objectives.[193] The proposed action is then subject to "analysis and evaluation … to make site-specific decisions" based on "site-specific data."[194] The analysis is conducted by an interdisciplinary team, and it is used to determine whether the proposed action would be

[188] 16 U.S.C. § 1604(a).

[189] *Id.* § 1604(e)(2).

[190] *Id.* § 1604(i).

[191] *See* 58 Fed. Reg. 19,369, 19,370 (1993).

[192] 53 Fed. Reg. 28,807, 26,836 (1988).

[193] *Id.*

[194] *Id.*

consistent with the plan, among other things.[195] While this analysis dovetails with NEPA's review and public participation process, it is separately required under NFMA to support the agency's substantive responsibilities, including consideration of other multiple use goals, potential harms, stand-level effects to residual trees, effects to site productivity and soil and water resources, and the site-dependent costs of transportation and sale administration.[196]

The courts have uniformly agreed with the Forest Service's longstanding interpretation of forest plans as requiring site-specific implementation. As the Supreme Court has summarized:

> Although the Plan sets logging goals, selects the areas of the forest that are suited to timber production, and determines which "probable methods of timber harvest" are appropriate, it does not itself authorize the cutting of any trees. Before the Forest Service can permit the logging, it must: (a) propose a specific area in which logging will take place and the harvesting methods to be used; (b) ensure that the project is consistent with the plan; (c) provide those affected by proposed logging notice and an opportunity to be heard; (d) conduct an environmental analysis pursuant to [NEPA] to evaluate the effects of the specific project and to contemplate alternatives; and (e) subsequently make a final decision to permit logging.[197]

Consistent with these legal requirements, which have prevailed throughout the time period when current plans were adopted, forest plans across the country have been built around this two-stage decisionmaking process, expressly deferring site-specific analysis to the project level. In 2006, the Forest Service analyzed a random sample of 20 forest plans to determine whether they followed the two-stage approach.[198] Every single one of the 20 plans adopted the programmatic framework and committed to future site-specific analysis for the purposes of complying with NEPA and/or NFMA. The Chattahoochee's Forest Plan is typical of plans nationwide. As the Plan EIS explains:

> "*Land management activities on national forest lands are conducted only after appropriate site-specific NEPA analysis has been conducted.* This provides opportunities to identify and minimize direct, indirect, and cumulative

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[195] *Id.*

[196] *Id.*; 36 C.F.R. § 219.27(b) (1982).

[197] *Ohio Forestry Ass'n v. Sierra Club*, 523 U.S. 726, 729-30 (1998) (internal citations omitted); *see also Idaho Cons. League v. Mumma*, 962 F.2d 1508, 1511-12 (9th Cir. 1992) (describing the "two-stage approach" and further affirming that site-specific assessment is needed for both NFMA and NEPA compliance at the project level.); *Citizens for Better Forestry v. USDA*, 481 F. Supp. 2d 1059, 1064 (N.D. Cal. 2007) ("NFMA envisions a two-stage approach . . . . [I]mplementation of the LRMP occurs at a second stage, when individual site-specific projects are proposed and assessed.").

[198] "The Evolution of National Forest System Land Management Planning and Results of the Review of Revised Land and Resource Management Plan Environmental Impact Statements" (May 2006). All of the sampled plans are still in effect with the exception of the Francis Marion National Forest's plan, which was again revised in 2017.

environmental effects that cannot be specifically determined or analyzed at the large scale of this FEIS."[199]

As CEQ has explained, programmatic analyses should be explicit about what decision is being made at the broad scale, and what decision space is deferred to a future project: "If subsequent actions remain to be analyzed and decided upon, that would be explained in the programmatic document and left to a subsequent tiered NEPA review."[200] Because site-specific impacts cannot be assessed at the programmatic level, as the Chattahoochee's Forest Plan explains (like all other forest plans explain), those impacts must be evaluated "when the agency proposes to make an irreversible and irretrievable commitment of the availability of resources which usually occurs following a tiered site- or project-specific NEPA review."[201]

Consistent with this guidance, forest plans and their associated NEPA documents also contain specific descriptions of issues that are deferred to the site-specific level, with commitments to conduct further analysis of those issues, consider alternatives, and provide additional opportunities for public input. The Chattahoochee Forest Plan's EIS specifically defers, for example:

- Location/site of harvest;[202]
- Harvest method;[203]
- Site-specific transportation decisions (e.g., construction of new roads or related facilities);[204]
- Site-specific soil protection measures;[205] and
- Survey and identification of old growth reserves.[206]

In sum, the Chattahoochee Forest Plan is programmatic in nature, meaning that it does not resolve conflicts about site-specific actions and impacts. The Plan EIS therefore contains explicit commitments to conduct future analysis with public involvement. These commitments are important safeguards for forest resources, which vary in importance from location to location. Future site-specific analysis and public participation is not offered gratuitously, nor is it simply a matter of NEPA compliance; it is understood to be critical to meeting the requirements

[199] Chattahoochee-Oconee National Forest Plan ROD FEIS, 3-78 (2004) (emphasis added) ("FEIS").

[200] Memorandum from Michael Boots, CEQ, to Heads of Federal Departments and Agencies, "Effective Use of Programmatic NEPA Reviews" at 15 (Dec. 18, 2014) incorporated as Attachment 7.

[201] *Id.* at 27.

[202] FEIS, App'x G at 7-40.

[203] FEIS, 3-545.

[204] FEIS, App'x G, G-108.

[205] FEIS, 3-27.

[206] FEIS, App'x G at 7-81 (2004).

of NFMA and other environmental laws. These commitments to process are just as integral to ensuring project-level decisions are consistent with the forest plan as any other standards or guidelines.

The Foothills Project would disregard the plan-level commitment to conduct future site-specific NEPA processes. Any project that purports to shortcut site-specific project development cannot tier to the Plan EIS. The Foothills analysis, therefore, is incomplete because it does attempt to tier to the Plan EIS. The Foothills Draft EA also reproduces portions of the Plan EIS.. If the analysis was not specific enough to support site-specific action in 2004, it remains inadequate for that purpose now.

Essentially, the Forest is attempting to make its plan self-executing. If Alternative 2 is chosen, the Forest would not make any further decision under NEPA before conducting work on the ground. But the decisions proposed in this project, along with the supporting analysis, are effectively programmatic decisions, not site-level project decisions. Setting condition-based objectives is a legitimate and helpful step in identifying needed actions. For example, the Cherokee National Forest's Forest Plan Goal 17 and its nested objectives are condition-based, covering many of the same ecological priorities that the Foothills Project proposes to address. But they are *plan*-level goals, which still require site-specific implementation. The Foothills Project's goals are no different.

D. The Foothills Project Approach is Inconsistent With the Balancing Act Required by NFMA.

NFMA's multiple-use mandate requires the Forest Service to optimize the uses of national forest lands—to make the "most judicious use of the land," with discernment of the "relative values of the various resources" in particular areas.[207] In this balance, "each of these resources is by statute to be given equal consideration with the others."[208] But Congress did not tell the agency where and how to meet this mandate, nor could it. The relative values of the uses, both "tangible and intangible,"[209] will "vary locality by locality and case by case ... because of particular circumstances."[210] Accordingly, the Forest Service enjoys considerable discretion at the site-specific level,[211] subject to compliance with NFMA and other laws like the Endangered Species Act and Clean Water Act.

The agency's unambiguous duty to maximize benefits (and as a corollary, to minimize harm to competing uses) can be reconciled with its broad discretion only because of the advent

[207] 16 U.S.C. §§ 529, 531.

[208] Senate Agriculture and Forestry Committee Report Accompanying S.3044 (May 23, 1960).

[209] Senate Agriculture and Forestry Committee Report Accompanying S.3044 (May 23, 1960).

[210] House Agriculture Committee Report Accompanying H.R. 10572 (April 25, 1960); Senate Agriculture and Forestry Committee Report Accompanying S.3044 (May 23, 1960).

[211] See *e.g.*, *Perkins v. Bergland*, 608 F.2d 803 (9th Cir. 1979).

of strong procedural requirements. First and foremost among them is openness to and consideration of alternatives. If the Forest Service has the discretion to choose where it will pursue a given use, but different locations for the activity would lead to different levels of harm for other, co-equal uses, then the decisionmaker needs to know what the options are.[212] Closely related, the decisionmaker needs to be able to compare the impacts of those options.[213] Third, because the statute is concerned with "relative values" that cannot be measured in objective terms,[214] the Forest Service must consult the public to understand their subjective preferences. And, finally, because these values vary by area,[215] the need for public involvement is ongoing, decision by decision and at each relevant scale, including the site-specific.

As the Forest Service itself has observed, "Congress sought to create mechanisms for conflict resolution, thereby obviating the need for direct congressional intervention to resolve disputes. To some degree, Congress seems to have favored a complex public process over other, more efficient management models."[216] Those more efficient models, of course, would include, on the one hand, prescriptive Congressional instructions such as a hierarchy of uses or, on the other hand, unbounded Forest Service discretion. Congress affirmatively rejected these alternative approaches.[217]

The Forest Service cannot meet its obligations to balance the need for a particular action against the relative values present in different locations unless it gathers public input and considers alternatives at the site-specific level. Accordingly, the Foothills Project not only misses the mark under NEPA, but also falls short of NFMA's requirements.

E. The Agency's Use of the Condition-Based Framework Violates NEPA's Requirement for Site-specific Analysis to Support Site-specific Decisions

If it proceeds, the Foothills Project would give the agency discretion to exercise discretion to make consequential decisions that are not categorically excluded from NEPA, without vetting those decisions in the NEPA process. This is a plain violation of the law.

1. The Foothills Project's Process Purports to Allow the Forest Service to Make Consequential Decisions Without a NEPA Decisionmaking Process

[212] *E.g.*, *Meister v. USDA*, 623 F.3d 363 (6th Cir. 2010) (explaining that the duty to consider alternatives flows from the discretion to choose between them).

[213] *Sierra Club v. Butz*, No. 71-2514 (9th Cir. 1973) (requiring that the Forest Service establish knowledge of ecological consequences and consideration of alternatives that would have met timber goals with greater protection to other values); *Klamath Siskiyou Wildlands Ctr. v. BLM*, No. 1:17-cv-997, Dkt. 57 (D. Or. Feb. 20, 2019) (R&R adopted Dkt. 67) (same).

[214] 16 U.S.C. § 529

[215] *Id.*

[216] USDA Forest Service, *The Process Predicament: How Statutory, Regulatory, and Administrative Factors Affect National Forest Management* (June 2002).

[217] *See id*. at n.10 (quoting Hummel and Fleet for the proposition that broad Forest Service discretion was problematic because it "did not provide a way to surface differences, much less work through them.").

The Foothills Draft EA describes a laundry list of "conditions" that may be treated using any of the prescriptions in the agency's "toolbox."[218] The Draft EA also identifies a broad landscape where work may occur under the project if any of these conditions are found.[219] The Forest has provided maps showing where it believes the conditions are most likely to occur, but Alternative 2 would not limit the agency to the maps, which are based on models.

The "conditions" themselves are incredibly broad. The Project's implementation process for vegetation management consists of four broad flowcharts: Immature Pine, Mature Pine, Mesic Condition, and Non-Mesic Condition.[220] This is already an extreme oversimplification of the best available science. Simon's model includes about 20 ecozones in the project area. Each of these ecozones has a different characteristic species composition and disturbance regime. Designing treatments for ecological restoration is much more complicated than the flowcharts would suggest. The four tautological categories used for this project, by definition, include every single forested acre on the Chattahoochee. All pine-dominated forests are either mature or immature. All hardwood-dominated forests are either mesic or non-mesic. Further, the categories are broad enough that many stands could be shunted into multiple categories, depending on the judgment of the prescriptionist, such as dry pine-oak stands.

Once a particular flowchart is chosen for a particular stand, the decision of whether to treat it and which treatment to apply is subject to considerable discretion. The flowcharts do suggest that treatment is "required" in some cases, but the implementation plan overall is not prescriptive. According to the senior staff, the "[d]ecision matrices … would be used to *validate* that the actions taken are most appropriate, according to best available science, to achieve the desired conditions of each stand or site."[221] Even if the flowcharts were intended to be binding, they cannot be applied rigidly, because ecological restoration cannot be automated; it requires the use of professional judgment at every step when answering the flowchart's questions.[222] Are "woodland indicators" present in sufficient quantity? Is oak regeneration being inhibited, and to what degree? Are oaks being suppressed, and to what degree? Are there grouse habitat indicators, such as grouse in the "vicinity"? How structurally diverse is the stand? Why are yellow pine species absent from the understory? Which sites are likely to be "most successful" as woodlands?

In addition, the prescriptionist must consider not only current conditions, but must also determine the reference condition. As the Forest acknowledges, restoration assists the recovery of a damaged or degraded ecosystem.[223] To the extent that the flowcharts suggest that current

[218] Draft EA, App'x B.

[219] Draft EA, App'x A, AP6-AP18.

[220] Draft EA, App'x E.

[221] *See* Attachment 1.

[222] *See* Draft EA, 45 et seq., App'x E.

[223] Forest Service Manual 2020 ("FSM").

conditions (e.g., stem counts, basal area, etc.) can objectively generate a restoration prescription, they are inconsistent with agency guidance that requires an understanding of the reference condition, which will often be no more than an educated guess. For example, the applicable flowcharts are based on an assumption that immature forests are "most likely" the result of past even-aged logging. However, immature forests can also result from other disturbance events, including wildfire, storms, or pests. As another example, the Districts must also take reference condition into account in order to avoid inadvertently xerifying sites. Species characteristic of woodlands also occur in non-woodland sites, and rote application of the flowchart could lead to significant impacts and forest-type changes that would violate NFMA.

More importantly, however, the flowcharts ignore the primary way that the Forest Service exercises discretion in developing its proposals: the choice of which stands will be evaluated by the prescriptionist in the first place. The Forest Service no longer has the capacity, if it ever did, to maintain a continuously updated inventory of forest conditions. In other words, when developing a site-specific proposal, the Forest is not looking at each and every stand in the analysis area and deciding which stands make the most sense for which treatments in light of Forest Plan goals and objectives. Instead, a prescriptionist will visit a small subset of all the stands in a project area. Under the Alternative 2 framework, even if the flowcharts could be applied objectively, site-specific proposals would vary locally depending on which stands the prescriptionist visited before "maxing out" the allowable levels of ESH for the relevant prescription/management areas. And the decision about which stands to visit would also be determined, in part, by the commercial value of the stand and its potential to satisfy timber targets.

This overall problem is especially obvious when considering the Forest Service's approach to creating young forest habitat. The Draft EA indicates that the Forest will attempt to meet ESH objectives first by looking for restoration opportunities.[224] But the proposal does not otherwise limit the Forest's ability to create ESH in mature, characteristic forest with no identified restoration need, up to the maximum levels contemplated by the project and allowed by the Forest Plan. Even if the Forest intends to create ESH as a byproduct of other restoration activities, it will not have the information to know whether such opportunities exist in stands that staff do not visit.

As a result, the consequences of the Forest's program of work under Alternative 2 could vary significantly based on the invisible but consequential decision of which stands to visit during project development. Visiting different stands or more stands could generate a set of treatments that would meet the same goals as well or better, with less harm to other values. The public has the right, under NEPA, to present such alternatives.[225]

[224] Draft EA, App'x B (stating ESH will be created "where restoration needs overlap").

[225] 42 U.S.C. § 4332(2)(E); *Klamath Siskiyou Wildlands Ctr.*, No. 1:17-cv-997, Dkt. 57, slip op. at 14-15 (D. Or. Feb. 20, 2019) (R&R adopted Dkt. 67).

In addition to location, the Forest's choices with respect to the pace of work would also be consequential. Under the current approach, if the Forest Service accelerated or decelerated the pace of work, the public would be able to provide feedback iteratively. For example, if an increase in the pace of harvest began to adversely affect scenic resources that are important to local tourism economies, the public could raise the concern when additional work was proposed in the same area. Under Alternative 2, however, the pace of work would be chosen without public input. The Draft EA analyzes maximum levels of logging and purportedly authorizes the agency to harvest "up to" that maximum acreage, with no limits on the timeframe for the project.

As acknowledged by the Forest, these consequential choices of location and pace would be made outside of the NEPA process, during implementation:

> The implementation of management activities proposed in Alternative 2 would be … prioritized and sequenced using a systematic process (implementation plan) that evaluates restoration needs, determines appropriate treatments to address those needs (through use of decision matrices) and balances implementation of those activities across the three ranger districts with operational feasibility, agency capacity, and social considerations, to the extent possible.[226]

In summary, under Alternative 2 the Forest would exercise tremendous discretion outside of the NEPA process, including whether and how to treat stands based on other considerations besides those provided in the flowcharts. Again, as the Draft EA explains, the Forest would "determine[] appropriate treatments to address [restoration] needs … and balance[] implementation of those activities across the three ranger districts with operational feasibility, agency capacity, and social considerations, to the extent possible."[227] In other words, the flowchart is not intended to be fully prescriptive; the Forest intends to exercise discretion for a broad set of reasons, which could include ease of access and commercial viability, as well as any number of "social considerations." Although not mentioned by the Draft EA, we also hope that the Forest would take other ecological considerations into account. There is more to a Southern Appalachian forest than pine and oaks. As written, the decision would seem to compel the Forest to log less common but characteristic hardwood species in the name of oak restoration, which cumulatively would diminish the species diversity on the landscape. We hope that is not the Forest's intent, but it is yet another example of why the full palette of ecological and social considerations that influence project proposals cannot be built into a flowchart. Other examples include the relative importance of areas as habitat for disturbance-sensitive species or the cumulative effects of temporary roads on the dispersal of terrestrial and aquatic species. The reality is that managing a forest for multiple uses is complicated and requires discretion. But with broad discretion comes the potential for harmful impacts, and with the possibility of

[226] Draft EA, 46.

[227] Draft EA, 46.

harmful impacts comes the responsibility to conduct an open, transparent NEPA process to look for alternative ways of avoiding or minimizing them.

Fundamentally, the Southern Appalachians are uniquely complex, crowded both ecologically and recreationally, with the potential for very different consequences depending on where timber harvest is located and the pace at which it occurs. As a result, it is a uniquely poor choice for condition-based decisionmaking.

2. This Project's Future Site-specific Choices Will Be Agency Decisions for Purposes of NEPA

The Forest Service's decisionmaking process is a funnel: At the top, the broadest level, is the multiple-use mandate. At the spout is concrete, on-the-ground action. In between are several opportunities to narrow the decision space: the planning rule, forest plans, other programmatic decisions, and finally site-specific projects. Each narrowing of the decision space—each exercise of discretion—requires a NEPA process appropriate to the scale of the decision and the significance of its potential impacts. The lower the decision begins in the funnel, the smaller the volume of analysis.

Here, the Foothills proposal simply does not get to the funnel's "spout." Future decisions are necessary to determine which actions (and therefore which environmental consequences) will occur on the ground.

A "proposal" exists when the agency "has a goal" that requires the application of discretion, and is "actively preparing to make a decision" on how to exercise that discretion.[228] "A proposal may exist in fact as well as by agency declaration that one exists."[229] Here, the Forest Service does not acknowledge that its future site-specific choices are "proposals," but the site-specific level is, "in fact," the stage at which the Forest will be "actively preparing to make a decision."

Unless "a valid agency decision already exists … to authorize an action in a specific area, such as livestock grazing or a special use," then a new decision is necessary.[230] The new decision can be "tiered" to a broad programmatic decision, if one exists, but a new decision process is nonetheless required for the narrower, tiered decision.[231] As a feature of programmatic analysis, the concept of condition-based decisionmaking would offer considerable efficiencies and could be implemented without shortchanging public participation. All that would be required is that the Forest Service conduct a narrow EA to involve the public in the development of successive site-specific proposals. As conceived by the Forest, however, the Foothills Project would be used in *contrast* to programmatic analysis, as a once-and-for-all

[228] 40 C.F.R. § 1508.23; FSH 1909. 15 § 05.

[229] *Id.*

[230] Forest Service Handbook 1909.15 § 11.23 ("FSH").

[231] *See* FSH 1909.15 §§ 11.4; 11.41.

decision that skips over the need for subsequent, site-specific analysis, public involvement, and decision. These proposals would therefore endorse and codify a controversial approach that violates NEPA for failing to take the required hard look at site-specific impacts.

Proposed agency actions must be published on the SOPA, scoped, and then proceed to decision through the EIS, EAs or CE process, as appropriate.[232] EAs must be prepared for any action that is not eligible for a categorical exclusion but for which the need for an EIS has not been determined.[233] For an EA, the Forest must include a discussion of the proposal's need, effects, and alternatives as required by 42 U.S.C. § 4332(2)(E).[234] The Forest's future decisions about site-specific actions on the Foothills Landscape would not meet any of these requirements.

3. Location Matters

Site-specific action requires a site-specific decision, and site-specific decisions require site-specific analysis. Disclosure and analysis of "general type of impact" or a "category" of impacts anticipated is not enough:

> NEPA does not permit an agency to remain oblivious to differing environmental impacts, or hide these from the public, simply because it understands the general type of impact likely to occur. Such a state of affairs would be anathema to NEPA's 'twin aims' of informed agency decisionmaking and public access to information.[235]

Agency decisions are arbitrary and capricious if "if the agency (1) 'entirely failed to consider an important aspect of the problem,' (2) 'offered an explanation for its decision that runs counter to the evidence before the agency, or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise,' (3) 'failed to base its decision on consideration of the relevant factors,' or (4) made a 'clear error of judgment.'"[236] Failure to weigh different impacts of choices between alternative locations for treatment constitutes a failure to consider an important aspect of the problem the agency is proposing to solve.

As noted by the *Richardson* court, NEPA has two "twin aims": "(1) to ensure that the agency will have *detailed information* on significant environmental impacts when it makes decisions; and (2) to guarantee that this information will be available to a larger audience." [237]

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[232] FSH 1909.15 §§ 06; 11; 11.6.

[233] *Id.* § 41.

[234] FSH 1909.15, Ch. 40.

[235] *Richardson*, 565 F.3d at 707. *See also Balt. Gas & Electric Co. v. Natural Res. Def. Council, Inc.*, 462 U.S. 87, 100 (1983) ("Congress did not enact NEPA, of course, so that an agency would contemplate the environmental [effects] of an action as an abstract exercise."); *'Ilio'ulaokalani Coalition v. Rumsfeld*, 464 F.3d 1083, 1095-97 (9th Cir. 2006).

[236] *Richardson*, 565 F.3d at 704.

[237] *Envtl. Prot. Info. Ctr. v. Blackwell*, 389 F. Supp. 2d 1174, 1184 (N.D. Cal. 2004) (emphasis added) (*quoting Neighbors of Cuddy Mt. v. Alexander*, 303 F.3d 1059, 1063 (9th Cir. 2002)); *see also Earth Island v. United States*

Accordingly, NEPA's review obligations are more stringent and detailed at the project level, or "implementation stage," given the nature of "individual site specific projects."[238] Courts hold that agencies must take a hard look at site-specific impacts in EAs as well as EISs.[239] "[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."[240]

Analyzing and disclosing site-specific impacts is critical because where (and when and how and how close in geographic and temporal proximity) activities occur on a landscape strongly determines the nature of the impact. The actual "location of development greatly influences the likelihood and extent" of impacts.[241] For example, "[d]isturbances on the same total surface area may produce wildly different impacts on plants and wildlife depending on the amount of contiguous habitat between them."[242] As an extreme example, "building a dirt road along the edge of an ecosystem" and "building a four-lane highway straight down the middle" may have similar types of impacts, but the extent of those impacts – in particular on habitat disturbance – is different.[243] Indeed, "location, not merely total surface disturbance, affects habitat fragmentation," and therefore location data is critical to the site-specific analysis NEPA requires.[244] Merely disclosing the existence of particular geographic or biological features is

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Forest Serv., 351 F.3d 1291, 1300 (9th Cir. 2003) ("NEPA requires that a federal agency 'consider every significant aspect of the environmental impact of a proposed action ... [and] inform the public that it has indeed considered environmental concerns in its decision-making process.'") *quoting Kern v. U.S. Bureau of Land Mgmt.*, 284 F.3d 1062, 1066 (9th Cir. 2002); *Stein v. Barton*, 740 F. Supp. 743, 749 (D. Ak. 1990) (NEPA requires site-specificity to ensure that agencies are making informed decisions prior to acting and that the public is given a meaningful opportunity to participate in those decision-making processes); *City of Tenakee Springs v. Block*, 778 F.2d at 1407 (reasoning that an EIS must give decisionmakers sufficient data).

[238] *Ecology Ctr., Inc. v. United States Forest Serv.*, 192 F.3d 922, 923 n.2 (9th Cir. 1999); *see also Friends of Yosemite Valley v. Norton*, 348 F.3d 789, 800-01 (9th Cir. 2003); *Richardson v. BLM*, 565 F.3d 683, 718-19 (10th Cir. 2009) (requiring site-specific NEPA analysis when agency did not propose to undertake a future NEPA process).

[239] *Colo. Envtl. Coal. v. Ofc. of Legacy Mgmt.*, 819 F. Supp. 2d 1193, 1209-12 (D. Colo. 2011) (requiring site-specific NEPA analysis in an environmental assessment even when future NEPA would occur because "environmental impacts were reasonably foreseeable"); *Western Watersheds Project v. Abbey*, 719 F.3d 1035, 1953-54 (9th Cir. 2013) (concluding agency failure to address site-specific alternative in an environmental assessment violated NEPA); *Fund For Animals v. Mainella*, 283 F. Supp. 2d 418, 433-34 (D. Mass. 2003) (ordering agency to prepare an environmental assessment to evaluate site-specific impacts where programmatic EIS failed to address those impacts and deferred such analysis to a later review). *Klamath Siskiyou Wildlands Ctr.*, No. 1:17-cv-997, Dkt. 57, slip op. at 14-15 (D. Or. Feb. 20, 2019) (R&R adopted Dkt. 67).

[240] *Or. Natural Res. Council Fund v. Brong*, 492 F.3d 1120, 1134 (9th Cir. 2007) (citation omitted); *see also Or. Natural Res. Council Fund v. Goodman*, 505 F.3d 884, 892 (9th Cir. 2007) (holding the Forest Service's failure to discuss the importance of maintaining a biological corridor violated NEPA, explaining that "[m]erely disclosing the existence of a biological corridor is inadequate" and that the agency must "meaningfully substantiate [its] finding").

[241] *Richardson*, 565 F.3d at 706.

[242] *Id.*

[243] *Id*. at 707.

inadequate—agencies must discuss their importance and substantiate their findings as to the impacts.[245]

Site-specific considerations requiring NEPA analysis and public input include habitat impacts (connectivity, permeability, and fragmentation at scales relevant to both broad-ranging and dispersal-limited species); rare habitats and species occurrences; geology, soil, aspect, elevation, and slope position, and how each affects the site's reference condition; disturbance history; current stand conditions and suitability for maintenance and restoration of old-growth conditions; potential for needed follow-up treatments; risk of NNIS; sensitivity of receiving waters; archeological resources; access considerations; scenic integrity; and recreation settings. Because site-specific information is essential for a meaningful analysis of impacts and alternatives, a condition-based approach that does not provide such information at the landscape analysis phase or, later, in tiered projects, would violate NEPA.

4. Timing Matters

Timing is everything for NEPA analysis. An agency cannot initiate NEPA too late:

> The thrust of § 102(2)(C) is thus that environmental concerns be integrated into the very process of agency decision-making. The "detailed statement" it requires is the outward sign that environmental values and consequences have been considered during the planning stage of agency actions. If environmental concerns are not interwoven into the fabric of agency planning, the "action-forcing" characteristics of § 102(2)(C) would be lost. "In the past, environmental factors have frequently been ignored and omitted from consideration in the early stages of planning .... As a result, unless the results of planning are radically revised at the policy level—and this often means the Congress—environmental enhancement opportunities may be foregone and unnecessary degradation incurred."[246]

Nor can an agency initiate a final NEPA decision too early: "[A] site-specific project demands site-specific analysis. Agencies cannot rely on a general discussion" in a prior analysis "to satisfy its NEPA obligations for a site-specific action."[247] In other words, site-specific impacts must be

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[244] *Id*. *See also WildEarth Guardians*, 790 F.3d at 921-25 (holding EIS inadequate for failure to disclose location of moose range); *see also Or. Nat. Desert Ass'n v. Rose*, 921 F.3d 1185, 1189, 1190-91 (9th Cir. 2019) (holding environmental analysis violated NEPA by failing to establish "the physical condition" of roads and trails and authorizing activity without assessing the actual baseline conditions).

[245] *Or. Nat. Res. Council Fund v. Goodman*, 505 F.3d 884, 892 (9th Cir. 2007) (holding EIS inadequate for failure to evaluate in detail impacts of ski area expansion to acknowledged biological corridor); *Klamath-Siskiyou Wildlands Ctr. v. BLM*, 387 F.3d 989, 995 (9th Cir. 2004) (holding numeration of logging acres and road miles insufficient to describe actual environmental effects).

[246] *Andrus v. Sierra Club*, 442 U.S. 347, 350-1 (1979) (*quoting* S. Rep. No. 91–296, 20 (1969)); *see also Weinberger v. Catholic Action of Haw./ Peace Educ. Project*, 454 U.S. 139, 143 (1981).

[247] *Protect Our Communities Found. V. LaCounte*, 939 F.3d 1029, 1039 (9th Cir. 2019).

evaluated "once the 'critical decision has been made to act on site development" unless those site-specific impacts have already been considered in a programmatic analysis.[248]

CEQ's regulations appropriately require agencies to "commence preparation of an environmental impact statement as close as possible to the time the agency is developing or is presented with a proposal … so that it can serve practically as an important contribution to the decisionmaking process and will not be used to rationalize or justify decisions already made."[249] The same rationale applies with equal force to decisions analyzed using Environmental Assessments.

As courts have noted, "[t]here is no magic" as to when site-specific decisions must be made—whether at a "programmatic" stage or, later, in a project-level decision.[250] The right time, as the Forest Service's own handbook notes, is up to the agency, because it depends simply on when the agency is proposing to make a decision, and the scope of that decision. Broad, general analysis for broad, programmatic decisions, and site-specific analysis for site-specific decisions.[251]

As noted above, site-specific impacts cannot be assessed at the programmatic level, and such impacts must therefore be evaluated "when the agency proposes to make an irreversible and irretrievable commitment of the availability of resources which usually occurs following a tiered site- or project-specific NEPA review."[252] "Irreversible" means an activity that forecloses future options for a long period of time.[253] Irretrievable is a term that includes "harvest … of natural resources."[254] Accordingly, as the agency has acknowledged, timber harvest is an irreversible and irretrievable commitment of resources.[255] And, as the courts have explained, the location of timber harvest matters. Thus, a final project decision cannot be made until the Forest Service has a site-specific proposal on the table, with accompanying site-specific analysis.

That is not the case with the Foothills Project. With no site-specific proposal on the table for vegetation management, a final decision is premature.

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[248] *Id*.

[249] 40 C.F.R. § 1502.5.

[250] *Ilioulaokalani Coalition*, 464 F.3d at 1102.

[251] *California v. Block*, 690 F.2d 753, 761 (9th Cir. 1982) (explaining that "site-specific impacts should be evaluated in detail" not in the programmatic analysis, but rather when the agency proposes to "act on site development").

[252] Memorandum from Michael Boots, CEQ, to Heads of Federal Departments and Agencies, "Effective Use of Programmatic NEPA Reviews" at 27 (Dec. 18, 2014) included as Attachment 7.

[253] FSH 1909.15 § 05.

[254] *Id.*

[255] *E.g.*, Prince of Wales Landscape Analysis Project FEIS at 83 (Oct. 2018) available at available at https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fseprd601039.pdf.

"The [Forest Service] can't have it both ways."[256] Either it must explain the impacts and decision to work at particular sites (as opposed to reasonable location alternatives) in the programmatic EA, or it must leave itself the space to make those site-specific decisions in future NEPA processes.[257] It cannot, however, begin work on any part of the project without first finishing its analysis with respect to the stands where it intends to begin working. This requires not only completing the site-specific investigations, but also remaining open to reasonable location alternatives.

The Foothills Project's timing problems are worse than any of the decisions cited above, because we understand the Forest has already identified some stands where it intends to act under this decision. Districts have already spent time in the field and prescribed stands for treatment, which the Forest believes will be covered by this project "when" (not "if") the decision is finalized.[258] Withholding this information from the public is unfortunate; it is also unlawful.[259]

The Forest here takes the position that "strong" public input will occur post-decision. NEPA, however, does not permit the agency to delay gathering data about site-specific impacts until after the environmental review is complete. Ascertaining baseline information during implementation is inconsistent with NEPA's purposes because it prevents the agency from "carefully consider[ing] information about significant environmental impacts" and deprives the public of "their opportunity to play a role in the decision-making process."[260] Indeed, proposing "to increase the risk of harm to the environment and then perform [] studies … has the process exactly backwards."[261]

5. The Foothills Project's Process Does Not Fit the Mold of Other, Lawful "Condition-based" Projects

"Condition-based" decisions are a new trend in Forest Service management. The approach appears to have originated with the Four Forests Restoration Initiative ("4FRI").[262] In that project, the Forest Service identified treatments in specific stands in a single ecosystem

[256] *Ilio'ulaokalani Coalition*, 464 F.3d at 1097.

[257] *Id.*

[258] *See* Attachment 1 (comments of deciding officer, indicating intention to finalize the DN/FONSI regardless of any concerns that might be presented during the comment period).

[259] *Colo. Envtl. Coal. v. Ofc. of Legacy Mgmt*., 819 F. Supp. 2d 1193, 1209-12 (D. Colo. 2011) (requiring site-specific NEPA analysis in an environmental assessment even when future NEPA would occur because "environmental impacts were reasonably foreseeable").

[260] *N. Plains Res. Council, Inc. v. Surface Transp. Bd.*, 668 F.3d 1067, 1085 (9th Cir. 2011).

[261] *Nat'l Parks & Conservation Ass'n v. Babbitt*, 241 F.3d 722, 733 (9th Cir. 2001), *abrogated on other grounds by Monsanto Co. v. Geertson Seed Farms*, 561 U.S. 139 (2010). *See also Western Watersheds Project v. Abbey*, 719 F.3d 1035, 1953-54 (9th Cir. 2013) (where agency failed to disclose site-specific impacts and alternatives in a programmatic EIS, it must do so in a site-specific EA).

[262] *See* Forest Service 4FRI webpage at https://www.fs.usda.gov/detail/4fri/planning/?cid=stelprdb5361003 .

(ponderosa pine) on a vast landscape, which they expected would take at least 10 years to complete. The proposal and analysis was based on a host of specific treatments in specific stands, which were mapped and provided to the public for comment. Although the treatments were site-specific, they were proposed and analyzed without full information about what conditions were actually present on the ground in those stands, because the Forest Service lacked the resources to actually visit and survey all the stands in such a large project. Consequently, the agency developed an "implementation checklist" to guide the application of the treatments on the ground.[263] The implementation plan was very detailed and prescriptive. For example, it identified objective criteria (species, basal area, tree size) for identifying potential habitat for rare wildlife, and it provided strict sideboards for treating such stands, if at all. For areas outside rare wildlife habitat, the implementation plan provided a flowchart for applying the prescription that was decided and disclosed through the NEPA process. Significantly, the flowchart did not leave room for line officer discretion in locating or designing specific treatments that were previously assigned to individual stands through NEPA. Sideboards were also strict: for example, old trees (>150 years) were to be retained with just a few, narrowly circumscribed exceptions.

The combination of site-specific prescription and "implementation checklist" allowed the agency to decide first and gather additional site information later. This approach has proven an attractive to the agency to solve a persistent problem, to wit: the Forest Service is facing pressure to increase the pace and scale of vegetative management, but it lacks the resources to gather information about site-specific impacts at a large scale. If the agency can make a decision without putting "boots on the ground" first, it believes it can get more done.

Notably, 4FRI was not a pure "condition-based" decision as the term has subsequently been used. It was a landscape-scale, site-specific decision. But the "treatments" were specific and prescribed adjustments based on conditions that might be found at particular sites during implementation. We are not suggesting that the agency should pursue this approach or that it was a good idea at 4FRI, but to the extent that agency views it as a model, there are critical differences. The less diverse ecosystems of the Southwest also made it far simpler to apply there than in the Southern Appalachians. Finally, the 4FRI project's implementation problems prove the rule that the public needs to be involved at the site specific level. Recently, the Forest Service "accidentally" approved logging old growth forest under the 4FRI decision, much to the dismay of the partners who believed this was off the table for the project and went along with a novel process with that understanding. This "mistake" would not have happened had the public been involved at the site-specific level.

A second type of "condition-based" decision has long been available to the Forest Service, but has been attempted only once that we are aware of. That approach is known as

[263] We understand the Forest Service also proposes use of implementation plans and checklists at part of the Foothills Project. Please do not understand the comments in this section to suggest that use of those tools can categorically achieve NEPA compliance. Our comments here are to explain differences between the Foothills approach and the 4FRI approach.

"programmatic" analysis. Programmatic analysis lends itself well to the condition-based framework, and it can enjoy the support of conservation stakeholders. The Forest Service enjoys considerable discretion in managing public lands, and the exercise of that discretion can be very consequential for conservation values. Traditionally, this discretion has not been meaningfully narrowed in forest planning, and it has been exercised almost invisibly—in the development of site-specific projects' "purpose and need" statements and the choice of sites to meet that purpose within an analysis area. If the public is appropriately involved in identifying and prioritizing the conditions to be treated, projects can be simultaneously more responsive to public concerns and more efficient from the agency's perspective. Programmatic analysis, however, requires *subsequent*, site-specific NEPA decisions to select stands that fall within the programmatic decision. An implementation checklist can help to confirm that stands identified for treatment will advance the programmatic objectives, streamlining future site-specific analyses.

Both of these approaches can help the Forest Service increase its efficiency, and to do so lawfully. Recently, however, the Forest Service has attempted a third type of condition-based approach. This new generation of projects identifies conditions that could be found anywhere on a given landscape and purports to allow the agency to pick and choose stands without any additional analysis of those conditions, with various levels of discretion. The Foothills Project is of this type.

The Foothills Project and its kin are designed to avoid public scrutiny and accountability as the agency applies discretion in the future. With less accountability, the Forest Service can skirt by with less information, getting more done at the expense of causing more (unnecessary) negative impacts. If the Forest Service expects to apply discretion, with consequences for environmental values, after a final decision, then it will be legally vulnerable. In contrast, a condition-based approach can pass muster if the analysis goes "all the way to the ground" (i.e., eliminates the need to apply discretion in the future) or if anticipates successive, site-specific decisions (i.e., programmatic or "tiered" analysis).

Projects using both of these approaches have utilized implementation checklists in order to streamline implementation and/or site-specific analysis. Although line officers have been eager to try new approaches using implementation checklists, the agency has not provided any guidance on when and how to use those approaches. Without any policy guidance, the differences between conceptual approaches have become more and more confused. In our experience, Forest Service personnel often conflate "landscape" (i.e., all-the-way-to-the-ground) and "programmatic" analyses (i.e., necessitating future tiered NEPA decisions).

As noted above, 4FRI was the former type. The decision and accompanying analysis went "all the way to the ground." The 4FRI decision did not leave discretion to the line officer to pick and choose sites or treatments; the decision was prescriptive, with adjustments built in based on specified, objective conditions.

The Cherokee National Forest's Dry Forests Restoration Project[264] is a good example of the latter type. The decision identified several common conditions on the South Zone for which there is broad consensus favoring active management. The decision chooses to treat those conditions where they are found and provides a general (but not fully prescriptive) flowchart for addressing them. The decision also provides protective sideboards[265] to protect against cumulative impacts to soil, water, and unroaded area values. The decision defers final decisions to the site-specific level. Future decisions will be supported by site-specific analysis and public participation, but the scope of the site-specific analysis will be narrow. Cumulative, repeating impacts (soil, water, and roadless values, among others) have already been analyzed at the programmatic stage. Sites identified in the future will meet the checklist for coverage under the programmatic decision, and they'll be analyzed only for issues that are unique or explicitly deferred to the site-specific level, such as how best to protect rare plants.

Because the Forest Service has not provided guidance to its line officers for how to choose and use these different approaches, they have been conflated. Programmatic analysis especially can be confusing, in part because CEQ guidance explains that programmatic analyses can include site-specific decisions that do not require further analysis. Still, what makes programmatic analyses "programmatic" is their utility for future decisions, because future analyses can "tier" back to the big-picture consideration of cumulative or common impacts.

In projects like Foothills, the agency is attempting to support to-the-ground decisions with programmatic-type analyses. In other words, the Forest is attempting to get the advantages of both the programmatic approach (a big-picture analysis that doesn't get bogged down in site-specific details) and the to-the-ground approach (more acres included in a final decision) without the disadvantages of either (i.e., having to make successive, tiered site-specific decisions, in the case of programmatic approaches, or having to prescribe treatment "all the way to the ground," in the case of the other).

6. "Bounding" the EA's Analysis Does Not Fill the Forest's NEPA Gap

Explaining the Foothills Project in a public forum, senior staff responded to concerns about the condition-based approach by stating, "we are bounding our effects analysis."[266] In this context, we assume that the reference was to the agency's use of a "worst case" analysis to conclude that the project's effects will be non-significant, no matter where harvest actually occurs. The project documentation explains that effects were estimated based on the maximum level of treatment authorized under Alternative 2. The agency's theory seems to be that it can

[264] The NEPA documents for the Cherokee National Forest's Dry Forests Restoration Project are available at https://www.fs.usda.gov/project/?project=55303.

[265] We must note that, to the extent there is confusion about this, compliance with other, independent laws is not a meaningful sideboard for NEPA effects analysis.

[266] *See* Attachment 1.

therefore dispense with comparison of alternatives because, no matter where it chooses to harvest on this landscape, the effects will not be "significant" enough to warrant preparation of an EIS.

Nothing in the Forest Service or CEQ regulations provides guidance for using "bounding" in this way. In fact, the applicable guidance uses the term "bounding" in a very different context. "Bounding" is the process by which the Forest Service sets the spatial and temporal boundaries of the analysis for purposes of assessing cumulative effects.[267]

Another sense—the sense used here—is the use of "simplified quantitative analyses that use conservative assumptions and analytical techniques to ensure that potential impacts are not underestimated. They are often used when an impact is expected to be minor or insignificant to avoid the effort required to predict precisely the magnitude of the impact."[268] Saylor and McCold make the case that "[t]his common-sense use of bounding analysis … allows analysts, the public, and decision makers to focus on the most significant impacts without having their attentions diluted by minor impacts."

Agencies are not required to use such "conservative" or "worst case" assumptions. At one time, CEQ regulations did require worst-case analysis when information was unavailable or too costly to obtain.[269] Now, in the face of unobtainable information, agencies must prepare "a summary of existing credible scientific evidence which is relevant to evaluating the … adverse impacts" and an "evaluation of such impacts based on theoretical approaches or research methods generally accepted in the scientific community."[270] In eliminating the worst-case requirement, CEQ reasoned that the change would help focus decisionmaking and public input on the "consequences of greatest concern" rather than "overemphasizing highly speculative harms."[271] In other words, CEQ expected agencies to focus to the greatest extent possible on reasonably foreseeable impacts, not distort the decisionmaking process behind analysis of effects that are unlikely ever to materialize.

While not required, agencies may disclose worst-case impacts to cope with unobtainable information. The issue here, however, is somewhat different: rather than asking whether agencies *must* use worst-case analyses to fill in the gaps for *unobtainable* information, the question is whether an agency *may* use worst-case analysis to substitute for *obtainable* information.

The sole agency with written guidance on the use of a worst-case "bounding" analysis is the Department of Energy ("DOE"). According to that guidance:

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[267] FSH 1909.15 § 15.2.

[268] Saylor, R.E., and McCold, L.N. Bounding analyses in NEPA documents: When are they appropriate. United States: N. p., 1994,

[269] *See Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 354 (1989).

[270] *Id.* (*quoting* 40 C.F.R. 1502.22(b) (1987)).

[271] *Id.* (*citing* Fed Reg).

> DOE NEPA documents sometimes estimate impacts by means of a "bounding" analysis; i.e., an analysis that uses simplifying assumptions and analytical methods that are certain to overestimate actual environmental impacts. While bounding analysis can be efficient and is sometimes necessary, DOE should *take care to use that approach only in appropriate circumstances; i.e., where the differences among alternatives would not be obscured*.[272]

DOE cautions that "bounding analyses should not be used where more accurate and detailed assessment is possible and would better serve the purposes of NEPA."[273] Specifically, DOE warns that bounding analyses cannot be used to "mask the distinctions among alternatives":

> Even where overall impacts are small, detailed analysis for each alternative may be needed where differences in impacts may help to decide among alternatives or address concerns the public has expressed, as sometimes applies [in the selection of] sites … and methods for conducting [agency] operations.
>
> …
>
> *It is never appropriate* to "bound" the environmental impacts of potential future actions (not yet proposed) and argue later that additional NEPA analysis is unnecessary because the impacts have been bounded by the original analysis.[274]

As DOE's guidance explains, therefore, bounded analysis is more likely to be appropriate at the programmatic stage of decisionmaking—"the potential impacts of a program or broad agency action"—but not at the expense of the specific information needed to illuminate the future choice between "sites … or methods."[275] This distinction is not only required by law; it also makes good sense as a matter of policy. If an agency could "bound" the impacts of potential future actions and thereby avoid considering the differences between future site-specific choices, it would not have any incentive to look for less harmful alternatives. This would lead to unnecessarily harmful impacts, which is the evil that NEPA was intended to prevent.

Court cases illustrate these limitations. For example, in *Sierra Club v. Watkins*, DOE prepared an EA using conservative population estimates, overestimating the population density in its analysis area to show that the overall risk to port city populations was insignificant no matter which port was chosen for the receipt of spent nuclear fuel rods. According to the court, "[w]hile such a value does overestimate the risk, approximations of population density do not permit the sort of comparisons between ports that NEPA requires."[276] Nevertheless, the court

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[272] DOE, Office of NEPA Policy and Assistance Mini-Guidance, "Using Bounding Analyses in DOE NEPA Documents" (emphasis added) included as Attachment 8.

[273] *Id.*

[274] *Id.* (emphasis added).

[275] *Id.*

[276] 808 F. Supp. 852, 866 (D.D.C. 1991).

held that the challenge was moot because a subsequent EA "cure[d] this problem by using actual population density values for each port and the highway route to be traversed."[277]

In *OREPA v. Perry*, the agency declined to supplement its analysis based on new, site-specific information about the likelihood of an accident that could cause the release of nuclear materials, arguing that its worst-case analysis subsumed the later, more specific data.[278] The court disagreed, holding that DOE had used the worst-case analysis to "obscure differences in impacts among alternatives."[279] Because the more specific information was available, the agency could not lawfully ignore it while using a worst case analysis.[280] An "unbounded" analysis was necessary to "help the public fully comprehend the difference" between potential alternatives.[281]

Under these principles, the Forest Service's use of bounding analysis here is unlawful. First, the information regarding site specific impacts is easily obtainable, at least when the agency identifies site(s) for treatment. The agency has been gathering such site-specific information on all its projects for decades now, so it cannot now claim that the information is unobtainable. Second, the use of a bounding analysis here would mask the differences between alternatives the Forest Service is required to consider under NEPA. Even where impacts are not "significant" enough to require an EIS, the Forest Service must develop and study the consequences of reasonable alternatives in its EAs.[282] And no matter what stands the Forest Service ultimately packages for future timber sales, there are sure to be reasonable location alternatives, which may well be less harmful to resources valued by the public.

Only two cases so far have addressed the Forest Service's use of "bounded" analyses for vegetation management. In *Southeast Alaska Conservation Council (SEACC) v. Forest Service*, the plaintiff challenged the Prince of Wales Landscape Level Analysis Project. As relevant to the court's opinion, the Forest Service analyzed the "maximum potential effects" of harvesting all the acres that "could potentially be harvested" but "did not identify the specific sites where the harvest or road construction would occur" and "expressly left site-specific determinations for the future.[283] The court held, consistent with *Sierra Club v. Watkins* and *OREPA*, that the plaintiff had shown a sufficient likelihood of success on the merits to justify a preliminary injunction, reasoning that the "worst-case-scenario analysis" was likely insufficient to allow the agency and public to "compare the environmental impacts of different alternatives."

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[277] *Id.*

[278] 2019 WL 4655904, at *50.

[279] *Id.*

[280] *Id.* at *50-51.

[281] *Id.* at *52.

[282] 42 U.S.C. § 4332(2)(E); FSH 1909.15 §§ 41.21 to 41.23.

[283] *See* Preliminary Injunction Order included as Attachment 9.

WildEarth Guardians v. Conner is not to the contrary. In that case, the Forest Service proposed to conduct harvest activities in potential Canada lynx habitat.[284] In that EA, the Forest Service quantified the amount of harvest, but "did not specify the treatment locations."[285] According to the Forest Service, flexibility was needed "to select treatment units based on changing on-the-ground conditions during implementation."[286] Although the Forest Service did not say where treatment would occur, it did specify that treatment would *not* occur in prime lynx habitat—i.e., healthy spruce-fir stands and stands with greater than 35% dense horizontal cover. Rather than provide site-specific analysis of the impacts to lynx, the agency "accounted for the uncertainty about treatment locations by evaluating the Project's effects on lynx in a worst-case scenario in which all the mapped lynx habitat in the Project area is treated."[287] The plaintiff brought a narrow challenge focused solely on impacts to lynx, but the court approved the agency's bounded analysis, emphasizing that the project excluded prime lynx habitat from harvest.[288] In light of these protective criteria, the court accepted the Forest Service's conclusion that "whatever sites it ultimately chooses (within the constraints imposed by the Project), *there would not be a negative impact* on the lynx."[289] In other words, this was not a case, like *SEACC* or *Sierra Club v. Watkins* or *OREPA*, in which site-specific comparison of alternatives was needed to illuminate different degrees of harm. Instead, because the project prescriptively excluded prime lynx habitat in any alternative, *none* of the alternatives would have caused harm and there was therefore nothing to compare.

The Forest should not assume that it can shelter under the holding of *WildEarth Guardians*. First, and most importantly, the plaintiff did not raise, nor did the court address, any of the other site-specific conditions that might have been harmed to differing degrees depending on the locations chosen for treatment. In the Foothills Project, as we have explained above, location matters for a number of reasons. Second, the Foothills Project's design criteria are not sufficiently prescriptive to ensure that "there would not be a negative impact" on any of these resource values. Design criteria are important, but these cannot possibly reduce impacts to zero. They are not mandatory ("should" instead of "shall" or "must"); they are not comprehensive (do not address all the various resources that could be affected by project activities); they largely incorporate requirements from the Forest Plan which itself deferred analyses to site-specific projects; and they describe best management practices that require the use of judgment at the site specific level to reduce, but not eliminate impacts, such as locating skid trails in areas with "adequate drainage" or re-using existing road prisms and buffering rare plants "where

[284] 920 F.3d 1245 (10th Cir. 2019).

[285] 920 F.3d 1245, 1255 (10th Cir. 2019).

[286] *Id.* at 1258.

[287] *Id.*

[288] *Id.*

[289] *Id.* (emphasis added).

possible."[290] Finally, in *WildEarth Guardians*, the court appeared to agree with the agency that site-specific information about which units would actually be harvested was unobtainable because of changing conditions.[291] Here, the Forest has offered no plausible reason that it cannot provide site-specific information in successive NEPA projects, as it has for decades, and in fact is doing right now with other projects on the Forest.

The Foothills Draft EA cannot hide behind a worst-case analysis for a number of reasons. First, the Forest simply lacks the baseline information needed to predict the worst case effects for the whole range of resources that would be impacted. For example, the agency understands that it does not (and will not) know what cultural resources are present on the sites where it will work. With no baseline for what's out there, the Forest cannot say what might be lost in the worst case, much less compare the effects of choosing some sites for harvest as opposed to others. Indeed, impacts to these resources will go unseen during implementation; without comprehensive monitoring the Forest will never know (or be accountable for) what has been lost. Similar considerations apply to the presence of rare species.

Second, the "worst case" version of this project would allow violations of the laws protecting water, soil, and wildlife. The agency's assurances that future actions will comply with the Forest Plan and other legal requirements offer little comfort: these external legal requirements are not self-enforcing. They often require site-level development of mitigation strategies, for example, to avoid violation of a general prohibition. On forests throughout the region, EA predictions about the success of BMPs or other mitigation strategies have proven to be falsely optimistic.

Third, the "worst case" scenario for Foothills would almost certainly involve "significant" impacts.[292] And as explained above, public input has been responsible for myriad improvements to projects and has prevented significant harmful impacts. Without such input at the site-specific level, those harmful impacts would occur in the future.

Fourth, at this point in time, the Forest has not prepared a true "worst case" analysis; it has disclosed maximum acreages of treatments that will be implemented at unknown location on the landscape. Different impacts are associated with different treatments and where those actions are implemented on the ground makes a significant difference. As an example, the Forest is proposing up to 10,500 acres of early successional habitat creation. Simply disclosing that number is not "worst case;" application of that treatment in different areas will result in wildly varying impacts. A true worst case scenario analysis would apply the most harmful treatment across the entire area that could be manipulated, which may differ by the resource considered.

[290] Draft EA, 74-79.

[291] 920 F.3d at 1258 (adapting to changing conditions).

[292] *See supra* Section I.

Fifth, and most importantly, the Foothills approach would use "worst case" assumptions in order to avoid the Forest's obligations to make informed decisions, and for that reason alone the approach should be held unlawful. The agency is attempting to authorize a level of treatment that it knows is unrealistic, then exercise discretion in picking and choosing stands without the public being involved. The Forest cannot lawfully use such an approach to avoid the requirement to make informed decisions between location alternatives.

7. Options for Correcting the Legal Errors in the Foothills Project's Condition-based Approach

Condition-based approaches can lawfully help the Forest Service meet its needs for greater efficiency while also doing a better job of protecting resources that matter to environmental stakeholders. Such approaches can also unlawfully exclude the public from decisions with important consequences for environmental values. But, in order to survive legal scrutiny, such approaches must either (a) prescribe treatment all the way to the ground, including an analysis of the resulting site-specific impacts, or (b) commit to future site-specific analyses. To fix the Foothills process, the Forest must choose one or the other.

Of the options, the agency as a whole has a longer track record with all-the-way-to-the-ground approaches. Those projects are most appropriate where the agency wants to treat a large area for a specific, narrow purpose or purposes, such as increasing resilience to wildfire, or treating for non-native invasive species. The Foothills Project's comprehensive approach places it outside the parameters of when this is typically used which will make application of the approach more difficult. But theoretically, by identifying specific sites for treatment, then using conditions in the field to tailor the pre-chosen treatment to site-level differences, the Forest Service can reduce the up-front burden needed to reach a decision. This approach can bring conservation stakeholders' energy to the process, because it provides an opportunity for the agency to grapple with the cumulative impacts of decisions that otherwise would be made in small bites, like how to mitigate impacts to rare plants or wildlife. In the usual, project-by-project approach, the Forest Service might, for example, buffer a rare species' habitat and dismiss any impact as individually minor (and dismiss cumulative impacts as outside the scope of the decision). With the to-the-ground approach, the Forest Service might instead work with stakeholders to develop a blanket rule for how to address the issue which could lead to overall better outcomes.

The agency has a shorter track record with programmatic analysis, but the approach is promising. This approach is most appropriate where the agency wants to treat some portion, but less than the total, of the acres meeting a specific condition. Programmatic approaches are much less likely to violate NEPA because the agency will have a second chance (the site-specific decision) to correct omissions from the programmatic analysis. This approach also assures that new information can feed into future decisions in an adaptive management framework. As another advantage, the Forest could borrow ideas from the Cherokee National Forest's Restoration of Dry Forest Communities Project, which overlaps with the stated purpose and need

for the Foothills Project. We note that we have repeatedly asked the Forest Service to pursue this approach with Foothills.

We have focused here on vegetation management, but the same fundamental problems also apply to other elements of the project. Decisions affecting recreation resources, for example, are not ministerial, even where a project "trigger" is found, but also require the application of site-specific discretion. The Forest must determine not only *which* tool in the toolbox to apply, but whether to apply any tool at all. This is a question of resource allocation, and it should be made in light of public input about the relative values of recreation areas competing for those resources.

To be clear, there are lawful options available to the agency to use condition-based approaches, but the project proposed here does not fall within them. At the risk of being repetitive, we will summarize the issue one more time, because this is a critical issue, and one which the Forest locally or the Forest Service nationally does not seem to understand. If we begin with a question: Does NEPA *always* require site specific analysis? No, but it does require site-specific analysis where the site-specific decision is consequential—that is, when there are location alternatives such that different uses of agency resources would have different environmental consequences,[293] or when the choice between locations makes the difference between significant and nonsignificant impacts.[294] There may be circumstances where, because of the type of action or the ecosystem context in which it will occur, the choice between locations is not consequential. Such was the case, in the court's view, in *WildEarth Guardians v. Conner*, at least with respect to lynx habitat. But in the Southern Appalachians particularly, that is simply not the case for commercial vegetation management projects.

III. Georgia's Mountain Treasures Deserve Special Management Considerations

One advantage of working at a landscape scale is it allows prioritization. Forest Plan goals can be pursued in the areas where they will produce the greatest benefits, rather than shoehorning them into suboptimal areas simply because those are the areas available in a smaller project. A landscape approach also provides context that may be missed at the broader scale of the entire forest.

Large roadless areas provide unique habitat and recreation benefits and their values should be analyzed specifically in the context of the Foothills landscape. Georgia ForestWatch researched, analyzed, and described areas meeting Agency definitions of roadless areas,[295] and published the results in *Georgia's Mountain Treasures*. The Mountain Treasure areas in the Foothills Landscape are Big Shoals, Thrifts Ferry, Five Falls, Raven Cliff Wilderness Extensions (Turner Creek IRA), Blood Mountain Wilderness Extensions (Cedar Mountain and Miller Creek

[293] *See* 42 U.S.C. § 4332(2)(E).

[294] *See id*. § 4332(c).

[295] *See infra* 162-163.

IRA), Black Mountain, Long Mountain, Etowah Headwaters, Springer Mountain (Lance Creek IRA), Cohutta Wilderness Extensions, and Grassy Mountain. However, many of these lie primarily in other landscapes, and the only ones that are mostly or entirely within the Foothills are Big Shoals, Thrifts Ferry, Five Falls, and Grassy Mountain.[296] Please note that *Mountain Treasures* is not a comprehensive list of areas that meet agency roadless criteria. Georgia ForestWatch deliberately excluded some areas, such as Boggs Creek and Worley Ridge, because we recognized unusual concentrations of highly departed stands.

These areas generally rank relatively high in biotic integrity, connectivity, resilience to disturbance, and soil and water productivity. Biotic integrity is enhanced by low levels of invasive species and, in some cases, the potential to let some wildfires burn.

These areas are by definition connected as they lack fragmenting features. Roads disrupt both terrestrial and aquatic movement, so these roadless areas are exceptionally connected in both dimensions. At broader scales, these roadless areas connect to other roadless areas and link habitats across landscapes. Grassy Mountain lies adjacent to the Cohutta Wilderness and Thrifts Ferry joins the Rock Gorge (Big Mountain IRA) area. Connection to higher landscapes is particularly important in the face of climate change and the need for species to migrate to higher elevations to stay in a suitable temperature range. This connectivity enhances resiliency by helping species recolonize after a disturbance and ensuring that well-adapted species are present to colonize disturbed areas as climate changes. These conclusions reflect core principles of conservation biology and island biogeography in particular, which firmly establish that larger areas of habitat have lower extinction rates. These ideas were also behind The Nature Conservancy's Core Forests analysis, which also focuses on unfragmented habitats as a key to long-term species survival.

The Draft EA notes that "[r]oads affect watershed condition because more sediment is contributed to streams from roads and road construction than any other land management activity (Elliot et al. 2009). Roads directly alter natural sediment and hydrologic regimes by changing streamflow patterns and amounts, sediment loading, transport, and deposition, channel morphology and stability, water quality, and riparian conditions within a watershed."[297] Hence, roadless areas have the highest water quality and best aquatic health.

Ultimately, these areas are some of the best examples of high biologic integrity, resiliency, connectivity, and soil and water productivity on the forest. In other words, these areas already exhibit the features behind this project's purpose and need. The agency can more effectively, efficiently, and economically achieve those qualities at the landscape-scale by not focusing treatments in these areas.

[296] We are providing a shapefile of these areas as by sharefile link along with these comments. We are happy to re-provide them at any time.

[297] Draft EA, 42.

Big Shoals, Thrifts Ferry, and Five Falls exhibit these desirable qualities in similar ways, as all border the Chattooga River. They lie adjacent to each other and combine with roadless areas in other landscapes to form one of the two best corridors for plant and animal migration in North Georgia (the other being along the Appalachian Trail). Wild and Scenic River designations along the Chattooga River protect parts of this corridor, but they fail to protect many kinds of habitats and have limited impact on water quality. The roadless areas allow northward migration and encompass a dissected landscape that harbors an abundance of white pine, much of it growing in its natural habitat.

Grassy Mountain, in contrast, features a promontory and rocky escarpment that facilitates upward migration. Indeed, Grassy Mountain's roughly 2800' elevation gradient is the greatest in the Foothills and comparable to the greatest anywhere on the Forest. Further enhancing the value of this gradient is the fact that Grassy Mountain lies adjacent to the Ridge and Valley province and provides a unique opportunity for species associated with that region to respond to climate change. These benefits are not hypothetical. Chalk maple and oak-leaf hydrangea, two species that are common in the Ridge and Valley but rare in the Blue Ridge, grow on Grassy's lower slopes. High and low elevation species already mix on Grassy Mountain; for instance, low elevation sweetgum and high elevation yellow birch grow side-by-side on Mill Creek. Nor is yellow birch the only species finding unusually low elevation refuge on Grassy Mountain, as mountain maple reaches its lowest elevation in Georgia on the mountain. This unique value of Grassy Mountain is threatened by the Rocky Flats Trail, which would best be decommissioned just past the first wildlife opening. Grassy Mountain's intact core of the Forest's largest old-growth stand also gives it exceptional biotic integrity.

Beyond these roadless areas' biological values, they provide unique opportunities for remote backcountry recreation. The Foothills has no Remote Backcountry Management Prescription and the only Wilderness is a snippet of Tray Mountain. Recreation that relies on remoteness and solitude should be supported in the Foothills. Commercial timber harvests and their associated roads would disrupt that recreation. Additionally, Wilderness in Georgia is skewed toward the higher elevations, and many forest types found in the roadless areas of the Foothills are underrepresented.

We are *not* suggesting that Foothills roadless areas be managed as *de facto* Wilderness. Active management should be an option in these areas, but that management should not include commercial timber harvests, herbicide application, temporary roads, or plowed fire lines. Non-commercial timber harvests and prescribed fire units bounded by natural fire breaks and hand lines are appropriate management techniques for these areas. Those tools are sufficient to accomplish all of the goals of the Foothills Project, though they may achieve them more slowly.

IV. The Vegetation Management Proposals Can Be Improved

A. Discussion of Alternative Ways to Meet Vegetation Objectives is Lacking

Management is fundamentally about making choices. Choices do not have an absolute value, but only a value relative to other alternatives. Hence, the evaluation of alternatives is a crucial part of any environmental assessment. That importance is why the unequal evaluation of Alternative 2 and the no-action alternative in the Draft EA is so disturbing. Omissions, inconsistencies, and questionable information create a distorted comparison of the alternatives.

Most fundamentally, the presentation of the no-action alternative in the Draft EA is misleading because many statements that are presumably supported by analysis in the specialist reports are in fact unsubstantiated. For instance, the Draft EA claims "under [no-action], not acting to improve forest health or to restore hardwoods and southern yellow pine ecological systems would likely result in lower carbon sequestration. Consequent results are an increase in carbon emissions in the future as the result of forest decline, wildfires and increased insects and disease activity in the project area."[298] However, the Climate Change Report provides no ecosystem level analysis or references to substantiate the claim.

The mesic deciduous forest no-action alternative summary surmises "[T]he observed decline in songbird populations in the project area is likely to continue." The specific songbirds being referred to are never defined, and the management indicator species for the habitat is stable in Foothills, not declining.[299] Also in presenting the no-action alternative, the Draft EA asserts areas remaining in fire condition class 3 "would result in an increased level of risk of an unwanted wildland fire" and "more intense wildland fires in both the short and long-term duration of the project."[300] In contrast, the scientific literature expresses concern that a lack of burning in the deciduous forests of eastern North America may create a feedback loop that inhibits fire. This process has been given the name "mesophication."[301]

Just as problematic, the evaluation of the no-action alternative ignores ongoing natural processes and management. The Vegetation Report concludes "no young forest habitat would be established as a result of restoration treatments," but misses that young forest would be produced by southern pine beetle (among other sources), even though the same sentence says "future attacks of southern pine beetle would be likely."[302] Early succession habitat from wildfires is also ignored, and the propensity of oaks to grow underneath pines means that some of the young forest produced by southern pine beetle would be oak forest. Indeed, the Climate Change Report

[298] Draft EA, 92.

[299] Terrestrial Wildlife Report, 28.

[300] Draft EA, 94.

[301] Nowacki, G.J. and Abrams, M.D., 2008. The demise of fire and "mesophication" of forests in the eastern United States. *BioScience*, *58*(2), pp.123-138.

[302] Vegetation Report, 40, 45.

contradicts the Vegetation Report by describing a world increasingly stressful for trees and implies that early successional habitat should be becoming more abundant. The no-action alternative's implications for habitats are correctly stated in that snags, dens, downed wood, black bear habitat and ovenbird habitat would increase, but the increase in those habitats necessarily contradicts the conclusion that gaps in mesic forests will decline, which appears on the same page.[303]

The Vegetation Report also states "[t]he observed decline of fire-adapted southern yellow pine in the project area is likely to continue, because no actions to restore or maintain these communities and their associated woodlands habitats would be undertaken."[304] Here, "no actions to restore or maintain" ignores 18,185 acres of existing prescribed burn units in the Foothills."[305] Similarly, the evaluation of bogs in the no-action alternative omits the active bog restoration program coordinated by the Georgia Plant Conservation Alliance, which predates the Foothills Project and would continue without it. Because of those efforts, it is incorrect to conclude bog habitats would "maintain or decrease in distribution and abundance as a result of [no action]."[306]

The assessments of Alternative 2 underestimate negative impacts while assuming complete success of treatments and not acknowledging their limitations. According to the Draft EA, Alternative 2 would cause "minor, short-term decreases to hard mast availability, but a long-term increase due to maintenance activities."[307] However, oaks are the primary source of hard mast, and they take several decades before they produce substantial mast. There would be additional losses in mast production due to forests being maintained in more open conditions and the creation of new permanent openings. These changes are not accounted for, and negative impacts on mast production would in fact be long term. The analysis of Alternative 2 on hydrology ignores the gradual reduction of the duff layer and exposure of mineral soil produced by repeated prescribed fires. This is particularly important as the prescribed burning contemplated in this project is may be planned to continue indefinitely. The EA states "Alternative 2 would result indirectly in lowered flame lengths, decrease in spotting distances, and a decrease in fireline intensities, thereby increasing success of fire suppression."[308] As with the no-action alternative above, this conclusion does not consider science suggesting the *absence*

[303] Draft EA, 100.

[304] Vegetation Report, 40.

[305] Vegetation Report, 50.

[306] Draft EA, 89.

[307] Draft EA, 101.

[308] Draft EA, 95.

of fire may actually produce those results and that fire could maintain a more flammable ecosystem[309].

Assessments of Alternative 2 also assume complete success, but even if treatments were completely successful, they would not eliminate issues such as southern pine beetle because they generally treat less than half the landscape (e.g., Alternative 2 would maintain "41% of mid to late-successional fire-adapted yellow pine across the landscape"[310]). Alternative 2's evaluation also assumes experimental treatments would be successful, such as when it states the untried practice of treating hemlock woolly adelgid by cutting surrounding trees would "reduce the vulnerability of hemlock-dominated forests to hemlock wooly [sic] adelgid."[311]

In some instances, the description of the impacts of alternatives becomes perfunctory. Alternative 2 lists the goals of the treatments, and the no-action alternative is described as a list of goals that would not be achieved. The Vegetation Report goes so far as to describe the no-action alternative as "*preventing* the restoration of declining fire-adapted southern yellow pine and oak species" (emphasis added).[312] The no-action alternative is not merely the absence of Alternative 2. Forests inevitably develop and change as they age (i.e. succession), and the Foothills is a dynamic landscape exhibiting many ongoing trends and subject to broader changes, such as climate change. The no-action alternative cannot be fairly described without accounting for these processes. Overall, these shortcomings deny the public and the Agency itself a fair and sound basis for making decisions about which actions to pursue.

B. Concerns About the Order of Treatments

In response to the 2017 proposed action, we suggested that where fire would be used in conjunction with other vegetation treatments, fire should be applied first. The Scoping Summary report indicated that "fire will be used first in Alternative 2," and elaborated "Condition-based planning allows the Forest to choose the right tool and the order of the use of tools to best meet the purpose and need of the project."[313]

However, in discussing southern yellow pine maintenance, the EA states: "Following the thinning treatments, the areas would be evaluated on the ground to determine the degree and intensity of subsequent understory treatments in order to meet desired outcomes. For example, if shade tolerant, fire intolerant understory vegetation persists after the thinning, then it would be treated using a combination of herbicides and/or prescribed fire."[314] Clearly, logging would be

[309] Nowacki, G.J. and Abrams, M.D., 2008. The demise of fire and "mesophication" of forests in the eastern United States. *BioScience*, *58*(2), pp.123-138.

[310] Vegetation Report, 42.

[311] Draft EA, 111.

[312] Vegetation Report, 53.

[313] Summary of Scoping Report, 17.

[314] Draft EA, 46.

used first. The oak and oak pine maintenance mirror the pine maintenance in that "areas would be evaluated for subsequent needs for midstory reduction treatments designed to reduce oak seedling competitors" only "following the commercial thinning."[315] Again, this is a timber harvest first approach that opens the canopy before understory restoration is complete. The EA indicates Alternative 2 is a timber harvest first approach.

We identified three distinct reasons why burning first is advantageous, and since those benefits have not been addressed, we briefly summarize them here. First, sprouts from undesirable understory vegetation have less light and energy under a closed canopy, and thus would be expected to have lower survival if prescribed fire top-killed them before harvests opened the canopy. Second, where prescribed fire is essential to treatment success—as is the case in several planned treatments—burning first allows harvests to be planned with knowledge of what areas will actually burn, accounting for any necessary adjustments to burn unit boundaries. Third, the stands that currently dominate the landscape and are the goal of maintenance treatments resulted from burning followed by timber harvests.

Complications produced by burning slash lead to a fourth reason to burn before harvests. The slash produced by commercial harvests or understory slash down treatments can lead to prescribed fires burning hot and potentially killing desired retained trees. Burning first allows fuels from understory vegetation to be consumed prior to harvests and can help avoid hot fires. In the Upper Warwoman Project, completing slashing down small stems in a Table Mountain pine restoration treatment forced the modification of burn plans to avoid killing Table Mountain pines.

C. The Proposal Calls for Excessive and Unnecessary Herbicide Application

In forest management, pesticides and herbicides are one of the greatest areas of public concern. The CONF has previously evaluated the use of pesticides and herbicides for NNIS purposes through a handful of Environmental Assessments. Those reviews permit the use of herbicides, but they do not address all public concerns nor justify all uses of herbicides and pesticides.

The most recent of the reviews was 2011. Since then, use of pesticides and herbicides has been an area of very active research, driven in part by a growing appreciation of the dangers posed by neonicotinoid insecticides. The same time period saw the discovery of massive declines of insects generally, with some indications that pesticides are one of the causes. The final EA should incorporate the most recent research.

Continued research has discovered dangers from pesticides and herbicides that were not realized for years. For instance, Atrazine, a widely used herbicide, has been found to harm frogs and fish and at real-world exposure levels increase the chance of birth defects. Herbicides and timber treatment will remove desirable species.

[315] Draft EA, 49.

Research is also revealing how the greatest danger from herbicides may come not from the active ingredient but from secondary compounds. That threat may sound abstract without a specific example, but we cannot provide an example because secondary compounds are proprietary trade information. However, PFAS are an example of the kind of chemicals that *may* be in herbicide formulations. PFAS, also known as polyfluroalkyl substances, have a wide variety of industrial applications, including as surfactants and dispersants, which could allow them to help keep herbicide nozzles from clogging. PFAS are persistent in the environment, have negative impacts on animal livers, and initial research suggests they may be linked to high cholesterol, thyroid disease, cancer, and other health issues in humans.

We do *not* bring up these issues to suggest pesticides and herbicides should be banned. Indeed, some management goals, such as controlling some invasive species, are difficult or impossible without pesticides and herbicides. At the same time, something has gone wrong when more herbicides are sprayed on native species than on invasive species, as the Foothills Project plans. Even if herbicides are used, that does not mean they should be used everywhere. The Agency allows skidders in the forest, but prohibits their use in some areas (steep slopes) and generally looks for ways their impacts can be reduced. In the same way, the Agency should reduce pesticide and herbicide use where possible.

Fortunately, simple changes to the Foothills Project can reduce their use. The greatest savings would come from applying prescribed fire before applying herbicides. Repeated prescribed fires have eliminated sourwood and mountain laurel from sites in the Foothills. Those species eliminated are plants that would not have to be sprayed with herbicide. Restoring understories before opening the canopy with timber harvests would also reduce herbicide application because sprouts of understory vegetation would be less vigorous due to receiving less light. Herbicides can also be eliminated from the young oaks treatment without any loss of effectiveness. The retained oaks will have such a great height advantage over the sprouts from the adjacent cut tree that they are certain to win in competition even if the sprouts do not immediately die. None of these changes would reduce the total acres treated or the effectiveness of treatments, but they would save money.

They would also save biodiversity, one of the goals of Foothills Project. Few herbicide applicators will be able to recognize blueberries, persimmons, azaleas, or dozens of other species that will grow in the understory and add diversity and wildlife value. The loss of these species in treated stands has been dismissed because they are not present across the entire landscape. By that logic, there is no reason to remove culverts because other streams are already connected, treat for southern pine beetle because southern pine beetle will not impact all pine stands on the landscape, or expand HCA because hemlocks are already protected in some areas. Treating and inadvertently killing desirable understory species on up to 74,500 acres will significantly reduce biodiversity and wildlife value on nearly half of the Foothills area. That loss is not trivial and could well eliminate some species from the landscape.

D. Concerns Regarding the Decision Matrices

The decision matrices clearly reflect a great deal of thought and effort. They capture well many key variables such as forest type, site index, and presence of fire. They also account for over two dozen different scenarios. There is a place for the use of these tools in forest management though not as a replacement for site-specific analysis. Like any system that seeks to cleanly divide situations that vary along a continuum, decisions in the real world will be more ambiguous than they appear on paper.

The Immature Pine Decision Matrix appears to assume that pines will be on dry/oak sites. That is certainly the most common scenario, but some Virginia and white pine stands are on more mesic sites. These sites would require more mixed restoration than simply SYP or oak. White pine may even be on its native sites in some cases.

The Mature Pine Decision Matrix would benefit from an early break to determine if undesirable understory species are large enough to survive repeated prescribed fires or not, and if prescribed fire is available. If the understory would survive fires, that path would feed into the existing matrix. If the understory would be outright killed by fires or scarred so that they would be killed by repeated fires, further treatment would only be needed in the case where a SYP seed source is absent. Otherwise, fire would restore the understory light environment and SYP would regenerate episodically as canopy gaps inevitably form.

The Mature Pine Decision Matrix contains an option only for off-site Virginia and white pine. Those two pines are native to the Foothills and will sometimes occupy appropriate sites. Virginia pine has been dated to the 1870s on dry ridges at multiple sites on the CONF. Old white pines have been almost entirely eliminated from the CONF, but the Cullasaja Gorge in NC and many sites in Great Smoky Mountains National Park support white pines that grow on dry slopes with oak and predate fire suppression by a century or more. White pines are especially common far up slopes in gorges associated with large streams, as occurs in association with the Chattooga and Conasauga Rivers and some of their larger tributaries. White pine also occupies many mesic sites in the Foothills, and should not be considered off-site there. The decision matrix should include a break to determine if these pines are onsite, and if so, include treatments that retain them. That judgment will be difficult to determine based solely on stand data, and shows one example of where decision matrices should yield to individual site evaluation.

We are encouraged to see that the Mesic Condition Decision Matrix specifically asks if structural diversity is lacking rather than assuming it is absent. Those treatments also need to ask if the stand is outside of prescribed burn units. Intuitively, mesic stands would not be burned, but we observed stands mapped as suitable for canopy gap treatments that had carried fire in the Rocky Flats prescribed burn unit. If the stands are in burn units, they are very unlikely to develop dense understories or midstories.

The Mesic Condition Decision Matrix also asks, “Is the ability for oak seedlings to reach the overstory being inhibited by shade-tolerant mid-story vegetation?” Mesic oak forests

naturally have substantial numbers of shade tolerant species in their understories, such as hickories, silverbell, sourwood, and white pine. Oak recruitment may be sporadic under these conditions, so further unacceptable understory conditions should be further narrowed. Mesic oak forests can also be quite mixed, so satisfactory regeneration may need to be reduced from 200-500 4'+ seedlings/acre. Grouse habitat is a poor deciding factor because climate change will likely render the Foothills unsuitable for grouse in the near future. Grouse is already restricted to narrow parts of the landscape, and the species that will actually be affected by treatments should decide them.

Similar to Mature Pine, the Non-Mesic Conditions Decision Matrix would benefit from a break on the mature side to determine whether repeated prescribed fire can take out undesired midstory vegetation. Where the understory is still sensitive to fire, prescribed fires could be used to restore understory conditions, and allow oaks to regenerate gradually in naturally forming canopy gaps. Otherwise, the decision point would feed back into the existing matrix.

E. Recommendations for Treatments for Southern Yellow Pine

Southern yellow pines (SYP) provide a unique evergreen element to uplands in the Foothills. Altered disturbance regimes have created well documented problems for them, and several species are undergoing region-wide declines. These issues make them an appropriate target for management. Many populations also exist on sites where they are not native, which creates restoration opportunities. We support the efforts to address that issue through pine plantation thinning and using 1,700 acres of pine plantations for oak and SYP restoration.

The Foothills Project proposes multiple tactics in SYP maintenance and restoration that are likely to improve odds of success and promote biotic integrity. Requiring pine plantations used for restoration to contain a significant component of the desired species helps ensure clearing the pine plantation does not simply promote another undesirable species. Using old pine stumps to identify potential restoration sites also helps ensure appropriate sites are chosen. We were pleased that the options of scarifying the ground to promote seedling recruitment and planting seedlings in clumped patterns were incorporated into the proposal.

While we generally favor growing season burning, we wonder about its effectiveness for oak and pine restoration. Growing season burning tends to favor grasses over woody plants, but in this case the goal is to perpetuate the existing woody understory. Personnel and smoke management issues limit growing season burning capacity, which brings up the question whether committing to burning these stands in the growing season would take that option away from other larger areas where the practice could produce greater benefits.

Some other tactics appear greatly counterproductive. For SYP restoration with adequate desired trees for natural regeneration, there should not be a follow up harvest. Residual trees should be left on site indefinitely to provide cavities, structural complexity, and age diversity, as we explain in more detail in our scoping comments.

Planting pure pine in restoration treatments also appears to be asking for trouble. Most of the pine management in the Foothills Project is aimed at preventing Southern Pine Beetle (SPB) infestations. Yet planting pure pine stands maximizes the risk of future southern pine beetle infestations. The Vegetation Report notes "Managing for mixed stands of hardwood and yellow pine has also been suggested because southern pine beetle prefers stands with a uniform and continuous composition of host susceptible species. Mixed stands break this continuity, which can limit spot spread"[316] Mixed planting provides that strategic value, and we outline additional benefits in our scoping comments. We understand that the Foothills Project plans future thinnings to reduce risk, but post-harvest non-commercial treatments have repeatedly proven difficult to implement on the CONF.

Conversely, the CONF has repeatedly succeeded in spurring natural SYP regeneration without the use of mechanical treatments. At the buffalo range, Johns Mountain/Keown Falls, and Jones Creek/Bull Mountain burn units, we have observed shortleaf pine regeneration in the vicinity of mature shortleaf pines. Even without opening the canopy, seedlings have grown well until being knocked back by the next fire, at which point they resprouted. Two of these three units are in the Foothills. They demonstrate the potential for using fire to accomplish many of the maintenance goals in the Foothills Project, as we elaborate in our scoping response.

While Southern Yellow Pines were historically the dominant pines on dry sites, they were not the only pine species in that landscape position. A minority of white pines naturally occur on upper slopes or dry aspects, as verified by the presence of white pines over two hundred years old in Southern Appalachian old-growth forests otherwise dominated by dry oaks. Across the landscape, white pine most consistently occurs in association with river gorges, and in these and similar settings often naturally occurs high on slopes. Similarly, Virginia pine has proliferated on dry sites in the absence of fire, but also occurred on dry sites even with frequently occurring fires. Rather than assuming all mature white pine and Virginia pine are off-site when they occur on ridges and upper slopes, each site should be carefully examined and mature individuals retained if the site appears suitable for them.

F. Recommendations for Treatments for Oaks

The Foothills Project proposes more treatment acres in oak forests than any other forest type. We support this focus on oaks. Oaks are important due to their abundance, social value, and wildlife value. Oaks also have well documented regeneration problems that warrant attention.

In our Foothills Project scoping comments, we pointed to several changes that would allow this important work to be accomplished more effectively while simultaneously minimizing adverse impacts. The Agency has incorporated one suggestion by planning 1,700 acres of oak and pine restoration in pine plantations. We recognize that pine plantations represent a

[316] Vegetation Report, 27.

significant investment of planning, effort, and time, and that using them for oak and pine restoration represents a loss of timber production from those stands. At the same time, the plantations have low wildlife value, are pest prone, and many are already primed for oak restoration. We appreciate the Agency considering all relevant factors and choosing the option with the greatest overall forest health and social benefits.

We do not see how any of the other suggestions have been incorporated. Nor can we find where the specific points have been addressed in the EA, specialist reports, or Summary of Scoping Report. Targeting stands with an "adequate population of competitive oak seedlings" to establish young oak forests does nothing to "create a more balanced and resilient age-class distribution."[317] The young oaks already exist, so the distribution of oak ages would not change. Age diversity should be created within stands, by enhancing regeneration, rather than by seeking to producing artificial even-aged stands. The least healthy rather than the healthiest stands should be harvested to produce young forest.

Clearcuts from decades past often dramatically decreased the proportion of oaks in the stand. We are pleased to see efforts to counteract that effect by selectively removing competition from oaks that have survived. While many of the competitors will be tuliptrees, white pines, and red maples, common species that have increased their abundance on many landscape positions, these stands will also include less common species, such as black cherry, cucumbertree, and sassafras. If these species are removed along with other competitors, there is a significant risk of greatly reducing the diversity and wildlife resources in these stands. Additionally, if the goal is to give oaks a competitive advantage, simply slashing down adjacent trees accomplishes that goal well. There is no need for herbicide.

Healthier stands should result from conducting initial prescribed burns in the dormant season followed by later prescribed burns in the growing season, as the Foothills Project commits to. Dormant season burns should place less stress on existing oaks and other fire tolerant species, while the growing season burns will better match natural fire seasons, thus promoting biotic integrity. One exception to these benefits may be in oak and pine restoration where the goal is to perpetuate existing desirable understory composition. Growing season burning tends to favor grasses over woody plants, so the results may be less favorable than dormant season burning.

The major rationale presented for the need to thin oak forests is perplexing. The case that oaks are actually experiencing elevated rates of decline is never clearly made. Instead, oak decline risk factors are discussed without ever quantifying or otherwise estimating how much decline would actually occur if the situation were left unchecked. The Forest Plan notes that "many of the older forests are already experiencing oak decline."[318] How can "many" of our forests have experienced this ostensibly major threat for 15 years—which presumably would

[317] Draft EA, 50.

[318] Forest Plan, 3-122.

have only gotten worse as the forests have aged and experienced an intense drought—and we still have canopies that are too dense and lacking canopy gaps? Where is the decline? Problems with oaks are confined to regeneration problems, and should be addressed by altering understory conditions and allowing natural processes to gradually open overstories.

If invasive pests like gypsy moth are a genuine concern in the Foothills, why does the project not address other invasive pests and diseases, including sudden oak death, thousand canker disease, Japanese lantern fly, and Asian long-horned beetle? Early detection and rapid response are the most effective ways to address invasive species. Why does the Foothills Project not propose any monitoring steps or outline how infestations would be responded to? The Agency could promote gypsy moth awareness similar to how it promotes fire safety, with signs in the forest, informational videos, and frequent social media postings. The focus on silvicultural solutions is a strategically poor choice.

Neither the EA nor the Vegetation Report cites any scientific literature to establish that gypsy moth is even a threat in the Foothills, or Georgia more generally. Gypsy moth is discussed in terms of "risk," but that risk is never quantified. There are no estimates of how many trees would be lost, or how effective silviculture could be. The Foothills Project refers to the Forest Plan, a 15-year-old summary, to say that gypsy moth populations are increasing regionally, but provides no actual current data on populations.[319]

EDDMaps, which stores reports of invasive species, shows no gypsy moth infestations south of North Carolina, and the limited occurrences in North Carolina are largely confined to the northern part of the state. Scientific articles on gypsy moth's range in North America focus on the potential for the pest to spread north, not south. Climate change will only make the Foothills less suitable for gypsy moth as the landscape warms. Of the five known introductions of gypsy moth in Georgia, none successfully established. All of them died out, either with control measures that fail farther north or with no control at all. Spring temperature cycles in Georgia are not suitable for gypsy moth development. Gypsy moth is not a threat in Georgia. Gypsy moth does not justify thinning oak forests in the foothills.

G. Concerns about the Experimental Expanding Gap Treatment

Improvement comes through new approaches, so we support the Agency's continued exploration of different ways to restore forests. Partnering with the Southern Research Station on new treatments ensures high quality feedback and maximizes the chance of future success. In particular, regenerating oaks and pines without prescribed fire is a challenge, and we are pleased that the agency continues to prioritize that goal.

In our scoping response, we pointed to the expanding gaps as an example of this positive approach. At the same time, we highlighted the need for caution and identified some specific issues that could lead to the treatment not producing the desired outcomes. The response to

[319] Vegetation Report, 28.

scoping says these concerns were addressed by "clarifying how fire will be used first throughout the landscape."[320] That reply is perplexing since expanding gaps is proposed for areas where fire is not an available tool. The modification does nothing to address the experimental nature of the treatment, nor does it address the specific points we raised.

The inconsistency of regeneration from gap-based silviculture[321] and the potential to promote undesired species over SYP continue to create concerns. Research has found that factors not accounted for in silvicultural prescriptions, ranging from gap shape to herbivory, can lead to unintended results in gap-based treatments. Thinning around gaps will release species like white pine and red maple. Even if treated with herbicides, white pine and Virginia pine would likely recolonize and dominate regeneration, as they have following thinning in the East Nottley Project. The Foothills Project recognizes this risk in the productive oak forest treatment, and plans the treatment so that "large gaps in canopy are not created, preventing the rapid establishment of shade-intolerant species like yellow poplar from invading and dominating the understory."[322]

The experimental nature of expanding gap treatments on this forest is emphasized by "being proposed in collaboration with the [Southern Research station]."[323] At 14,600 acres, the agency proposes to complete more of this treatment than it has treated in any project on the Chattahoochee in over a decade. That scale is not appropriate for an experimental treatment. This approach is also a missed opportunity, in that all the restoration eggs are put in one basket. Since the agency doesn't have a proven way to regenerate oaks without fire, it should experiment with multiple approaches. The decisions matrix identifies the fundamental issue as "Mid-story competitors are suppressing oak seedling development (seedlings small & non-competitive)," which makes mastication a possibility for meeting restoration needs.[324] Expanding gaps should be attempted on a limited basis along with other treatments that have the potential to regenerate oak.

H. Recommendations for the Canopy Gap Treatments

We are always pleased to see management activities based on the natural disturbance regimes that our forests and streams are adapted to. For that reason, we are pleased to see that the sizes of the gaps in the canopy gap treatment have been changed to better match the size of gaps produced by wind disturbances in this ecosystem. In the long term, this approach should better support biodiversity and fits with the Foothills Project goal of restoring biotic integrity.

[320] Scoping Summary Report, 3.

[321] Kern, C.C., Burton, J.I., Raymond, P., D'Amato, A.W., Keeton, W.S., Royo, A.A., Walters, M.B., Webster, C.R. and Willis, J.L., 2017. Challenges facing gap-based silviculture and possible solutions for mesic northern forests in North America. *Forestry: An International Journal of Forest Research*, *90*(1), pp.4-17.

[322] Draft EA, 49

[323] Draft EA, 50

[324] Draft EA, AP55

It is difficult to understand how the thinning between the gaps would contribute to biotic integrity or other Foothills Project goals. Mesic forests are by their nature closed-canopied, and the Vegetation Report notes "[b]ecause of their sheltered sites, large scale disturbances are uncommon in cove stands."[325] Hurricane Irma, the most intense gap-forming disturbance of recent years on the CONF, did not open stands to the extent proposed in the canopy gap treatment. What a gap would even mean in the context of surrounding thinning is unclear. A gap is an opening in a closed canopy. Without that closed canopy there is no gap; one opening simply merges with adjacent openings to produce a more open stand. Thinning is not compatible with canopy gaps in the same stand.

Thinning mesic forests, in addition to creating gaps, could have multiple negative consequences. Thinning to the extent proposed would allow tuliptree and white pine to dominate the regeneration. Limiting harvests to gaps would still regenerate those species, but the lower light levels would allow basswood, hickories, and other species to also regenerate. The productive oak forest treatment recognizes this risk and "large gaps in canopy are not created, preventing the rapid establishment of shade-intolerant species like yellow poplar from invading and dominating the understory."[326] Gaps alone would promote biodiversity more than gaps with thinning.

Thinning would also dry the forest floor by increasing light penetration. Mesic forests are home to most of our amphibians, and the Draft EA notes "[a]mphibians may be most at risk [to climate change], due to dependencies on moisture and cool temperatures that could be altered."[327] Wildlife should not be put at risk by thinning.

If the canopy gap treatment includes thinning, it would not contribute to Forest Plan goals. Objective 7.1 requires "canopy gaps within *closed-canopied* mid- and late-successional mesic deciduous forest," but the Foothills Project proposes creating canopy gaps in open-canopied forest (emphasis added). The treatment could easily be altered so that it would contribute to plan goals by removing the thinning component and proceeding with only the canopy gaps.

Why so many acres of the canopy gap treatment are needed is also difficult to understand based on the information provided in the EA and specialist reports. Canopy gap formation increases as forests age, and emerald ash borer is currently creating canopy gaps in mesic deciduous forests throughout the Foothills. "Declining songbirds" are supposed to be the beneficiaries of the canopy gaps, but which songbirds those are is never specified. Grouse, not a songbird, appears in the decision matrix, and "populations are stable on the CONF including the Foothills Landscape (R8 bird database, accessed 6/24/18)"[328] for hooded warbler, the mesic

[325] Vegetation Report, 22

[326] Draft EA, 49

[327] Draft EA, 44

[328] Terrestrial Wildlife Resources Report, 28

deciduous forest management indicator species. Theoretically the treatment would benefit the birds by "improving the structural complexity," but most mesic forests in the Foothills already have well developed understories and midstories.[329] Finally, "Over the past 10 years, the Foothills Project area has not seen any of the proposed canopy gap treatments implemented," and we are unaware of any earlier implementation of this treatment. As such, it should be considered experimental and limited in extent.[330]

The canopy gap goal for the entire Chattahoochee is 10,800 acres, so placing 8,100 acres in the Foothills is not at all proportional. If mesic deciduous forests were disproportionately abundant in the Foothills, the uneven distribution of treatment might be justifiable, but the opposite is in fact the case. The Foothills Project deliberately leaves out the higher, cooler, moister parts of the Chattahoochee where mesic forests are more abundant. Application of this treatment in the Foothills should be reduced.

I. Recommendations for the Hemlock Treatments

Hemlocks have some of the most severe problems of any tree species in the Foothills. Not only do they have problems with regeneration, but mature trees are also undergoing rapid decline. Hemlocks have no congeners in the landscape and fill a unique ecological role. Those issues justify the Foothills Project's focus on hemlocks and ongoing efforts to find ways to protect them from hemlock woolly adelgid.

Even though hemlocks are a worthy cause, potential treatments still need to be critically examined. In our scoping comments, we pointed out that real world situations that approximate the effects of the proposed silvicultural treatments are not ultimately effective. Those issues were not addressed in the Summary of Scoping Report, Draft EA, or Vegetation Report.

Instead, the EA insists "SRS research that indicates a benefit to hemlocks using silvicultural practices" and the Vegetation Report claims silviculture treatments would "minimize mortality" of hemlocks.[331,332] The source of these statements seems to be an SRS study of hemlock woolly adelgid populations and hemlock energy availability under different light levels. While it is tempting to conclude from that study that intervention to increase light levels on hemlocks would help them in the field, this study is not sufficient to warrant that conclusion.

Even though silviculture would increase light levels as was done in the study, multiple factors are likely to prevent study results from transferring to the field. First, hemlocks in the field receive additional adelgids from surrounding trees while the seedlings in the study were infested only once. Second, the study used fertilized, regularly watered, potted seedlings, so they

[329] Vegetation Report, 23

[330] Vegetation Report, 52.

[331] Draft EA, 54.

[332] Vegetation Report, 55.

did not have to contend with the below-ground competition or drought stress experienced by trees in the wild. Third, the study ran for only 14 months, so adelgid populations on high-light seedlings may simply have grown slower rather than having a lower maximum. The ultimate test is still what happens in the field under high-light conditions, and trees growing along the Chattooga River, the tops of overstory trees, and yard trees all indicate that hemlocks in high-light conditions eventually succumb to the adelgid.

These treatments are experimental, and should be tried on a limited basis, not on the 7,275 acres of Foothills hemlock forest identified in the Vegetation Report.[333] The treatments should only be used in conjunction with other factors that aid in hemlock survival, such as the presence of predator beetles, since high-light levels are not sufficient to save hemlocks under real world conditions. Thinning around hemlocks needs to be specifically described. Currently, the EA just lists "overstory and midstory thinning, expanding gap, or midstory treatments" and does not narrow the locations beyond forests with hemlocks.[334] Forests around hemlocks are generally healthy, and they should not be sacrificed for no reason. One reason hemlocks are valuable is they shade streams and keep stream temperatures cool. This treatment would raise stream temperatures even if hemlocks recover.

J. Concerns Regarding the Woodland Treatments

There is broad agreement on what woodlands are, how they are structured, and what disturbances maintain them. What has made woodland restoration difficult is the lack of reference conditions. Woodlands in the Blue Ridge are not declining; they have declined. Without extant woodlands, knowing when restoration has been achieved and knowing how to recognize sites in need of restoration are difficult.

The Foothills Project put some appropriate general parameters on where woodland restoration would occur: "In general, these would include upper slopes and ridge tops, south and west aspects, and often lower elevations."[335] The Draft EA also contains a generally good list of woodland associates. The trouble comes in the decision matrix with the attempt to use these species to determine where to implement woodland restoration. While they are easily confused, there is a difference between species that are typical woodland species (woodland associates) and species that are effective indicators of woodland. The confusion comes from the fact that some species may be common in woodlands, but also common in other habitats. These species may be desirable in restored woodlands, but also function poorly as indicators of where to restore woodlands.

To see the distinction, suppose plants that occur in other habitats did not detract from their ability to indicate woodlands. If that were the case, then plants in general would be perfect

[333] Vegetation Report, 55.

[334] Draft EA, 54.

[335] Draft EA, 25.

woodland indicators because plants occur in every single woodland. Of course, we cannot simply use plants as indicators of woodlands *because they also occur in other habitats.* We must identify plants that occur in woodlands but are otherwise scarce.

As indicated in the EA, some SYP are certainly woodland associates, but historical photographs that pre-date fire suppression show them growing in stands denser than what is described in the woodland restoration treatment. They may need more open conditions than are prevalent today, but that does not mean they need stands as open as woodlands. In contrast, post oak and blackjack oak have difficulty even persisting in forested conditions in the Foothills and are generally associated with permanent openings, such as roadsides. They appear to be rare outside of woodlands and are known woodland dominants in other regions, making them good woodland indicators.

The shrub woodland associates are a similar mix of good woodland indicators and more generalist species. Of particular note, mountain-laurel is noted as one of the primary species filling in oak and pine understories in the wake of fire suppression. It flowers and proliferates under closed canopies, so it is clearly not a woodland indicator. The shrub is not even a woodland associate, as repeated fires, the conditions that maintain woodlands, can eliminate mountain laurel. Bear huckleberry also fruits abundantly and readily dominates underneath closed canopies, and is thus not a good woodland indicator.

Coreopsis major is common in forest understories, but we have observed var. *major* only in more open settings at sites with other woodland indicators. Other herbaceous species that are not currently included in the list but that may prove good woodland indicators include arrowfeather (*Aristida purpurascens*), rattlesnake-master (*Eryngium yuccifollium*), eastern false-aloe (*Manfreda virginica*), wild quinine (*Parthenium integrifolium*), and *Tephrosia spicta*. Beyond individual species, diversity of certain groups may indicate past open conditions, notably blazing stars (*Liatris* spp.) and grasses. We would welcome a more thorough discussion of all the species being considered for use as woodland indicators.

K. Old-growth Concerns

Old-growth forests have great biological, scientific, and social value. The CONF has a good track record of protecting old-growth when the stands have been recognized. We are pleased to see that strong tradition continue by designating many known old-growth stands in the Foothills for old-growth management. These stands and ones like them are the best possible stands to designate because they by definition are in the desired condition. The Foothills Project is also well-designed in that it does not assume all old-growth is known pre-implementation, and any stand meeting age criteria "would be assessed prior to implementation of project activities within these areas to determine if they meet the other defining criteria for old growth conservation (FWS – 046). If so, these areas would be conserved for old growth."[336] We do have concerns about whether the agency's corporate stand layer properly captures old growth,

[336] Vegetation Report, 12.

and whether that condition might exist outside areas the agency has identified, but generally this is a positive step.

To have a fully sound old-growth management plan for the Foothills, the agency should designate for old-growth management the old-growth stands identified in the Agency's old-growth survey of the Chattooga River Watershed.[337] These stands have the same significant attributes as the other stands being designated as part of this project, and their conditions were vetted by field research.

L. Concerns Related to Wildlife Openings

The Foothills Project proposes to expand the existing 275 acres of wildlife openings in the foothills area by 1,400 acres. The wildlife openings (food plots) that exist on the CONF both in the Foothills and elsewhere are nonproductive and provide very little if any benefit to wildlife. The agency did not acquire fertile farm land when the CONF was established but rather steep and rocky forest land ill-suited for cultivation. What areas had been farmed had been abandoned as a result of their unsuitability prior to Forest Service acquisition. The agency acknowledged problems with the food plots on agency land, mostly managed by the GA DNR, in 2000 when they proposed to apply herbicide to the existing vegetation and start over in an attempt to create a more nutritious clover mix rather than the fescue cover that existed. Twenty years later, the food plots, if tended at all, remain predominately low value fescue. A major problem with food plots is that when cleared initially the clearing was done with bulldozers and most of the topsoil was bladed off with the stumps. This can be seen when looking at the mounds of soil on the perimeter of the openings. Neither the agency nor the DNR has the manpower to properly maintain the many small scattered food plots. Given this record of failure, it makes no biologic or economic sense to expand the size or number of the openings.

Wildlife openings also cause a number of detrimental effects. They require heavy and repeated applications of herbicide to maintain because they are artificial systems not suited to the landscape. Due to the ephemeral and random nature of early successional habitat, species associated with that habitat are good dispersers capable of reaching isolated habitat, so wildlife openings do not meaningfully contribute to connectivity. Indeed, they also require maintenance of access roads to maintain them, which fragments the landscape and contributes to sedimentation problems. Food plots also focus management on a single species, white tailed deer, rather than entire ecosystems.[338] Autumn olive infests many existing openings and has spread into and degraded surrounding ecosystems. Success with past openings should be demonstrated before any new ones are created.

[337] Carlson, P.J., 1995. An assessment of the old-growth forest resource on National Forest System lands in the Chattooga River watershed. *Report to the United States Department of Agriculture, Forest Service, Region*, *8*.

[338] Draft EA, 102.

This food plot on Flat Top Mountain shows the poor condition of many existing wildlife openings. The opening provides only low-quality habitat and is an ongoing sediment source.

M. Recommendations for Young Forest Creation

Many species depend on early successional habitat ("ESH") and some of those species have experience sever population declines over the past few decades. Those species can best be helped by restoring the forces that historically would have disturbed forests and created ESH, most notably fire and beavers. Restoration of those forces ensures habitat that species are best adapted to is created in appropriate locations. We also recognize that some forest users desire additional ESH, and that the Forest Service will meet those desires with timber harvests. In those situations, the greatest value to wildlife comes from cutting stands that currently provide little benefit. The 1,700 acres of pine proposed for pine and oak restoration are a good examples because they currently have low species and structure diversity and provide little in terms of wildlife resources. In general, value can be maximized by avoiding more diverse and older forests.

The plans for creating ESH in mesic hardwood stands include reserving oaks and hickories. Those generally are appropriate to reserve, although they are common across large parts of the landscape.

There are many mesic site species that occur only in mesic areas, and to maintain diversity in mesic stands their regeneration needs should be considered too. Some mesic site species, such as tuliptree, white pine, and black birch, will regenerate readily after an intense

harvest, and do not need additional accommodation. Others will not compete as effectively in large openings and should be targeted for retention, such as basswood, silverbell, yellow buckeye and less common species including persimmon and American elm.

Small diameter stems should also be retained after regeneration harvest in mesic stands. Fire suppression in uplands has increased understory density, but on mesic sites understories are naturally dense. Mesic systems work by having an abundance of stems in the understory that then accelerate growth after a disturbance to ascend to the canopy. Removing them would be disrupting natural process and run counter to the goals of biotic integrity.

These mesic site issues could largely be avoided by choosing old-field stands, which are typically low diversity, structurally simple, and dominated by tuliptree or white pine. In response to this suggestion in our scoping comments, the agency stated that that would not meet requirements to create a diversity of ESH.[339] However, targeting old fields would still produce ESH in mesic habitats, and the FLP does not consider ESH in all forests. Instead, "regeneration treatments would be limited to yellow poplar dominated stands or stands dominated by other non-oak cove hardwood associates."[340] What we are suggesting would not reduce ESH diversity in any way that is not already planned. Instead, it would focus the treatments on areas where the biodiversity gain would be the greatest and losses of existing habitat quality would be minimized.

The particular goal for young forest creation in the Foothills, 10,500 acres, in part reflects the caps put on ESH by different management prescriptions. ESH created by timber harvests and existing ESH combined must not exceed what is permitted by the management prescriptions. However, the Foothills Project underestimates existing ESH because it focuses solely on ESH created by timber harvests and ignores ESH from prescribed fires and natural disturbances, most notably in the Hickory Ridge Burn Unit.

Plans for creating new ESH should also account for reasonably foreseeable future ESH. Prescribed fires are known to produce ESH, and the Project proposes more than doubling the acreage of prescribed burns in the Foothills. The Forest Service rightfully took this anticipated ESH into account in the Upper Warwoman Project. The Foothills Project also discusses at length the threats posed to a large portion of the Foothills by southern pine beetle, wildfire, oak decline, and gypsy moth. While we question whether some of these are really a threat to Foothills forests, if the agency is sincerely concerned about them, they should be included in ESH estimates, particularly since even if the Foothills Project is implemented on the maximum possible acres and 100% effective, the Project would not treat the entire landscape. The risks from these issues should be quantified and the anticipated ESH subtracted from the timber harvest ESH acres.

[339] Scoping Summary Report, 13.

[340] Vegetation Report, 12.

N. Recommendations on Approaches to Rare Communities

The attention paid to rare and unusual communities is heartening to see. Rare communities play a disproportionate role in maintaining landscape scale biodiversity. We also appreciate the effort put into once common species such as the proposed chestnut orchard. The location of the chestnut orchard still needs to be disclosed so that the public can assess important impacts, such as whether the orchard might introduce the pathogen *Phytophthora cinnamomi* into previously uninfected parts of the forest.

The focus on mountain bogs is well deserved, and we are particularly pleased to see discussed the potential of restoring altered hydrology. Physical conditions are one of the fundamental determinants of what ecosystem occupies a site, so restoring hydrology is essential to restoring bog ecosystems. This restoration also fits with the biotic integrity model of restoring natural processes.

We also support experimental thinning around Small whorled pogonia because the species has continued to decline and there is anecdotal evidence of increased light bolstering populations. As indicated in the Draft EA, monitoring the results of these experiments will be critical. However, it is not appropriate to experiment on all populations as the effects of these treatments are not confirmed, and they could still be detrimental. We suggest starting with small or non-flowering populations rather than relatively healthy populations. Using "prescribed fire to reduce the canopy and midstory" over small whorled pogonia raises concerns because opening the canopy implies an intense fire.[341] Small whorled pogonia typically occupies mesic sites where fires would naturally be rare and of low intensity. Additionally, while soil is effective at insulating against low-intensity fires, hot fires could still damage small whorled pogonia. Non-commercial mechanical treatments would be more appropriate and less risky for small whorled pogonia management.

Green salamander needs additional protections based on their habitat preferences and the way proposed activities would impact their habitat. Green salamanders are not restricted to the vicinity of cliffs, the habitat targeted by the Project Design Features. They can also occupy boulders as small as a car if appropriate crevices are available, which is where they were recently found in the South Side Project just over the state line in North Carolina. Edge effects, such as those produced by logging, can penetrate into adjacent forest well beyond the proposed buffer of 200 feet.[342] Without more, a buffering approach is likely not sufficient here but at a minimum, within the known range of green salamander, both cliffs and large boulders should receive a no-harvest buffer of at least three times the canopy height.

[341] Draft EA, 55.

[342] Laurance, W.F., 1991. Edge effects in tropical forest fragments: application of a model for the design of nature reserves. *Biological conservation*, *57*(2), pp.205-219.

V. More Disclosure is Needed Before Making Changes to the Recreation System

Managing recreation in the Foothills is difficult. Demand for popular sites often exceeds the capacity of infrastructure, and is expected to grow further. Resources for addressing maintenance needs are inadequate. Design flaws in trails and facilities produce additional problems. These issues create a challenging situation to create a sustainable trail system while meeting user desires. We appreciate the agency's efforts to increase sustainability, minimize resource damage, and consider user desires.

Of the potential changes to the system specifically discussed in the Draft EA, several are positive and contribute to these goals. Additional parking is needed at Bear Creek for user safety and to meet demand at Stonewall/White twister. Severely eroding sections of trail at Oakey Mountain are beyond what can be addressed with maintenance, and rerouting the trail is the only viable option to protect soil water and quality while maintaining recreation opportunities. Collaborative work along the Chattooga River to provide sustainably located trails that meet user needs will help protect a unique resource.

Other planning suffers from a lack of consideration of specific sites. The scenic value of any specific landscape must be decided on a case-by-case basis in order to more fully evaluate all the factors that contribute to an area's perceived beauty or lack thereof. Views from within the designated area should be considered as should views of the area from other vantage points such as roadside overlooks or natural vistas. We feel strongly that this proposed simplistic approach to establishing scenic value cannot be applied to the entire project area and that public input for each proposed treatment area is essential.[343] The Scenic Integrity Objectives and Recreational Opportunity Spectrum are similarly general and not sufficient for evaluating local impacts.

It is not fair to Forest users to casually dismiss impacts as only lasting for "one to two growing seasons"[344] or base decisions on unfounded and unprovable claims, such as "the long-term benefits of managing a healthy forest far outweigh the short-term inconveniences of having to move to another location."[345] Sites on the CONF have had raw and eroding "temporary" roads five years post-harvest, and blackberries cover multiple sites seven years after implementation, which create more than just a visual problem. These impacts are deeply upsetting to some users, including some of those who have worked hard to help the agency maintain and improve trails. Impacts to users need to be evaluated with more realistic assumptions for both the timeline and how treatments will impact trail health.

The no-harvest zone between the regeneration harvest unit and any roads with scenic integrity objective of high is a good example of the kind of protections that visitor experience

[343] Scenery and Recreation Resources Report, 3-9

[344] Draft EA, 106

[345] Draft EA, 107

should be given.[346] Surely trails should receive greater consideration since they exist primarily for scenery access. The 150' campground and 25' trail buffers are insufficient, and in most cases visitor experiences would be severely impacted by treatments so close to recreational facilities.

VI. Recommendations for Prescribed Fires

A. Fire Frequency in the Southern Appalachians

Fire chronology reconstructions from dated fire scars on trees form the bedrock of our understanding of fire frequency in the Southern Appalachians. They are the only annual records of fires prior to fire suppression, and they help guide prescribed fire frequency. Given the importance of these studies, understanding how they scale to the landscape is critical. To do that requires a brief detour into the theory of statistical sampling.

People use sampling when we can't measure or examine every single individual. Researchers select a sample to represent some larger group. In the case of fire chronologies, researchers don't have the resources to date the fire scars on every tree in every stand, so they choose particular stands to sample. The sample provides information only about the group it was drawn from. For instance, if a group of college students at an American university is randomly selected to be surveyed about their spending habits, the survey results will not describe the spending habitats of Americans in general. Instead, the results will describe the spending habitats of students at that college, because only students at that college had a chance of being surveyed.

What stands have a chance of being included in a fire history reconstruction? Not all stands. Some stands cannot be sampled, because they include few or no trees that predate fire suppression. Other stands are dominated by species that do not produce durable fire scars. All sites are also not dominated by old trees of species that produce rot-resistant fire scars potential sites for fire history studies. Stands with few or no fire scars are not suitable for fire research studies. Hence, fire history reconstructions sample from only sites with many old fire-scarred trees, and describe the frequency of fire only in sites with many old, fire-scarred trees. Statisticians refer to this as sampling bias and data must be interpreted accordingly, acknowledging these limitations.

Consequently, describing fire on only those sites with many fire-scarred trees may miss a large proportion of the landscape. We are not aware of any studies that estimate what proportion of the Southern Appalachians has abundant fire scars, so we refer to our own observations. Over the past year, we have visited four stands that were never logged and contain pitch pine or Table Mountain pine, species that readily form and retain fire scars. We examined the bases of up to twelve pines in each of these stands for the presence of fire scars. One pine snag appeared to have a sealed-over fire scar. All other trees examined had smooth bases on the uphill side with no indication of past scarring. In a younger forest that included plants with prairie affinities, we

[346] Draft EA, 79.

encountered one old pine stump with fire scars. We also were told about a dendrochronologist researching in Great Smoky Mountains National Park who rejected the first and second sites he was shown, because they had zero and three fire scars, respectively. The third site had many fire scars and was used for the study. While these observations represent a small sample, they show that sites with few or no fire scars are common in the southern Appalachians, and sites with many fire scars do not represent the entire landscape.

Sites with many fire scars likely experienced more fire than sites with few fire scars. Hence, sites with relatively low fire frequency have little chance of being reported in scientific journals, but sites with relatively high fire frequency can easily be included. This situation biases the dendrochronology literature towards reports of higher fire frequency.

Dendrochronological studies cover the period of European settlement and some extend into the last stages of Native American occupancy, but say nothing about the period before human settlement when lightning strike fires controlled the fire regime. This earlier period is relevant, because most species in the region evolved in and are adapted to the disturbance regimes of this period. The Chattahoochee-Oconee National Forest recorded 142 lightning strike fires from 1970-1999.[347] Similarly, 39 lightning strike fires were reported from 1993 to 2009 on the Grandfather Ranger District of the Pisgah National Forest[348], and 138 were reported from Great Smoky Mountains National Park from 1940 to 2006.[349] These figures range from one lightning strike per year per 83,692 acres to one lightning strike per year per 253,642 acres. Cohen and others also report that 10 fires that were not suppressed averaged 195 acres, though those fires did not overlap with any extreme drought. These figures suggest most Southern Appalachian species evolved with less frequent fire than what is currently being prescribed.

The bias towards frequent fire in the dendrochronology literature and the paucity of lightning strike fires lead us to question whether 3-7 year return intervals should be the default and whether they should be applied to most burn units.

B. Burning Too Frequently May Cause Damage

At the 2016 Southern Blue Ridge Fire Learning Network Meeting, students from Duke presented their preliminary findings from their review of hundreds of scientific articles that reported the effects of prescribed fire and timber harvests on various groups of wildlife. They found complex results with both positive and negative outcomes that varied with type of animal, forest type, and intensity of treatment. They also pointed out that an issue with the analysis was most of the fire studies only involved one or two treatments. We have often been told when

[347] USDA Forest Service. 2004. Final environmental impact statement for the land and resource management plan revision. *Chattahoochee Oconee National Forest*, Gainesville, GA

[348] Denman, Michael. 2016. Broad-scale weather configurations and lightning-ignited fires on the Grandfather Ranger District. *Southern Blue Ridge Fire Learning Network Workshop 11*, May 19th, Johnson City, TN

[349] Cohen, Dena, Bob Dellinger, Rob Klein, and Beth Buchanan. 2007. Patterns in lightning-caused fires in Great Smoky Mountains National Park. *Fire Ecology* 3(2):68-82

reviewing a project involving prescribed burning that we should not expect immediate results and that success may only be achieved gradually with repeated burns. We agree that restoration will not be achieved with a single burn.

However, negative effects may be similarly slow to manifest. Indeed, we shouldn't expect to see them after one or two burns. Fire is a natural part of ecosystems in the Southern Appalachians, so species on sub-mesic to dry sites have evolved with fire. The first prescribed burn is nothing new to these species. If they could not tolerate a single burn they likely would not have survived in this landscape. As described above, though, subsequent burns may represent conditions these species have not adapted to.

Since very few studies have examined the effects of several applications of prescribed fire, we must look at the processes that may affect species with repeated burns. Monitoring across the Southern Appalachians indicates the first few burns reduce the duff layer. Prescribed burns also consume inputs to the duff layer, so this trend in duff layer reduction will likely continue with burns at frequent intervals. That change in habitat may impact the soil food web and cause the loss of site-level diversity. The duff layer enhances germination and seedling establishment of many plant species, and along with the upper A horizon, contains high microbial diversity and mycorrhizal networks that are critical for forest health. Additionally, many invertebrates and small vertebrates live in the litter/duff layers. These organisms play a critical role in forest ecosystems. Salamanders, for instance, have higher total mass than any other vertebrate group, and form a critical link in food webs.

Duff loss may also gradually expose mineral soil and lead to erosion and degradation of soil quality. That erosion threatens adjacent aquatic habitats. Organic matter greatly increases soil fertility by promoting retention and availability of both water and nutrients. The duff layer is a large repository of soil organic matter and an important source of organic matter for lower soil horizons. Thus, repeated, frequent fires are likely to reduce soil organic matter derived from leaf litter and woody sources, and gradual dry and impoverish soils leading to overall reductions in forest productivity.

Diversity may also be lost due to competitive exclusion. Conditions that are especially favorable for one or a few species may allow those species to thrive to such an extent that space and resources are not available to other species. Over time, those other species may be out-competed and eventually lost from the site. The most fire-adapted species, perhaps those that resprout the fastest or seed the most prolifically, gain a cumulative advantage after each fire. Over time these species may gradually displace other species through competition and ultimately reduce site diversity.

C. A Greater Diversity of Fire Regimes May Promote Greater Diversity

Given the research on pre-settlement fire frequency and the potential harm from burning too often, we suggest a reallocation of prescribed fire resources. Instead of burning a few sites at or above the high-end pre-settlement fire frequency, use a wide variety of burn regimes on many

sites. Under this plan, most sites would be burned at low frequency, perhaps 20 to 50 year return interval. A few sites would still be burned very frequently (3-7 years). Remaining resources would be dedicated to burning sites at intermediate frequencies. This system would result in roughly the same acreage being burned each year, but a much larger proportion of the landscape being included in burn units. Critically, it would also produce the full natural range of variation of fire frequencies.

Please note, we are not suggesting that high frequency prescribed fire be eliminated. Having some areas burn frequently adds to landscape scale diversity and produces habitat for species that area dependent on frequent fire. Other considerations, such as managing the wildland-urban interface, may also dictate more frequent fire at particular sites. Rather, we are suggesting that high frequency fire should not be the default. We want to promote a landscape that can support all species, not only those that are adapted to no fire or frequent fire.

Burning a greater area may be essential to preserving future management options. Nowaki and Abrams[350] argue that a lack of fire promotes mesophytic species that suppress future fire. Further, they argue this feedback creates a ratcheting effect. The longer an area goes without fire the harder it becomes to burn and the more difficult any future restoration with fire becomes. Hence, focusing prescribed fire resources on a few areas may preclude future restoration on much larger swaths of the landscape.

D. Other Implementation Considerations

The lightning fire season in the Southern Appalachians is primarily April through September.[351,352] Hence, fires during these periods best match the natural range of variation and are most likely to have beneficial effects. We encourage the Forest to burn during this period possibly. We understand that later in the summer can be logistically difficult for burning, especially in terms of finding days when fire will actually carry and have good smoke dispersal. We would appreciate the Forest actively looking for chances to burn during this window and taking advantage of opportunities when they arise.

We know that fire managers across the Chattahoochee-Oconee National Forest recognize the value of producing a burn mosaic. However, many of the prescribed burns we have observed show generally continuous and often fairly uniform fire effects. We also note that modern prescribed fires use vastly more ignition points than lightning strike fires or Native American fires. We wonder if greater heterogeneity could be introduced into burns by strategically reducing the number of ignition points, especially for hand ignitions. The burns we have seen

[350] Nowacki, Gregory J. and Marc D. Abrams. 2008. The demise of fire and the "mesophication" of forests in the eastern United States. *Bioscience.* 58(2):123-138

[351] Cohen, Dena, Bob Dellinger, Rob Klein, and Beth Buchanan. 2007. Patterns in lightning-caused fires in Great Smoky Mountains National Park. *Fire Ecology* 3(2):68-82

[352] Denman, Michael. 2016. Broad-scale weather configurations and lightning-ignited fires on the Grandfather Ranger District. *Southern Blue Ridge Fire Learning Network Workshop 11*, May 19th, Johnson City, TN

involved lighting nearly continuous parallel strips, dots of fire only a few feet apart, along both sides of ridges. Could interior ridges be lit by placing dots of fire further apart? Could interior ridges be lit on only the south or west upper slopes rather than the upper slopes on both sides? Are there other opportunities for using fewer ignitions? As far as we can tell, these ignition patterns would not make the burn take longer or produce significantly more smoke. They would allow more opportunities for fire shadows, such as downwind of a log, and more areas of locally intensification where two lines of fire meet. Overall, we believe this ignition pattern would increase heterogeneity of burn intensity, provide refuge habitat for ground-dwelling organisms during the burn, and produce a greater diversity of habitat for more species post-burn.

E. Conclusions

Species are not adapted just to fire or a lack of fire, but to specific fire regimes characterized by the frequency, intensity, size, and seasonality of fire. Examining the scientific literature indicates most of the Foothills is managed under fairly extreme fire regimes in terms of frequency, either high or low. We suggest that diversifying fire frequency would produce habitat for a wider range of species. Which areas receive which frequency would be determined by both ecological conditions and other considerations such as the need to protect adjacent property and structures. Habitat diversity could also be improved by taking advantage of growing season burning opportunities to the extent possible and limiting the number of ignitions in each burn unit.

VII. Concerns Regarding Impacts to Soils

Impacts to soils are a primary cause of concern with the Foothills Project. Several of the issues we mention here are also mentioned in other contexts in this letter. Moreover, many issues appear repeatedly in the Soils Report. For simplicity's sake, we refer only to statements in the first 25 pages, but which also apply to later iterations of the same issues in the Soils Report. We request that the Soils Report be revised to include the minimum and maximum for numerical estimates.

The Soils Report states that "as this project is condition based and specific activity areas have not been identified the Foothills Project area will be used to ensure activities will not exceed the 15% threshold. Fifteen percent of the 157,625-acre Foothills Project area would be 23,644 acres."[353] This approach is too broad and general, as under it an excessive amount of disturbance could occur in a concentrated area and greatly affect a watershed. We request that the SR be revised to specify that the 15% threshold for activities be set on a per watershed basis. We also request that the Foothills Project be constrained to not exceed the mechanical harvest extent, temporary road, skidding , and other assumptions shown on pages 22-23 of the Soils Report.

[353] Soil Report, 2.

"[E]rosion tends to be concentrated on relatively small portions of the harvest area, making these locations critical in BMP implementation efforts to reduce overall erosion rates."[354] We agree and appreciate all actions taken to carefully implement BMPs.

Soil indicators need to be considered in a quantitative fashion whenever possible. "To some degree, compaction would decrease with time as roots penetrate and break up the compacted area."[355] For this statement to be meaningful, the Soils Report should be revised to quantify the natural decompaction process, including how long it takes to occur, the amount of decrease, which locations would experience natural release, and whether the soil returns to pre-activity compaction.

"T-Factor, which is an estimate of the maximum average annual rate of soil erosion by wind and/or water that can occur without affecting soil quality and productivity over a sustained period," is a useful tool for quantifying risk.[356] Assuming "[v]egetation typically recovers within 1-5 years re-establishing ground cover and begins to reduce erosion rates towards normal levels,"[357] and using the acres per T-Factor class shown in Table 5 of the Soils Report, if all disturbances occur in the same year, the maximum soil erosion from the Foothills Project would be 562,454 tons/yr for possibly more than 5 years. This worst case scenario shows that the Foothills Project has the potential to cause a great deal of erosion. We request that the Soils Report be revised to include calculations of the maximum soil mass that would be eroded per year, the percentage that would be delivered to aquatic resources, and the amount of time the erosion would take to return to a "Good" rating.

To protect soils and streams, this project should be revised to include erosion control measures for both severe and moderate erosion factor soils. Even "'moderate' indicates that some erosion is likely and that erosion control measures may be needed"; moderate soils comprise over half of the Foothills Project, and meaningfully protecting the landscape cannot be accomplished without properly accounting for them.

The Soils Report states that heavy equipment will not be used on slopes over 35%, so their tables only include soils on under-35% slopes to evaluate heavy equipment. Even with that limitation, 27,117 acres are shown as poor suitability in the Harvest Equipment Operability Rating (Soils Report, Table 7) and 14,700 acres are classified as "severe" rutting hazard (Soils Report, Table 8). We request that the Foothills Project be revised to exclude heavy equipment from soils with poor suitability for harvest equipment or soil with a severe rutting hazard.

The Soils Report addresses the potential for harvesting to deplete nutrients by noting that "[o]ver time, nutrient loss from stem removal is believed to be replaced by soil weathering and

[354] Soil Report, 24.

[355] Soil Report, 5.

[356] Soil Report, 12.

[357] Soil Report, 13.

natural inputs" and "[m]aintaining the O and A horizons intact as much as possible would help to alleviate nutrient loss from timber harvesting (Hallett and Hornbeck, 1997)."[358] However, the reference cited was performed in the northeast to explore the effects of acid rain, and states:

> The nutrient status of our sites indicates that they are susceptible to nutrient depletion and that mineral soils are not a major supply of plant-available nutrients. Most available nutrients are found in the O horizon and make up a high percentage of the total nutrient capital of the O horizon. Consequently, if O horizons were subjected to disturbance by logging or fire, it is likely that the available nutrients would be leached into mineral horizons or lost to volatilization or erosion.[359]

The cited Hallett and Hornbeck study also did not evaluate phosphorus, one of the most often limiting nutrients. We request that the soil report be revised to define the time period needed for soil weathering and the efficacy of natural inputs to provide pre-disturbance plant-available phosphorus, and to define the average and maximum short term and long term amount of O horizon soil that will be lost as a result of the Foothills Project. We also request that slash be distributed across stands after harvest since it represents a large nutrient pool and concentrating slash would effectively remove nutrients from most of the stand.

"Nitrogen is the most limiting nutrient to forest growth…"[360] We agree this is true for many undisturbed forests. However, as phosphorus is removed by repeated logging, phosphorus can become limiting. The Soils Report does not address phosphorus. We request that the Soils Report be revised to address phosphorus.

While climate change may have little impact on total annual precipitation in the Southern Appalachians, models predict rain events will become increasingly intense. Indeed, actual Forest Service data shows a trend of increasing rainfall intensity, and recent hurricane events in Texas and North Carolina show the potential extremes. This Forest has witnessed such events in the deluges experienced in December of 2015 that swept away parts of several roads on the Conasauga District, which took years to repair.

The lesson to be learned from these trends is "the less ground disturbance the better." The project however proposes timber harvesting over tens of thousands of acres. Timber harvesting requires temporary roads, skid trails, log landings and heavy truck traffic. All of this ground disturbance leaves areas vulnerable to landslides and erosion in major rain events. As the exact areas to be harvested are not identified it is difficult to comment precisely as to the extent of this danger.

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[358] Soil Report, 24.

[359] Hallett, R.A. and Hornbeck, J.W. 1997. Foliar and soil nutrient relationships in red oak and white pine forests. Canadian Journal of Forest Research, 27(8):1233-1244.

[360] Soil Report, 28.

VIII. The Project Threatens Aquatic Resources

Removing and/or replacing existing barriers to aquatic species passage represents a major improvement for aquatic habitats in the Foothills. We are pleased to see it considered across the Foothills.

To assess impacts on aquatic resources in a biologically meaningful way, we request that the Aquatic Resource Report be revised to evaluate impacts by the 6th level HUC. Confidence intervals should be provided for assumed parameters, so that the public can take into account the uncertainty in estimates.

The Aquatic Resource Report vaguely assumes that stream sediment as a result of the Foothills Project will quickly go away and therefore is not a concern. However, the sediment will settle somewhere downstream where velocities are reduced. The Swank, Vose, Elliott study cited in the Aquatic Resource Report found large increases in sediment yield at the Coweeta Hydrologic Station immediately after road construction due to two major storm events. "Subsequently, during logging, sediment yield from roads was greatly reduced and insignificant when logging activities were completed. In contrast, cumulative increases in sediment yield were observed downstream over the next 15 years which illustrate the lag between pulsed sediment inputs to a stream and the routing of sediments through a stream system."[361] We request that the Aquatic Resource Report be revised with estimates of mass sediment release per year and the impact to response reaches.

The Aquatic Resource Report (pg 20) also assumes that timber removal would not be completed on steep slopes, but the Foothills Project does not commit to complete avoidance of steep slopes. Short segments of slopes exceeding 35% are permitted, and such slopes are abundant in the Foothills. It is also unclear to us if forms of logging other than ground-based logging are allowed on slopes exceeding 35%. We request that the Aquatic Resource Report be revised to include evaluation of steep slopes.

Understanding the impact of Foothills Project activities on aquatic resources requires understanding the impacts of roads because:

> more sediment is contributed to streams from roads and road construction than any other land management activity. Roads directly alter natural sediment and hydrologic regimes by changing streamflow patterns and amounts, sediment loading, transport, deposition, channel morphology and stability, and water quality and riparian conditions within a watershed…Road-related mass soil

[361] Swank, W.T., J.M. Vose, and K.J. Elliot. Long-term hydrologic and water quality responses following commercial clearcutting of mixed hardwoods on a southern Appalachian catchment. Forest Ecology and Management 143 (2001).

movements can continue for decades after roads have been constructed, and long-term slope failures frequently occur after road construction and timber harvest.[362]

The Aquatic Resource Report discounted sediment contribution to aquatic resources. We request that the report be revised to quantify the range of possible sediment delivery specifically by roads and stream crossings built as part of Foothills Project.

Standard FW-069 in the Forest Plan gives highest priority for watershed improvement to locations with known occurrence of federally-listed aquatic species on National Forest land or within three stream miles below the farthest downstream location of National Forest ownership. The Aquatic Resource Report only considered one stream mile below the National Forest. We request that the AR be revised to evaluate three miles downstream.

We appreciate the Aquatic Resource Report's focus on endangered species, but it does not address objective 26.2 in the Forest Plan: Biota (including nonnative species) and/or habitat improvement needs. We request that the report be revised to evaluate the Foothills Project's impact on all stream biota, including but not limited to benthic organisms, and that the effect of the Foothills Project on the aquatic biota condition indicator be predicted.

VanDusen, Huckins, Flaspohler reported: "[n]ine Michigan headwater streams where the adjacent forest had undergone selection logging in the previous 2 to 30 years were modeled. Brook trout density and biomass were substantially lower in streams bordering more recently logged forests. Streams in recently logged stands had substrates with higher fine sediment content and lower overall habitat quality as estimated by a multimetric habitat index."[363] We request that the Aquatic Resource Report be revised to thoroughly evaluate impact of the Foothills Project to trout (a stated USFS goal for the report due to public comments received).

The minimum riparian corridors in the Forest Plan for the CONF are 125' for 11-45% slopes, and 150' for >45%. The Aquatic Resource Report only addresses a 100' corridor, which is only for <10% slope. We request that all riparian corridor extents be increased to Forest Plan recommendations or more for slopes >10%. The Aquatic Resource Report also does not address ephemeral streams. We request that the Aquatic Resource Report be revised to include the 25 foot riparian corridor for ephemeral streams as noted in Appendix C of the Forest Plan, and to address impacts to ephemeral streams.

The Aquatic Resource Report assumed potential riparian corridor activity (pg 20) of canopy gap creation in mesic hardwoods on 2,250 acres and pine plantation maintenance on 1,060 acres. The report assumes that stream impacts from these two activities would be minimal but does not substantiate the assumption. Sediment release to, and heating of, the stream could be

[362] Aquatic Resource Report, 27.

[363] Peter J. VanDusen, Casey J. F. Huckins & David J. Flaspohler (2005) Associations among Selection Logging History, Brook Trout, Macroinvertebrates, and Habitat in Northern Michigan Headwater Streams, Transactions of the American Fisheries Society, 134:3, 762-774, DOI: 10.1577/T03-228.1

significant and performing these actions in the riparian corridor violates the purpose for the riparian corridor. We request that no mesic hardwood gap be created in the riparian corridor.

The Aquatic Resource Report (pg 21) includes 55 acres of wildlife opening maintenance in the riparian corridor, which includes mowing, disking, prescribed burning, herbicide, mechanical planting, and application of fertilizer and lime. The report also admits that this opening maintenance would increase sediment and heat in the stream. We believe that permanent wildlife openings in the riparian corridor are a violation of the purpose of that designation, and request no new openings be made in the riparian corridor. This action would not significantly restrict the diversity of wildlife openings because they could be located in mesic habitats that extend outside of the riparian corridor.

The Aquatic Resource Report (pg 24) asserts that "most activities would occur in upland habitats that are not directly connected to riparian corridors and therefore would not pose a significant risk or effecting (sic) aquatic resources." This assumption is not supported in the analysis, and our review of the provided references indicates that upland timber removal and roads, especially on steep slopes, can significantly increase sediment loading to streams. We request that the analysis be revised to address upland sediment delivery, especially during extreme rain events which are expected to be more severe and frequent due to climate change.

Many of Aquatic Resource Report references do not support its assumption that timbering in the upland and riparian corridor do not increase sediment and heat load to the stream.

The Clinton, Vose, Fowler study area had <20% slope. Unusually warm and dry weather existed for most of the logging period, which likely reduced runoff, erosion, and sediment.[364]

Dissmeyer reported: "The long-term sediment yield data illustrate a lag or delay between pulsed sediment inputs to a stream and the routing of sediments through the stream channels. In the absence of significant additional sources of sediment to streams on the watershed, annual sediment yield at the base of the watershed was still substantially above pre-disturbance levels at least 15 years later. Thus, there appears to be a continual release of sediment from upstream storage that was primarily deposited from road crossings of streams during exceptionally severe storms."[365]

The road sampler design in the Riedel and Vose study was only sufficient for collecting the beginning runoff flow. Higher erosion rates generally occur later in a rain event after the ground is saturated. The study did not quantify the rain events sampled. No mention of

[364] Clinton, Barton D.; Vose, James M.; Fowler, Dick L. 2010. Flat Branch monitoring project: stream water temperature and sediment responses to forest cutting in the riparian zone. Res. Pap. SRS–51. Asheville, NC: USFS Southern Research Station.

[365] Dissmeyer, George E., ed. 2000. Drinking water from forests and grasslands: a synthesis of the scientific literature. Gen. Tech. Rep. SRS–39. USDA Forest Service, Southern Research Station. Pg 122

sampling extreme storm events, which is when higher erosion occurs, was made.[366] The study likely underestimates peak erosion rates.

The Aquatic Resource Report references a paper by Edwards and Williard[367] as showing that BMPs adequately reduce sediment delivery to aquatic resources. That paper is only a review of three earlier studies, none of which was performed in the Southern Appalachians. The one study in a mountainous area that showed >90% reduction in sediment with BMPs reflected "precipitation … [which for] several years was well below average." The other reported major sediment reduction was in the coastal plain, which is not applicable to the Foothills Project due to extremely different topography and soils. Edwards and Willard also explicitly discuss why estimated BMP efficiencies may be too high:

> Sediment and nutrient reductions were based on in-stream water-column loadings because, presently, there are no published studies/measurements that have measured and compared hillside delivery of sediment or nutrients from harvesting with and without BMPs…Some eroded sediment originating from management activities may be stored on the hillside or in the channel during at least the time in which monitoring was performed. If the area of storage was a riparian buffer and if storage is permanent, then the attribution of the reduction of the constituent delivery is fully appropriate in the calculation of the BMP efficiency. If storage was not by the riparian buffer or it was not permanent, attributing the entire efficiency value to the BMPs is not fully appropriate. Because substantial amounts of sediment delivered to a stream channel can be stored for decades and perhaps longer before being flushed from the watershed (Trimble 1981, Reid 1982), sediment efficiencies may be greatly overestimated in some situations…Sediment BMP efficiencies also may be overestimated or underestimated because of the types of flow conditions that occur during monitoring. Most suspended sediment exports occur during large or intense storm events (Beasley 1979, Edwards and Owens 1991), which occur infrequently and randomly… Road or culvert washouts are not uncommon because of a lack of maintenance and can lead to large and chronic loadings of sediment and nutrients to waterbodies. In this type of situation, water quality protection from high BMP effectiveness and efficiencies in the short term could be more than negated by the effects of BMP failure in the long-term.

The third study considered by Edwards and Williard was Arthur et al. 1998 [368] (on the Cumberland Plateau, a different physiographic region). This study found that clearcutting on a 45% slope had BMP sediment removal effectiveness of 53% during harvest, 34% 17 months

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[366] Riedel, M.S. and J.M. Vose. 2002. Forest road erosion, sediment transport and model validation in the southern Appalachians. In Proc. Second Federal Interagency Hydrologic Modeling Conference, Las Vegas, Nevada.

[367] Edwards P, Williard K. "Efficiencies of Forestry Best Management Practices for Reducing Sediment and Nutrient Losses in the Eastern United States" Journal of Forestry • July/August 2010

[368] ARTHUR, M.A., G.B. COLTHARP, AND D.L. BROWN. 1998. Effects of best management practices on forest streamwater quality in eastern Kentucky. J. Am. Water Resour. Assoc. 34: 481–495.

later, and 2%, 53%, -94% (sediment increased with BMP over control), and 78% for each year subsequently. Arthur et al. found that streamflow increased by 123 percent on the BMP watershed during the first 17 months after cutting and by 138 percent on the non-BMP watershed. Water yields remained significantly elevated compared to the uncut watershed 8 years after harvesting. Suspended sediment flux was 14 and 30 times higher on the BMP and Non-BMP Watersheds, respectively, than on the uncut watershed during treatment, and 4 and 6.5 times higher in the 17 months after treatment was complete. Clearcutting resulted in increased concentrations of nitrate and other nutrients compared to the uncut watershed, and concentrations were highest on the non-BMP watershed. Overall, BMPs reduced impacts, but logging still produced dramatic impacts.

We request that the Aquatic Resource Report be revised to address all of the above information in the Edwards and Williard paper.

IX. The Foothills Project Does Not Comply With the National Forest Management Act

The National Forest Management Act ("NFMA") "sets forth substantive and procedural standards that govern the management of national forests."[369] This happens in two phases. "First, the NFMA directs the Forest Service to 'develop, maintain, and, as appropriate, revise' Forest Plans" which must comply with NFMA.[370] "[S]econd, it directs the Forest Service to ensure that all activities on national forest lands . . . are consistent with the Forest Plans."[371] "In summary, all management activities undertaken by the Forest Service must comply with the forest plan, which in turn must comply with [NFMA]."[372] This is generally referred to as the consistency requirement. Forest plans must be consistent with NFMA and individual projects on a forest must be consistent with both the forest plan and NFMA, though theoretically a project's compliance with the forest plan should ensure compliance with NFMA.

When authorizing individual projects the Forest Service can run afoul of these requirements in two mains ways. First, the agency can authorize a project that violates a provision of the forest plan on its face. Second, the Forest Service can authorize a project using an interpretation of its forest plan that violates NFMA's substantive standards. Assertions that a forest plan is being applied in a way that is inconsistent with NFMA are evaluated when the Forest Service uses that interpretation to authorize a specific project, not when the forest plan itself is promulgated.[373] "In order to ensure compliance with the forest plan and [NFMA], the Forest Service must conduct an analysis of each 'site specific' action, such as a timber sale, to

[369] *Cowpasture River Pres. Ass'n v. Forest Serv*., 911 F.3d 150, 160 (4th Cir. 2018), *cert. granted sub nom. United States Forest Serv. v. Cowpasture River Pres. Ass'n*, 140 S. Ct. 36, 204 L. Ed. 2d 1193 (2019) (*citing* 16 U.S.C. § 1604).

[370] *Id*.

[371] *Id*.; *see also Am. Wild Horse Pres. Campaign v. Perdue*, 873 F.3d 914, 919 (D.C. Cir. 2017) (stating the same).

[372] *Idaho Sporting Cong., Inc. v. Rittenhouse*, 305 F.3d 957, 962 (9th Cir. 2002).

[373] *See generally Ohio Forestry Ass'n, Inc. v. Sierra Club*, 523 U.S. 726 (1998).

ensure that the action is consistent with the forest plan."[374] The Chattahoochee-Oconee Forest Plan echoes this requirement: "Projects are evaluated to determine if they are consistent with the management direction in the Plan. This evaluation is recorded in the project-level environmental document with a finding of consistency incorporated into the decision document."[375] The Forest Service has failed to do that here.

A. The Forest Plan Requires Site-Specific Analysis Which the Agency is Bypassing

To comply with both NFMA and NEPA, the current Forest Plan requires site-specific analysis to authorize projects. The Forest Plan Record of Decision is plain: "Forest Plans are permissive in that they allow, but do not mandate, the occurrence of certain activities. *Site-specific analysis* of proposed activities will determine what can be accomplished."[376] The Record of Decision even restates the requirement: "Final decisions on proposed projects will be made on a *site-specific basis* using appropriate analysis and documentation."[377] The agency restated it again in the Forest Plan itself: "Any decisions on projects to implement the Plan are based on *site-specific analysis*."[378] And in responding to public comments on the forest plan, the agency repeatedly committed itself to site-specific, project-specific analyses to comply with NFMA and NEPA.[379] Even the precursor to the current Forest Plan incorporated this requirement.[380]

The agency's proposal is purposefully not site-specific. The "location and timing of treatments" have not been selected but would be chosen after the agency completes analysis documenting compliance with NEPA and NFMA.[381] Stated another way, "specific geographic locations . . . for proposed activities . . . are not specified" in the agency's proposal.[382] There are no proposals for specific actions in specific places. The recreation proposals in particular just establish a process for the agency to *consider* taking an action at some point in the future. The agency may substantially change the recreation system or it may do nothing, all without any site-

[374] *Id*.; *see also Wildwest Inst. v. Bull*, 468 F. Supp. 2d 1234, 1242 (D. Mont. 2006), *aff'd*, 547 F.3d 1162 (9th Cir. 2008) ("NFMA requires individual site-specific projects to comply with both the Forest Plan and NFMA's substantive requirements"); 36 C.F.R. § 219.15(d) (2012) ("A project or activity approval document must describe how the project or activity is consistent with applicable plan components").

[375] Forest Plan, 2-2.

[376] Forest Plan Record of Decision, 27 (emphasis added).

[377] Forest Plan Record of Decision, 28 (emphasis added).

[378] Forest Plan, 2-2 (emphasis added).

[379] *See, e.g.*, FEIS, App'x G, G-20, -44, -46, -87, -259.

[380] *Sierra Club v. Martin*, 168 F.3d 1, 2 (11th Cir. 1999) ("Before any sales of timber can occur within the Forest, the Plan requires the Forest Service to conduct a site-specific study") (applying 1985 Forest Plan as amended in 1989).

[381] Draft EA, 11.

[382] Vegetation Report, 10.

specific documentation of compliance with the Forest Plan and NEPA. This is well outside the bounds of what is allowed by the Forest Plan.

Many parts of this proposal simply seek to implement objectives in the Forest Plan with no site-specific analysis. For instance, the agency plans to create early successional habitat but it does not know where. It acknowledges that its ability to do so is limited by standards in its Forest Plan. It has generally predicted how much early successional habitat it intends to create in specific prescriptions but "if fewer acres of young forest exist within a given management prescription" than predicted, it will "create additional acres of [early successional habitat]" so long as it stays "below the maximum acres allowed for individual [prescriptions]."[383] The only thing the agency believes it is bound by here is the limits in its Forest Plan. It is planning to go to undisclosed and undecided locations and create the maximum amount of early successional habitat allowed under its Forest Plan. That treats the Forest Plan as a self-implementing document which it plainly is not. If that is the agency's plan, why has it prepared the Draft EA at all? Compliance with NEPA and NFMA is not just a check-the-box exercise.

To be clear, condition-based management does not prevent the agency from complying with this requirement. The agency can use its condition-based protocols to identify areas for site-specific actions, and then those actions can be implemented following "appropriate analysis and documentation."[384] The agency's effort to reach a decision it can implement on the ground is just premature at this point. To comply with NFMA and NEPA, it must conduct site-specific analysis.

B. The Project Violates NFMA's Prohibition on Timber Harvesting on Unsuitable Lands

1. Timber Production and the Foothills Project

National forests are managed, in part, for timber production purposes. Since the inception of the national forest system in the late 1800s, Congress has instructed that they be managed "to furnish a sustainable supply of timber."[385] Still today, Congress requires national forests to be managed for timber purposes.[386] The Chattahoochee-Oconee National Forest tracks how much timber it is producing on a quarterly basis. By the fourth quarter of fiscal year 2019, the Chattahoochee-Oconee had sold approximately 10.5 million board feet of timber.[387] Since the very beginning, timber production has been an important part of national forest management.

[383] Vegetation Report, 67-68.

[384] Forest Plan Record of Decision, 28.

[385] *See* 30 Stat. 34 (1897) *codified at* 16 U.S.C. § 475; *see also United States v. New Mexico*, 438 U.S. 696, 707 (1978) (stating Congress originally "intended national forests to be reserved for only two purposes-[t]o conserve the water flows, and to furnish a continuous supply of timber for the people") (citations omitted).

[386] 16 U.S.C. § 1604(e)(1).

[387] *See* Forest Service Region 8, Periodic Timber Sale Accomplishment Report Quarters 1-4 (FY 19) *available at* https://www.fs.fed.us/forestmanagement/documents/ptsar/2019/2019_Q1-Q4_PTSAR_R08.pdf.

Over the past two years there has been a concentrated push to produce more timber from the national forest. In May 2018, the Washington Office of the Forest Service wrote all Regional Foresters requesting a plan for completing more vegetation management across the national forest system.[388] Meeting that objective would be determined not by evaluating and quantifying acres of forest restored, or acres of hazardous fuels reduced; success would be determined based on fulfillment of timber targets.[389] The national timber target for fiscal year 2018 was 3.4 billion board feet increasing to an estimated target of 4.2 billion board feet by fiscal year 2022.[390]

The Southern Region responded to the Washington Office in June 2018 stating its objective of "increasing timber volume from 680 [million board feet] in FY 2018 to 780 [million board feet] by FY 2021, and then maintain[ing] that level."[391] The Southern Region also noted a problem however. The Region had "depleted much of its shelf volume [of NEPA-approved timber projects] over the last two years of increasing timber outputs."[392] In June 2018, the "majority of forests [only had] about 6-9 months of shelf volume remaining."[393] Fiscal year 2020, in particular, would need "additional completed NEPA analysis and signed decisions" to meet the increased timber targets.[394] To facilitate that objective, the Region was encouraging forests to pursue NEPA efficiencies including the use of "templates," "checklists," and "EADM-centric" tools like condition-based management.[395]

The Forest Service is implementing this direction to increase timber production. In its Fiscal Year 2020 Budget Justification Request the Forest Service committed to "sell 3.7 billion board feet of timber to continue work towards the President's goals" outlined in Executive Order 13855.[396] The Budget Justification requested more funding for "forest products" specifically to "promote increased timber sales."[397] The agency requested separate funding for "vegetation and watershed management" though it noted a chief objective of those actions was "improving the growth and health of timber stands" for the benefit of "improved timber quality."[398] The agency justified efforts to "treat existing timber stands to increase resilience to wildfires and insect" by

[388] *See* Attachment 3.

[389] *See* Attachment 3.

[390] *See* Attachment 3. The President also issued Executive Order 13855 on December 21, 2018, calling on the Forest Service to sell "at least 3.8 billion board feet of timber from [Forest Service] lands" in fiscal year 2019. *See* 84 Fed. Reg. 45 (Jan. 7, 2019).

[391] *See* Attachment 3.

[392] *Id*.

[393] *Id*.

[394] *Id*.

[395] *Id*.

[396] *See* 2020 Budget Justification Request, 2 included as Attachment 10. For background on the President's Executive Order *see supra* n. 391.

[397] 2020 Budget Justification, 61.

[398] 2020 Budget Justification, 62.

pointing out that it would "improve the quality of timber for future harvests."[399] Timber is so heavily emphasized that the Forest Service even justified road system expenditures as:

> essential for . . . meeting the Forest Service's goal of producing 3.7 billion board feet of timber in FY 2020 . . . Given that timber is a priority, the agency is making careful choices within budget constraints; therefore, *all requested capital improvement funding directed towards the Roads program will support timber production* and public safety.[400]

The fact that the agency is devoting capital improvement road funding to timber production, in the face of a failing road system and growing maintenance backlog, underscores its commitment to producing timber above nearly all else. On December 19, 2019, while this comment period was pending, the Forest Service issued a press release specifically to celebrate that it had "sold more timber in this year than we have in any of the past 21 years."[401]

The Forest Service cannot contend that the Foothills Project is connected to this effort to both: 1) increase timber production at the national level, and 2) have signed NEPA decisions "on the shelf" at the regional level to show compliance with increased timber targets. The agency's five-year timber plan includes offering the first timber sale authorized as part of the Foothills Project in fiscal year 2020.[402] The agency has already internally named this the "Willis Knob" timber sale and intends to offer for sale 13,000 units of timber volume.[403] That will be followed by the "Upper Jigger Creek" timber sale in fiscal year 2021 which will offer 4,000 units of timber volume under the Foothills Project NEPA decision.[404] The agency plans to offer three timber sales authorized under Foothills – the "Lower Jigger," "3 Sisters," and "Earls Ford" sales – for a total of 13,000 units of volume in fiscal year 2022.[405] And at least one timber sale authorized under Foothills for 5,000 units of volume is planned for fiscal year 2023.[406] The agency's five-year timber plan explains how these timber sales will be used to meet forest-wide timber targets for each fiscal year.

These timber plans are particularly striking in light of the fact that, according to the Foothills Project Draft EA, the agency does not currently know where on the ground it will harvest timber. The Foothills Project is a "condition-based restoration project where specific geographic locations (i.e., stands, in the case of vegetation management) for proposed activities"

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[399] 2020 Budget Justification, 62.

[400] 2020 Budget Justification, 83.

[401] *See* Forest Service Press Release available at https://www.fs.fed.us/news/releases/usda-forest-service-surpasses-goals-and-breaks-records-2019.

[402] *See* Attachment 4.

[403] *Id*. The unit of volume is unclear from the attachment.

[404] *Id*.

[405] *Id*.

[406] *Id*.

are unknown.[407] The agency does not even know "existing baseline conditions" that may indicate timber harvest is appropriate in an area.[408] Yet without knowing where it might harvest timber, the agency is planning multiple timber harvests for specific volumes. The conclusion here is unmistakable: these timber sales are being developed, in part or in full, to meet timber production goals. The Forest Service already has an objective for how much timber will be produced yet it does not know where it will harvest that timber on the ground. Site-specific conditions are not driving those harvests, timber goals are.

To be clear, we do not fault the agency for taking this approach. Congress requires the Chattahoochee-Oconee National Forests to be managed in part for timber production. It is reasonable to think the Forest Service would have timber objectives and plan its timber program years in advance. We also understand that sometimes timber harvests to meet timber production objectives can also serve other purposes like creating wildlife habitat. But the agency cannot pretend that timber production is not a driving factor for this project. Its failure to discuss timber production or suitability at all in its Draft EA renders its analysis deficient.

2. NFMA Prohibits Timber Harvests in Areas Designated Unsuitable for Timber Production in the Foothills Project Area

NFMA requires the Forest Service to "identify lands . . . which are not suited for timber production" when developing Forest Plans.[409] The Chattahoochee-Oconee National Forest fulfilled that requirement when it last revised its Forest Plan in 2004. Each individual management prescription was designated as either suitable or unsuitable for timber production. Overall, the Forest Service designated 367,196 acres of the forest as suitable for timber production and 383,571 acres as unsuitable for timber production.[410] The Foothills Project covers 28 individual management prescriptions.[411] Though not disclosed in the Draft EA, the Forest Service has designated 20 of these prescriptions as unsuitable for timber production under NFMA. These 20 unsuitable prescriptions occupy approximately 34,500 acres (not counting acres in the embedded Riparian Prescription which is also designated unsuitable) of the 157,000-acre project area.[412]

On lands the Forest Service has designated as unsuitable for timber production, NFMA requires that "except for salvage sales or sales necessitated to protect other multiple-use values, no timber harvesting shall occur." 16 U.S.C. § 1604(k). Restated, on lands designated as unsuitable for timber production, there shall be no timber harvesting except for salvage sales or

[407] Vegetation Report, 10.

[408] Draft EA, 11.

[409] 16 U.S.C. § 1604(k).

[410] Forest Plan, App'x F, F-10.

[411] Vegetation Report, Table 18 (fails to account for MRx 0).

[412] Estimate taken from Table 18 of the Vegetation Report.

sales *necessitated* to protect other multiple uses. This prohibition is also incorporated into the Forest Plan. *See, e.g.*, Forest Plan Standard 4.F-012 ("These lands are classified under NFMA as unsuitable for timber production; not appropriate, however, salvage sales, sales necessary to protect other multiple-use values, or activities that meet other Plan goals and objectives are permitted.").

The Forest Service appears to be completely ignoring this prohibition. Nowhere does the Forest Service disclose that it has designated as unsuitable for timber production many of the prescriptions affected by the project. The maps of potential timber harvest produced with the Draft EA reveal that the agency is contemplating substantial timber harvesting in prescriptions designated unsuitable for timber production.[413] The Forest Service is treating unsuitable areas identically with suitable areas, eviscerating any distinction between the two and ignoring Congress' instruction that "except for salvage sales or sales necessitated to protect other multiple-use values, no timber harvesting shall occur" in unsuitable areas. 16 U.S.C. § 1604(k).

At the very least, this fails NFMA's consistency requirement. The agency has not shown that its proposal is consistent with NFMA's prohibition on harvesting timber from unsuitable land, nor the Forest Plan standards incorporating the same prohibition. The Forest Service acts arbitrarily and capriciously if it cannot explain how its project is consistent with NFMA and the Forest Plan.[414]

But more to the point, it seems unlikely that the Forest Service can show that its logging proposals meet either of the two exceptions to NFMA's prohibition on timber harvesting on unsuitable lands. Only two types of timber harvests can occur on unsuitable lands: 1) "salvage sales" and 2) "sales necessitated to protect other multiple-use values."[415]

It appears that the agency is seeking authority under the Foothills NEPA documents to "implement" "salvage harvests"[416] but the proposal is so undefined that it cannot be approved or evaluated under NFMA or any other statute. The only discussion of salvage harvest in the Draft EA is that in responding to "site and pest-specific" insect and disease outbreaks the agency may choose to use a salvage harvest.[417] Those harvests will "occur when needed."[418] When indicating whether these would be commercial salvage harvests, the agency only stated "maybe."[419] There is no specific proposal for a salvage harvest, no anticipated amount of harvest, no identification of dead or dying trees, no identified pest or insect problem that

[413] *See* Draft EA, Maps 12-20.

[414] *See The Lands Council v. McNair,* 537 F.3d 981, 994 (9th Cir. 2008) *overruled on other grounds by Winter v. Nat. Res. Def. Council, Inc*., 555 U.S. 7 (2008).

[415] 16 U.S.C. § 1604(k).

[416] Draft EA, 59.

[417] Draft EA, App'x B.

[418] Draft EA, App'x B.

[419] Draft EA, App'x B.

necessitates salvage, no estimate on when these salvage harvests may occur, and no indication about whether this would be accomplished commercially or not. This is a blank check. The agency is seeking authority to pursue salvage logging anywhere across a 157,000-acre area at any time over the next several decades without identifying a single acre that would justify a salvage harvest of any sort. That does not comply with NEPA or NFMA.[420] It also is insufficient to qualify for the salvage exception to NFMA's prohibition on harvesting on unsuitable lands. At the very least, to meet the exception the agency must be able to show there is a salvage need.

The Project also does not fit within the exception for "sales necessitated to protect other multiple-use values." The condition-based approach has simply not provided enough detail to evaluate whether a timber harvest would be *necessary* to protect another multiple-use value. Using the condition-based approach "the condition of forest stands, and sites will be assessed prior to implementation" but after the NEPA process is over.[421] Only at implementation would "[s]ite characteristics [ ] be assessed to determine existing baseline conditions and understand any underlying causes of ecologic degradation."[422] If the agency does not have baseline data and does not currently have an understanding of underlying causes of degradation (if any) it cannot assert that its timber sale is *necessary* to another multiple-use value. Congress clearly understood that timber harvests do not always further other multiple uses, otherwise the prohibition on timber harvests in unsuitable areas – *except* for those harvests truly necessary to further multiple uses – would be meaningless.

Any assertion that the Foothills Project meets this exception to NFMA's prohibition is simply premature. There may be actions theoretically contemplated as part of the Foothills Project that could meet this exception but without any site-specific proposal, it is impossible to know. Timber harvests are not categorically necessary to protect other multiple uses.

3. The Agency Cannot Explain Its Way Out of NFMA's Prohibitions

As the agency is aware, this is not the first time we have voiced concerns over substantial timber harvesting in areas designated unsuitable for timber production. The agency is regularly pursuing commercial timber harvests in unsuitable areas.[423] It is also not the first time these concerns have been discussed as part of the Foothills Project. Nevertheless, the agency refuses to explain whether its proposed timber harvesting in unsuitable areas meet either exception provided under NFMA. Responding to our administrative objection on the Cooper Creek Project the agency admitted that its NEPA documents did not "disclose which activities are occurring on

[420] *See infra* p. 177.

[421] Draft EA, 11.

[422] Draft EA, 11.

[423] *See, e.g.*, Chattahoochee-Oconee National Forest, Brawley Mountain Project Final Environmental Assessment (2009), Chattahoochee-Oconee National Forest, Cooper Creek Project Final Environmental Assessment (2018); *see also* Attachment 11.

unsuited lands in a transparent manner," nor "describe how those activities are consistent with the National Forest Management Act."[424] The agency is making the same mistake here.

Past agency efforts to explain how its proposed activities fit into NFMA's exceptions on harvesting timber on unsuitable lands make clear that the agency is arbitrarily applying this prohibition.

When we raised this issue as part of the Cooper Creek Project, the agency's initial reaction was that the suitability prohibition was at least partially related to internal agency funding codes.[425] The agency could use "timber dollars [NFTM, etc.] to prep and administer the sales" in unsuitable areas "but not to plan the sales."[426] It is unlikely that Congress was concerned with Forest Service funding codes when it enacted the prohibition on harvesting timber in unsuitable areas. Regardless, the agency appears to have abandoned this explanation.

Next, the agency suggested that NFMA's prohibition on timber harvesting on unsuitable lands was only "temporary," specifically that "NFMA envisioned that lands classified as unsuitable would return to active management after 10 years, and therefore 'unsuitable' is a temporary condition. The CONF forest plan is now 14 years old . . . well past the ten year limitation per NFMA."[427] This is incorrect. The Forest Service is to review its "decision to classify these lands as not suited for timber production at least every 10 years and [ ] return these lands to timber production whenever [it] determines that conditions have changed so that they have become suitable for timber production."[428] But until that happens, the lands remain unsuitable under NFMA. And any effort to remove the unsuitable designation would require a Forest Plan amendment. Neither of those events has occurred.

Another theory was that NFMA provides "a considerable amount of discretion regarding the interpretation of the word 'necessary'" as used in the exception for actions *necessary* to protect other multiple uses.[429] The agency suggested a better interpretation would be determining necessity "within the context of defining the 'purpose and need' for an action."[430] In other words, if the activity fell within the purpose and need for a project it was considered "necessary" for NFMA purposes.

This theory cannot be right either. Congress enacted the prohibition on timber harvesting on unsuitable lands because it was concerned about balancing multiple uses across the forest and

[424] *See* Attachment 12.

[425] *See* Attachment 13.

[426] *Id*.

[427] *See* Attachment 14.

[428] 16 U.S.C. § 1604(k).

[429] *See* Attachment 15.

[430] *Id*.

it recognized that timber harvesting was not always compatible with all other multiple uses.[431] As a result, timber harvest would not be allowed on lands the Forest Service designated as unsuitable *unless* it was *necessary* to protect a multiple use in a way that other timber harvests were not. Congress did not enact the prohibition because it was concerned about the purpose and need statements developed as part of the agency's NEPA obligations, nor could Congress have intended for the Forest Service to simply wordsmith around its prohibitions by artfully crafting purpose and need statements.

If the Forest Service is going to harvest timber in unsuitable prescriptions, it must show that harvest is a salvage harvest or is "*necessitated* to protect other multiple-use values."[432] The agency has done neither here and, as a result, its proposed timber harvests violate NFMA. The agency must either abandon these proposals or demonstrate consistency with NFMA's requirements.

C. The Agency is Implementing *De Facto* Forest Plan Amendments Without Following Proper Procedure in Violation of NFMA

As explained above, each national forest must have a governing Forest Plan.[433] Plan development requires "a systematic interdisciplinary approach to achieve integrated consideration of physical, biological, economic, and other sciences."[434] Plans must "provide for multiple use . . . includ[ing] coordination of outdoor recreation, range, timber, watershed, wildlife and fish, and wilderness."[435] They must "form one integrated plan . . . incorporating in one document or one set of documents . . . all of the features required by [NFMA]."[436] Ultimately, Forest Plans "guide management of NFS lands so that they are ecologically sustainable and contribute to social and economic sustainability; consist of ecosystems and watersheds with ecological integrity and diverse plant and animal communities; and have the capacity to provide people and communities with ecosystem services and multiple uses that provide a range of social, economic, and ecological benefits for the present and into the future."[437] In other words, a forest plan "provides a framework for integrated resource management and for guiding project and activity decisionmaking on a national forest."[438]

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[431] Other than timber, multiple uses and values include: outdoor recreation, streams and watersheds, wildlife, fish, the diversity of plant and animal communities, and soil productivity. *See* 16 U.S.C. § 528 (1960); § 1604(e), § 1604(g)(3).

[432] 16 U.S.C. § 1604(k) (emphasis added).

[433] 16 U.S.C. § 1604(a).

[434] 16 U.S.C. § 1604(b).

[435] *Id*. § 1604(e)(1).

[436] *Id*. § 1604(f)(1).

[437] 36 C.F.R. § 219.1(c).

[438] *Id*. § 219.2(b)(1).

Forest Plans "shall . . . be revised [ ] from time to time when the Secretary finds conditions in a unit have significantly changed, but at least every fifteen years."[439] Forest Plans also may "be amended in any manner whatsoever after final adoption" but only "after public notice" and compliance with applicable public participation requirements.[440] Specifically, "a plan amendment is required to add, modify, or remove one or more plan components, or to change how or where one or more plan components apply to all or part of the plan area (including management areas or geographic areas)."[441] The Forest Service may not implement a plan amendment – *de facto* or formal – without following the procedures mandated by NFMA.[442] The Forest Service has violated this requirement on at least two fronts.

1. Removal of the Unsuitable Designation Requires a Formal Forest Plan Amendment

A "plan amendment is required to add, modify, or remove one or more plan components, or to change how or where one or more plan components apply to all or part of the plan area (including management areas or geographic areas)."[443] Twenty-one management prescriptions (including Riparian Prescription 11) include prescription-specific language stating that the prescription is unsuitable for timber production. As explained above, the Foothills Project does not distinguish at all between suitable areas and unsuitable areas; the Forest Service is reading that limitation out of the prescription-specific standards for unsuitable areas and focusing timber harvests in those areas equally with suitable areas. The Forest Service may remove this plan component but only through following the procedures for a plan amendment. Its effort to do so without following those procedures amounts to a *de facto* plan amendment in violation of NFMA.

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[439] 16 U.S.C. § 1604(f)(5). The Chattahoochee-Oconee Forest Plan is now out of date. The Plan was last revised in 2004, expiring in 2019. Failure to revise a Forest Plan within the required fifteen year timeframe is a violation of NFMA. *See Biodiversity Assocs. v. U.S. Forest Serv. Dep't of Agric*., 226 F. Supp. 2d 1270, 1316 (D. Wyo. 2002). Congress routinely includes a provision in annual appropriations bills excusing forests that have not revised their Forest Plans within the requisite timeframe. This Congress is no different. The current appropriations bill includes language stating that the Forest Service "shall not be considered to be in violation of . . . 16 U.S.C. 1604(f)(5)(A)) solely because more than 15 years have passed without revision of the plan for a unit of the National Forest System." *See* H.R. 1865. However, if the Forest Service "is not acting expeditiously and in good faith, within the funding available, to revise a plan for a unit of the National Forest System, this section *shall be void* with respect to such plan and a court of proper jurisdiction may order completion of the plan on an accelerated basis." *Id*. (emphasis added). It is unclear to us if the Forest Service is complying with this provision.

[440] 16 U.S.C. § 1604(f)(4); *see* 36 C.F.R. § 219.13(b)(2).

[441] 36 C.F.R. § 219.13(a).

[442] *See Oregon Nat. Res. Council Fund v. Forsgren*, 252 F. Supp. 2d 1088, 1101 (D. Or. 2003) (enjoining timber sales implementing *de facto* forest plan amendment until the Forest Service complies with NFMA's public participation requirements for plan amendments); *House v. U.S. Forest Serv., U.S. Dep't of Agric*., 974 F. Supp. 1022, 1034 (E.D. Ky. 1997) (enjoining timber sales implementing policies adopted without notice and comment "until the Forest Plan has been properly amended to include the same").

[443] 36 C.F.R. § 219.13(a).

It is worth noting that removing this plan component has real consequences. The Forest Plan and underlying EIS assume that unsuitable areas will not be subject to regular timber harvests. That assumption is critical to how the agency, through its Forest Plan, balances multiple uses across the forest. The Forest Service can reassess that balance but only through plan amendment or revision.

2. Designating Substantial Acreage Under Prescription 9.F also Requires a Formal Forest Plan Amendment

Forest Plan Prescription 9.F protects rare communities and, unlike most Forest Plan prescriptions, is designated over time when rare community sites are identified. Sites are "added to [the] prescription without plan amendment, *unless such additions would result in large shifts in land allocation*."[444] As part of the Foothills Project, the Forest Service anticipates adding to Prescription 9.F: 2,300 acres of "bogs, fens, seeps, and seasonal ponds,"[445] 3,225 acres of "basic mesic forests,"[446] 200 acres of "rock outcrops and cliffs,"[447] and 50 acres of canebrakes.[448] Presumably, these communities are currently managed under other prescriptions, so the Foothills Project will effect a nearly 6,000 acre shift in land allocation. Such an expansive reallocation necessitates a Forest Plan amendment.

3. The Agency's Approach to This Project Constitutes a De Facto Forest Plan Amendment

Forest plans balance multiple uses to "provide[ ] a framework for integrated resource management and for guiding project and activity decisionmaking on a national forest."[449] Development of the current Forest Plan took years, with intensive public involvement, feedback, and negotiation. The public expected (and indeed the law requires) the forest to be managed according to the management structure decided in the Forest Plan until it is revised and amended. The agency cannot revisit that framework without going through the forest plan amendment or revision process. But that is effectively what is happening with the Foothills project.

To be clear, we are not suggesting that use of landscape-scale, or condition-based, management techniques, necessitate forest plan amendments. Those techniques can be pursued under the current Forest Plan and we have repeatedly suggested ways the agency could use those concepts while staying within applicable legal boundaries. We are disappointed that those suggestions have fallen by the wayside.

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[444] Forest Plan, 3-158 (emphasis added).

[445] Botanical Resources and Rare Communities Report, 12

[446] Botanical Resources and Rare Communities Report, 20.

[447] Botanical Resources and Rare Communities Report, 22.

[448] Draft EA, App'x B.

[449] 36 C.F.R. § 219.2(b)(1).

According to the Draft EA, the Foothills Project is the product of a new "Integrated Landscape Restoration Strategy" ("Landscape Restoration Strategy") developed by the Forest which culminated in a "Restoration Plan."[450] Exactly how the Landscape Restoration Strategy was used is a little unclear. The Restoration Plan (presumably the output of that strategy) was circulated as early as March 2017 but the Landscape Restoration Strategy is dated October 2017. Regardless, the Landscape Restoration Strategy was "designed to complement the Chattahoochee-Oconee National Forests Land and Resource Management Plan while focusing maintenance and restoration efforts."[451] The Forest Service recognized that the Landscape Restoration Strategy was not comprehensive however. Some Forest Plan goals "may be subordinate to the goals that more directly apply to the type, location, and methods of restoration that will be proposed by future landscape restoration projects."[452] "[G]oals that are not restoration focused but . . . that meet other sociologic, cultural, economic, outreach or research needs" are explicitly not pursued using the approach.[453]

The concepts of a Landscape Restoration Strategy and Landscape Restoration Plan sound perfectly appropriate to us. The Forest Service can use the process to identify restoration opportunities and design specific projects to meet those objectives. This seems like a reasonable way to prioritize restoration work.

The trouble arises in the way the Forest Service is using it here. The agency can pursue landscape-scale restoration with individual projects identified to advance the goals of the Restoration Plan. With that approach the agency could also mix in projects that are not driven by the Restoration Plan but may meet other objectives. Here, the Forest Service's approach turns the Restoration Plan *into the exclusive management direction* for this entire area.

Stated another way, instead of using the Restoration Plan to prioritize projects implementing the Forest Plan, the Restoration Plan is replacing the Forest Plan in the Foothills project area (except for Plan direction it incorporates). Or another way: it would be appropriate to use the Restoration Plan to design and prioritize site-specific restoration projects, because members of the public whose interests are not fully reflected in the Restoration Plan could advocate for additional actions along the way, but Alternative 2 would take away that right. There is nothing specific proposed in the Draft EA, only a new process (taken from the objectives of the Restoration Plan) for identifying site-specific work. Instead of implementing the process in the Forest Plan, the agency is now implementing the process articulated in its Foothills Restoration Plan and Draft EA. The Forest Service is applying that process across this entire landscape, and the Forest has indicated it will duplicate the process (and make similar shifts in priorities) for the seven remaining landscapes. Put simply, this is a plan revision in eight separate bites.

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[450] Draft EA, 10.

[451] Landscape Restoration Strategy, 1.

[452] Landscape Restoration Strategy, App'x A.

[453] Landscape Restoration Strategy, App'x A.

The desired conditions in specific prescriptions in the Forest Plan are replaced by decision matrices that apply regardless of plan prescription. The Draft EA includes virtually no consideration of the objectives of the 21 management prescriptions within the Foothills project area. This is all replaced by the objectives of the Restoration Plan which are incorporated into the Draft EA.

This upsets the balance of multiple uses struck in the Forest Plan, by refocusing the entire Foothills area on ecological restoration. The Restoration Plan specifically does not further "goals that are not restoration focused." This is reflected in the Draft EA which purports to cover recreational activities and actions to improve water quality but has no specific proposals for those activities. The most specific information offered in the Draft EA is prediction of vegetation management acreage which is the output of the Restoration Plan. Restoration is a worthy objective but the Forest Service is required to manage for more than just ecological restoration.

A comparison between this proposal and how the Forest Service understands its Forest Plan is illustrative. According to the agency: "The forest plan provides forest-wide direction and sets the land management of the forests by describing overarching goals and objectives. These goals and objectives are more specifically applied in the use of management prescription allocations; each allocation provides the desired conditions and standards (prescriptions) specific to each forest type and the geographic location where those standards can be applied."[454] Here, the Draft EA sets the project area-wide direction and overarching goals which are applied at geographic locations through project-specific decision matrices regardless of Forest Plan prescriptions. To be sure, the agency will compare site-specific actions authorized under Foothills project to Forest Plan standards and guidelines but the *management direction* for the area will be decided by the priorities in the Foothills Draft EA and decision matrices, not the Forest Plan.

We are not suggesting that the Restoration Plan is pursuing objectives *incompatible* with the Forest Plan, or that implementing the Restoration Plan automatically leads to Plan violations. But the way the Restoration Plan and Draft EA are being used here recalibrates management focuses in this area. Nor are we contesting that these (or similar) recalibrations may be ecologically appropriate and needed. After all, the current Forest Plan has already reached the 15 year mark, when NFMA requires the Forest to ask whether there is a need for change based on "new information and changing conditions."[455] But if the Forest intends to make a fundamental shift in plan priorities, leaving some behind for good, it must comply with the requirements of the planning rule.[456] The Forest clearly has not even attempted to do so.

The planning rule's requirements directly answer the Forest's rationale for this project. The Forest states that a new framework is needed based on new scientific information and what we have learned through monitoring. Under the planning rule, if such information shows a need

[454] Landscape Restoration Strategy, App'x A.

[455] 16 U.S.C. § 1604(f)(5); 36 C.F.R. 219.2(b).

[456] 36 C.F.R. Part 219.

to adjust priorities in a way that changes "the unit's expected distinctive roles and contributions to the local area, region, and nation," the plan must be changed.[457] Plan amendments and revisions are subject to the procedural requirements of the planning rule, which ensure that the public is appropriately involved. They also require the agency to meet the rule's substantive requirements, including a duty to maintain and restore ecological integrity along the dimensions of structure, function, connectivity, and composition, at all relevant ecological scales, and to ensure that rare wildlife species' habitats are also maintained or restored. [458]

The planning rule's requirements are rigorous because they have long-lasting effects. If a site-specific project does not have the desired effect, the responsible official can make adjustments iteratively. But a plan amendment or revision will shift the Forest's priorities for many years to come, and that is precisely what the Forest intends to do with this project. Instead of meeting the planning rule's rigorous requirements, however, the Forest attempts to substitute a its Restoration Plan which obviously did not fulfill the analysis and substantive requirements applicable to forest planning.

The problem is, in part, one of timing. The agency could use its Restoration Plan to identify site-specific projects and then offer NEPA-compliant comment periods on those individual projects rather than turn its Restoration Plan into the overall project. Again, this would give other members of the public the ability to remind the Forest of other plan objectives that are being neglected, and it would allow for iterative adjustments if any of the Forest's assumptions about ecological needs and the likely benefits of treatments prove incorrect. The need for such adjustments are likely because the new restoration framework is not supported by a robust plan revision analysis process.

This approach is also problematic because of NFMA's requirement for "one integrated plan."[459] The Forest Plan was designed so that the priorities of, for example, Prescriptions 7.E.1 would be pursued wherever Prescription 7.E.1 is found on the landscape and the position of Prescription 7.E.1 on the landscape with other prescriptions should balance multiples uses. Now, the objectives of Prescription 7.E.1 will be pursued in some areas but in the Foothills, actions in the prescription will be determined by the Draft EA and decision matrices.

This is the big picture: Forest plans "provide[] a framework for integrated resource management and for guiding project and activity decisionmaking on a national forest."[460] That calls for tiering site-specific actions to the priorities in the Forest Plan. With Foothills, site-specific actions will effectively be tiered to the Draft EA and decision matrices. We understand those activities may not violate the Forest Plan but the agency is inserting a new layer of priorities in between site-specific actions and the Forest Plan which is effectively an amendment of the Plan in this area.

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[457] 36 C.F.R. § 219.2(b).

[458] 36 C.F.R. §§ 219.8; 219.9.

[459] 16 U.S.C. § 1604(f)(1).

[460] 36 C.F.R. § 219.2(b)(1).

D. The Agency Has Not Demonstrated Consistency With the Forest Plan

All projects or activities on national forests must be consistent with the applicable Forest Plan.[461] The Forest Service bears the burden of demonstrating that consistency.[462] Blanket assertions of consistency, like that found on page 11 of the Draft EA ("All actions taken would be consistent with the revised Chattahoochee-Oconee National Forests Land and Resource Management Plan") are insufficient. The Forest Service:

> must support its conclusions that a project meets the requirements of the NFMA and relevant Forest Plan with studies that the agency, in its expertise, deems reliable. The Forest Service must explain the conclusions it has drawn from its chosen methodology, and the reasons it considers the underlying evidence to be reliable.[463]

The consistency requirement would be relatively meaningless if it only required the agency to include a general statement in its NEPA documents that it did not plan to violate its Forest Plan. NFMA requires more. The agency must show that its proposals do not violate its Forest Plan. The Foothills Project either violates, or the agency has failed to demonstrative consistency with, the following forest-wide plan standards:

- Forest-wide Standard 029: "Site-specific analysis of proposed management actions will identify any protective measures needed in addition to Forest Plan standards, including increasing the width of protective buffers where needed." To our knowledge, this "site-specific analysis" has not occurred. In fact, the Forest Plan assumes site-specific will support each project authorized under the Forest Plan: "Any decisions on projects to implement the Plan are based *on site-specific analysis* in compliance with the National Environmental Policy Act."[464] Thus the structure of the Forest Plan bakes in the assumption that site-specific analyses will be completed to support project development and demonstrate compliance with the Forest Plan.
- Forest-wide Standard 041: "Culverts that are barriers to stream biota passage in waters of aquatic PETS species have priority for replacement over culverts in waters without PETS species." Under Foothills, "[m]ost [aquatic organism passage] projects would occur in cold-water streams which are several miles from federally-listed species."[465] It is unclear to us if there are culverts closer to federally-listed species that are in need of

[461] 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).

[462] *See 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").

[463] *See Lands Council,* 537 F.3d at 994; *see also* Forest Plan, 2-2 ("Projects are evaluated to determine if they are consistent with the management direction in the Plan").

[464] Forest Plan, 2-2 (emphasis added).

[465] Aquatic Resource Report, 22.

replacement and should be prioritized over others. We are unaware of any plan to replace specific culverts.

- Forest-wide Standard 059: "Mechanical site preparation is not done on sustained slopes over 20 percent with soil erosion hazard classified as moderate or higher." The Foothills Project proposes "scarifying, disking, de-compacting, or re-contouring" on 39,781 acres.[466] Without site-specific analysis it is unclear to us if this is being proposed on slopes with soil erosion hazard ratings of moderate or higher but it seems likely given that only 6% of the project area has a soil erosion hazard classified below moderate.[467]
- Forest-wide Standard 065: "On all soils dedicated to maintaining forest cover, the organic layers, topsoil, and root mat will be left intact over at least 80 percent of an activity or project area." The Forest Service has stated that it will comply with that standard but without any site-specific analysis or proposal, we are aware of no information to support that conclusion. We also were unable to find any specific monitoring plan or other mechanism that the Forest Service might use to evaluate compliance with that standard in the future.
- Forest-wide Standard 100: "In areas with very high scenic integrity objectives, management actions are limited to alterations that are low scenic impact." Comparing Draft EA, Maps 12-20, to the Scenic Integrity Objective Map attached to the Scenery and Recreation Resources Report, it appears that substantial timber harvesting is contemplated in areas with a scenic integrity objective of very high. There are no techniques provided to achieve a scenic integrity objective of very high in Appendix B to the Scenery and Recreation Resources Report (which provides techniques for other scenic integrity objectives). We appreciate the commitment that "all projects located in areas of very high scenic integrity objectives should be developed with the advice of the Scenery Resource Specialist"[468] but this is effectively a commitment to figure out compliance with the Forest Plan later, after the agency issues a decision authorizing it to do work on the ground, which is insufficient under NFMA. The Union County Target Range Project demonstrates the need for this analysis before authorizing any site-specific action. There, the Draft EA concluded that the project would "not be consistent with the existing landscape [scenic integrity objective]" in the Forest Plan.[469]
- Forest-wide Standard 149: "The roadless character of inventoried roadless areas will be maintained so as to continue to meet Forest Service roadless area criteria." We appreciate the forest's stated intention of maintaining the roadless character of these areas but without any specific proposal in an inventoried roadless area (only an

[466] Soil Report, 37.

[467] Soil Report, 12.

[468] Scenery and Recreation Resources Report, 10.

[469] Chattahoochee-Oconee National Forest, Union County Target Range Project Draft Environmental Assessment (May 2019), 35.

acknowledgment that some management will/may occur) we cannot evaluate compliance with this standard.

- Forest-wide Standard 154: "Identify and give priority for restoration to stands affected by oak decline." We understand the project proposes actions meant to address oak decline but it is unclear to us if that will be in stands *affected* by oak decline.

The Project appears to violate the following prescription-specific standards:

- Prescriptions 0, 2.A.1, 2.A.2, 2.A.3, 2.B.1, 2.B.2, 2.B.3, 3.C, 3.D, 4.D, 4.F, 4.H, 6.B, 7.E.1, 9.F, and 11 all have prescription-specific standards designating the prescription as unsuitable for timber production. In some of those prescriptions, such as 2.A.1, 2.A.2, and 2.A.3, the prohibition on timber harvesting is strict, with no exceptions. The Forest Plan does not appear to allow timber harvesting in these areas. In other prescriptions, the NFMA exceptions to the prohibition are available. Because there are no site-specific activities proposed it is unclear to us if timber harvesting is planned for all of these prescriptions but Draft EA, Maps 12-20 suggest timber harvesting is being contemplated for all or many of them. The Vegetation Resources Report also indicates that commercial regeneration harvests are planned for some of these prescriptions.[470] As discussed above, there is no indication those activities meet the exceptions to timber harvesting in lands designated unsuitable for timber production under NFMA, or can be pursued in areas where the exceptions are not available.
- It is unclear to us how the application of Appendix B to the Scenery and Recreation Resources Report will ensure compliance with prescription-specific standards regarding scenic integrity.
- Because there are no site-specific proposals it is unclear if the action will exceed prescription-specific early successional habitat requirements. In the past, the Forest Service has had to reduce harvests to ensure it does not exceed applicable thresholds.
- Prescription Standard 0.B-004: "In general, investments in forest health will not be made." Despite this limitation, Draft EA, Maps 12-20 suggest the Forest Service is considering timber harvesting activities in Prescription 0.
- Prescription Standard 0.B-009: "Prescribed fire will not be used as a management tool." It is unclear if prescribed fire is being considered in this prescription.
- Prescription Standards 2.A.-019 and 2.B.-011: In these areas "insect and disease outbreaks may be controlled when necessary to protect the values for which the area was established, to reduce hazards to visitors, for safety or legal reasons, or to protect adjacent resources provided that pest management activities shall be as specific as possible against target organisms and induce minimal impact to other components of the ecosystem." We are not aware of any specific insect or disease outbreaks in these prescriptions. But the Foothills Project appears to seek authority to address insect and disease outbreaks wherever they may occur. If those activities will

[470] Vegetation Report, Table 39.

occur in these prescriptions, the Forest Service has not demonstrated how they comply with this standard.

- Prescription Standards 2.A.1-004, 2.A.2-004, and 6.B-013: "No new wildlife clearings will be developed, but existing ones may be maintained." The Project proposes to create 1,400 acres of new wildlife openings.[471] It is unclear if any are planned for these prescriptions.
- Prescription Standards 2.B-008: "Management actions will not negatively affect the outstandingly remarkable values such that classification of a river segment is downgraded; that is, from wild to scenic or recreational or from scenic to recreational or from recreational to not eligible." We do not know what the Forest Service is proposing in this prescription so it is unclear if it is complying with this standard. Draft EA, Maps 12-14 suggest timber harvest is being considered in the prescription.
- Prescription Standard 6.B-003 states that: "Native pests are generally conducive to providing the desired conditions of this management prescription, and will be controlled only" in very limited circumstances. If the agency is considering native pest control in this prescription, it has not shown that it meets one of the limited circumstances.
- Prescription Standard 6.B-010: "Up to one-half mile of temporary-use road per entry can be constructed for management purposes within any single contiguous block of this management prescription." It is unclear if the Forest Service is complying with this standard because it has not disclosed the amount of harvest planned for prescription 6.B nor the amount of temporary road necessary for the any portion of the project.
- Prescription Standard 9.F-001: "Site-specific analysis of proposed management actions will identify any protective measures needed in addition to Forest Plan standards, including the width of protective buffers where needed. Management activities occur within rare communities only where maintenance or restoration of rare community composition, structure, or function is expected." Because no site-specific analysis has occurred, we are unaware of the identification of any additional protective measures.
- Prescription Standard 9.F-005: "Nonnative invasive species are not intentionally introduced in or near rare communities, nor will management actions facilitate their inadvertent introduction." Management activities may inadvertently introduce NNIS into rare communities in the Foothills project area, particularly those that are currently undocumented. Without knowing where timber harvests will occur and where rare communities are located, we do not know how to evaluate consistency with this requirement.
- Prescription Standard 9.F-007: "Except for approved studies or needed community maintenance, removal of vegetative material in rare communities is prohibited." Because the Forest Service has not identified rare communities on the

[471] Draft EA, 19.

landscape, it is impossible to gauge compliance with this requirement. Nevertheless, the agency plans thousands of acres of logging in mesic hardwood stands which may overlap with mesic rare communities.[472] The proposals to log in those areas do not appear intended to maintain rare communities, and without site-specific information indicating where this may occur, the agency cannot show that the treatment furthers *needed* maintenance.

- Prescription Standard 11-024 (emphasis added): "Tree removals may *only* take place if *needed* to enhance the recovery of the diversity and complexity of vegetation, rehabilitate both natural and human-caused disturbances, provide habitat improvements for TES or riparian-associated species, reduce fuel buildup, provide for visitor safety, or for approved facility construction/renovation." Without a site-specific proposal, the agency cannot assert consistency with this requirement.

The lack of site-specific proposals, and decision to not offer future NEPA analyses for decisions under consideration in Foothills, makes it very difficult to determine if the Forest Service is complying with its Forest Plan. The Forest Service must explain if it is complying with these standards and support its explanation with a reasoned justification. If it is not complying with these standards, it must amend its proposal.

E. The Agency is Not Complying With NFMA's Substantive Requirements Related to Soils and Watersheds, and Potentially Plant and Animal Diversity

Under NFMA, the Forest Service must "insure that timber will be harvested . . . only where . . . soil, slope, or other watershed conditions will not be irreversibly damaged." 16 U.S.C. § 1604(g)(3)(E)(i). The agency is not complying with this requirement.

First, the agency concedes that the Foothills Project will irreversibly damage soils. "Long-term impacts [to soils] are considered to be effects occurring longer than 10 years following a treatment and are not recoverable by natural processes nor will they return to acceptable potential soil productivity."[473] These soil impacts will occur across at least 7,432 acres.[474] However, "[w]ith all of the potential treatments identified in [the project], this number has the potential to increase," impacting even more soils.[475] The agency does not know how much it is likely to increase because its analysis assumes that all impacts to soils are "occurring on separate pieces of ground."[476] There is no basis for that assumption. The agency knows that "there are numerous combinations as to when treatments [that will affect soils] may overlap"

[472] Botanical Resources and Rare Communities Report, 54.

[473] Soil Report, 18.

[474] Soil Report, 55.

[475] Soil Report, 52.

[476] Draft EA, 108.

causing more long-term impacts to more soils.[477] The "uncertain[ty] as to when treatments may overlap" only underscores the need for analysis now to determine if the project complies with NFMA's standards.[478] Regardless, at least 7,432 acres of soils will experience long-term detrimental impacts.

The agency downplays this impact by arguing it is inconsequential because it is only 4.6% of the 157,000-acre project area. Its percentage of the project area is irrelevant, otherwise the agency could always expand its project area to escape NFMA's prohibitions. Regardless, the agency believes most of these impacts will occur in only an 85,587-acre area.[479] Long-term impacts to soils across 7,432 acres in an 85,857-acre area equates to 8.7% of the area. Given the conservative assumptions discussed above, this could easily climb to 10% of the area. Long-term detrimental impacts to soils across 10% of the action area – over 8,500 acres – would violate NFMA's soil protection standard.

Second, the agency uses a proxy of total impervious surface area to assess impacts to watersheds and assumes that there will be a "negative effect to beneficial uses at any temporal or spatial scale with [total impervious area] over 10% within a watershed."[480] As explained elsewhere (*see infra* 148), the agency will exceed this limit in several watersheds, degrading streams below their assigned beneficial uses in violation of the Clean Water Act. The agency also proposes to conduct sediment-inducing activities in multiple watersheds that are not currently maintaining their beneficial use, further impairing those watersheds. This may irreversibly damage the watershed in violation of NFMA.

Finally, NFMA requires the agency to "provide for diversity of plant and animal communities."[481] With no site-specific proposal, and the failure to take a hard look particularly at endangered, threatened, locally rare, and Regional Forester Sensitive species, we cannot tell if the proposed actions will comply with this requirement.

X. The Agency's Purpose and Need Statement is Unworkable

NEPA requires the Forest Service to provide with its project proposals a statement of purpose and need which "shall briefly specify the underlying purpose and need to which the agency is responding in proposing the alternatives including the proposed action."[482] These statements are necessary to inform the public exactly what the agency intends to do. "NEPA forces agencies to explain what it is they seek to do, why they seek to do it, what the environmental impacts may be of their proposed action, and what alternatives might be available

[477] Draft EA, 108.

[478] Soil Report, 52.

[479] Soil Report, 25 (defining project area for purposes of soil impacts as 85,587 acres).

[480] Hydrology Report, 4.

[481] 16 U.S.C. § 1604(g)(3)(B).

[482] 40 C.F.R. § 1502.13; *see* FSH 1909.15 § 11.21.

to the agency that might lessen environmental impact. Without a clear 'what and why' statement, the public is kept in the dark."[483] Coherent purpose and needs statements are critical because "the available reasonable alternatives are dictated by the underlying purpose of the proposed action."[484] "[A] purpose can [] be unreasonable if the agency draws it so broadly that an infinite number of alternatives would accomplish [it] and the project would collapse under the weight of the possibilities."[485] The "what and why" statement for this project does not facilitate compliance with any of these requirements.

This was the purpose and need statement at the scoping stage for this project:

> The proposed action for the Foothills Landscape project is organized to first describe the overall need of the project. A need is the overarching theme that was discovered while comparing the existing environmental conditions to the desired, achievable future conditions. In order to identify the underlying purpose of the project regarding the four primary needs, the interdisciplinary team incorporated the objectives from the Forest Plan, the US Forest Service Watershed Condition Framework, Georgia's State Water Regional Plans, the Georgia State Wildlife Action Plan, Community Wildfire Protection Plans, Georgia's Forest Action Plan, Shortleaf Pine Restoration Plan, Recovery Plans for Threatened and Endangered Species in the project area and information provided through the collaborative effort.[486]

As we explained in our scoping comments this "is so broad as to make the project purpose virtually anything." When we submitted those comments it was unclear to us what the "four primary needs" referenced in the purpose and need statement were. It now appears that they encompass "biological integrity, resilience to disturbance, connectivity, and soil and water quality."[487] That does not help further define the project purpose.

In its response to scoping comments, the Forest Service developed a "purpose and need" statement that is three full pages of bulleted points.[488]

The purpose and need section of the Draft EA is 29 pages[489] "organized into four categories [ ] required to maintain and improve watershed and ecological conditions: improving biologic integrity, increasing the ecosystem's resilience to disturbance, maintaining or restoring

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[483] *Soda Mountain Wilderness Council v. Norton*, 424 F. Supp. 2d 1241, 1262 (E.D. Cal. 2006) (emphasis added).

[484] *Wilderness Soc. v. U.S. Forest Serv.*, 850 F. Supp. 2d 1144, 1163 (D. Idaho 2012).

[485] *Webster v. U.S. Dep't of Agric*., 685 F.3d 411, 422 (4th Cir. 2012)(citation omitted).

[486] Foothills Landscape Proposed Action (October 2017), 5.

[487] *Id*. at 1.

[488] Scoping Summary Report, 39-41.

[489] Draft EA, 13-42.

connectivity, and supporting high water quality and soil productivity."[490] The Draft EA then includes a 2-page "Supporting Purpose and Need."[491] Materials provided in public meetings in December 2019 also included a "Project Vision":

> To create, restore and maintain ecosystems that are more resilient to natural disturbances. Specifically, the Forest Service is seeking to enhance and provide quality habitat for rare and declining species, as well as desired game and non-game species; to reduce hazardous fuel loading across the landscape to diminish damaging wildfires; to improve soil and water quality; to provide sustainable recreation and access opportunities; and to awaken and strengthen a connection to these lands for all people.

The Draft EA provides that the project is "needed because active restoration on a landscape scale is critical to moving existing conditions within the project area towards meeting desired, achievable future conditions."[492]

This is not a workable purpose and need articulation. Its simplest articulation seems to be that the agency plans to: improve biologic integrity, increase the ecosystem's resilience to disturbance, maintain or restore connectivity, and support high water quality and soil productivity to move the project area towards meeting desired, achievable future conditions. That explanation is so vague that anything can fall into it. What is the agency specifically seeking to accomplish here? If there are no specific objectives, then perhaps there is no need for action at this point. If there are specific objectives, we remain willing to work with the agency on those goals. But all the agency has provided so far is a general statement that justifies almost any type of work on the forest.

This is not just a nit-picky concern. It has real consequences for this project. Practically, the agency's amorphous purpose and need statement has resulted in an amorphous preferred alternative. The foundation of its analysis is an indeterminate purpose and need statement that does not require it to do or consider anything in particular - except "work" generally, somewhere on the forest – and that has produced a shapeless project proposal. There are no recommendations to do anything at certain places, just a commitment to do something on the ground in the future. There is no commitment to do a specific amount of work or do it in any particular timeframe. There appears to be no way to tell when or if the purpose and need for the project is achieved. The agency's proposal is just as ungrounded as its purpose and need statement.

This lack of specificity is not without legal consequence. A project's "reasonable alternatives are dictated by the underlying purpose of the proposed action."[493] The purpose and

[490] Draft EA, 13.

[491] Draft EA, 43-44.

[492] Draft EA, 13.

[493] *Wilderness Soc. v. U.S. Forest Serv.*, 850 F. Supp. 2d 1144, 1163 (D. Idaho 2012).

need statement here produces an immense number of reasonable alternatives. To the detriment of the public however, as discussed below, the agency uses the ambiguity of its purpose and need statement to wrongfully dismiss reasonable alternatives.

A. The Agency Does Not Disclose the Full Purpose of This Project

The agency's purpose and need statement is also flawed in a separate way – it does not disclose an underlying purpose of this project.

It is not news that the Forest Service is being asked to do more—to restore ecological systems degraded by historical logging and other land uses, to support local economies, to protect communities from wildfire, to maintain a sustainable network of roads and trails for access and recreation—but its budget has not kept pace with public or political demands.

By 2022, the Forest Service has set a national timber target of 4.2 billion board feet—a 45% increase over 2017 outputs, and the highest harvest level on the National Forest System in 25 years. Region 8 is expected to bear a disproportionate share of this burden: In 2017, Region 8 sold 0.56 billion board feet,[494] but its target for 2022 is .78 billion board feet.[495] This increase would account for 17% of the national total, despite the fact that Region 8 includes only 7% of the land in the National Forest System.

Outputs have already increased substantially, but as Region 8 recently explained to the Washington Office, the timber sale pipeline is drying up: "The Southern Region has depleted much of its shelf volume over the last 2 years of increasing timber outputs. As a result, the majority of forests have about 6-9 months of shelf volume remaining."[496] Though they lack the capacity to scale up responsibly, the forests of Region 8 are expected to replenish and grow their shelf stock—i.e., to complete NEPA for enough acres to meet out-year targets.

This is undoubtedly an underlying "need" that the Foothills Project would serve. As the Forest explains, the type of work expected to occur under the Foothills Project is not different from the type of work that has been occurring in prior, site-specific projects: "The locations and timing of treatments would *continue* to be selected and prioritized using a systematic process that evaluates restoration needs, determines appropriate treatments to address those needs (through use of decision matrices) and balances implementation of those activities with operational feasibility, agency capacity, and social considerations, to the extent possible."[497] The advantage of Alternative 2, according to the Forest, is that its future program of work can be authorized

[494] Region 8 PTSAR for FY 2017, available at https://www.fs.fed.us/forestmanagement/documents/ptsar/2017/2017_Q1-Q4_PTSAR_R08.pdf

[495] Letter from Ken Arney to Deputy Chief, National Forest System, "Region 8 Implementation Strategy for Improving Forest Conditions" (June 8, 2018) included as Attachment 3.

[496] *Id*.

[497] Draft EA at 11 (emphasis added); *see also* Attachment 1.

now, under a single decision, rather than in a series of decisions. [498] More volume on the shelf now,[499] with the work of identifying stands and treatments deferred to the future.

Unfortunately, the Draft EA fails to acknowledge this need behind the project. This is unlawful. The reasons the agency gives to the public must be genuine: the agency cannot rely on a pretextual or contrived explanation in order to avoid legal or political accountability for its actions.[500] We are not suggesting that the proposed harvesting activities could not also further other objectives but pretending that timber targets are not involved in this calculation is simply a misrepresentation. And certainly those timber targets will drive project design as the agency selects areas to harvest based, in part, on their commercial value rather than solely the ecological benefits of harvesting certain areas. As we have stated numerous times, having timber objectives is not necessarily a problem on the forest, but the agency needs to be upfront about its motivations and not pretend like this is not a factor in its decisionmaking

XI. The Agency Arbitrarily Rejects Reasonable Alternatives

Regardless, NEPA requires federal agencies to "study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources."[501] Agencies must "[u]se the NEPA process to identify and assess the reasonable alternatives to proposed actions that will avoid or minimize adverse effects of these actions upon the quality of the human environment."[502] Accordingly, "[a]n agency must look at every reasonable alternative, with the range dictated by the nature and scope of the proposed action, and sufficient to permit a reasoned choice."[503] The failure to consider a "viable but unexamined alternative" will render the analysis inadequate.[504] Dismissing alternatives without objective exploration also violates NEPA,[505] as does unreasoned

[498] Scoping Summary Report, 8-12 (discussing rejection of Alternative D).

[499] Alternative 2 would authorize 10,500 acres of regeneration harvest. Vegetation Report, Table 38. Assuming that each of those acres yields 3,000 board feet (2.5 ccf), this project's regeneration harvest alone would put 31.5 million board feet on the shelf, not counting commercial thinnings and woodland treatments.

[500] *Dep't of Commerce v. New York*, 139 S. Ct. 2551, 2575–76 (2019) ("The reasoned explanation requirement of administrative law, after all, is meant to ensure that agencies offer genuine justifications for important decisions, reasons that can be scrutinized by courts and the interested public").

[501] 42 U.S.C. § 4332(2)(E).

[502] 40 C.F.R. § 1500.2(e); *see also* 40 C.F.R. § 1508.9(b) (EAs must discuss alternatives); *Bob Marshall Alliance v. Hodel*, 852 F.2d 1223, 1229 (9th Cir. 1988)(federal action involving unresolved conflicts as to proper use of resources triggers NEPA's alternatives requirement, whether or not an EIS is also required).

[503] *Idaho Conservation League v. Mumma*, 956 F.2d 1508, 1520 (9th Cir. 1992) (internal citations omitted); *see also Methow Valley Citizens Council v. Regional Forester*, 833 F.2d 810, 816 (9th Cir. 1988), *rev'd on other grounds*, 490 U.S. 332 (1989) (reasonable range of alternatives framed by purposes of project).

[504] *Dubois v USDA*, 102 F.3d 1273, 1289 (1st Cir. 1996), *cert. denied sub nom. Loon Mt. Rec. Corp. v. Dubois*, 521 U.S. 1119 (U.S. 1997) (*quoting Resources Ltd. v. Robertson*, 35 F.3d 1300, 1307 (9th Cir. 1994)).

[505] 40 C.F.R. § 1502.14.

and arbitrary rejection of reasonable alternatives. The agency's evaluation of project alternatives fails to meet these requirements.

We asked the agency to consider several project alternatives in our Scoping Comments on this project. First we asked the agency to "[d]evelop an alternative that discloses where site-specific activities will occur and assesses the impacts of those activities in its environmental analysis."[506] That alternative received no consideration. The alternative did not ask the agency to substantively change any of its proposed activities so it plainly would have met the purpose and need for the project, only through a different process. The agency's failure to give this any consideration at all renders its Draft EA inadequate.

We also asked the agency to "[d]evelop an alternative using consensus-based treatments with widespread support (of which we think there are many) developed during collaborative discussions."[507] The agency rejected that alternative because of restrictions in the Federal Advisory Committee Act ("FACA").[508] We should have used a word other than "consensus" but we were not soliciting a violation of FACA; we were asking the agency to develop an alternative that focused on activities for which there was "widespread support." We had hoped this might allow us to positively resolve "conflicts concerning alternative uses of available resources."[509] We continue to believe the public would be better served if the agency developed an alternative along those lines rather than continue to move forward with its controversial preferred alternative. There is so much common ground to take advantage of.

The remaining rejections of alternatives all represent an abuse of the agency's indeterminate purpose and need statement. This approach is troubling. Crafting a vague purpose and need statement so the agency can interpret it to support all of its preferred activities but simultaneously use it to reject alternatives submitted by the public is a flagrant violation of NEPA.

The agency rejected an alternative that "focuses heavily on connecting people to the land through outdoor recreation opportunities"[510] on the grounds that it "does not address the purpose and need for maintenance and restoration of yellow pine, oak/oak-pine stands, woodland communities, aquatic habitat, wildlife habitat, and rare communities."[511] The agency's purpose and need statement *does not say anything* about yellow pine, oak/oak-pine stands, woodland communities, aquatic habitat, wildlife habitat, or rare communities; it is about amorphous general concepts. The agency cannot read specific requirements into its vague purpose and need

[506] Comments from Georgia ForestWatch, Sierra Club, and Southern Environmental Law Center (Dec. 22, 2017), 53.

[507] *Id*. at 53.

[508] Scoping Summary Report, 8.

[509] 42 U.S.C. § 4332(2)(E).

[510] Scoping Summary Report, 8.

[511] *Id*.

statement without rewriting it. If the purpose of this project is related to yellow pine, that needs to be disclosed to give the public a fair opportunity to recommend alternative actions.

Worse, the agency rejected an alternative that would have implemented the same activities but in a manner that was "in-line with current budgetary expectations and capacity constraints" because that alternative did not "*fully* meet the purpose and need."[512] It cannot be true that an alternative developed to stay within the agency's budget is unreasonable or does not meet the purpose and need for a project. Stated differently, the purpose and need statement is *per se* invalid if it requires the agency to implement an alternative outside of its budget. This is clearly an arbitrary rejection. The agency's assertion that it would not "fully" meet the purpose and need is also further abuse of its exceedingly vague purpose and need statement which has no quantifiable objectives.

The agency rejected an alternative that would have avoided timber harvests in areas the Forest Service designated as unsuitable for timber production in its Forest Plan because "the project would not be able to modify the forest composition in the lands within Management Prescriptions that are not suitable for timber production."[513] Again – nothing in the purpose and need statement mentions the need to "modify forest composition" in unsuitable areas. The 29-page articulation of the purpose and need for the project does not mention suitability, nor does the "supporting purpose and need statement."[514] The agency cannot read this requirement into its unclear purpose and need statement now in an effort to avoid considering reasonable alternatives.

The agency rejected an alternative that would have focused early successional habitat creation in areas with low existing diversity by pointing to a Forest Plan goal.[515] First, it is unclear why the proposal does not comply with the Forest Plan goal. But more to the point, the goal is nowhere to be found in the purpose and need statement. The public has never been informed that all Foothills Project alternative proposals had to achieve a specific Forest Plan goal. The agency cannot read that into its purpose and need statement now to avoid considering viable alternatives.

Finally, the agency rejected an alternative that would have avoided activities in Inventoried Roadless Areas under the assertion that "[t]aking no action in the portions of the IRAs in the landscape would not meet the purpose and need of the project."[516] Even the 29-page articulation of the purpose and need statement in the Draft EA says nothing about Inventoried Roadless Areas. Without question, the agency could meet its purpose and need if it avoided those areas. This is an unreasoned and arbitrary rejection of a viable alternative.

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[512] Scoping Summary Report, 11.

[513] Scoping Summary Report, 13.

[514] Draft EA, 13-45.

[515] Scoping Summary Report, 13.

[516] Scoping Summary Report, 14.

Overall this reflects an abuse of the NEPA process. The agency cannot use a vague purpose and need statement to give it maximum flexibility to find that actions are either within or outside the purpose and need for the project. This wrongfully and illegally hollows out the "heart" of NEPA: alternatives analysis.[517] Multiple avenues are available to the agency to reject proposed alternatives but constantly rearticulating its purpose and need statement is not one of them. The range of reasonable alternatives would shrink if the agency more narrowly defined the purpose of this project but as long as it continues to use an extremely expansive purpose and need statement, it will have to consider an extremely wide array of potential alternatives.

The lack of any site-specific proposals as part of this project also threatens to hollow out NEPA's alternatives analysis mandate, and is further indication the agency's overall approach does not comply with NEPA. For instance, what if we requested that the agency develop a proposal that used fewer "temporary" roads? The agency cannot evaluate that alternative because it does not know how many temporary roads it will use. Similarly, what if we asked the agency to focus activities in a particular watershed first? The agency has nothing to compare that to because the preferred alternative includes no site-specific actions and no timeframe. Or what if we asked the agency to develop an alternative that was more protective of scenery? Again, there is nothing to compare to because nothing specifically has been proposed.

Related, the agency's use of the no-action alternative as a tool to compare the effects of its preferred alternative is only minimally useful because the agency does not have adequate baseline conditions for either alternative, and the lack of site-specific proposals in its preferred alternative frustrates any meaningful comparison.

Nevertheless, we ask the agency to give objective and meaningful consideration to alternatives B-G which it has unreasonably rejected[518] as well as the following alternatives:

- An alternative that provides site-specific NEPA compliance for each annual out-year meeting proposed in the Draft EA.
- The Council on Environmental Quality has explained that environmental analysis "more than 5 years old should be carefully reexamined."[519] The agency should consider an alternative that commits to supplementing its NEPA analysis every five years.
- The agency should consider an alternative that uses the Draft EA as programmatic NEPA analysis and tiers concise, site-specific environmental analyses to the programmatic analysis.

[517] 40 C.F.R. § 1502.14

[518] Scoping Summary Report, 8-14.

[519] Council on Environmental Quality, Forty Most Asked Questions Concerning NEPA available at https://www.energy.gov/sites/prod/files/2018/06/f53/G-CEQ-40Questions.pdf.

The agency's alternatives analysis is also flawed because it presents a skewed comparison of Alternative 2 and the no-action alternative. The Draft EA cannot support a DN/FONSI because it fails to forthrightly describe the consequences of the decision being made. The Draft EA presents two alternatives: No Action and Alternative 2. In describing the No Action Alternative, the Forest states that "[a]ll current actions and management … would continue in its [sic] present state."[520] As for any future actions, however, the Forest pretends that *nothing* would occur under the No Action Alternative. According to the analysis, "no activities" would take place to restore biological integrity, period.[521] This is plainly false. In fact, the Forest Service explicitly decided that it would not follow a custodial management approach during plan revision in 2004.[522]

If Alternative 2 were not chosen, the Forest Service would not stop working; it would simply continue using the same project development process it has used in the past—namely, analysis of site-specific proposals through the NEPA process.[523] The Forest's mistake here is fundamental, and it pervades the Draft EA. The Forest purports to analyze Alternative 2 as a set of actions, but the agency is not proposing particular actions *now*; it is proposing a new framework and process to select actions in the *future*. The alternative to this new process is not to do nothing at all, but rather to continue using the existing process (site-specific NEPA) to propose and refine future actions, consistent with the forest plan.

The Forest also overstates the benefits of Alternative 2. In rejecting Alternative D, in which the agency's work would have continued at the current pace, the Forest Service explained that an alternative "in-line with current budgetary expectations and capacity constraints" would not be considered in detail "because it does not fully meet the purpose and need of the project"—which is to say that Alternative D does not include as many acres' work as Alternative 2.[524] But the Forest cannot dismiss one alternative because of fiscal constraints while ignoring those same constraints to promote the preferred alternative. By pretending that Alternative 2 would not be hobbled by the same fiscal constraints as Alternative D, the Forest wildly overstates the comparative benefits of Alternative 2. It is not "reasonably foreseeable" that these benefits would occur under Alternative 2, but not under Alternative D or the No Action Alternative.

Because nothing (save capacity) prevents the Forest Service from pursuing or achieving its stated purpose and need in successive, site-specific projects, then the differences between Alternative 2 and the No-Action Alternative (or Alternative D, for that matter) cannot be expressed simply in terms of *whether* physical benefits or harms will occur. Thus, for example, it

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[520] Draft EA at 45.

[521] Vegetation Report at 40 *et seq*.

[522] *See* FEIS at 2-8 to 2-10 (rejecting Alternative C).

[523] *See* FSH 1909.15 § 14.2 (explaining that when evaluating a programmatic change, the no-action alternative would be a continuation of the ongoing program of work).

[524] Scoping Summary Report, 25.

is simply false to assert that "no actions … would be undertaken" in the No-Action Alternative to restore degraded communities, address insect and disease risks, or manipulate successional stages.[525] Even if the Forest decides not to proceed with Alternative 2, it will continue to pursue these same goals with site-specific projects as it has historically done.

The Forest is not choosing in this decision whether or not to restore degraded terrestrial and aquatic ecosystems; it is choosing a *process* that it will use to select and vet the site-specific actions intended to further its restoration goals. Thus, even if the condition-based approach were lawful, the Draft EA would be required to compare the environmental consequences of those different *processes*. It does not.

This is a fundamental flaw in the analysis: the Draft EA does not offer any meaningful description of how Alternative 2 will more "fully" meet the project's purpose and need.[526] If on-the-ground work will proceed more quickly under Alternative 2, where will the time and cost savings be found? Will they be found by spending less time in the field undertaking botanical or other surveys? Will they be found by cutting out public input? Will they be found by ignoring public complaints that, under ordinary project development processes, would have been addressed by refining and improving the project?

XII. The Forest Service Has Not Satisfied NEPA's Hard Look Standard

"Section 101 of NEPA declares a broad national commitment to protecting and promoting environmental quality."[527] That commitment is "realized through a set of 'action-forcing' procedures that require that agencies take a 'hard look' at environmental consequences, and that provide for broad dissemination of relevant environmental information."[528]

This "hard look" must include "some quantified or detailed information" supporting the conclusions of an EA.[529] An "agency has satisfied the 'hard look' requirement if it has examine[d] the relevant data and articulate[d] a satisfactory explanation for its action including a rational connection between the facts found and the choice made."[530] The "hard look" requirement is violated when "the agency failed entirely to consider an important aspect of the problem."[531] The agency has failed the hard look standard here on numerous fronts.

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[525] *See* Vegetation Report at 40, 45, 51, 53, 56, 58, 60, 62.

[526] *See* Scoping Summary Report, 11.

[527] *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 348 (1989).

[528] *Id*. at 350 (citations omitted).

[529] *Klamath-Siskiyou Wildlands Ctr. v. Bureau of Land Mgmt*., 387 F.3d 989, 993 (9th Cir. 2004) (citations omitted).

[530] *Black Warrior Riverkeeper, Inc. v. U.S. Army Corps of Engineers*, 833 F.3d 1274, 1285 (11th Cir. 2016) (citation omitted).

[531] *Sierra Club v. U.S. Army Corps of Engineers*, 295 F.3d 1209, 1216 (11th Cir. 2002).

A. Consistent Problems Throughout the Agency's Hard Look Analysis

There are several overarching errors that plague the agency's hard look analysis.

First, the agency cannot take a hard look at the impacts of its action if it does not know where that action will take place. The most the Forest Service has disclosed is that it plans to complete tens of thousands of acres of commercial logging, masticating, prescribed burning, and herbicide application somewhere within a 157,000-acre area. The Southern Appalachians have some of the most diverse ecosystems in the world. The Foothills Project area is extremely diverse and includes a wide range of slopes, soil types, soil erodibility and stream types. Rainfall varies drastically across the area. Some streams in the project area are pristine, others are severely degraded. Past management practices have significantly altered some parts of the forest, while other areas remain intact. There is almost nothing uniform about the area as a whole. *Where* actions occur in this area is directly and inseparably related to the *effect* those actions will have. If the Forest Service does not know where its actions will take place, it cannot know what the effect of those actions will be. This problem is apparent throughout the agency's analysis as it tries to disclose the impact of unknown actions in undecided locations.

Related, because the agency has no site-specific proposals, it does not know when actions may overlap in space. Logging and burning the same piece of ground may cause more severe impacts than only logging it. Certainly two separate logging treatments on the same piece of ground will cause more intense impacts. The agency's proposal allows for this possibility but it cannot assess the impacts of multiple actions on the same piece of ground because it does not know: 1) if that will even occur and 2) if it were to occur, where it would happen.

Effectively, the Draft EA discloses impacts at a programmatic level. In fact, much of the analysis, particularly of the effects on vegetation communities, closely tracks analysis in the Forest Plan EIS. The agency knows that is not sufficient to authorize a site-specific activity. When the public raised concerns about the adequacy of the agency's analysis during Forest Plan revision, the agency reassured the public that the effects disclosed in the Forest Plan EIS were those at the "programmatic level"; "[s]ite-specific effects will be analyzed at the project level."[532] The agency clearly recognized a gap between the analysis required by NEPA for implementation of site-specific activities and the analysis that occurs at the programmatic level during forest plan revision. The lack of any site-specific proposal here prevents the agency from closing that gap.

Second, the deciding officer for this project has indicated that "the pace and scale" for the work contemplated in the Foothills Project "will be the same" as it is for other projects the agency is currently implementing.[533] If the Forest Service continues at its current pace and scale

[532] FEIS, App'x G, G-20.

[533] *See* Attachment 1.

of work, it will take the agency more than four decades to accomplish all of the logging contemplated in the Foothills Project. How can the agency take a hard look *now* at the effects of commercially logging an area in *thirty or forty years*? Does the agency know what needs or values the different areas of the analysis area will be serving, ecologically and socially, thirty or forty years down the road? The answer to that question must be no. Again, the agency has not disclosed where it intends to log either in the immediate or distant future. The agency cannot take a hard look at impacts now for an action that will occur at an undecided location several decades in the future.

Third, a related problem is that because there is no time limit for this project,[534] and at its current pace of work it will take the agency decades to complete all that is proposed, the Forest Service's effort to temporally bind its analysis has unclear meaning. For instance, the "temporal bounds of effects" to aquatic species is "10 years following each treatment."[535] But we do not know when each treatment will be implemented. If a treatment is implemented in 2030, we understand the agency to be purportedly taking a hard look at impacts to aquatic species from 2030 to 2040. How can it accomplish that now in 2020? It does not know what the conditions will be in 2030. Confusingly, what if that same treatment is actually implemented in 2040 – does the agency believe its analysis is valid for either timeframe, 2030-2040 or 2040-2050? We are aware of no evidence that effects over these two time periods will be the same, yet the agency's analysis rests on this assumption. Particularly for rare, threatened, and endangered species, the baseline condition of the species may substantially change in the next several decades and the agency's proposed activities may have a significantly different impact in the future than they would now. We do not understand how the agency can temporally bind its analysis when it does not know when activities will occur.

Fourth, the agency makes two consistent errors in its cumulative impacts analysis. The first error is that the agency uniformly finds that activities occurring on private lands do not contribute to cumulative impact simply by virtue of the fact that the activities are occurring off of the national forest.[536] A cumulative impact "is the impact on the environment which 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 such other actions."[537] The cumulative impact of actions on private lands must be considered under NEPA.

The second error the agency routinely makes in its cumulative impacts analysis is that its analysis consists of just providing a list of other past, present, and reasonably foreseeable future

[534] Scoping Summary Report, 11.

[535] Draft EA, 86.

[536] *See e.g.*, Aquatic Resource Report, App'x B (85-acre prescribed burn on public lands has a cumulative effect on aquatic resources but 95-acre prescribed burn on private lands in the same watershed does not).

[537] 40 C.F.R. § 1508.7 (emphasis added).

actions in the project.[538] There is no *analysis* of the combined effect of these actions, just a list of other actions that could potentially have an effect. Cumulative impacts analysis that does not "offer any substantive analysis of how the present impacts of . . . past actions would combine and interact with the added impacts of the [project under review] . . . [falls] far short of the NEPA mark."[539]

Fifth, "[w]ithout establishing the baseline conditions which exist . . . there is simply no way to determine what effect the proposed [activity] will have on the environment and, consequently, no way to comply with NEPA."[540] The agency does not plan to "determine existing baseline conditions" including "stand composition, structure, stand health, age, slope, hydrology or soil conditions"[541] until after NEPA concludes – a straightforward violation of its requirements.

Sixth, even if the agency had baseline data, NEPA requires agencies to use that data to "document the potential environmental impacts of significant decisions *before* they are made, thereby ensuring that environmental issues are considered by the agency and that important information is made available to the larger audience that may help to make the decision or will be affected by it."[542] Here, the agency's plan is to "assesses environmental conditions before implementation" but *after making a final NEPA decision*.[543] NEPA does not allow that approach. The agency cannot approve a final action now and then assess environmental conditions and impacts later. The whole point of NEPA is to assess and disclose environmental impacts before making a decision.

The agency's "Implementation Process Guide" underscores all of these points. At the time NEPA concludes, the agency will not have "determine[d] [areas] proposed for activity,"

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[538] *See. e.g.*, Aquatic Resource Report, App'x B.

[539] *Am. Rivers v. Fed. Energy Regulatory Comm'n*, 895 F.3d 32, 55 (D.C. Cir. 2018); *see also League of Wilderness Defs./Blue Mountains Biodiversity Project v. Connaughton*, No. 3:12-CV-02271-HZ, 2014 WL 6977611, at *9 (D. Or. Dec. 9, 2014) (finding cumulative impacts analysis deficient under NEPA where it "lists 'Potential Cumulative Activities' but does not provide any analysis regarding the activities' cumulative impacts").

[540] *Half Moon Bay Fishermans' Mktg. Ass'n v. Carlucc*i, 857 F.2d 505, 510 (9th Cir. 1988); *see also Great Basin Res. Watch v. Bureau of Land Mgmt*., 844 F.3d 1095, 1101 (9th Cir. 2016) ("Establishing appropriate baseline conditions is critical to any NEPA analysis.").

[541] Draft EA, 11.

[542] *Wilderness Watch & Pub. Employees for Envtl. Responsibility v. Mainella*, 375 F.3d 1085, 1094 (11th Cir. 2004) (*citing Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 349 (1989)) (emphasis added); *see also Reed v. Salazar*, 744 F. Supp. 2d 98, 102 (D.D.C. 2010) (NEPA "requires federal agencies to take a 'hard look' at the environmental consequences of their projects *before* taking action"); *Sierra Club v. U.S. Forest Serv*., 593 F. Supp. 2d 1306, 1327 (N.D. Ga. 2008) ("The harm sought to be prevented by the NEPA procedural requirements is 'the added risk to the environment that takes place when governmental decisionmakers make up their minds without having before them an analysis (with prior public comment) of the likely effects of their decision upon the environment.'") (citation omitted); 40 C.F.R. § 1500.1 ("NEPA procedures must insure that environmental information is available to public officials and citizens before decisions are made and before actions are taken").

[543] Draft EA, 11 (emphasis omitted).

"assess[ed] site(s) proposed for activity," "determine[d] range of appropriate treatment options," "plan[ned] and acquire[d] data from all necessary surveys and inventories," or "determine[d] appropriate actions."[544] The agency cannot take a hard look in the absence of all that basic information. It must compile that information and assess impacts *before* reaching a decision.

Seventh, as discussed throughout these comments, the agency cannot avoid its obligations to perform effects analysis under NEPA by pointing to separate legal requirements under NFMA and its Forest Plan, the Clean Water Act, Endangered Species Act, or any other statute. The existence of those other requirements does not prevent the agency from authorizing activities that may have avoidable or significant impacts on the environment. The agency must take a hard look at impacts to determine if they would be significant and, if so, prepare an EIS. It must also consider alternatives (such as location alternatives) that would cause less harm regardless of whether the effects of the proposal are significant. The existence of other legal requirements has no bearing on whether the agency has fulfilled its procedural duties to understand the impacts of its proposals and consider ways of avoiding them.

We cannot underscore this point enough. Using Forest Plan standards (as an example) to replace impacts analysis is akin to arguing that posted speed limits prevent violations of that limit, obviating the need for speedometers. Drivers do not know if they are exceeding the speed limit without speedometers; likewise, the Forest Service does not know if it will exceed plan standards without assessing the likely impact of its actions.

B. <u>The Forest Service Has Not Taken a Hard Look at Impacts to Soils</u>

1. The Agency's Baseline Data is Incomplete and Does Not Appear to Have Been Used to Assess Impacts

The agency rightfully recognizes that consideration of impacts to soils requires first assessing soil baseline conditions and then evaluating the impact of its project in light of those baseline conditions. But the agency's attempt at disclosing baseline conditions offers little in the way of meaningful analysis.

Its disclosure of baseline conditions begins by revealing the soil series that compromise 69.4% of the Foothills project area.[545] The role this information plays in the rest of the agency's analysis is unclear. More to the point, the agency only provides information for roughly 2/3 of the project area. If this information is important to disclose, the agency needs to disclose it for the remaining 1/3 of the area or commit to not affecting that area.

The agency then discloses the erosion rating hazards for the entire Foothills project area. That information reveals that over 50% of the soils in the project area have a "moderate" erosion

[544] Draft EA, AP49.

[545] Soil Report, 9.

hazard indicating that erosion is likely,[546] and 40% of the project area has an erosion hazard rating of "severe" or "very severe" indicating that erosion or significant erosion is very likely.[547]

Assuming that ground-based logging will not occur on slopes over 35%, the agency then discloses the suitability of soils under that threshold for use of ground-based logging equipment. Nearly a third of those soils are "poorly suited" for operation of "harvest equipment," while approximately another third are only "moderately suited" which indicates "soil properties are less than desirable" for use of mechanical equipment.[548] Over 98% of the soils on slopes under 35% have a rutting hazard rating of "moderate" or "severe" indicating respectively that rutting is "likely" or will "form readily."[549] Over half of the soils have compaction ratings of "moderate" or "high."[550] And a third have "moderate" or "high" potential for damage from prescribed fire.[551]

While this information generally underscores that soils in the project area are not well-suited for commercial logging and other mechanical activities, it offers little information from which to evaluate the effects of this project because where project activities will occur is unknown. For example, is the Forest Service planning mechanical logging on any of the 27,117 acres with a harvest equipment operability rating of "poorly suited"?[552] Or will most of the logging occur on the 25,936 acres with a harvest equipment operability rating of "well suited"? The ratings indicate there will be different impacts based on which soil types are affected. We do not know 1) where these soils are located or 2) if the agency is proposing to use mechanical equipment on these soils. Without that site-specific information, the relevance of the soil baseline conditions is unclear.

The biggest takeaway from these disclosures is that all soils in the project area are not equal. There are likely to be more severe impacts if the Forest Service logs on soils that are "poorly suited" for ground-based harvest equipment, have a "severe" rutting hazard rating, and a "medium" or "high" compaction rating. But those ratings play no role in the remainder of the agency's analysis. When assessing the effects of its proposed action, the agency treats all soils as if they are equal, with no consideration factored in for these erosion hazard ratings. For example, when considering the effect of "ground-based harvest" on soil stability, the agency concludes that 9,278-12,102 acres will see a reduction in soil stability based on the amount of

[546] Soil Report, 11-12.

[547] Soil Report, 12.

[548] Soil Report, 14.

[549] Soil Report, 14.

[550] Soil Report, 15.

[551] Soil Report, 17.

[552] Soil Report, 14.

work it is proposing.[553] The degree of that reduction must depend, in part, on soil type; a reduction in soil stability on soils with a "slight" erosion hazard rating may be acceptable while a reduction on soils with a "very severe" rating may not be. Disclosing that soils have different qualities and then completing its analysis as if all soils have uniform qualities is not a hard look.

Finally, the agency acknowledges that it needs more information to accurately assess baseline soil conditions. "The biggest assumption throughout this analysis is that the NRCS soil surveys and other existing data are correct."[554] As a result, it is "necessary to judge risks to soil stability and productivity based on site topography rather than inclusion in a broad slope class or mapping unit."[555] Yet the latter approach – which the agency concedes is inadequate – is the one it appears to adopt. Finally, the agency recognizes that "field reviews" are necessary to truly identify existing soil conditions, including "soils already in impaired conditions," yet the agency has no plans to conduct those reviews until after the NEPA process concludes.[556] If the agency does not know actual baseline conditions in areas where it plans to work, it cannot accurately evaluate the effect of its actions either to determine whether they would be significant or to determine whether there are less harmful ways to meet project needs.

2. Assessing Impacts as Good, Fair, or Poor is Not a Hard Look

The Forest Service uses indicators and "measures" to "display the estimated effects on the soil resource resulting from each alternative."[557] The soil indicators are "soil stability," "soil structure," "soil strength," and "soil burn severity." The analysis measures are "good," "fair," and "poor."[558] These measures are subjective, vague, and inconsistently applied, and do not constitute a hard look.

The Draft EA does not adequately explain how the Forest Service developed these measures. They purport to be "based on current soil conditions" but beyond that conclusory statement, we do not see the connection.[559] The measures are vague and difficult to understand. A "good" measure indicates an activity "meets desired conditions" while a "fair" measure indicates an activity "partially meets desired conditions" and a "poor" measure indicates an activity "does not meet desired conditions."[560] But the dividing line between a project that is not meeting desired conditions (poor) and partially meeting desired conditions (fair) is unclear. If a project is only partially meeting desired conditions, doesn't that mean that it is *not* meeting

[553] Soil Report, 27.

[554] Soil Report, 17.

[555] Soil Report, 3

[556] Soil Report, 3.

[557] Soil Report, 6.

[558] Soil Report, 8-9.

[559] Soil Report, 6.

[560] Soil Report, 8.

desired conditions? More specifically, "good" soil stability is defined as keeping soil cover across 85% of the activity area while "fair" soil stability is defined as loss of soil cover across no more than 15% of the activity area.[561] Those definitions appear to say the same thing; both turn on whether soil cover is maintained across 85% of the activity area, or stated in the inverse, whether soil cover is *not* maintained across 15% of the activity area.

Other aspects of the indicator "measures" appear impossible to evaluate prior to project activity and thus cannot constitute a hard look. For instance, soil stability is considered to be in a "good" condition if "signs of erosions are not visible" but a "fair" condition if "signs of erosion such as pedestals, sheet, rill, and/or gully erosion [are] visible."[562] There is no analysis of the visibility of erosion features. Similarly, soil structure is considered to be in a "fair" condition if "[w]heel tracks or depressions are evident and moderately deep" but a "poor" condition if "[w]heel tracks and depression are evident and deep."[563] At this point, we do not know how the Forest Service can evaluate whether wheel tracks are deep or *moderately* deep. Finally, soil burn severity is considered to be "fair" if the "color of the ash is generally blackened with possible gray patches" but "poor" if soil becomes "gray, orange, or reddish at the ground surface where large fuels were concentrated or consumed."[564] How can the agency assess the color of ash before conducting site-specific activities? These "measures" seem like a reasonable way to evaluate the effect of an action *after* it occurs but they do not seem well-suited to assessing pre-project effects. During NEPA analysis, the Forest's job is to *predict* impacts, and to gather the information and public input to do so with confidence. Effects monitoring in no way substitutes for this obligation.

3. Compliance With Separate Legal Requirements is Not a Substitute for Taking a Hard Look, and Regardless, Analysis Indicates Effects Will be Significant

The agency's ability to accurately predict soil impacts is particularly important with respect to two standards from the Forest Plan and Region 8 regarding soil impacts. These standards are the driving factors in its assessment of "good," "fair," and "poor" conditions.[565] The first standard requires that "at least 85% of an activity area [be] left in a condition of acceptable soil productivity" and the second mandates that "soil loss should not exceed the allowable soil loss T-factor."[566] Promised compliance with these standards is not a replacement for taking a hard look. Indeed, the hard look is a prerequisite to the agency's ability to say it will

[561] Soil Report, 8.

[562] Soil Report, 8.

[563] Soil Report, 8.

[564] Soil Report, 9.

[565] *See* Soil Report, Table 1

[566] Soil Report, 2.

comply with the standards. Regardless, the agency's own analysis shows both standards are likely to be violated.

As we point out throughout these comments, asserting that the agency will comply with requirements enacted pursuant to other laws does not replace NEPA's requirement. Impacts can be significant, necessitating preparation of an EIS, even if they do not exceed the 85% or T-factor thresholds the agency relies on. Two sets of actions (harvesting different stands) could have substantially different effects on soils, even if neither set of actions violated the soil standards or crossed the threshold of "significance." Regardless of those separate requirements, the agency must consider and disclose whether this project will have a significant impact on soils or if there are less harmful ways to choose sites for treatment. The agency has not sought to specifically answer those questions, but its analysis confirms the Foothills Project will have significant impacts.

i. The Agency's Assessment of Compliance With the 85% Threshold is Inconsistent and Circular

The standard the Forest Service relies on to evaluate soil impacts requires "at least 85% of an *activity area* [to be] left in a condition of acceptable potential soil productivity."[567] Yet right off the bat, the agency acknowledges that it cannot evaluate compliance with this standard because it does not know where activities will occur. Instead, because "this project is condition based and specific activity areas have not been identified the [*project*] area will be used to ensure activities will not exceed the 15% threshold."[568] In other words, the agency immediately substitutes the "project area" for the "activity area" – yet that is not what the standard requires. Inconsistently, when assessing impacts to soils under other factors, the agency uses an *activity* area of 85,847 acres, instead of the full 157,000-acre project area.[569] The activity area cannot be *both* of those acreages. And it is unlikely to be either since "activity areas have not been identified."[570] It seems the agency cannot assess compliance with this standard at all, much less use it as a substitute for taking a hard look, if it does not know where it will pursue certain activities.

Moreover, the agency's assessment of compliance with this standard is invalid. On one hand, it asserts that the 85% standard will prevent it from disrupting soil stability across more than 15% of a 85,847-acre activity area, and on the other hand, it find this impact insignificant because it will not result in an exceedance of the 15% standard across the 157,000-acre project area.[571] The agency has designed its analysis so it is impossible to violate the standard and

[567] Soil Report, 2 (emphasis added).

[568] Soil Report, 2.

[569] *See, e.g.*, Soil Report, Table 7.

[570] Soil Report, 2.

[571] Soil Report, Table 16.

thereby show significant impacts. Its analysis assumes that 15% of an 85,847-acre activity area will see a detrimental decrease in soil stability but then asserts it complies with the 85% standard by converting that activity area to 157,000 acres.[572] The use of two different acreages for the "activity area" is unreasonable, arbitrary, and provides little in the way of useful information; 15% of 85,847 acres will never exceed 15% of 157,000, acres ensuring the Forest Service always complies with its standard.

Just as problematically, the agency inconsistently applies this 85% threshold. When evaluating the impact to soil stability from ground-based harvesting *only*, the Forest Service concludes that 15% of an 85,847-acre activity area (approximately 12,102 acres) would experience detrimental soil stability impacts, but then uses the sleight of hand discussed above to find those impacts "[n]ot significant because 15% or more soil cover should remain in place" across the 157,000-acre project area.[573] But when evaluating the impact to soil stability from *all* project activities (not only ground-based harvesting) the Forest Service concludes that 84,086 acres would experience detrimental soil stability impacts.[574] That acreage is equivalent to approximately 53% of the entire Foothills 157,000-acre project area (or activity area depending on which frame the agency is using). If an impact to 12,102 acres was "not significant" because 12,102 acres is less than 15% of the activity area, then an impact to 84,086 acres – 53% of the activity area – clearly is significant even under the agency's flawed analysis.

Potentially aware of this contradiction, the agency pivots in its assessment of the significance of impacting 84,086 acres, arguing not that it complies with the 15% threshold but that is it "[n]ot significant because the effects are short term."[575] That statement is inadequately supported and just because an effect may be relatively "short term" does not mean it cannot rise to a significance level for NEPA or NFMA purposes, and on steep slopes a hard rain is all it takes to turn a short-term loss of stability into a long-term loss of soil cover. More to the point, the agency's application of a double standard here – using the 15% threshold sometimes and the "short term impacts" threshold elsewhere – is arbitrary.

ii. There is No Assessment of T-Factor Compliance

The second standard the agency attempts to use to escape its hard look obligation states that "soil loss should not exceed the allowable soil loss T-factor."[576] There is no assessment of compliance with this standard. The agency points to three studies to conclude that timber

[572] Soil Report, Table 16.

[573] Soil Report, Table 16.

[574] Soil Report, Table 26

[575] Soil Report, Table 26.

[576] Soil Report, 2.

harvesting on the Chattahoochee National Forest never threatens exceedances of soil loss T-factors.[577] That conclusion is unsupported both by the cited studies and agency experience.

The Barrett et al., 2016 study examined timber harvesting and soil loss at twenty sites in the Piedmont of Virginia. Specific inputs to that analysis included rainfall amount, soil erodibility factors, slope length, and slope steepness. Those factors all likely varied significantly in comparison to the Foothills area. The study does not appear to be particularly relevant to the Foothills project and certainly does not indicate T-factors will not be exceeded. To the contrary, even in the Piedmont of Virginia, several activities associated with logging including construction and use of roads, decks, and skid trails were predicted to cause exceedance of T-factors applicable in the Foothills area.

The Aust and Blinn, 2004, study reviewed assessments of best management practice (BMP) implementation across the eastern United States over a twenty-year period. The Forest Service asserts that this study shows that "erosion can be reduced 3-6 times less within two to three years after harvest is complete," but that statement refers to analysis of timber harvesting specifically in New England, not Georgia. Aust and Blinn only summarized three studies from the Southern Appalachians, only two of which are relevant for the Foothills Project and neither of which supports the conclusion that T-factors will not be exceeded. The first study found that "intense rain, coupled with newly installed roads, resulted in a significant increase in stream sediment" which had effects "of long duration." The second found that timber harvests with the use of BMPs resulted in a fourteen-fold increase of in-stream suspended sediment over control conditions. If anything, the studies highlight why the proposed activities threaten water quality.

The Patric, 1976 study is nearly fifty years old and effectively concludes that timber harvest has little effect on soil productivity under nearly any circumstance. We question that conclusion as it is contradicted by the majority of the agency's analysis.

The agency recently completed an analysis of soil loss and compliance with T factors for its Union County Target Range Project. There the agency found that simply operating a shooting range was likely to result is soil loss of 3.9 tons/acre/year.[578] To be clear, this only involved operation of a shooting range on mild slopes and did not take into account any clearing, construction, or grading necessary to construct the shooting range. Soil loss of that magnitude would exceed the T-factor for over half of the soils in the Foothills Project area.[579] If the mere operation of shooting range on relatively gentle slopes will result in that much soil loss then it seems inescapable that the tens of thousands of acres of mechanical harvesting on steep slopes and erosive soils will cause soil loss in excess of T-factors as part of the Foothills Project. At the very least, the agency has not completed an analysis indicating that will not occur.

[577] Soil Report, 24-25.

[578] Forest Service, Union County Target Range Final Environmental Assessment (August 2019), 16.

[579] Soil Report, 12.

If the agency is going to rely on T-factor analysis to dismiss impacts, then it must actually *complete* the analysis. The agency knows how, as it recently demonstrated with the Union County Target Range Project. But an accurate assessment of T-factor compliance will require the agency to consider and disclose where it plans to pursue site-specific activities.

4. Soil Compaction Appears to Be More Severe Than Disclosed

Soil compaction is a key factor in the agency's consideration of soil strength and soil structure but the agency's analysis appears to downplay impacts to soil compaction.

First, many of the assumptions regarding soil compaction appear to have been drawn from data collected on the Conasauga District.[580] We are not familiar with this data and ask that the agency disclose it. Its relevance to the rest of the forest is unclear to us. For instance, the data conclude that skid trails typically occupy 3.5% of an activity area but on other projects the agency has indicated skid trails can occupy up to 10% of an activity area.[581]

Second, the agency discloses that the "potential for compaction increases anytime equipment is used on the forest" and that "[m]ost compaction of soil occurs during the first pass of equipment,"[582] but then assumes that skid trails will not result in compaction unless there are "3+ passes"[583] over a certain area. As a result, "secondary skid trails," those with less than 3 passes, are not considered in the agency's assessment of compaction.[584] If "most compaction of soil occurs during the first pass of equipment," then those secondary skid trails should also be considered for compaction purposes.

Third, when assessing soil strength and structure the agency does not consider the impacts from "old temporary roads."[585] Yet the agency also asserts that these "old temporary roads" were likely "either naturally closed with vegetation or were physically closed after the last entry."[586] If that means that the compaction impacts have recovered, then renewed use of these roads is likely to result in new compaction that must be considered in the agency's analysis. If not, then the continuing compaction is a cumulative impact that must be considered. As drafted, compaction on these "old temporary roads" is not considered anywhere in the analysis – whether as a project effect, cumulative effect from a past action, or baseline condition. As a result, the amount of compaction in the project area is underrepresented.

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[580] Soil Report, 22 ("The average level of soil disturbance was calculated from sales occurring mostly on the Conasauga District from 2015 to present.").

[581] Forest Service, Cooper Creek Final Environmental Assessment (Aug. 2018), 43.

[582] Soil Report, 25.

[583] Soil Report, 23.

[584] Soil Report, 24.

[585] Soil Report, Table 16.

[586] Soil Report, 26.

Moreover, assessing the impacts of "new temporary roads" and "old temporary roads" differently reveals that "temporary road" is a misnomer. If reuse of "old temporary roads" has less *additional* impact than "new temporary roads," as they do under the agency's compaction analysis, then the "old temporary roads" are not temporary at all but instead have long-term, lasting impacts on the environment even if they are not open to vehicle use.

Fourth, the agency also discounts compaction impacts from mastication. We are confused by the agency's assertion that "[u]se of heavy equipment for mastication work would expose minimal amounts of soil to erosion and compaction since the equipment would be riding on top of the soil surface."[587] The fact that it is riding on top of the soil surface is why it compacts the soil. This is also inconsistent with its findings that "[m]ost compaction of soil occurs during the first pass of equipment."[588] If the Forest intends to use this analytical shortcut, it must show why it is appropriate: how much do masticators weigh as compared to other kinds of equipment? What are the comparative widths and operating pressures of their tires, or the pounds per square inch compacting the soil? The Forest's NEPA analysis simply does not provide the information a decisionmaker would need to understand the significance of soil compaction issues.

The agency's Hydrology Report also indicates that compaction will be more severe than disclosed. That analysis indicates that up to 23,140 acres[589] could become "impervious area" defined as "surfaces that prohibit the movement of water from the land surface into the underlying soil,"[590] i.e., compacted soils. In that instance, compacted soils would cover as much as 27% of an 85,847-acre activity area. We recognize that this is not an apples-to-apples comparison, but these wildly varying assumptions and conclusions are indicative of a lack of a hard look.

The biggest difficulty with its assessment of soil compaction is that the agency does not know where activities will occur in the project area. The agency recognizes as much, stating that soil compaction has the "potential to increase if more than anticipated treatments or activities overlapped causing more than three passes of mechanical equipment over the same surface."[591] The lack of site-specific data also means that the agency does not know if these passes will occur on highly erodible and/or compactable soils, or relatively stable soils. Without that critical information, the agency's analysis is just a wild guess, insufficient to meet the hard look standard.

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[587] Soil Report, 28

[588] Soil Report, 25.

[589] This number was calculated using the "sum impervious area" column but excluding roads from Table 7 of the Hydrology Report.

[590] Hydrology Report, 2.

[591] Soil Report, 52.

5. The Agency Cannot Dismiss Impacts to "Essential Infrastructure"

The agency dismisses the impact of its actions to trails, permanent roads, and parking lots because it asserts these facilities are "considered essential infrastructure and are not considered a part of the productive land base."[592] But that does not mean those actions escape hard look review under NEPA. Changes to "essential infrastructure" can still have significant impacts for NEPA purposes necessitating preparation of an EIS. Differently aligned road and trail networks can have different impacts on soils. Realignments of roads and trails can help protect waters but double the linear impact on soil compaction.

6. The Agency's Assessment of Cumulative Impacts Appears Incorrect

The agency discloses cumulative impacts in Table 13 of the Soils Report. That reveals that cumulative impacts to soil stability include 15,463 acres of past activities, 12,650 acres of current activities, and 13,262 acres of future activities.[593] Direct effects to soil stability will occur on 84,086 acres.[594] The agency then concludes that the overall cumulative effect will be a decrease in soil stability across 84,715 acres. It is unclear how this accounts for cumulative effects. If soil stability is currently being affected across 12,650 acres, at a minimum it seems that number should be added to the 84,086 acres of direct impacts from this project for a total of 96,736, or approximately 61% of the entire project area. The agency appears to have made this same error with its assessment of cumulative effects on soil strength, soil structure, and soil burn severity. At the very least, it is unclear what role past, present, and reasonably foreseeable future actions play in this analysis.

7. The Lack of Site-Specific Information Renders the Analysis Insufficient but it is Clear There Will Be Significant Impacts

Ultimately, the agency is not able to overcome the lack of a site-specific proposal to meet the hard look standard. Its promises to "minimize" rutting and compaction are hollow because the risk of those impacts, which varies site by site, is not accounted for in the analysis. Where activities occur in space is critical for assessing impacts to soils. The agency's analysis confirms that some soils are poorly suited for mechanical logging while others are better suited. Those differences should drive the agency's analysis but they cannot because the agency does not know where it will pursue certain activities.

For the same reason, the agency does not currently know "which activities may overlap in space."[595] The agency admits that whether activities overlap in space affects soil impacts. For instance, "[s]oil disturbance caused by skidding during harvest will increase the probability of

[592] *See, e.g.*, Soil Report, Table 24.

[593] Soil Report, Table 13.

[594] Soil Report, 53.

[595] Soil Report, 52.

soil erosion after burning."[596] Thus to gauge soil impacts the agency needs to know if lands will be burned only, or potentially burned and harvested.

Related, the agency appears to be attempting to reserve for itself the ability to make multiple entries in one stand of trees over the life of the Foothills Project. A stand could be commercially thinned one year, burned thereafter, and then commercially harvested to create early successional habitat thereafter. The agency's assessment of impacts to soils cannot take any of this into account because the agency has not yet made those decisions. The bottom line is that the agency cannot take a hard look at the impacts of actions it has not yet decided to take.

Nevertheless, the analysis here is sufficient to demonstrate that there will be significant impacts to soils necessitating preparation of an EIS. The agency concludes that soil stability will be impacted across 84,086 acres and soil strength and structure will have long-term detrimental impacts across 7,462 acres.[597] Regardless of whether this complies with other legal requirements, it is a straightforward indication that this project may have a significant effect on the environment, necessitating an EIS. The agency may be tempted to say that actual effects will be somewhat less, and that these represent some sort of worst-case scenario. But that argument is unavailing, because the Forest cannot use a worst-case analysis to avoid doing the hard work of accurately estimating impacts, then claim that the real impacts will be lower when it doesn't get the answer it wanted.

C. The Forest Service Has Not Taken a Hard Look at Impacts to Water Quality

Without an accurate assessment of impacts to soils the agency cannot accurately assess impacts to water quality but, unmistakably, this project will adversely impact water quality. "Sediment is the primary pollutant resulting from land disturbing activities on National Forest lands."[598] On the Chattahoochee National Forest specifically, "roads, trails, recreation uses, and logging operations have some of the greatest potential to impact water quality."[599] This Project contemplates tens of thousands of acres of those activities.

We note that the Forest Service appears to candidly admit that its analysis of impacts to water quality is not meant to satisfy NEPA's requirements. We agree that it does not. The Hydrology Report is intended to address "compliance with the Clean Water Act and the National Forest Management Act," not NEPA.[600] Nevertheless, for purposes of commenting we point out why that analysis fails the agency's hard look obligations, since there is nothing else to hang our comments on.

[596] Soil Report, 34.

[597] Soil Report, Table 28.

[598] Hydrology Report, 1

[599] Hydrology Report, 1.

[600] Hydrology Report, 2.

1. *The Forest Service Incorrectly Points to Separate Legal Requirements in an Attempt to Satisfy the Hard Look Standard*

The agency's assessment of impacts to water quality suffers from the same fatal flaw as its assessments of other impacts: the agency cannot satisfy the hard look standard by pointing to compliance with other, separate legal requirements. The agency commits that error twice in its consideration of water quality impacts. First, the agency assesses impacts through the lens of Georgia's antidegradation rule required under the Clean Water Act. Nested within that error is a separate error: the Forest Service assesses compliance with Georgia's antidegradation rule by asserting that it will not violate Forest Plan standards. This approach does not meet NEPA's requirements.

The Forest Service assesses impacts to water quality using a single "indicator": "risk to water beneficial uses."[601] As explained in the Draft EA, these "beneficial uses" are designated by the Georgia Environmental Protection Division ("EPD").[602] EPD assigns these uses to meet its obligations under the Clean Water Act (*see infra* 206-208). Activities cannot degrade water quality below the standards associated with the beneficial use assigned by EPD without risking violations of Georgia's antidegradation rule. The Forest Service dismisses impacts to water quality based on its finding that there is a "low risk of sediment affecting water resource beneficial use."[603] The agency's own analysis proves that finding incorrect, but even if it was accurate, it would not meet NEPA's hard look standard.

As we have explained throughout these comments, the agency cannot satisfy its hard look obligations by pointing to compliance with other legal obligations. Here the agency effectively concludes that impacts to water quality will not be significant so long as beneficial uses assigned by EPD are maintained. But the requirement to maintain beneficial uses is related to legal obligations under the Clean Water Act, not NEPA. Impacts to water quality can be significant even if they do not impair existing uses of waterbodies or violate the Clean Water Act. To state this another way, the Forest Service is conflating two questions with different legal significance. NEPA asks: "What is the effect of this project on water quality and may that effect be significant?" and "What alternatives might meet project purposes with less harm to water quality?" The CWA's antidegradation requirement asks: "Will this project degrade water quality below the standards set by the state of Georgia?" The second question does not subsume the first. In fact, as pointed out elsewhere, the agency must conduct the analysis to answer the first question *before* it can answer the second. Here, the agency has failed to consider the degree to which water quality will be impacted by the project, instead simply asserting (incorrectly) that existing uses will be maintained.

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[601] Hydrology Report, 2.

[602] Hydrology Report, 2.

[603] Hydrology Report, 27.

The agency compounds this error by nesting a second legal error in its analysis. The Forest Service assumes that impacts to soils will not occur on more than 15% of the activity area because of the 85% threshold and that therefore it will not violate the "maintain beneficial use" standard.[604] As discussed above, the agency has not shown compliance with this standard and regardless, it is not a replacement for hard look analysis or an adequate way to assess compliance with the antidegradation rule. Whether the Forest Service abides by the 85% threshold or not, it must independently assess the impact of its actions. Further, the threshold was developed for soil resource protection, not water. The Forest Service is using a broad analysis area to gauge compliance with the 85% threshold. Even if it could show compliance, therefore, it would not thereby demonstrate that localized impacts to water quality.

More to the point, complying with Forest Plan standards and Georgia's antidegradation requirement does not mean that impacts will not be significant. Impacts can occur below those thresholds and still require preparation of an EIS. All the Forest Service concludes is that impacts to water quality will "result in a 'low risk' to beneficial uses."[605] But significance for NEPA purposes is not determined based on maintaining beneficial uses.

The Forest Service knows how to take a hard look at these impacts. As part of its analysis for the Upper Warwoman Project, the Forest Service estimated the amount of sediment in tons per decade that was likely to be discharged to streams as a result of project activities; then the agency calculated the resulting change to in-stream suspended sediment (in light of baseline conditions) for individual streams.[606] The agency concluded that under Alternative Two for that project an "estimated 3,600 tons of sediment may be added to streams over the decade from the proposed vegetation management, burning and road management activities."[607] In other recent projects in this region the Forest Service has held up the revised universal soil loss equation model (RUSLE) as the "best available data" for assessing impacts of sedimentation.[608] And the Chattahoochee National Forest recently put that model to use to estimate sediment yield as part of Union County Target Range Project.[609] The agency has failed to provide anything remotely close to that level of analysis as part of this project.

The Forest Service was even able to more generally estimate sediment yield to streams when comparing alternatives in the programmatic EIS for the Forest Plan.[610] If the agency can

[604] Hydrology Report, 22.

[605] Draft EA, 97.

[606] *See* Forest Service, Upper Warwoman Landscape Management Project Final Environmental Assessment (November 2015), 84-88.

[607] *Id*. at 87.

[608] *See* Forest Service, Atlantic Coast Pipeline Final Record of Decision (November 2017), 26, available at https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fseprd564397.pdf.

[609] *See* Forest Service, Union County Target Range Final Environmental Assessment (August 2019), 15.

[610] *See, e.g.*, FEIS, 3-58-62.

estimate sediment discharge across the entire forest for different alternatives considered during forest plan revision, it should be able to estimate the amount of sediment that will be discharged because of the Foothills Project.

To be sure, analysis of impacts to water quality would be easier if the agency knew where it planned to build roads ("temporary" or otherwise), ignite prescribed burns, harvest commercial timber, chip vegetation with masticators, and make changes to recreation opportunities. Where those actions occur matters for water quality purposes. But the fact that the agency has chosen to forego any site-specific disclosures or considerations does not lessen its NEPA burden. It must credibly assess and disclose impacts to water quality from its proposed project. If the Forest Service wants to use a "bounded" analysis to avoid saying where it will build roads (which, we should point out, violates NEPA for other reasons), then it must assume that it will build the maximum mileage authorized, in the worst locations authorized, in order to seed the impacts analysis.

In summary, determining compliance with Georgia's antidegradation rule is not a substitute for taking a hard look at impacts as required by NEPA. Nor can the Forest Service point to standards in its Forest Plan as a replacement for taking a hard look or determining compliance with the antidegradation rule. The Forest Service knows how to take a hard look at water quality impacts; it must go back and complete that analysis.

2. The Agency's Assessment of Baseline Conditions is Inadequate

Taking a hard look at water quality impacts involves answering at least two questions: 1) what is the current condition of water quality in the area?; and 2) what effect will the project have on water quality? To answer the first question the agency relies on information from its Watershed Condition Framework and road density data. This information fails to disclose the baseline condition of water quality in the project area.

i. The Agency is Misusing its Watershed Condition Framework

The agency's Watershed Condition Framework is clear that it cannot be used to accurately assess baseline conditions for site-specific projects and, in any event, is misapplied by the agency, obscuring impacts.

The Watershed Condition Framework is a "reconnaissance-level assessment" of water quality.[611] It is not meant to provide a baseline for site-specific actions but to provide a rough sense of water quality to prioritize watersheds for restoration work.[612] The framework does "not

[611] Hydrology Report, 4.

[612] *See* Forest Service, Watershed Condition Framework (2011), 6, available at https://www.fs.fed.us/biology/resources/pubs/watershed/maps/Watershed_Condition_Framework2011FS977.pdf.

provide the level of detail expected from site-specific watershed analysis or assessments."[613] It specifically calls for "additional detailed assessments to validate conclusions, to identify specific watershed problems, and to arrive at treatment solutions."[614] And it assumes projects in priority watersheds will be subject to "NEPA requirements to assess the potential environmental consequences of the watershed improvement project, evaluation of alternatives, and opportunity for public review and comment."[615]

With the Foothills Project, the Forest Service throws that approach out the door and attempts to use the Framework as an assessment of baseline water quality conditions in the project area despite the Framework's explicit warning that it should not be used for that purpose. The Framework is a tool for prioritizing watersheds for restoration work. It is not a replacement for the hard look required by NEPA and indeed assumes the hard look will occur for site-specific activities *after* watersheds are prioritized according to the Framework.

The agency also ignores the Watershed Condition Framework Technical Guidance's warning that use of the Framework requires forests to "update watershed condition classifications each year to track changes in watershed condition class for performance accountability."[616] The data the Chattahoochee is relying on is ten years old[617] and may not represent actual conditions even at the "reconnaissance" level. Why does the agency believe it is appropriate to use this data when the guidance accompanying the framework specifically cautions against using outdated information?

Perhaps more problematically, the agency selectively applies the Watershed Condition Framework which skews its consideration of water quality impacts. The Watershed Condition Framework relies on twelve indicators to determine watershed conditions at the reconnaissance level.[618] Using that twelve-indicator analysis, numerous watersheds in the project area are identified as functioning "at risk."[619] The analysis in the Draft EA looks at only *one* of the twelve indicators. Focus on the single indicator converts fourteen watersheds which the twelve-indicator analysis reveals are functioning "at risk" to functioning "properly."[620] This is an inaccurate portrayal of the true condition of the watersheds and a false baseline from which to consider the impacts of the project.

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[613] Forest Service, Watershed Condition Classification Technical Guide, 8, available at https://www.fs.fed.us/biology/resources/pubs/watershed/maps/watershed_classification_guide2011FS978.pdf.

[614] *Id*.

[615] Watershed Condition Framework, 17.

[616] Watershed Condition Framework Technical Guide, 12.

[617] Hydrology Report, 4.

[618] Hydrology Report, 4.

[619] Hydrology Report, Table 2.

[620] Hydrology Report, Table 2.

The agency's application of the single indicator also obscures impacts. The indicator is derived by looking at two attributes of watersheds: the number of impaired waters (303(d) listed) in the watershed and a vague attribute titled "water quality" which considers whether the watershed "has water quality problems" beyond those listed on the 303(d) list.[621] "If either attribute . . . has a score of less than 'good' it is likely the watersheds are experiencing a higher level of sedimentation. Further increases to this sediment loading would likely result in continued reduction to water quality and could have an effect on the designated use of the stream." The Forest Service obscures the fact that a score of less than good for *either* attribute indicates excess sedimentation by purporting to "average" the two attributes.[622] This averaging exercise only makes water quality in the watershed appear better than it actually is. For instance, Chickamauga Creek received a "good" rating for the "impaired waters" attribute but a "fair" rating for the "water quality" attribute.[623] When the Forest Service "averaged" these "good" and "fair" ratings the overall water quality condition for the watershed was determined to be "good." The "fair" rating disappears in this exercise even though the agency acknowledges that "[i]f either attribute . . . has a score of less than 'good' it is likely the watersheds are experiencing a higher level of sedimentation."[624] This again provides an inaccurate baseline from which to consider project impacts.

Finally, the agency cannot use its Watershed Condition Framework to avoid assessing impacts to individual streams. An action may have a significant effect on the environment, triggering the need for an EIS, even if it does not have a significant effect on an entire watershed. And it can have localized effects that could be avoided by choosing a different, less harmful alternative even if those impacts do not cross the threshold of significance. For instance, the agency could cause impacts meeting the "significance" threshold to numerous streams in different watersheds that appear insignificant when only assessing impacts at the watershed scale. Relying solely on watershed-level analysis obscures impacts to individual streams.

Consideration of impacts to individual streams is particularly important for streams that are not meeting designated uses. Twenty-two watersheds within the project area contain streams that are not meeting designated beneficial uses.[625] There is no analysis of the impact of this project on those streams. Despite the presence of impaired streams, the averaging exercise discussed above leads the Forest Service to designate several of these watersheds as having "good" water quality, sweeping the existence of the impaired streams under the rug. Even if an overall watershed may be functioning normally, the agency must still consider the impact of its

[621] Hydrology Report, 5-6.

[622] Hydrology Report, 4.

[623] Hydrology Report, 10 Table 2.

[624] Hydrology Report, 4.

[625] Hydrology Report, Table 2.

actions on individual streams, including streams on the 303(d) and 305(b) lists. Its failure to do so here is further indication that it has not taken a hard look.

ii. Road Density Data is Not a Substitute for Baseline Water Quality Information

The second category of information the agency relies on to disclose baseline water quality conditions is road density data.[626] Without other information – such as the proximity of roads to streams, the conditions of roads, the number of roads directly discharging to streams, how the roads are used, or what slopes and soils the roads are built on – this information is only minimally useful. We generally agree that risks to water quality increase as road density increases in a watershed, but *when* exactly those risks exceed certain thresholds depends on site-specific conditions and cannot be reduced to a ratio of road acreage per square mile.

The agency has reached this same conclusion elsewhere:

For example, increasing road density has been correlated with increasing sediment yield in many studies nationwide. *However, the true set of environmental conditions that produce sedimentation are complex, unmeasured, or unknown. Numerous other factors including soils, geology, slope, and road condition also influence sediment yield*. The result is that road density is not a perfect predictor of the effects on sediment yield.[627]

The agency's decades-long effort to conduct rational transportation planning teaches the same lesson: each road's risk depends on a number of factors including hydrological connection, soil types, local rainfall levels, frequency of BMP maintenance, etc. Analysis of the road network's impacts must be summed from the impacts of its constituent parts, not generalized based on density.

The same is true of the disclosure of road stream crossings per watershed.[628] A dozen bridges will cause less impact than a few culverts will cause less impact than a single ford. The fifteen crossings in the Dicks Creek watershed may be causing no impact to water quality while the single crossing in the Cochrans Creek watershed may be cause extreme impacts. Enough information is not provided to describe existing water quality in the project area.[629]

[626] Hydrology Report, 16.

[627] Watershed Condition Framework Technical Guidance, 8.

[628] Hydrology Report, 20.

[629] To the extent it is relevant, Table 5 of the Hydrology Report miscalculates the road density on Forest Service lands by dividing Forest Service road mileage by the total acreage of the watershed regardless of the percentage of the watershed owned by the Forest Service. It understates road density on Forest Service lands.

3. The Agency Fails to Meaningfully Evaluate Effects on Water Quality

As discussed above, taking a hard look at water quality impacts involves answering at least two questions: 1) what is the current condition of water quality in the area?; and 2) what effect will the project have on water quality? To answer the second question the agency largely looks to the amount of impervious surface cover in each watershed. This approach falls short on several fronts but even so indicates there will be significant impacts to water quality.

i. Schueler's Impervious Surface Model is Misapplied

The approach of assessing impacts to water quality based on impervious surface cover is taken from Schueler (1994). We question the application of that model here as Schueler's assessment was targeted largely to urban watersheds, not forests. The Forest Service also recognizes that "stream responsiveness to imperviousness can vary due to local slope, soils, geology, land and storm water management practices, and other factors"[630] and the import of Schueler's model to the steep slopes and highly erosive soils of the Foothills project area is unexplained and unclear. Regardless, the model is being misapplied.

First, the agency interprets the model to stand for the proposition that measurable effects to watersheds will not occur as long as impervious surface area remains under 10% of the watershed.[631] That is not what the model stands for. The 1994 model suggested watersheds with under 10% impervious surface area would retain their function but not that there would be no measurable effects or significant effects for NEPA purposes.

Second, in 2009 it appears Schueler reconsidered his 1994 approach; this revision has important takeaways for the Foothills Project. The Forest Service's assessment relies on the assumption that keeping total impervious area below 10% per watershed will only cause "moderate risk" to beneficial uses, which the agency adopts as a satisfactory level of risk. This 10% threshold was taken from Schueler's 1994 model. But Schueler's 2009 model[632] questions this assumption, correcting the "misperception that streams with low subwatershed [impervious cover] will automatically possess good or excellent quality."[633] It cautions that "[impervious cover] should not be the sole metric used to predict stream quality when subwatershed [impervious cover] is very low."[634] The 2009 approach concludes that watersheds with impervious cover below 5% can range from fair to excellent stream quality.

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[630] Hydrology Report, 3.

[631] Hydrology Report, 20.

[632] *See* Attachment 16.

[633] *Id*.

[634] *Id*.

Relying on the 1994 model, the Draft EA also assumes that streams are not "impacted" until imperviousness exceeds 10% of the watershed[635] but the 2009 study also calls that assumption into question, explaining that streams can become impacted at between 5-10% impervious cover.[636] The Foothills Project would cause many watersheds within the project area to exceed this new threshold which, using the agency's approach, would indicate a likelihood of significant impacts.[637]

ii. The Agency Never Considers Impacts on Water Quality From Prescribed Fire

The effect of prescribed fire on water quality is an afterthought in the Draft EA. With no analysis to back its conclusions, the agency simply states that prescribed fire "may increase the risk of sediment loading" but that this risk is "expected to be low."[638] This is not a hard look and contradicts past agency findings. For instance, as part of the Upper Warwoman Project, the Forest Service predicted that an "estimated 3,600 tons of sediment may be added to streams over the decade from the proposed vegetation management, burning and road management activities."[639] Of that amount, "an estimated 2,600 tons of sediment would result from burning . . . and another 300 tons from fire lines."[640] Prescribed burning can impact water quality. The agency is not free to ignore that impact.

iii. The Agency Cannot Rely On Changes to Recreation Sites, Roads, and Aquatic Organism Passage When Assessing Water Quality Because There is No Commitment Those Activities Will Actually Occur

The agency assumes that improvements to the road system, recreation sites, and aquatic organism passage will help mitigate detrimental impacts to water quality from other activities but there is no commitment that these potentially mitigating activities will actually occur.[641] For instance, at most the agency can say that it "may undertake a few [aquatic organism passage] or other instream restoration projects in a given year."[642] Without more assurance that these activities will actually occur, they cannot be used to downplay or mitigate other impacts to water quality.

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[635] Hydrology Report, 3.

[636] *See* Attachment 16.

[637] Hydrology Report, Table 7.

[638] Hydrology Report, 25.

[639] Upper Warwoman Project Final EA, 87.

[640] Upper Warwoman Project Final EA, 88.

[641] Hydrology Report ,26.

[642] Hydrology Report, 26.

iv. The Agency's Impervious Surface Analysis is Not an Accurate Portrayal of Impacts

The thrust of the agency's assessment of the impact of the Foothills Project on water quality is Table 7 of the Hydrology Report. That approach fails the hard look standard for numerous reasons.

First, as explained above, the approach assumes soil disturbance will be limited to 15% of the treated acreage due to a Forest Plan standard but the existence of that standard on its own does not prevent the agency from exceeding it. Rather, impacts analysis is necessary to determine if the proposed activities will exceed the standard. There also appears to be no plan for measuring and enforcing this limitation during project implementation.

Second, the relationship between the significance of impacts and impervious surface area is unclear. Keeping impervious surface area below a certain threshold may suggest that watersheds will continue to function normally but it does not indicate that there will be no significant impact from a proposed activity. A project can have a significant impact even if it does not completely disrupt watershed function. Regardless, the Forest Service appears to assume that impacts will be significant if impervious surface area exceeds 10% of a watershed. The agency's analysis confirms that the project will cause impervious surface area to exceed that threshold in several watersheds indicating significant impacts necessitating clear disclosure in an EIS.[643]

Third, the location of soil disturbance matters for assessing impacts to water quality but is completely unaccounted for in the agency's analysis. For instance, 8,060 acres of the 13,433-acre Bridge Creek watershed may see some mechanical treatment.[644] That indicates there may be some impact to water quality but the degree of impact depends on other factors such as:

- How close will these activities occur to streams?
- Will they be concentrated in subwatersheds that may see particularly acute impacts?
- Will the activities occur on highly erosive soils?
- What is the slope of areas where activities will occur?
- Will multiple activities (burning, logging, etc.) occur on the same piece of ground?

The agency's analysis does not consider any of these factors, instead focusing solely on impervious surface area. Unfortunately, impervious area is only a small part of a much more complicated picture.

[643] *See* Hydrology Report, Table 7.

[644] Hydrology Report, Table 7.

Fourth, the agency skews its analysis so it is not capturing the total impervious area in each watershed. Assuming *arguendo* that impervious surface area is an appropriate tool to assess impacts to water quality, the agency can approach the analysis in two ways. It can: 1) focus its analysis on that portion of a watershed owned by the Forest Service or 2) assess impervious surface are across the entire watershed regardless of ownership. The Forest Service employs a hybrid approach that misrepresents impacts by including only impervious surface area on national forest lands in the numerator while using the entire watershed, with both national forest and other ownership, in the denominator (except for roads).

This problem is most easily explained with an example. The Bridge Creek watershed is 13,433 acres. For purposes of impacts analysis, the Forest Service assumes that 1,328 acres will become impervious if the project is implemented, which equates to approximately 9.9% of the watershed. But the 1,328-acre number was derived by looking almost solely at the impacts of the action on Forest Service-owned land, ignoring impervious surface area on private lands within the watershed. It assumes that there are no impervious surfaces off of the national forest except for roads. That is inaccurate. Homes, industrial facilities, parking lots, other land management practices may result in impervious surface area on private lands but are unaccounted for in the analysis. If the agency's analysis is going to turn on the amount of impervious surface area in each watershed, the Forest Service must accurately calculate that area by also including impervious surface on private lands. Remote sensing data is readily available to help answer this question.

Alternatively, the Forest Service could assess impervious area on just the portions of the watershed it owns. The Forest Service owns 8,060 acres of the Bridge Creek watershed, and excluding roads as impervious surfaces, assumes the Foothills project will convert 1,209 acres to impervious surface area, or 15% of the watershed that is owned by the Forest Service. That percentage exceeds the trigger the agency uses in the rest of its analysis to indicate significant impacts to water quality. Either way, the methodology used to choose the numerator must match the methodology used to choose the denominator.

Finally, the threshold of significant impacts using this impervious surface analysis is unclear. As discussed above, it appears that the Forest Service is using a threshold of 10% impervious surface area to indicate significant impacts. The project would authorize activities to exceed that threshold in multiple watersheds.[645] Elsewhere the agency downplays this finding, suggesting impacts are not significant because the 10% threshold will not be exceeded in a "majority of the watersheds."[646] Is the agency's position that impervious surface area can exceed 10% in some watersheds in the project but not rise to a level of significance so long as it does not occur in all watersheds? That position may be convenient, but there is no support for it.

[645] *See* Hydrology Report, Table 7.

[646] Hydrology report, 27.

4. The Agency Never Applies the Outcome of Its Effects Analysis to Its Baseline Data

Even assuming that the agency has reasonably quantified baseline water quality conditions and assessed the likely impact of its actions, it never puts the two together to explain the effect of its proposal. "Baseline conditions" and "project impacts" remain in separate silos that are never considered in combination.

For example, the agency's analysis of baseline conditions finds that Millcreek/Rockflat Branch watershed is entirely owned by the Forest Service and is in a "fair" condition indicating that it is functioning at risk.[647] The Foothills project contemplates 6,987 acres of mechanical treatment activity in the 7,027-acre watershed.[648] This will increase impervious area to 15.4% of the watershed.[649] But the agency never discloses the impact of converting 15.4% of a "functioning at risk" watershed to impervious surface area. Based on the approach the agency takes to assessing water quality impacts, this would appear to significantly adversely affect the watershed. NEPA requires the agency to go the final step of disclosing that finding.

5. The Agency Did Not Take a Hard Look at Cumulative Impacts to Water Quality

The agency's assessment of cumulative impacts to water quality is three sentences concluding essentially that there will be no cumulative impact to water quality. The agency discloses other activities that could affect water quality but then dismisses them with no analysis. Simply listing other activities that may affect water quality, with no indication of whether or how they are impacting water quality is insufficient to meet the hard look standard.

The agency wrongfully dismisses the cumulative impact of many activities because they occur on private land. For instance, an 85-acre prescribed burn in the Boggs Creek watershed in 2013 is considered to potentially have a cumulative effect on water quality but a 95-acre prescribed burn in the same watershed in the same year is determined to have no cumulative effect on water quality because it occurred on private land. We are aware of no basis to exclude this impact simply because it occurred on private land. Activities on public and private land can affect water quality and must be considered in cumulative impacts analysis.

More to the point, the agency's conclusory dismissal of cumulative impact concerns is unjustified. Again, this is best explained with an example. Sumac Creek is listed on Georgia's 303(d) list as impaired likely due to excess sedimentation.[650] The Foothills Project contemplates 6,654 acres of mechanical treatments in this 8,177-acre watershed which will increase

[647] Hydrology Report, Table 2.

[648] Hydrology Report, Table 7.

[649] *Id*.

[650] Hydrology Report, 15.

impervious area in the watershed to 12.6%.[651] There are 26 other past, present, or reasonably foreseeable future actions covering thousands of acres in the watershed that the agency discloses will affect water quality.[652] Some of these actions have already occurred. Does the agency have monitoring data indicating these activities had *no effect* on water quality? What basis does the agency have to conclude that there will be no cumulative effect on water quality in this watershed despite the enormous amount of mechanical treatments it will receive? We are aware of no data or analysis suggesting that there will not be a cumulative impact on water quality in this watershed. The agency's conclusory dismissal of this concern is unjustified and arbitrary.

6. The Agency's Summary of Effects to Water Quality is Unsupported

The lack of a hard look is underscored by the agency's conclusion that impacts to water quality from the "no action" alternative and its preferred alternative are the same. Both will result in only a "low risk of sediment affecting water resource beneficial uses." Restated, according to the agency's analysis, doing *nothing* in the Foothills Project Area will have the same general effect on water quality as:

- Commercially harvesting 60,000 acres or more of timber;
- Conducting prescribed burns on 50,000 acres;
- Constructing hundreds of miles of fire line with bulldozers;
- Building an untold mileage of temporary roads; and
- Making various undisclosed changes to recreational facilities.

That cannot be right. Clearly, the agency's preferred alternative will have more of an impact on water quality than doing nothing. The fact that the agency's assessment led it to conclude that the impacts will be more-or-less equivalent is further evidence of the lack of a hard look. When other Forests have tried to use "bounded" analysis, they have at least admitted the negative impacts of the worst-case version of the project.

D. <u>The Forest Service Has Not Taken a Hard Look at Impacts to Aquatic Species</u>

Stemming from its failure to take a hard look at impacts to water quality, the agency has also failed to take a hard look at impacts to aquatic species.

As an initial matter, the agency should expand the boundaries of its analysis. The Forest Service limits its consideration of impacts to aquatic species to those found on Forest Service lands or one mile downstream[653] but the Forest Plan requires the agency to prioritize watershed improvement actions in areas with "known occurrence of federally-listed aquatic species on National Forest land or within *three stream miles* below the farthest downstream location of

[651] Hydrology Report, Table 7.

[652] Hydrology Report, AP9.

[653] Aquatic Resource Report, 8.

National Forest ownership."[654] To give effect to this provision the Forest Service should consider impacts to aquatic species as much as three miles downstream of the Forest Service boundary.

Much like the agency's assessment of water quality impacts, there appears to be a disconnect between the agency's disclosure of baseline conditions and its consideration of project impacts. While baseline conditions are generally disclosed, they appear to play no role in the agency's disclosure of project impacts.

The agency's general disclosure of baseline conditions reveals that habitat for many aquatic species is degraded. Pool habitat is lacking on the Chattahoochee and most streams have high percentages of streambed covered with fine sediments "which is not desirable for species."[655] Multiple streams within the Foothills project area are not meeting Georgia water quality standards.[656] Many of the watersheds in the project area are not functioning "properly," but are instead functioning "at risk."[657]

While this information is generally helpful, it fails to provide a platform from which to assess impacts to species because "[s]ediment loads are highly variable across project area streams."[658] That is another way of saying "location matters." But since the Forest does not disclose which locations will be impacted, it cannot assume that aquatic species will be protected. What if activities are concentrated in the areas of highest risk? The Forest doesn't admit the possible impacts of the actions it is authorizing under Alternative 2. Some streams may be so impacted that the agency should avoid sediment-inducing activities in the watershed to protect aquatic habitat. Other streams may be capable of withstanding a higher degree of impact without affecting species. The agency apparently has not sought to understand these differences, but they are important to accurately assessing the impact of its actions on aquatic species.

Regardless, baseline conditions appear to play little role in the agency's assessment of project impacts. For example, the agency discloses that logging "could result in an increase of sediment" to streams but then never considers that finding in the context of determining whether streams can support additional sediment loading. It is very likely that some streams cannot support additional sediment loading, particularly 3030(d) and 305(b) listed streams, without adversely affecting aquatic species. To meet its hard look obligation, the agency must consider which specific streams will be impacted by its actions and disclose, given their existing conditions, the impact of additional sediment discharge to those streams.

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[654] FW-069, Forest Plan, 2-22 (emphasis added).

[655] Aquatic Resource Report, 10.

[656] Hydrology Report, 14-15.

[657] Hydrology Report, Table 2.

[658] Aquatic Resource Report, 10.

The agency's assessment of project effects also has several flaws. The most significant is that the agency assumes sediment-inducing activities outside of the riparian corridor will have no effect on aquatic species. The agency considers only "effects in riparian corridors."[659] This is unsupported and contradicted by the rest of the agency's analysis. The Aquatic Resource Reports itself finds that "[s]tream channel sediment may originate from *upslope* sources."[660] The Report also adopts the conclusion from the Hydrology Report that "10% and greater impervious watershed area typically adversely affects aquatic habitats" regardless of whether that impervious area is in the riparian corridor.[661] As discussed above, the 10% threshold may be too lenient. Nevertheless, the agency's analysis indicates the Foothills Project will cause multiple watersheds to exceed this threshold causing adverse impacts to aquatic habitats.[662]

Second, the agency never clearly discloses the conclusions of its analysis. To assess impacts it uses four "measures" as proxies.[663] For the no-action alternative, the agency discloses the results of its analysis in Table 3 of the Aquatic Resource Report.[664] We were unable to find a conclusion, similar to Table 3 or otherwise, that revealed the effects of the agency's preferred alternative according to the four measures it has chosen as proxies. However, application of those measures reveals the project will have a significant impact on aquatic resources, necessitating an EIS.

The first proxy measure is the "change in percent canopy cover within the riparian corridor."[665] The agency estimates the project "would affect vegetation within the riparian corridor [ ] on an estimated 4,700 acres or 16% of the total riparian acreage.[666] This unmistakably will have an impact on water quality and aquatic species. The agency distances itself from that conclusion by suggesting only 1.6% of the riparian corridor would be affected annually; however, nothing in the project requires activities to be distributed in that manner, and in fact the Forest Service admits that it does not know when or where it will pursue specific activities, or whether some (potentially more sensitive) streams would be affected by a greater concentration of project activities than other streams.[667] The Forest generalizes possible impacts on the riparian corridor across the entire 157,000-acre project area, ignoring the impact in specific watersheds. Undoubtedly, impacts in riparian areas will not be distributed throughout

[659] Aquatic Resource Report, 19.

[660] Aquatic Resource Report, 10 (emphasis added).

[661] Aquatic Resource Report, 10.

[662] *See* Hydrology Report, Table 7.

[663] Aquatic Resource Report, 8.

[664] Aquatic Resource Report, 18.

[665] Aquatic Resource Report, 8.

[666] Aquatic Resource Report, 24.

[667] Aquatic Resource Report, 24.

the entire project area annually; rather, logging will occur in specific watersheds that will shoulder the bulk of this impact. The impact to aquatic species in a particular watershed(s) can still be significant even if the activity only affects a smaller percentage of riparian habitat at the project-wide scale.

The agency also does not appear to consider in its direct effects analysis the impact prescribed fire can have on forest canopy in the riparian corridor. Its disclosure of cumulative impacts finds that prescribed fire can at least have a "limited impact" on the riparian canopy.[668] If prescribed fire can have an impact for cumulative effects' purposes, it should also be considered in the agency's direct effects analysis.

The second proxy is the "change in the amount of impervious surface in each 6th level watershed."[669] Since the effects analysis in the Aquatic Resource Report focuses solely on impacts in the riparian corridor, this proxy appears to have been missed. However, the Hydrology Report underscores that the project will result in hundreds to thousands more acres of impervious surface area in each 6th level watershed.[670]

The third proxy is the "change in aquatic habitat connectivity."[671] This proxy cannot be evaluated because there are no specific proposals for actions that affect aquatic habitat connectivity or any specific commitment that the agency will pursue these activities in the future. Yet the activities authorized under Alternative 2 could undoubtedly affect connectivity, for example by culverting temporary road crossings.

The fourth proxy is the "acres of potential ground disturbing activities in riparian corridors" in the project area.[672] As explained above, this should not be limited to only ground disturbing activities in the riparian corridor; activities on upland slopes can and will affect water quality and aquatic habitats. The analysis should also be stream specific because, as explained above, significant harvesting in the riparian corridor on one stream could significantly impact that stream even if it is a small percentage of riparian habitat in the overall project area. Regardless, the 3,385 acres of timber harvesting at undisclosed locations in the riparian corridor represents a significant impact. Review of the agency's Fiscal Year 2013-2016 Monitoring and Evaluation Annual Report indicates this is more logging than has been proposed for the riparian corridor in years.[673]

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[668] Aquatic Resource Report, 18.

[669] Aquatic Resource Report, 8.

[670] Hydrology Report, Table 7.

[671] Aquatic Resource Report, 8.

[672] Aquatic Resource Report, 8.

[673] Chattahoochee-Oconee National Forest, Fiscal Year 2013-2016 Monitoring and Evaluation Annual Report, Table 4.3.1, available at https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fseprd587101.pdf .

Moreover, the agency may be underestimating impacts within the riparian corridor. Its disclosure of activities occurring in the riparian corridor assumes the corridor extends for 100 feet on each side of a stream[674] but the Forest Plan identifies riparian corridors based on slope class and some corridors are likely to be larger than 100 feet.[675] As a result, activities that are planned for the riparian corridor may be missed in the agency's analysis.

The agency appears to assume that BMPs will mitigate many of these impacts.[676] But the agency cannot assume that BMPs will mitigate impacts because it does not know where it will pursue logging and other activities and thus cannot judge BMP effectiveness. BMPs are not equally effective in all areas. The Forest Service cannot know if they will be effective if it does not even know where it will build roads, log, etc.[677] Additionally, BMPs are often not installed until after logging units close and skid trails and temporary roads are no longer in use.[678] Thus BMPs do not mitigate adverse impacts incurred while timber units are open, which can last for months at a time. The simple fact is that BMPs, used correctly, help to reduce impacts but they do not prevent them.

The overall conclusion of the agency's analysis is that the project "may affect, [but is] not likely to adversely affect" various protected species.[679] As explained elsewhere, the agency has not provided enough information to support that finding, but regardless, while the finding has legal significance for the Endangered Species Act, it does not answer the question as to whether this project may significantly impact aquatic species under NEPA. The agency's application of its four proxy measures is flawed but is at least sufficient to demonstrate that an EIS is necessary.

E. The Agency Has Not Taken a Hard Look at Impacts to Rare Botanical Species and Communities

The agency's assessment of impacts to rare botanical species and communities suffers from many of the same shortfalls as its assessment of impacts to aquatic species. To put a point on the overall problem: The agency does not know where rare botanical species occur on the ground because it has not looked for them. The agency also does not know where it will pursue logging and other activities that may impact these species. How can it take a hard look at impacts to these species if it: 1) does not know where the species are, and 2) does not know if its proposed actions overlap with species' locations? There could be no impact to these species;

[674] Aquatic Resource Report, 19.

[675] Forest Plan, 3-176.

[676] Aquatic Resource Report, 21.

[677] *See infra* Section XII(S).

[678] *See* Project Design Features, Draft EA 74-79.

[679] Aquatic Resource Report, 29.

there could be substantial adverse impacts. The agency does not know because it does not have the information before it to answer the question. This is not a hard look.

This problem permeates the agency's entire analysis. For instance, it dismisses impacts to the federally endangered smooth coneflower by stating that "site-specific, project-level planning . . . would be used to ensure there would be no adverse effects to individuals."[680] A promise of future, unspecified mitigation cannot substitute for NEPA analysis. This is the agency's chance: the Draft EA *is the final decision* document but the agency is plainly referring to some future analysis. The agency cannot comply with NEPA by stating it will take a hard look at project impacts *later*. The agency must take the hard look now or commit to additional NEPA in the future, because the public must be involved in any "future" site-specific analysis. The agency often misses rare species in its own surveys, and interested members of the public deserve the opportunity to provide better information before the skidders are turned loose.

Faced with this problem, the agency tries a two-pronged approached to analyzing impacts to species without site-specific information. First, the agency "estimate[s] the effects" to protected species by measuring project-wide changes to habitat where species are expected to be found.[681] This is effectively a management indicator species-style analysis for non-management indicator species. This may indicate change in the amount of habitat available to the species across the entire project area but cannot measure impacts to rare specimens without more information about whether the specimens are in fact located in habitat that is impacted by logging or other activities contemplated in the project. In other words, improving habitat where the species could be but is *not* located does not mitigate impacts to habitat where the species *is* located. And even if overall habitat is improved, impacts to individual specimens or populations can still be detrimental to species overall. This approach fails to take that into account. Some species disperse and colonize well, but others do not, and other suitable streams may be isolated from occupied habitat by factors (like impoundments) that are outside the Forest's control. The Forest's analysis does not account for these differences at all.

This is paired with the assertion that specific locations of protected species "would be protected in the Foothills Landscape under the revised Forest Plan." As we have pointed out elsewhere, the agency cannot point to Forest Plan requirements as a replacement for taking a hard look. The mere existence of the Forest Plan does not protect rare, threatened, or endangered species; the Forest Plan is not self-implementing. The agency must determine the location of species and conduct impact analysis to determine if it is complying with its Forest Plan. The Forest Plan recognizes the same: "Site-specific analysis of proposed management actions will identify any protective measures needed in addition to Forest Plan standards" specifically for protected species.[682] Similarly, the EIS supporting the Forest Plan depends on "[p]roject-level

[680] Botanical Resources and Rare Communities Report, 75.

[681] Botanical Resources and Rare Communities Report, Table 2.

[682] 9.F.-001, Forest Plan, 3-163.

surveys . . . to ensure that management activities do not adversely affect" protected species, including several at issue here.[683] Site-specific analysis is necessary to assess impacts to these species; the agency cannot just point to its Forest Plan.

This combined approach presents an overly rosy picture of impacts to rare species. The agency uses changes to habitat to assert that the project overall will be beneficial for species and then uses the Forest Plan to imply there will be no adverse effects to individuals. This is not a hard look but a look designed to downplay adverse effects. At the end of the day, the agency cannot take a hard look at impacts to these species if it does not know where they are or where its proposed activities will take place.

F. The Forest Service Has Not Taken a Hard Look at Impacts to Terrestrial Species

The agency's assessment of impacts to terrestrial species suffers from the same overall defect that permeates the rest of the analysis: the lack of any site-specific information or analysis. This is effectively a Forest Plan revision scale of analysis which, as recognized by the Forest Plan, does not provide sufficient detail to consider the impacts of site-specific activities. Moreover, *how* the agency implements the hundred thousand acres or more of vegetation management it is proposing will affect wildlife, yet there is no plan for how that will occur. To be clear, we are not talking about process but how substantively the work will progress on the ground. Wildlife will be affected differently if, for example, the agency pursues thinning harvests for the next decade but does not create early successional habitat. The lack of any site-specific proposal or plan hampers the ability to assess impacts to wildlife. There are as many possible impacts to wildlife as there are permutations of site-specific action under Alternative 2. Each of them would entail benefits for some species and harms for others. And some of them are undoubtedly more efficient (i.e., a better benefit to harm ratio) than others. Yet the Forest's abstract analysis precludes any comparison between them.

However, some shortcomings are clear. First, the agency excludes federal actions from its consideration of cumulative impacts to species listed under the Endangered Species Act ("ESA") by pointing to the definition of cumulative impact from the ESA.[684] That may be sufficient for ESA purposes but it is not sufficient for NEPA purposes. Under NEPA, the agency must consider and disclose cumulative impacts to these species from federal actions, including other Forest Service actions.

Second, the agency's conclusion regarding impacts to eastern small-footed bat is unsupported. The agency concludes that use of a buffer around cliffs and rock outcrops will prevent impacts to roosting or hibernating bats.[685] Activities outside the buffer however, such as

[683] *See, e.g.*, FEIS, 3-268.

[684] Terrestrial Wildlife Report, 9.

[685] Terrestrial Wildlife Report, 46.

logging or road building, could affect bats through noise, vibration, and changes to the surrounding habitat. It is also not clear that the species exclusively hibernates and roosts in these areas. The buffer will not prevent all adverse impacts. In other words, actions that would be authorized under Alternative 2 *would* cause adverse impacts. It may not be the Forest's intention to carry out such impacts, but the decision allows them, and so the analysis supporting the decision must disclose them.

Third, assessment of impacts to small-footed bat and tri-colored bat fall short because they assume logging in riparian areas (which will affect the bats) will be spread evenly over the life and area of the project even though that is certainly not the case.[686] There will be times of more intensive logging in specific watersheds, and when that overlaps with bat habitat there will be more acute impacts than what is revealed by calculating the average amount of work that will occur in riparian areas forest-wide over the life of the project. The agency needs to consider and disclose this more direct impact.

Fourth, the agency states that tri-colored bat hibernaculum will not be affected by the project because a Project Design Feature requires the agency to identify and avoid logging within 0.25 mile of these areas.[687] That project design feature applies to northern long-eared bats, not tri-colored bats, so its application appears in doubt.[688]

Fifth, the agency assumes that buffers around rock outcrops and cliffs will avoid all impacts to green salamanders.[689] The agency's analysis fails NEPA's hard look standard in multiple ways. First, the size of the buffers is determined by the Forest Plan which does not appear to have been designed to protect green salamanders. The agency has provided no evidence to support its assertion that these buffers would be effective. This failure is particularly troublesome given a recent shift in scientific understanding of green salamander habitat. Whereas "[p]reviously, arboreal habitat was deemed secondary to rock outcrops as preferred habitat…recent studies indicate that woody and arboreal habitats play a much larger role in the life history than generally thought."[690] Second, there are "significant gaps in survey data" for the Foothills region indicating the agency also lacks support on that front to conclude that the buffers will be effective.[691] Even if the agency did provide sufficient information to support the assertion that the proposed buffer zones would be effective at protecting green salamanders, this would not cure the agency's deficient analysis. Assuming that buffers around cliffs and rock

[686] Terrestrial Wildlife Report, 47.

[687] Terrestrial Wildlife Report, 47.

[688] Terrestrial Wildlife Report, 21.

[689] Terrestrial Wildlife Report, 51.

[690] U.S. Fish and Wildlife Service Green Salamander Fact Sheet (2019), available at https://www.fws.gov/southeast/pdf/fact-sheet/green-salamander.pdf .

[691] Terrestrial Wildlife Report, 27.

outcrops would prevent direct harm to most green salamanders, the agency has provided no information to support its assumption that cumulative fragmentation of green salamander habitat will not negatively impact populations in the Foothills area. What are the long-term effects of genetically isolating small pockets of salamanders that otherwise would range further from their nesting outcrops? The Draft EA provides no information supporting the agency's position that creation of an isolated pocket of trees around a rock outcropping or cliff is protective of the species and would therefore not be likely to lead toward federal listing or a decrease in viability across the forest.

A final and related point is that the project generally fails to take a hard look at impacts to salamanders and other species that cannot quickly escape prescribed fires, masticators, and logging equipment. The Southern Appalachians are a global hotspot of salamander diversity; these species deserve consideration in the agency's effects analysis. There is no management indicator species that serves as a proxy for effects to these species and the Forest Service does not seem to monitor them. Nevertheless they are experiencing significant habitat reduction and face numerous climate change related challenges. To comply with NEPA, the agency needs to take a hard look at impacts to these species.

G. The Forest Service Has Not Taken a Hard Look at Impacts to Locally Rare Aquatic, Botanical, or Terrestrial Species

When the Forest Plan was last revised, the public asked the agency to make specific commitments about how it would treat locally rare species. Commenters requested "more specificity regarding inventory and monitoring of species of viability concern, including those of local viability concern ('locally rare' species)."[692] The agency "agree[d] that inventory and monitoring are critical"[693] but refrained from providing that specificity during plan revision because "locally rare species receive further consideration in project proposals."[694]

Yet under this "project proposal" the Forest Service asserts that "[n]either the [Forest Plan] nor any other law or regulation specifically identifies the need for an effect analysis for [locally rare] species."[695] To the contrary, NEPA requires the agency to consider the effects of its actions on locally rare species. The agency recognized that during plan revision but explicitly chose to defer that analysis until it developed "project proposals." Now that it has a project proposal, it must complete the analysis it deferred. Moreover, the Forest Plan calls on the

[692] FEIS, App'x G, G-88.

[693] FEIS, App'x G, G-88.

[694] FEIS, App'x G, G-99.

[695] Botanical Resources and Rare Communities Report, 4.

agency to "[c]ontribute to the conservation of State-identified locally rare species,"[696] which it cannot do if it does not know how its projects affect the species.

The most the agency does is list locally rare species in Appendix B of the Botanical and Rare Communities Report and then categorically dismiss impacts to them as insignificant. That does not constitute a hard look. First, Appendix B seems to have multiple errors so it is unclear if this is a full and accurate list. But more to the point, taking a hard look requires more than just listing species and then concluding impacts to the species are insignificant with no supporting information or analysis. It is unclear if the agency is even aware of the locations of these species and we do not understand how the agency can evaluate impacts to the species if it does not know where the many proposals under the Foothills Project will be implemented on the ground. Enough information is not provided to evaluate impacts to these locally rare species even at a very general level.

H. The Forest Service Has Not Taken a Hard Look at Impacts From Prescribed Fire

The Forest Service proposes to conduct prescribed burns across 50,000 acres of the Foothills project area but acknowledges that "geographic location[s] for proposed prescribed burn activities have not been determined."[697] Prescribed burning does not have uniform impacts across the landscape. Some areas may burn hotter and produce different effects; fire may have different effects on different ecosystems within burn units; fire may respond differently to different fuels in different places in the forest; prescribed fire poses different risks to communities and wildlife based on where it occurs on the forest. All the Forest Service has disclosed is that somewhere within the 157,000-acre project area, it is going to conduct 50,000 acres of burning. The agency cannot take a hard look at the impacts of prescribed fire if it does not know where that fire will burn.

The agency also lacks baseline data from which to assess the effects of prescribed fire or determine the need for fire. The entire analysis rests on the assumption that unless an area has been burned twice, or burned once accompanied by additional "vegetation manipulation," it is at high "risk of losing key ecosystem components from unwanted wildlife fire."[698] The agency does not have a reasonable basis for that assumption. Its assessment of the need for prescribed fire must be informed at least by *some* in-field review, not simply calculating acres that have not been subject to the agency's prescribed burning in the past. This analysis assumes that every acre of the forest has the same general need for prescribed fire, and if the agency has not burned it in the past, it needs burning now. There is no information in the Draft EA supporting such an expansive conclusion.

[696] Forest Plan, 2-13.

[697] Fire and Fuels Report, 7.

[698] Fire and Fuels Report, 4.

The agency admits that it does not know the long-term effect prescribed burning will have on the landscape. "[L]ong-term effects can last as long as treatment are being maintained" but there is no indication of how long the agency will maintain treatments nor how frequently it plans to burn.[699] It is important that the agency has some long-term plan here. In the short term, fire may cause "fuels [to] build up or even exceed the dangerous fuel loading of pre-burn levels within 3 to 5 years."[700] Depending on burn frequency, this proposal runs the risk of making fuels conditions *worse* than if the agency did not act. Elsewhere, the agency states that prescribed fire needs to be applied "over the course of many years, perhaps upwards to 50 years" to have a meaningful impact.[701] Is that the agency's plan? Its impacts analysis does not reflect a commitment to that level of management.

To be clear, we agree that some parts of the project area could benefit from prescribed burning. But the agency has thrown out any site-specific considerations and concluded that 90% of the Foothills area has the same general need for prescribed fire and that burning across that acreage will have the same general effect.[702] That is not a hard look.

I. <u>The Forest Service Has Not Taken a Hard Look at Impacts to Roadless Areas</u>

To meet its "hard look" obligations the Forest Service must consider the effects of logging and road building on: 1) areas that have been formally designated as "inventoried roadless areas" and 2) areas that have not been formally designated as "inventoried roadless areas" but which meet criteria for inclusion in the next potential wilderness inventory under the 2012 Forest Planning Rule.[703] The Forest Service recognizes its obligation to take a hard look at the former, though as explained below, it has not fulfilled that obligation. As for the latter, the agency has made no attempt to fulfill its obligation. This violates NEPA.

1. The Forest Service Has Not Taken a Hard Look at Impacts to Inventoried Roadless Areas

The Foothills Project stands to impact five inventoried roadless areas ("IRA").[704] The agency's assessment of that impact is deficient for multiple reasons.

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[699] Fire and Fuels Report, 8.

[700] Fire and Fuels Report, 15.

[701] Vegetation Report, 64.

[702] Fire and Fuels Report, 12.

[703] *See Sierra Club, Inc. v. Austin*, 82 F. App'x 570, 572 (9th Cir. 2003)(finding Forest Service EIS did not take sufficient hard look at effects of logging on uninventoried roadless area); *Smith v. U.S. Forest Serv*., 33 F.3d 1072 (9th Cir. 1994)(requiring analysis of impacts on roadless area); *Oregon Wild v. United States*, 107 F. Supp. 3d 1102 (D. Or. 2015)(acknowledging requirement to consider impacts on roadless areas); *Ctr. for Biological Diversity v. Gould*, 150 F. Supp. 3d 1170 (E.D. Cal. 2015)(the same).

[704] Inventoried Roadless Areas Report, 1.

First, the agency completes its analysis on the assumption that the "effects on IRAs within the project area are bound by the limitations set forth in overarching law, policy, and regulation."[705] As discussed elsewhere, this concept is not accurate for limiting effects analysis under NEPA. It is true that law and policy prohibit certain activities in IRAs but practically, the Forest Service is capable of exceeding those limitations whether intentionally or unintentionally. The mere existence of law and policy does not prevent it from being violated. The agency must assess the impact of its actions to determine *if* it is complying with law and policy. Here again, the roadless rule is the speed limit and NEPA is the speedometer. The approach articulated in the Draft EA turns that solid reality on its head by assuming that the mere existence of these laws prevents any impact that may violate them. Laws do not prevent their own violation. Agency decisions either violate or refrain from violating. And NEPA is the tool agencies use to determine the effects of their decisions. We do not question whether the Forest Service is *trying* to comply with the Roadless Rule; we *do* question whether this project will in fact violate the Rule. The Forest Service has to complete effects analysis to make that determination.

The agency can attempt to "bind" its effects analysis by agreeing not to pursue certain activities or pursuing them in only certain places. If the agency is clear that those actions will not occur, it does not need to assess the impact of these (non)actions. But it cannot bind its NEPA effects analysis by pointing to the existence of other laws.

Second, the "measures" the agency uses to assess impacts to roadless characteristics are too vague to be meaningful. The agency only considers whether actions will cause roadless characteristics to "trend" upwards, downwards, or remain stable. That is not a hard look. What are the differences between these categories? They seem to only be a subjective prediction of what will happen. The agency confusingly concludes that some characteristics will experience a "downward/stable" trend.[706] It is unclear to us what that means.

Regardless, the agency cannot assess impacts to roadless characteristics because there are no specific proposals in these areas. The agency states that it may conduct treatments for hemlock conservation in IRAs but it does not disclose where or how. The Draft EA indicates that these treatments may be commercial, which means they have the potential for profound impacts on roadless characteristics.[707] The agency has not decided if it will pursue actions in IRAs affecting unspecified trails, recreation sites, or roads, only indicating that they "could be warranted" at some point over the lifespan of the project.[708] This is not a proposal from which effects can be assessed, just an indication that the agency might do something at some location at some time in the future. Finally, the agency proposes untold work to respond "to insect and

[705] Inventoried Roadless Areas Report, 1.

[706] Inventoried Roadless Areas Report, 8.

[707] Draft EA, App'x B.

[708] Inventoried Roadless Areas Report, 6.

disease outbreaks."[709] No information is provided indicating there is a current insect or disease problem in IRAs that necessitates a response or any information about what a "response" may look like. The agency even seems to concede that it cannot assess this activity now: it will be "assessed on a case-by-case basis" *later*.[710] The lack of any specific proposals for these areas prevents the agency from taking a hard look or demonstrating compliance with the 2001 Roadless Rule.

2. *The Forest Service Has Not Taken a Hard Look at Impacts to Uninventoried Roadless Areas*[711]

In its analysis of effects to IRAs the Forest Service recognizes that roadless areas provide certain qualities that are unmatched on national forests.[712] IRAs are designated to protect those qualities but the act of designation is not what brought those qualities into existence. Other significant, unroaded areas on the forest that are not formally designated can also provide those characteristics. The Forest Plan recognizes as much, obligating the agency to "[m]anage wilderness, roadless, and other un-roaded areas *to provide the social and ecological benefits that only they can offer*."[713]

NEPA requires the agency to assess impacts to the special characteristics of roadless areas – inventoried or uninventoried – and practically, the agency must take that step to evaluate compliance with the obligation under its Forest Plan to manage these areas to provide the "benefits that only they can offer." Whether an area is formally inventoried does "not provide a meaningful legal distinction" for purposes of NEPA analysis.[714]

"[T]here are at least two separate reasons why logging in roadless areas is environmentally significant, so that its environmental consequences must be considered. First, roadless areas have certain attributes that must be analyzed. Those attributes, such as water resources, soils, wildlife habitat, and recreation opportunities, possess independent environmental significance. Second, roadless areas are significant because of their potential for designation as wilderness areas under the Wilderness Act of 1964."[715] "The possibility of future wilderness classification triggers, at the very least, an obligation on the part of the agency to

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[709] Inventoried Roadless Areas Report, 6.

[710] Inventoried Roadless Areas Report, 6.

[711] The term "uninventoried roadless area" as used in these comments refers to an area that has not been officially designated as an IRA but meets requirements under the 2012 Forest Planning Rule for inclusion in the next potential wilderness inventory.

[712] *See* Inventoried Roadless Areas Report, 2 (recognizing "roadless characteristics as identified by the 2001 Roadless Rule").

[713] Forest Plan, 2-37 (emphasis added).

[714] *Lands Council v. Martin*, 529 F.3d 1219, 1230-1231 (9th Cir. 2008).

[715] *Id*. at1230 (citations omitted).

disclose the fact that development will affect a 5,000 acre roadless area or will affect an area of sufficient size as to make practicable its preservation and use in an unimpaired condition."[716] This requirement applies to both inventoried and uninventoried roadless areas.[717]

There are four primary areas within the Foothills landscape that qualify for inclusion in the potential wilderness inventory to be completed using the 2012 Forest Planning Rule during the next Forest Plan revision. Those areas are the Big Shoals, Thrifts Ferry, Five Falls, and Grassy Mountain Mountain Treasure areas.[718] Each area is "at least five thousand acres . . . or of sufficient size as to make practicable its preservation and use in an unimpaired condition."[719] The areas do not include maintenance level 3, 4, or 5 roads.[720] And the areas do not include "other improvements."[721] The qualities of these areas are discussed in the "Georgia's Mountain Treasures" publication of which the Forest Service has a copy.[722]

The Forest Service has not assessed whether these areas should be considered for wilderness recommendation or other protective management under the 2012 Forest Planning Rule. The last Forest Plan revision utilized directives under the 1982 Forest Planning Rule. We maintain that many of these areas were wrongly excluded from consideration under previous inventories, and the 2001 Roadless Rule, but they clearly qualify for inclusion in the potential wilderness inventory under the 2012 Forest Planning Rule. As a result, the Forest Service must disclose impacts to the roadless characteristics of these areas.

Courts have reached this same conclusion. In *Smith v. U.S. Forest Service,* the Forest Service was reversed because it "never, in its NEPA documents, [took] into account the fact that the [timber] sale will affect a 5,000 acre roadless area."[723] The Forest Service argued that the fact that the roadless area was not formally designated in previous roadless or wilderness inventories excused any obligation to consider impacts on the undesignated roadless area. The court disagreed, noting specifically that the area's designation "may be revisited in second-generation Forest Plans."[724]

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[716] *Id*. at 1231 (emphasis added).

[717] *Id*. at 1230-1231.

[718] *See supra* Section III.

[719] FSH 1909.12, Ch. 70.21.

[720] *Id*. at Ch. 71.22a.

[721] *Id*. at Ch. 71.22b.

[722] It is also linked in Section III.

[723] *Smith v. U.S. Forest Serv*., 33 F.3d 1072, 1079 (9th Cir. 1994).

[724] *Id*. at 1078.

Disclosure of impacts to these areas is particularly important because "[t]he choice to commence logging . . . implicates and constrains future decisions regarding the [area]."[725] In other words, actions the Forest Service takes now may affect an area's eligibility for inclusion in the agency's potential wilderness inventory later, and the public should be made aware of that decision as it is made, rather than after an area's values have been degraded and its inclusion in the inventory potentially compromised.

In the past, the Forest Service has explained that it does not need to disclose these impacts because "the potential impacts of . . . silvicultural treatments and . . . temporary road segments would not be an irreversible and irretrievable commitment of resources."[726] But the agency's own analysis discounts existing IRAs because of "past management apparent throughout" and "evidence of management, such as past timber harvest . . . [and] access roads."[727] If the agency recognizes the impact those conditions have on the characteristics of IRAs it must also recognize and disclose that pursuing similar activities in uninventoried roadless areas may affect their character and eligibility for inclusion in the next potential wilderness inventory.

The gist of the agency's argument seems to be that harvesting trees and building roads does not affect the eligibility of an area for inclusion in a potential wilderness inventory because trees grow back including, sometimes, in road beds. But if that is the agency's standard then practically *nothing* prevents an area from being included in the next potential wilderness inventory because over time the forest will grow back. Every part of the forest would have to be considered for inclusion in the potential wilderness inventory because tress regenerate and roads can be removed. If that is the Forest's position, then it should say so clearly now, so that we can remind you of it when the time comes for the next plan revision.

Furthermore, the Forest's position is arbitrary and capricious because the Forest Service has elsewhere recognized that timber harvests and road building constitute irreversible and irretrievable commitments of resources. On other forests, the agency has specifically disclosed that "[r]oad construction is an irreversible action because of the time it takes for a constructed road to revert to natural conditions."[728] "Soils . . . displaced by road construction activities are irreversible commitments of project resources, due to the long-term loss of soil productivity"[729] – indeed, the agency recognizes that construction of roads and skid trails will cause long-term detrimental impacts to soil in the project area.[730] A "reduction in the visual quality of an area due

[725] *Sierra Club, Inc. v. Austin*, 82 F. App'x 570, 573 (9th Cir. 2003).

[726] Forest Service, Cooper Creek Final Environmental Assessment, 8.

[727] Inventoried Roadless Areas Report, 2-3.

[728] Forest Service, Prince of Wales Landscape Level Analysis Project Final Environmental Impact Statement (Oct. 2018), 61.

[729] *Id*.

[730] Soil Report, 53.

to timber harvesting would be an irretrievable commitment of resources."[731] Even "[f]oregoing timber harvest opportunities in certain areas . . . due to resource concerns or economics, may represent an irretrievable commitment of resources."[732] If foregoing timber harvest is an irretrievable commitment of resources, then actively harvesting timber certainly is.

The agency must consider and disclose the effect of its activities on the roadless characteristics of inventoried and uninventoried roadless areas. It has not done that here, nor can it meet that obligation if it does not know where logging, road building, and other activities will take place on the ground.

J. The Agency Has Not Taken a Hard Look at Impacts to Cultural Resources

We are confused by the statement in the Draft EA that "cultural resources were reviewed for sufficiency and for supporting resource information in [a] corresponding specialist report[] that can be found in the project record, but [was] not carried forward in this EA." [733] We assume that the agency's intention was to incorporate by reference its analysis in the Cultural Resources Report. It must assess impacts to these resources under NEPA. Unfortunately the Report's analysis of cultural resources falls well short of a hard look, for multiple reasons.

1. The Forest Service Improperly Conflates Its NEPA and NHPA Obligations

Like other portions of its analysis, the Cultural Resources Report misstates the agency's obligation to consider impacts to cultural resources under NEPA. While the report begins by accurately describing cultural resources as "the tangible remains of past human activity" including "archaeological sites…historic buildings, structures, objects, and districts," as well as "historic landscapes and the locations of Traditional Cultural Properties," it then *erroneously* asserts that "[u]ltimately, what determines whether or not the [Foothills Landscape Project] adversely affects cultural resources is whether or not sites eligible or unevaluated for the NRHP are disturbed." [734] Elsewhere, citing the National Historic Preservation Act's (NHPA) implementing regulations, the agency asserts that "an adverse effect is considered to have occurred to a cultural resource site when the characteristics that may make that site eligible for inclusion on the National Register of Historic Places have been altered." [735] In other words, the agency seems to think that the *only* relevant impacts to cultural resources are those which affect the resources' eligibility to be listed on the National Register. This is a misstatement of the law—it describes relevant impacts under the NHPA, not NEPA—and this error undermines the agency's analysis.

[731] Prince of Wales Final Environmental Impact Statement, 62.

[732] Prince of Wales Final Environmental Impact Statement, 61.

[733] Draft EA, 85.

[734] Cultural Resources Report, 3.

[735] Cultural Resources Report, 28.

NEPA requires a broader scope of analysis than NHPA. Under NEPA, an agency must consider impacts to cultural resources which are listed or eligible to be listed on the National Register, but it must also consider impacts to any other "significant" cultural or historical resources. [736] Furthermore, relevant impacts to cultural resources include but are not limited to those impacts which affect listing eligibility.[737] The Forest Service recently acknowledged this distinction in its Final Environmental Impact Statement for the Prince of Wales Landscape Level Analysis Project, noting that while NHPA is concerned only with "historic properties" and their eligibility status, "the NEPA definition of 'cultural resources,' by contrast, encompasses both eligible and non-eligible cultural resources, including districts, sites, buildings, structures, and objects." [738] In the Prince of Wales project, the Forest Service correctly determined that it was required to consider impacts to "all culturally significant features and items, regardless of NRHP-eligibility." [739]

Although agencies may use the NEPA process as a framework for complying with NHPA, compliance with NHPA is not sufficient to satisfy NEPA.[740] Here, as a result of the agency's confusion about which cultural resources and effects it must consider under NEPA, it has failed to take the requisite hard look.

2. The Lack of Site-Specific Information Renders the Analysis Insufficient, but it is Clear There May Be Significant Impacts to Cultural Resources

Continuing the pattern of the agency's analysis of other aspects of the human environment, its evaluation of impacts to cultural resources cannot meet the hard look standard due to the EA's lack of site-specific proposals. Without knowing where it will propose certain project activities, the agency cannot satisfactorily evaluate whether cultural resources will be impacted. As the agency's Cultural Resources Report acknowledges, *known* cultural resources are not evenly distributed across the Foothills landscape.[741] Likewise, undiscovered resources are unlikely to be evenly distributed across the landscape. While the agency has developed a model for predicting the relative probability that a certain area of the Foothills landscape will contain archaeological sites, this model is of limited use in a NEPA effects analysis because the agency has not decided where particular activities will be implemented. How many acres of timber treatments will take place in "high probability" areas? How many acres of prescribed burning will take place in "low probability" areas? This information is relevant to any analysis of impacts to cultural resources, but it is absent from the Cultural Resources Report.

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[736] 40 C.F.R. §1508.27

[737] *Id.*

[738] Prince of Wales Final Environmental Impact Statement, 243.

[739] *Id.* at 246.

[740] *See Lemon v. McHugh*, 668 F.Supp.2d 133, 144 (D.D.C. 2009).

[741] Cultural Resources Report, 9.

Even ignoring the Report's shortcomings due to the lack of site-specific project proposals, it is clear that implementation of the Foothills project may have significant impacts on cultural resources. As discussed in the agency's *Cultural Resources Overview* and in the section of these comments relating to NHPA, the Foothills area has a rich but poorly understood cultural past. A number of peoples have called the Foothills area home over the centuries, and the Forest Service estimates that there are *thousands* of unidentified archaeological sites scattered throughout the different project implementation areas. The location of these sites and their potential significance is not known because only a small percentage of the Foothills area has been surveyed. Based on the Forest Service's predictive model for cultural resources, approximately 85% of these unidentified sites are likely to be found in "high probability" areas, which make up around 44% of the land area in the Piedmont region and 28% of the land area in the Blue Ridge region.[742] Approximately 15% of the unknown sites are likely to be found in the remaining "low probability" areas. [743]

Meanwhile, the Forest Service has acknowledged that many of the activities it is proposing to carry out across the Foothills landscape will adversely affect cultural resources if such resources are present and not protected. Timber treatments, prescribed burning, road construction and decommissioning, trail construction and decommissioning, and the creation of wildlife openings all have the potential to affect cultural resources.[744] Specific to ground-disturbing activities, the Forest Service has observed that archaeological deposits on the CONF are typically near the soil surface and "[a]s a result of sites being so shallow, archaeological sites on the Chattahoochee NF can be severely impacted by activities that disturb the ground surface."[745] With respect to prescribed burning, the agency has observed that cultural resources may be directly affected by flames and heat or by subsequent erosion or damage due to increased public access.[746]

The Forest Service does not acknowledge other types of effects. For example, as noted by the agency in its FEIS for the Prince of Wales Landscape Level Analysis Project, "large-scale changes to the landscape affect the integrity of a cultural resource, including its historic setting

[742] Draft NHPA Programmatic Agreement, Appendix E, 67.

[743] *Id.*

[744] Cultural Resources Report, 26-27

[745] Cultural Resources Report, 27

[746] Cultural Resources Report, 28. As discussed in the NHPA section of these comments, the Forest Service generally dismisses the possibility that heat or flames from prescribed burning will adversely affect historic properties and other cultural resources. For the reasons discussed in that section, this conclusion is arbitrary and not supported by quantifiable and detailed information. To the contrary, USFS reports on the impact of fire on cultural resources suggest that fire intensity—and its effects on cultural resources—will necessarily vary based on site-specific and environmental factors. Therefore it is inappropriate for the Forest Service to broadly conclude that prescribed fires in the Foothills area will be low intensity and that consequently they will not impact subsurface cultural resources.

and feeling of association."[747] By contrast, to the extent that the Foothills Cultural Resource Report discusses effects to cultural resources, it focuses entirely on *physical* effects to artifacts; it completely ignores the *contextual* adverse effects that would result from the large-scale changes to the landscape that the Foothills project would bring.

The agency's analysis makes clear that there is *likely* to be a large number of unidentified cultural resources in the Foothills area and that the activities the agency is proposing for the Foothills project may damage or destroy them. But the agency's analysis goes no further than this, because it cannot. Without knowing where it will implement various activities and where most cultural resources are located, the agency cannot adequately evaluate impacts to them.

The Forest Service attempts to bridge this chasm in its analysis by suggesting that any potential adverse effects to cultural resources will be avoided or mitigated by "a series of mitigation measures" that have been agreed to by the agency and various parties the agency consulted with in developing its NHPA programmatic agreement.[748] These measures consist of "standard protection measures" and "alternative mitigation measures." [749] As discussed below, the agency merely *lists* its proposed mitigation measures; it does not evaluate their effectiveness. This mere listing of mitigation measures does not save the agency's analysis or show that the potential impacts to cultural resources will not be significant.

3. The Forest Service's Analysis Fails to Discuss the Effectiveness of the Agency's Proposed Mitigation Measures

As discussed in the section of these comments addressing the agency's NHPA obligations, that statute requires the Forest Service to develop and consider measures that could mitigate adverse effects to historic properties. In its draft programmatic agreement, the agency presents a series of "standard protection" and "mitigation" measures that were developed in coordination with Section 106 consulting parties.

In its NEPA analysis, the agency relies on these protection and mitigation measures en route to its conclusion that implementation of the Foothills project would not adversely affect cultural resources. This reliance is misplaced because the agency fails to adequately assess the effectiveness of the proposed mitigation measures. "Without analytical data to support . . . proposed mitigation measures," they do not "amount to anything more than a 'mere listing' of good management practices" that is insufficient for NEPA purposes.[750]

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[747] Prince of Wales Final Environmental Impact Statement, 246.

[748] Cultural Resources Report, 5

[749] *Id.*

[750] *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)

The three "standard protection" measures listed by the agency are "exclusion," "avoidance," and "limited use of existing transportation routes."[751] It's not entirely clear what the difference is between exclusion and avoidance. Under both scenarios, the agency asserts that it would simply conduct its proposed activities *around* known cultural resources so as to avoid impacting them. As for "limited use of existing transportation routes," the agency's "protection measure" is simply a statement that "[l]inear sites may be crossed or bounded in areas where their features or characteristics clearly lack integrity, that is, where those portions do not contribute to a site's eligibility [for listing on the National Register]."[752]

Each of these three protection measures is only applicable where the location of cultural resources is *known*. As discussed above, the agency predicts that there are *thousands* of unidentified archaeological sites across the Foothills area, some of which could be significant. While the agency is planning to conduct sample surveying within "high probability" project areas in order to comply with NHPA, the Cultural Resources Report appears to assume, without supporting data, that these sample surveys will necessarily uncover all significant cultural resources within a coverage area. There is no discussion of the possibility that resources—particularly those located in the soil—will be missed, and consequently destroyed. Moreover, the "limited use of existing routes" protection measure appears applicable only to effects which impact eligibility for the National Register. Once again, analysis under NEPA must consider and disclose a broader range of effects to cultural resources.

Even to the extent that they are effective, the "standard protection measures" would not mitigate adverse effects to unidentified cultural resources in areas that are *not* surveyed. The Forest Service predicts that approximately 15% of the unidentified archaeological sites in the Foothills project area are located on portions of the Forest designated "low probability." To its credit, the agency has acknowledged that by deciding not to survey any "low probability areas," significant cultural resources in these areas may be adversely affected. Under the process currently proposed by the Forest, cultural resources will be destroyed without the agency or the public ever knowing what has been lost.

However, the Forest Service asserts that any such adverse effects will be mitigated by a series of "alternative mitigation measures."[753] Some of these mitigation measures are referred to as "thematic overview/context projects" while some are "watershed specific." As described in the agency's draft programmatic agreement, the thematic/context projects involve historical research into various aspects of the cultural heritage of the Foothills. Some of the projects also call for conducting "test excavations" at unspecified sample sites throughout the Foothills area, as well as "identify[ing] interpretive opportunities."[754] The "watershed specific" mitigation

[751] Cultural Resources Report, 6-7.

[752] *Id.* at 7.

[753] Cultural Resources Report, 7

[754] Draft NHPA Programmatic Agreement, 46

projects consist almost entirely of plans to survey high probability areas that are *not* proposed for activities that may adversely affect cultural resources.

As discussed elsewhere in these comments, "mitigation" considered under NHPA must have some nexus with specific adverse effects to historic properties. Here, it is not clear that the requisite nexus exists between the research and surveying the agency has proposed as "alternative mitigation" and any specific adverse effects to historic properties or other cultural resources. Related to but distinct from this issue of a "nexus," NEPA requires the Forest Service to evaluate the *effectiveness* of the mitigation measures it relies on in reaching a conclusion about effects to cultural resources.[755]

The Cultural Resources Report contains no such analysis. The agency presents no quantified or detailed information to support its conclusion that the listed alternative measures will be effective in mitigating potential adverse impacts to cultural resources. It offers only repeated statements that it developed the alternative mitigation measures *because* it anticipates adverse effects to some cultural resources. This does not satisfy NEPA's hard look standard.

4. The Agency's Conclusion That There Will Not Be a Significant Impact to Cultural Resources is Arbitrary

Ultimately, the Cultural Resources Report concludes that the Foothills project, as proposed, "would not affect cultural resource sites, therefore, there would be no cumulative effects to cultural resources as a result." [756] This conclusory analysis does not meet NEPA's hard look standard. [757]

As discussed above, the agency's analysis acknowledges that its proposed activities have the potential to negatively affect cultural resources; it acknowledges the possibility that there are significant unidentified cultural resources in the Foothills area; and it fails to adequately assess the effectiveness of the proposed "protection" and "mitigation" measures. Without presenting any quantified or detailed information in support, the agency simply assumes its proposed mitigation measures will be effective. Consequently, it's conclusion that "[s]electing Alternative 2 would not affect cultural resource sites" is arbitrary and capricious, and it fails the hard look standard.

Based on this arbitrary conclusion, the agency likewise concludes that there would be no *cumulative* effects to cultural resources. Because the specific impacts to cultural resources in the

[755] *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)

[756] Cultural Resources Report, 28-29.

[757] *See Te-Moak Tribe of Western Shoshone of Nevada v. U.S. Dept. of Interior,* 608 F.3d 592, 604 (9th Cir. 2010) (agency failed to take the requisite hard look at cumulative impacts where it utilized "conclusory analysis" in reasoning that there would be no cumulative impacts because all impacts from proposed activities would be mitigated).

Foothills area are not adequately analyzed, the agency's cumulative impacts analysis is likewise deficient. [758]

K. The Forest Service Has Not Taken a Hard Look at Any Impact from Changing the Recreation System Because Currently Nothing Specific is Being Proposed

The Draft EA and accompanying Scenery and Recreation Resources Report include *no* specific proposals for making changes to the recreation system. The public cannot realistically be expected to offer meaningful comments on this as a site-specific proposal. In any event, without a specific action to consider, the agency has not taken a hard look at any impact that may stem from that action.

The agency's analysis lays out a process for determining whether it should make changes to the recreation system at some point in the future. For developed and dispersed recreation sites, at some point in the future it will "independently assess[] . . . the current condition [of areas] . . . with existing tools" such as the Natural Resource Management corporate database, PACEIt! program, and matrices attached to the EA.[759] The outcome of those assessments would "be measured against the desired condition" and then the agency would "*consider* three options: construct a new site, maintain/enhance existing site, or decommission."[760] For trails it will apply the "CONF trails matrix . . . to determine *potential* actions . . . including enhancements/repairs, new additions and decommissioning."[761]

To put a point on this, not only does the Draft EA not reveal a concrete proposal, but at most it reveals a process that concludes with the agency *considering* if it *potentially* might take an action at some undisclosed point in the future. This process for identifying recreation sites that need improvement may be very reasonable but it cannot satisfy any obligation under NEPA, particularly not the hard look standard, because *nothing is being proposed*.

Changes to the recreation system necessitate NEPA analysis to consider the effect on the natural and social environment that result from the change. For instance, work on trails or recreation sites may introduce sediment to streams which needs to be disclosed under NEPA. As another example, changing, rerouting, and certainly decommissioning trails could have profound social effects that also must be disclosed under NEPA. The agency cannot consider those effects without some type of specific proposal before it. The distribution of recreation resources and the management activities affecting recreation settings will have profound indirect effects, because the volume of visitation (and all the effects it brings) will follow those resources.

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[758] *See Center for Biological Diversity v. BLM*, 746 F.Supp.2d 1055, 1098 (N.D. Ca. 2009)

[759] Scenery and Recreation Report, 7.

[760] Scenery and Recreation Report, 7 (emphasis added).

[761] Scenery and Recreation Report, 15 (emphasis added).

While not directly a "hard look" concern, we have to note that the process being employed here is profoundly unfair to the public. NEPA is what guarantees the public a voice when the agency proposes to make changes to trails and recreation sites. The agency is seeking to conclude that process with nothing more than a commitment that it will think about making changes to the recreation system across 157,000 acres at some future point. That may result in no action being taken at all. It also may result in someone's favorite trail being decommissioned. NEPA gives that person an opportunity to voice concerns to the agency about that decision—an opportunity the agency is making hollow by attempting to satisfy its legal obligation under NEPA to "involve" that person before anything has even been proposed.

Finally, the concerns above reflect problems with evaluating the effects *from changing* the recreation system, but the agency also cannot evaluate effects from the other proposed actions (logging, herbicide application, etc.) *on* the recreation system for the same reason: there are no site-specific proposals. For instance, maps provided by the agency indicate it is considering substantial logging near the Pinhoti Trail.[762] The Project Design Features call for locating "temporary roads . . . on previous existing routes" such as "system trails," so presumably there is the potential that portions of the Pinhoti Trail will be converted into a temporary logging road for some period of time.[763] If that were to happen, the agency would be required to disclose the effect of that action. It has not done that here because there are no site-specific proposals and thus no way to judge how logging etc. would affect recreational facilities. The agency has not taken a hard look.

L. The Agency Has Not Taken a Hard Look at Effects to Scenery

For the same reason – the lack of site-specific proposals – the agency has not taken a hard look at impacts to scenery. Appendix C to the Scenery and Recreation Resources Report confirms that nearly every activity considered under the Foothills Project has the potential to affect scenery but we were unable to find any analysis of how, or to what degree, those activities may affect scenery. The Forest Service asserts that it will abide by the Scenic Integrity Objectives of its Forest Plan but there is nothing supporting that conclusion. If at this stage the Forest knows where various management activities will be compatible with its SIOs, it must refine the project accordingly and disclose any limitations to the public. As proposed, however, Alternative 2 would allow actions in locations, densities, and frequencies that will degrade scenic values, and the degree of the effect (and the number of residents, businesses, and visitors affected) will depend on the locations actually chosen for treatment. Regardless, complying with the Forest Plan is not a replacement for assessing impacts to scenery; the Forest Service must perform that analysis even if it will meet scenic integrity objectives.

[762] Draft EA, Maps 12-14.

[763] Draft EA, 75.

Recent projects on this forest illustrate why this is an important consideration. Analysis of effects from the Union County Shooting Range concluded that constructing the range as designed was "inconsistent" with the Forest Plan's scenic integrity objectives for the area.[764] Undoubtedly the agency did not intend to compromise scenic integrity, but it is just as clear that the agency failed to achieve the scenic integrity objectives in its Forest Plan even when acting with good intentions. The agency must take a hard look at impacts to scenery.

M. The Agency Has Not Taken a Hard Look at the Impacts of Maintaining or Building Roads for Timber Harvests

The Forest Service is aware that road construction and reconstruction have significant impacts on forests. "Roads are the highest contributor to sedimentation within forested systems."[765] "Roads directly alter natural sediment and hydrologic regimes by changing streamflow patterns and amounts, sediment loading, transport, and deposition, channel morphology and stability, water quality, and riparian conditions within a watershed."[766] Roads can also fragment habitats. Yet the agency has not disclosed where it plans to complete road-related work intended to facilitate timber harvests.

Approximately "260 total miles of system road exist in the project area."[767] The Forest Service estimates that up to "213 miles of [road] reconstruction" may be necessary to meet "needs associated w/ timber harvest."[768] Restated, the agency may reconstruct 82% of its road system in the project area to facilitate timber harvests. This will undoubtedly have an environmental impact but we were unable to find any consideration of that impact in the Draft EA. Road reconstruction often changes the character of the road (and the setting of the area it traverses) significantly. Reconstruction is utilized to allow larger equipment access, so it involves widening roadbeds and smoothing out curves (which requires more cut and fill, especially where roads wrap around finger ridges. Older roads may be much narrower and less noticeable, especially from distant vantage points, making this relevant to scenic impacts too.

The agency also does not assess impacts from building temporary roads to facilitate timber harvests beyond assuming that they will occupy approximately 6% of the project activity area.[769] The agency well knows that *where* roads are built makes a significant difference. For instance, it discloses that "[m]uch of the sedimentation [in the project area] is occurring from the

[764] Nutter and Associates, Resource Report for the Human Environment Proposed Union County Shooting Range (Aug. 2019), 17.

[765] Soil Report, 60.

[766] Draft EA, 42.

[767] Draft EA, 80.

[768] Draft EA, 80.

[769] Soil Report, 23.

high percentage of poorly maintained roads located in riparian areas."[770] Similarly, it acknowledges that "[p]replanning of . . . temporary roads . . . is the key to limiting soil disturbance and the amount of area impacted."[771] If the agency realizes that preplanning road locations is key to limiting impacts, then it must be able to appreciate that it cannot take a hard look at the impact of building temporary roads without some idea of where they will be built.

We are not suggesting that the agency needs to have the route of every temporary road planned to meet NEPA's hard look standard but generally disclosing that an estimated percentage of a massive and highly varied area will be converted to temporary roads is not taking a hard look at impacts from building those roads. The total mileage of temporary road construction (and associated compaction, erosion, landslide risk, aquatic passage, and recreation setting impacts) will depend on which areas are ultimately selected for harvest, because some units are easier to get to than others. The public asked the agency to more rigorously examine the impacts of building roads on the forest during the last forest plan revision and the agency refused, deferring that analysis to projects like this one: "Specific roads and their impacts on forest resources are considered in a subsequent watershed or project level roads analysis."[772] Now is the time to complete that analysis.

Finally, the agency needs to forthrightly disclose the impacts of building so-called temporary roads. Forest Service policy defines a "temporary road" as a road "necessary for emergency operations or authorized by contract, permit, lease, or other written authorization that is not a forest road."[773] Temporary roads are "decommissioned at the conclusion of the project or activity."[774] And indeed the Draft EA states that "temporary roads would be rehabilitated to restore to original condition once all connected actions where road access is needed are completed."[775] But this is plainly not happening. The road prism remains on the ground, along with its compaction issues and erosion/landslide risks. The agency distinguishes between "new" and "old" temporary roads, finding that the impacts of using "old temporary" roads are less severe than "new temporary" roads.[776] The only way use of "old temporary roads" does not have the same impact as "new temporary roads" is if old temporary roads are not being decommissioned and "rehabilitated to original condition." The agency cannot have it both ways here. It cannot assume that the bulk of the impact from "old temporary" roads has already occurred but then downplay impacts from "new temporary" roads based on their supposed

[770] Draft EA, 4.

[771] Soils Report, 52.

[772] FEIS, App'x G, G-263.

[773] 36 C.F.R. § 212.1.

[774] FSM 7711.2.

[775] Draft EA, 80.

[776] Soil Report, 22-23.

"temporary" nature. These roads may see "temporary" use but their construction is having long-term impacts on the environment which is what must be considered and disclosed under NEPA.

As discussed elsewhere in these comments, the agency is using temporary roads as "roads in storage between intermittent uses."[777] This has implications for the Forest's travel management program. The Draft EA needs to address the cognitive dissonance and planning implications of the fact that a "temporary road" that was built in a previous logging project and still exists on the forest, and will likely be used again in future entries, is functionally not temporary.

N. The Agency Has Not Taken a Hard Look at the Economic Impact of Its Proposal

NEPA requires agencies to take a "hard look" at the effect of their actions on the "human environment."[778] "Human environment shall be interpreted comprehensively to include the natural and physical environment and the relationship of people with that environment."[779] This includes "economic or social effects."[780] "Effects" for NEPA purposes is specifically defined to include "economic" effects.[781]

Disclosure of the economic impact of this project is particularly important because the agency appears to concede that its proposal is not "in-line with current budgetary expectations and capacity constraints."[782] This directly relates to the reasonableness of the agency's proposal. Is the agency proposing a project that it does not have the budget to implement? That is arbitrary decision-making. Moreover, the Forest Service Manual underscores that economic impact analysis is required when "there is an important interaction between anticipated environmental effects and economic effects."[783] Here there is an important interaction because the agency's economic capacity to pursue the myriad activities it is considering directly relates to the impact the project will have on the environment. For instance, the agency assumes that improvements to the trail and road system will mitigate detrimental impacts to water quality from logging but there is no indication the agency has the funding to make those trail and road improvements. If the agency cannot afford them, it cannot use them to discount impacts from logging.

The Forest Service Handbook also requires disclosure of economic information. As described in the Handbook, the timber sale preparation process "pass[es] through specific stages,

[777] FSH 7709, Sec. 62.32

[778] 42 U.S.C. § 4332.

[779] 40 C.F.R. § 1508.14.

[780] *Id*.

[781] 40 C.F.R. § 1508.8.

[782] Scoping Summary Report, 8.

[783] FSM 1972.

called 'gates,' each of which requires specific outputs before proceeding to the next gate."[784] Gate Two is the "environmental analysis[] phase," where the agency "develop[s] alternative designs and analyze[s] them for environmental effects."[785] Presumably we are in Gate Two for the Foothills Project. At that point, the agency is to prepare "an analysis of financial and, if needed, economic efficiency" to support "a NEPA decision."[786] The Handbook even restates the requirement: "Complete a financial analysis of each timber sale project alternative at Gate 2."[787] "The financial and, if needed, economic efficiency analyses should be formulated early in the [NEPA] process."[788] "In every case, conduct the environmental analysis so that the sale is based on *field reconnaissance,*" in part, to ensure the project is economically viable.[789] To our knowledge, the agency has not complied with any of these requirements and it appears the agency cannot comply with them because it has not conduced field reconnaissance.

Disclosure of economic impacts is also necessary because it relates to the agency's ability to conduct other work across the forest. If the agency is expending its entire budget in the Foothills, then it needs to disclose to the public that its ability to do work in the remaining 80% of the forest will be impaired.

Economic analysis should also help explain the viability of achieving certain outcomes with this project. We assume most of the vegetation work will not occur if it cannot be completed commercially. In order to inform its ability to accomplish the work proposed, the agency needs to assess and disclose if it is planning work in areas where commercial sales are viable. We note that several of the recent timber sales on the Chattahoochee seem to have received no bids.

As part of this consideration, the agency needs to disclose how economic considerations are shaping its analysis. For instance, the agency concludes that "habitat diversity is at its lowest during the sapling/pole successional stage."[790] Logically, if the agency's objective is improving habitat, it will get the most benefit from targeting sapling/pole stands. But the agency is proposing very little treatment in those stands.[791] We assume this is because those trees have questionable commercial value. If the monetary value of trees affects where the agency chooses to create habitat and pursue other activities, then it is shaping the agency's approach to meetings its objectives. Restated, if the above example is accurate, the agency is not only seeking to

[784] FSH 2409.18 Ch. 12.

[785] FSH 2409.18 Ch. 12.

[786] FSH 2409.18 Ch. 12.

[787] FSH 2409.18 Ch. 32.

[788] FSH 2409.18 Ch. 32.

[789] FSH 2409.18 Ch. 34 (emphasis added).

[790] Vegetation Report, 32.

[791] *See, e.g.*, Vegetation Report, 48 (no harvest of sapling/pole oaks).

create habitat but specifically seeking to do that in areas with commercially valuable trees. That needs to be disclosed under NEPA.

The agency also needs to consider the impact of its action on the timber market, particularly timber coming off of private lands. The agency is proposing almost twice as much commercial logging as was completed on Southern Appalachian national forests from 2009-2019 in Georgia, Tennessee, North Carolina, and Virginia *combined.*[792] That has the potential to flood the timber market, affecting prices and production from private lands – a project impact the agency needs to consider and disclose.

Finally, we note that when concerns about the economics of timber sales were raised during Forest Plan revision, the agency disclosed that "[i]ndividual timber sales are analyzed before a project is undertaken . . . [and d]iscounted costs and benefits are considered to see if the project will be economically efficient."[793] "If a proposed sale alternative does show a negative return, the decision maker will justify the reason for commencing with the project."[794] The agency has not complied with this commitment because it has not assessed the economic viability of its project.

O. The Agency Has Not Taken a Hard Look at Impacts From Salvage Harvests

The Draft EA suggests the agency anticipates salvage logging as part of the Foothills Project. Specifically, some areas "could be treated through cut-and-remove salvage harvests. These treatments would be implemented in a manner consistent with the Forest Plan."[795] The treatments would occur "when needed" and "may be" commercial.[796] No specific areas or infestations are identified though the agency hints that there is potential for this work across approximately 44,000 acres.[797] These salvage harvests are explicitly not a part of the other timber harvests the agency is proposing and list in its Draft EA.

This is not a hard look. The agency has provided no information about when or where these activities may occur or any information indicating they are necessary at all. There is no analysis or justification for this activity in the Draft EA, just a statement that it may occur. That does not comply with NEPA.

[792] *See* Attachment 2.

[793] FEIS, App'x G, G-215.

[794] FEIS, App'x G, G-215.

[795] Draft EA, 59.

[796] Draft EA, App'x B.

[797] Draft EA, App'x B.

P. The Agency Has Not Justified Its Vegetation Management or Taken a Hard Look at Its Impacts

Like many other aspects of this proposal, the agency's assessment of impacts to various vegetation communities comes down to this: "We would adhere to Forest Plan standards, applicable design criteria, and best management practice, and therefore [ ] impacts would not . . . rise to a level of significance."[798] As we have explained at length, stating that the agency intends to comply with its Forest Plan is not a substitute for NEPA effects analysis nor does it mean impacts will not be significant. This fundamental error prevents the agency from taking a hard look.

There is another overarching reason the agency's assessment of impacts to vegetation communities does not constitute a hard look: it is built entirely on data that the agency acknowledges is inaccurate. The analysis is run on "the CONF's corporate stand layer."[799] But the agency knows that has limited value. For example, elsewhere it admits that the "Foothills mapping data shows an abundance of young shortleaf pine stands in the Foothills Landscape, [and] many of those stands are *void . . . of shortleaf pine*."[800] The most site-specific information provided with the Foothills analysis are the maps attached to the Draft EA which the agency disclaims: "Data shown on this map are for reference only. The Forest Service strives to obtain accurate and precise data; however, there are likely some errors in these data."[801] Even with this data, the agency explicitly acknowledges that it lacks adequate information on "underlying causes of ecological degradation" and "site characteristics" such as "stand composition, structure, stand health, [and] age."[802] Those are the very conditions the agency proposes to manipulate with its treatments. It cannot take a hard look at that impact if it does not know what the conditions are.

To be clear, we do not fault the agency for having imperfect data and appreciate that the agency has complied with NEPA by disclosing its limitations. But this is insufficient to meet the hard look standard. At the very least, the Forest Service must verify the information through some type of in-field analysis.

This Forest has been down this road before. In 2011 it proposed a project to "thin 6,375 acres of over-stocked pine stands" it identified using data similar to that used in the Foothills analysis.[803] Two years later it had to re-scope that project because through "on-the-

[798] Vegetation Report, 45.

[799] Vegetation Report, 10.

[800] Vegetation Report, 17.

[801] Draft EA, Maps 12-20.

[802] Draft EA, 11.

[803] *See* Scoping Notice, Forest Health Stewardship Project (July 20, 2011) included as Attachment 5.

ground examination, [it] found that many of the stands" were not over-stocked pine stands at all.[804] Field review revealed that the project actually only contained 713 acres of over-stocked pine stands. The agency took a hard look in that instance by going out and field-checking its data. Its refusal to do so prevents it from taking a hard look here.

Making the Foothills analysis even less reflective of actual conditions, it is not built just on admittedly imperfect data but a series of "proportional-based assumptions" derived from the data.[805] This is how the agency purports to "divide potential effects" amongst vegetation communities.[806] We understand that applying assumptions to some degree is appropriate in environmental analysis but layering assumptions on top of already flawed data moves the assessment further away from a hard look.

The agency's position is apparently that "[m]oving forward with limited or incomplete data is necessary to plan for landscape-scale projects."[807] Moving forward with incomplete data may be necessary to plan landscape-scale projects *on the timeline the agency desires* but it is not accurate that landscape-scale projects categorically necessitate use of incomplete data. Regardless, NEPA does not apply differently based on the geographic scale of a project. In other words, the agency cannot diminish its obligations under NEPA by designing larger projects. Any other interpretation would turn NEPA on its head because the statute specifically reserves the most rigorous analysis for the largest, most complex projects that may have a significant impact on the environment. The Forest Service must take a hard look using the same general quality of information whether its project area is 157,000 acres or 1,000 acres.

Finally, it appears the agency is using its incomplete data to reach unsupported conclusions. For instance, it justifies some activities by stating that there are "55,534 acres of oak-dominated forest . . . [with] closed canopies and overstocked conditions."[808] We understand that its data may indicate the acreage of oak-dominated forest but how does the agency know all of that acreage has closed canopies and is overstocked? Similar assumptions drive much of the analysis but appear to be wholly unverified. Perhaps the agency is planning to confirm these assumptions through in-field inspection later. If so, the problem here is that its effort to meet NEPA's obligations is mistimed; taking a hard look post-decision does not comply with NEPA.

Examining current data to estimate opportunities for vegetation management on the landscape seems like a very reasonable approach. But the agency cannot stop there. If the Forest intends to make a final decision now, it has to take the additional step of looking at conditions in the field to verify the accuracy of its data and estimate effects under NEPA.

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[804] *See* Scoping Notice Reissuance, Forest Health Stewardship Project (July 11, 2013) included as Attachment 6.

[805] Vegetation Report, 11.

[806] Vegetation Report, 11.

[807] Foothills Project Restoration Plan, 18.

[808] Vegetation Report, 49.

1. *The Agency Has Not Justified or Taken A Hard Look at Treatments for Gypsy Moth or Oak Decline*

The agency justifies approximately 54,500 acres of timber harvest by pointing to a "continuous threat from both oak decline and gypsy moth."[809] According to the agency, much of the oak population is "extremely likely to be overtaken by oak decline and gypsy moth."[810] This is significantly overstated.

First, even if there was a gypsy moth threat, the agency's analysis suggests harvesting timber may not mitigate the problem. "Mortality following gypsy moth outbreaks tends to occur in stands stressed for resources and *suffering from severe spring droughts*."[811] "Stands with frequent outbreaks and severe damage include areas where *average rainfall is lowest*."[812] Nothing the agency does is going to directly affect rainfall patterns in the Foothills.

More to the point, last year *not a single gypsy moth* was detected on the Chattahoochee.[813] Thankfully, for now gypsy moth does not appear to be an imminent threat to the forest.

As far as we can tell, this appears to be a proposal to cut down oak tress before they might become infested by gypsy moth regardless of the degree of threat. The worst case scenario, where some trees become infested by gypsy moth and die, seems to further some of the agency's other objectives. For instance, the agency indicates that oak stands are overstocked. If gypsy moth infests some of those trees, effectively accomplishing a natural thinning, then the agency's desired condition would be achieved. Or if gypsy moth killed an entire stand of trees, they would be replaced with the early-successional habitat the agency seeks to achieve with other harvest techniques. If part of this proposal is driven by a need to commercially harvest oak trees before they become less valuable due to potential gypsy moth infestation, the agency needs to disclose that reasoning as part of its NEPA analysis. Because the agency's analysis is built on the assumption that gypsy moth poses an imminent threat, when data indicates otherwise, it does not reflect actual conditions and is not a hard look.

The agency has also not provided justification or assessed accurately the impact of action to address oak decline. According to the agency, oak forests appear to be in relatively good shape. "Oak forests are the dominant forest type in the Southern Appalachian region."[814] They

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[809] Vegetation Report, 60.

[810] Vegetation Report, 60.

[811] Vegetation Report, 28 (emphasis added).

[812] Vegetation Report, 28 (emphasis added).

[813] *See* Forest Service, Southern Region Gypsy Moth Report (Oct. 1, 2019) available at https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fseprd600534.pdf.

[814] Vegetation Report, 18.

currently account for more than 1/3 of the acreage within the landscape.[815] This has all occurred with minimal timber management over the last 50 years.[816] If there is a problem, it appears to be in the understory where oak seedlings are being outcompeted potentially due to the exclusion of fire.[817] We do not see how cutting mature oaks solves that problem.

The justification for harvesting those trees appears to be oak decline which is a "complex that involves the interaction of environmental stresses such as drought, root disease, insect pests of opportunity, and physiologically mature trees."[818] Like gypsy moth, drought appears to be a driving factor here. Nevertheless, the Forest Service identifies oak decline as a "serious forest health concern"[819] and believes "over-mature oak forests" are particularly at risk.[820] To mitigate this risk, the agency proposes to cut down mature oaks.

This justification appears to be overwhelmingly built on the age of the forests. If the agency is going to take action to address oak decline threats, it needs at least some site-specific information indicating that oak decline is a legitimate threat in an area. Age alone does not indicate this is a threat and does not provide a platform for taking a hard look at the effect of the proposal.

Moreover, it is unclear if the agency's proposal will achieve its stated objective. "[R]egeneration of oak stands has proven problematic."[821] "[T]imber harvests," specifically, "of the overstory of oak-dominated stands have often released established shade-tolerant species (red maple or white pine) or escalated the establishment of aggressive post-disturbance invaders, such as yellow pine."[822] Stated differently, harvesting oaks appears to be transitioning the composition of stands. Instead of harvesting oaks to create younger oaks which are less susceptible to oak decline, the agency appears to be harvesting oaks and diminishing that community on the landscape.

Finally, we do not see the long-term objective here. According to the agency, "[s]prout regeneration is normally the primary and most reliable means of regenerating oaks."[823] That suggests the agency is on a treadmill of harvesting an older oak, for a younger oak to grow in its place which, according to this explanation, will have to be harvested when it gets old due to

[815] Vegetation Report, 18.

[816] Vegetation Report, 19.

[817] Vegetation Report, 19-20.

[818] Vegetation Report, 28.

[819] Vegetation Report, 28.

[820] Vegetation Report, 20.

[821] Vegetation Report, 21.

[822] Vegetation Report, 21.

[823] Vegetation Report, 30.

threats from oak decline and the cycle will restart. That approach seems to ensure the community will not become self-sustaining. The Forest Service defines ecological restoration as restoring forest *function*, including the disturbance processes that drive the other elements of ecological integrity (structure and composition). In our forests, those processes are primarily gap phase regeneration in mesic forests and fire in more xeric forests. If forest health is the goal, the agency should consider making changes to the understory and midstory to facilitate a system of natural, self-sustaining oak reproduction rather than repeated harvests of mature oaks.

2. The Agency Has Not Taken a Hard Look at Impacts to Old Growth

Failing to properly assess old growth and account for impacts is a NEPA violation.[824] The Forest Service has not met its obligation here for at least three reasons.

First, the agency cannot assess impacts to old growth because it has not looked for old growth and thus does not know when, or where, or how, it may be affected by any activity proposed in the Foothills Project. The agency also cannot evaluate any potential effects within the context of the overall distribution of old growth on the landscape. To be sure, it has identified "areas of possible old growth," based on its corporate stand layer, and agreed to examine these areas to determine if they meet old growth criteria.[825] But that approach is inadequate because it is entirely possible that old growth may exist outside these areas, and be impacted by timber harvesting with no assessment at all. As discussed above, the agency acknowledges that its corporate stand layer is imperfect. Simply reviewing the stand layer data is not an adequate survey of potential old growth in the project area. The approach is also insufficient because there is no proposal or plan for how this would work. Conclusory statements are insufficient for hard look purposes.

Second, the agency admits that it plans to harvest Type 22 and Type 24 old growth.[826] Regardless of whether this is allowed under the Forest Plan, NEPA still requires the agency to consider the effect of harvesting existing old growth – a highly rare resource on the Chattahoochee.[827] As the Region 8 Guidance explains, "[i]f the stand is existing old growth, then the effects of a proposed project on the stand's old growth characteristics will be fully disclosed and considered through the [NEPA] process."[828] Here, all the agency has stated is that

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[824] *See Cuddy Mountain*, 137 F.3d at 1378 (holding cumulative impact analysis of combined effect on depleting existing old growth habitat inadequate); *Bair v. Cal. Dep't. of Transp*., No. C 10-04360 WHA, 2011 WL 2650896 (N.D. Cal. July 6, 2011) (issuing injunction for road widening through old-growth redwood area for issuing a FONSI instead of producing an EIS); *Alliance for the Wild Rockies v. Wood*, CIV 07-452-EJL, 2008 WL 2152237 (D. Idaho May 21, 2008) (enjoining timber sale where method of calculating old growth scientifically flawed).

[825] Vegetation Report, 69.

[826] Vegetation Report, 69.

[827] Vegetation Report, 69.

[828] *See* Guidance for Conserving and Restoring Old-Growth Forest Communities on National Forests in the Southern Region, Report of the Region 8 Old Growth Team (June 1997), *available at* https://www.fs.fed.us/outernet/r8/planning/R8%20Old%20Growth%20Report.pdf.

harvesting these old growth types is allowed by the Forest Plan; that does not carry its NEPA burden.

Third, even when the agency avoids old growth, but harvests near it, NEPA analysis must consider indirect effects of logging in and near old growth including impacts related to fragmentation or edge effects that will be caused by logging and by the building of temporary roads and skid trails. Old growth forest communities are sensitive to edge effects, habitat fragmentation, and gradual creep of disturbance from logged areas into the boundaries of neighboring old growth areas. This is an indirect effect that also must be disclosed under NEPA.

Q. The Agency Has Not Taken a Hard Look at Effects to Climate Change

Trees are a major carbon store in any forested ecosystem. We believe that the extensive tree harvest proposed in the Foothills Project would deplete the total carbon sink in the short and long term. Claims to the contrary in the Climate Change Report are not adequately supported, either by analysis or other documents. The report presents benefits of tree harvest using words such as "may" and "likely." Due to the large uncertainty in the current science of carbon sequestration by temperate forests, and the Climate Change Report completely ignoring carbon sequestration in forest soil, the agency has not taken a hard look and we request that the Climate Change Report be revised to consider the sequestration of soil, and quantitatively analyze total ecosystem carbon impacts of proposed treatments in the short and long term.

We also request that the Climate Change Report be revised to include scientific research on the importance of older forests and soil in carbon sequestration. A review by Luyssaert et al.[829] points out:

> …it is generally thought that ageing forests cease to accumulate carbon. Here we report a search of literature and databases for forest carbon-flux estimates. We find that in forests between 15 and 800 years of age, net ecosystem productivity (the net carbon balance of the forest including soils) is usually positive. Our results demonstrate that old-growth forests can continue to accumulate carbon, contrary to the long-standing view that they are carbon neutral…Old-growth forests accumulate carbon for centuries and contain large quantities of it. We expect, however, that much of this carbon, even soil carbon, will move back to the atmosphere if these forests are disturbed.[830]

Referring to the United States, they note, critically, that "most greenhouse gas mitigation policies and programs have focused on managing [US forests and forest products as] natural climate

[829] Luyssaert, Sebastiaan & Ernst Detlef, Schulze & Börner, Annett & Knohl, Alexander & Hessenmöller, Dominik & Law, Beverly & Ciais, Philippe & Grace, John. (2008). Old-growth forests as global carbon sinks. Nature. 455. 213-5. 10.1038/nature07276.

[830] Luyssaert, Sebastiaan & Ernst Detlef, Schulze & Börner, Annett & Knohl, Alexander & Hessenmöller, Dominik & Law, Beverly & Ciais, Philippe & Grace, John. (2008). Old-growth forests as global carbon sinks. Nature. 455. 213-5. 10.1038/nature07276.

protection by managing aboveground biomass alone, and little consideration is given to the large and critical pool of soil carbon."[831]

The Climate Change Report also fails to reference USFS guidance on managing carbon: Considering Forest and Grassland Carbon in Land Management. Gen. Tech. Rep. WO-95.[832] That report notes that "Ultimately, the carbon stored in wood products is returned to the atmosphere through decomposition or combustion, although the time needed for this return can vary widely based on the use and longevity of materials made from harvested wood." We request that the Climate Change Report be revised to address the carbon release from harvested timber.

The WO-95 report repeatedly identifies less harvest as increasing carbon retention:

> Decreasing the intensity of forest harvest is one way to decrease carbon losses to the atmosphere… the "no harvest" option commonly produces the highest forest carbon stocks…Managed stands typically have lower levels of forest biomass than unmanaged stands, even though the annual rate of sequestration may be higher in a younger forest…found that less-frequent harvests and greater levels of structural retention (e.g., residual trees) resulted in increased forest carbon stocks…Forest harvest can cause disturbance to the ground, releasing carbon from soils and the forest floor.[833]

These carbon losses are easily visualized as tops, laps and branches left on the forest floor decompose and the regenerating forest does not sequester the same amount of carbon as the mature trees removed. Masticating the debris left over from timber harvest will only hasten decomposition and increase the rate of carbon release. We request that the Climate Change Report be revised to address the total forest biomass and carbon release from soil disturbance instead of focusing solely on tree age.

In addition to the effects of timber harvest, the plan to regularly burn tens of thousands of acres in perpetuity will upon burning release vast amounts of carbon into the atmosphere that otherwise would have been released slowly over decades. The WO-95 report also speaks to this issue, and calls into question specific conclusions in the Climate Change Report:

> Fuel-reduction treatments lower the density of the forest stand, and, therefore, reduce forest carbon. Some studies suggest that fuel-reduction treatments create carbon benefits over time by increasing the growth of the residual stand and reducing risk of catastrophic fire…The results of studies to date, however, are divided as to whether this benefit can be realized. Prescribed fires also result in the release of greenhouse gas emissions, which

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[831] American Forests available at https://www.americanforests.org/priorities/climate/forest-soil-carbon-initiative/

[832] Janowiak, M.; Connelly, W.J.;Dante-Wood, K.; Domke, G.M.; Giardina, C.; Kayler, Z.; Marcinkowski, K.; Ontl, T.; Rodriguez-Franco, C.; Swanston, C.; Woodall, C.W.; Buford, M. 2017. Considering Forest and Grassland Carbon in Land Management. Gen. Tech. Rep. WO-95 https://www.fs.usda.gov/treesearch/pubs/54316

[833] *Id*. at 25.

> need to be accounted for when considering the relationship between fire and carbon… Additionally, carbon emissions from prescribed fire, the machinery used to conduct treatments, or the production of wood for bioenergy may reduce or negate the carbon benefit associated with fuel treatments, especially when treatments are repeated... Further, there are uncertainties in predicting the actual occurrence of wildfire and its impacts on forests due to an incomplete scientific understanding of ecological response to fire, of fire behavior response to treatments, and inability to predict fire occurrence at the stand level....[834]

We request that the Climate Change Report be revised to address carbon emissions from prescribed fires and the uncertainty associated with wildfire occurrence and response to proposed Foothills Project activities.

WO-95 references a Scharlemann report,[835] which states that "most climate change mitigation policies have focused on carbon stored in phytomass… However, in addition to phytomass carbon, soil carbon is likely to be of major importance, as soils and surface litter store two- to three-times as much carbon in organic form as there is carbon in the atmosphere globally, as referred to in the Kyoto Protocol."[836] "Uncertainty in modeled estimates of soil carbon is very large."[837]

Timber harvesting with bulldozers, skidders and truck traffic directly adds carbon to the atmosphere as all these machines consume large amounts of diesel fuel. The Climate Change Report does not address carbon emissions from fuel for equipment use or transportation. We request that the report be revised to include a carbon life-cycle assessment by factoring in all inputs and outputs as a result of the Foothills Project.

R. <u>The Agency Has Not Taken a Hard Look at the Use of Herbicide for Silvicultural Purposes</u>

The agency's analysis of herbicide and pesticide treatments is found entirely in Appendix B of the Vegetation Specialist Report. This section of analysis likewise tiers to a separate programmatic NEPA document—the Final Environmental Impact Statement for Vegetation Management in the Appalachian Mountains (VMEIS), which was published in 1989. The Vegetation Special Report also references risk analysis worksheets for individual pesticides and herbicides; these worksheets were developed on behalf of the Forest Service by Syracuse Environmental Research Associates (SERA) in 2011.[838] Last, the Vegetation Specialist Report

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[834] Considering Forest and Grassland Carbon in Land Management. Gen. Tech. Rep. WO-95, 96.

[835] Jörn PW Scharlemann, Edmund VJ Tanner, Roland Hiederer & Valerie Kapos(2014) Global soil carbon: understanding and managing the largest terrestrial carbon pool, CarbonManagement, 5:1, 81-91, DOI: 10.4155/cmt.13.77.

[836] *Id*.

[837] *Id*.

[838] Vegetation Report, Appendix B, AP8.

references several "project design features" and a "spill plan" that the agency proposes would be implemented under Alternative 2.

The Forest Service's references to previous NEPA documents and the SERA reports cannot take the place of a hard look at site-specific impacts from the use of pesticides and herbicides in the Foothills area. Yet this is precisely how the agency has approached its analysis.

The VMEIS on which the agency relies is a programmatic analysis that assesses in a generalized way the impacts of various vegetation treatment methods, including the use of herbicides. The VMEIS expressly states that it is not a site-specific analysis; rather, the agency's intention in 1989 was for subsequent analyses to tier to the VMEIS—but only if additional site-specific analysis is prepared.[839]

For example, the VMEIS notes that "[t]his EIS is used to make decisions about how the vegetation management program on national forests in the Appalachians is conducted. Major decision are: (1) what methods and tools are allowed; (2) what intensity and frequency of treatments are used; and (3) what management requirements and mitigation measures are applied."[840] Forest Plans and the VMEIS thus "define the limits within which [such site-specific vegetation management] projects may operate."[841] Unmistakably, the VMEIS is not a site specific analysis of impacts. The VMEIS itself describes what the Forest Service must do in subsequent decisions:

> Vegetation management projects must receive site-specific environmental analysis….Data on sites eligible for treatment are gathered and evaluated....A detailed analysis of site conditions and environmental effects of alternative treatments is done....The analysis must evaluate direct, indirect, and cumulative environmental effects…considering the unique physical and biological characteristics of the site.[842]

The VMEIS makes clear why site specific analysis of herbicide use is required: the analysis is "used to choose the herbicide, rate, and application method for the site conditions and species to be controlled. They are also used to select measures to protect human and wildlife health, non-target vegetation, water, soil, and threatened, endangered, proposed and sensitive species." [843]

Yet the Forest Service's draft EA contains no such site-specific analysis of environmental impacts. Without knowing exactly when, how, or where pesticides and herbicides will be

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[839] If the VMEIS had been amended to close this gap, we were not able to find it and ask that the agency produce a copy.

[840] VMEIS-AM, I-8

[841] *Id.* at I-9.

[842] *Id.*

[843] *Id*. at II-61.

applied, the Forest Service can only point to generalized data from SERA reports—some of which suggests that the Forest Service's proposed treatments *may harm* non-target species of plants, animals, and insects—and offer conclusory statements that its "project design features" will effectively "discount" these negative impacts by making them less likely to occur. Nowhere does the agency explain *how* its project design features can be expected to eliminate harm to non-target species; nor does the agency attempt to disclose the degree of impacts to non-target species that, for one reason or another, are not protected by the agency's project design features. The Forest Service attempts to minimize the extent of these impacts by asserting that where the SERA reports suggest that wildlife will be harmed by application of herbicides and pesticides, "one must remember that these effects are constructed for individuals and not populations." [844]

The agency has developed its project design features in reverse, contrary to the process outlined by the VMEIS. Instead of collecting data on eligible sites and then developing measures to protect human and wildlife health, the agency instead points to its "project design features" and concludes that, no matter where herbicide treatments are applied, they will not impact the environment. Undermining the agency's analysis are the facts that, first, the agency presents no detailed or quantified information to support its conclusion that potential harms to plant, animal and insect species identified by the SERA reports can reasonably be "discounted" by the project design features; and second, the agency has simply borrowed mitigation measures from the VMEIS and renamed them "project design features."[845] This creates a logical loop: the VMEIS instructs the agency to prepare subsequent site-specific analysis of impacts, but the agency has simply incorporated the VMEIS's minimum mitigation requirements and concluded that as a result, there will be no impacts. This does not suffice.

We are also aware of no monitoring data indicating past applications of herbicide on the Chattahoochee have not had unintended consequences.

For the above reasons, the agency has failed to take a hard look at the environmental impacts of pesticide and herbicide treatments.

S. The Agency Has Not Sufficiently Justified Its Proposed Mitigation Measures

If the agency is going to rely on mitigation measures it must assess the effectiveness of those measures to meet NEPA's hard look standard. "A mere listing of mitigation measures is insufficient to qualify as the reasoned discussion required by NEPA."[846] Only "when the adequacy of proposed mitigation measures is supported by substantial evidence" are they sufficient.[847] This Forest has been advised of this requirement before by other Forest Service

[844] Vegetation Report, Appendix B, AP9.

[845] VMEIS-AM, II-61.

[846] *Nw. Indian Cemetery Protective Ass'n v. Peterson*, 795 F.2d 688, 697 (9th Cir. 1986), *rev'd sub nom. Lyng v. Nw. Indian Cemetery Protective Ass'n*, 485 U.S. 439, 108 S. Ct. 1319, 99 L. Ed. 2d 534 (1988).

[847] *Sierra Club v. U.S. Army Corps of Engineers*, 464 F. Supp. 2d 1171, 1224–25 (M.D. Fla. 2006), *aff'd*, 508 F.3d 1332 (11th Cir. 2007).

staff: "[The Forett] should avoid general statements that BMPs are adequate as justification. [It] should consider identifying specific BMPs, unit design and past monitoring on similar units to support any actions on these soils."[848] But the agency's analysis again falls short in this regard.

The most basic problem is that the agency cannot mitigate impacts if it does not know where an action will take place. To mitigate the effects of an action, the agency must know where the action will occur. With no site-specific proposals, and no baseline data from which to evaluate those proposals, it is providing nothing more than a "mere list" of mitigation measures. This is effectively a promise to try to mitigate future impacts; not a hard look.

Even if it had disclosed specific locations for its actions, the agency has presented no information indicating it has successfully mitigated impacts, particularly to soil, water, and aquatic species, from past timber sales in similar environments. It only states that it will apply best management practices without disclosing their effectiveness. The agency point to Georgia Forestry Commission BMP surveys to imply that the Forest Service correctly applies BMPs 96% of the time, but that is not what that data says.[849] That percentage reflects BMP compliance surveys on federal, state, county or city owned lands, not just Forest Service land. We were unable to determine how many Forest Service sites were surveyed or how well they performed. The Forest's Fiscal Year 2013-2016 Monitoring and Evaluation Report similarly contains no assessment of BMP compliance or effectiveness. If the agency is going to rely on mitigation techniques we ask that it disclose relevant monitoring data from this forest indicating how effective its BMPs have been at mitigating impacts to soil and water resources. Where mitigation has failed in the past, the Forest must explain why, or at least explain why it is confident that future attempts to mitigate impacts will fare better.

Many of the Project Design Features simply rearticulate requirements from other documents such as the Forest Plan. The Forest Plan explicitly contemplated that more rigorous standards than those included in the Plan may be required for some projects: "Site-specific analysis will be conducted at the project level and further protection [for soils] provided as needed."[850] The agency cannot just point to its Forest Plan (or Georgia State BMPs which are incorporated into its Forest Plan) to demonstrate adequate mitigation.

Many other project design features are aspirational, stating only that timber operators "should" do something.[851] There appear to be no consequences if these instructions are not followed as well as no plan for measuring compliance with something someone "should" do. Even the 10% watershed total impervious area and T-factor exceedance triggers that underpin much of the agency's assessment of the significance of impacts to soils are aspirational

[848] *See* Attachment 13.

[849] Soil Report, 26.

[850] FEIS, App'x G, G-46.

[851] *See, e.g.*, Draft EA, 74.

requirements the agency "should" try to achieve.[852] We agree with many of these recommendations but they do not appear to be enforceable mitigation measures. An exhortation that operators "should" avoid rutting, for example, doesn't mean much where the Forest has authorized logging on soils that are particularly susceptible to rutting.

Other Project Design Features are contradictory, making it impossible for them to be fully implemented. For instance, one Project Design Feature is to build temporary logging roads on "system trails[ ] where possible"[853] while another states that "[u]sing segments of designated forest trails as skid trails/haul roads should be avoided."[854] The fact that these both cannot be achieved indicates this is a "mere list."

Finally, we understand that many of the mitigation measures will not be implemented until after a timber unit is closed. For instance, "[d]rainage structures, such as outsloping and waterbars, would be installed along temporary roads *when the use of the road is no longer needed*."[855] Obviously, this is ineffective to mitigate impacts from storms and other events while the timber unit is open, which could be for months at a time.

T. The Forest Service Must Complete Transportation Analysis to the Build Functional Equivalent of Maintenance Level 1 Roads

Forest Service regulations at 36 CFR 212.5(b)(1) require that the Forest Service identify the minimum road system needed for safe and efficient travel and for administration, utilization, and protection of National Forest System (NFS) lands. Whenever the Forest Service proposes to add to a forest's road system, it must prepare or otherwise point to a supporting transportation analysis report.

Here, the Forest Service is proposing to add an unspecified number of temporary roads to the road prism in the Foothills area. Some of these will be "new" temporary roads and others will be reconstructed "old" temporary roads. The Forest Service asserts that "[t]he majority of temporary roads that will be used *are already existing and the road prism is still intact*," suggesting that on the CONF, previously-constructed "temporary" roads are often kept in storage for future entry as opposed to being decommissioned in fact.[856]

The Draft EA confirms the same. Temporary roads the agency will construct or re-construct in the Foothills area, "will be assessed for continued use to meet other resource needs"[857] and "[o]nce the temporary roads . . . are no longer needed, they would be closed to

[852] Draft EA, 74.

[853] Draft EA, 75.

[854] Scenery and Recreation Report, AP15.

[855] Draft EA, 75.

[856] Soil Report, 22 (emphasis added).

[857] Draft EA, 79.

normal vehicle traffic so that illegal use is discouraged."[858] Because the Foothills project, as proposed, could last for decades, it is not at all clear how long such "temporary" roads would remain in use. Indeed, if the Forest had fulfilled its duty to explain where and when it plans to harvest, it would be obvious that many of these road prisms will be used repeatedly *during this project*, and they are likely to be reused again in future projects too. The Forest Service cannot use these roads over the course of a multi-decade project without adding them to the road system.

Moreover, the Draft EA is straightforward that the temporary nature of these roads is their use, not their impact. Temporary roads will be "closed to normal vehicle traffic" after use. This may include actions such as "installation of an earthen barrier, . . . placement of logging debris along the road surface, [or] seeding or placement of boulders"[859] which will prevent access but leave the road prism intact. These are not temporary roads but Maintenance Level 1 roads the Forest Service is constructing and then keeping in storage. Regardless of the label the Forest Service assigns to the roads ("temporary" or not), the agency cannot build the functional equivalent of Maintenance Level 1 roads without completing transportation analysis and considering the environmental and economic implications of adding more roads to its road system. The Forest Service already has hundreds of miles of Maintenance Level 1 roads on its transportation network which it does not have the budget to maintain, some of which are causing adverse environmental impacts.[860]

XIII. The Forest Service is Not Complying with the National Historic Preservation Act

Section 106 of the National Historic Preservation Act ("NHPA") requires federal agencies to take into account the effect of their "undertakings" on any "historic property."[861] An "undertaking" is a "project, activity, or program funded in whole or in part under the direct or indirect jurisdiction of a federal agency."[862] A "historic property" is "any prehistoric or historic district, site, building, structure, or object included on, or eligible for inclusion on, the National Register [of Historic Places], including artifacts, records, and material remains relating to the district, site, building, structure, or object." [863] As recognized by the Forest Service, the Foothills Landscape Project, as proposed, would involve a number of separate undertakings that will trigger the agency's obligations under Section 106.

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[858] Draft EA, 74.

[859] *Id.*

[860] See Chattahoochee-Oconee National Forests, Travel Analysis Report (Oct. 2016) available at https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fseprd539037.pdf.

[861] *United Keetoowah Band of Cherokee Indians in Oklahoma v. Federal Communications Commission*, 933 F.3d 728, 733 (D.C. Circuit 2019); 54 U.S.C. §306108.

[862] 54 U.S.C. § 300320.

[863] 54 U.S.C. § 300308.

Regulations published by the Advisory Council for Historic Preservation at 36 C.F.R. Part 800 set out a detailed process that federal agencies must follow in order to comply with Section 106. In general, this process has four steps: first, the agency must define the "area of potential effects" ("APE") for an undertaking; second, the agency must make reasonable and good-faith efforts to identify historic properties within the APE; third, if historic properties are present within the APE, the agency must determine whether the proposed undertaking will adversely affect the historic properties; and fourth, if the agency determines that the undertaking may cause an adverse effect to historic properties within the APE, it must develop and evaluate alternatives or modifications to the undertaking that could avoid, minimize, or mitigate the adverse effects.[864] In navigating these steps, agencies are required to consult with interested parties about the identification of historic properties and the resolution of any adverse effects, including state historic preservation officers (SHPO) and tribes.[865] In addition, the regulations require that the agency "seek and consider the views of the public."[866]

The ACHP regulations expressly authorize agencies to negotiate "programmatic agreements" with the ACHP and other consulting parties to govern "complex projects" involving "multiple undertakings." [867] Specifically, agencies may use programmatic agreements to comply with Section 106 "[w]hen effects on historic properties cannot be fully determined prior to approval of an undertaking"[868]; in such circumstances, agreements may allow for a "phased" process to conduct identification of historic properties and evaluation of effects.[869]

When a validly-executed programmatic agreement is in place, "compliance with the procedures in that agreement satisfies the agency's NHPA Section 106 responsibilities for all covered undertakings." [870] While the ACHP regulations provide agencies with significant flexibility in negotiating the terms of a programmatic agreement, this flexibility is not limitless. The regulations impose both substantive and procedural requirements for developing an agreement.

To satisfy its Section 106 responsibilities for the Foothills project, the Forest Service has proposed to enter into a programmatic agreement that sets out, among other things, a phased identification and evaluation process. This approach is understandable; after all, under its proposed "toolbox" approach, the agency would not know where specific undertakings would

[864] *Dine Citizens Against Ruining Our Environment v. Bernhardt*, 923 F.3d 831, 846 (10th Cir. 2019).

[865] 36 C.F.R. § 800.2.

[866] *Id.*

[867] 36 C.F.R. § 800.14.

[868] *Id.*

[869] 36 C.F.R. § 800.4(b)(2).

[870] *Dine Citizens Against Ruining Our Environment,* 923 F.3d at 846.

take place—and consequently, where the APEs would be—until after the NEPA process is complete.

However, just as the Forest Service's proposed toolbox approach pushes past the legal bounds of NEPA, it likewise exceeds the limits of NHPA, for similar reasons: in its effort to conform the terms of the programmatic agreement to a flawed condition-based management approach, the Forest Service runs afoul of NHPA's non-discretionary requirements for thorough and timely analysis, public disclosure, and public participation. As we have noted elsewhere in these comments, a condition-based management approach is not *inherently* problematic under NEPA. Nor is it impossible for the Forest Service to negotiate a valid programmatic agreement that both complies with Section 106 and comports with a condition-based approach. Unfortunately, the draft programmatic agreement does not achieve this feat.

In short, the programmatic agreement contains fatal flaws. Specifically, it provides no opportunities for the public to receive notice or offer comments to the Forest Service during the lifetime of the project, and it arbitrarily exempts from the programmatic agreement—and thereby, from NHPA's protections—an assortment of undertakings which clearly have the potential to adversely impact historic properties.

In addition, we are concerned by language in the Cultural Resources Report suggesting that the agency intends to rely on its proposed "alternative mitigation measures" to "mitigate *any* adverse effects resulting from implementation of the Foothills Landscape Management Project."[871] While the research and surveying projects the Forest Service has proposed in Appendix D are admirable in their own right, it is not clear that NHPA allows an agency to commit *in advance* to archaeological research that is not directly related to the adverse effects of an undertaking as a way of pre-emptively complying with the mitigation-related requirements of Section 106. While NHPA provides agencies with flexibility in developing mitigation measures through consultation, joint guidance from ACHP and CEQ makes clear that there must be a *nexus* between adverse effects and mitigation measures.[872] It is difficult to see how an appropriate nexus could be identified in advance where, as here, the location and nature of historic properties and any adverse effects to them will not come into focus for months, years, or even decades.

A detailed discussion of these problems follows below. But first, we would be remiss not to say that the agency's efforts to identify *gaps* in our collective institutional knowledge about the cultural heritage of the CONF are laudable. As described in the Forest Service's *Cultural Resources Overview*, the CONF has a rich and layered cultural heritage, but our understanding of

[871] Draft Programmatic Agreement, 8.

[872] NEPA and NHPA: A Handbook for Integrating NEPA and Section 106 (2013), 40, available at https://www.achp.gov/digital-library-section-106-landing/nepa-and-nhpa-handbook-integrating-nepa-and-section-106.

how and where this heritage is evidenced across the Foothills landscape is sorely lacking. Given the relatively small percentage of the Foothills area that has been surveyed and the vastness of the Forest Service's proposed actions, developing a programmatic agreement that will comply with NHPA is a significant challenge. The CONF archaeologist has clearly worked hard to meet this challenge, which we appreciate.

A. The Draft Programmatic Agreement Provides No Opportunities for Public Notice or Participation During the Lifetime of the Agreement

Congress enacted the NHPA to "foster conditions under which our modern society and our historic property can exist in productive harmony." [873] Input from the public is crucial to the achievement of this productive harmony. The ACHP regulations make this clear, providing that

> [t]he views of the public are *essential* to informed Federal decisionmaking in the section 106 process. The agency official *shall seek and consider the views of the public in a manner that reflects the nature and complexity of the undertaking* and its effects on historic properties, the likely interest of the public in the effects on historic properties, confidentiality concerns of private individuals and businesses, and the relationship of the Federal involvement to the undertaking.[874]

The regulations further provide that the agency official responsible for compliance with the Section 106 process "*must*, except where appropriate to protect confidentiality concerns of affected parties, provide the public with information about an undertaking and its effects on historic properties and seek public comment and input." [875] An agency may choose to use its procedures for public involvement under NEPA to satisfy this requirement, but only "if they provide adequate opportunities for public involvement" consistent with the requirements of Subpart A of the ACHP regulations at 36 C.F.R. Part 800—in other words, *only if* the NEPA procedures provide opportunities for public involvement that are consistent with the purposes of NHPA and "the nature and complexity of the undertaking." [876]

As noted above, the ACHP regulations allow an agency to use a programmatic agreement for compliance with Section 106.[877] While an agency has considerable flexibility in negotiating the terms of such an agreement, this flexibility is limited. The regulations impose both procedural and substantive requirements that apply to programmatic agreements. If an agreement does not comply with these requirements, it is invalid.

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[873] *United Keetoowah Band*, 933 F.3d at 733 (citing 54 U.S.C. § 300101(1)).

[874] 36 C.F.R. § 800.2(d)(1) (emphasis added).

[875] 36 C.F.R. § 800.2(d)(2).

[876] 36 C.F.R. § 800.2(d)(3) (emphasis added).

[877] 36 C.F.R. § 800.14(b).

One such requirement relates to public involvement. For programmatic agreements developed for "complex or multiple undertakings," the regulations require that the agency engage in consultation which "shall follow [36 C.F.R.] § 800.6,"[878] which states in relevant part:

> The agency official shall make information available to the public … [and] shall provide an opportunity for members of the public to express their views on resolving adverse effects of the undertaking. The agency official should use appropriate mechanisms, taking into account the magnitude of the undertaking and the nature of its effects on historic properties, the likely effects on historic properties, and the relationship of the Federal involvement to the undertaking to ensure that the public's views are considered in the consultation. The agency official should also consider the extent of notice and information concerning historic preservation issues afforded the public at earlier steps in the section 106 process to determine the appropriate level of public involvement when resolving adverse effects *so that the standards of §800.2(d) are met*.[879]

Guidance published by the ACHP to assist federal agencies in developing programmatic agreements provides further clarification about the requirements of §800.2. The ACHP's website titled *Guidance on Agreement Documents: Before You Draft* notes that

> [t]he regulations implementing Section 106 call for the federal agency official to actively seek and consider the views of the public as the Section 106 review process moves forward. … [Programmatic agreements] are public documents that in some cases are provided to the public for review and comment prior to execution. In other cases, the … [programmatic agreement] may call for the agency to provide for public review and comment on specific items or plans. The regulations (36 CFR § 800.2(d)) ask that the agency consider several factors in determining the level of public involvement: the nature and complexity of the undertaking and its effects on historic properties, the likely interest of the public in the undertaking, and the presence of any confidentiality concerns.[880]

Thus, whether or not a programmatic agreement itself "call[s] for the agency to provide for public review and comment on specific items or plans" should be based on the factors at listed at §800.2(d)—among them, the nature and complexity of the undertaking.

Elsewhere, an agreement-drafting "checklist" published by the ACHP indicates that agreements should include "procedures for public involvement for any ongoing reviews carried

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[878] *Id.*

[879] § 800.6(a)(4) (emphasis added).

[880] ACHP Guidance on Agreement Documents: Before You Draft, available at https://www.achp.gov/before_you_draft.

out according to the agreement's terms." [881] Notably, this guidance directs agencies to "use this checklist to ensure that the … project Programmatic Agreement (project PA) includes the administrative stipulations and other clauses and information that *should be found in every Section 106 agreement document*." [882]

Finally, ACHP guidance on drafting programmatic agreements provides that

> [t]he public should be informed about the progress of agreement implementation, commensurate with the public interest in its implementation. As appropriate, they may be given the opportunity to provide views to the federal agency regarding subsequent reviews stipulated in a Section 106 agreement, particularly those in which evaluations of historic properties, assessment of effects to historic properties, or the development of treatment measures will occur. *These provisions are especially important in a [programmatic agreement] that sets forth an ongoing process for the implementation of a program or multiple undertakings.*[883]

Without question, ACHP has interpreted its own regulations as requiring that programmatic agreements developed for complex or multiple undertakings include provisions allowing for ongoing public notice and comment opportunities.

Yet nowhere in the terms of the draft programmatic agreement is there any requirement—or even any *allowance*—for the Forest Service to provide opportunities for public notice and comment throughout the lifetime of the Foothills Landscape Project. Likewise, in the flow chart outlining the Forest Service's proposed process for implementing the programmatic agreement, found in Appendix C, opportunities for public notice and comment are conspicuously absent. This simply does not accord with NHPA and the ACHP implementing regulations.

For a "conditioned-based" project that is expected to impact more than 150,000 acres of National Forest land over a number of years, providing no additional opportunities for public involvement during implementation of a Section 106 programmatic agreement violates the requirement at 36 C.F.R. §800.2(d) that the agency "seek and consider views of the public in a manner that reflects the nature and complexity of the undertaking." The Forest Service's approach is moreover in direct contradiction with the clear guidance provided by ACHP that in situations involving complex or multiple undertakings, it is essential that a programmatic agreement contain provisions for ongoing public involvement.

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[881] ACHP Section 106 Agreement Checklist: Content, available at https://www.achp.gov/sites/default/files/2018-06/Section%20106%20GAD%20Checklist%20-%20Content.pdf (accessed January 1, 2019) ((citing the regulations at §800.2(d) and §800.6(a)(4))).

[882] *Id.*

[883] ACHP Guidance on Agreement Documents: Drafting, available at https://www.achp.gov/drafting_section_106_agreements (emphasis added).

Multiple aspects of the proposed Foothills Landscape Project point to the conclusion that under § 800.2(d), rather than providing the public with *zero* opportunities for participation, the programmatic agreement should instead provide the public with the *maximum* amount of notice and opportunity to participate that is feasible.

First, the scale of the project demands additional opportunities for the public to be involved. As proposed, the Foothills Landscape Project would impact over 150,000 acres of national forest lands and would include, among other things, 80,00 acres of commercial and non-commercial timber harvest, 50,000 acres of prescribed burning, 360 miles of new bulldozed fire lines, and construction of new temporary roads. By the agency's own admission, the project is enormous, and it is complex.

Second, the agency's proposal to use a condition-based "toolbox" approach for the Foothills project demands additional opportunities for public involvement throughout the project's lifetime. Under this approach, the Forest Service will not know what individual undertakings it is proposing, where the APEs for these undertakings will be, what the effects to historic properties would be, and what specific mitigation measures are appropriate until after the NEPA process is complete. In other words, the public will not have most of the information it needs in order to provide the Forest Service with the input that is so "essential to informed Federal decisionmaking in the section 106 process."[884] While the ACHP regulations clearly authorize programmatic agreements that employ a phased identification and evaluation process, they do *not* authorize cutting the public out of this process.

Third, additional public participation is required by the ACHP regulations because the Forest Service is not planning to utilize any additional NEPA processes throughout the implementation of the Foothills project. As noted elsewhere in these comments, the agency's proposal to rely on a single EA—with no plans to prepare subsequent, tiered, site-specific NEPA analysis—does not comply with NEPA. But it also means that the agency has no plans to use subsequent NEPA procedures to satisfy its Section 106 obligations to seek and consider public input. Because the agency is not presently able to provide the public with the information it needs to provide meaningful feedback under NHPA, the present NEPA procedures do not satisfy the agency's Section 106 obligations.

Nor is this fact altered by the Forest Service's statement in the preamble of the draft programmatic agreement that "the CONF has provided the public opportunities to comment on the Undertaking and participate in the NHPA Section 106 process" through public scoping, legal notices, public notification letters, "community meetings," workshops, and field trips. The Forest Service's October 2017 scoping notice does not mention NHPA, Section 106, the agency's intent to use a programmatic agreement, or any of the terms of the draft programmatic agreement. Rather, it mentions only that during project implementation "heritage

[884] 36 C.F.R. § 800.2(d)(1).

resources…would be avoided and protected…where possible," that "[t]he appropriate measures …would be taken if an indirect effect is needed to meet the purpose and need," and that heritage resource sites would have protective buffers. Many of the other "opportunities to … participate in the NHPA Section 106 process" listed by the Forest Service had nothing to do with historic properties (e.g. the field trips and the science symposium). Simply offering the public an opportunity to learn about or comment on some aspects of a project is not sufficient to comply with Section 106 of the NHPA. The NHPA requires *agencies*, not the public, to start the conversation about impacts to historic properties, just as NEPA puts "the onus . . . on the [agency] to inform the public of impacts … on cultural resources.[885]

Fourth, the Forest Service's NEPA analysis makes clear that there are likely *hundreds* of archaeological sites across the Foothills area that require protection under NHPA—some because they are eligible for listing on the National Register, others because they might be and therefore must be evaluated.[886] The CONF Forest Archaeologist's excellent research in developing the *Cultural Resources Overview* shows why: the Foothills area has a rich and layered cultural heritage that stretches back many hundreds of years. But this heritage is imperfectly understood. The report notes that "no significant archaeological investigations have previously occurred within the Foothills Landscape Project area" and that, regarding American Indian cultural history, "[o]ne thing that became very clear during the development of this document is that the current understanding of the . . . history of northeast Georgia is woefully out of date. Due to the limited scope of the present document in many ways it can only highlight how we do not know what we think we know about the region." [887]

Table 1 in Appendix A of the draft programmatic agreement provides a quantitative description of our relative ignorance: in approximately half of the Foothills project's designated "implementation areas," less than 10% of the lands have been surveyed for archaeological sites. Some of these lightly surveyed implementation areas—such as Sarah's Creek and Warwoman-Chattooga—are among those predicted to have higher densities of unknown archaeological sites; hundreds of sites are thought to exist in these two implementation areas alone.

Our collective failure to adequately fund and support research and preservation of the cultural heritage of the Foothills area and other areas on the Chattahoochee National Forest does not justify eliminating meaningful opportunities for the public to participate in the Section 106 process for a project that will impact 150,000 acres of public land that has been home to many cultures over the centuries. It justifies the exact opposite.

And last, the Forest Service's Cultural Resources Report acknowledges that the type and scale of undertakings that are proposed under the Foothills project have the potential to destroy

[885] *Center for Biological Diversity v. Bureau of Land Management*, 746 F.Supp.2d 1055, 1096 (N.D. Ca. 2009).

[886] Cultural Resources Report, 13.

[887] Cultural Resources Overview, 74.

historic properties and other cultural resources. Compounding this threat to as-yet-unknown properties is the agency's plan to abstain from surveying areas it has concluded as "low probability" and its plan to exempt most prescribed burning and some timber activities from consulting and survey requirements.[888] While utilizing a probability model to tailor surveying intensity is appropriate under NHPA, in this case, the Forest Service's model predicts that 15-17% of unknown archaeological sites will be located in "low probability" areas.[889] The upshot is that implementation of the Foothills project, as proposed, would very likely damage archaeological sites that require protection under NHPA—despite the agency's confusing conclusion to the contrary.[890]

Each of these five characteristics of the Foothills project's "nature and complexity" would, by itself, demand that any programmatic agreement include provisions for continued public notice and comment, in accordance with 36 C.F.R. § 800.2(d). Because the proposed programmatic agreement does not include such provisions, it would not comply with the ACHP regulations and would be invalid if executed.

B. The Draft Programmatic Agreement Arbitrarily Exempts From Section 106 Review Undertakings Which Have the Potential to Adversely Affect Historic Properties

The draft programmatic agreement notes that "[i]mplementation of the Foothills Project will involve a number of routine and recurrent Undertakings whose potential effects on historic properties and unevaluated cultural resources are foreseeable and likely to be absent or negligible. These activities may generally be exempt [from Section 106 review], but … require a review by a CONF Heritage Professional to confirm whether the activity qualifies as an exemption …."[891] These exempted undertakings are listed in Appendix D of the programmatic agreement.

Appendix D states that "[t]he following Undertakings have little or no potential to affect historic properties and unevaluated cultural resources. As a result … these Undertakings are exempt from survey and no further consultation with the SHPO, Tribes, other consulting parties, or the public is required."[892] In other words, they are exempt from the Section 106 process.

The ACHP regulations discuss "categories" of undertakings which the ACHP or an agency may propose to be exempted from the Section 106 process. Such exemptions are allowed only if "the potential effects of the undertakings within the … category upon historic properties

[888] Draft Programmatic Agreement, Appendix D.

[889] Draft Programmatic Agreement, Appendix E, 67.

[890] Cultural Resources Report, 28 ("Selecting Alternative 2 would not affect cultural resource sites, therefore, there would be no cumulative effects to cultural resources as a result of the Foothills Project").

[891] Draft Programmatic Agreement, 4.

[892] Draft Programmatic Agreement, Appendix D, 55.

are foreseeable and likely to be minimal or not adverse…."[893] Yet among the categories listed as "exempt" in Appendix D are some undertakings which, contrary to the ACHP regulations, do have the potential to adversely affect historic properties and other cultural resources. Specifically, these undertakings are: *15. Prescribed burns … in areas which have been previously burned*; *20. Midstory removal with minimal impact equipment*; *30. Very small areas … having low site potential*; and *34. Thinning of timber stands less than 20 years of age regardless of the methods used …* [*including*] *any roads that have to be constructed to access these areas.*

These categories of actions cannot be described as "routine and recurrent." Nor can it be said that their effects on historic properties are foreseeable and likely to be minimal.

1. 15. Prescribed burns … in areas which have been previously burned

The Forest Service's own NEPA analysis acknowledges that prescribed burning can cause adverse effects to cultural resources.[894] The proposal to exempt prescribed burning from the Section 106 process is based on the agency's assertions that burning would involve only "low intensity fires" and that surveying for historic properties could only be skipped "where it is documented that an area has previously been burned." Although the Forest Service does not disclose the particulars of its reasoning, presumably the agency has concluded that where an area of the forest was previously burned, any artifacts or cultural resources present at that time have either already been destroyed or they were not harmed due to possessing qualities that make them impervious to the effects of fires. The Forest Service's conclusion is arbitrary and inconsistent with the ACHP regulations, for multiple reasons.

First, the agency broadly asserts that all of its prescribed fires will be "low intensity." Yet in a Forest Service technical report published in 2012, agency experts observed that "prescribed fire severity varies depending on the prescription (such as, whether the fire is intended to be non-lethal, mixed severity, or stand-replacing)." [895] For the Foothills project, the Forest Service has proposed using prescribed fire for a variety of purposes: "to remove slash/ground litter[,]…maintenance of open stand conditions, site preparation for planting, and hazardous fuel reduction." [896] Moreover, "[f]ire intensity is determined by the mass of fine fuels (FF) in the surface and canopy strata and how rapidly they are ignited. The rate of ignition is primarily determined by FF moisture content and wind velocity. Thus, fire's potential impacts on above-

[893] 36 C.F.R. 800.14(c).

[894] Cultural Resources Report, 26-28.

[895] USFS General Technical Report, *Wildland Fire in Ecosystems: Effects of Fire on Cultural Resources and Archaeology* (2012) 182-83, available at https://www.fs.fed.us/rm/pubs/rmrs_gtr042_3.pdf.

[896] Draft Programmatic Agreement, Appendix D, 56.

ground artifacts and structures is a function of the mass of fine fuels, short term weather (humidity and wind) and how the fuels are ignited…."[897]

By contrast, *subsurface* cultural resources are primarily impacted by the conduction of heat through the soil, "which is a function of the soil type, its moisture content, and the duration of burning….Coarse woody debris (CWD) and duff/leaf mold (fermentation and humus layers) are capable of sustained burning at low moisture contents which only occur after extended drying." [898] Further, "[i]n most forests either duff or peat covers a much greater proportion of the surface than [fine woody debris] and [coarse woody debris] combined. The burnout of these organic soil horizons by smoldering combustion is the primary source of mineral soil heating."[899] Thus, the Forest Service's own experts have concluded that even "low intensity" fires can damage subsurface cultural resources, provided there is sufficient duff, peat, or leaf mold present.

The bottom line is that the Forest Service has proposed to use prescribed burning in a variety of ways, and the potential for these fires to adversely affect historic properties will vary based on a number of site-specific and weather-related factors. Thus, it is not appropriate for the Forest Service to exempt prescribed fires from Section 106 process based on a vague assertion that they will be "low intensity."

Second, the Forest Service's proposed exemption rests on an unsupported assumption that historic properties in areas that were previously burned have either been destroyed or are inherently protected from the effects of subsequent fires. This assumption dismisses the fact that direct damage (from flames or heat) to historic properties and other cultural resources can be cumulative. Furthermore, it entirely ignores the impacts of "second-order" and "third-order" effects from fire.[900] The agency's analysis acknowledges that "[f]or both ground disturbing activities and prescribed fires, the most likely indirect effects to cultural resources include erosion of the cultural deposits and the increase of public accessibility to the sites."[901] Given that the susceptibility of a historic artifact to heat-related damage is a function of, among other things, the artifact's depth in the soil, it stands to reason that repeated fires (and the erosion that follows) may have made some deposits *more likely* to be harmed by subsequent fires due to the loss of soil cover.

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[897] Ryan, Kevin (USFS Rocky Mountain Research Station). "Effects of Fire on Cultural Resources." International Conference on Forest Fire Research (2010), available at https://www.fs.fed.us/rm/pubs_other/rmrs_2010_ryan_k004.pdf.

[898] *Id.* (internal quotes and citations omitted).

[899] *Id.*

[900] *See* Ryan, *supra* n. 898, 3.

[901] Cultural Resources Report, 28.

Moreover, the proposed exemption seems to entirely ignore the possibility that an artifact might survive a prescribed fire but then be harmed by subsequent erosion or "increased access." "Accelerated post-fire erosion can either wash-away, bury or redistribute archaeological materials. The physical redistribution of [cultural resources] in space along with thermal impacts on dating techniques confounds archaeological interpretation. To assess the potential for second-order effects requires multidisciplinary integration of the archaeology, geology, climatology, and fire severity." [902] Here, an adequate "multidisciplinary" analysis would lead to the conclusion that the effects of prescribed burning on cultural resources, even in areas that have previously burned, are not foreseeable and are not likely to be minimal.

2. 20. Midstory removal with minimal impact equipment

As with prescribed burning, the Forest Service's NEPA analysis concludes that both commercial and non-commercial timber activities have the potential to adversely impact historic properties.[903] Yet the agency's draft programmatic agreement purports to exempt midstory timber treatments from Section 106 review—even when those treatments involve the use of heavy equipment.

The exemption asserts that certain heavy equipment, "when properly used," results in "minimal ground disturbance." Among the equipment types listed is Hydro-Axe; though a specific model is not named, these machines typically weigh in excess of 10 tons.[904] The Forest Service's proffered caveat—that use of these 10-ton machines "under dry conditions" ensures "minimal ground disturbance"—is itself an admission that this activity has the potential to adversely affect historic properties. Will the Forest Service survey an area to ensure uniformly "dry conditions" before implementing such an undertaking? How dry is dry enough? How will ensuring "minimal ground disturbance" protect archaeological resources that lie on or just beneath the surface?

The appropriate approach is to honor the text and intent of the ACHP regulations. Where the agency is proposing to engage in an activity that has the potential to cause adverse effects to historic properties, the agency must make an effort to identify these properties and consider mitigation measures. Without question, proposing to exempt the use of 10-ton logging equipment in high probability areas is unsupported by the agency's analysis and appears on its face to be an arbitrary decision.

[902] Ryan, *supra* n. 898, 3.

[903] Cultural Resources Report, 38.

[904] *See, e.g.* https://www.fs.fed.us/t-d/pubs/pdfpubs/pdf99242820/pdf99242820pt02.pdf.

3. 30. Very small areas having low site potential

In the Forest Service's own words, Appendix D lists undertakings which "have little or no potential to affect historic properties and unevaluated cultural resources."[905] Elsewhere the Forest Service refers to these undertakings as "routine and recurrent" with "potential effects … [which] are foreseeable and likely to be absent or negligible." [906] The ACHP regulations likewise suggest that "exemptions" are limited to undertakings with "potential effects" which are "foreseeable" and "likely to be minimal or not adverse." [907]

Here, the Forest Service has proposed to exempt from Section 106 review *any* undertaking it has authority to implement, in *any* location, so long as the impacted area has been identified as "low probability" and is either less than 1 acre in size or less than ½ mile in length. This exemption is clearly inconsistent with the Forest Service's stated purpose for developing exemptions, and it is inconsistent with the ACHP regulations. An exemption that allows for *any* type of undertaking in *any* location cannot possibly have "foreseeable" effects on historic properties.

Moreover, the agency's determination that the exemption may be applied for undertakings up to 1-acre in size or ½ mile in length is arbitrary. Within low probability areas that the Forest Service has no plans to survey—despite the agency's conclusion that they are likely to contain 15-17% of the unknown archaeological sites on the CONF—one acre is just as likely to contain historic properties as the next. Consequently, a series of twenty 1-acre undertakings is just as likely to adversely affect historic resources as a single 20-acre undertaking.

4. 34. Thinning of timber stands less than 20 years of age regardless of the methods used … [including] any roads that have to be constructed to access these areas.

As with the exemption for "very small areas," the Forest Service's proposal to exempt thinning on stands less than 20 years of age, including road construction needed to access these areas, cannot possibly comply with the ACHP regulation allowing exemptions only when the potential effects are "foreseeable and likely to be minimal or not adverse." Exempting an undertaking from Section 106 review and consultation *solely* because it is located in a low probability area is contrary to the purpose and text of the ACHP regulations. If this were allowable, the Forest Service might as well propose an exemption that reads "No undertakings in

[905] Draft Programmatic Agreement, Appendix D, 55.

[906] Draft Programmatic Agreement, 4.

[907] 36 C.F.R. § 800.14(c)(ii).

low probability areas are subject to the NHPA." Needless to say, this would be contrary to law.[908]

Likewise, it is not appropriate to exempt undertakings from Section 106 review and consultation requirements simply because "surveys [in such stands] are hard to complete"—particularly when, in the very next sentence, the Forest Service asserts that "[h]igh probability areas will be surveyed."[909] Evidently, surveying these stands is not so difficult that it cannot be done.

C. The Draft Programmatic Agreement's Suggestion That the Listed "alternative mitigation measures" Will "mitigate any adverse effects resulting from implementation" is Inconsistent With NHPA and the ACHP Regulations

Under the Forest Service's draft programmatic agreement, the agency would generally limit its surveying efforts to high probability areas.[910] Only where a consulting party requests a "full coverage survey" would the agency survey low probability areas—and even then, the survey would consist only of "visual examination" rather than any subsurface sampling.[911]

The ACHP regulations allow for agencies to use probability models to focus their more intensive surveying efforts. There is no requirement that intensive surveys be conducted across every APE. Nor is there a requirement that the agency identify every historic property or other cultural resource within an APE. Rather, the agency must make a reasonable and good faith effort.[912]

To its credit, the Forest Service has acknowledged that as a result of surveying only in "high probability" areas, implementation of the Foothills project may adversely impact historic properties.

Section VII of the draft agreement ("Measures to Mitigate Possible Adverse Effects") states that:

> [u]ndertakings associated with the Foothills Landscape Project may have adverse effects on historic properties because low probability areas within the APE will not be surveyed. As a result, the CONF has developed a series of alternative mitigation measures….These

[908] *See* 36 C.F.R. §800.14(c)(iii).

[909] Draft Programmatic Agreement, Appendix D, 58.

[910] Draft Programmatic Agreement , 2.

[911] Draft Programmatic Agreement, Appendix E, 100.

[912] 36 C.F.R. §800.4(b)(1).

> measures were developed to address potential effects resulting from not completing inventory on the entire APE.[913]

These "alternative mitigation measures" are mentioned at various points throughout the draft programmatic agreement. Problematically, it's not clear how exactly the Forest Service considers these alternative measures to relate to its obligations under the ACHP regulations or the terms of the proposed agreement.

In some places (as in the language quoted immediately above) the programmatic agreement suggests that the alternative mitigation measures were specifically developed to address adverse impacts to historic properties located in "low probability" areas, where the agency will not conduct surveys.[914] Thus adverse impacts to cultural resources in low probability areas seem to be taken as a given and the "alternative" measures are presented as mitigation for these unknown future impacts.

Elsewhere, however, the programmatic agreement seems to suggest that the Forest Service may rely on the alternative mitigation measures to mitigate *any* adverse impacts to historic properties that result from implementation of the project. For example, in Section I ("Scope and Framework"), the programmatic agreement reads:

> The CONF recognizes that Undertakings associated with the Foothills Landscape Management Project may have adverse effects on historic properties. *To mitigate those potential adverse effects from the overall project* the CONF has developed a series of mitigation measures agreed to by the consulting parties. These activities are listed in Appendix B.[915]

Likewise, in Section XII ("Reporting"), the agreement states that "Appendix B identifies a series of projects that the CONF is committed to completing to mitigate *any adverse effects* resulting from the implementation of the Foothills Landscape Project." This language suggests that the Forest Service believes that implementing the alternative measures listed in Appendix B will have the effect of mitigating adverse effects to historic properties across the entire project area—whether in low or high probability areas.

While the ACHP regulations do not require than an agency implement any mitigation measures, they do require than an agency develop and evaluate measures which could avoid, minimize, or mitigate adverse effects. [916] For multiple reasons, it is critical that the Forest

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[913] Draft Programmatic Agreement, 6.

[914] *See*, *e.g.*, Draft Programmatic Agreement, 2.

[915] Draft Programmatic Agreement, 3 (emphasis added).

[916] 36 C.F.R. §800.6(a).

Service clarify what role its proposed alternative mitigation measures would play in meeting its Section 106 obligations.

First, guidance from the ACHP makes clear that mitigation measures must correspond to *particular* adverse effects.[917] "Mitigation" for purposes of NHPA is "[a] measure to resolve specific adverse effects to identified historic property or properties by offsetting such effects. *A nexus is required between the mitigation measure(s) and the adverse effects to historic properties.*" [918]

Thus, measures which might mitigate adverse effects to one type of property would not mitigate adverse effects to a different type of property. In its Cultural Resources Report, the Forest Service seems to agree with this general point, observing that "[a]n adverse effect is considered to have occurred to a cultural resource site when the characteristics that may make that site eligible for inclusion on the National Register … have been altered … [and] *therefore*, cumulative effects to cultural resources are considered to be the incremental effects of past, present, and reasonably foreseeable future actions on each specific heritage site."[919] In the Forest Service's view, adverse effects must attach to a particular historic property. It follows that mitigation must do the same.

Yet the programmatic agreement describes "alternative mitigation measures" which do not appear to have any sort of nexus with particularized adverse effects to historic properties. Part of the problem is that, under the agency's condition-based management approach, adverse effects to particular properties will not come into focus until APEs are surveyed or archaeological sites are discovered during implementation.

As mentioned above, another problem is that in some places the programmatic agreement suggests that the alternative mitigation measures are intended to mitigate adverse impacts from not surveying "low probability" areas, whereas elsewhere the agreement suggests that "any" adverse effects will be addressed by the alternative measures. The question of whether there is a nexus with mitigation measures hinges on the nature of adverse effects being contemplated.

Yet another problem is that the alternative mitigation measures themselves consist almost entirely of conducting background research into various aspects of the area's cultural past and surveying separate tracts of land—i.e., areas that do not fall within any APEs. While such work

[917] NEPA and NHPA: A Handbook for Integrating NEPA and Section 106 (2013), 40, available at https://www.achp.gov/digital-library-section-106-landing/nepa-and-nhpa-handbook-integrating-nepa-and-section-106.

[918] *Id.* (emphasis added).

[919] The Forest Service seems to be conflating impacts to "cultural resources" under NEPA and "historic properties" under NHPA. Under NEPA, an agency must consider more than just the impacts to a cultural resource's eligibility for listing on the National Register.

is important, it does not seem to address particularized adverse effects to specific historic properties—even after such effects come into focus.

Ultimately, it is simply unclear whether NHPA and the ACHP regulations authorize the kind of inverted Section 106 process that the Forest Service has proposed in its draft programmatic agreement. The purpose of Section 106 is for agencies to take into account the effects of their proposed undertakings on historic properties, and to develop and consider possible means of mitigating any adverse effects. Here the agency is proposing a complicated, condition-based project that will impact more than 150,000 acres and will take decades to complete. The vast majority of these acres have been categorized as "low probability," and the agency has no intention of conducting even sample surveys on them. And as of right now, the agency does not know which projects it will implement in which locations. Yet the Forest Service's draft programmatic agreement asserts that any adverse impacts to historic properties in low probability areas will be mitigated by a combination of generalized research projects and surveys in other locations. This would seem to put the cart before the horse.

XIV. The Agency is Running Afoul of the Clean Water Act

The Clean Water Act ("CWA") was enacted to "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters."[920] To that end, the CWA charges states with establishing water quality standards.[921] "A water quality standard defines the water quality goals of a water body, or portion thereof, by designating the use or uses to be made of the water and by setting criteria that protect the designated uses."[922] In the Hydrology Report, the Forest Service generally refers to these as "beneficial uses." Federal agencies including the Forest Service must comply with water quality standards set by each state.[923] A "project that does not comply with a designated use of the water does not comply with the applicable water quality standards."[924] And Forest Service "[a]pproval of [a project] despite the violation of [a state's] water quality standards is arbitrary and capricious."[925]

[920] 33 U.S.C. § 1251(a).

[921] *See* 33 U.S.C. § 1313.

[922] 40 C.F.R. § 131.2.

[923] *See* 33 U.S.C. § 1323.

[924] *PUD No. 1 of Jefferson Cty. v. Washington Dep't of Ecology*, 511 U.S. 700, 715 (1994); *see City of Guyton v. Barrow*, 305 Ga. 799, 807, 828 S.E.2d 366, 372 (2019) (recognizing that "a water quality standard must be maintained").

[925] *Save Our Cabinets v. United States Dep't of Agric*., 254 F. Supp. 3d 1241, 1255 (D. Mont. 2017), *judgment entered*, No. CV 16-53-M-DWM, 2017 WL 2829681 (D. Mont. June 29, 2017), *dismissed sub nom. Save Our Cabinets v. United States Fish & Wildlife Serv*., No. 17-35694, 2018 WL 1091533 (9th Cir. Feb. 23, 2018).

Georgia law requires "[e]xisting instream water uses and the level of water quality necessary to protect the existing uses [to] be maintained and protected."[926] Where the quality of waters exceeds applicable standards, some degradation of that quality may occur but only in very specific circumstances.[927] Even then though, the degradation cannot reduce water quality below the level necessary to protect existing uses.[928] This is generally referred to as the antidegradation requirement. The agency's analysis indicates it is well aware of this requirement.[929]

Additionally, "each state is required to identify all of the waters within its borders not meeting water quality standards and establish 'total maximum daily loads' ["TMDL"] for those waters."[930] By definition, and borrowing the terminology from the Forest Service's Hydrology Report, these waterbodies are not maintaining their "beneficial use." "A TMDL defines the specified maximum amount of a pollutant which can be discharged into a body of water from all sources combined."[931] Discharges in excess of that amount contribute to failure to meet "beneficial uses."

As explained elsewhere, the Forest Service's analysis of effects on water quality is inadequate on multiple counts but it confirms that the Forest Service is threatening violations of these requirements.

An initial error in the agency's assessment of compliance with the CWA is that it treats all waterbodies in the Foothills project area as if they have the same "beneficial use." Georgia has six "beneficial uses."[932] The agency cannot evaluate compliance with one as compliance with all. The agency must differentiate between the different assigned uses for each waterbody.

Regardless, the agency's analysis confirms that it will not maintain beneficial uses. To assess maintenance of beneficial uses, the agency uses a watershed total impervious area proxy. There is likely to be a "negative effect to beneficial uses at any temporal or spatial scale with [total impervious area] over 10% within a watershed."[933] The agency's analysis confirms this threshold will be exceeded in at least three watersheds, and as discussed elsewhere, this appears to be an underestimate.[934] Using the agency's proxy analysis, this demonstrates beneficial uses will not be maintained and violates the CWA.

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[926] Ga. Comp. R. & Regs. 391-3-6-.03(2)(b)(i); see also 40 C.F.R. § 131.12.

[927] *See* Ga. Comp. R. & Regs. 391-3-6-.03(2)(b)(ii).

[928] *Id*.

[929] *See generally*, Hydrology Report.

[930] *Am. Wildlands v. Browner*, 260 F.3d 1192, 1194 (10th Cir. 2001) (citing 33 U.S.C. § 1313(d)).

[931] *Id*. (citation omitted).

[932] Ga. Comp. R. & Regs. 391-3-6-.03

[933] Hydrology Report, 4.

[934] Hydrology Report, Table 7.

The agency also acknowledges that the project area "has 13 streams for a total of 31 miles that are not currently supporting their designated beneficial use."[935] These are 303(d) or 305(b) listed streams. These streams are not supporting designated uses likely due to excess sediment.[936] Yet, as far as we can tell, the Forest Service is proposing significant sediment-inducing activities in these watersheds, further degrading them and impacting beneficial uses. This also threatens violations of the CWA.

The agency brushes this aside stating that total impervious area "is not anticipated to rise above 10% for the majority of the watersheds" but compliance with the CWA is not evaluated on the project-wide scale. The agency has developed a proxy to assess compliance with the CWA which indicates it will be violated. "Approval of [a project] despite the violation of [a state's] water quality standards is arbitrary and capricious."[937]

In addition to beneficial uses, Georgia has promulgated additional water quality standards that "are deemed to be necessary and applicable to all waters of the State."[938] One of those requirements is that all "waters shall be free from turbidity which results in a substantial visual contrast in a water body due to a man-made activity."[939] The Forest Service is proposing myriad activities as part of this project in locations it has not disclosed. As a result, it is difficult to assess compliance with this standard which the agency has not attempted to do in its Hydrology Report. Nevertheless, there appears to be a significant risk the agency may also violate this requirement.

Georgia law also requires that "[i]n streams designated as primary trout or smallmouth bass waters . . . there shall be no elevation of natural stream temperatures."[940] Without site-specific information it is also difficult to assess compliance with this requirement, but the agency's analysis establishes that an "increase in water temperature may occur" due to its proposed activities.[941] The agency then asserts that "maximum temperatures *should* remain below published maximum thresholds for common cold-water and cool-water species in this region"[942] but Georgia law prohibits *any* elevation of stream temperature in primary trout or smallmouth bass waters.

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[935] Hydrology Report, 13.

[936] Hydrology Report, 15.

[937] *See supra* n. 926.

[938] Ga. Comp. R. & Regs. 391-3-6-.03(5).

[939] Ga. Comp. R. & Regs. 391-3-6-.03(5)(d).

[940] Ga. Comp. R. & Regs. 391-3-6-.03(15)(a)(ii).

[941] Aquatic Resource Report, 20.

[942] Aquatic Resource Report, 20.

Finally, Georgia law also prohibits any "alteration of natural water quality from any source" on rivers designated "wild" or "scenic."[943] This project could alter water quality in the Wild and Scenic Chattooga River corridor also threatening a violation of this requirement.

XV. The Agency Must Formally Consult With the Fish and Wildlife Service Under the Endangered Species Act

The Endangered Species Act ("ESA") mandates that the Forest Service give the conservation of threatened and endangered species the highest priority, "above any of the agency's competing interests."[944] Section 7 of the ESA requires the agency to "insure" that its activities are "not likely to jeopardize the continued existence" of any threatened or endangered species in the Foothills area or "result in the destruction or adverse modification" of designated critical habitat.[945] This happens through the Section 7 formal consultation process with the Fish and Wildlife Service ("FWS"). Formal consultation is required when "any action may affect listed species or critical habitat."[946] That requirement is easily triggered here.

The Forest Service has determined that its project "May Affect, Is Likely To Adversely affect the Indiana bat."[947] That alone requires formal consultation. Instead, the agency claims that "the programmatic biological opinion satisfies the Forest Service's responsibilities under ESA Section 7(a)(2) relative to the Indiana bat for this project."[948] That is incorrect. The programmatic biological opinion prepared during plan revision does not authorize site-specific activity. If an individual project, such as the Foothills Project, may affect Indiana bats, that agency must enter formal consultation with FWS regardless of the existence of the Forest Plan programmatic biological opinion. The Terrestrial Wildlife Resources Report explains repeatedly that this project will affect Indiana bats.

The Forest Service has also found that its project "may affect" the gray bat.[949] Regarding botanical species listed under the ESA, the project "may affect": swamp pink,[950] white fringeless orchid,[951] smooth coneflower,[952] and small whorled pogonia.[953] Because formal consultation is

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[943] Ga. Comp. R. & Regs. 391-3-6-.03(6)(d)-(e).

[944] *House v. U.S. Forest Service, U.S. Dept. of Agriculture*, 974 F. Supp. 1022, 1027 (E.D. Ky. 1997); *see Tennessee Valley Auth. v. Hill*, 437 U.S. 153, 175, 98 S. Ct. 2279, 57 L.Ed.2d 117 (1978) (The ESA's language "indicates beyond doubt that Congress intended endangered species to be afforded the highest priorities.")

[945] 16 U.S.C. § 1536(a)(2).

[946] 50 C.F.R. § 402.14.

[947] Terrestrial Wildlife Resources Report, 43.

[948] Terrestrial Wildlife Resources Report, 43.

[949] Terrestrial Wildlife Resources Report, 40.

[950] Botanical and Rare Communities Resource Report, 68.

[951] Botanical and Rare Communities Resource Report, 69.

[952] Botanical and Rare Communities Resource Report, 65-76.

required whenever any agency action "may affect listed species," it is required for all of these species; it is not optional.[954] The Forest Service seems to understand this: "Because the [species] is protected under the ESA, no activities with potential to affect the [species] either adversely or beneficially can take place in the sites without . . . *consultation with[] USFWS*."[955] Yet the agency does not appear to be moving in that direction. The Forest Service has determined that a final decision on this project would authorize activities that "may affect" listed species; consequently it must formally consult with FWS under Section 7.

With circular reasoning, the agency downplays adverse impacts to many of these species by pointing to consultation with FWS "as appropriate."[956] The agency cannot assert effects will be below a level requiring Section 7 consultation by pointing to the possibility of consultation. This is the equivalent of stating that the agency does not need to consult with FWS because effects will be minimized through potential consultation with FWS; it is circular reasoning. Regardless of what the agency was trying to convey with these statements, it is clear that these species may be affected which necessitates formal Section 7 consultation.

Finally, the agency has concluded that it "may affect" eight mussels protected under the ESA, three fish, and two areas of designated critical habitat.[957] As explained elsewhere, the agency's assessment of impacts to these species is insufficient to determine that the effects will be minimal but the agency has clearly found that these species and critical habitat units may be affected by the project which is all that is required to trigger formal consultation under the ESA.

The agency appears to be under the impression that its obligations under the ESA have concluded because the Forest Service has determined that "no anticipated effects under either alternative that would jeopardize the continued existence of any [threatened and endangered] species" and that its project is "compliant with the ESA requirement that the Forest Service manage for the recovery of [threatened and endangered] species."[958] Regardless of whether that is right or wrong, it is simply the wrong standard. In case it is not clear: "*Formal* consultation is *mandatory* for all agency programs or activities that may affect a listed species or critical habitat."[959]

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[953] Botanical and Rare Communities Resource Report, 72.

[954] 50 C.F.R. § 402.14.

[955] Botanical and Rare Communities Resource Report, 73.

[956] *See, e.g.*, Botanical and Rare Communities Resource Report, 31.

[957] Aquatic Resource Report, 29.

[958] Aquatic Resource Report, 30.

[959] FSM 2671.45c (emphasis added).

XVI. The Lack of Site-Specific Information Prevents Assessing Compliance With Other Relevant Laws

Because the agency has not disclosed where it intends to pursue certain actions the public and the agency cannot assess compliance with a host of other laws including the Wilderness Act,[960] 2001 Roadless Rule, Wild and Scenic Rivers Act, the Migratory Bird Treaty Act, and Executive Order 13112. The fact that the agency is unable to assess compliance with these laws is further evidence that it has not taken a hard look and that the way it is implementing condition-based management does not comply with NEPA.

XVII. Conclusion

We earnestly appreciate all the effort the agency has put into assessing social, infrastructure, and ecological issues in the Foothills and identifying potential solutions for those issues. We fully support many of the types of work proposed in this Project. Some actions need to be modified to avoid harmful impacts and achieve the desired outcomes. Many other actions cannot be meaningfully assessed without more site-specific information. We also remain deeply concerned that the agency appears intent on carrying out this project in ways that would violate NFMA, NEPA, and other laws while also denying the public meaningful opportunities for participation in implementation of this project over decades. We have been asking the agency to reconsider this approach for years but we will repeat our plea here. A first and necessary step in rectifying these issues is the preparation of an EIS. We remain optimistic that these issues can be addressed and willing to worth with the agency to achieve a positive outcome for the Foothills.

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[960] We recognize that the agency is not proposing activities in Wilderness Areas but "an agency's duty to preserve . . . wilderness character under . . . the Wilderness Act may apply to agency activity that occurs outside of the boundaries of the wilderness area." *Izaak Walton League of Am., Inc. v. Kimbell,* 516 F. Supp. 2d 982, 989 (D. Minn. 2007), *judgment entered*, No. CIV. 06-3357 JRT/RLE, 2008 WL 141728 (D. Minn. Jan. 11, 2008), *amended*, No. CV 06-3357 (JRT/RLE), 2008 WL 11383666 (D. Minn. May 21, 2008*), and aff'd*, 558 F.3d 751 (8th Cir. 2009).

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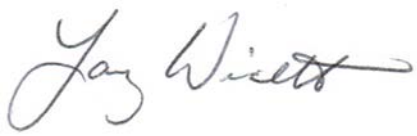

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