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Via Electronic Submission and Email

David Casey
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Pisgah Ranger District
Pisgah National Forest
1600 Pisgah Highway
Pisgah Forest, NC 28768

Re: Comments on Lickstone Project Draft Environmental Assessment

Dear Mr. Casey,

Thank you for the opportunity to comment on the draft Environmental Assessment ("Draft EA") for the Lickstone Project ("the Project"). We submit these comments on behalf of the Southern Environmental Law Center, the Center for Biological Diversity, Defenders of Wildlife, MountainTrue, The North Carolina Chapter of the Sierra Club, and The Wilderness Society ("Conservation Groups").

We appreciate the hard work that the Forest Service put into the preparation of this analysis. We also appreciate the changes the Nantahala and Pisgah National Forests have already made to this Project in response to scoping comments, namely the decision to shift twenty-nine acres in an area exhibiting backcountry characteristics from regeneration treatments to non-commercial midstory treatments. We hope that this letter will help the agency avoid further unnecessary environmental harm to an outstanding and biologically rich portion of the Pisgah National Forest.

We recognize that the Draft EA is just that—a draft—and that the Forest Service may collect additional information and perform further analyses. That said, we are concerned that the Draft EA fails to adequately analyze the environmental impacts of the Project in contravention of the National Environmental Policy Act ("NEPA"). We also believe that the Project perpetuates many of the errors that were made during the recent Forest Plan revision for the Nantahala and Pisgah National Forests, in violation of the National Forest Management Act ("NFMA"). Finally, we believe that aspects of the Project are likely to adversely affect several listed species—including the Carolina northern flying squirrel, gray bat, and Appalachian elktoe mussel—which will require formal consultation pursuant to the Endangered Species Act ("ESA").

Thank you for your consideration of this letter.

I. Legal Background

a. NEPA

NEPA was enacted in 1969 "to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man."[1] Federal agencies must fulfill NEPA's mandates "to the fullest extent possible."[2] NEPA has twin aims: "First, it places upon an agency the obligation to consider every significant aspect of the environmental impact of a proposed action. Second, it ensures that the agency will inform the public that it has indeed considered environmental concerns in its decisionmaking process."[3]

NEPA's objectives are "realized through a set of 'action-forcing' procedures that require that agencies take a 'hard look'" at the environmental consequences of major federal actions.[4] If an agency concludes that a proposal for major federal action " will or *may*" have significant effects on the quality of the human environment, it must prepare an Environmental Impact Statement ("EIS").[5] This "detailed statement" must disclose the "reasonably foreseeable environmental effects of the proposed agency action" and consider "a reasonable range of alternatives to the proposed agency action," among other things.[6]

If the need for an EIS is unclear—i.e., if it is uncertain whether the major federal action will significantly affect the quality of the human environment—an agency may first prepare an Environmental Assessment ("EA").[7] If the EA concludes that the proposal is likely to have significant effects, the agency must prepare an EIS.[8] If the EA reveals that the action would not have significant effects, then the action could proceed with a Finding of No Significant Impact.[9] But if the evidence before the agency is inadequate to conclude that a major federal action will not have a significant effect on the environment, the agency must prepare an EIS.[10] 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."[11]

When completing an EA or EIS, agencies are obligated to analyze the "environmental impacts of the proposed action" as well as any "reasonable alternatives."[12] Environmental impacts or effects include reasonably foreseeable direct, indirect, and cumulative effects.[13] "Direct effects . . . are caused by the action and occur at the same time and place."[14] "Indirect effects . . .

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[1] 42 U.S.C. § 4321.
[2] *Id.* § 4332.
[3] *Balt. Gas & Elec. Co. v. Nat. Res. Def. Council, Inc.*, 462 U.S. 87, 97 (1983) (internal citation and quotation marks omitted).
[4] *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 350 (1989) (citation omitted).
[5] 42 U.S.C. § 4332(C); 40 C.F.R. § 1508.1(b) (emphasis added).
[6] 42 U.S.C. § 4332(C).
[7] 40 C.F.R. § 1501.5(a).
[8] *Id.* § 1501.3(a)(3).
[9] *Id.* § 1501.6.
[10] *See id.* § 1508.1(b).
[11] *Save the Yaak Comm. v. Block*, 840 F.2d 714, 717 (9th Cir. 1988) (internal citations omitted).
[12] 40 C.F.R. §§ 1501.5(c), 1502.16(a)(1).
[13] *Id.* § 1508.1(g).
[14] *Id.* § 1508.1(g)(1).

are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems."[15] Cumulative effects "result from the incremental effects of the action when added to the effects of other past, present, and reasonably foreseeable actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time."[16]

b. ESA

ESA Section 7(a)(2) commands each federal agency to ensure "that any action authorized, funded, or carried out by such agency . . . is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species."[17] To police the substantive duty to avoid jeopardizing listed species, the ESA and its implementing regulations set out a detailed consultation process to assess the effects of proposed agency actions.[18]

To start, a federal agency proposing to take some action—here, the Forest Service—must request information from the Fish & Wildlife Service concerning whether any species that has been listed as endangered or threatened (or is proposed to be listed) is present in the "action area."[19] If the Fish & Wildlife Service determines that listed species may be present, the Forest Service must then determine whether the "action may affect listed species or critical habitat."[20] "Any possible effect, whether beneficial, benign, adverse, or of an undetermined character," satisfies the "may affect" standard.[21] If the action may affect a listed species or critical habitat, the Forest Service must engage in "formal consultation" with the Fish & Wildlife Service,[22] unless the Forest Service further determines, with the written concurrence of the Fish & Wildlife Service, "that the proposed action is not likely to adversely affect any listed species or critical habitat."[23]

II. The Draft EA's NEPA analysis is inadequate

We acknowledge the work that the Forest Service put into its environmental analysis of the Project. Portions of the Project should benefit both the forest and the surrounding area. For example, we wholeheartedly approve of the Forest Service's plans to boost recreation by creating a new parking lot and designating new trails, as well as its efforts to improve water quality by adding new culverts and aquatic organism passages. However, other portions of the Project—

[15] *Id.* § 1508.1(g)(2).
[16] *Id.* § 1508.1(g)(3).
[17] 16 U.S.C. § 1536(a)(2).
[18] *Id.*; 50 C.F.R. § 402.1.
[19] 16 U.S.C. § 1536(c)(1); 50 C.F.R. § 402.12(c).
[20] 50 § 402.14(a).
[21] *California ex rel. Lockyer v. U.S. Dep't of Agric.*, 575 F.3d 999, 1018–19 (9th Cir. 2009) (emphasis original) (quoting Interagency Cooperation—Endangered Species Act of 1973, as Amended, 51 Fed. Reg. 19,926, 19,949 (June 3, 1986) (final rule)).
[22] 50 C.F.R. § 402.14(a).
[23] *Id.* § 402.14(b)(1) (emphasis added).

including the extensive commercial timber harvests proposed in mesic forests—remain problematic. And as detailed below, parts of the Forest Service's project-level analysis for Lickstone fall well short of the bar set by NEPA, NFMA, and other statutes and regulations. The following issues must be corrected and the Draft EA must be reissued for public comment.

a. The Draft EA fails to consider the full range of reasonable alternatives.

Federal regulations require the Forest Service to "[e]valuate reasonable alternatives to the proposed action," including the "no action alternative."[24] What "constitutes a reasonable range of alternatives depends on the nature of the proposal and the facts in each case," but must "cover[] the full spectrum of alternatives."[25] This includes alternatives that address "unresolved conflicts concerning alternative uses of available resources."[26] Failure to consider a "viable but unexamined alternative" will render a NEPA analysis inadequate.[27]

Here, the Draft EA only evaluates two alternatives in full: the no-action alternative and the proposed action alternative. These two options reflect an "all or nothing" approach. In essence, they offer choices between two extremes: extensive management or no management; miles of road construction or no roads; hundreds of acres of prescribed fire or no fire. Such extreme options, by their very nature, do not cover the "full spectrum of alternatives."

Instead of adopting an "all or nothing" approach for its alternatives analysis, the Forest Service must develop some reasonable, middle-ground options. These options must address unresolved conflicts that were deferred by the Forest Plan—including the amount of early seral habitat to create in any given project area, how much mesic versus dry forest to manipulate, how much management in old growth will occur, etc. As discussed in greater detail below, we recommend studying—and adopting—the following reasonable alternatives in place of the action alternative:

- An alternative that drops units predominantly located on slopes >35% or on soils with severe or very severe erosion risk;
- An alternative that avoids ground-based logging in areas that are "poorly" suited to said practice;
- An alternative that avoids the necessity of new road construction;
- An alternative that drops units accessed by proposed additions to Forest Service Roads 97U and 97W; and

[24] 40 C.F.R. § 1502.14(a), (c) (2022).
[25] Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations, 46 Fed. Reg. 18,026 (Mar. 23, 1981) [hereinafter "Forty Questions"]. According to the Council of Environmental Quality, this guidance is still current except to the extent it conflicts with regulations promulgated on September 14, 2020.
[26] 40 C.F.R. § 1507.2(h)
[27] *Dubois v U.S. Dep't of Agric.*, 102 F.3d 1273, 1289 (1st Cir. 1996) (quoting *Res. Ltd. v. Robertson*, 35 F.3d 1300, 1307 (9th Cir. 1994)).

- An alternative that avoids creation of early seral habitat in the Middle Prong Addition Inventoried Roadless Area.

b. The Draft EA fails to disclose the influence of timber targets on Project design.

NEPA regulations require the Forest Service to prepare a NEPA study "early enough so that it can serve as an important practical contribution to the decision-making process and *will not be used to rationalize or justify decisions already made*."[28] This ensures that agencies "carefully weigh environmental considerations and consider potential alternatives to the proposed action *before* the government launches any major federal action."[29]

Here, however, the Forest Service has already locked itself into an alternative that will provide timber volume to meet mandated timber targets. According to internal agency documents, the National Forests in North Carolina unit is counting on timber volume from the Project to satisfy timber targets in fiscal years 2025 to 2027.[30] We are aware, furthermore, that before beginning to refine the project through scoping and collaboration, the Forest Service had already determined how much timber volume it is expected to produce.[31] That volumetric expectation has skewed harvest toward mesic stands, steep slopes, and road-inaccessible areas where the logging and associated access will be harmful. However, the Draft EA does not disclose the relationship of the Project to timber targets, nor how project-specific volume targets may have influenced Project design or development.

Those targets may have had a profound impact on the Project. For example, the need to meet mandated timber targets may have influenced the range of reasonable alternatives the agency was willing to consider. Though Conservation Groups proposed several alternatives during scoping, the Forest Service rejected nearly all of them—likely because they did not meet the Forest Service's predetermined need to generate timber volume from this Project. Yet the primary purposes of NEPA are to (1) force agencies to carefully consider their proposals *before* they make a decision; and (2) allow the public to actually participate in the decision-making process. Both of those aims are frustrated if the Forest Service has already decided that it will use the Project to satisfy timber-volume-sold targets before completing the NEPA process. If the agency's discretion to design and choose a Project alternative is being influenced by the need to meet timber targets, then it must disclose that information to the public.[32] The Forest Service cannot screen out otherwise reasonable alternatives based on a hidden purpose and need.

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[28] 40 C.F.R. § 1502.5 (emphasis added); *see also Metcalf v. Daley*, 214 F.3d 1135, 1145 (9th Cir. 2000) (agency violated NEPA by agreeing to a support a gray whale harvest quota before studying the impacts of that decision in an EA).
[29] *Lands Council v. Powell*, 395 F.3d 1019, 1026 (9th Cir. 2005) (emphasis added).
[30] *See, e.g.*, Email from Matthew Keyes to Nicolas Larson (June 15, 2023).
[31] FSM 2432.15 (requiring Forest Service staff to certify the volume of timber for a timber sale at "Gate 1," before a NEPA analysis is conducted at "Gate 2").
[32] *See N.C. Wildlife Fed'n v. N.C. Dep't of Transp.*, 677 F.3d 596, 604–05 (4th Cir. 2012) ("When relevant information "is not available during the [NEPA] process and is not available to the public for comment[,] . . . the [NEPA] process cannot serve its larger informational role, and the public is deprived of [its] opportunity to play a role in the decision-making process.").

c. The Draft EA's action alternative is based on a series of false or misleading assumptions.

In addition to neglecting to analyze a full range of reasonable alternatives or disclose the influence of timber targets on the selection of its action alternative, the Draft EA relies on a series of false or misleading assumptions in crafting its action alternative.

First, the Draft EA falsely claims that the Project area is the "only option for active forest management within the" North Slope Geographic Area ("North Slope GA").[33] Because that is the case, the argument goes, the agency must conduct extensive vegetation management within the Project area to ensure that the North Slope GA is approaching the natural range of variation ("NRV"). However, the Project area is not the only portion of the North Slope GA that allows active forest management. Several sizable blocks of Matrix forest are located in the eastern portion of the North Slope GA near Mount Pisgah.[34] The Forest Service never accounts for these areas during Project design.

Second, even if the Project area *were* the only candidate for active management in the North Slope GA, the Draft EA is incorrect to suggest that it must achieve NRV at that limited scope.[35] In fact, during Forest Plan revision, the Forest Service repeatedly stated that NRV "*does not constitute a management target*"[36] and that NRV "should not be evaluated at the project level" but instead should be evaluated "at the forest level" or "forestwide scale."[37] That is because NRV is inherently a landscape-scale measure. Moreover, the agency explicitly recognized that "it may be appropriate to locally deviate from the NRV" in "situations when restoration of the terrestrial ecosystems interacts with goals and objectives of other resources or needs to address changes required for ecosystem adaptability." Put simply, there is no Forest Plan standard or guideline to meet NRV within the Forest Service's "Geographic Areas," including the North Slope GA, and the Forest Service is incorrect to suggest that it must.

Third, even if such a standard or guideline existed, it would be arbitrary and capricious because the Forest Service's "Geographic Areas" are not ecologically relevant. According to the Forest Service, these areas are defined based on "scenic character and public use"—not hydrology, ecology, or biology.[38] The North Slope GA is a prime example. Although the North Slope GA purports to comprise the "North Slope" of the Balsam Range draining to the Pigeon River, it does not include all national forest lands on the north slope. Instead, it arbitrarily cuts out a sizeable portion of the north slope of the Pisgah Ridge containing Sam Knob and Black Balsam—an area which happens to contain thousands of acres of early seral habitat. The Forest Service should decline to make management decisions based on arbitrarily drawn boundaries like the North Slope GA. Instead, if the agency wishes to narrow the scope of its analysis, it should focus on an

[33] Draft EA at 42.
[34] *See* Final Environmental Impact Statement for the Land Management Plan (2023) at App'x I-5 [hereinafter "FEIS"].
[35] *See* Draft EA at 42–50 (assessing Project success in achieving NRV within the NSGA).
[36] U.S. Forest Serv., Final Land Management Plan for the Nantahala and Pisgah National Forests at 50 (2023) (emphasis added) [hereinafter "Forest Plan"].
[37] *Id.* at 51, 53
[38] *Id.* at 146.

ecologically appropriate analysis area like the Upper Pigeon River HUC 10 watershed. To be sure, the Plan identifies GAs in order to recognize their unique character, needs, and opportunities. But it does not make them the analysis boundary for ecological analysis. Nor could GAs serve that role, since NEPA requires consideration of effects no matter whether they occur in an arbitrary boundary.

Fourth, the Draft EA is wrong to suggest that there are "zero acres" of young forest in the Project area.[39] As Conservation Groups explained in their scoping comments, Conservation Groups' LiDAR analysis of the Upper Pigeon River Watershed shows a total of approximately 2,900 acres of existing early seral habitat, with a single patch of approximately 2,222 acres spanning Flat Laurel Creek, Black Balsam, Graveyard Fields, and beyond. This totals 7% of the 41,099 acre HUC 10 Upper Pigeon Watershed. This analysis also shows that the North Slope GA—including portions of the Project area—has approximately 1,145 acres of early seral habitat, comprising 3% of the 37,914 acres of Forest Service land in the North Slope GA. This number is likely an underestimate, because it excludes early seral patches smaller than a half-acre in size. The Draft EA does not address the presence of these small gaps anywhere in its analysis. Yet in the FEIS for the Forest Plan, the Forest Service acknowledged that gaps between 0.25 and 0.5 acres do provide young-forest habitat.[40] The Draft EA also never explains how there can be "zero acres" of young forest in the Project area while simultaneously recognizing that said Project area contains "several existing wildlife openings" and "open/ruderal habitats."[41] The Forest Service cannot justify creating thousands of acres of young forest in the Project area by ignoring existing small gaps, wildlife openings, and other early seral habitat that already exist in the Project area and the North Slope GA generally.

Fifth, even if there were no young forest within the Project area, it is misleading to suggest that the young forest that will be created by the Project is ecologically appropriate. As Conservation Groups repeatedly explained to the Forest Service during the Forest Plan revision process, patch size and location matter.[42] The Forest Service is trying to use NRV to say how much total early seral habitat is needed in this GA, but fails to consider that NRV limits the distribution and patch size of early seral habitat *by ecozone*. Thus, the Project reproduces in miniature the Forest Plan's central legal error. Most of the logging for the Project is slated to occur in highly productive ecosystems like rich cove and mesic oak forests. According to the Forest Service's own analysis, disturbance in cove and mesic forests typically occurs through the creation of small gaps pockmarking the canopy rather than the kinds of large patches harvest creates, which are more characteristic of other forest types. For example, the Forest Service has recognized that cove forests are "generally stable" and "subject to smaller-scale natural disturbances."[43] Disturbance in these cove forests within their NRV, according to the Forest Service, consists "primarily [of] single tree fall gaps, around 1/8 acre," with "rarer 15–20 acre wind-blown areas."[44] But the Project will create *571 acres* of large patches that should be "rare" in the rich and acidic cove ecozones. At the same time, the Project proposes creating *zero* acres of regeneration through small gaps (i.e., 1/8 of an

[39] Draft EA at 44.
[40] FEIS at 3-122 to 3-123; FEIS App'x D at 56.
[41] Draft EA at 23.
[42] *See generally* S. Env't L. Ctr. et al., Notice of Objection to the Revised Land Management Plan for the Nantahala and Pisgah National Forests (Mar. 22, 2022) [hereinafter "Objection"].
[43] FEIS at 3-162.
[44] Forest Plan at 57–58.

acre or less) that are common as part of these cove ecozones' NRV. Unless the agency revises its Forest Plan to set limits on the amount of large-patch regeneration harvest that would occur in mesic forest types, the agency will continue to propose inappropriate large-patch logging in these ecozones, resulting in continued departure from ecological integrity. To be clear, this is not a matter of whether total acres of early seral habitat in mesic ecozones exceeds NRV during a ten-year period; it is a matter of whether there are too many large patches relative to small gaps. The Project's large-patch creation will drive the mesic ecozones out of whack relative to NRV long before NRV is exceeded in terms of total acres.

Sixth, the Draft EA misleadingly suggests that there is "no known old growth" in the Project area.[45] This is problematic for several reasons. As an initial matter, the Forest Service has not surveyed for old growth in the Project area because looking for old growth was not a priority for the agency under the old plan, and there is no requirement in the Forest Plan that it do so. As a result, the assertion that there is no "known" old growth in the Lickstone Project area carries little weight. What's more, the Forest Service's own FS VEG database indicates that there *is* old growth in the Project area's northwest corner. That same database also indicates that there are several other locations that could qualify as old growth as well. The Forest Service must address these impacts in a revised EA.

Seventh, the Draft EA misleadingly suggests that there are no proposed treatments in areas of potential old growth. According to the Draft EA, "[t]here are no proposed actions being considered in forest currently greater than 120 years old within the Lickstone project area."[46] Even if that is true, it ignores the fact that the Project purports to authorize timber harvests through 2045, with additional management activities stretching for up to 15 years after that.[47] So while some of the proposed stands may not be old growth *now*, they may be old growth by the time the Project wraps up. In fact, the Draft EA expressly recognizes this possibility. Specifically, it notes that 2035 and 2045 midstory treatments, stand improvements, and "other" treatments will take place in "Potential old growth."[48] The Forest Service cannot say there will be no impacts to old growth when it is planning on conducting vegetation management in potential old growth. It must analyze how its planned treatments in 2035 and 2045—not just treatments planned in 2025—will impact potential old-growth resources. It also must analyze how its planned treatments in potential old growth will comply with the proposed National Old Growth Amendment.[49]

d. <u>The Draft EA will become stale long before some of its planned activities are completed.</u>

NEPA analyses do not have an explicit expiration date. But at some point, all NEPA analyses become "too stale to carry the weight assigned to [them]."[50] For that reason, the Council on Environmental Quality ("CEQ") has explained that, "[a]s a rule of thumb," NEPA studies "that

[45] Draft EA at 95.
[46] *Id.* at 49.
[47] *See infra*.
[48] Draft EA at 66, 68, 70.
[49] 88 Fed. Reg. 88,042 (Dec. 20, 2023).
[50] *N. Plains Res. Council, Inc. v. Surface Transp. Bd.*, 668 F.3d 1067, 1086 (9th Cir. 2011).

are more than 5 years old should be carefully reexamined to determine if the criteria in [40 C.F.R. §] 1502.9 compel preparation of an [EA or] EIS supplement."[51]

According to the Forest Service, Project activities will extend far beyond that five-year rule of thumb. The Draft EA notes that initial treatments are scheduled to begin in 2025, with subsequent entries in 2035 and 2045.[52] "Stand improvement release and cleaning may be necessary 7 to 15 years" following these entries "to improve species composition and growth."[53] Which means that the Forest Service will be relying on a 2024 EA for management activities through *2060*.

To the extent the Forest Service is suggesting that its 2024 EA can serve as the NEPA document for management activities through 2060 (and possibly beyond), we believe it is mistaken. In several decades' time, it is almost certain that the 2024 EA's findings will be too stale to rely on.[54] At that point, there will be hundreds of acres of potential old growth in the Project area, the status of listed species may have changed, road conditions may have deteriorated, and stream temperatures will likely have increased, to name a few possible outcomes. The Forest Service must address long-term impacts to these and other resources if it plans on relying on the decision notice for the Project for more than thirty-five years. By that time, the agency will also have blown well past the five-year "rule of thumb" nearly eight times over. Courts of Appeal have rejected NEPA analyses as arbitrary and capricious for far less.[55] NEPA supplementation, at the very least, will be required.

We recommend that the Forest Service adjust its proposal to avoid such concerns. We do not mean to suggest that the agency should rush to complete its proposed activities in a shorter timeframe. Instead, we believe that it would be prudent for the agency to narrow its proposal by eliminating some of the more problematic actions described above and below. For example, the agency could dispense with logging slopes with severe and very severe erosion risks. This would not only allow the agency to avoid preparation of an EIS but would also help the agency complete its target prescriptions in a shorter timeframe—thereby avoiding any staleness concerns that might arise.

e. <u>The Draft EA fails to adequately assess impacts to Inventoried Roadless Areas.</u>

The Forest Service proposes several management activities in the Middle Prong Addition Inventoried Roadless Area ("IRA"). We believe that some of these proposed activities are consistent with the 2001 Roadless Rule, including vine control, preferred tree species release, and

[51] Forty Questions at 24. *See also Friends of Animals v. U.S. Bureau of Land Mgmt.*, No. 3:15-CV-0057-LRH-WGC, 2015 WL 555980, at *3 (D. Nev. Feb. 11, 2015) (rejecting agency reliance on a five-year-old EA after circumstances changed); *Nat'l Wildlife Fed'n v. Nat'l Marine Fisheries Serv.*, 184 F. Supp. 3d 861, 936 (D. Or. 2016) ("Notably, the Council of Environmental Quality, which promulgates the NEPA regulations, has emphasized that NEPA documents more than five years old should be 'carefully reexamined' for supplementation.").
[52] Draft EA at 50, 61.
[53] *Id.* at 60.
[54] *N. Plains*, 668 F.3d at 1086.
[55] *See id.* (finding that ten-year-old data was too stale to sustain a NEPA analysis); *Lands Council*, 395 F.3d at 1031 (finding that six-year-old data, without updated habitat surveys, was too stale).

red spruce restoration.[56] However, the Draft EA does not adequately justify the Forest Service's plans to create wildlife openings and other early seral habitat in the IRA.

The Roadless Rule flatly prohibits timber harvest in inventoried roadless areas unless the Forest Service determines one of the following circumstances exists: (1) timber harvest of "generally small diameter timber" is needed to improve threatened, endangered, or rare species habitat or maintain or restore the characteristics of ecosystem composition and structure; (2) timber harvest is "incidental to the implementation of a management activity not otherwise prohibited by" the Roadless Rule; (3) timber harvest is "needed and appropriate for personal or administrative use"; or (4) roadless characteristics "have been substantially altered in a portion of an inventoried roadless area due to the construction of a classified road and subsequent timber harvest" that "occurred after the area was designated an inventoried roadless area and prior to January 12, 2001."[57]

The Draft EA does not adequately justify the Forest Service's plans to create wildlife openings and early seral habitat in units 81, 107, and 108 within the Middle Prong IRA.[58] The Draft EA suggests that these treatments would restore Carolina northern flying squirrel habitat.[59] It also promises that "no large diameter trees would be cut," consistent with the Roadless Rule.[60] However, as Conservation Groups explained during scoping, the proposed openings near Double Spring Gap serve no known listed species, and in fact could *negatively* impact current or future habitat of Carolina northern flying squirrel. As the Draft EA acknowledges elsewhere, the squirrel prefers mature red spruce forests with abundant snags.[61] Instead of promoting this habitat in these units, the Draft EA proposes cutting red spruce to create the Forest Service's desired early seral habitat.[62] The Draft EA never explains how these openings will benefit the squirrel. Cutting large openings in a globally imperiled spruce-fir community for the general goal of creating early seral habitat in not consistent with the Roadless Rule.

f. <u>The Draft EA fails to adequately explain why it will conduct most of its prescribed burning in non-fire-adapted ecozones.</u>

The Draft EA describes the Forest Service's plans to conduct repeated prescribed burns across hundreds of acres in the Project area.[63] According to the Draft EA, these burns will "mostly" target "fire adapted ecosystems"[64] and are needed to "create and maintain open forest conditions and move structure class towards the natural range of variation" by "help[ing] restore species distribution that is appropriate for the [targeted] ecological zone[s]."[65] Conservation Groups generally do not oppose prescribed fires in fire-adapted ecozones. However, the majority of the acres proposed for burning—758 acres, or 56% of the total acreage to be burned—will occur in

[56] *See* Draft EA at 75.
[57] 66 Fed. Reg. 3244, 3273 (Jan. 12, 2001).
[58] Draft EA at 11.
[59] *Id.*
[60] *Id.*
[61] *Id.* at 99.
[62] *Id.* at 11.
[63] *Id.* at 7.
[64] *Id.* at 52.
[65] *Id.* at 53.

ecozones that are *not* adapted to fire, including rich coves, northern hardwood forests, acidic coves, and spruce-fir forests.[66] We understand the intent of the Project is not to burn these mesic ecozones, but that some burning of these areas may be necessary to create adequate firelines. If that is true, we ask that the Forest Service (1) make this explicit in its revised EA and (2) commit to not starting the ignition of fires within mesic ecozones.

g. The Draft EA consistently fails to consider the compounding effects of climate change.

NEPA regulations require agencies to consider the "cumulative effects" of their actions.[67] Cumulative effects are currently defined as "effects on the environment that result from the incremental effects of the action when *added* to the effects of other past, present, and reasonably foreseeable actions."[68] This includes the reasonably foreseeable effects of climate change.[69]

As the FEIS for the Forest Plan recognized, climate change is expected to take an increasingly heavy toll on the Project area. Among other things, climate change is expected to increase daily maximum and minimum temperatures, increase the average number of days per year above 90 °F, decrease the average number of days per year with lows below freezing, increase precipitation levels, shift species' ranges, restrict the ability of species to move into suitable habitat, increase non-native invasive species, alter soil moisture regimes, potentially increase flooding and landslides as well as periods of drought, increase the risks of wildfire, increase water temperatures, and decrease water oxygen content, among many other effects.[70]

These effects will influence the resource values the Forest Service is trying to address with the Project. For example, increased flooding, precipitation, and landslides caused by climate change will increase sedimentation and erosion concerns that will be exacerbated by the Project. Climate change–driven increases in water temperatures could also act synergistically with vegetation treatments that remove shade trees and increase the amount of sunlight hitting streams, further impacting already-stressed brook trout. The best available science also suggests that species like listed bats will shift their ranges in response to climate change to favor places like the Southern Appalachians[71]—complicating the Forest Service's plans to conduct extensive timber harvests in locations like the Project area that will reduce valuable roosting and foraging habitat.

These compounding effects are not addressed anywhere in the Draft EA. Though the Draft EA includes a section on "Climate Change," this section only discusses impacts to carbon storage and emissions—not the local compounding impacts of climate change.[72] And in section after section, the Draft EA reports that "there are no cumulative effects" impacting rare species and

[66] *See* Forest Plan at 99 ("The following ecozones are not considered fire-adapted, and fire return intervals exceed multiple planning cycles: Northern Hardwood; Rich Cove; Acidic Cove; Floodplain Forest; Spruce Fir.").
[67] 40 C.F.R. §§ 1501.3, 1508.1(g)(3) (2022).
[68] *Id.* § 1508.1(g)(3) (emphasis added).
[69] *Cf. Appalachian Voices v. U.S. Dep't of Interior*, 25 F.4th 259, 271 (4th Cir. 2022) (holding that "[i]t is clear . . . that climate change typically must form part of the [cumulative-effects] analysis in some way").
[70] FEIS at 3-9 to 3-20.
[71] U.S. Fish & Wildlife Serv., Programmatic Biological Opinion on the Revised Forest Plan for the Pisgah and Nantahala National Forests at 35, 39 (2022).
[72] *See* Draft EA at 36–40.

other resources apart from the Project.[73] By failing to consider climate change as a cumulative effect, the Draft EA fails to take a "hard look" at the problem, in violation of NEPA.

h. The Draft EA fails to adequately consider the Project's impacts on carbon storage and sequestration.

As explained above, a proper cumulative-effects analysis requires an agency to consider "the incremental effects of the action when added to the effects of other past, present, and reasonably foreseeable actions."[74] This includes the reasonably foreseeable effects of climate change.[75] It also includes the effects "from individually minor but collectively significant actions taking place over a period of time"[76]—like the impacts of the Forest Service's many timber sales on carbon storage.

To its credit, the Forest Service includes a "Carbon and Greenhouse gas emissions" section in its Draft EA. This analysis attempts to place the Project within the larger context of Forest Service action and evaluate its impact on the Nantahala and Pisgah National Forests' important roles as carbon sinks. However, in its attempt to consider the effects of the Project alongside the cumulative effects of other similarly situated timber projects, the Draft EA misrepresents data and contains flawed analysis.

As an initial matter, the Draft EA mistakenly fails to apply CEQ's 2023 guidance on carbon emissions. The Draft EA claims that this guidance "grants agencies the discretion to decide whether to apply the guidance to NEPA analyses that were in progress when the guidance was issued," and that since the "interim CEQ guidance was published after the initiation of this EA," the Draft EA "will rely on former iterations of climate change guidance."[77] This misconstrues the 2023 guidance document. That document explains that while "CEQ does not expect agencies to apply this guidance to concluded NEPA reviews and actions for which a final EIS or EA has been issued," agencies "*should* consider applying this guidance to actions in the EIS or EA preparation stage if this would inform the consideration of alternatives or help address comments raised through the public comment process."[78] Because this guidance was issued long before the Forest Service issued its Draft EA and because it would certainly help "inform the consideration of alternatives" or help the agency address Conservation Groups' comments, the Forest Service should apply it to the Lickstone Project. At the very least, the Forest Service should explain why it does not believe the 2023 guidance would be helpful to its analysis.

At any rate, the 2023 guidance is CEQ's interpretation of *what the NEPA statute itself requires and has always required*—it is not a gloss that the Forest Service can ignore. According to CEQ, NEPA requires agencies to, among other things: (1) quantify the reasonably foreseeable greenhouse gas emissions of the proposed action and any alternatives; (2) provide appropriate context for those emissions; and (3) analyze reasonable alternatives that would reduce emissions

[73] *Id.* at 26, 27, 100, 102, 104, 129.
[74] 40 C.F.R. § 1508.1(g)(3).
[75] *Appalachian Voices*, 25 F.4th at 271 (holding that "[i]t is clear . . . that climate change typically must form part of the [cumulative-effects] analysis in some way").
[76] *Id.*
[77] Draft EA at 36–37.
[78] 88 Fed. Reg. 1196, 1212 (Jan. 9, 2023) (emphasis added).

and identify available mitigation measures to compensate for climate effects.[79] Critically, "NEPA requires more than a statement that emissions from a proposed Federal action or its alternatives represent only a small fraction of global or domestic emissions. Such a statement merely notes the nature of the climate change challenge, and is not a useful basis for deciding whether or to what extent to consider climate change effects under NEPA."[80]

Held up against the appropriate statutory standard, the Draft EA's carbon analysis falls flat. To start, the Draft EA fails to quantify expected emissions from the Project. That failure is unlawful.[81] Instead of quantifying emissions, the Draft EA commits the critical error that CEQ warns against and merely asserts that the Project "might temporarily contribute an extremely small quantity of [greenhouse gas] emissions relative to national and global emissions."[82] As CEQ has explained, this is not helpful context—noting that "diverse individual sources of emissions each make a relatively small addition to global atmospheric [greenhouse gas] concentrations that collectively have a large effect" merely describes "the nature of the climate change challenge, and is not a useful basis for deciding whether or to what extent to consider climate change effects under NEPA."[83]

The Draft EA also errs by failing to consider cumulative effects on carbon emissions from other Forest Service timber harvest projects. Such an analysis is required by NEPA.[84] Several members of the Conservation Groups are currently litigating this precise issue in the District of D.C., alleging that similar failures to consider cumulative carbon effects violates NEPA.

Instead of dismissing the carbon impacts of the Project as a drop in the bucket, the Forest Service should have quantified emissions and placed them in their appropriate context. For example, the agency should have applied "the best available estimates" of the social cost of carbon "to the incremental metric tons of each individual type of [greenhouse gas] emissions."[85] In addition, the Forest Service should have explained "how the proposed action and alternatives would help meet or detract from achieving relevant climate action goals and commitments," including climate goals set by the Forest Service and Department of Agriculture.[86] Finally, the Forest Service should have considered an alternative that resulted in reduced carbon emissions—perhaps using less extractive harvesting methods—and identified mitigation measures in the Project to compensate for any such emissions. For example, creating large-patch ESH in the drier ecozones where it is ecologically appropriate would have contributed just as much to plan objectives as the proposal while resulting in lower carbon emissions. The only tradeoff would be lower timber volume, which again shows the extent to which timber targets are driving negative outcomes at the local level. The agency's failures to compare the carbon benefits of reasonable alternatives violates NEPA.

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[79] *Id.* at 1200–01.
[80] *Id.* at 1201.
[81] *WildEarth Guardians v. Zinke*, 368 F. Supp. 3d 41, 69 (D.D.C. 2019) (failure to quantify emissions using readily available data was arbitrary and capricious).
[82] Draft EA at 40.
[83] 88 Fed. Reg. at 1201.
[84] *See* 40 C.F.R. § 1508.1(g)(3).
[85] 88 Fed. Reg. at 1202.
[86] *Id.* at 1203.

Even if the Forest Service were correct that NEPA does not require quantification of emissions, appropriate context, and carbon mitigation measures, the carbon analysis the agency did provide would still fall short of NEPA's "hard look" requirement, for several reasons.

To start, the Draft EA presents incorrect data. It claims that harvesting has "affected less than 0.25 percent of the forested area annually" from 1990 to 2011.[87] However, the cited report states that this number for the Southern Region, which includes North Carolina, is actually 0.5 percent of the forested area from 1990–2011.[88] This is twice as much area per year as was initially indicated. Furthermore, the Draft EA also indicates that carbon losses from National Forest System lands "have been relatively small compared to the total amount of carbon stored in the forest, with from 1990 to 2011 equivalent to about 0.9 percent of non-soil carbon stocks on the [National Forests in North Carolina]."[89] That is not the right number. According to the report—which describes non-soil carbon stocks in Forest Service Regions writ large, not the Pisgah National Forest—the number is not 0.9 percent of non-soil carbon stocks, but rather a *2.4 percent* reduction in the regional non-soil carbon stocks.[90] Again, this is a difference of more than double what was initially indicated. Finally, when the Draft EA attempts to place the Project in the context of a general increase in forested land,[91] it again misstates the information presented in the cited report. The Draft EA states that "[f]rom 2005 to 2018, there has been a 13% increase in annual carbon sequestered by the forestry sector" in North Carolina.[92] The category in the referenced report is broader than just forestry. It includes "Land Use, Land-Use Change, and Forestry."[93] The "Forest Carbon Flux" category applies more narrowly to management practices which impact forests.[94] The percent change from 2005 to 2018 for this category is only 4%, and measuring from 1990, it actually shows a decrease in the annual amount of carbon removed from the atmosphere by forests.[95]

Beyond the data itself, the Forest Service's analysis of the impact of forest regeneration and of harvested wood as a substitute material is flawed. The Draft EA suggests that "any initial carbon emissions from this proposed action would be balanced and possibly eliminated as the stand regenerates, because the remaining trees and newly established trees typically have higher rates of growth and carbon storage."[96] This statement is misleading. Carbon released through timber harvest may eventually be re-sequestered by new forests that grow in place of the harvested forest. But even in the best-case scenario, forests do not re-sequester the carbon emitted during timber harvest for multiple decades to centuries at best[97]—certainly not within the 20-year analysis period

[87] Draft EA at 37.
[88] U.S. Forest Serv., *Assessment of the Influence of Disturbance, Management Activities, and Environmental Factors on Carbon Stocks of United States National Forests* at 38 (Nov. 2019), https://www.fs.usda.gov/rm/pubs_series/rmrs/gtr/rmrs_gtr402.pdf [hereinfter "Carbon Stocks Report"].
[89] Draft EA at 37.
[90] Carbon Stocks Report at 39.
[91] Draft EA at 39.
[92] *Id.* at 40.
[93] N.C. Dep't of Env't Quality, *North Carolina Greenhouse Gas Inventory* at 32 (Jan. 2022).
[94] *Id*.
[95] *Id*.
[96] Draft EA at 38.
[97] *See* Tara Hudiburg et al., *Meeting GHG Reduction Targets Requires Accounting for All Forest Sector Emissions*, 14 Env't Rsch. Letters (2019) (noting that carbon removed from old-growth forests, for example, will not be fully replaced for hundreds of years—"and cannot be recovered [ever] if current management practices continue").

in the Draft EA.[98] Furthermore, achieving emissions reductions is highly time critical. The Biden Administration has set a target of "net-zero emissions economy-wide by no later than 2050."[99] It is inadequate to point to eventual regeneration of a critical source of carbon sequestration, when the existing forest is sequestering carbon now. The possibility of breaking even on carbon emissions decades or centuries later is so remote as to be irrelevant.

In addition, the Draft EA's reliance upon substitution effects is misguided and unsupported. The Draft EA suggests that harvested wood can sequester carbon for long periods when it is substituted for certain building materials or it can be used to substitute for fossil fuels in energy generation.[100] The Forest Service's own data about carbon remaining in primary wood products demonstrates how little harvested wood is stored for long periods of time.[101] A decade after harvest, 57% of the carbon stored in the original forest—which likely took many decades or centuries to sequester—has been released to the atmosphere. Carbon emissions associated with the timber sale continue increasing over time as wood products are disposed so that fifty years post-sale, 70% of the carbon once stored in the harvested forest has been released to the atmosphere. After fifty years, only 12% of the carbon in the harvested forest is being stored in in-use wood products. The reality for energy generation from biomass is even worse. "Since in general woody biomass is less energy dense than fossil fuels, and contains higher quantities of moisture and less hydrogen, at the point of combustion burning wood for energy usually emits more greenhouse gases per unit of energy produced than is the case with fossil fuels."[102]

The Forest Service is relying on research suggesting that regrowth and substitution may under certain circumstances offset some carbon emissions. But it has not provided any basis to conclude that those circumstances are present here. Put simply, the Draft EA's carbon analysis contains several glaring omissions. And what analysis it does provide is flawed.

i. <u>The Draft EA fails to adequately consider impacts from nonnative invasive plants.</u>

Executive Order 13751 requires the Forest Service to "refrain from authorizing, funding, or implementing actions that are likely to cause or promote the introduction, establishment, or spread of invasive species," unless it publicly determines that (1) "the benefits of such actions clearly outweigh the potential harm caused by invasive species" and (2) "all feasible and prudent measures to minimize risk of harm will be taken in conjunction with the actions."[103] The Draft EA expressly recognizes that the Project will promote the introduction or spread of non-native invasive plants ("NNIP"), but claims that there "would be no significant adverse effects" due to Project design criteria and "ongoing weed monitoring and treatment."[104] However, Executive Order 13751

[98] Draft EA at 37.
[99] Executive Order 14057, 86 Fed. Reg. 70,935 (Dec. 8, 2021).
[100] Draft EA at 38.
[101] *See* U.S. Forest Serv., *Assessment for the Nantahala and Pisgah National Forests* at 83 (2014).
[102] Duncan Brack, *Woody Biomass for Power and Heat Impacts on the Global Climate* 14 (February, 2017), https://www.chathamhouse.org/sites/default/files/publications/research/2017-02-23-woody-biomass-global-climate-brack-final2.pdf. *See also* S. Env't L. Ctr., Comments on the Department of Treasury's Treatment of Forest-Derived Biomass Electricity Under Section 45Y (Nov. 4, 2022) (explaining that burning wood emits more carbon dioxide than fossil fuels per unit of electricity generated).
[103] Executive Order 13751, 81 Fed. Reg. 88,609 (Dec. 5, 2016).
[104] Draft EA at 31–35.

does not prohibit "significant adverse effects" from NNIP—it flatly prohibits actions that cause or promote the spread of invasive species, period. The revised EA must more clearly address the requirements of Executive Order 13751 in its analysis.

It is not clear that the Forest Service can make the showing required by Executive Order 13751. To start, it is unclear whether the benefits of the Project "clearly outweigh" the potential harm caused by NNIP. As the Draft EA recognizes, NNIP can "dominate local communities" and are considered a "high priority for treatment across the Pisgah National Forest."[105] The Draft EA recognizes that the vegetation treatments proposed for the Project "would generate at least 2,711 acres of NNIP suitable habitat" and that the risk of NNIP spread associated with the majority of these treatments is "high."[106] Because most of these treatments will take place in mesic forest ecozones, there is an even "higher likelihood of invasion."[107] Put simply, the potential harm—spreading NNIP to 2,711 acres of high-value forest—is very high.

The Draft EA suggests this harm is mitigated by design elements in the Project. However, it is not clear that "*all* feasible and prudent measures" are being taken to minimize the risk of invasive spread. For example, the Draft EA notes that NNIP should be treated prior to timber harvest if "time and funding [are] available."[108] It does not *require* pretreatment as a mitigation measure—contrary to newly promulgated NEPA regulations.[109] The Draft EA also suggests that stands should be treated for at least two years post timber harvest,[110] but does not specify who will be responsible and whether this requirement is enforceable. Furthermore, the Forest Service knows that it lacks the capacity to deal with proliferating invasives, and the Forest Plan declined to ensure that NNIP treatments are occurring commensurate with harvest activities. The Draft EA also suggests that several NNIP "have been specifically planted in the project area for wildlife foraging and cover and for erosion control," but does not affirmatively commit to ending this practice.[111]

Even if the requirements of Executive Order 13751 were met, the agency's NEPA analysis of NNIP is still lacking. As an initial matter, as noted above, the Draft EA fails to assess whether climate change will exacerbate the spread of NNIP or reduce the efficacy of the Project mitigation measures to control them. That failure alone is enough to invalidate the agency's analysis.[112] On a more fundamental level, the Draft EA also presents a false choice—engage in no action and allow current "NNIP infestations . . . [to] continue to spread," or engage in vegetative treatments that increase the spread of NNIP but are also paired with mitigation and control measures that will ultimately "reduc[e] the abundance of NNIP and the spread of NNIP in the project area."[113] In effect, the Draft EA is claiming that it must add *more* NNIP to the Project area before it can then

[105] *Id.* at 33.
[106] *Id.* at 34–35.
[107] *Id.* at 34.
[108] *Id.* at 35.
[109] *See* 40 C.F.R. 1505.2 ("Mitigation shall be enforceable when the record of decision incorporates mitigation and the analysis of the reasonably foreseeable effects of the proposed action is based on implementation of that mitigation.").
[110] *Id.*
[111] Draft EA at 35.
[112] *Cf. Nat'l Wildlife Fed'n v. Nat'l Marine Fisheries Serv.*, 184 F. Supp. 3d 861, 918 (D. Or. 2016) (failure to consider how climate change may "diminish or eliminate the effectiveness of some of the [agency's] habitat mitigation efforts" was arbitrary and capricious).
[113] Draft EA at 35.

mitigate them. The Draft EA fails to persuasively explain why the Forest Service must first further damage the Project area before it can fix it. To be clear, this has never worked before, which is why NNIP are a problem today. There is no basis—not in the Forest Plan and certainly not in Project-level commitments—to ensure a different outcome this time.

The Draft EA's NNIP analysis is also flawed for another reason—its repeated reliance on a 2009 programmatic EA discussing Nantahala and Pisgah National Forest Non-native Invasive Plant Control.[114] According to recent revisions to the NEPA statute, an agency may rely on a programmatic environmental document for up to five years without additional review of the analysis in said document (unless circumstances have changed).[115] However, if the agency intends to rely on a programmatic document that is more than five years old, then it must "reevaluate[] the analysis in the programmatic environmental document and any underlying assumption to ensure reliance on the analysis remains valid."[116]

Here, the Draft EA repeatedly relies on the 2009 programmatic EA as a method to control NNIP without reevaluating the document or its underlying assumptions. A quick review of the document suggests that those assumptions may be out of date. To start, the primary premise of the 2009 programmatic EA is that the herbicide and vegetation management it authorizes is "consistent with the Forest Plan"—the *previous* forest plan.[117] The document does not assess—nor could it assess—whether the herbicide is consistent with the current 2023 Forest Plan. New information also suggests that some of the herbicides authorized in the 2009 programmatic EA may be more harmful than thought at the time. For example, the 2009 EA authorizes use of dicamba, an herbicide that is now understood to drift far beyond the areas where it is applied, harming plants, crops, and listed species. In 2018, the Ninth Circuit vacated EPA's approval of several dicamba-based herbicides, finding EPA had "substantially understated" risks associated with dicamba herbicides.[118] In February 2024, a federal court again vacated the registrations for three dicamba-based weed killers after finding EPA violated FIFRA in approving them for use.[119] These and many other developments[120] in assessing the risks posed by herbicides are not addressed in the Draft EA.[121] The Forest Service cannot continue to rely on the 2009 programmatic EA absent further review.

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[114] *Id.* at 13, 71, 113,
[115] 42 U.S.C. § 4336b(1).
[116] *Id.* § 4336b(2).
[117] U.S. Forest Serv., *Nantahala and Pisgah National Forest Non-Native Invasive Plant Control Decision Notice* at 3 (2009).
[118] *Nat'l Fam. Farm Coal. v. U.S. E.P.A.*, 960 F.3d 1120 (9th Cir. 2020).
[119] *Ctr. for Biological Diversity v. U.S. E.P.A.*, No. CV-20-00555-TUC-DCB, 2024 WL 455047, at *1 (D. Ariz. Feb. 6, 2024).
[120] For example, in 2023 EPA developed an herbicide strategy framework to reduce exposures to federally listed species. *See* U.S. EPA, *Draft Herbicide Strategy Framework to Reduce Exposure of Federally Listed Endangered and Threatened Species and Designated Critical Habitats from the Use of Conventional Agricultural Herbicides* (2023).
[121] The Forest Service impliedly acknowledges this in its Biological Assessment for the Project, which notes that an "update" to the consultation for the 2009 programmatic EA "is forthcoming in fiscal year 2024." U.S. Forest Serv., *Biological Assessment for the Lickstone Project* at 5 (July 2, 2024) [hereinafter "BA"].

j. The Draft EA consistently downplays impacts to recreation and scenery.

The Draft EA's analysis of the Project's impacts to recreation and scenery fails to meet NEPA's "hard look" standard.

The Draft EA lists several recreation benefits of the Project, including added trails, construction of a parking area, enhanced water quality and fishing opportunities, and wildlife improvements for hunters. However, the Draft EA gives short shrift to negative recreational effects, dismissing them as "not significant."[122] According to the Draft EA, while there may be slightly increased traffic from log hauling due to Project implementation, log hauling "is an expected activity in this project area" since it is "mostly in the Matrix Management Area."[123] Furthermore, any increase in traffic is purportedly "short-term,"[124] and is not expected to disturb many visitors since this is "one of the lesser-used recreation areas on the Pisgah Ranger District."[125]

This somewhat rosy picture is inaccurate in several ways. To start, the Project area has only been designated as "Matrix" for about a year. For decades prior, the Project area's designation under the previous forest plan as Management Area 4C and 4D largely protected Lickstone from extractive logging practices and road construction. So, despite what the Draft EA assumes, log hauling is *not* an expected activity in this Project area, at least from the public's perspective. Indeed, the primary logging access road is often used by hikers who are in the area seeking a wilderness experience, connecting the Haywood Gap trail to the Green Mountain trail. The Draft EA is also incorrect to characterize the proposed log hauling as "short-term"—as the document acknowledges elsewhere, the Forest Service will be making entries into the Project area through 2045 and well beyond. Finally, the Draft EA inappropriately minimizes the importance of the Lickstone area to recreation. Plainly, this area is so popular that the Forest Service felt the need to construct a new 1.3-acre parking area.[126] The Draft EA's dismissal of negative impacts to recreation must be revisited.

The same is true of the Draft EA's analysis of impacts to scenery. To begin, the Draft EA lists several viewpoints and their inventoried scenic class, but then neglects to describe what the impacts to those specific viewpoints will be. This failure violates Forest Plan Standard SC-S-01, which requires a "project-level scenery impact analysis of potential visibility considering associated viewpoints."[127] Instead of providing this viewpoint-specific analysis, the Draft EA describes scenic impacts from logging and vegetation management generally, but ultimately dismisses any impacts from said management as "negligible."[128] The reason for this, according to the Draft EA, is that impacts will be appropriately mitigated by "project scenery design criteria." However, neither the Draft EA nor its appendices ever connect the dots to explain that application

[122] Draft EA at 75.
[123] *Id.*
[124] *Id.*
[125] *Id.* at 74.
[126] *See* Draft EA at 79 ("Currently it is typical to find vehicles parked along the shoulder of Highway 215 for hundreds of feet on a weekend, due to the lack of parking and the popularity of the location for fishing, swimming, hiking, biking, and horseback riding.").
[127] Forest Plan at 129.
[128] Draft EA at 80.

of these criteria, for example, will cause locations with a "high" scenic integrity objective to meet said objective "[w]ithin one full growing season" of a timber harvest.[129] The Forest Service must address this failure in a revised EA.

k. The Draft EA fails to adequately assess Project impacts to soils.

The Draft EA concludes that the Project is not likely to have significant effects on soil resources. As its primary support for this conclusion, the Draft EA notes that treatments are consistent with Forest Plan standard SLS-S-02, which requires at least 85% of the activity area to maintain long-term soil productivity.[130] As secondary support, the Draft EA observes that (1) skyline logging will be used on areas with steep, erodible slopes; (2) "caution in harvest layout" will prevent impacts from ground-based methods;[131] (3) monitoring under the previous forest plan reveals that BMPs have proven "highly successful" at controlling erosion from timber harvest;[132] (4) landslides are "not often triggered by silvicultural treatments in the Appalachian Mountains"; and (5) temporary roads, skid trails, and log landings are predicted to have only "short-term" effects on soil productivity. There are issues with each of these contentions.

To start, Forest Plan Standard SLS-S-02 is not supported by the best available science. As Conservation Groups pointed out during the Forest Plan revision process, this standard was once an explicit requirement from Region 8, and was therefore something that national forest units could rely on without independent, original analysis. However, that Regional requirement has been withdrawn, because the literature now suggests that the simple 85/15 rule is not reflective of the best available science. In fact, the Forest Service's own scientific research now recognizes that, contrary to previous guidance using the 15% disturbance threshold, "there is little or no documented evidence of any connection between disturbance thresholds and [soil] productivity. When critical data are lacking, it is prudent to err on the conservative side to ensure that productivity is not impaired."[133] Instead, more recent research suggests that project-level expertise and data should be used "[f]or making judgments on impaired productivity."[134]

The best available science for determining soil loss at the project level is the USLE (universal soil loss equation and subsequent revisions, RUSLE and RUSLE2). USLE was developed by the U.S. Department of Agriculture, is based on experimental data, and has been used for peer-reviewed analyses of forest management in the Appalachians. The USLE allows predictions of soil loss based on rainfall levels, soil erodibility, slope, and amount of disturbance. Combined with estimates of soil formation rates, the Forest Service could have predicted whether various disturbance rates on various slopes would result in soil loss rates in excess of soil formation rates, based on assumed rotation length. The Draft EA's failure to conduct this analysis, and instead rely on the arbitrary 85/15 rule violates NEPA and NFMA.

[129] Forest Plan at 129.
[130] *Id.* at 38.
[131] Draft EA at 92.
[132] *Id.* at 92.
[133] Scientific background for soil monitoring on National Forests and Rangelands: workshop proceedings; April 29-30, 2008; Denver, CO (fsfed.us) at 21.
[134] *Id.*

The Draft EA's other supporting rationales are equally problematic. To start, while it is true that skyline logging has less impacts on soil resources than ground-based methods, we are aware of no operating skyline outfits in western North Carolina. The Draft EA does not disclose this issue, nor does it provide assurances that in the event skyline logging is not economically feasible, the Forest Service will forgo ground-based methods in units currently slated for skyline logging. Indeed, in past projects, the agency has allowed ground-based harvest in units for which the forest plan and project decisions required skyline methods.[135] The agency must make it explicit in both its Draft EA and its timber sales contracts that ground-based methods are not a substitute for skyline logging in skyline-designated units.

Next, the Draft EA opines that "caution in harvest layout" will help prevent impacts from ground-based methods.[136] According to the Draft EA, 81% of treatment unit acres are considered "poorly" suited for ground-based methods.[137] This is probably because the Project area contains some incredibly steep and erodible soils. Approximately 44.6% of treatment unit acres occur on 50 to 90 percent slopes, while 35.46% occur on 30 to 50 percent slopes. And more than half of the treatment acres are either rated as "severe" or "very severe" erosion risks.[138] Despite these risks, the Forest Service plans to carry out ground-based logging on approximately 31% of the activity area, as well as a mix of ground- and skyline-based methods on 63% of the activity area. That means that throughout the Project area, ground-based logging will be taking place on steep, erodible slopes that are "poorly" suited to such methods. The Draft EA does not adequately explain how "caution" alone will fully protect soil resources in these specific environments. Nor does it acknowledge past projects' failures and explain why a different result can be expected this time.

The Draft EA counters that "special attention to implementation of effective BMPs" will paper over any issues with ground-based methods.[139] However, the Forest Service vastly overstates the effectiveness of its BMPs. As Conservation Groups explained during Forest Plan revision, the Forest Service's BMP scoring system inflates the effectiveness of BMPs by treating each BMP separately instead of considering the success rate for a project.[140] In other words, while a single BMP failure can result in sediment release impacting a water body, the success of other BMPs in the same project will result in a high score for the whole project. Thus, projects with negative water quality impacts still receive high scores.

Further, the Forest Service's cited BMP monitoring is not comprehensive. During Forest Plan revision, only 3% of road stream crossings on the Forests were examined.[141] No justification for the statistical reliability of the sample set was provided in the Forest Plan FEIS. In addition, the monitoring cited by the agency for the Project does not include impacts during implementation and prior to closure. The units that were selected for inspection were generally examined after closure, not when they are least stable. The timing is nearly always too late to evaluate the short-term effects. And because monitoring generally occurs only once after closure, it therefore does

[135] *See* Objection at 134–35 (Thunderstruck and Big Cove project documents noted that both projects used inappropriate ground-based methods on units that should have been skylined).
[136] Draft EA at 92.
[137] *Id.*
[138] *Id.* at 89.
[139] Draft EA at 92.
[140] Objection at 130.
[141] FEIS at 3-58.

not consider the long-term effects of a failure to maintain BMPs (especially on closed roads). Finally, the monitoring excludes whole categories of impact, like firelines.

As Conservation Groups explained in their objection, a careful examination of the Forest Service's actual data reveals a much greater risk. In the 63 timber sales surveyed between 2009 to 2018 and cited during Forest Plan revision, sediment was reaching streams on 70 separate occasions. This fact was not disclosed in the Forest Plan FEIS; instead, this failure rate (more than one unlawful sediment impact per timber sale) was obscured as a 97.4% success rate, per the agency's accounting. Similarly, the Forest Plan FEIS does reveal that one project per year has caused critical visible sediment to enter streams (i.e., long-term, high-volume levels of sediment).[142] Plainly, the Forest Service cannot simply assume that BMPs will protect against soil erosion.

Next, the Draft EA downplays the risk of landslides from timber harvests. According to the Draft EA, "[l]andslides are not often triggered by silvicultural treatments in the Appalachian Mountains."[143] As support for this proposition, the Draft EA cites a 1986 paper by Neary, Swift, Manning, & Burns. However, that paper—which did not analyze the potential of silvicultural treatments to trigger landslides on slopes exceeding 50 to 90 percent—is outdated. As evidenced by the Panther Branch and Bald Knob timber sales from the Courthouse Creek project, timber harvests can cause or contribute to landslides. Recent research confirms that local timber harvests "change[] the age structure of the forest and thus affects landslide-susceptibility."[144] According to this research, root system strength "decays exponentially" following harvest with minimum strength occurring around ten years post-harvest.[145] This means that root strength in units harvested in 2025 will be at a minimum precisely when the Forest Service is slated to reenter many of those units in 2035, and again in 2045. Therefore, the revised EA must seriously address the increased risk of landslides from timber harvest in its analysis—especially as a landslide recently took place in the Project area.

Finally, the Draft EA inappropriately describes temporary roads, skid trails, and log landings[146] as "short-term" impacts. The Draft EA reasons that since these features will be "obliterated after harvest activities are complete," impacts will last "three years or less."[147] The problem is, harvest activities will not be truly "complete" until sometime between *2045 and 2060*. As the Draft EA explains elsewhere, the Forest Service is planning on reentering harvested stands in 2035 and 2045, and conducting stand improvement in these units for another 7 to 15 years. Unless the agency plans to obliterate its temporary roads, log landings, and skid trails after every reentry and stand improvement, these features will likely remain *in use* for nearly 40 years, and they will be physically on the ground for much longer if the agency does not have the funding to

[142] FEIS at 3-60 – 3-61.
[143] Draft EA at 91.
[144] R.M. Wooten et al., U.S. Forest Serv., *Frequency and Magnitude of Selected Historical Landslide Events in the Southern Appalachian Highlands of North Carolina and Virginia: Relationships to Rainfall, Geological and Ecohydrological Controls, and Effects* at 244 (2015); R.C. Sidle & H. Ochiai, *Landslides: Processes, Prediction and Land Use*, 18 Water Res. Monograph 312 (2006).
[145] Wooten et al., *supra* note 144, at 244.
[146] The Draft EA never adequately explains why log landings will have "50% long-term impact" and "50% short-term." Draft EA at 83.
[147] *Id.*

obliterate them at that time. Even if the agency does end up obliterating these features, it would still not be appropriate to consider them as short-term impacts. That's because temporary roads and log landings remove the upper soil horizons of the affected area. Even when fill material is returned to these features during recontouring, soil structure—including well-developed O and A horizons—will not be returned. The Draft EA's failure to account for the Forest Service's repeated entries into timber harvest units—and their long-term effects on soil resources—violates NEPA.

l. The Draft EA fails to adequately assess Project impacts to water resources.

The Draft EA ultimately concludes that the action alternative poses no threat to water resources. To be sure, there are aspects of the Project that will improve water quality, such as the replacement of five deteriorated or failing culverts. The Draft EA correctly concludes that the short-term impacts from culvert replacement will be outweighed by long-term benefits to water quality. The same cannot be said, however, of the Draft EA's dismissal of water-quality impacts from vegetation management and associated roadbuilding. That conclusion is flawed for at least four reasons.

First, the Draft EA erroneously excludes impacts to water resources from timber harvests conducted outside of streamside management zones ("SMZs").[148] According to the analysis, sedimentation and other effects from timber harvests outside the SMZ can be discounted because the Draft EA "assumes" that all BMPs in these units "would be implemented successfully."[149] Furthermore, should a "BMP fail during project implementation, immediate corrective action would be taken to reduce impacts to aquatic resources."[150] In effect, the Forest Service "presumes, on this record, that whatever the impacts, it will be able to mitigate them successfully and further, that the" BMPs it references "are sufficient to ensure that success."[151] But "[a]n analysis based on presumptions at every step cannot support any sort of conclusion and especially not" a finding of no significant impact.[152] That is especially true where, as here, the Forest Service is overestimating its BMPs' effectiveness.[153] The Draft EA cannot avoid analyzing real-world water-quality impacts by predicting perfect compliance. This assumption of zero marginal risk for additional ground disturbance is precisely the error that the Forest Plan analysis made, repeated again here.

Second, the Draft EA inappropriately downplays the impacts to intermittent streams. The Draft EA concludes that such streams will be protected by a 50-foot SMZ buffer spelled out in the Forest Plan. But as Conservation Groups explained during Forest Plan revision, this "one size fits all" approach to intermittent stream protection ignores scientific literature supporting increased riparian buffers as slope increases.[154] It also ignores the best practices of other national forests. For example, the George Washington National Forest uses the same core streamside zones of 100 feet

[148] *Id.* at 117–18 ("This analysis will focus on the effects of stream crossing maintenance or replacement and vegetation treatments within Streamside Management Zones (SMZs) described below on stream and aquatic resources.").
[149] *Id.* at 119.
[150] *Id.*
[151] *Ohio Valley Env't Coal. v. Hurst*, 604 F. Supp. 2d 860, 895–96 (S.D.W. Va. 2009).
[152] *Id.* at 896.
[153] *See supra* pt. II(m).
[154] S. Wegner for UGA Institute of Ecology, *A Review of the Scientific Literature on Riparian Buffer Width, Extent And Vegetation* (1999).

for perennial waterbodies and 50 feet for intermittent streams.[155] But as slopes increase, an "extended area" ranging from 25 feet (slopes >10 percent) to 50 feet (slopes > 45 percent) is added to core areas.[156] Similar regimes govern the Cherokee and Chattahoochee-Oconee National Forests as well.[157] The Nantahala and Pisgah National Forests have never adequately explained their departure from their neighbors or how their "one size fits all" approach comports with the best available science. The continued reliance on this arbitrary intermittent standard—especially in a Project area with incredibly steep slopes—is itself arbitrary and capricious.

Third, the Draft EA fails to analyze whether the predicted water-quality impacts are consistent with North Carolina water-quality standards. The Clean Water Act requires all federal agencies conducting activities "resulting, or which may result, in the discharge or *runoff of pollutants*" to comply with state water-quality standards.[158] North Carolina has several water-quality standards that might be applicable to the Project, including numeric standards for turbidity[159] and temperature for trout waters.[160] However, the agency never discusses these standards—or any other water-quality standard, for that matter—even though it acknowledges a risk of increased turbidity[161] as well as increased temperatures.[162] This oversight not only violates NEPA but also exposes the Forest Service to potential liability under the Clean Water Act.

Fourth, the Draft EA notes that areas with "[e]rosion issues have been identified [and] will be addressed with this project" but fails to disclose where those areas are or how they will be addressed. This defeats one of the twin aims of NEPA—informing the public about issues ahead of time so that it can participate in the decision-making process. If the Draft EA had disclosed these issues, the public could have suggested alternatives to avoid sedimentation and erosion concerns. Because the Draft EA failed to do so, Conservation Groups are left guessing where these problem areas are, and what measures will be taken to mitigate them. This is also at odds with the

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[155] George Washington National Forest Land and Resource Management Plan, App. A (Riparian Corridors), https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fseprd525098.pdf.

[156] All Riparian Corridor standards apply to the core and extended areas; specific standards allow additional activities in the extended areas. *E.g.*, *id.* at 11-018, 11-020, 11-022.

[157] Prescriptions relating to riparian corridors are at, Cherokee National Forest Plan, Prescription 11, Riparian Corridors: Streams, Lakes, Wetlands, at 160, https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5269436.pdf; Chattahoochee-Oconee National Forest Plan (2004), 3-175 – 3-177 (Riparian Corridor Widths For Intermittent Streams), https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fsm9_028662.pdf.

[158] 33 U.S.C. § 1323(a) (emphasis added); *see also Or. Nat. Res. Council v. U.S. Forest Serv.*, 834 F.2d 842, 848 (9th Cir. 1987) (holding that the Clean Water Act "requires all federal agencies to comply with all state requirements").

[159] 15A N.C. Admin. Code 02B .0211(21) ("Turbidity: the turbidity in the receiving water shall not exceed 50 Nephelometric Turbidity Units (NTU) in streams not designated as trout waters and 10 NTU in streams, lakes, or reservoirs designated as trout waters; for lakes and reservoirs not designated as trout waters, the turbidity shall not exceed 25 NTU; if turbidity exceeds these levels due to natural background conditions, the existing turbidity level shall not be increased.").

[160] *Id.* 02B .0211(18) ("Temperature: not to exceed 2.8 degrees C (5.04 degrees F) above the natural water temperature, and in no case to exceed 29 degrees C (84.2 degrees F) for mountain and upper piedmont waters and 32 degrees C (89.6 degrees F) for lower piedmont and coastal plain waters; the temperature for trout waters shall not be increased by more than 0.5 degrees C (0.9 degrees F) due to the discharge of heated liquids, but in no case to exceed 20 degrees C (68 degrees F).").

[161] Draft EA at 121 (acknowledging a "short term fluctuation of turbidity" associated with crossing replacement).

[162] *Id.* at 123 ("Steam temperatures may be affected over a short period of two to three years where shading is removed to improve the stand composition within SMZs.").

assumption that proposed management actions have no risk of causing erosion issues. This violates NEPA.

m. The Draft EA's roads analysis is inadequate.

The Draft EA's action alternative proposes 6.27 miles of permanent road reconstruction, 0.24 miles of temporary road reconstruction, 0.2 miles of new temporary road construction, and 30.29 miles of bladed skid roads. In addition to adding 6.27 miles to the National Forest Transportation System, the Draft EA proposes removing 4.15 miles from the system, resulting in a net gain of 2.12 miles of system road. While this may seem like a modest increase, Conservation Groups have serious concerns about the planned addition of new roads, as well as the agency's environmental analysis of those roads.

As an initial matter, we believe the Forest Service has seriously underestimated the number of temporary roads needed to facilitate its planned timber harvests. The Draft EA suggests that temporary road reconstruction is only needed for units 10 and 56.[163] These units will be accessed by an old road corridor that will be expanded, graveled, and purportedly obliterated after use. However, these are not the only units that will be accessed by an old road corridor. For example, units 12, 22, 23, 27, and 51, among many others, will also be accessed by old road corridors that will need to be improved. Despite the fact that these five units will require around 1.32 miles of road corridor to enable timber harvest, the Draft EA does not note any "new" or "reconstructed" temporary road needs for these units. This seems to be a systemic problem throughout the Draft EA—even though units will require temporary road construction, the Draft EA does not tabulate them. This failure must be addressed in a revised EA.

Conservation Groups also have major concerns that the Project will contribute to exceedances of Forest Plan estimates for road construction. In the Forest Plan FEIS, the agency anticipated that meeting its Tier 1 timber harvest levels would require 3.1 new system road miles and 2.6 new temporary road miles.[164] Yet with the Lickstone Project alone, the agency seems well on its way to maxing out the estimated annual road construction mileage for the Nantahala *and* Pisgah National Forests—without coming near to the top end of Tier 1 timber harvest acres. This means the Forest Service will almost certainly overshoot its Forest Plan road-building estimates—which underscores our previously raised concerns that the Forest Plan FEIS did not accurately or comprehensively analyze the issues with the road system, the likely increase in the road system under elevated levels of timber harvest, and the subsequent damage to water quality and wildlife habitat the increase in substandard roads will create.

Even if the Forest Service were not rapidly approaching its forest-wide road construction estimates, a net gain of system roads would still be a problem. As the Forest Plan FEIS disclosed, the "current road system has a backlog of maintenance needs" that are causing serious ecological impacts.[165] While the Project makes some strides toward removing unused existing roads, it still ends up *adding* more roads to the system on net. In other words, the Project will make the maintenance backlog *worse*.

[163] Draft EA at 85–87
[164] FEIS at 3-518.
[165] *Id.* at ix.

The Draft EA promises that increasing the amount of system roads, and road construction in general, will have "no measurable direct adverse impacts"[166] to water quality because of BMPs. But again, BMPs are not a panacea, and the Draft EA overstates their effectiveness at controlling sedimentation.[167] The best available information shows that forest roads do have chronic and acute impacts to water quality that are ubiquitous across the Forest.[168] For example, a 2015 survey of roads in wilderness inventory areas showed that 40% of stream crossings and other BMPs directly affecting intermittent or perennial streams violated the prohibitions on accelerated erosion in a stream crossing or visible sediment directly entering the stream.[169] These effects are very measurable, if only the Forest Service would make the effort to take the measurements. But as noted above, the monitoring program systematically neglects roads outside of the time period immediately after closure of a timber sale.

Because the Forest Service is continuing to add to a maintenance backlog across the Forests, it risks contributing to a systemic Clean Water Act violation. Section 404 of the Clean Water Act requires a permit for the discharge of "fill material," which includes stream crossings by roads. National forests typically claim an exemption to that requirement for "construction or maintenance of . . . forest roads" used for timber management. This exemption, however, is available only for roads maintained in accordance with certain minimum BMPs and is intended to "assure that flow and circulation patterns and chemical and biological characteristics of waters of the United States are not impaired, that the reach of the waters of the United States is not reduced, and that any adverse effect on the aquatic environment will be otherwise minimized."[170] These requirements apply both at the time of construction *and* thereafter, specifically requiring *maintenance* as needed to prevent erosion and maintain passage for aquatic species, a duty that would exist until a road is fully decommissioned.

These statutory and regulatory requirements are not being met across the Nantahala and Pisgah National Forests, as evidenced by the studies mentioned above. Adding even more system roads, temporary roads, skid roads, and skid trails to these Forests will only exacerbate the problem and further contribute to an ongoing Clean Water Act violation.

n. <u>The Draft EA fails to adequately consider impacts to terrestrial and aquatic species</u>

The Forest Service notes that the Project may affect numerous species within the Project area. Some of these species were studied in a separate Biological Assessment ("BA"), which was incorporated by reference into the Draft EA. That BA concluded that the Project was likely to adversely affect Indiana bat, northern long-eared bat, little brown bat, and tricolored bat. However, it concluded that the Project "will have *no effect* on any other federally proposed, threatened, or endangered species."[171] That conclusion—which was adopted by the Draft EA—is plainly

[166] Draft EA at 121.
[167] *See supra* pt. II(m).
[168] Objection at 125–33; S. Env't L. Ctr. et al., *Comments on the Nantahala and Pisgah National Forests Draft Land Management Plan and Draft Environmental Impact Statement* at 162–85 (June 29, 2020).
[169] Kara Grosse, Antje Land & Caitlin Ryan, *Analysis of Forest Road Conditions and the Impact on Water Quality and Aquatic Organisms in the Pisgah-Nantahala National Forests* (2015) (Attachment A).
[170] 33 U.S.C. § 1344(f)(1)(E).
[171] BA at 1 (emphasis added).

incorrect. Several additional species will be adversely affected by the Project, as acknowledged elsewhere in the Draft EA. The Draft EA's analysis of effects to Indiana bat, northern long-eared bat, tricolored bat, and spotfin chub is also lacking.

i. Carolina northern flying squirrel

Conservation Groups believe that aspects of the Project will ultimately benefit the Carolina northern flying squirrel. However, Conservation Groups are concerned that the Draft EA inappropriately downplays some of the potential adverse effects to the squirrel and its habitat. For instance, the Draft EA expressly recognizes that the planned vegetation management takes place in occupied squirrel habitat and may displace squirrels and reduce available habitat in the short term.[172] Yet the Draft EA inexplicably concludes that "[t]here are no likely direct or indirect adverse effects to the species."[173] To the extent that the Draft EA is contending that adverse effects to the squirrel can be ignored because they may eventually be balanced out by potential long-term habitat benefits, it is mistaken. This is especially true here, where the so-called "short term" effects of logging and vegetation management will be stretched out over the course of thirty-five years. The Forest Service must further analyze impacts to Carolina northern flying squirrel in its NEPA analysis.

ii. Gray bat

Conservation Groups also believe that aspects of the Project may ultimately benefit the gray bat. However, once again, Conservation Groups are concerned that the Draft EA inappropriately downplays "short-term" harms to the bat. For example, the Draft EA acknowledges that the Project area contains occupied foraging and commuting habitat for the gray bat.[174] The Draft EA also acknowledges that the proposed vegetation management will have "short term" adverse effects on this habitat.[175] This includes sedimentation in Project area streams, which can have negative effects on aquatic insects that gray bats rely on. The Draft EA does not note any potential Project sedimentation issues—again assuming perfect BMP compliance and effectiveness and, apparently, a lack of any severe storms that could overwhelm them—nor does it note gray bat's particular sensitivity to sedimentation effects. Instead, the Draft EA simply concludes that the Project is "not likely to adversely affect" gray bats, apparently because the Project will ultimately create "long term" benefits for gray bat habitat. Again, the Draft EA cannot ignore documented short-term effects to gray bats and their habitat by stating that they may eventually be balanced out by eventual habitat improvements. This is especially true here, where the so-called "short term" effects of logging and vegetation management will be stretched out over the course of thirty-five years. The Forest Service must further analyze impacts to gray bat in its NEPA analysis.

[172] Draft EA at 99–100.
[173] *Id.* at 100.
[174] *Id.* at 102.
[175] *Id.*

iii. Appalachian elktoe

The Draft EA mistakenly declines to analyze any impacts to the endangered Appalachian elktoe mussel. According to the Draft EA, while the Appalachian elktoe occurs near the Project area, U.S. Fish & Wildlife Service staff "verified that Appalachian elktoe occurs outside of the Aquatic Analysis Area for Lickstone."[176] However, recent Fish & Wildlife Service documents suggest otherwise. According to the most recent 5-Year Review for the Appalachian elktoe, the mussel currently occupies the West Fork of the Pigeon River all of the way up to the dam at Lake Logan.[177] This portion of the Pigeon River falls within the Project area, as well as the larger Aquatic Analysis Area. The Draft EA must analyze impacts to this waterway from Project sedimentation.

Even if the Appalachian elktoe were not found directly below the Lake Logan dam, the Draft EA would still need to consider effects to elktoe habitat. That is because the Fish & Wildlife Service has designated the reach of the Pigeon River downstream of the confluence of the West Fork with the Little East Fork as critical habitat for the mussel.[178] This portion of the River also falls within the Project area as well as the Aquatic Analysis Area. The Draft EA never mentions this designated critical habitat, and as a result does not analyze how sedimentation from the Project may degrade or destroy said habitat. That failure not only violates NEPA, but also the ESA.

iv. Indiana bat, Northern long-eared bat, Tricolored bat

The Draft EA also inappropriately downplays potential effects to forest-dwelling bats including the Indiana bat, northern long-eared bat, and tricolored bat. As an initial matter, the Draft EA mischaracterizes or neglects to mention some of the best available science describing these species' habitat preferences. For example, the Draft EA seems to imply that northern long-eared bats prefer foraging and roosting in "intensively managed stands" with "lower canopy cover than the surrounding forest."[179] This is inaccurate. According to the best available science, northern long-eared bats prefer foraging in "intact," "mature" forests, rather than "fragmented habitat or areas that have been clear cut."[180] Studies have shown that these bats "consistently avoid foraging in or crossing large open areas, choosing instead to use tree-lined pathways" or openings smaller than two acres.[181] The Draft EA also neglects to mention that Indiana bats like to forage in forests with high canopy cover and do not roost "in areas clearcut within the past 35 years,"[182] or in "forests with open canopies (10–30%)."[183]

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[176] *Id.* at 126.
[177] U.S. Fish & Wildlife Serv., *Appalachian Elktoe Summary and Evaluation* at 9 (2022).
[178] 67 Fed. Reg. 61,016, 61,027 (Sept. 27, 2002).
[179] Draft EA at 103.
[180] U.S. Fish & Wildlife Serv., *Species Status Assessment Report for the Northern long-eared bat* (Version 1.1) 18–19 (2022) [hereinafter "NLEB SSA"].
[181] U.S. Fish & Wildlife Serv., *Programmatic Biological Opinion on the Revised Forest Plan for the Pisgah and Nantahala National Forests* at 36 (2022).
[182] U.S. Fish & Wildlife Serv., *Indiana Bat (Myotis sodalis) Draft Recovery Plan: First Revision* at 76 (2007) [hereinafter "Ibat Recovery Plan"].
[183] FEIS at 3-288.

The Draft EA also neglects to mention the best available science on future bat population dynamics. Though the Draft EA mentions that northern long-eared bats, for example, have declined by up to 99% across its northeastern range, it neglects to mention that these declines are predicted to continue in the future. Specifically, the number of extant northern long-eared bat winter colonies will decline to zero by 2050 and range-wide abundance will decline by 99% by 2060.[184] The Draft EA also neglects to mention that local populations of Indiana bat declined by 94% since 2013—a situation that will likely worsen before it gets better.[185] Despite the increased risk of extinction or extirpation to northern long-eared and Indiana bats in the near term—a risk that is exacerbated by the vegetation management proposed in the Project—the Draft EA ultimately concludes that the bats will benefit from "long term" habitat improvements.[186] But "[i]t is not enough that the habitat will recover in the future if there is a serious risk that when that future arrives the species will be history."[187] The Forest Service must more carefully consider whether its Project—which it acknowledges will harm forest-dwelling bats in the short term—will push these species further into an extinction spiral in the interim.

The Draft EA also overlooks critical bat behaviors that may influence the effects of the Project. For example, each of the forest-dwelling bats is known to exhibit philopatry or site-fidelity, meaning bats return to the same area summer after summer to roost and forage.[188] In some cases, this site fidelity may extend to individual trees.[189] Felling roost trees or foraging areas that bats return to year after year has adverse effects on these bats; harvesting these areas not only "places additional stress on pregnant females at a time when fat reserves are low or depleted and they are already stressed from energy demands of migration and pregnancy," but also forces bats "to seek new habitat and expand their foraging range, potentially reducing foraging success and exposing bats to increased predation and competition."[190] The Draft EA does not consider these consequences.

Instead, the Draft EA suggests that adverse effects to forest-dwelling bats will be mitigated by Project design criteria, including criteria adopted from the March 2024 Bat Conservation Strategy.[191] However, a quick perusal of these criteria reveal that they are incapable of preventing potentially serious adverse effects to bats. For example, many of the criteria only apply to "known" roost areas—however, there is no requirement that the Forest Service survey for such roosts, rendering these protections effectively meaningless.[192] In addition, though these Bat Strategy criteria include a time-of-year restriction for prescribed fire, it includes *no* time-of-year restriction on logging—which can have serious adverse effects on tree-dwelling bats and their non-volant pups.

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[184] NLEB SSA at 60.
[185] U.S. Fish & Wildlife Serv., *Indiana bat 5-Year Review* App'x A at 11 fig.6 (2019).
[186] Draft EA at 104.
[187] *Miccosukee Tribe of Indians of Fla. v. United States*, 566 F.3d 1257, 1271 (11th Cir. 2009).
[188] *See, e.g.*, NLEB SSA at 17, 154.
[189] *Id.*
[190] Ibat Recovery Plan at 75, 109.
[191] Draft EA at 104.
[192] *See id.* App'x H. The only time the Bat Strategy requires an occupancy survey is when Forest Service staff are repairing, maintaining, or replacing an anthropogenic structure known to contain bats. *See id.*

Put simply, the Forest Service must better explain how its design criteria will protect listed bats—especially those bats that are predicted to be functionally extinct or extirpated in the next few decades.

v. Spotfin chub

The Draft EA declines to analyze potential impacts to spotfin chub because the "project area is outside the known range of the species."[193] That may be true now, but the North Carolina Wildlife Resources Commission and U.S. Fish & Wildlife Service have plans in the coming years to reintroduce the spotfin chub to numerous western North Carolina river systems, including the Pigeon.[194] Because the Draft EA estimates that the Project will drag on for more than thirty-five years, the Draft EA must assess how the Project may affect reintroduction efforts in the Upper Pigeon River watershed.

o. The Draft EA's conclusion that the Project is not likely to have significant effects is not supported by the record.

For decades, agencies assessed the need for an EIS by considering ten "intensity" factors in the appropriate context.[195] Several years ago, CEQ weakened its NEPA regulations by eliminating those factors in an unlawful rulemaking.[196] The Forest Service does not explicitly discuss the "intensity" factors in its NEPA analysis. To the extent that the Forest Service is relying on the regulations promulgated by CEQ's unlawful 2020 rulemaking to justify its finding of no significant impact, that decision is arbitrary and capricious.

CEQ recently restored most of the significance factors in its Phase 2 rulemaking, which went into effect on July 1, 2024. Though the Forest Service was not bound to consider those factors, it had the discretion to apply them. The Draft EA did not apply them, nor explain why it declined to do so. A brief review of these factors confirms that the Draft EA's primary conclusion—that the Project will not have significant effects on the human environment—is unsupported by the record.

For example, one factor addresses the "degree to which the action may adversely affect unique characteristics of the geographic area such as historic or cultural resources, parks, Tribal sacred sites, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas."[197] As explained above, the Project area contains numerous unique characteristics, including multiple state-designated natural areas, several North Carolina Mountain Treasures, an extensive IRA, exceptional hiking trails, a designated wilderness area, several High Quality Waters, multiple trout waters, and critical habitat for the endangered Appalachian elktoe mussel. This factor undoubtedly weighs in favor of a significance finding.

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[193] *Id.* at 126.
[194] N.C. Wildlife Res. Comm'n & U.S. Fish & Wildlife Serv., *Programmatic Safe Harbor Agreement and Candidate Conservation Agreement with Assurances for Twenty-One Aquatic Species in North Carolina* at 68 (2022).
[195] *See* 40 C.F.R. § 1508.27 (2019).
[196] CEQ, Final NEPA Rule, 85 Fed. Reg. 43,304, 43,322 (July 16, 2020).
[197] 40 C.F.R. § 1501.3(d)(2)(ii).

Another factor addresses whether the proposal "may violate relevant Federal, State, Tribal, or local laws or other requirements or be inconsistent with Federal, State, Tribal, or local policies designed for the protection of the environment."[198] As explained above, the Project threatens to violate NEPA, NFMA, the Clean Water Act, the Forest Plan, the Roadless Conservation Rule, and North Carolina water-quality standards. It also may violate Executive Order 13751, which establishes "[i]t is the policy of the United States to prevent the introduction, establishment, and spread of invasive species."[199] In addition, unless the Forest Service consults with the Fish & Wildlife Service regarding the Carolina northern flying squirrel, gray bat, and Appalachian elktoe, it may run afoul of the ESA. This factor unquestionably supports the need for an EIS.

In a similar vein, another factor considers the "degree to which the action may adversely affect an endangered or threatened species or its habitat, including habitat that has been determined to be critical under the Endangered Species Act of 1973."[200] As explained above, the action alternative will have adverse effects to numerous listed species, including the Carolina northern flying squirrel, gray bat, Indiana bat, northern long-eared bat, and Appalachian elktoe. The action may also negatively affect designated critical habitat for the Appalachian elktoe. This factor also weighs in favor of the need for an EIS.

Although this is not an exhaustive application of all ten factors, even this brief survey suggests that the Project is likely to have significant or potentially significant impacts.

Even if the Forest Service declines to consider the current significance factors, multiple facts in the record suggest that the impacts of the Project may be significant. To start, the action alternative proposes over 6.27 miles of road construction, more than 30 miles of bladed skid roads,[201] 22 miles of unbladed skid trails, 27.4 miles of road daylighting, construction of 49 new log landings, more than 1,300 acres[202] of prescribed fire, and 1,947 acres of timber treatments. At any scale, these are significant impacts. They are especially significant at the scale of the Project area, where more than 30% of the 9,100-acre Project area will be directly impacted.

In case there was any doubt about this conclusion, the analysis in the Draft EA confirms the myriad ways the Project may significantly affect the environment. Some of these issues standing alone may trigger the need for an EIS; their consideration in combination unquestionably passes that threshold:

- The Project will increase the risk of NNIP spread over 2,711 acres;

- Prescribed fire will occur on hundreds of acres of mesic forest where such burning is "not recommended";

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[198] *Id.* § 1501.3(d)(2)(iii).
[199] Executive Order 13751, 81 Fed. Reg. 88,609 (Dec. 5, 2016).
[200] 40 C.F.R. § 1501.3(d)(2)(iii).
[201] It is unclear how many miles of skid roads the Forest Service is planning on constructing. On page 84, the Draft EA estimates that the Project will entail 30.29 miles of bladed skid roads. However, Tables 41 and 42 on pages 85 to 87 estimate construction of 13.94 miles of skid road.
[202] The prescribed fire acreage is not consistent throughout the Draft EA.

- Ground-based logging will take place on hundreds of acres that are "poorly" suited to such methods;

- More than half of the proposed timber harvest treatments take place on soils that have a "severe" or "very severe" erosion risk;

- The Draft EA predicts adverse impacts to Carolina northern flying squirrel, gray bat, Indiana bat, northern long-eared bat, and tricolored bat.

As explained above, the Draft EA also *neglects* to consider several potentially significant impacts on the Project area. When considered in combination with the effects detailed above, they likely pass the "significant effects" threshold. These issues include:

- Potential impacts to scenery and recreation;

- Impacts to soil productivity;

- Sedimentation impacts from timber harvests outside SMZs;

- Impacts to intermittent streams on steep slopes;

- Landslides;

- Impacts to listed species, including Carolina northern flying squirrel, gray bat, Indiana bat, and northern long-eared bat;

- Impacts to designated critical habitat for the Appalachian elktoe;

- The compounding effects of climate change.

Unless the action alternative is modified, the Forest Service will be required to analyze these significant impacts in an EIS. We recommend the following project modifications to reduce the environmental impacts of the Project below the "significance" level:

- Drop stands with "severe" or "very severe" erosion risk, or firmly commit to skyline logging these areas;

- Drop prescription units accessed by Forest Service Roads 97U and 97W;

- Drop prescription units employing ground-based methods on areas designated as "poorly" suited for such methods;

- Drop proposed wildlife opening and early seral habitat creation in the Middle Prong Addition IRA;

- Drop units that would result in overshooting desired conditions for young forests in the rich cove ecozone;

- Implement time-of-year restrictions for timber harvest to avoid take of listed bats.

III. The Forest Service must formally consult with the U.S. Fish and Wildlife Service regarding the Carolina northern flying squirrel, Gray bat, and Appalachian elktoe mussel.

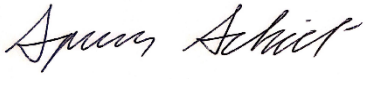
As explained above, formal Section 7 consultation is required for any action that is likely to adversely affect any listed species or critical habitat.[203] Formal consultation will be required for the Carolina northern flying squirrel, gray bat, and Appalachian elktoe mussel. That is because the Draft EA acknowledges that the Project is likely to have "short term" adverse effects on the Carolina northern flying squirrel and the gray bat, and may have effects on the Appalachian elktoe or its designated critical habitat.

The Forest Service cannot avoid the need for formal consultation for the Carolina northern flying squirrel and the gray bat by claiming that the short-term adverse effects to these species will eventually be cancelled out by long-term habitat improvements. Nor can it avoid consultation for the Appalachian elktoe by incorrectly claiming that no mussels or critical habitat are present in the Aquatic Analysis Area. Because the Project is likely to adversely affect these species, formal consultation with the U.S. Fish & Wildlife Service is required.

IV. Conclusion

We appreciate the effort the Forest Service put into designing and analyzing the Lickstone Project. However, the Forest Service's Draft EA fails to adequately assess the impacts of the Project in contravention of NEPA and NFMA. The agency should consider revising its proposed alternative. At the very least, it must revise the Draft EA to correct the deficiencies listed above before resubmitting a NEPA document for public comment. Without significant changes, the proposed action will require preparation of an EIS. Pursuant to the ESA and its implementing regulations, the Forest Service must also engage in formal consultation with the Fish & Wildlife Service regarding the Carolina northern flying squirrel, gray bat, and Appalachian elktoe mussel.

Thank you for consideration of this letter. Please contact Spencer Scheidt (828-258-2023; sscheidt@selcnc.org) if you have any questions regarding these comments.



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[203] 50 C.F.R. § 402.14(b)(1) (emphasis added).

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