May 22, 2025

Regional Forester Michiko Martin
USDA Forest Service, Southwest Region
333 Broadway Blvd SE
Albuquerque, NM 87102

Submitted via email to: objections-southwestern-regional-office@usda.gov

Re: OBJECTIONS to Encino Vista Landscape Resiliency Project Environmental Assessment (Santa Fe National Forest) Pursuant to 36 C.F.R. § 218.8

To Regional Forester Michiko Martin:

The Center for Biological Diversity submits these objections to the U.S. Forest Service's draft Record of Decision ("Draft ROD"), Finding of No Significant Impact ("FONSI"), and Environmental Assessment ("EA") for the Encino Vista Landscape Resiliency Project ("EVLRP") on the Santa Fe National Forest.

Project Objected To

Pursuant to 36 C.F.R. § 218.8(d)(4), Center for Biological Diversity *et al*. object to the following project:

Project: Encino Vista Landscape Resiliency Project, Santa Fe National Forest. Project No. 54965.

Responsible Official and Forest/Ranger District: Shaun Sanchez, Forest Supervisor, Santa Fe National Forest

Timeliness

Notice of the Draft ROD and Final EA was published in the Albuquerque Journal (the newspaper of record) on April 7, 2025 making the deadline for filing May 22, 2025. These objections are therefore timely filed.

Lead Objector

Per 36 C.F.R. § 218.8(d)(3), the Objectors designate the "Lead Objector" as follows:

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Interests and Participation of the Objectors

The Center for Biological Diversity is a non-profit environmental organization with more than 1.7 million members and online activists who value wilderness, biodiversity, old growth forests, and the threatened and endangered species which occur on America's spectacular public lands and waters. Center members and supporters use and enjoy the Santa Fe National Forest for recreation, photography, nature study, and spiritual renewal.

WildEarth Guardians is a nonprofit conservation organization headquartered in Santa Fe, NM with offices in several western states. With more than 201,000 members and supporters WildEarth Guardians work to protect and restore wildlife, wild places, wild rivers, and the health of the American West. For many years, WildEarth Guardians has advocated for a recovered and thriving Mexican spotted owl population, and an environmentally and economically sustainable transportation system on Forest Service lands.

The Santa Fe Forest Coalition is an all-volunteer nonprofit that educates the public, the media and policy makers on critical issues concerning forest and wildlife preservation in New Mexico.

The Forest Advocate is a Santa Fe based not-for-profit conservation organization with 1,200 members, actively focused on the protection of the Santa Fe National Forest and all Western forests. The Forest Advocate members value both wilderness and community forests for biodiversity and climate effects, and use forests for recreation and as a spiritual retreat. We support the rights of forests to exist and thrive.

We have been active stakeholders throughout the project planning process. We submitted comments regarding the preliminary EA in April of 2024.

We support the goals of the Encino Vista Project to improve forest health and reduce the risk of large high-severity fire. However, we have serious concerns about the effectiveness and impacts of the proposed project, and the Final EA fails to productively address the key concerns we raised in our previous comments.

The following objections focus on the highest priority weaknesses of the EA: an arbitrary and capricious finding of no significant impacts; the failure to disclose the impacts related to commercial logging and roads; the lack of a clear and practicable process for identifying areas for old growth recruitment; the failure to adequately retain and develop habitat components important to protected species; the failure to retain and develop white pine; the failure to disclose the impacts to water quality and fisheries, and the failure to analyze and disclose the impacts of escaped prescribed burns and prescribed burn smoke. Objectors raised each and every one of these issues in comments on the EA.

OBJECTIONS

I. THE FOREST SERVICE RELIES ON AN ARBITRARY AND CAPRICIOUS FINDING OF NO SIGNIFICANT IMPACTS.

Our previous comments explained at length how this project will have a significant impact on the environment and thus requires detailed analysis through an Environmental Impact Statement (EIS). The Council for Environmental Quality's (CEQ) regulations defined significance in terms of context and intensity, which includes *inter alia* the scope of beneficial and adverse impacts, unique characteristics of the geographic area, degree of controversy, degree of uncertainty, and degree to which an action may affect species listed or critical habitat designated under the Endangered Species Act.[1] We explained that this project will significantly affect the human environment for a number of reasons, particularly in regards to scientific controversy and uncertainty.

A. Failure to acknowledge and address scientific controversy

Specifically, we provided numerous scientific studies that question the effectiveness of broadscale vegetative management described under the proposed action, and the use of historic reference conditions to serve as a basis for developing the proposed action. However, the Forest Service states "The SFNF has determined that none of the comments provided during the public involvement process document a substantial dispute relating to the environmental consequences of the selected alternative."[2] As such, the agency's analysis fails to address our comments, and continues to assert that "Reference conditions, often characterized by historic range of variability [HRV], provide a scientific basis for understanding forest ecosystems, and a framework for understanding forest conditions and ecological processes prior to extensive human influence."[3] While the use of HRV can certainly help describe how current conditions have departed from past conditions, they do not provide proper reference conditions to restore ecosystem integrity. In fact, we explained that the agency's improper use of HRV has led it to mistakenly assert dry mixed conifer and Ponderosa pine stands were dominated by primarily low-severity wildfires

[1] 40 C.F.R. § 1508.27, 1978 (defining "significantly"). The CEQ rescinded its implementing NEPA regulations, but kept in place those that other federal agencies still utilize ("Agencies have NEPA implementing procedures that largely conform to CEQ's regulations.[34] After this action, agencies will remain free to use or amend those procedures, and agencies should, in defending actions they have taken, continue to rely on the version of CEQ's regulations that was in effect at the time that the agency action under challenge was completed."). *See* 90 Fed. Reg. 10613-14 (Feb. 25, 2025).

[2] Draft DN at 12.

[3] Final EA at 16.

when in fact, these forest types included a mix of wildfire severities, including stand-replacing events.[4]

Our comments also provided several citations questioning the effectiveness of reducing vegetation densities as a means to reduce high-severity wildfires. While we readily acknowledge such action can lessen intensities and burn severities, the agency assumes a higher degree of effectiveness than the studies we provided demonstrate. In fact, the Forest Service never quantifies precisely how much risk reduction it can achieve under the proposed action, or the length of time such reductions would last, or the chances a wildfire will occur in the treated areas, or how the risk reduction will effectively protect homes and communities. In its response to our comments, the Forest Service provides numerous scientific studies that it claims demonstrate the efficacy of fuel reductions and "moderating wildfire behavior" and "had positive effects in terms of reducing fire severity, tree mortality, and crown scorch (Kalies and Yocom Kent, 2016)."[5] Yet, the Forest Service did not acknowledge or address the findings from the papers we cited in our comments or explain why their findings were in any way flawed or inapplicable to the project area. Rather, the agency simply ignored these papers by arbitrarily asserting they provide no "substantial dispute of the environmental consequences," which is patently untrue.

By failing to carefully consider and fully address the scientific controversy, the Forest Service is proposing to authorize excessive logging, thinning and burning activities that will result in further loss of ecological integrity. In fact, one recent paper explained the following:

> Many "fire risk reduction" and "restoration" projects include substantial and frequent biomass removals (DellaSala et al., 2022), often targeting large trees and resulting in soil compaction and excessive understory impacts that can type-convert dense forests to open wood lands lacking native understories (Table 1: vegetation structure, nutrient cycling, soils, invasives) (Fig. 4). Impacts can accumulate across spatial scales (Table 1: landscape characteristics), affecting large areas logged and excessively burned in dry pine (Pinus spp.) and mixed-conifer forests, for example (Fig. 5a–c). Altered stands are then exposed to understory drying and over ventilation of forest canopies that can elevate fire spread rates and cause blow down of remaining trees… Moreover, excessive understory removals through mastication of shrubs and pile burning of slash can disrupt natural successional pathways with reverberating multi-functional ecosystem impacts (Ding and Eldridge, 2024), including the spread of invasive species within burn piles and soil damages (Table 1: invasive species, ecosystem processes, nutrient cycling-soils).[6]

[4] Baker et al, 2023.
[5] EVLRP Response to Comments Report at 13.
[6] DellaSala et al., 2025.

This study, and those we provided in our comments, demonstrate there is in fact a controversy of facts that can only be fully addressed in an environmental impact statement. The Forest Service response reasserting the science supporting the use of HRV fails to address this controversy.[7]

B. Failure to acknowledge and address uncertainties

Our comments explained that the possible effects on the human environment are highly uncertain, especially given the controversy over scientific facts. Specifically, we explained, among other factors, that because weather is often the greatest driving factor of a forest fire, and because the strength and direction of the wildfire is often determined by topography, fuels reduction projects cannot guarantee fires of less severity.[8] We also noted that land managers have shown little ability to target treatments where fires later occur.[9] Additionally, we explained that fuel reduction activities may actually exacerbate fire severity when they leave behind combustible slash through at least one dry season, open the forest canopy to create more ground-level biomass, and increase solar radiation which dries out the understory.[10] The Forest Service failed to consider these studies (as noted above) or acknowledge the uncertainties we raised. Rather, the agency ignored uncertainty altogether in its draft decision, instead focussing on unique or unknown risks, and then dismisses those risks by stating "Mitigations and design features identified in Appendix C have shown to be effective in reducing potential impacts and are consistent with national and regional guidance."[11] The Forest Service's response fails to address the fact that the efficacy of the proposed actions are highly uncertain, and the agency did not properly address the factors we raised in comments.

In addition, other studies support our comments that the agency failed to consider relevant factors, which exacerbates both risks and uncertainties. Forest management efforts often focus on overstory dynamics to maintain forest health and productivity. However, understory ecosystems are equally critical, forming a foundation for biodiversity, nutrient cycling, and resilience against disturbances. Establishing reference conditions for both understory and overstory components is a key component of management strategies that address the full complexity of forest ecosystems. Understory ecosystems play a vital role in forest ecology, forming a foundation for

[7] *See* EVLRP Response to Comments Report at 17-18.
[8] Rhodes, J. 2007, Carey, H. and M. Schumann, 2003.
[9] Barnett, K. et al, 2016, Rhodes, J. and Baker, W. 2008 (finding that fuel treatments have a mean probability of 2-8% of encountering moderate- or high- severity fire during the assumed 20-year period of reduced fuels).
[10] Graham, R.T., et al, 2012, Martinson, E. J. and P. N. Omi, 2013 (finding that in about a third of cases reviewed mechanical fuel reductions increased fire spread).
[11] Draft DN at 12.

biodiversity,[12] biogeochemical functions,[13] and ecological recovery.[14] Composed of grasses, forbs, shrubs, and the soil microbiome, the understory provides a wide range of ecosystem services, such as supporting animal species and enhancing water retention.[15] The overstory is also influential, as it creates essential microclimates, moderates soil conditions, and supports the nutrient and water cycles that sustain the understory.[16] Mutual dependency between the two layers emphasizes the need for integrated research and management approaches. Moreso, fungi and bacteria also play pivotal roles in understory ecosystems, serving as key drivers of carbon cycling and nutrient decomposition.[17] Mycorrhizal fungi, which are soil-based, mediate plant-soil nutrient exchange, contributing to long-term carbon storage, while saprotrophic fungi, often wood-based, break down organic matter into stable forms of soil carbon.[18] However, elevated nitrogen levels suppress fungal communities, shifting decomposition dynamics toward bacteria, which accelerates carbon loss and destabilizes nutrient pathways.[19] Rising temperatures exacerbate these impacts by favoring fast-growing fungal species, potentially reducing functional diversity and ecosystem resilience.[20] Additionally, prolonged drought conditions and increased edge exposure intensify microbial respiration, causing further disruption to established nutrient cycles.[21]

Fuel treatment strategies, including thinning and prescribed burns, increase solar radiation and soil temperatures, accelerating photodegradation and microbial respiration.[22] These warmer post-treatment conditions often promote the establishment of nonnative species such as cheatgrass, which can alter fire regimes and outcompete native vegetation, further reducing understory diversity and resilience.[23] Additionally, treatments can disturb soil microbial networks, including decimating mycorrhizal fungi that are critical for nutrient exchange and plant establishment.[24] Overstory removal amplifies microclimatic stressors, such as higher vapor pressure deficits and increased soil temperatures, which disrupt understory recovery.[25] Furthermore, these changes

[12] Bartels & MacDonald, 2023.
[13] Landuyt et al., 2020.
[14] Rodman et al., 2020.
[15] MacDonald, 2022; Deng et al., 2023; Li et al., 2023.
[16] Simard et al., 2021; Deng et al., 2023.
[17] Li et al., 2021; Clay et al., 2024.
[18] Wang & Kuzyakov, 2024; Deng et al., 2023.
[19] Tang et al., 2021; Wang et al., 2022.
[20] Kodero et al., 2024.
[21] Koelemeijer et al., 2022; Maciel-Nájera, 2021.
[22] Hood et al., 2024; Parmenter et al., 2023.
[23] Miller et al., 2014; Falk et al., 2022.
[24] Tomao et al., 2020.
[25] Minott & Kolb, 2020; Petrie et al., 2023.

risk long-term ecosystem shifts, with reduced tree regeneration and fungal decimation significantly contributing to transitions to shrubland.[26]

While many studies demonstrate that fuel treatments can significantly reduce fire severity under specific conditions,[27] their long-term effectiveness and ecological trade-offs remain areas of scientific uncertainty and debate, particularly at landscape scales. Treatments are often limited in addressing the primary drivers of wildfire behavior—long-term drought, high winds, and extreme temperatures induced by the climate emergency.[28] In fact, studies estimate that only 2–20% of treated areas are likely to encounter wildfire within their 10–25 year window of effectiveness, significantly limiting their potential for long-term carbon benefits.[29] In some contexts, treatments can inadvertently elevate fire risks by increasing wind penetration and altering surface fuel structure.[30]

The Encino Vista environmental assessment failed to properly consider these and other factors we raised in our comments. Rather, the Forest Service dismissed the scientific controversy, uncertainty and risks under the proposed action.

> **Suggested remedy:** The Forest Service must acknowledge the significant environmental impacts likely to result from implementing the proposed action, and prepare an environmental impact statement that properly addresses the controversy regarding the conflicting scientific information, and the highly uncertain outcomes and risks from the proposed action.

II. THE FINAL EA FAILS TO TAKE THE HARD LOOK AT ENVIRONMENTAL IMPACTS THAT NEPA REQUIRES.

NEPA is "our basic national charter for protection of the environment."[31] In enacting NEPA, Congress recognized the "profound impact" of human activities, including "resource exploitation," on the environment and declared a national policy "to create and maintain conditions under which man and nature can exist in productive harmony."[32]

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[26] Miller et al., 2014; Gorzelak et al., 2015.
[27] Falk et al., 2022; Hood et al., 2024; Stephens et al., 2022.
[28] DellaSala et al., 2022; Cooper et al., 2023.
[29] Rhodes & Baker, 2008; Wimberly et al., 2014; Campbell & Ager, 2013.
[30] Zald & Dunn, 2018; Schoennagel et al., 2017.
[31] *Center for Biological Diversity v. United States Forest Serv.*, 349 F.3d 1157, 1166 (9th Cir. 2003) (quoting 40 C.F.R. § 1500.1).
[32] 42 U.S.C. § 4331(a).

The statute has two fundamental two goals: "(1) to ensure that the agency will have detailed information on significant environmental impacts when it makes decisions; and (2) to guarantee that this information will be available to a larger audience."[33] "NEPA promotes its sweeping commitment to 'prevent or eliminate damage to the environment and biosphere' by focusing Government and public attention on the environmental effects of proposed agency action."[34] Stated more directly, NEPA's "'action-forcing' procedures ... require the [Forest Service] to take a 'hard look' at environmental consequences"[35] *before* the agency approves an action. "By so focusing agency attention, NEPA ensures that the agency will not act on incomplete information, only to regret its decision after it is too late to correct."[36] To ensure that the agency has taken the required "hard look," courts hold that the agency must utilize "public comment and the best available scientific information."[37]

NEPA's review obligations are more stringent and detailed at the project level, or "implementation stage," given the nature of "individual site specific projects."[38] "[G]eneral statements about possible effects and some risk do not constitute a hard look, absent a justification regarding why more definitive information could not be provided."[39]

NEPA requires site-specificity to fulfill two basic purposes: 1) to ensure agencies are making informed decisions prior to acting; and 2) to ensure the public is given a meaningful opportunity to participate in those decision-making processes.[40] Federal courts apply these touchstone criteria when evaluating whether an EIS is adequately site-specific.[41]

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[33] *Envtl. Prot. Info. Ctr. v. Blackwell*, 389 F. Supp. 2d 1174, 1184 (N.D. Cal. 2004) (quoting *Neighbors of Cuddy Mt. v. Alexander*, 303 F.3d 1059, 1063 (9th Cir. 2002)); *see also Earth Island v. United States Forest Serv.*, 351 F.3d 1291, 1300 (9th Cir. 2003) ("NEPA requires that a federal agency 'consider every significant aspect of the environmental impact of a proposed action ... [and] inform the public that it has indeed considered environmental concerns in its decision-making process.'").

[34] *Marsh v. Or. Natural Res. Council*, 490 U.S. 360, 371 (1989) (quoting 42 U.S.C. § 4321).

[35] *Metcalf v. Daley*, 214 F.3d 1135, 1141 (9th Cir. 2000) (quoting *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 348 (1989)).

[36] *Marsh*, 490 U.S. at 371 (citation omitted).

[37] *Biodiversity Cons. Alliance v. Jiron*, 762 F.3d 1036, 1086 (10th Cir. 2014) (internal citation omitted).

[38] *Ecology Ctr., Inc. v. United States Forest Serv*., 192 F.3d 922, 923 n.2 (9th Cir. 1999); *see also Friends of Yosemite Valley v. Norton*, 348 F.3d 789, 800-01 (9th Cir. 2003); *New Mexico ex rel. Richardson v. Bureau of Land Management*, 565 F.3d 683, 718-19 (10th Cir. 2009) (requiring site-specific NEPA analysis when no future NEPA process would occur); *Colo. Envtl. Coal. v. Ofc. of Legacy Mgmt*., 819 F. Supp. 2d 1193, 1209-10 (D. Colo. 2011) (requiring site-specific NEPA analysis even when future NEPA would occur because "environmental impacts were reasonably foreseeable").

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

[40] *Stein v. Barton*, 740 F. Supp. 743, 749 (D. Alaska 1990).

[41] *See WildEarth Guardians*, 790 F.3d at 921-25 (holding EIS inadequate for failure to disclose location of moose range); *Or. Nat. Desert Ass'n v. Rose*, 2019 WL 1855419 (9th Cir. 2019) (holding environmental analysis violated

Analyzing and disclosing site-specific impacts is critical because where (and when and how) activities occur on a landscape strongly determines that nature of the impact. As the Tenth Circuit Court of Appeals has explained, the actual "location of development greatly influences the likelihood and extent of habitat preservation. Disturbances on the same total surface area may produce wildly different impacts on plants and wildlife depending on the amount of contiguous habitat between them."[42] The Court used the example of "building a dirt road along the edge of an ecosystem" and "building a four-lane highway straight down the middle" to explain how those activities may have similar types of impacts, but the extent of those impacts – in particular on habitat disturbance – is different.[43] Indeed, "location, not merely total surface disturbance, affects habitat fragmentation,"[44] and therefore location data is critical to the site-specific analysis NEPA requires. Merely disclosing the existence of particular geographic or biological features is inadequate; agencies must discuss their importance and substantiate their findings as to the impacts.[45]

NEPA further mandates that the agency provide the public "'the underlying environmental data' from which the Forest Service develop[ed] its opinions and arrive[d] at its decisions."[46] "The agency must explain the conclusions it has drawn from its chosen methodology, and the reasons it considered the underlying evidence to be reliable."[47] In the end, "vague and conclusory statements, without any supporting data, do not constitute a 'hard look' at the environmental consequences of the action as required by NEPA."[48]

NEPA and federal caselaw establish specific ways agencies must analyze proposed actions, including project-level decisions, including a detailed discussion of direct, indirect, and cumulative impacts and their significance; and an analysis of reasonable alternatives to the proposed action. Such analysis is required for both environmental assessments and EISs.

A. THE EA FAILS TO TAKE A HARD LOOK AT THE IMPACTS OF THE PROJECT ON FOREST STRUCTURE.

NEPA by failing to establish "the physical condition of [roads and trails] and authorizing activity without assessing the actual baseline conditions").

[42] *New Mexico ex rel. Richardson*, 565 F.3d at 706.

[43] *New Mexico ex rel. Richardson*, 565 F.3d at 707.

[44] *New Mexico ex rel. Richardson*, 565 F.3d at 707.

[45] *Or. Natural Res. Council Fund v. Goodman*, 505 F.3d 884, 892 (9th Cir. 2007).

[46] *WildEarth Guardians v. Mont. Snowmobile Ass'n*, 790 F.3d 920, 925 (9th Cir. 2015).

[47] *N. Plains Res. Council, Inc. v. Surface Transp. Bd.*, 668 F.3d 1067, 1075 (9th Cir. 2011) (citation omitted).

[48] *Great Basin Mine Watch v. Hankins*, 456 F.3d 955, 973 (9th Cir. 2006); *see also Ocean Advocates v. Army Corps of Engineers*, 402 F.3d 846, 869 (9th Cir. 2004) (finding that a vague and uncertain analysis is insufficient to meet NEPA's mandate).

Agencies must "study, develop and describe appropriate alternatives," including a no action alternative.[49] "In general, NEPA analysis uses a no-action alternative as a baseline for measuring the effects of the proposed action."[50] "Without establishing the baseline conditions ... there is simply no way to determine what effect the [action] will have on the environment, and consequently, no way to comply with NEPA."[51]

The EA fails to disclose the existing conditions for the project area, for the areas targeted for vegetation treatment, or for the areas targeted for commercial thinning. That is, neither the EA nor any of the supporting documents provide any quantitative information on the existing forest structure in the project area. There is no information provided regarding the existing tree density, the existing canopy closure, or the tree size class distribution in the project as a whole or within any of the treatment areas. Furthermore, the EA contains no analysis or results to indicate the existence of any such information.

Without information on the existing forest conditions, it is impossible to understand the impacts of the project or the purposes for the location of specific treatments. This clearly violates NEPA's requirements to disclose the impacts of the project and violates NEPA's hard look requirements.
The only quantification offered in the EA is the "Prescriptive summary for each ERU utilizing group selection silvicultural method" as provided in Table 7 on page 36 of the EA. This table provides target forest structure criteria such as 20-80 BA and 2-40 trees per tree group/clump for ponderosa pine, and 30-100 BA for dry mixed conifer. However, the EA nowhere demonstrates whether and how the forest is departed from these target conditions. Nor does the EA explain how the appropriate basal area targets (within the broad range of 20 to 80 BA, for example) will be determined for any target area.

The EA provides no information on the existing composition of large and mature trees, or of old growth, in the project area or in any of the targeted treatment areas. Thus, the EA provides no information on the impacts to the composition of large and mature trees, or to old growth, across the project area or in any of the targeted treatment areas.

Overall, the EA fails to disclose either the existing conditions of the forest, the criteria used for determining the location of the treatments, or the impacts of the project on forest structure. Fundamentally, this violates NEPA's hard look mandate.

1. BASAL AREA TARGETS

[49] 42 U.S.C. § 4332(2)(C).
[50] *Biodiversity Conservation All. v. U.S. Forest Serv.*, 765 F.3d 1264, 1269 (10th Cir. 2014).
[51] *Half Moon Bay Fisherman's Mktg. Ass'n v. Carlucci*, 857 F.2d 505, 510 (9th Cir. 1988).

The Project proposes basal area targets of 20-80 square foot per acre for mechanical thinning in ponderosa pine stands and 30-100 BA for mechanical thinning in dry mixed conifer.[52] These are loosely based on the desired conditions for various forest types as stated in the Santa Fe National Forest Land Management Plan. For ponderosa pine forest, the LMP states that "[Stand density] within forested areas ranges from 22 to 89 square foot basal area per acre."[53] For dry mixed conifer, the LMP states that "Tree density within forested areas ranges from 30 to 125 square feet per acre."[54]

These are very large ranges in basal areas, which make it impossible for the public to understand what the forest will look like when the project is implemented, given that treatments may result in only 20 square feet basal area per acre or four times that much. This in turn makes it impossible to understand the impacts on fuels, fire, and wildlife habitat. Does the environmental analysis assume the highest impact scenario and analyze the impacts of reducing all treated acres of ponderosa pine and mixed conifer forest to 20 and 30 square foot basal areas, respectively? Furthermore, does the environmental analysis present fire effects based on the assumption that treatment will result in the lowest basal area at each site?

Basal areas of 20 and 30 square feet per acre are extremely low basal areas that would be associated with sites with extremely low productivity. The EA does not indicate where such low productivity sites exist in the project area. In a cursory survey of the project area, the sites proposed for commercial and pre-commercial thinning did not appear to be low productivity sites. Instead, they appeared to be medium to high productivity sites. It would be a misapplication of the LMP—and would result in significant negative impacts to the forest—if the Project were to apply the low-end basal area target to a site that is not of the lowest productivity.

The EA provides no information on the productivity of any sites in the project area, nor does it indicate the basal area target that would be applied in any particular site. Instead, it proposes to use the entire range of basal areas (truncated forms of the basal area targets stated in the LMP) for all sites targeted for mechanical thinning. Given that the sites proposed for commercial and pre-commercial thinning are the sites most likely to experience the most intensive thinning, and given that these sites are not extreme low-productivity sites, there is a strong indication that the Project is incorrectly applying the basal area targets identified in the LMP.

Furthermore, the EA includes direction to preferentially retain trees specifically for their carbon storage and sequestration capacity.

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[52] Final EA at 36. Table 6: Prescriptive summary for each ERU utilizing group selection silvicultural method.
[53] Santa Fe National Forest Land Management Plan at 46.
[54] Santa Fe National Forest Land Management Plan at 46.

> Retain large diameter trees and healthy smaller diameter trees in densities that meet site prescriptions to aid in carbon sequestration and storage in above-ground biomass.[55]

This design feature essentially states that trees should be retained at the highest densities consistent with site prescriptions, as in the basal areas at the high end of the range for each forest type.

To comply with the Forest Plan, basal area targets must be based on site-specific conditions, and the Project should identify specific basal area ranges to be applied in specific locations, especially the sites proposed for commercial and pre-commercial thinning.

2. REGENERATION OPENINGS.

The Project proposes to create regeneration openings of 0.5 to 4 acres in size in ponderosa pine forest, and 0.5 to 2 acres in mixed conifer and spruce-fir forest.[56] The EA provides no rationale for these particular targets, nor does the Project identify the total amount of regeneration openings to be created, or at what scale. To take the hard look that NEPA requires, the NEPA analysis must fill in these gaps.

The LMP includes no reference standard for the size or density of regeneration openings. Instead, the LMP describes the distribution of seral states that might be found in each forest type. For example, in the ponderosa pine forest type, the LMP expects 2% of the ERU to be early seral and 4% in small trees. The EA does not indicate whether or how these targets apply to the creation of regeneration openings 0.5 to 4 acres.

Furthermore, the LMP is very clear that the distribution of seral stages is to be evaluated specifically at the landscape scale:

> Seral state proportions are applied at the landscape scale, where contributions from all seral stages and low overall departure from reference proportions are positive indicators of ecosystem condition.[57]

To determine the need for the creation of regeneration openings in the Project, and to comply with the Land and Management Plan, the EA must provide an analysis of the current distribution of seral states in each forest type across the project area, to identify the specific deficits in early seral state and how the creation of regeneration openings at any site—and across that forest type—would address that deficit. Without such an analysis, there is no guidance for the number, size, and juxtaposition on the landscape of regeneration openings. In the absence of such

[55] Final EA, Appendix C at 11. Climate-2.
[56] Final EA at 36. Table 6: Prescriptive summary for each ERU utilizing group selection silvicultural method.
[57] Santa Fe National Forest Land Management Plan at 40.

guidance and clear limitations, the creation of regeneration openings could be used to remove trees based solely on the commercial value of those trees, with significant negative impacts to the forest ecosystem.

> **Suggested remedy:** The Forest Service should prepare a new NEPA document, preferably an EIS, that:
>
> - Provides key forest structure metrics of tree density, basal area, and canopy closure for the project area as a whole and the various areas targeted for thinning.
> - Identifies the specific criteria used for determining the location of commercial thinning and precommercial thinning treatments, and analyzes the impacts of these treatments on the forest structure.
> - To comply with the Land and Management Plan, basal area targets must be based on site-specific conditions, and the Project should identify specific basal area ranges to be applied in specific locations, especially the sites proposed for commercial and pre-commercial thinning.
> - To determine the need for the creation of regeneration openings in the Project, and to comply with the Land and Management Plan, the Forest Service must provide an analysis of the current distribution of seral states in each forest type across the project area, to identify the specific deficits in early seral state and how the creation of regeneration openings at any site—and across that forest type—would address that deficit.

B. THE EA FAILS TO TAKE A HARD LOOK AT THE IMPACTS TO OLD GROWTH, BOTH EXISTING AND FUTURE.

The Project proposes to cut trees up to 24" diameter in commercial thinning, characterized as "group selection thinning with regeneration opening."[58] Commercial thinning is proposed for a total of 7,202 acres across the project.[59]

The EA states that a primary objective of commercial thinning is to "promote an uneven-aged structure."[60] The EA also states that stands would be "managed over time to develop a balance of age classes in a mosaic of tightly interspersed structural groups."[61] Appendix D to the EA adds further color to this objective.

> FW-VEG-G-4 Vegetation treatments should be designed such that structural stages and age classes that are under-represented in desired conditions become proportionally

[58] Final EA at 35.
[59] Final EA at 39.
[60] Final EA at 35.
[61] Final EA at 35.

represented, and to assure continuous recruitment of old growth characteristics across the landscape over time.[62]

Nowhere in the EA is there any indication that there is a surplus of VSS class 5 trees in any forest type anywhere in the project area. Trees in VSS class 5 are crucial for developing VSS class 6, as large mature trees (VSS 5) are the only trees capable of developing into old trees (VSS 6) over the next few decades.

Also, nowhere in the EA is there any indication that the creation of openings and the recruitment of younger forest at the mid-scale (10 to 1000 acres) would require the removal of large, mature trees. That is, there is no evidence that openings and younger trees already in the forest are insufficient to establish openings, regeneration, and younger forest, without having to cut larger trees.

Furthermore, the LMP identifies seral stage proportions (VSS class distributions) specifically at the landscape scale (1000 to 10,000 acres).[63] That is, the LMP indicates clearly that efforts to balance the age classes is based on a landscape-scale assessment. Nonetheless, the EA fails to provide any such landscape-scale assessment, and provides no justification or need for cutting large trees. Nor does the EA specify a deficit of smaller trees at the landscape scale, find that the deficit cannot be addressed through the removal of mid-size trees, and ensure that there is no deficit of mature and old trees at the same landscape-scale. This does not appear to be the case for any of the areas proposed for commercial thinning in the Encino Vista project.
The EA indicates that there is a deficit of large and mature trees in the project area, stating that the development of large and mature trees is limited in areas, and that late seral/large tree stages are deficient in all ERUs but pinyon juniper woodlands.[64] However, the EA fails to disclose and analyze the project's impacts to large and mature trees, and its implications for the development of future old growth. Similarly, the EA fails to disclose and analyze the impacts to existing old growth.

The Encino Vista Project includes 26,752 acres of pre-commercial thinning and 7,202 acres of commercial thinning.[65] This includes Group Selection Thinning with Regeneration Opening, which would use group selection and reduce basal areas to 20-80 BA in ponderosa pine, and to 30-100 BA in dry mixed conifer.[66] Basal areas of 20 and 30 are extremely low, essentially equivalent to seed tree regeneration. Thinning down to these ranges in basal areas could involve

[62] Final EA, Appendix D at 3.
[63] Santa Fe National Forest Land Management Plan at 34, 37, 41, and 44.
[64] Final EA at 15.
[65] Final EA at 47.
[66] Final EA at 43 - 44.

the removal of large numbers of trees, including large and mature trees in areas that are deficient in large and mature trees.

The EA states that large and mature trees are found throughout the project area but fails to disclose where, how many, and at what proportions.[67] Indeed, the EA states that all dominant forest types but pinyon-juniper woodlands are disproportionate for seral state proportions.[68] This presumably means that there is a deficit of large and mature trees at the stand scale and greater. Similarly, the EA states that frequent-fire ERUs are overpopulated with closed seral states, but does not disclose whether and to what degree those closed seral states are comprised of large and mature trees.[69] The EA does, however, disclose that ERUs other than frequent fire ERUs are deficient in its composition of late-seral and large-tree stages.[70]

The EA acknowledges that the Forest Plan dictates that vegetation treatments should ensure the development of old growth.

> Vegetation treatments should be designed such that structural stages and age classes that are under-represented in desired conditions become proportionally represented, and to assure continuous recruitment of old growth characteristics across the landscape over time."[71]

In addition, the EA includes a few references to the requirements of the Forest Plan with respect to old growth.

> The SFNF LMP, provides descriptions for old growth by ERU, minimum criteria for old growth classification, as well as guidance for the management of old growth on the SFNF (USDA, 2022).
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> Midscale GIS data was used to allocate old growth in each of the forest types found in Table 11. Due to the limitation of data the allocations may not meet all the criteria in Table 11. For instance, dead and down woody material data is not available in midscale data sets. Therefore, the old growth allocations would be ground verified as the project is implemented. Some stands maybe dropped from is allocation and other maybe be added.

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[67] "Large and mature trees are found throughout the project area. However, the development of future large, mature trees is limited in areas characterized by dense stands of small to medium sized trees. Existing old growth is also at risk for damage or loss due to high-severity wildfires, insects, and diseases. Existing conditions for the dominant forest types in the EVLRP area, with the exception of PJO, are disproportionate for seral state proportions. Frequent-fire ERUs are currently overpopulated with closed seral states. Other forest ERUs are deficient of late seral/large tree stages." EA at 15.

[68] Final EA at 15.

[69] Final EA at 15.

[70] Final EA at 15.

[71] Santa Fe National Forest Land Management Plan at 32.

> Stands that are close to meeting old growth criteria may receive a treatment to move the stand closer to old growth in a shorter time frame.[72]

This reference to guidance in the Forest Plan fails to explain how that guidance applies to the project area, or how the proposed actions will implement it. Specifically, it does not indicate whether the project could include the logging of old growth trees. Also, the second sentence refers to criteria in Table 11, but Table 11 contains no criteria.

This paragraph is unclear whether "allocation" in this context is inclusive or exclusive. That is, it remains ambiguous whether the allocation process will identify all potential old growth for protection or whether it will identify a set amount of old growth beyond which protections do not apply.

The final sentence in the above excerpt indicates that some stands may be thinned in a way that moves the stand closer to meeting old growth criteria. However, it remains unclear whether this refers to logging smaller trees to increase the average tree size in the stand, or to removing mature trees in order to decrease the tree density in the stand. The EA should identify specific criteria for such treatment and clearly define the treatment. The EA should also provide a map of the locations of the old growth stands and the stands that may be targeted for treatment

The EA is similarly ambiguous with respect to Mexican spotted owl (MSO) and goshawk areas treated as old growth.

> Some areas managed for wildlife habitat, i.e., MSO nest/roost areas (Cores) and replacement nest/roost areas as well as Northern Goshawk post-fledgling family areas and nest areas, are considered as old growth areas due to the desired structural and density characteristics of these areas.[73]

As with the ambiguity of old growth "allocation," it is not clear whether the MSO nest cores and goshawk Post-Fledging Family Areas (PFAs) are additive to the overall area to be treated as old growth.

Overall, the EA fails to disclose how many large trees will be removed, the proportion of large trees in the project area or within any stand, or what proportion of large trees will be removed from any area. Fundamentally, this violates NEPA's hard look mandate. As a result, the EA fails to include measures to assure the retention of existing old growth or the retention of the largest trees to ensure the development of future old growth. The EA neglects to state how the project will treat old growth trees and old growth stands, instead referring obliquely to the Santa Fe National Forest Land Management Plan. The EA further fails to explain how old growth will be

[72] Final EA at 47.
[73] Final EA at 47.

retained and promoted in areas reduced to 20 and 30 BA, or in areas targeted for clearcut logging for even-age regeneration.

> **Suggested remedy:** The Forest Service should prepare a new NEPA document, preferably an EIS, that:
> - Adopts a mitigation measure that retains all trees older than 150 years and retains all trees larger than 18 inches diameter at breast height.
> - Provides an analysis of the tree size class distribution at the project scale so that the composition of large trees at the stand scale can be evaluated in context of the project area.
> - Identifies areas deficient in large tree seral stages and retains the largest trees at the stand scale for old growth recruitment.

C. THE EA FAILS TO TAKE A HARD LOOK AT THE IMPACTS TO SENSITIVE SPECIES

Appendix A of the EA identifies 24 species of conservation concern within the project area. These are American Peregrine Falcon, Boreal Owl, Chaco Milkvetch, Chama Blazing Star, Greene's Milkweed, Gunnison's Prairie Dog, Gunnison's Mariposa Lily, Jemez Woodland Snail, Large Yellow Lady's-Slipper, Lewis's Woodpecker, Masked Shrew, Northern Goshawk, Pacific Marten, Pinyon Jay, Rio Grande Chub, Rio Grande Cuthroat Trout, Rio Grande Sucker, Snowshoe Hare, Spotted Bat, Springer's Blazing Star, Tufted Sand Verbena, Water Shrew, Western Burrowing Owl, and Wood Lily.

Appendix A asserts that the needs of these species were considered in the LMP, that the Encino Vista Project is consistent with the LMP and, therefore asserts that the Encino Vista Project is consistent with the needs of these species.

> These species were evaluated for forest plan compliance, specifically for Standards (S), Guidelines (G) and Desired Condition (DC). The remaining SCC species were not considered for further analysis based on lack of suitable habitat or occurrence within the project footprint (USDA Santa Fe NF 2022). See Appendix C for a list of Project Design Features, Best Management Practices (BMPs) and Mitigation Measures for biological resources.[74]

Based on this assertion, the EA neglects to disclose and analyze the impacts to all SCC listed in the LMP. This violates NEPA's hard look mandate.

The EA does identify significant impacts to the ESA-endangered Jemez Mountain Salamander (JMS).

[74] Final EA, Appendix A at 1.

> Commercial thinning (and associated road maintenance work) would impact up to 940 acres of suitable JMS habitat. Direct effects to JMS include harassment, potential injury or mortality. These effects may occur through use of vehicles and ground skidding equipment (GSE) accessing commercial timber units to conduct thinning operations and skidding logs to landings. Indirect effects to suitable habitat include decrease in canopy cover, inadvertent destruction of habitat features (downed wood) by GSE, increases in solar radiation, long term reduction in habitat quality and habitat fragmentation (compaction)…[75]

Despite identifying these impacts, the EA considers and analyzes no alternatives to mechanical thinning in the JMS habitat, despite the fact that hand thinning and broadcast burning would clearly reduce the impacts to JMS.

Instead, the EA refers to the design features listed in Appendix D, which include no disclosure or analysis of the impacts to the species:

> Burn piles will be constructed away from existing large down logs and rock piles within JMS habitat. Hand piles would be comprised of limbs, boles and branches less than 9-inches dbh and the pile would not exceed 6 feet in diameter or 6 feet in height (conical or paraboloid shape).[76]
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> Piles will be burned within 1.5 to 2 years of creation to limit the potential for colonization by individual salamanders.[77]
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> If a proposed activity may disrupt breeding conditions for an at-risk species, timing restrictions or other implementation adjustments may be imposed for said species. Contact SFNF biologists for project specific implementation guidance.[78]

Appendix A of the EA describes the guidance in the Santa Fe National Forest Land Management Plan with respect to northern goshawk habitat.

> The forest should use the most current ecological guidelines to improve nesting conditions for goshawk (Accipiter gentilis): A minimum of three goshawk nest areas and three replacement nest areas should be located per goshawk territory. Goshawk nest and replacement nest areas should generally be located in drainages, at the base of slopes, and on northerly (northwest to northeast) aspects. Nest areas should generally be 25 to 30 acres in size. b Goshawk post-fledging areas of approximately 420 acres should be designated surrounding nest sites. c In goshawk foraging areas and post-fledging family

[75] Final EA at 87.
[76] Final EA, Appendix C at 9. WILD-9.
[77] Final EA, Appendix C at 10. WILD-15.
[78] Final EA, Appendix C at 10. WILD-20.

areas, groups of three to five reserve trees should be retained within management-created openings greater than 1 acre in ponderosa pine communities, and six reserve trees (VSS class 5 or 6) should be retained within management-created openings greater than 0.5 acre in spruce-fir communities. d In occupied goshawk nest areas, human presence should be minimized between March 1 and September 30 (per Guideline 1a in this section).[79]

This same section of Appendix A asserts, without evidence, that the Encino Vista Project complies with LMP requirements.

> The project is consistent with the LMP and requirements for SCC. This is because the needs of the species have been incorporated into the purpose and need, project design criteria and the proposed action. Review Appendix C for a complete list of the project design features which have been developed for at risk species.[80]

However, Appendix C contains no criteria or project design feature for designating and managing goshawk PFAs.

The EA indicates that goshawk PFAs, like MSO nest cores, will be "considered" old growth.[81] However, neither the EA nor Appendix C contains any specific criteria or project design features for ensuring that such areas are managed for the retention of the largest trees or the development of future old growth. The EA's summary of silvicultural prescriptions for goshawk PFAs indicates that PFAs will be thinned to increase BA 10-20%.[82] However, the EA does not explain, disclose, or analyze how thinning to 20-80 BA in ponderosa pine and 30-100 BA in dry mixed conifer will result in a 10-20% increase in BA.[83]

Management Recommendations for the Northern Goshawk suggest that the PFAs ensure suitable prey habitat is available and that "[f]eatures of prey habitat in the PFA include:

1) large (>18 inches DBH) feeding and/or nesting trees for tree squirrels,
2) large (>18 inches DBH and >30 feet tall) snags and/or trees with exposed heartwood for nest cavity excavation by woodpeckers,
3) patches of mid-aged forests with high canopy cover (up to 70%) that provide mesic conditions for fungi (important foods for all the mammalian prey),
4) small (>2 inches in diameter and >8 feet long) downed logs and other woody debris that provide hiding, feeding, denning, and nesting sites used by goshawk prey.

[79] FW-ATRISK-G-5 in SCC report at 4.
[80] FW-ATRISK-G-5 in SCC report at 4.
[81] Final EA at 47.
[82] Final EA at 36.
[83] Final EA at 36.

5) large (>12 inches in diameter and >8 feet long) downed logs and other woody debris that provide hiding, feeding, denning, and nesting sites used by goshawk prey."[84]

The EA contains no comparable guidance, but it does permit the logging of trees up to 24 inches dbh, which could conflict with goshawk guidance to retain trees 18 inches dbh and greater. The failure to comply with the Northern Goshawk Management Recommendations or explain why it would ignore that science, violates NEPA.

Suggested remedy: The Forest Service should prepare a new NEPA document, preferably an EIS, that:
Discloses and analyzes the impacts to northern goshawk and Jemez Mountains salamander habitat.
Considers limiting tree thinning within Jemez Mountain salamander habitat and northern goshawk PFAs to hand-thinning up to 9 inches diameter as a measure to minimize impacts.

D. THE EA FAILS TO DISCLOSE AND ANALYZE THE IMPACTS RELATED TO ROAD-BUILDING AND ROAD USE.

Our comments explained the Forest Service must take a hard look at the environmental consequences of its transportation system, including the direct, indirect and cumulative impacts from road presence (both system and non-system), temporary road construction, and motorized vehicle use (including unauthorized use of closed roads and non-system routes). We explained the Forest Service must consider these impacts in the context of climate change, increased instances of human wildfire ignitions, impacts to wildlife, water quality, and overall watershed conditions. The Forest Service failed to respond to our comments or provide the necessary analysis to comply with NEPA's hard look mandate. The following examples explain some of our concerns, but are hardly exhaustive.

1. Failure to use an appropriate baseline

Our comments explained the agency must differentiate between the miles of national forest system roads and the network of non-system within the agency's jurisdiction. The baseline should only include the former and be separate from the no action that retains the existing condition. This is necessary to disclose the environmental consequences of the unauthorized roads, however the agency instead lumped all of them together in its analysis and failed to respond to our comments.

[84] Management Recommendations for the Northern Goshawk at 16. See Exhibit #1.

Further, we found discrepancies between the roads dataset used in the EVLRP analysis and the Southwest Region INFRA Roads GIS data. We used the Forest Service Southwest Region's INFRA data to map existing roads within the project area that are in the agency's jurisdiction and acknowledge there may be discrepancies between the two datasets. However, the Forest Service did not provide the geodatabase files that would have enabled us to replicate the methods used in the EVLRP analysis, and we ask the agency to both provide such data and explain why it departs from the publicly available INFRA data. In comparing the two, we found there were approximately 24 more miles of system roads in the INFRA data compared to the EVLRP analysis, see Table 1 below. Part of the difference could be the implementation of road closures moving ML 2 roads to an ML 1 status or road decommissioning. Importantly, the Forest Service disclosed there were 44 miles of unauthorized roads, but failed to account for their specific resource impacts. For example, the agency states "The GRAIP-Lite model[3] (Nelson et al., 2019) was used to analyze all NF ***system*** roads within the project area."[85] The Forest Service should have included unauthorized roads in its analysis, disclosed the amount of sedimentation produced, and then provided a comparison with the system roads to differentiate the impacts between the existing condition and the legal baseline. Such an approach should have been done consistently for all applicable resource impacts.

Table 1. Comparison of Road Miles between EVLRP and R3 INFRA

Maintenance Level	EVLRP NRM Data[86]	R3 INFRA Data[87]	Differences
ML 1	195	189	6
ML 2	486	508	22
ML 3	78	86	8
ML 4	1	1	0
ML Total	760*	784	24
Unauthorized	44	44	0
Total	804	828	24

* The Forest Service rounding puts this number at 761 miles.

The discrepancies displayed in Table 1 may also be attributable to how the Forest Service assigned Maintenance Levels in the EVLRP analysis. Looking at the EVLRP Appendix F Part 2,

[85] EVLRP Watershed Effects Analysis Report at 6, emphasis added.
[86] EVLRP Transportation Report at 2, Table 1. ("Information related to the forest transportation road network was obtained from the Natural Resource Manager (NRM) Roads and Access and Travel Management applications.").
[87] Road data obtained from the INFRA II_ROAD_CORE Geodatabase: https://usfs-public.app.box.com/s/w8drs0jkxkdnpuztio733s2tfba1e8b3 (last accessed May 20, 2025). See Exhibit #2.

the maps displayed are titled "GRAIP-Lite Maps Showing Sediment Delivery by Road Segment MVUM and Obj. ML Displayed." This suggests the Forest Service used "Objective" Maintenance Levels to classify each road instead of "Operational" Maintenance Levels, and there is a crucial difference between the two:

> The operational maintenance level is the maintenance level currently assigned to a road considering today's needs, road condition, budget constraints, and environmental concerns; in other words, it defines the level to which the road is currently being maintained. The objective maintenance level is the maintenance level to be assigned at a future date considering future road management objectives, traffic needs, budget constraints, and environmental concerns. The objective maintenance level may be the same as, or higher or lower than, the operational maintenance level.[88]

In other words, the operational ML represents the current road status, and the GRAIP-Lite model explains this is the proper data to include:

> The three required fields for any dataset are the route status (ROUTE_STAT or ROUTE_STATUS), surface type (SUFACE_TY or SURFACE_TYPE), and operational maintenance level (OPER_MAINT or OPER_MAINT_LEVEL) fields; short names are for shapefiles and long names are for geodatabase feature classes.[89]

The Forest Service must clarify if it used operational or objective maintenance levels to disclose the existing conditions and conduct its analysis. In particular, if it used objective maintenance levels in its GRAIP-Lite modeling, then the agency must redo its modeling and include the 44 miles of unauthorized roads.

2. Failure to consider human-caused wildfire ignitions

Our comments explained that human-caused wildfire ignitions cause the majority of fires on national forest lands, and an effective way to protect homes and communities from wildfire would be to limit motorized access and decommission roads. We urged the agency to disclose and discuss the potential for human-caused wildfire ignitions facilitated by road access across the project area and within the Wildlands Urban Interface, especially given the project's purpose is to protect local communities. As part of this analysis, we explained the agency must actually delineate the WUI, the proposed actions within the WUI, and the roads and motorized trails within the WUI. Given the scope and scale of the agency's proposal and the stated need to reduce instances of wildland fires, the Forest Service must consider human caused ignitions in a detailed statement, and part of that consideration is disclosing the number of human-ignited wildfires that have occurred within the region that would otherwise have been prevented had there been no road access. However, while the agency mentioned the role of human-caused

[88] Forest Service Handbook 7709.55 Ch. 62.31 at 5.
[89] Nelson et al., 2019.

wildfire ignitions in recent high-severity fires, it provided no detailed analysis of the role roads serve in such ignitions, or their history.[90] In fact, the Forest Service provided no meaningful response to our comments at all in violation of the NEPA.

3. Failure to analyze watersheds and water quality

We commented at length about the need to take a hard look at the existing watershed conditions and water quality within the project areas, and the potential environmental consequences from the proposed action. We noted errors in the draft environmental assessment, which the Forest Service states were corrected in its final analysis.[91] However, discrepancies remain, as we noted above in the GRAIP-Lite modeling, and further, the agency did not sufficiently disclose the environmental consequences of its proposed action. In particular, the Forest Service utilized three different models to assess watershed conditions, erosion and sedimentation. Apparently, the agency used FuME in conjunction with WEPP "to predict soil erosion and sedimentation associated with proposed fuel management activities including prescribed fire and roads."[92] Here the agency applied the FuME model to areas where WEPP identified hillslopes "most susceptible to erosion and sedimentation," and provided a map displaying where it applied the FuME model.[93] However, the map shows significant areas of moderate, severe soils omitted from the FuME analysis on both satisfactory and unsatisfactory classifications. It is unclear if the FuME model was applied to all soils with a moderate and severe soil erosion hazard rating. Moreso, the Forest Service explains that

> "Outputs by the WEPP FuME model were given as tons/they were subsequently converted to tons/acre and divided by 15 years (our NEPA timeframe) to describe tons/acre per year. Therefore, the output is approximately averaged across this project's implementation period; in reality the erosion and sedimentation would be most significant the year following the disturbance, gradually decreasing in volume over time.[94]

We agree the risk of erosion and sedimentation would occur during project implementation, and as such the analysis does not reflect when sedimentation caused by road use and construction will likely occur. Part of the model limitation stems from the fact that the agency fails to disclose where and when it will use specific roads, construct temporary roads or open currently closed roads. The lack of specificity violates NEPA. Additionally, the Forest Service explains that "FuME was run on several hillslopes within each HUC12 watershed; results were then averaged

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[90] Final EA at 41.

[91] EVLRP Response to Comments Report at 7 ("The project's roads analysis was reevaluated and revised in the final EA. The milage numbers in the EA were correct and the language was revised to more clearly reflect baseline conditions, proposed treatments and potential effects.").

[92] EVLRP Watershed Effects Analysis Report at 5.

[93] *Id.*

[94] *Id.*

to represent a general erosion and sedimentation rate for each project area watershed (see Table 3 and Table 4 below for results."[95] Those tables list specific WEPP points, but it is unclear if those points fully capture the potential for erosion and sedimentation, since the map in Figure 1 omits so many areas with severe or moderate erosion potential. As it stands, the Forest Service estimates that under the No Action Alternative, "756 miles of road within the project area contribute about 23 tons of sediment to streams every year."[96] Yet, the agency discloses there are 761 miles of road, and an additional 44 miles of unauthorized roads. It is unclear why these were omitted from the analysis. Here we note that under the existing condition, all watersheds in the project area are impaired or functioning at risk. The proposed action is meant to improve watershed conditions and address road-related sedimentation. Yet, the Forest Service explains the following:

> Under the Proposed Action alternative, existing NFS roads and unclassified routes[97] in the project area would continue to receive low recreational traffic, but would also see an increase in traffic due to project implementation.
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> The Disturbed WEPP results (as provided by the FuME model) indicate this traffic increase will result in an additional 57 pounds of sediment per mile (or approximately 21.5 tons per year by all roads in the project area)."[98]

Together, this suggests there will be 44.5 tons/yr of sediment delivery to waterways within the project area from road use, and that omits any temporary road construction or reconstruction. Sedimentation levels will likely be higher in certain years since the agency only reported a 15-yr average. This amount of sediment is in addition to the 118 tons/yr delivered to waterbodies from the mechanical thinning and burning activities.[99] Altogether, it is clear that the proposed action will significantly increase erosion and sediment delivery to waterbodies in the project area, and thus undermine the project's actual purpose.

Further, the analysis fails to show the intersection between the FuME/WEPP and GRAIP-Lite modeling. "GRAIP_Lite estimates sediment production and delivery separately. The first component calculates an estimate of the amount of sediment produced from each segment of, and the second component then models how much of that sediment is actually delivered to the stream network, where it can impact aquatic habitat."[100] It would appear that GRAIP-Lite is the more appropriate model to use to estimate sedimentation, especially since it was used to analyze every system road within the project area, and the agency provided maps displaying

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[95] *Id.*
[96] *Id.* at 15.
[97] Here we remind the agency that it omitted unauthorized roads from its GRAIP-Lite modeling and it is unclear what roads the agency included in its FuME/WEPP modeling.
[98] EVLRP Watershed Effects Analysis Report at 27.
[99] *Id.* at 22.
[100] Nelson et al., 2019 at 6.

sedimentation from each road.[101] In fact, the Forest Service listed 55 road miles open to the public that are responsible for the highest amount of sedimentation, but it did not include any of the other roads within the project area. We urge the agency to supplement its analysis by providing GRAIP-Lite model results for all roads across the project area reported by subwatershed.

Further, the Forest Service lists impaired watersheds, including those with TMDLs.[102] Yet, it fails to provide a table or analysis showing how the proposed action will meet TMDLs for sediment or siltation. Further, it fails to disclose how much of the sediment TMDLs are road-related, and if the proposed action will meet or exceed the established thresholds. The agency explains that "Table 1 describes the existing condition of project area watersheds, water quality, and road density, as well as their overlap with the project area."[103] However, it fails to provide a similar table for the proposed action. In other words, the analysis fails to answer a basic question - will the proposed action exceed sediment TMDLs, and will it result in moving watershed out of an impaired function or functioning at risk? The analysis lacks clarity and sufficiency to answer those questions. Failing to clearly answer such basic questions precludes the agency from demonstrating compliance with the Clean Water Act, NEPA and NFMA where forest plan components require meeting those TMDLs.

Moreso, we commented at length about the use of the Watershed Condition Framework that the agency used to identify watersheds functioning at risk or with impaired function. Specifically we asked that the analysis include specific ranking for the Road & Trail Indicator, with scores for each attribute: road densities, proximity to water, mass wasting and maintenance. The agency failed to disclose this information, precluding its ability to show how the rankings may change under the proposed action. The lack of disclosure and discussion regarding road maintenance is particularly glaring given that much of the watershed degradation comes from a failure to meet road management objectives including conducting routine maintenance. In fact, the agency fails to disclose its deferred maintenance backlog even while claiming "Routine annual inspections of the condition of the transportation system are conducted to determine the appropriate level of maintenance required to keep the route at the desired maintenance level and address issues of erosion and sedimentation."[104] BMPs, PDF and Mitigation Measures that rely on road maintenance are inapplicable without the funding to carry them out, and the agency fails to disclose or discuss its current or future maintenance capacity. Furthermore, our comments explained at length that the Forest Service cannot assume 100 percent successful implementation of its BMPs, PDFs and Mitigation Measures, or that they will be 100 percent effective in

[101] EVLRP Final EA Appendix F
[102] EVLRP Watershed Effects Analysis Report at 9, Table 1.
[103] *Id.* at 8.
[104] EVLRP Transportation Analysis Report at 1.

addressing road-related impacts. The agency failed to properly respond to these comments and concerns.

4. Failure to analyze temporary roads

Our comments explained the concerns we have with the proposed action to construct 8 miles of temporary roads using unauthorized routes when available or construct them in undisturbed areas.[105] We noted that the agency provided maps illustrating where roads would be improved to provide access for the proposed actions, but it failed to identify the location of temporary roads.[106] In addition, the agency failed to account for the construction (or reconstruction) and use of temporary roads in its analysis as we noted above. Specifically, the Forest Service failed to include any sedimentation estimates for temporary road construction and use.

Further, the agency direction for removing temporary roads is unclear at best and contradictory in places. For example, the analysis states "Once treatment activities no longer require the use of such temporary roads, these temporary roads will be obliterated or reclaimed."[107] Yet, the Forest Service also states "Upon project completion, all temporary roads utilized during implementation within the project area will be closed and rehabilitated (restored to pre-project conditions)."[108] At the same time, the agency directs following:

> Upon timber unit completion, and prior to beginning work in another area, all temporary roads and skid trails should be decommissioned (i.e. obliterated) as needed and will be camouflaged with slash, logs, and/or rocks.[109]

Unfortunately, the draft decision includes the less precise direction stating " All temporary roads will be closed and rehabilitated after treatment activities are completed."[110] To be clear, no temporary roads should persist on the ground after use, and we urge the agency to adopt a revised version of the specific direction in the EVLRP Final EA Appendix C PDF and Mitigations at 11 (Water 36) with a clear time limit that reads:

> Within 3 years of construction, and prior to beginning work in another area, all temporary roads and skid trails should be decommissioned (i.e. obliterated) as needed and will be camouflaged with slash, logs, and/or rocks.

<u>Suggested Remedy:</u>

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[105] *See* EVLRP Transportation Analysis Report at 6, ("For any temporary road routes, previously disturbed areas would be used whenever possible to limit disturbance, including old logging routes or unclassified routes.").
[106] EVLRP Final EA Appendix E
[107] EVLRP Transportation Analysis Report at 6.
[108] EVLRP Watershed Effects Analysis Report at 53. *See also* EVLRP Final EA Appendix C PDF and Mitigations at 10.
[109] EVLRP Final EA Appendix C PDF and Mitigations at 11 (Water 36).
[110] Draft DN at 5.

Revise the analysis to address the lack of clarity and deficiencies noted above, specifically analyzing the risk of roads as a vector for human-caused wildfire ignitions; produce an EIS or supplement the existing analysis to use the proper baseline, take a hard look at the road-related sedimentation by producing GRAIP-Lite model results for roads within each subwatershed to show how the proposed action will meet TMDL and not further impair watershed function; disclose the deferred maintenance backlog and ability of the agency to perform routine maintenance; disclose the Watershed Condition Framework's Road and Trail Indicator ranking and attribute scores, and how they would change under the proposed action; disclose the location and time of use for all temporary roads and direct their full obliteration within 3 years of construction.

III. THE FINAL EA FAILS TO ANALYZE A RANGE OF REASONABLE ALTERNATIVES.

In taking the "hard look" at impacts that NEPA requires, an EA must "study, develop, and describe" reasonable alternatives to the proposed action.[111] The Tenth Circuit explains that this mandate extends to EAs as well as EISs. "A properly-drafted EA must include a discussion of appropriate alternatives to the proposed project."[112] This alternatives analysis "is at the heart of the NEPA process, and is 'operative even if the agency finds no significant environmental impact.'"[113] Reasonable alternatives must be analyzed for an EA even where a FONSI is issued because "nonsignificant impact does not equal no impact. Thus, if an even less harmful alternative is feasible, it ought to be considered."[114] When an agency considers reasonable alternatives, it "ensures that it has considered all possible approaches to, and potential environmental impacts of, a particular project; as a result, NEPA ensures that the most intelligent, optimally beneficial decision will ultimately be made."[115]

In determining whether an alternative is "reasonable," and thus requires detailed analysis, courts look to two guideposts: "First, when considering agency actions taken pursuant to a statute, an alternative is reasonable only if it falls within the agency's statutory mandate. Second,

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[111] 42 U.S.C. § 4332(2)(C) & (E).

[112] *Davis v. Mineta*, 302 F.3d 1104, 1120 (10th Cir. 2002) (granting injunction where EA failed to consider reasonable alternatives).

[113] *Diné Citizens Against Ruining Our Env't v. Klein*, 747 F. Supp. 2d 1234, 1254 (D. Colo. 2010) (quoting *Greater Yellowstone Coal. v. Flowers*, 359 F.3d 1257, 1277 (10th Cir. 2004)). *See also W. Watersheds Project v. Abbey*, 719 F.3d 1035, 1050 (9th Cir. 2013) (in preparing EA, "an agency must still give full and meaningful consideration to *all* reasonable alternatives" (emphasis added) (internal quotation and citation omitted)); 40 C.F.R. § 1502.14 (describing alternatives analysis as the "heart of the environmental impact statement").

[114] *Ayers v. Espy*, 873 F. Supp. 455, 473 (D. Colo. 1994) (internal citation omitted).

[115] *Wilderness Soc'y v. Wisely*, 524 F. Supp. 2d 1285, 1309 (D. Colo. 2007) (quotations & citation omitted).

reasonableness is judged with reference to an agency's objectives for a particular project."[116] Any alternative that is unreasonably excluded will invalidate the NEPA analysis. "The existence of a viable but unexamined alternative renders an alternatives analysis, and the EA which relies upon it, inadequate."[117] The agency's obligation to consider reasonable alternatives applies to citizen-proposed alternatives.[118]

Courts hold that an alternative may not be disregarded merely because it does not offer a complete solution to the problem.[119] Even if additional alternatives would not fully achieve the project's purpose and need, NEPA "does not permit the agency to eliminate from discussion or consideration a whole range of alternatives, merely because they would achieve only some of the purposes of a multipurpose project."[120] If a different action alternative "would only partly meet the goals of the project, this may allow the decision maker to conclude that meeting part of the goal with less environmental impact may be worth the tradeoff with a preferred alternative that has greater environmental impact."[121]

The courts also require that an agency adequately and explicitly explain in the EA any decision to eliminate an alternative from further study.[122]

A. The Forest Service failed to consider an alternative that would comply with Subpart A of the Travel Management Rule and implement a minimum road system.

Our previous comments explained at length the need for the Santa Fe National Forest to finally right-size its road system by implementing a minimum road system as identified under a revised travel analysis report. Such action is necessary to comply with subpart A of the Travel Management Rule.[123] We reminded the Forest Service that the Roads Rule created two important obligations for the agency. One was to complete a Travel Analysis Report and identify unneeded roads to recommend for decommissioning or to be considered for other uses.[124] Another

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[116] *Diné Citizens Against Ruining Our Env't*, 747 F. Supp. 2d at 1255 (quoting *New Mexico ex rel. Richardson*, 565 F.3d at 709).
[117] *Id.* at 1256.
[118] *See Ctr. for Biological Diversity v. Nat'l Highway Traffic Safety Admin*., 538 F.3d 1172, 1217-19 (9th Cir. 2008) (finding EA deficient, in part, for failing to evaluate a specific proposal submitted by petitioner); *Colo. Envtl. Coal. v. Dombeck*, 185 F.3d 1162, 1171 (10th Cir. 1999) (agency's "[h]ard look" analysis should utilize "*public comment* and the best available scientific information") (emphasis added).
[119] *Natural Resources Defense Council, Inc. v. Morton*, 458 F.2d 827, 836 (D.C. Cir. 1972).
[120] *Town of Matthews v. U.S. Dep't. of Transp.*, 527 F. Supp. 1055 (W.D. N.C. 1981).
[121] *North Buckhead Civic Ass'n v. Skinner*, 903 F.2d 1533, 1542 (11th Cir. 1990).
[122] *See Wilderness Soc'y*, 524 F. Supp. 2d at 1309 (holding EA for agency decision to offer oil and gas leases violated NEPA because it failed to discuss the reasons for eliminating a "no surface occupancy" alternative); *Ayers*, 873 F. Supp. at 468, 473.
[123] *See* 36 C.F.R. § 212.5(b) (i.e. the Roads Rule).
[124] 36 C.F.R. § 212.5(b)(2).

obligation was to identify the minimum road system needed for safe and efficient travel and for the ***protection***, management, and use of National Forest system lands.[125] The Forest Service failed to complete a project specific travel analysis report, identify its minimum road system within the project area or include actions that would actually achieve a minimum road system through decommissioning (i.e. reclaim) unneeded roads or closing currently open roads. In its response to comments regarding travel management, the Forest Service focused on those asking to designate additional motorized trails, but failed to respond in any way to our comments regarding compliance with subpart A of the Travel Management Rule and including road decommissioning in the proposed action.[126] Our comments urged the agency to include these activities in order to meet the project's purpose and need that includes "improving watershed health," and "... a need to improve and maintain a transportation system in a manner that reduces negative impacts to watershed health…"[127] However, the agency erroneously asserts that including actions to "reclaim roads deemed unessential would not meet the purpose and need [of] the EVLRP project."[128] This is an obvious contradiction to the stated purpose and need, and fails to respond to our comments. In fact, the agency states any road decommissioning would only take place at some unspecified time in the future after further evaluation.[129] The Forest Service seems to suggest that the Northern New Mexico Riparian, Aquatic, and Wetland Restoration (NNM-RAWR) Project decision would address road decommissioning.[130] However, the NNM-RAWR decision provided a toolbox of actions the agency could take, but it did not direct decommissioning specific road segments, rather it only provided a range of 4-10 projects for "Road and trail erosion control, relocation, and decommissioning" across the Santa Fe, Cibola and Carson National Forests.[131] Clearly, the Forest Service could have included road decommissioning and road closures in its proposed action to implement a recommended minimum road system as identified in an updated travel analysis report.[132]

B. The Forest Service Failed to Consider Alternatives that Limit the Logging of Large or Old Trees.

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[125] *Id*. § 212.5(b)(1), emphasis added.

[126] EVLRP Response to Comments Report at 21.

[127] Draft Decision Notice at 1.

[128] Final EA at 33.

[129] EVLRP Transportation Report at 5, (stating "100 miles of road segments not open to the public (not on the MVUM) should be further evaluated for road drainage improvements or decommissioning.").

[130] EVLRP Transportation Report at 5-6 ("The NNM-RAWR decision applies to the 203 miles of administrative use only roads and unauthorized routes…The NNM-RAWR decision applies to the 41 miles of administrative use only and ML 1 roads as well as any unclassified routes (non-system roads) identified in the treatment areas.).

[131] NNM-RAWR Final Decision Notice at 6, Table 3.

[132] The Forest Service seems to suggest that the 2012 Travel Analysis Process report adequately identified the minimum road system, when in fact, it focused on identifying roads, trails and areas to designate for off-road vehicle use per subpart B of the TMR, which does not respond to our comments, See EVLRP Transportation Report at 8.

Large and old ponderosa pine trees are relatively rare now in the Southwest compared to the period before European settlement because they were heavily logged over the last 150 years. Large, old ponderosa serve valuable ecosystem functions, have outsize value for wildlife, are more fire resistant, serve as important storehouses of genetic diversity, and store significant amounts of carbon.[133] The Forest Service confirms that large and old trees are the rarest cohort of trees in the Salter Project area, with almost no trees larger than 26" dbh, and a relatively small fraction above 20" dbh.[134] A recent scientific review, whose authors include many Forest Service researchers, confirms the importance of protecting large, old trees to improve forest resilience and protect wildlife.[135]

The study, among other things, states:

> "Forest thinning in these forest types [should be] aimed *at retaining larger, more fire-resilient tree species*, and restoring open canopy structure."[136]
>
> "Fuel treatments that modify within-stand structure to remove small trees and reduce surface fuels *while retaining large, more fire-resistant trees* and variable stand structure (Stephens et al. 2021) are most appropriate in dry pine, dry to moist mixed-conifer forests and oak woodlands, particularly where there is evidence that older fire-resistant species have been or are being replaced by younger fire-sensitive species (e.g. Yocom-Kent et al. 2015)."[137]
>
> "[*T]reatments that restore the ecological resilience of old-growth forests and patches with large and old trees are critical to long term maintenance of wildlife habitats* (Hessburg et al. 2020) of seasonally dry forests and terrestrial carbon stocks, and slowing the feedback cycle between fire and climate change (Hurteau and North 2009)."[138]
>
> "Several studies highlight that the most effective fuel treatments include coupled thinning and burning (Kalies and Yocom Kent 2016), *and emphasize the importance of retaining large, fire-resistant trees* in dry mixed conifer forests (Agee and Skinner 2005, DellaSala et al. 2004, Stephens et al. 2009)."[139]

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[133] *See, e.g.*, Four Forest Restoration Initiative, Old Growth Protection & Large Tree Retention Strategy (Sep. 13, 2011) at 3-4 (citing numerous studies). See Exhibit #3.
[134] *See* Final EA at 7 (Figure 4) (showing no trees over 29" dbh).
[135] S. J. Pritchard, P. *et al*., Adapting western North American forests to climate change and wildfires: ten common questions, *Ecological Applications* (July 2021).
[136] *Id*. at 11 (emphasis added).
[137] *Id*. at 13 (emphasis added).
[138] *Id*. at 22 (emphasis added).
[139] *Id*. at 27 (emphasis added).

> "Although the management situation for wNA [western North America] forests is daunting, our review of the scientific literature offers clear guidance. In seasonally dry wNA forests that were historically dominated by fire-resistant species, restoring open, fire-tolerant canopy structure and composition, *favoring larger tree sizes*, and reducing surface fuels can effectively mitigate subsequent wildfire and stabilize carbon stocks (Fig. 1)."[140]

As a result, numerous studies, collaboratives, and Forest Service decisions have emphasized the need to protect large and old ponderosa pine trees in order to achieve both ecological restoration and greater resilience to catastrophic events such as wildfire and insect infestations. These decisions have often done so by setting an upper limit for the size of trees that can be logged for forest management.

For example, the Four Forest Restoration Initiative, a collaborative guided by science and working to improve management on forests in northern Arizona, has adopted an "Old Growth Protection & Large Tree Retention Strategy."[141] As part of that strategy, "the 4FRI Collaborative has agreed that the 4FRI effort should implement large tree retention and old growth protection strategies that are … are based upon a 16" diameter threshold that limits the cutting of trees larger than 16" to circumstances and criteria set forth in pre-defined exception categories."[142] A similar collaborative in New Mexico agreed that "It is generally advisable to maintain ponderosa pines larger than 41 cm (16 inches) diameter at breast height (dbh) and other trees with old-growth morphology regardless of size (e.g. yellow-barked ponderosa pine or any species with large drooping limbs, twisted trunks or flattened tops)."[143]

One peer-reviewed study concludes:

> Large and old trees, especially those established before ecosystem disruption by Euro-American settlement, are rare, important, and difficult to replace. Their size and structural complexity provide critical wildlife habitat by contributing crown cover, influencing understory vegetation patterns, and providing future snags. Ecological restoration should protect the largest and oldest trees from cutting and crown fires, focusing treatments on excess numbers of small young trees. Given widespread agreement on this point, *it is generally advisable to retain ponderosa trees larger than 41 cm (16 inches) dbh and all trees with old-growth morphology regardless of size (i.e., yellow bark, large drooping limbs, twisted trunks, flattened tops)*. Despite the heterogeneity of forest site and stand conditions in the

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[140] *Id*. at PDF page 34 (emphasis added).
[141] Four Forest Restoration Initiative, Old Growth Protection & Large Tree Retention Strategy.
[142] *Id*. at 7.
[143] U.S. Forest Service *et al.*, New Mexico Forest Restoration Principles (May 2006), available at https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5207898.pdf (last viewed Aug. 6, 2021).

> Southwest, cutting of larger trees will seldom be ecologically warranted as ‘‘restoration’’ treatments at this time due to their relative scarcity. Following this guideline would significantly reduce hazards of stand-replacing fires in most cases and also favor the development of future old-growth forest conditions (Moir and Dieterich 1988, Harrington and Sackett 1992).[144]

This article notes that managing ponderosa pine forests for ecological restoration can also help increase forest resilience.[145]

For the San Juan National Forest in Colorado, the Forest Service and other stakeholders joined to establish the Ponderosa Pine Partnership (PPP) in the early 1990s. The Partnership developed "An Ecological Prescription for the San Juan Pine Zone," including this prescription: "Retain large trees. Any trees 20 inches or larger in diameter should be retained. In stands with smaller trees, the largest trees should be retained."[146] The San Juan National Forest developed and partially implemented two projects under the PPP, including the Guard Station and Ferris East timber sales. Both of these timber sales included diameter limits. The Guard Station Decision Notice prohibited the logging of trees over 16 inches dbh; the Ferris East Decision notice barred logging of ponderosa over 20 inches dbh.[147] Each of the sales was designed to meet goals that included forest restoration, supplying the needs of the local wood products industry, and reducing the risk of catastrophic wildfire.[148]

This science and social history demonstrate that diameter limits in ponderosa pine on the Santa Fe National Forest are reasonable, and should have been considered in any NEPA analysis concerning logging in such pine forests. Because the agency failed to address the reasonable alternative of diameter limits, or explain why such an approach was not reasonable, the Forest Service violated NEPA.

C. The Forest Service Failed to Consider an Alternative that Prioritizes the Reintroduction of Ecologically Beneficial Fire.

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[144] Allen *et al*., Ecological Restoration of Southwestern Ponderosa Pine Ecosystems: A Broad Perspective, Ecological Applications, 12(5) (2002) at 1425.
[145] *Id*. at 1429 (emphasis added).
[146] D. Lynch, Forest Restoration in Southwestern Ponderosa Pine, Journal of Forestry (Aug. 2000) at 17.
[147] San Juan National Forest, Guard Station Timber Sale, Decision Notice (May 1996) at 3 ("Cut no trees greater than 16" diameter breast height (DBH)"), San Juan National Forest, Ferris East Timber Sale, Decision Notice (Feb. 1998) at 3 ("No ponderosa pine in excess of 20 inches in diameter at breast height (DBH) will be harvested.").
[148] *Id*.

The EA identifies the reintroduction of fire on the landscape as a key action of the Project, necessary for the purpose of forest restoration.[149] Furthermore, the EA includes clear acknowledgement of the value of fire as a management tool moving forward.

> Prescribed fire may be used as a stand-alone treatment if existing site-specific conditions are appropriate. Prescribed burning would typically be used to reintroduce fire, then as a maintenance treatment to maintain desired conditions at respective fire regime condition classes (Table 1), or as required for the removal of residual fuels from thinning activities.[150]
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> ---
>
> Prescribed burning in these stands post treatment would reintroduce fire that is characteristic of a frequent fire forest and would maintain much of the desired conditions into the future.[151]

Despite this clear acknowledgment of the capacity of a restored fire regime to function as a management tool, the EA fails to analyze the capacity of fire over time to reduce stand densities, create openings, and maintain fire risk in perpetuity. Instead, it analyzes forest structural change solely as a result of thinning, and it defines a desired condition for fire and fuels and solely as a matter of reducing fuels loads and minimizing the risk of crown fire. This extremely limited view of fire is inconsistent with the desired conditions for fuels and fires listed in the Santa Fe National Forest Land Management Plan (LMP).

> *Desired Conditions for Fire and Fuels (FW-FIRE-DC)*
>
> 1 Wildland fires do not result in the loss of life, property, or cultural resources, or create irreparable harm to ecological resources.
>
> 2 Wildland fire protects, maintains, and enhances resources. It is allowed to function in its natural ecological role on a landscape scale and across administrative boundaries, under conditions where safety and values at risk can be protected.
>
> 3 Wildland fires burn within the range of severity and frequency of historic fire regimes for the affected vegetation communities. High-severity fires rarely occur where they were not historically part of the fire regime.
>
> 4 Naturally caused fires predominate; accidental human-caused fires (e.g., abandoned campfire, downed powerlines) are rare.
>
> 5 Fires function in their natural ecological role in designated areas (e.g., wilderness and research natural areas).

[149] EA at 11.
[150] Final EA at 38.
[151] Final EA at 44.

6 Restoration and fuel treatments result in ecological resources that are adaptable to changing climate conditions.[152]

The LMP includes additional direction on the use of wildland fire…

When conditions facilitate safe progress toward desired conditions, consider managing naturally ignited fires to meet multiple resource objectives concurrently (i.e., protection and resource enhancement), which can change as the fire spreads across the landscape.[153] Wildland fire is understood, both internally and by the public, as a necessary disturbance process integral to the function and sustainability of ecosystems.[154]

The Encino Vista EA largely ignores these directives in the Forest Plan, and fails to analyze the effects of a restored fire regime on the future forest structure. The NEPA analysis for the Encino Vista Project must consider the effects of ongoing future fire and should incorporate those effects into the project design.

USFS research scientists have long worked to develop decision support, risk management, and prioritization tools for use in applications like the Encino Vista Project. Their work has been fundamental in establishing the science of optimization that is increasingly being explored and implemented in the western United States. Important considerations for utilizing wildland fire use have been identified by fire management professionals [155, 156] and agency-developed risk management and decision support systems, such as Fire Effects Planning Framework,[157] provide systematic geospatial techniques for managing fire for resource benefit.

Strategically-placed treatments on portions of the landscape are used to safely facilitate the use of prescribed and managed wildfire to achieve restoration of frequent fire adapted ecosystem processes, composition, and structure. In a sweeping review of federal fire policy, Stephens and others recommended that the number one improvement that could be made in planning and implementing forest and fire management is to "mandate evaluation of opportunities for ecologically beneficial fire in land management planning."[158] Forest Service researchers have established that any science-based planning should ask "Which locations provide the greatest

[152] Santa Fe National Forest Land Management Plan at 65.
[153] Santa Fe National Forest Land Management Plan at 67.
[154] Santa Fe National Forest Land Management Plan at 68.
[155] Black *et al.* 2008. Wildland Fire Use Barriers and Facilitators. *Fire Management Today* 68(1): 10-14.
[156] Doane, D., J. O'Laughlin, P. Morgan, and C. Miller. 2006. Barriers to wildland fire use: A preliminary problem analysis. *International Journal of Wilderness* 12(1): 36-38.
[157] Black and Opperman 2005. Fire Effects Planning Framework: a user's guide. RMRS-GTR-163.
[158] p. 4 in Stephens, S.L., B.M. Collins, E. Biber, and P.Z. Fule. 2016. U.S. federal fire and forest policy: emphasizing resilience in dry forests. *Ecosphere* 7(11): 1-19.

strategic opportunity for fuel treatments that would facilitate attainment of desired conditions?"[159]

One forest restoration researcher has stated that "restoration of surface fire in most sites and thinning in strategic sites will increase resistance to severe wildfire at the stand and landscape scales, insect pathogens, and invasive non-native species."[160] Objectors agree with that assertion and believe that the Forest Service should approach the Encino Vista Project analysis within such a framework, wherein project objectives relax the focus on strict structural parameters and instead utilize cost-effective means that emphasize fire-based ecological processes to establish landscape mosaics and maintain ecological integrity. The EA fails to do so.

Ager and colleagues stated in a 2013 article that "Meeting the long-term goals of dry forest restoration will require dramatic increases in prescribed and managed fire that burn under conditions that pose minimal ecological and social risk. Optimization models can facilitate the attainment of these goals by prioritizing management activities and identifying investment tradeoffs."[161]

One common fundamental similarity between all optimization models is that they seek to reduce fire-severity or minimize wildfire risk, balancing tradeoffs between the size of treatment units, the placement of treatments, and the proportion of the landscape treated.[162, 163, 164] Collins and colleagues[165] reviewed fuel treatment strategies, including much of Finney and Ager's work, and arrived at some basic parameters for optimizing fuel reduction treatments at the landscape scale that provide some guidance for those evaluating tradeoffs and can be evaluated in a an alternative focused on the reintroduction of fire regimes as a key restoration function:

- Treating 10% of the landscape provides notable reductions in modeled fire size, flame length, and spread rate across the landscape relative to untreated

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[159] Peterson and Johnson 2007. Science-based strategic planning for hazardous fuel treatments. *Fire Management Today* 67(3): 13-18.

[160] p. 529 in Fule, P.Z. 2008. Does it make sense to restore wildland fire in changing climate? *Restoration Ecology* 16(4):526-531.

[161] p. 11 in Ager, A.A., N.M. Vaillant, and A. McMahan. 2013. Restoration of fire in managed forests: a model to prioritize landscapes and analyze tradeoffs. *Ecosphere* 4(2): 1-19.

[162] Collins *et al.* 2010. Challenges and approaches in planning fuel treatments across fire-excluded forested landscapes. *Journal of Forestry* Jan/Feb 2010: 24-31.

[163] Chung 2015. Optimizing fuel treatments to reduce wildland fire risk. *Current Forestry Reports* 1: 44-51.

[164] Krofcheck, D.J., M.D. Hurteau, R.M. Scheller, and E.L. Loudermilk. 2017a. Prioritizing forest fuels treatments based on the probability of high-severity fire restores adaptive capacity in Sierran forests. *Global Change Biology DOI: 10.1111/gcb.13913.*

[165] Krofcheck, D.J., M.D. Hurteau, R.M. Scheller, and E.L. Loudermilk. 2017a. Prioritizing forest fuels treatments based on the probability of high-severity fire restores adaptive capacity in Sierran forests. *Global Change Biology DOI: 10.1111/gcb.13913.*

scenarios, but treating 20% provides the most consistent reductions in modeled fire size and behavior across multiple landscapes and scenarios.
- Increasing the proportion of area treated generally resulted in further reduction in fire size and behavior, however, the rate of reduction diminishes more rapidly beyond 20% of the landscape treated.
- Random placement of treatments requires substantially greater proportions of the landscape treated compared with optimized or regular treatment placement.
- The improvements offered by optimized treatments are reduced when 40%-50% of the landscape is unavailable for treatment due to land management constraints.
- Treatment rates beyond 2% of the landscape per year yield little added benefit.

The Encino Vista Project analysis should have identified strategic treatment priorities incorporating scientific information relevant to landscape-scale restoration within the project landscape. These include:

- Strategically placed treatments to support fire use in the long-term, utilizing anchor points such as natural fuel breaks, previously treated or burned areas, roads, and waterways
- Reasons why the location, timing and intensity of proposed mechanical actions will support a coherent restoration strategy
- Landscape scale assessment of opportunities to manage unplanned natural ignitions for resource benefits
- An analysis of fire-risk at multiple spatial scales using broader criteria[166]
- surface fuel density and arrangement

The NEPA analysis should have provided meaningful analysis of how and where unplanned ignitions could be used to accomplish resource management objectives, and what the range of effects of fire use could be. Adverse effects of fire control practices to the environment should be analyzed and disclosed where proposed treatments are designed to increase the effectiveness of fire suppression.[167] While the EA discusses the effects of prescribed and managed fire, it fails to disclose and analyze the effects of fire suppression activities.

[166] These criteria have long-been identified as fundamental factors in effective fire and fuels-management planning, for example, *see*: Agee, J.K., and C.N. Skinner. 2005. Basic principles of forest fuel reduction treatments. *Forest Ecology and Management* 211(1): 83-96. *See also* Reinhardt, E. D., R.E. Keane, D. E. Calkin, and J. D. Cohen. 2008. Objectives and considerations for wildland fuel treatment in forested ecosystems of the interior western United States. *Forest Ecology and Management* 256:1997-2006.

[167] Backer, D.M, S.A. Jensen, and G.R. McPherson. 2004. Impacts of fire suppression activities on natural communities. *Conservation Biology* 18: 937-46.

Considering the fire modeling that we assume is already underway by the Forest Service for the Encino Vista Project, we believe that a modified version of the methodology developed by the Hurteau lab and used by Krofcheck and colleagues[168,169] is completely appropriate for the Encino Vista Project and would assist the agency in taking the required "hard look" at the proposal's impacts. Their research[170] has developed "prioritization strategies for implementing fuel treatments…with the goal to maximize treatment efficacy using optimal placement and prescription options under typical and extreme fire weather conditions." [171] Their optimization model, which analyzes mechanical treatments only of the operable areas with a high probability of mixed- and high-severity fire, was shown in multiple fire simulations to be as effective as thinning all operable acres at reducing wildfire burn severity and facilitating landscape scale low-severity fire restoration. This approach could inform landscape-scale restoration planning nationwide, as "Testing of strategic placement of treatments by resource managers will add data in the years ahead and provide information that can be shared and applied in other locations."[172] The authors summarize their methods here:

> "We developed three scenarios: no-management, naive placement, and optimized placement. Both management scenarios employed combinations of mechanical thinning and prescribed burning. The naive placement scenario aimed to simulate mechanical thinning from below and prescribed fire to all forest types that have experienced a fuels load departure from their historic condition due to fire exclusion. Within each forest type that received mechanical thinning, thinning was constrained based on operational limits (slope>30%, which totaled 22,436 ha available for mechanical thinning). The optimized placement scenario further constrained the area that received mechanical thinning by limiting thinning to areas that also had a high probability of mixed- and high-severity wildfire…In both treatment scenarios, stands identified for mechanical treatment were thinned from below, removing roughly one-third of the live tree biomass over the first decade of the simulation. Stands selected for mechanical thinning were only thinned once in the simulations, and all thinning was completed within the first decade."[173]

Their results suggested that thinning the most optimum 33% of the operable acres with slopes less than 30% could achieve the same effect as thinning all operable acres. The study was simulated in the Sierra Nevada of California, but the authors asserted that their approach was

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[168] Krofcheck *et al*. 2017a.

[169] Krofcheck, D.J., M.D. Hurteau, R.M. Scheller, and E.L. Loudermilk. 2017. Restoring surface fire stabilizes forest carbon under extreme fire weather in the Sierra Nevada. *Ecosphere* 8(1): 1-18.

[170] Krofcheck *et al*. 2017a; Krofcheck *et al*. 2017b.

[171] Nguyen et al., 2024.

[172] p. 15 in Peterson, D. L. and M.C. Johnson. 2007. Science-based strategic planning for hazardous fuel treatment. *Fire Management Today* 67(3):13-18.

[173] p. 2 in Krofcheck *et al*. 2017a.

"broadly applicable to historically frequent-fire ecosystems, or systems which have transitioned away from a low severity and fuel limited fire regime to one characterized by high-severity fires."[174]

Current Forest Service policy and guidance calls for strategic treatment implementation. The dramatic deficit of annual acreage burned in frequent-fire adapted forests has led senior Forest Service scientists to call for increasing the scale and rate of fuels treatments following three key strategies:[175] 1) Increasing the extent of fuel treatments if resources permit; 2) Designing treatments to create conditions conducive to naturally ignited fires burning under desired conditions while fulfilling an ecological role; and 3) Placing treatments to reduce hazard while providing options for firefighting when highly valued resources and assets are present.

The National Strategy for Vegetation and Fuels Management recommends implementing strategically placed fuel treatments to interrupt fire spread across landscapes, and managing wildfire for resource objectives and ecological purposes to restore and maintain fire-adapted ecosystems and achieve fire-resilient landscapes.[176] Both of these strategies are highly applicable to the Encino Vista project area, and we urge the Forest Service to analyze and apply them here.

By focusing limited resources on specific key locations, expanded wildland fire use for resource benefit can be utilized to achieve fuels reduction and ecological restoration objectives. The National Strategy clearly asserts that "Prescribed fire and managing wildfire for resource objectives have the greatest potential for treating large areas at lower cost than mechanical treatments."[177] Researchers have long asserted that "Prioritizing restoration efforts is essential because resources are limited. An initial focus on areas most likely to provide benefits and that present a low risk of degradation of ecological values will build experience and credibility."[178]

Prominent fire scientists have affirmed that "Strategically placing fuel treatments to create conditions where wildland fire can occur without negative consequences and leveraging low-risk opportunities to manage wildland fire will remain critical factors to successful implementation of the [National] Strategy."[179] This approach is further called for in the 2012 Mexican Spotted Owl Recovery Plan, which suggests that restoration projects: "Conduct a landscape-level risk

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[174] p. 6 in Krofcheck *et al*. 2017a.

[175] p. 301 in Vaillant and Reinhardt 2017. An evaluation of the Forest Service hazardous fuels treatment program—are we treating enough to promote resiliency or reduce hazard? *Journal of Forestry* 115(4): 300-308.

[176] pp. 1 and 58 in National Strategy 2014: https://www.forestsandrangelands.gov/strategy/thestrategy.shtml.

[177] p. 58 in National Strategy 2014

[178] Brown *et al*. 2004. Forest restoration and fire: principles in the context of place. *Conservation Biology* 18(4): 903-912.

[179] p. 8 in Barnett *et al.* 2016. Beyond fuel treatment effectiveness: characterizing interactions between fire and treatments in the US. *Forests* 7(237): 1-12.

assessment to strategically locate and prioritize mechanical treatment units to mitigate the risk of large wildland fires while minimizing impact to PACs."[180]

We raised these issues in our comments to the Preliminary EA, but the Final EA failed to consider a treatment alternative to address the primary purposes of restoring forest health and reducing fire risk.

The Project proposes to use mechanical thinning on 33% of the total acres of ponderosa pine forest type across the project area, 33% of the total acres of dry mixed conifer, and 69% of the total acres of spruce fir, but the EA offers essentially no analysis of what thinning is necessary in order to safely and effectively restore fire.[181]

Furthermore, the EA offers no analysis on the purpose and effectiveness of mechanical thinning of 995 acres of spruce-fir forest type. As the EA acknowledges, spruce-fir forest is naturally subject to infrequent, high-severity, stand-replacing fire.[182] In addition, the EA states that spruce-fir forest within the project area is at only moderate departure from reference conditions.[183]

The EA provides data and results regarding fuels and fire risk, but only at the scale of an entire forest type (ERU) within the project. Such data and analyses can generalize conditions in a way that greatly obscure the actual conditions overall and the conditions at individual locations. Such generalized data also cannot provide a basis for determining the need for treatment at any particular site, nor the location and specific goals and prescription of such treatments.

For example, Table 12 presents the fire regime group descriptions for each forest type in the project area.[184] These fire regimes are evidently generalized over the entirety of each forest type—the entire 38,130 acres of dry mixed conifer forest in the project area is listed as fire regime group I (0-35 year fire frequency); the entire 38,130 acres of dry mixed conifer forest is also listed as fire regime group III (35-200 year fire frequency). A similar situation applies to ponderosa pine and practically every other forest type. It seems obvious that a forest type has

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[180] p. 262 in USFWS 2012 Mexican Spotted Owl Recovery Plan, First Revision (*Strix occidentalis lucida*). Southwest Region U.S. Fish and Wildlife Service Albuquerque, New Mexico.

[181] Final EA at 47. Of the 31,305 total acres of ponderosa pine forest type, the project proposes 2274 acres of commercial thinning and 8166 acres of pre commercial thinning, for a total of 10,440 acres of mechanical thinning, 33% of all ponderosa pine acres. Of the 38,130 total acres of dry mixed conifer forest type, the project proposes 2109 acres of commercial thinning and 10,656 acres of pre-commercial thinning, for a total of the 12,765 acres of mechanical thinning, 33% of all dry mixed conifer acres. Of the 3440 total acres of spruce-fir forest type, the project proposes 1380 acres of commercial thinning and 995 acres of pre-commercial thinning for a total of 2375 acres of mechanical thinning, 69% of all spruce-fir acres.

[182] Final EA at 49. Table 12. Fire Regime Group Descriptions and Ecological Response Unit acreages.

[183] Final EA at 49. Table 13. Degree of Seral State Departure from Reference Conditions for selected ERUs within the project area.

[184] Final EA at 49. Table 12. Fire Regime Group Descriptions and Ecological Response Unit acreages.

historically experienced more than one type of fire severity at more than one fire frequency. However, it is not clear from the EA how these overlapping data are being used to inform the proposed vegetative treatments. In addition, it is not clear from the EA that the departure from natural fire regimes takes into account the multiple fire regimes for each forest type.

As another example, Table 13 in the EA provides the seral state departure from reference conditions for each forest type.[185] However, it is not clear from the EA what these data mean in any practical sense. For example, how does a departure index of 97 for ponderosa pine forest relate to forest structure and the risk of active crown fire? At what scale are the departure indices calculated, and what does that mean with respect to individual stands? How does this analysis take into account the many wildfires that have burned within the project area since 2000? Are the areas within the burn perimeters of recent fires at the same departure from reference conditions as are the areas that are outside of those burn perimeters? If the seral state departures are not the same across all acres of a forest type, then what does the departure index mean with respect to the proposed actions at any particular site?

We recommend that, in any subsequently prepared NEPA document, the fire and fuels section of the EA be further developed to explain how the data and modeling results apply to individual stands and how these data and results are used to develop proposed treatments. In the absence of more clarity on the Forest Service's interpretation of these data and more specificity with regard to individual stands, the highly generalized data could be used as a justification for the most intensive possible actions, with significant negative impacts to the forest ecosystem and wildlife.

The EA includes a discussion of surface fuels loading before and after prescribed burning. However, the EA is very confusing with respect to the implications of the modeling results presented.

> Post treatment fuel loading should be reduced to amounts that should produce average flame lengths no greater than 4 feet under the 90th percentile wildfire burning conditions. Table 1 shows the estimated pre and post prescribed burning fuel loading. Post treatment PPF surface fuel loads would be one ton less per acre than the desired condition range, and MCD would be two tons higher than the desired condition range… Post treatment wildfire behavior modeling shows that the project area would generally meet 2022 SFNF LMP wildfire behavior desired conditions, standards, and guidelines.[186]

The EA does not explain the import of reducing flame lengths to four feet or less, other than to meet the desired conditions stated in the LMP. Nor does the EA explain the import of surface fuel loads being one ton less per acre than the desired condition range for ponderosa pine forests

[185] Final EA at 49. Table 13. Degree of Seral State Departure from Reference Conditions for selected ERUs within the project area.
[186] Final EA at 52.

or two tons more per acre than the desired condition range for dry mixed conifer forests. Furthermore, the EA treats these estimates as identical across each forest type, and provides no explanation of what these mean with respect to individual stands, sites, or areas.

The implications of a four-foot flame length can be understood only in the context of the structural and functional components of the forest, as with fire modeling for active crown fire, passive crown fire, and soil impacts. Such an analysis should include a comparison of the expected flame lengths for surface fires implemented under prescribed fire conditions. That is, what would be the expected flame length of a prescribed fire under appropriate conditions without thinning treatment, and what would be the expected flame length of a wildfire burning within a few years after such a prescribed fire?

We recommend that the fire and fuels section of any subsequently prepared NEPA document provide an analysis of the fuel loading and flame lengths under current conditions by stand or treatment area, and the expected results of prescribed fire under appropriate fire conditions, in comparison to the same areas before and after thinning treatments.

The purpose of the fire and fuels section of the EA is to help the decisionmaker and the public understand the fuel structure and fire risk at the operational scale, and the effects of the proposed treatments. Analysis of these elements would optimally provide stand-level findings, but should have a resolution at least of the scale of the proposed thinning treatments and prescribed fire burn blocks, presumably between 100 acres and 1000 acres. To understand the need and effects of vegetation treatments, it is critical to know the fuel composition and fire risk in the current condition, the expected effects of prescribed fire under the current forest structure, and a comparison to the expected effects of managed fire following the proposed thinning treatments.

Ultimately, the EA should disclose specifically where forest thinning is necessary to safely and effectively restore fire regimes, and what specific thinning and fire treatments are necessary in which specific locations. Only with this foundation of what is essentially the minimum necessary treatment could the decisionmaker and the public then understand where additional forest thinning would be necessary to develop desired future conditions.

We strongly recommend that any subsequently prepared NAPA analysis identify specific wildland fire targets and analyze an alternative that identifies the amount and location of thinning treatments needed to achieve those targets. We recommend a sequence of analyses to identify specific treatments needed in specific locations:

1) Map the fire hazard at the stand scale, by ERU.
2) Map the boundaries of likely burn units for prescribed fire and the existing features that can serve as fuel breaks or be developed into fuel breaks.

3) Identify the minimum thinning treatments needed to establish containment lines, building on existing and natural features, in order to safely and effectively implement prescribed fire in each of these areas.
4) Model the results of prescribed fire across these burn units; model the results of repeated prescribed fire over subsequent years and the resulting fire hazard.
5) Identify those areas at risk of large runs of high-severity crown fire even after minimal treatment of containment lines and multiple rounds of prescribed fire.
6) Within the areas that would remain at risk of large runs of high-severity crown fire, identify those locations where forest conditions remain outside the range of desired conditions. Identify the specific treatments necessary to achieve desired conditions in those locations.

Suggested remedy: Any subsequently prepared NEPA analysis must:

- Analyze an alternative that includes no logging of trees greater that 18 inches diameter.
- Analyze an alternative that includes the minimum amount of thinning necessary to reintroduce ecologically beneficial fire.

IV. THE EA FAILS TO CONSIDER MEASURES TO RETAIN WHITE PINE WITHIN THE PROJECT AREA.

The National Forest Management Act (NFMA) requires that the Forest Service adopt guidelines for the management of national forests that "provide for diversity of plant and animal communities." Trees are singled out in NFMA which directs that "steps to be taken to preserve the diversity of tree species."[187] Tree diversity is also emphasized in the 2012 Planning Rule by requiring that plans maintain or restore "the diversity of native tree species similar to that existing in the plan area."[188]

In implementing NFMA's diversity mandate, "genetic diversity within species in ecosystems" is given prominence as a key element in the adaptive capacity of ecosystems to respond to disturbances and stressors.[189] The SFNF Land Management Plan which includes standards for the Desired Conditions for All Vegetation Types (FW-VEG-DC) states: "Habitats and refugia for rare, endemic, and culturally important species, are resilient to stressors and support species' persistence or recovery."[190]

[187] 16 U.S.C. §1604(g)(3)(B)
[188] 36 CFR 219.9(a)(2)(iii).
[189] USFS Land Management Planning Handbook 1909.12.05
[190] SFNF LMP, p. 30

The National Environmental Policy Act's (NEPA) implementing regulations impose a material duty on the Forest Service to respond to substantive comments from the general public and other federal and state agencies.[191] In particular, the Forest Service "shall respond by one or more" of the following: 1) modify alternatives including the proposed action; 2) develop and evaluate alternatives not previously given serious consideration by the agency; 3) supplement, improve, or modify its analyses; 4) make factual corrections and 5) explain why the comments do not warrant further agency response, citing the sources, authorities, or reasons which support the agency's position and, if appropriate, indicate those circumstances which would trigger agency reappraisal or further response.[192]

In this case, the Forest Service responded to substantive comments only by saying the project will "to the extent practical" preserve white pine genetic diversity now threatened by white pine blister rust *Cronartium ribicola* (Appendix C, pp. 3-4). The Final EA does not mention or respond to the recommendation of the agency's own scientists, cited in objector's comments, to limit tree canopy openings to curb the growth of *Ribes sp*., the main alternative host, and inhibit the spread of destructive rust spores (objectors' comments to the PEA pp. 89-91).

> Also necessary are mandatory standards to scale back management of created openings in white pine habitats. The creation of large and small openings should be avoided as it heightens the potential for blister rust damage (Schwandt et al. 1994; Fins et al. 2001). Increased sunlight reaching the forest floor often causes *Ribes sp*., the main alternative host, to proliferate leading to increased opportunities for the spread of blister rust. Dense canopies limit not only *Ribes* sp. but also dispersal of rust spores. Forest Service pathologists in the Southwest recommend careful consideration of the potential hazard of clearing and burning projects that may increase long-term damage from blister rust.[193]

The Forest Service cannot rely on the standard measures used for controlling insect and disease outbreaks, such as reducing stand density and opening canopies, because this only increases the spread of the destructive white pine blister rust.

In addition, Forest Service pathologists strongly recommend monitoring for the presence of white pine blister rust.[194] The annual Forest Health Protection aerial surveys, relied upon to monitor bark beetles and forest defoliators, are incapable of detecting the early stages of blister rust infection.[195] Monitoring blister rust requires specialized knowledge and on-the-ground

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[191] 40 CFR § 1503.4 (1978)

[192] 40 CFR § 1503.4 (a)(1)-(5) (1978). See also Forest Service Handbook 1909.15, Ch. 25.1 & Ch. 42.31 (addressing agency's duty to evaluate and respond to comments).

[193] WildEarth Guardians et al., PEA comments, p. 89 citing Conklin et al. 2009.

[194] Conklin et al., 2009.

[195] Final EA at 14.

experience of a qualified professional. The Final EA does not mention or justify the apparent decision not to monitor for the presence of white pine blister rust.

In summary, in violation of both NFMA and NEPA this project allows unspecified exemptions to cutting white pines, fails to maintain tree cover required to limit the spread of blister rust and does not monitor for the presence of white pine blister rust.

> **Suggested remedy:** Any decision approving the project should require prior approval by a qualified pathologist before cutting white pines, limit canopy openings and require annual on-the-ground white pine blister rust monitoring.

V. THE EA FAILS TO ANALYZE AND DISCLOSE THE POTENTIAL FOR ESCAPED PRESCRIBED BURNS, AND TO DISCLOSE RELATED IMPACTS

Since 2000, the majority of acres burned across the SFNF were ignited due to federal land management agency prescribed burns that escaped control.[196] These wildfires included the Cerro Grande Fire, the Hermits Peak Fire, the Calf Canyon Fire, and the Cerro Pelado Fire. Out of a total of 784,519 acres burned by wildfire during this period, 434,729 acres burned either within or from the SFNF due to wildfires ignited by escaped agency prescribed burns, while 349,790 acres burned due to wildfire ignited by all other causes, including other human-caused ignitions. It is stated in the EVLRP Draft Decision Notice and Finding of No Significant Impact, regarding the project decision:

> I have also carefully considered the project alternatives in light of the tremendous consequences of the Hermits Peak Calf Canyon Fire, the result of Forest Service escaped prescribed burns which occurred east of the project area, and the Forest Service National Prescribed Fire Program Review.[197]

It is further stated in the Draft DN that "The SFNF agrees that concern is warranted relating to inherent risks that come with planned prescribed fire treatments, as well as for potential wildfire events resulting from current forest conditions."[198] The Draft DN also states:

> I understand that there is inherent risk with fire (wildfire, prescribed or managed). The SFNF is committed to reducing this risk to the greatest extent possible. I have considered the effects and risks of the alternatives and public comments received through public engagement. After careful consideration, I feel that the potential risks of large high-severity or uncharacteristic wildfire poses a greater risk to public safety and the environment than the selected alternative, which include specific mitigations and

[196] See Santa Fe National Forest - 25 Year Wildfire History, Exhibit #4.
[197] EVLRP Draft DN at 3.
[198] EVLRP Draft DN at 12.

precautions for fire management. No significant impacts to public health or safety are expected from the Proposed Action.[199]

We included a large section on the potential for escaped prescribed burns in our PEA comments. Yet there is no mention in the FEA about the potential for escaped prescribed burns as a result of project activities. The substantial risks to nearby communities and to forest resources were not quantified or analyzed. So "careful consideration" did not take place within the project analysis. This is a violation of the hard look requirement of NEPA. Nor did the agency disclose the "reasonably foreseeable" impacts from escaped prescribed fire.

We stated in our PEA comments that "The PEA provides no disclosure or analysis of the direct, indirect, or cumulative impacts of prescribed burns going out of control, nor analysis of the potential for escaped prescribed burns."[200] This critical concern was not addressed within the FEA, nor reasonably addressed in Section 4.3 Project Concerns and Responses. Given the immense damage to both forest resources and communities from the three wildfires ignited in 2022 due to Forest Service escaped prescribed burns, to state that no significant impacts to public health or safety are expected from the Proposed Action, without providing any analysis, is clearly unsupportable. Since the 2022 SFNF agency-precipitated wildfires, no significantly new prescribed burn risk reduction technology has been developed, and the number of SFNF personnel available to plan and oversee prescribed burns has not substantially increased. The Forest Service states that "After careful consideration, we feel that the potential risks of large high-severity or uncharacteristic wildfires pose a greater risk to public safety and the environment than the selected alternative, which include specific mitigations and precautions for fire management."[201] The agency fails to acknowledge here that escaped prescribed burns have caused the majority of acres to burn by wildfire in the SFNF since 2000, and the agency did not quantify and analyze the potential for escaped prescribed burns in the FEA. Because the potential impacts of such escaped fire are significant, this is yet another impact requiring preparation of an EIS.

The Forest Service states "The SFNF has determined that none of the comments provided during the public involvement process document a substantial dispute relating to the environmental consequences of the selected alternative."[202] In our PEA comments we documented that a reasonably foreseeable and substantial risk of catastrophic escaped prescribed burns exists, based on a pattern of past escaped prescribed burns. Since the agency has not examined this pattern in its project analysis, nor quantified or analyzed the level of risk, this statement is arbitrary and capricious.

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[199] EVLRP Draft DN at 11.
[200] WildEarth Guardians et al., PEA comments at 61.
[201] Draft DN at 12.
[202] Draft DN at 12.

In Section 4.3 of Project Concerns and Responses, “Topic 10: Fire and Fuels Management,” the agency states that twenty comments expressed a number of concerns about prescribed burn safety and the potential for prescribed fire escaping containment and precipitating wildfires, and provides responses.

In Theme 10-1 of this section, a statement from our PEA comments was addressed:

> In the 2005 Gallinas Municipal Watershed Wildland-Urban Interface Project environmental assessment, under the section titled "Potential for Escaped Fire" the Forest Service states, "The issue related to fire behavior is: Prescribed burns may escape control measures and threaten the water supply and resources in and around the Watershed. Burning unthinned stands may pose the highest risk of fire escape." The PEA Proposed Action is to implement prescribed burns on 74,600 acres and to cut a total of 33,902 acres, so that means that on up to 40,698 acres, the agency may burn unthinned stands.

The Forest Service responded very generally by stating that as a result of the National Prescribed Fire Review, several recommendations and considerations “directly” addressing this issue are currently in place on the SFNF. These are national recommendations, and not primarily focused on dry forests prone to high winds, such as the SFNF. They are not specifically focused on the EVLR Project area. As discussed in our PEA comments, the primary technological improvement for identifying fire smoldering in burn piles, increased infrared imaging from aircraft and by handheld devices, is not highly effective for determining if there is heat under slash piles or under the ground (which was an issue during the Calf Canyon pile burn escape). This was not acknowledged or addressed.

There were few mitigations provided related to prescribed burn risk reduction in the FEA, and no such mitigations in Appendix C, Project Design Features, Mitigation Measures and Best Management Practices. The agency did not specifically address the comment concern – that the Forest Service has identified burning without prior thinning high risk, yet the majority of acres to be burned will be implemented this way.

In “Theme 10-2, Safety, Fire Risk Management,” the agency describes modeling that it utilizes to assess fire risk and behavior, along with climate modeling, and suggests that such modeling is adequate to mitigate prescribed fire escape risk. If the modeling does not consider SFNF fire history, and the assumptions do not include that most wildfire acres in the SFNF since 2000 have been ignited by escaped prescribed fire, then such modeling is not reality-based enough to adequately reduce the risk of escaped prescribed burns.

In Section 4.3, “Theme 10-3: Fuels Treatment Effectiveness” the Forest Service reiterates their position on the effectiveness of fuels treatments, yet does not consider any of the known risks of

such treatments – risks due to both the production of copious amounts of flammable thinning slash and the subsequent prescribed fire to incinerate the slash. Given that the majority of wildfire acres burned in the SFNF during the past 25 years were ignited by agency escaped prescribed burns, it is a requirement of basic due diligence that the substantial risk of unintentionally igniting the same types of wildfires that project treatments are intended to moderate be evaluated, along with fuels treatment effectiveness. All of the four SFNF large wildfires ignited by agency prescribed fire escapes had large high severity fire components. In fact, given that the federal land management agency prescribed burns have precipitated wildfire that burned 434,729 acres in the past 25 years in four separate incidents, and the Forest Service intends to burn 74,693 acres during the implementation of the EVLRP in addition to hundreds of thousands of slash piles, the probability that another prescribed burn will escape and become a large wildfire is certainly very high. The Forest Service must realistically quantify and analyze the risk, taking into account the recent fire history of the SFNF, and disclose this information to the public. They must also disclose the likely impacts of such a wildfire.

In our PEA comments, we stated:

> The potential for escaped prescribed burns is a significant issue that requires an EIS, and meets the following criteria of significance:
>
> A. Intensity – The Hermits Peak/Calf Canyon Fire demonstrated once again that a wildfire precipitated by an escaped prescribed burn can have catastrophic impacts over a large area, including the loss of human life, homes and livelihoods. Such effects, impacts which could potentially occur in another prescribed burn escape wildfire, are certainly effects on the human environment that are likely to be highly controversial. The effects of the Hermits Peak/Calf Canyon fire were highly controversial.
> B. Duration and Frequency – The duration of the impacts of an escaped prescribed burn precipitated wildfire is very long. It can take many decades for forests that were burned at high severity to again become mature forests, and with the warming climate we have no reason to expect that the same type of landscape will regenerate. In some cases, forested landscape may type convert to shrubland.
> C. Reversibility – The impacts of high severity fire on forested landscape may not be entirely reversible in the drying climate. It is unknown what type of vegetation may regenerate in high severity burn scars – vegetation type conversions could occur.
> D. Public Health and Safety – An escaped prescribed burn precipitated wildfire clearly impacts public health and safety. See I.J. “Consider Impacts On Air Quality. The copious smoke from a nearby wildfire has many deleterious impacts on human health. An escaped prescribed burn wildfire creates risk of human injury or death.

E. Mitigation Measures: – The PEA contains no project-specific proposed scientifically based and analyzed mitigation measures to reduce the probability of escaped prescribed burns.[203]

The Forest Service did not adequately explain why they believe that these criteria of significance were not met by the EVLRP Proposed Action in relation to the potential for escaped prescribed burns, and why an EIS is not therefore required for a life and death issue such as wildfires ignited by escaped prescribed burns. To adequately explain why, the agency would have to substantively acknowledge and consider within its analysis the recent SFNF fire history, and consider the above criteria of significance specifically in the light of at least the three 2022 SFNF wildfires that were ignited by Forest Service escaped prescribed burns. There are no indications within the FEA that this occurred.

Regarding "the degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks," the agency states:

> Effects to the human environment are neither uncertain or unknown. The risk to the quality of the human environment associated with the selected alternative will be both adverse and beneficial. Planned projects pose some inherent risk to the human environment. The treatments identified in this project are similar in nature and scope to projects that have already been implemented.[204]

Yes, the treatments in this project are similar in nature and scope to projects that have already been implemented, including the Las Dispensas prescribed burn that precipitated the Hermits Peak Fire, the Calf Canyon pile burns that precipitated the Calf Canyon Fire, and the Cerro Pelado pile burns that precipitated the Cerro Pelado Fire. This strongly affirms that another wildfire ignited by an escaped project prescribed burn is probable. The general conditions under which the 2022 prescribed burn escapes occur still exist, and conditions will likely be worsening due to climate transition. The Forest Service has fallen back to "The risk to the quality of the human environment associated with the selected alternative will be both adverse and beneficial." In fact, the agency is required to consider and disclose how adverse the risk is, because they have a duty to protect the public and forest resources from impacts due to their actions.

Suggested remedy: Any subsequently prepared NEPA analysis must:

- Quantify and analyze the potential for escaped prescribed burns and the impacts of such escapes on communities and forest resources, within an environmental impact statement.
- Reconsider the Proposed Action in the light of this analysis, and provide substantive and appropriate mitigations to reduce the risk of prescribed burn escapes.

[203] WildEarth Guardians PEA comments at 69.
[204] Draft DN at 12.

VI. THE EA FAILS TO ADEQUATELY ANALYZE AND DISCLOSE THE IMPACTS OF PRESCRIBED BURN SMOKE

There have been copious complaints from the public about the impacts of SFNF project prescribed burns smoke on public health. Sensitive people are particularly impacted by smoke events, and as we demonstrated in our PEA comments, prescribed burn smoke is a serious long-term health hazard for all humans. This serious adverse impact cannot necessarily be avoided by simply attempting to maintain emission levels in accordance with the National Ambient Air Quality Standards (NAAQS) and state smoke management plans, which is how the Forest Service states it intends to regulate air quality and to protect public health in the Draft EN and FEA. The agency has not shown an interest in understanding the real-world impacts of prescribed burn smoke on the local population, many of whom are physically and economically vulnerable. This disregards the public's input that the increasing amount of prescribed burn smoke, including smoke that settles down into the Santa Fe basin from the Jemez Mountains, is causing serious adverse impacts to public health.

NEPA requires agencies to analyze significant environmental effects, including public health and safety impacts.[205] Yet, the Forest Service has only provided smoke emission level data, and has not considered the real-world impacts of smoke in the project area on public health, particularly on vulnerable populations.

The agency stated regarding "The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks":

> Effects to the human environment are neither uncertain or unknown. The risk to the quality of the human environment associated with the selected alternative will be both adverse and beneficial. Planned projects pose some inherent risk to the human environment. The treatments identified in this project are similar in nature and scope to projects that have already been implemented. Best Available Science (BASI) was used to inform the project analysis and this decision. Mitigations and design features identified in Appendix C have shown to be effective in reducing potential impacts and are consistent with national and regional guidance. The EVLRP selected alternative is similar to what has been approved for other projects occurring on NFS lands.

The agency did not use the Best Available Science. The analysis contained numerous statements and assumptions that have no scientific backing, Several studies concerning smoke impacts were submitted in our PEA comments that were apparently not considered. For example, we included a 2016 study from the Harvard T.H. Chan School of Public Health which found that death rates among people over 65 are higher in zip codes with more fine particulate air pollution (PM2.5)

[205] 42 U.S.C. § 4332(2)(C)(i)–(v).

than in those with lower levels of PM2.5.[206] The harmful effects from these particles were observed even in areas where concentrations were less than a third of the current standard set by the Environmental Protection Agency (EPA). PM2.5 is the most harmful component of wood smoke, including smoke from prescribed burns. The only mitigation provided in Appendix C is Air 1, "Prescribed burning will use emissions reduction techniques and will be coordinated with the State of New Mexico, in compliance with its smoke management plan, to minimize the effects on air quality. Monitoring will comply with New Mexico Environment Department direction." Again, that does not take into account the actual public health impacts of smoke, and the numerous statements from the public that impacts are severe. We stated in our PEA comments:

> Local residents have expressed they are suffering from these smoke impacts, and the Forest Service has so far not been willing to even acknowledge it, other than to refer to it as a nuisance. There was no acknowledgement in the PEA that smoke impacts from existing amounts of prescribed burn smoke have already been identified by the public and by physicians to be seriously detrimental to the health of many members of the public.[207]

This issue was not considered in the FEA.

The agency states that "No significant impacts to public health or safety are expected from the Proposed Action. Draft DN at 12. Basing this only on air quality standards is not sufficient, for reasons enumerated in our PEA comments. We stated in the our PEA comments:

> It is not acceptable to simply rely on the Air Quality Index (AQI) to determine to what extent the health of Los Alamos and Santa Fe area residents are being impacted by prescribed burns. On days when the AQI is in the moderate range (51-100, considered acceptable except for sensitive individuals), residents sometimes report they can smell the smoke and see it, or that the smoke has gotten inside their homes. This can even happen when the AQI is in the good range (0-50).[208]

We also stated in our PEA comments:

> The 2002 risk assessment prepared for the US Forest Service concerning the residues of fire accelerant chemicals, which while outdated is still the agency's operative risk analysis, states "Risks from inhalation exposures were outside the scope of this assessment, requiring a complex analysis of simultaneous exposure to the products of burning vegetation to accurately depict the overall risk from inhalation at a prescribed burn. Residues of Fire Accelerant Chemicals, Vol. 1 at 23. This risk assessment does evaluate the amounts and risk of fire accelerants that remain in soils and waterways, but since fire accelerants are largely burned in fire, it stands to reason that most of the

[206] Shi et al., 2016.
[207] WildEarth Guardians PEA comments at 69.
[208] WildEarth Guardians PEA comments at 69.

> chemical residues would most likely be volatilized into the smoke, and may become inhalation exposure risks. The exposure risk from fire accelerants that would be used during implementation of prescribed burns must be considered.[209]

The Forest Service states:

> Air quality emissions from toxics known to be present in smoke, such as metals (including mercury, radionuclides, and byproducts of accelerants), are not expected to approach federal and state ambient air quality standards or result in long-term public health impacts and are therefore not analyzed in the report.[210]

They have provided no scientific basis for this assumption, and such an unreferenced statement is not acceptable. The agency acknowledges that other pollutants in prescribed fire smoke are toxic to the human environment:

> Smoke also contains several toxic air pollutants such as aldehydes (including formaldehyde and acrolein) and organic compounds such as polycyclic aromatic hydrocarbons and benzene. Acrolein and formaldehyde are potent eye and respiratory irritants. Benzene is a known carcinogen that can cause headaches, dizziness, and breathing difficulties. These compounds also mostly effect fire personnel who work near fires.[211]

The importance of the acknowledgement of the toxic air pollutants in prescribed burn smoke emissions is arbitrarily discounted by the agency's statement that the compounds mostly affect fire personnel who work near fires. Prescribed burns are implemented near homes, and sometimes right up to local residents' property lines. In many cases, local area residents are certainly receiving almost as much toxic exposure as firefighters. Also in the SFNF, prescribed burn smoke drifts for miles. The agency does not provide any scientific information about how far other pollutants can travel in smoke, and in what concentrations.

Our comments explained that as a publicly funded agency conducting and proposing a highly polluting fuel treatment, the Forest Service has an obligation to ensure that every resident and healthcare provider of Rio Arriba, Los Alamos, and Santa Fe Counties is directly provided with full disclosure of the health impacts of the smoke which would be emitted during implementation of the Proposed Action. Suggesting that vulnerable people stay inside behind closed doors and windows, with an air filter if needed, is far from sufficient protection for vulnerable populations.[212] The Forest Service states in response to this comment:

> Studies have indicated that wildfires emit more particulate matter per fuel burned or area burned than prescribed fires….. PM1.0 emission rates were reported to be nearly four

[209] WildEarth Guardians PEA comments at 71.
[210] EVLRP Final EA, Fuels and Wildfire Behavior, Air Quality and Climate Change Report at 12.
[211] EVLRP Final EA, Fuels and Wildfire Behavior, Air Quality and Climate Change Report at 19.
[212] WildEarth Guardians et al., PEA comments at 72.

> times higher in wildfires than spring and fall prescribed fires (Friedman, 2021; Liu et al., 2016). When PM emissions are considered in combination with differences in fuel consumption, it is estimated that wildfires emit approximately 18 times more PM per area burned compared to prescribed fires (Friedman, 2021).[213]

It is not reasonable to compare the smoke emitted from wildfire and prescribed fire per fuel burned or area burned in this situation, because most areas burned by prescribed fire are not subsequently encountered by wildfire.[214] Many more acres will be burned by prescribed fire. The Forest Service's statement above does not constitute disclosure of the health impacts of the smoke that will be emitted during implementation of the project. The only statement the Forest Service has made about potential impacts of the prescribed fire emissions on the public is that it will cause no significant impacts. Again, it must be clarified how much impact on public health is considered significant. The agency did not actually respond to our comment, which was that health impacts from prescribed fire smoke needs to be fully disclosed to the public and to their treating physicians.

Some statements regarding air quality contained in the FEA are not understandable, and only muddies the analysis. For example, the agency states:

> Air quality and the values dependent on-air quality in the Santa Fe NF are generally in good condition or are improving as most pollutants are decreasing because of stricter regulations. However, modeled critical loads from nitrogen deposition are being exceeded, primarily for lichens. Conditions are expected to continue to improve due to projected emissions.[215]

It needs to be clarified why projected increased prescribed fire emissions (burning an additional 74,693 acres) would cause air quality, or conditions based on air quality to continue to improve.

The Forest Service states, "Uncontrolled wildfires generally produce more smoke and are less predictable when compared to emissions from prescribed burning. Consequently, uncontrolled wildfire smoke will have the greatest impact on human health."[216] This, again, is an unsubstantiated assumption. Although generally more smoke is produced during wildfires than during prescribed burns, many more acres are burned with prescribed fire, and over more total days. So this comparison is an "apples and oranges" comparison, and does not provide useful information about the relative impacts of wildfires vs. prescribed burns on air quality and public health. If the Forest Service wants to make such a comparison, a scientifically-based comparison should be completed of the total smoke per year emitted from wildfire vs. total smoke emitted

[213] Final EA at 60.
[214] Bartlett et al, 2016.
[215] Final EA at 58.
[216] Draft DN at 11.

from the combination of prescribed burns plus wildfire (since prescribed burns do not prevent wildfire)..

In "Topic 11: Air Quality, Smoke Management" of the Response to Public Comments document, the Forest Service states that only four comments expressed concern that smoke resulting from prescribed fire may impact air quality and adversely impact public health. In fact, many more than four comments expressed that concern, although a number utilized a comment template within their comments. The comment process is difficult for some local residents due to education and language barriers, so comment templates may be the only way they can express what they want, and each one should be considered. The agency responds to the commenters' concerns about the health impacts of prescribed burn smoke by reiterating once again that "Public health is protected from air quality impacts by the National Ambient Air Quality Standards (NAAQS) and by state smoke management plans." The Forest Service states that "by following those standards and plans (as described in the EA pp. 059-064), will protect the health of individuals to the degree possible."[217] It fails to describe to what extent the public can expect to have their health protected. This must be disclosed. Some kind of quantification is required for the number or percentage of area residents for which health impacts from smoke emissions is acceptable, and what severity of health impacts will be considered acceptable. Up to this point for vulnerable local residents, the protection from smoke emissions has not been nearly enough and yet smoke emissions will be greatly increasing in the area due to the Project, as well as in the Santa Fe basin.

The Response to Public Comments document contains the following quote from our PEA comments:

> Although we understand there may be justification for some burning in targeted areas, the amount of burning proposed is many times too much given the severe health impacts current smoke levels are already having on many local area residents, despite prior burns having been presumably conducted in adherence to the New Mexico Air Quality Bureau and New Mexico Smoke Management Plan.[218]

The agency responds to this statement, "none of the alternatives eliminate smoke."[219] There was no suggestion in our comment that any alternative eliminates smoke, and this response parodies our reasonable statement that the amount of burning proposed is too much given the adverse health impacts already being experienced by local residents. The agency also responds that "Detailed impacts at the time of a prescribed fire depend on factors outside the scope of this EA."[220] Such analysis would not be necessary to consider the overall impacts of prescribed burn

[217] EVLRP Final EA Response to Comments Report at 14.
[218] EVLRP Final EA Response to Comments Report at 14.
[219] *Id.*
[220] *Id.*

smoke on local area residents, in order to modify the amount of acres proposed to be burned per year within the project area, or the timing of burns. Our comment above was not actually considered in the agency comment response, instead the response addresses issues we did not bring up.

Our comments also stated the following:

> The PEA merely states, when considering the impacts of smoke on local populations, "Thus, while there may be temporary increase in smoke and particulate matter in the air during prescribed fire implementation, this health risk is expected to be lesser and shorter-term than the risk to health, safety, and quality of life that would result in the event of an uncharacteristic fire." PEA at 149. The Forest Service must explain how this calculation and expectation is derived, taking into account feedback from the public and their physicians.[221]

The agency responds:

> Concerning number 3, studies have indicated that wildfires emit more particulate matter per fuel burned or area burned than prescribed fires. Emission factors for wildfire-specific submicron PM (PM1.0) are estimated to be two to six times greater than that of prescribed fires, a range dependent on the material and quantity of fuel burned (Liu et al., 2016).[222]

While we are not disputing this, it is virtually irrelevant to the comment above. It is not reasonable to compare the smoke emitted from wildfire and prescribed fire per fuel burned or area burned in this situation, because most areas burned by prescribed fire are not subsequently encountered by wildfire. Ibid. Many more acres will likely be burned by prescribed fire, so therefore prescribed fire is likely to emit much more smoke than wildfire overall.

> **Suggested remedy:** Any subsequently prepared NEPA analysis must:
> - Analyze and disclose the real-world impacts of all Project prescribed fire emissions on the human environment, ie. on the local residents and residents of the Santa Fe basin.
> - Consider research about the impacts of PM2.5 at concentrations within the good and fair AQI stratifications, and consider that the Forest Service may have to be much more careful about maintaining good air quality due to physically sensitive and economically vulnerable residents in the area.
> - Include an alternative that safeguards public health to a much greater extent.

[221] WildEarth Guardians et al., PEA comments at 72.

[222] EVLRP Final EA Response to Comments Report at 14.

VII. THE PUBLIC COMMENT PROCESS WAS INADEQUATE TO THE REQUIREMENTS OF NEPA.

SFNF's handling of public comments and its general public outreach for the Encino Vista Project appear inconsistent with its duties under NEPA.

The Forest Service's NEPA-implementing regulations require that "Federal agencies shall to the fullest extent possible encourage and facilitate public involvement in decisions which affect the quality of the human environment." 40 C.F.R. 1500.2(d), April 7, 2025. This non-discretionary duty mandates the mobilization of Forest Service resources to achieve a fundamental purpose of NEPA. In addition, regulations governing public participation in land management planning state that the agency should be "proactive and use contemporary tools, such as the Internet, to engage the public, and should share information in an open way with interested parties." 36 CFR 219.4, April 7, 2025.

SFNF's "4.0 Response to Public Comments" report from earlier this year is in itself testament to the Forest's lack of care in its public engagement. The report inexplicably begins with "4.0" and has no header, logo, page numbers, or even release date. Moreover, the report refers to public comments by assigned numbers instead of commenters' names, and nowhere is there a table associating such numbers with names. As a result, the public cannot cross-reference cited comments to see who wrote them. In the past, SFNF has included such a table for cross-referencing in its comment response reports. SFNF provides no reason for its not providing the table for Encino Vista.

Our comments of April 15, 2024 on the draft Environmental Assessment contain a section titled "Public Involvement Concerns Must be Addressed." This section includes the following critical statements *which are not responded to* in SFNF's "4.0 Response to Public Comments:"

[For scoping,] SFNF issued no public news release, placed no legal notice in a newspaper for its scoping notice, and contacted no news source to announce the project. As a result, there has been little mention of the project in the media.

The SFNF received only 14 scoping comments from the public during the 2019 comment period. In contrast, also in 2019, thousands of people submitted scoping comments about the agency's smaller but much better publicized cutting and intentional burning project – the Santa Fe Mountains Landscape Resiliency project.

Section IV, page 74. In fact, similar concerns about scoping outreach were expressed in 2019 scoping comments, and SFNF similarly did not respond to these concerns. An example of this is evident in SFNF's "Scoping Comment Content Analysis" document dated October 2020. Two

of the cited comments mention that the Project was never even announced on SFNF's own online news feed, or in a newspaper, yet SFNF is silent about these concerns in its response. "Scoping Comment Content Analysis," p. 38.

In both SFNF's responses to scoping comments and its responses to comments on the draft Environmental Assessment, the Forest cites a commenter who calls for restarting the comment period as a result of inadequate public notice. Respectively "4.0 Response to Public Comments," p. 3, and "Scoping Comment Content Analysis, p. 38. The 2020 response to scoping comments ignores the question, while the 2025 ("4.0") response cites a regulation (36 CFR 218.25) which states that a comment period for environmental assessments "shall not be extended." Such regulation, though, would not be applicable to an agency needing to re-announce a project because it violated the NEPA statute.

Although the agency has a system (CARA) which allows public comments to be visible to the public as soon as they are submitted, SFNF chose not to publicly release the scoping comments submitted in the fall of 2019 until winter of 2024. Amazingly, SFNF would not even release the public scoping comments to the public when it released its "Scoping Comment Content Analysis" in 2020.

SFNF has acknowledged its failings in regards to the scoping process for Encino Vista. In a 2024 meeting held by the community of Canoñes regarding its concerns about the Project, the Santa Fe National Forest Supervisor stated that he heard *the agency had "really missed the bar" during scoping*. At the same meeting, the Coyote District Ranger said that *they had "really dropped the ball"* during scoping. *Nevertheless, the Forest Service did not reinitiate the scoping process*, thereby denying the public of its right to have its participation encouraged and facilitated "to the fullest extent possible." 40 C.F.R. 1500.2(d), April 7, 2025.

In 2024, SFNF chose not to publicly release public comments on the draft Environmental Assessment until after the comment period closed. SFNF's response to this is simply "Providing a public reading room is discretionary and the Forest chose instead to release comments at a later time," without any further explanation. "4.0 Response to Public Comment," p. 3. Calling a public reading room "discretionary" is inconsistent with the above-cited Forest Service regulations which state that the agency should be "proactive and use contemporary tools, such as the Internet, to engage the public." 36 CFR 219.4, April 7, 2025.

On April 7, 2025, SFNF placed a legal notice in the Albuquerque Journal about the Encino Vista Project objection period. On April 29, 2025, about halfway through the 45 day objection period, the Forest Service informed persons on its email list for the Project that the links provided in the legal notice were broken and to instead use newly supplied links to view information on the Project and the objection process. The Forest Service neglected to send this correction to its

email list for Santa Fe National Forest press releases or post the correction to its online listing of such press releases. As of May 196, 2025, *the supposedly corrected link to the agency's Encino Vista Project page did not work*; as a result, objectors did not have online access to Project documents for most of the objection period.

> **Suggested remedy**: The Forest Service should rescind its Draft Decision Notice and reissue scoping for the Project with public disclosure and input process as required under NEPA.

CONCLUSION

We appreciate your consideration of the information and concerns raised in our comments and highlighted in this objection.

We request a meeting to discuss potential resolution of issues raised in this objection, pursuant to 36 C.F.R. § 218.11(a). We hope that the Forest Service will use the objection process and such a meeting as opportunities to engage with stakeholders, including the objectors here, to develop a project that is legally and ecologically sound.

Sincerely,

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EXHIBITS

1. Management Recommendations for the Northern Goshawk
2. INFRA Roads Spreadsheet
3. Four Forest Restoration Initiative, Old Growth Protection & Large Tree Retention Strategy
4. Santa Fe National Forest - 25 Year Wildfire History

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