August 10, 2020

Heather Provencio, Forest Supervisor
Kaibab National Forest Supervisor's Office
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Re: OBJECTIONS Pursuant to 36 C.F.R. § 218.8 to Kaibab Plateau Ecological Restoration Project, North Kaibab Ranger District, Kaibab National Forest

Dear Reviewing Office:

The Center for Biological Diversity ("the Center") hereby submits these objections to the Kaibab National Forest's draft Decision Notice (DN), Finding of No Significant Impact (FONSI) and final environmental assessment (Final EA) for the Kaibab Plateau Ecological Restoration Project ("Kaibab Project").

Project Objected To

Pursuant to 36 C.F.R. § 218.8(d)(4), the Center objects to the following project:

Project: Kaibab Plateau Ecological Restoration Project, North Kaibab Ranger District, Coconino County, Arizona

Responsible Official and Forest/Ranger District: Randall M. Walker, District Ranger, North Kaibab Ranger District, Kaibab National Forest

Timeliness

These objections are timely filed. Notice of the draft DN and FONSI was published in the Arizona Daily Sun (the newspaper of record) on June 25, 2019. The deadline to submit objections is thus August 10, 2020 (because 45 days from the date of publication is August 9, a Sunday).[1]

[1] *See* 36 C.F.R. 218.6(a) (where deadline for objections falls on a weekend, deadline is move to 11:59 PM on the next business day).

Lead Objector

As required by 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 74,000 members, and 1.7 million members and online activists nationwide 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 Kaibab National Forest, and the lands of the Kaibab Project area for, among other things, recreation, photography, wildlife viewing, nature study, and spiritual renewal.

The Center for Biological Diversity believes that the welfare of human beings is deeply linked to nature — to the existence in our world of a vast diversity of wild animals and plants. Because diversity has intrinsic value, and because its loss impoverishes society, we work to secure a future for all species, great and small, hovering on the brink of extinction. We do so through science, law and creative media, with a focus on protecting the lands, forests, waters and climate that species need to survive. The Center has and continues to actively advocate for increased protections for species and their habitats in the forests of the American Southwest. The Center submitted comments on scoping for the Kaibab Project on November 5, 2018, and submitted a comments on the draft environmental assessment on November 12, 2019.[2]

The Kaibab Project

The Final EA states that the project's purpose is to "to reduce the threat of uncharacteristic high-severity wildfire and restore fire-resilient conditions to the Kaibab Plateau."[3]

The EA further explains that the project is needed to:

> • promote forest structure and processes that are more resilient to changes in climate; reduce the potential for active crown fire; and increase diversity in the ponderosa pine

[2] *See* letter of J. Trudeau, Center for Biological Diversity (Nov. 5, 2018) ("Center 2018 Scoping Comments"), attached as Ex. 1; letter of J. Trudeau, Center for Biological Diversity (Nov. 12, 2019) ("Center 2019 Draft EA Comments"), attached as Ex. 2.

[3] Forest Service, Kaibab Plateau Ecological Restoration Project Environmental Assessment (June 2020) at 1 (hereafter "Final EA").

forests by promoting regeneration, oak, herbaceous understory production, and large trees;

• increase our ability to let fire play its natural role in the frequent-fire mixed conifer communities by reducing the potential for active crown fire and promoting conditions that are resilient to disturbances and climate variability;

• promote conditions in pinyon-juniper communities that are resilient to disturbances and climate variability;

• reduce conifer tree encroachment and reestablish characteristic forest succession patterns resulting from low-intensity surface fires in grassland communities;

• reduce emissions from wildfires over time by reducing fuel loads;

• proactively protect cultural resources from direct adverse impacts of wildfires and the indirect effects of soil loss that occurs in post-fire flooding; and

• reduce the risk of uncharacteristic high-intensity wildfires to firefighter safety and human developments.[4]

The Forest Service draft DN proposes to select the proposed action alternative, which "includes approximately 319,000 acres of prescribed fire supported by approximately 122,000 acres of noncommercial mechanical treatments."[5]

[4] *Id*. at 1-2 (citations omitted).

[5] Forest Service, Draft Decision Notice and Finding of No Significant Impact for the Kaibab Plateau Ecological Restoration Project (June 2020) (hereafter "Draft Decision Notice").

OBJECTIONS

I. THE FOREST SERVICE MUST ADDRESS SIGNIFICANT NEW INFORMATION CONCERNING THE MANGUM FIRE.

A. NEPA Requires the Forest Service to Gather Baseline Information and to Supplement Environmental Analysis When There is New Information Concerning the Project or Its Impacts.[6]

The National Environmental Policy Act (NEPA) is "our basic national charter for protection of the environment."[7] Congress enacted NEPA to "encourage productive and enjoyable harmony between man and his environment … promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulating the health and welfare of man; and enrich the understanding of the ecological systems and natural resources important to the Nation."[8] "NEPA has twin aims. First, it places upon an agency the obligation to consider every significant aspect of the environmental impact of a proposed action, and to consider reasonable alternatives that could mitigate those impacts. Second, it ensures that the agency will inform the public that it has indeed considered environmental concerns in its decisionmaking process."[9]

Information contained in a NEPA analysis "must be of high quality. Accurate scientific analysis … [is] essential to implementing NEPA."[10] An agency's "[h]ard look" analysis should utilize "the best available scientific information."[11] As part of developing an accurate analysis, NEPA documents must "succinctly describe the environment of the area(s) to be affected ... by the alternatives under consideration."[12] "Establishing appropriate baseline conditions is critical to any NEPA analysis. 'Without establishing the baseline conditions which exist ... before [a project] begins, there is simply no way to determine what effect the [project] will have on the environment and, consequently, no way to comply with NEPA.'"[13] The Ninth Circuit has explained that "[t]he establishment of a 'baseline is not an independent legal requirement, but

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[6] This action is governed by the Council on Environmental Quality's 1978 regulations, as amended, and so all references to the CEQ regulations are to those currently in force as of July 1, 2020. Although CEQ issued a final rulemaking in July 2020 fundamentally rewriting those regulations, the new rules apply only "to any NEPA process begun after September 14, 2020," or where the agency has chosen to "apply the regulations in this subchapter to ongoing activities." 40 C.F.R. § 1506.13 (2020). The Kaibab Project NEPA process began before September 2020, and the Forest Service has not chosen to apply the new rules to this project.

[7] 40 C.F.R. § 1500.1(a).

[8] 42 U.S.C. § 4321.

[9] *Balt. Gas & Elec. Co. v. Natural Res. Def. Council*, 462 U.S. 87, 97 (1983) (citation omitted).

[10] 40 C.F.R. § 1500.1(b).

[11] *Colo. Envtl. Coal. v. Dombeck*, 185 F.3d 1162, 1171 (10th Cir. 1999).

[12] 40 C.F.R. § 1502.15.

[13] *Great Basin Res. Watch v. BLM*, 844 F.3d 1095, 1101 (9th Cir. 2016) (quoting *Half Moon Bay Fishermans' Mktg. Ass'n v. Carlucci*, 857 F.2d 505, 510 (9th Cir. 1988)).

rather, a practical requirement in environmental analysis often employed to identify the environmental consequences of a proposed agency action.'"[14]

Further, data in NEPA documents must be up to date, even after an EA or EIS is complete or a project initiated. The Supreme Court has recognized that "[i]t would be incongruous with [NEPA's] approach to environmental protection, and with the Act's manifest concern with preventing uninformed action, for the blinders to adverse environmental effects, once unequivocally removed, to be restored prior to the completion of agency action simply because the relevant proposal has received initial approval."[15] The Ninth Circuit agrees, stating that for EAs as well as EISs, "NEPA requires supplementation of any NEPA analysis in response to 'significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts.'"[16] District courts in this circuit follow this reasoning.[17]

Forest Service guidance recognizes the agency's duty to consider new information after the agency has made a decision, providing a process for evaluating the significance of such new data and for determining the circumstances under which NEPA mandates a supplemental EA or EIS.[18]

B. The Mangum Fire Dramatically Altered the Environmental Baseline in the Kaibab Plateau Project Area.

On June 6, 2020, the Mangum Fire started within the Kaibab Project area.[19] By the beginning of July, when it was largely contained, the fire had impacted 71,000 acres, with almost the entirety

[14] *Or. Natural Desert Ass'n v. Jewell*, 840 F.3d 562. 568 (9th Cir. 2016) (quoting *Am. Rivers v. FERC*, 201 F.3d 1186, 1195 n.15 (9th Cir. 1999)).

[15] *Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 371 (1989).

[16] *Tri-Valley CAREs v. United States DOE*, 671 F.3d 1113, 1130 (9th Cir. 2012) (quoting 40 C.F.R. § 1502.9(c)(1)(ii)).

[17] *See, e.g., Or. Natural Res. Council Action v. United States Forest Serv.,* 445 F. Supp. 2d 1211, 1219 (D. Or. 2006) ("Once an agency has prepared an EA and issued a FONSI, an agency must supplement its analysis if there are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts.") (quoting *Idaho Sporting Congress v. Thomas*, 137 F.3d 1146, 1152 (9th Cir. 1998)); *Wildlands v. United States Forest Serv.,* 791 F. Supp. 2d 979, 993 (D. Or. 2011) ("[A] supplemental EA is required when there are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts." (citations & quotations omitted).

[18] Forest Service NEPA Handbook 1909.15, Sec. 18.

[19] *See* InciWeb, Final Mangum Fire Update, 7 July 2020, available at https://inciweb.nwcg.gov/incident/article/6748/52418/ (last visited July 30, 2020), and attached as Ex. 3.

of that acreage within the Kaibab Project area.[20] A Forest Service map shows that 72% of the area indicated a soil burn severity within the fire boundary that was either unchanged or showed low or moderate severity.[21] Within ponderosa pine forests, that figure was more than 82%.[22] Another map indicated that 94% of the acreage within the fire boundary was either unchanged or showed low or moderate fire severity.[23]

The 71,000 acres burned is 16% - 22% of the total area the Kaibab Project proposes to treat.[24] The vast majority of the fire burned where the Forest Service proposes to use "Mechanical/hand treatments."[25] The vast majority of those 71,000 acres are also in "Zone 1,"[26] which is primarily ponderosa pine and above 6,500 feet elevation.[27] A relatively smaller amount of the fire occurred within Zone 2, where "noncommercial mechanical treatments in pinyon-juniper vegetation types would be used to create prescribed fire holding features and to create mosaics and break up continuous canopies."[28]

The fire appears to have burned areas that include a substantial portion (perhaps on the order of one-third or one-half) of the ponderosa pine stands in the project area.[29] The fire appears to have burned a number of "preliminary treatment units" scheduled for implementation in the project's first five years.[30] It may also have burned in nest/roost habitat for the Mexican spotted owl.

In short, the Mangum Fire significantly altered conditions within the Kaibab Project area. These changes may undermine key assumptions in the EA. For example, the EA bases its analysis of the project's impacts on Mexican spotted owls in part on the "2014 North Kaibab Ranger District Mixed Conifer and Mexican Spotted Owl Habitat Assessment."[31] But that six-year-old document

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[20] *Compare id*., and Kaibab National Forest, Map, Mangum Fire Burned Area Reflectance Classification, BARC Phase 2 Map (June 24, 2020) (displaying fire boundary, attached as Ex. 4, *with* Final EA at 11, Figure 4 (displaying project and treatment boundaries).

[21] Kaibab National Forest, Soil Burn Severity Map, BARC Phase 3, Mangum Fire (June 29, 2020), attached as Ex. 5.

[22] *Id*.

[23] BARC Phase 2 Map (Ex. 4).

[24] Final EA at 5 ("total treatments could exceed 319,000 acres, but [will] be less than 441,000 acres").

[25] *See* Final EA at 8, Figure 1, and BARC Phase 2 Map (Ex. 4).

[26] *See* Final EA at 9, Figure 2,

[27] Final EA at 5.

[28] Final EA at 6.

[29] *Compare* BARC Phase 2 Map (Ex. 4) *with* Final EA at 10, Figure 3.

[30] *Compare* BARC Phase 2 Map (Ex. 4) *with* Final EA at 11, Figure 4.

[31] EA at 137. Note that this document, relied upon by the EA, is not listed in the EA's references section nor does it appear to be online.

could not address the impacts of the Mangum Fire on owl habitat, rendering the EA's analysis outdated and inaccurate.

C. The Kaibab Project EA Fails to Address the Impact of the Mangum Fire as Part of the Environmental Baseline or as Significant New Information, Violating NEPA.[32]

The Kaibab Project EA and proposed decision were issued less than three weeks after the Mangum Fire began. The EA fails to mention the fire or its impacts on the environmental baseline, on the purpose and need for the proposal, or on alternatives to the proposed action. Nor does the Forest Service's biological evaluation or the U.S. Fish & Wildlife Service's biological opinion address the impacts of the fire. Because the project is designed to permit the return of fire, as well as remove trees that may increase the risk of high intensity fire, and because the fire altered the forest in significant portion of the project area, the fire dramatically altered the baseline environment.

NEPA therefore requires the Forest Service to address this new information in a supplemental NEPA document before approving the project.[33]

The Forest Service may allege that the EA is sufficient to address the impacts of the Mangum Fire, or that addressing those impacts is unnecessary. The agency cannot argue that the information is too late to include in an EA, however, because the agency's NEPA's responsibilities are ongoing. Those duties do not end because the agency issues a "final" EA; the agency's duties continue even after a decision is made.

1. The EA Does Not Account for the New Information Concerning the Mangum Fire.

The Forest Service cannot argue that the EA effectively took the potential for the Mangum Fire's impacts into account because the EA committed to undertaking site-specific surveys years after the EA was complete. Such an approach violates NEPA's mandate that agencies disclose the environmental baseline in analysis *before* the agency makes its decision; it is not sufficient for an agency to promise to analyze the environmental impacts long after it has made the decision approving logging and burning. Yet that appears to be what the EA proposes the Kaibab National Forest will do by waiting until years later to perform site-specific surveys to inform its logging and burning treatments.

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[32] The Center was not required to raise this issue in comments because this "issue is based on new information that arose after the opportunities for comment." 36 C.F.R. § 218.8(c). The Mangum Fire did not occur until June 2020, long after the comment period terminated in November 2019.

[33] Further, the new information also requires the Forest Service to re-initiate consultation with the U.S. Fish and Wildlife Service concerning, at a minimum, impacts to the Mexican spotted owl. *See* 50 C.F.R. § 402.16(a)(2) (requiring re-initiation where "new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered").

The EA admits that the agency has "not conducted surveys of the entire area, so we developed design elements that require surveys to be conducted prior to implementation for some resources."[34] The EA justifies its failure to analyze and disclose the environmental baseline on the potential for site-specific conditions to change:

> It is not prudent, and not a wise use of limited taxpayer dollars, to conduct surveys too soon in the process. Changing conditions may make survey results irrelevant or unnecessary if the surveys are conducted too early. It would take years or even decades to collect data for the entire project area, and we may only need the information for a limited treatment area, depending on where the treatments are implemented. If a wildfire were to burn across the project area, conditions could change dramatically, making previously collected data inaccurate and possibly irrelevant; therefore, with this approach we will implement specific activities based on the actual conditions on the ground at the time of implementation using design elements appropriate for those conditions.[35]

This explanation fails on numerous counts.

a. The Cost of Completing a Baseline Analysis Is Not a Proper Basis for Failing to Undertake Such Analysis.

The EA's first argument against conducting mandated baseline surveys appears to be that such surveys would be too costly. NEPA regulations permit an agency to avoid undertaking certain analyses on financial grounds, but only in a narrow set of circumstances. Neither the EA nor the agency itself make the requisite showing, and so the Forest Service cannot escape its duty to gather baseline data on the grounds that such data gathering is "not a wise use of limited taxpayer dollars."

NEPA has a process for alleging that it need not gather info because the cost is "exorbitant." Specifically, 36 C.F.R. § 1502.22 states in relevant part:

> When an agency is evaluating reasonably foreseeable significant adverse effects on the human environment in an environmental impact statement and there is incomplete or unavailable information, the agency shall always make clear that such information is lacking.
>
> (a) If the incomplete information relevant to reasonably foreseeable significant adverse impacts is essential to a reasoned choice among alternatives and the overall costs of obtaining it are not exorbitant, the agency shall include the information in the environmental impact statement.
>
> (b) If the information relevant to reasonably foreseeable significant adverse impacts cannot be obtained because the overall costs of obtaining it are

[34] Final EA at 160 (Appx. C).

[35] *Id*.

> exorbitant or the means to obtain it are not known, the agency shall include within the environmental impact statement:
>
> > (1) A statement that such information is incomplete or unavailable; (2) a statement of the relevance of the incomplete or unavailable information to evaluating reasonably foreseeable significant adverse impacts on the human environment; (3) a summary of existing credible scientific evidence which is relevant to evaluating the reasonably foreseeable significant adverse impacts on the human environment, and (4) the agency's evaluation of such impacts based upon theoretical approaches or research methods generally accepted in the scientific community.

The Forest Service has not made any of the findings or determinations required by this rule. The agency has not determined whether the baseline information is "is essential to a reasoned choice among alternatives," although the fact that the agency is likely to gather it *later* ("at the time of implementation") indicates that the information *is* essential to informing the agency's choice of actions. Further, the Forest Service does not specifically determine whether or not the "overall costs of obtaining" the baseline information are "exorbitant." Such a conclusion would be arbitrary in any event because the agency apparently intends to obtain the information over time. But even if the Forest Service makes a determination of exorbitance, it must specifically state the four conclusions required by the regulations, which the agency fails to do. In short, agency concerns about cost alone cannot justify a failure to gather necessary information concerning baseline conditions within the project area.

b. The Forest Service Cannot Fail to Gather Baseline Information Because Conditions May Change Before It Implements the Project.

The EA further excuses the Forest Service's failure to collect baseline data on the grounds that "[c]hanging conditions," including wildfires that may "dramatically" change baseline conditions, would "mak[e] previously collected data inaccurate and possibly irrelevant."[36] However, the Forest Service may not ignore its duties to analyze and disclose existing conditions because those may change. As noted, CEQ regulations specifically address this issue, requiring supplementation of EAs and EISs when "[t]here are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts."[37] The Forest Service NEPA Handbook includes a chapter providing guidance for addressing new information, including, potentially, preparing a document entitled a "supplemental information report."[38] The potential for environmental change, especially in the era of drought and extreme weather due to climate change, is ever present, particularly as here where the Forest Service has designed a massive project that will take more than a decade to implement. The mere potential for environmental change cannot be a rational basis for ignoring

[36] Final EA at 160 (Appx. C).

[37] 36 C.F.R. § 1502.9(c)(1)(ii).

[38] Forest Service Handbook 1909.15, Ch. 18.

(or postponing) basic NEPA responsibilities such as analyzing and disclosing baseline conditions until long after the agency approves the project.

If the Forest Service is truly worried about gathering information "too early," the most rational remedy is to not propose an expansive project that will take decades to implement, and then fail to gather and analyze baseline information until after approving the project. Instead, the agency could prepare a programmatic NEPA document, and undertake step-down NEPA based on that programmatic analysis when it intends to implement the agency's programmatic goals through smaller projects at the site-specific level.

2. Statements in the Decision Notice Do Not Cure the Forest Service's Failure to Account for New Information Concerning the Mangum Fire.

The Draft Decision Notice, but not the EA, alleges that the Forest Service need not address new information concerning the Mangum Fire. The reasons that the Decision Notice provides, however, are arbitrary and capricious.

The Decision Notice states:

> I considered the possible changed conditions resulting from the Mangum Fire and determined the analysis of predicted environmental impacts of the selected alternative documented in the environmental assessment is adequate. The project is based on potential natural vegetation and includes monitoring and adaptive management to address changing conditions like those resulting from the current wildfire. If anything, it means fewer acres would be treated with the project. For these reasons I have determined the selected alternative is within the scope of the analysis.[39]

Here, the Forest Service appears to take the position that baseline conditions across the *entire project area are irrelevant* to the agency's review of environmental impacts because only assumptions about the "potential natural vegetation" matter. This is false, and ignores the law which recognizes that "[e]stablishing appropriate baseline conditions is critical to any NEPA analysis. 'Without establishing the baseline conditions which exist ... before [a project] begins, there is simply no way to determine what effect the [project] will have on the environment and, consequently, no way to comply with NEPA.'"[40] About a fifth of the project area has been altered. Because the baseline has shifted, so must the evaluation of impacts and alternatives.

Further, the Draft Decision Notice's statement that "the selected alternative is within the scope of the analysis" ignores the relevant standard for evaluating whether additional analysis is required in light of new information. The test is whether the Mangum Fire and its impact to 70,000+ acres within the project area represent "significant new circumstances or information relevant to

[39] Draft Decision Notice at 1.

[40] *Great Basin Res. Watch*, 844 F.3d at 1101 (quoting *Half Moon Bay,* 857 F.2d at 510).

environmental concerns and bearing on the proposed action or its impacts."[41] The answer to that is yes.

The Forest Service's decision to ignore the Mangum Fire's impacts is based in part on the assertion that "monitoring and adaptive management" will be used "to address changing conditions."[42] As explained below, the Forest Service's proposal here does not meet the agency's own mandates concerning "adaptive management," in part because the agency fails to define what conditions will trigger a management change, nor does it evaluate the impacts from adopting adaptive strategies.

The agency's assertion that the 70,000 acres of project area impacted by fire means, if anything, "fewer acres would be treated with the project," ignores that the baseline under all alternatives has changed, and that some acres will have burned with high severity, with impacts to soils and water quality that may require changes to the proposed action. Further, if some units within the burned area will no longer be treated, that will require changes to when and where logging will be scheduled to occur, which could change the nature and timing of impacts from that predicted in the EA.

Because all of the Forest Service's excuses lack merit, the agency must prepare supplemental analysis to address the impacts of the Mangum Fire on the baseline environment, and on the impacts of the alternatives.

> *Suggested Remedy*: The Forest Service must prepare a supplemental NEPA document to analyze the effects of the Mangum Fire on the environmental baseline of, the impacts of, and the alternatives analysis concerning, the Kaibab Project. The Forest Service must also reinitiate consultation with the U.S. Fish & Wildlife Service concerning project impacts to the Mexican spotted owl.

II. THE EA'S RELIANCE ON 'ADAPTIVE MANAGEMENT' VIOLATES NEPA.

The EA relies in part on an "adaptive management" strategy to address the potential for subsequent actions (including wildfire) to require the agency to modify its proposed action. To be effective and legal, adaptive management must: (1) clearly identify measurable thresholds that, if exceeded as determined by monitoring, will require a change in management; (2) clearly identify what that changed management will entail; and (3) disclose in the NEPA document the impacts caused by that change in management. Because the EA fails on all three counts, the Forest Service cannot rely on the adaptive management strategy as currently proposed.

We do not argue that the Forest Service can never adopt an adaptive management approach for this project. An adaptive management approach may be feasible and helpful in terms of permitting the agency to fine tune its management in the face of changing conditions. However,

[41] *Tri-Valley CAREs*, 671 F.3d at 1130 (quoting 40 C.F.R. § 1502.9(c)(1)(ii)).

[42] Draft Decision Notice at 1.

the agency's proposed approach fails to meet the conditions required to establish a lawful and effective plan.[43]

A. The Law and Policy of Adaptive Management.

Academic recommendations concerning adaptive management. Academics conclude that effective adaptive management should involve treating management interventions as experiments, the outcomes of which are monitored and fed back into management planning. As outlined by land management experts, an adaptive management approach to forest management should include the following:

> • Creation of management strategies (specific action alternatives in this case);
>
> • Implementation of those strategies/actions;
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> • Monitoring of the effects (under the monitoring framework developed as part of the planning process); and
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> • Predetermined triggers for changes in management based on the results of monitoring.[44]

Forest Service experts have said that "[a]daptive management requires explicit designs that specify problem-framing and problem-solving processes, documentation and monitoring protocols, roles, relationships, and responsibilities, and assessment and evaluation processes."[45]

The fourth component, regarding triggers, is described by adaptive management experts in the following statement:

> The term trigger, as used here, is a type of pre-negotiated commitment made by an agency within an adaptive management or mitigation framework specifying what actions will be taken if monitoring information shows x or y. In other words, predetermined decisions, or more general courses of action, are built into an adaptive framework from the beginning of the process.[46]

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[43] The Center raised this issue in its comments on scoping and on the Draft EA. *See* Center 2018 Scoping Comments (Ex. 1) at 9, 74; Center 2019 Draft EA Comments (Ex. 2) at 20-21.

[44] Schultz, C. and M. Nie. 2012. Decision-making triggers, adaptive management, and natural resources law and planning. *Natural Resources Journal* 52:443-521.

[45] Stankey, G.H., R.N. Clark, and B.T. Bormann. 2005. Adaptive management of natural resources: theory, concepts, and management institutions. Gen. Tech. Rep. PNW-GTR-654. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station. 73 p., at page 58. Available at https://www.fs.fed.us/pnw/pubs/pnw_gtr654.pdf (last viewed August 10, 2020).

[46] Schultz and Nie, Decision-making triggers, adaptive management, and natural resources law and planning at 455.

The literature cited here calls for details and specifics, not ambiguity.

Regulations concerning adaptive management. This academic framing is reinforced by the Forest Service's NEPA regulations, adopted in 2008, which define adaptive management as "[a] system of management practices based on *clearly identified intended outcomes and monitoring* to determine if management actions *are meeting those outcomes*; and, if not, to facilitate management changes that will best ensure that those outcomes are met or re-evaluated. Adaptive management stems from the recognition that knowledge about natural resource systems is sometimes uncertain."[47] These regulations further state that:

> An adaptive management proposal or alternative must *clearly identify the adjustment(s) that may be made* when monitoring during project implementation *indicates that the action is not having its intended effect*, or is causing unintended and undesirable effects. The EIS must disclose not only the effect of the proposed action or alternative *but also the effect of the adjustment*. Such proposal or alternative must also *describe the monitoring that would take place* to inform the responsible official during implementation whether the action is having its intended effect.[48]

The preamble to the Forest Service's regulation that adopted the adaptive management definition states that the agency must identify the proposed changes, and their impacts, in the NEPA document. "When proposing an action the responsible official may identify possible adjustments that may be appropriate during project implementation. Those possible adjustments must be described and their effects analyzed in the EIS." 73 Fed. Reg. 43,084, 43,090 (July 24, 2008).

Federal caselaw concerning adaptive management. Federal courts have found agencies violated NEPA or the Endangered Species Act (ESA) where the agency relied on an "adaptive management" plan that was vague, set no specific triggers for future action, failed to describe that future action, or failed to ensure that resources will be protected as the adaptive management plan asserts.

In *Natural Resources Defense Council v. U.S. Army Corps of Engineers*, 457 F. Supp. 2d 198 (S.D.N.Y. 2006), the court found that the Army Corps' attempt to supplement an inadequately-explained finding of no significant impact concerning a dredging project was arbitrary and capricious where the agency relied on ill-defined "adaptive management" protocols to conclude that impacts would be mitigated below the level of significance.

> The EA makes several promises that it will alter its monitoring plan should it prove necessary. For example, the EA relies on a general promise that it will "as appropriate, reevaluate, the need for altering its dredging methods" … through the use of its coordination plan and monitoring program. The EA also explains that the Corps will follow "adaptive management practices as it moves through construction of its contracts," thus allowing it to change future contracts should

[47] 36 C.F.R. § 220.3 (emphasis added).

[48] 36 C.F.R. § 220.5(e)(2) (emphasis added).

> the data indicate it is necessary. These promises, however, provide no assurance as to the efficacy of the mitigation measures. The Corps did not provide a proposal for monitoring how effective "adaptive management" would be.[49]

Mountaineers v. United States Forest Service, 445 F. Supp. 2d 1235 (W.D. Wash. 2006) set aside a Forest Service decision to open motor vehicle trails where the agency proposed to monitor impacts to wildlife and potentially change the trails later based on an adaptive management plan. The court stated that these adaptive management strategies "amount … to a 'build-first, study later' approach to resource management. This backward-looking decision making is not what NEPA contemplates."[50] Other cases similarly conclude that NEPA forbids the use of ill-defined adaptive management plans to assume away likely impacts of agency action.[51]

Courts also hold unlawful agency projects that may impact species protected by the Endangered Species Act where the biological opinion is based on the assumption that a vague and ill-defined monitoring and adaptive management plan will mitigate impacts to the species at issue. These cases provide a useful analogy to adaptive management in the NEPA context. *Natural Resources Defense Council v. Kempthorne*, 506 F. Supp. 2d 322 (E.D. Ca. 2007) is key precedent. There, plaintiffs challenged a proposed plan to manage water diversions in a manner that could adversely impact the delta smelt, a species listed as threatened under the Endangered Species Act. The Fish and Wildlife Service prepared a biological opinion (BiOp) on the proposal which concluded that the project would neither jeopardize the smelt nor adversely modify the smelt's critical habitat. "Although the BiOp recognize[d] that *existing* protective measures may be inadequate, the FWS concluded that certain proposed protective measures, including … a proposed 'adaptive management' protocol would provide adequate protection."[52]

Plaintiffs alleged, among other things, that the BiOp "relie[d] upon uncertain (and allegedly inadequate) adaptive management processes to monitor and mitigate the [project's] potential impacts."[53] They asserted that the adaptive management plan, which required a working group meet and consider adaptive measures in light of monitoring, failed to meet the ESA's mandate that mitigation be

> "'reasonably specific, certain to occur, and capable of implementation'" because: (1) the [working group] has complete discretion over whether to meet and whether to recommend mitigation measures; (2) even if the [working group] meets and recommends mitigation measures, the [agency management team]

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[49] *NRDC v. United States Army Corps of Eng'rs*, 457 F. Supp. 2d at 234 (citations omitted).

[50] *Mountaineers v. United States Forest Serv.*, 445 F. Supp. 2d at 1250.

[51] *See, e.g., High Sierra Hikers Association v. Weingardt*, 521 F. Supp. 2d 1065, 1090-91 (N.D. Ca. 2007) (overturning a Forest Service decision to liberalize the rules limiting campfires in high country parts of a wilderness area on the grounds that the agency could not rely on adaptive management to overcome an inadequate response to the problems raised in the record).

[52] *NRDC v. Kempthorne*, 506 F. Supp. 2d at 333-34 (emphasis in original).

[53] *NRDC v. Kempthorne*, 506 F. Supp. 2d at 329.

> group is free to reject any recommendations; (3) there are no standards to measure the effectiveness of actions taken; (4) reconsultation is not required should mitigation measures prove ineffective; and (5) ultimately, no action is ever required.[54]

The *Kempthorne* court cited prior caselaw holding that "a mitigation strategy [in the ESA context] must have some form of measurable goals, action measures, and a certain implementation schedule; i.e., that mitigation measures must incorporate some definite and certain requirements that ensure needed mitigation measures will be implemented."[55] The court found that adaptive management plan "does not provide the required reasonable certainty to assure appropriate and necessary mitigation measures will be implemented."[56] The court concluded that

> Adaptive management is within the agency's discretion to choose and employ, however, the absence of any definite, certain, or enforceable criteria or standards make its use arbitrary and capricious under the totality of the circumstances.[57]

B. The EA Does Not Comply with Law or Policy for Adaptive Management.

Although the EA states that it relies on adaptive management, it does not contain key elements required to comply with Forest Service regulations, nor does it meet the goals for such a plan set out by academics. The EA fails to clearly identify measurable thresholds or triggers that, if exceeded as determined by monitoring, will require a change in management, instead relying on very general forest plan desired conditions that are vague or subject to interpretation. The EA also fails to clearly identify what changed management the Forest Service will undertake if a trigger is reached (beyond doing more of the same), and only generally and vaguely describes the impacts caused by whatever change in management occurs.

The EA describes its adaptive management strategy as follows:

> Trigger points are reached if the project goes beyond or is not reaching desired conditions for various resources. Desired conditions are described in the forest plan and those directly related to the purpose and need for this project are summarized in appendix A. Treatments would be prescribed after Forest Service staff and partners review monitoring information. Resource-specific information, qualitative reviews, plot data, and remotely sensed information would indicate if treatments work toward desired conditions or if they go beyond desired conditions. Prescriptions would be continually adjusted to account for changes that result from treatments and natural changes resulting from weather conditions,

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[54] *NRDC v. Kempthorne*, 506 F. Supp. 2d at 352. *See also id.* at 350 (explaining the "certain to occur" standard and citing *Ctr. for Biological Diversity v. Rumsfeld*, 198 F. Supp. 2d 1139, 1152 (D. Ariz. 2002)).

[55] *NRDC v. Kempthorne*, 506 F. Supp. 2d at 355, citing *Rumsfeld*, 198 F. Supp. 2d at1153.

[56] *NRDC v. Kempthorne*, 506 F. Supp. 2d at 356.

[57] *NRDC v. Kempthorne*, 506 F. Supp. 2d at 387.

> wildfires, and insects and diseases, and as more information is obtained from pre-treatment surveys.[58]

The trigger points described – desired future conditions set out in Appendix A – provide virtually no numeric thresholds at all, giving the agency discretion to conclude whether to undertake any adaptive management. For example, for ponderosa pine forests, the Forest Plan identifies desired future conditions as:

> conditions are resilient to the frequency, extent, and severity of disturbances and climate variability. Grasses and needle cast provide the fine flashy fuels needed to maintain the natural fire regime. Fire and other disturbances are sufficient to maintain desired overall tree density, structure, species composition, coarse woody debris loads, and nutrient cycling (forest plan p. 18).[59]

This description, derived from the Kaibab National Forest Plan, addresses desired conditions for "Landscape-scale (over 10,000 acres) … for Ponderosa Pine."[60] The description contains no numerical guidance of any kind, nor does it identify what the "desired overall tree density" or any other factor should be. It is thus impossible to tell when or whether adaptive management tools might be triggered. The EA's statement that monitoring "would indicate if treatments work toward desired conditions or if they go beyond desired conditions" is misleading because neither the Forest Plan nor the EA provide guidance for what would trigger a determination that desired conditions have been exceeded.

Even assuming identifiable triggers existed, the EA admits that its tools to monitor forest values and the effects of fire, which would be used to determine whether triggers have been exceeded, are currently inadequate. The Forest Service states that the monitoring program "is still in its infancy. As various technologies, funding, and efficiencies become available the program will improve to successfully monitor fire effects at project and landscape scales."[61] The EA admits that ground-based monitoring will be inadequate because "the extent of area that can be monitored with ground-based plots is limited by funding."[62] The EA states that ground-based monitoring together with remote sensing can provide effective monitoring, but admits that the use of remote sensing tools "is still under development."[63] The EA admits that it does not yet have a monitoring plan for the project: "The Kaibab National Forest is working with stakeholders and partners on a collaborative monitoring plan."[64] Without proven monitoring tools, let alone a defined monitoring plan, adaptive management cannot function effectively.

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[58] EA at 25.

[59] EA at 116.

[60] Kaibab National Forest Plan (2015) at 18.

[61] EA at 20.

[62] EA at 21.

[63] EA at 22.

[64] EA at 149.

Further, even if the EA specified how it would identify when thresholds have been exceeded, the EA fails to identify the actions the Forest Service will take, or the impacts of those actions. The EA states:

> Adaptive management techniques would be used to monitor and evaluate effects of treatments and changing conditions and adjust treatments as needed for future treatments to work toward desired conditions.[65]

The EA does not define how treatments would be "adjusted," thus providing the Forest Service with apparently unfettered discretion to modify the project on the fly, which is the opposite of adaptive management. The EA contains other statements stating that "adjustments" could occur in response to monitoring, but it fails to describe the nature or impacts of those adjustments.[66]

In sum, the "adaptive management plan" upon which the EA relies fails to comply with the Forest Service's regulations or the recommendations of experts.

> *Suggested Remedy*: The Forest Service must prepare a supplemental NEPA document to include an adaptive management plan that meets Forest Service regulations by: (1) setting clear, well-defined monitoring standards; (2) setting specific triggers identifying when adjustments may be necessary; (3) clearly identifying the adjustment(s) that may be made when monitoring shows those triggers have been reached; and (4) disclosing the impacts of implementing any and all of those adjustments. Alternatively, the Forest Service must prepare a supplemental NEPA document that eliminates any adaptive management plan.

III. THE EA FAILS TO CONSIDER A RANGE OF REASONABLE ALTERNATIVES.

A. Agencies Must Analyze a Range of Reasonable Alternatives in an EA.

CEQ regulations require agencies to "use the NEPA process to identify and assess the reasonable alternatives to proposed actions that will avoid or minimize adverse effects of these actions upon the quality of the human environment."[67] NEPA requires that federal agencies consider alternatives to recommended actions whenever those actions "involve[] unresolved conflicts concerning alternative uses of available resources."[68] "NEPA's requirement that alternatives be studied, developed, and described both guides the substance of the environmental decision-

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[65] EA at 5.

[66] *See also* EA at 20 (stating that "[p]rescriptions would be continually adjusted to account for changes" without describing the nature of those changes or how those changes would impact the environment); *id*. at 31 ("Treatments would be monitored to evaluate the degree to which areas are moving toward desired conditions. This information will inform resource managers and adjustments to treatments would be made accordingly.")

[67] 40 C.F.R. § 1500.1(e).

[68] 42 U.S.C. § 4332(2)(E).

making and provides evidence that the mandated decision-making process has actually taken place."[69]

In taking the "hard look" at impacts that NEPA requires, an EA must "study, develop, and describe" reasonable alternatives to the proposed action.[70] "A properly-drafted EA must include a discussion of appropriate alternatives to the proposed project."[71] This alternatives analysis "is at the heart of the NEPA process, and is 'operative even if the agency finds no significant environmental impact.'"[72]

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."[73] 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."[74]

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, reasonableness is judged with reference to an agency's objectives for a particular project."[75]

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

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[69] *Bob Marshall Alliance v. Hodel*, 852 F.2d 1223, 1228 (9th Cir. 1988) (citation omitted).

[70] 42 U.S.C. § 4332(2)(C) & (E); 40 C.F.R. § 1508.9(b) (an EA "[s]hall include brief discussions ... of alternatives"). The Tenth Circuit explains that this mandate extends to EAs as well as EISs.

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

[72] *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").

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

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

[75] *Diné Citizens Against Ruining Our Env't*, 747 F. Supp. 2d at 1255 (quoting *New Mexico ex rel. Richardson*, 565 F.3d at 709). *See also Idaho Conservation League v. Mumma*, 956 F.2d 1508, 1520 (9th Cir. 1992) ("nature and scope of proposed action" determines the range of reasonable alternatives agency must consider).

upon it, inadequate."[76] The agency's obligation to consider reasonable alternatives applies to citizen-proposed alternatives.[77]

Courts hold that an alternative may not be disregarded merely because it does not offer a complete solution to the problem.[78] 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."[79] 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."[80]

Federal courts also require that an agency adequately and explicitly explain in the EA any decision to eliminate an alternative from further study.[81]

B. The EA Failed to Analyze a Range of Reasonable Alternatives.

The EA evaluates in detail only the proposed action and the "no action" alternative. In doing so, the Forest Service failed to consider at least one alternative proposed by the Center during scoping: the Strategic Treatments for Fire Use (STFU) alternative. The Forest Service's failure to analyze this alternative in detail, or explain why the agency would not, violates NEPA. The Forest Service must consider the STFU alternative in detail in any subsequently prepared NEPA document.

1. The Strategic Treatments for Fire Use Alternative.

The Center's comments on scoping and on the Draft EA described at length the STFU alternative and specifically requested that the Forest Service analyze such an alternative.[82]

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[76] *Diné Citizens Against Ruining Our Env't*, 747 F. Supp. 2d at 1256.

[77] *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").

[78] *Natural Resources Defense Council, Inc. v. Morton*, 458 F.2d 827, 836 (D.C. Cir. 1972).

[79] *Town of Matthews v. U.S. Dep't. of Transp.*, 527 F. Supp. 1055 (W.D. N.C. 1981).

[80] *North Buckhead Civic Ass'n v. Skinner*, 903 F.2d 1533, 1542 (11th Cir. 1990).

[81] *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.

[82] The Center raised this issue in its Center 2018 Scoping Comments (Ex. 1) at 9-18, and in Center 2019 Draft EA Comments (Ex. 2) at 11-17.

At the core of the STFU alternative is our position that the current direction in planning, analysis and implementation of Southwestern forest restoration is overly reliant on meeting structural and compositional targets, representing what is in effect a non-viable silvicultural solution to a complex ecological problem. The quest to create the ideal vegetative state across every operable acre has marginalized the overriding importance of fire-driven ecological processes. The Center rejects a framework which assumes that complex ecosystems can be wrangled into fixed proportions of tree ages and sizes that must be repeatedly tinkered with at 30-year rotations to maintain "desired conditions." In areas where strategically located mechanical intervention is implemented, fire alone can and should be the primary future maintenance tool.[83] Measuring the health of the forest on the basis of density-metrics represents a worn-out allegiance to a past industrial paradigm. This regulated-forest model defines successful restoration as growing large, defect-free trees as quickly as possible and ignores the complexity of process-centered ecosystem function. Restoring a forest is not an exercise in manipulating every quantifiable metric into a neat category, or alleviating any form of stress that might lead to unexpected mortality. Renowned fire ecologist Dr. Pete Fulé stated that: "The fire-related adaptations of pine forests are associated with fire's role as a selective force going far back in evolutionary time,"[84] suggesting that restoration of fire adapted dry forests is inseparable from the influence of recurrent fire as a primary selective force. Applying a new form of growth and density regulation, as articulated in GTR-310,[85] cannot by itself accomplish restoration at meaningful landscape scales; only the additive effects of frequent fire can fully restore these ecosystems. We are hopeful that because the Kaibab Project is a "non-commercial" project that our vision for strategically designed and implemented small-scale treatments fits well into the Forest Service's proposed action. Unfortunately, the Forest Service has neglected to take this great opportunity to analyze an alternative that maximizes return on limited resources.

As described in our scoping letter, the STFU would utilize a modified version of the methodology developed by the Hurteau lab and used by Krofcheck and colleagues.[86] Their research has developed "prioritization strategies for implementing fuel treatments … with the

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[83] North, M., B.M. Collins, and S. Stephens. 2012. Using Fire to Increase the Scale, Benefits, and Future Maintenance of Fuels Treatments. *Journal of Forestry* 110(7): 392-401; and 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.

[84] Fulé 2008 at 528. Does it make sense to restore wildland fire in changing climate? *Restoration Ecology* 16(4): 526-531.

[85] Reynolds *et al.* 2013. Restoring composition and structure in Southwestern frequent-fire forests: A science-based framework for improving ecosystem resiliency. RMRS-GTR-310.

[86] Krofcheck, D.J., M.D. Hurteau, R.M. Scheller, and E.L. Loudermilk. 2017. 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; *see also* 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.

goal to maximize treatment efficacy using optimal placement and prescription options under typical and extreme fire weather conditions."[87]

Their optimization model, under which the land manager would mechanically treat *only the operable areas with the highest 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 "[t]esting 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."[88]

Krofcheck and colleagues have recently completed similar optimization simulations for the Santa Fe Fireshed,[89] which should provide additional direction for utilizing such an approach in Southwestern ponderosa pine and mixed conifer forests. A significant added benefit of the optimization strategies developed by the Hurteau lab is the increased carbon that is retained on the landscape through minimizing logging and maximizing the use of fire to achieve restoration objectives. In a briefing paper summarizing this recent research, Krofcheck and colleagues wrote that

> Prioritizing the allocation of thinning treatments to areas with the greatest chance of burning under high-severity wildfire and treating the rest of the landscape with prescribed burning, can substantially reduce the area requiring thinning. Optimally locating thinning treatments can result in greater carbon storage across the landscape, with less risk of stand-replacing wildfire. The benefits of treatment optimization persist even as fire weather becomes more severe with changing climate. Restoring high-frequency fire regimes is critical for reducing the risk of high-severity wildfire and stabilizing carbon.[90]

Furthermore, they wrote:

> We found that mechanically treating areas with the highest risk of high-severity wildfire and using prescribed fire to treat the unthinned areas (optimized scenario), we could reduce the area mechanically treated when all operable areas

[87] http://www.hurteaulab.org/

[88] 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.

[89] Krofcheck, D.J., C.C. Remy, A.L. Keyser, and M.D. Hurteau. 2019. Optimizing forest management stabilizes carbon under projected climate and wildfire. *Journal of Geophysical Research: Biogeosciences* 10.1029/2019JG005206.

[90] Hurteau & Krofcheck. 2019. Summary of Krofcheck DJ, CC Remy, AR Keyser, MD Hurteau. 2019. Optimizing forest management stabilizes carbon under projected climate and wildfire. JGR Biogeosciences, doi:10.1029/2019JG005206. Available at http://www.hurteaulab.org/uploads/3/8/7/3/38731639/sf_fireshed_brief.pdf (last viewed August 10, 2020).

> were thinned (naive scenario) by 60%. Both scenarios achieved the reduction in high-severity wildfire when compared to the no-management scenario, as well as a significant reduction in wildfire carbon emissions. However, the optimized scenario did so at a considerable carbon savings in the short term, yielding a significant reduction in carbon lost from the system …. Both of our scenarios achieved a reduction in high-severity fire and stabilized the remaining carbon. However, in both the management scenarios, maintaining carbon stability under changing climate and increasingly severe fire weather was contingent on the regular application of prescribed fire at return intervals that are consistent with historic fire regimes.[91]

Optimizing spatial prioritization of non-commercial mechanical treatments reflects an evolution of fire management, placing emphasis on restoring fire as a natural process, rather than simply disrupting fire spread and protecting areas from burning.[92] The result of a strategic approach is to move away from managing for short-term outcomes and towards achievement of long-term restoration goals and objectives, consistent with calls from the scientific community to increase the use of prescribed and managed wildfires for resource benefit.[93] In a review of optimization strategies, Collins and colleagues stated: "The basic idea is that an informed deployment of treatment areas, a deployment that covers *only part of the landscape*, can modify fire behavior for the entire landscape."[94]

In sum, the STFU alternative, compared to the proposed action, would: better achieve ecological and restoration outcomes; result in less disturbance from mechanical treatment; require fewer Forest Service resources; and better protect our shared climate.

2. The STFU Alternative Meets the Kaibab Project's Purpose and Need.

The Forest Service's stated purpose of the Kaibab Project "is to reduce the threat of uncharacteristic high-severity wildfire and restore fire-resilient conditions to the Kaibab Plateau."[95] The EA states that the need for the project includes:

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[91] Summary of Krofcheck DJ, MD Hurteau, RM Scheller, EL Loudermilk. 2017. Prioritizing forest fuels treatments based on the probability of highseverity fire restores adaptive capacity in Sierran forests. Global Change Biology, doi:10.1111/gcb.13913, available at http://www.hurteaulab.org/uploads/3/8/7/3/38731639/dinkey_opcon_brief.pdf (last viewed August 10, 2020).

[92] 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.

[93] 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.

[94] p. 25 in Collins *et al.* 2010. Challenges and approaches in planning fuel treatments across fire-excluded forested landscapes. *Journal of Forestry* Jan/Feb 2010: 24-31. Emphasis added.

[95] EA at 1.

- promot[ing] forest structure and processes that are more resilient to changes in climate; reduc[ing] the potential for active crown fire; and increase[ing] diversity in the ponderosa pine forests by promoting regeneration, oak, herbaceous understory production, and large trees …;

- increase[ing] [the Forest Service's] ability to let fire play its natural role in the frequent-fire mixed conifer communities by reducing the potential for active crown …;

- promot[ing] conditions in pinyon-juniper communities that are resilient to disturbances and climate variability …;

- reduc[ing] conifer tree encroachment and reestablish characteristic forest succession patterns resulting from low-intensity surface fires in grassland communities …;

- reduc[ing] emissions from wildfires over time by reducing fuel loads …;

- … protect[ing] cultural resources from direct adverse impacts of wildfires …; and

- reduc[ing] the risk of uncharacteristic high-intensity wildfires to firefighter safety and human developments ….[96]

The STFU alternative would meet each of these identified needs. The STFU would utilize the same degree of landscape scale prescribed fire, but strategically locate mechanical or hand thinning treatments where the least amount of mechanical operations would support the most use of fire. This is further valuable given the EA's acknowledgement that industry capacity is insufficient to meet the demands of widespread timber harvest.[97]

The EA acknowledges the importance of locating mechanical treatments strategically:

> fuels reduction treatments in strategic locations adjacent to the wildland-urban interface aid fire managers in managing wildland fires. It is beneficial to locate treatments in these areas because treating every acre is improbable due to ecologic and economic concerns.[98]

The EA refers to language in the Kaibab Forest Plan that states that "[m]echanical treatments are costly, so the capacity to implement such treatments across the landscape is limited. Strategic placement and design of mechanical treatments increases their effectiveness in protecting values at risk."[99]

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[96] EA at 1-2.

[97] EA at 4 ("The established timber industry in northern Arizona and southern Utah does not have the processing capability (i.e., workers, equipment, and facilities) to address the treatment needs on a large enough scale required to move toward desired conditions").

[98] EA at 16.

[99] Kaibab Forest Plan at 75.

The EA further states that "[s]trategic placement and design more efficiently protects values at risk, given the limited resources and capacity to implement activities across the landscape."[100]

The EA also cites the Mexican Spotted Owl Recovery Plan, and claims consistency with the plan, saying that "combinations of mechanical and prescribed fire treatments may be used to minimize risk of high-severity fire effects while striving to maintain or improve habitat conditions for the owl and its prey."[101]

Interestingly, the EA ignores the next sentence in the Recovery Plan, which states that "[t]reatments should be placed *strategically* to minimize risk of high-severity fire effects to the nest core while mimicking natural mosaic patterns."[102]

The EA also ignores another important sentence in the Recovery Plan, two sentences later, which states that "[a] landscape-level assessment should be conducted to *strategically locate* and prioritize prescribed and hazardous fuels treatments to best mitigate the risk of stand replacing fires and high severity fire effects to current and future spotted owl habitat elements."[103]

It is only after the Recovery Plan provides this full suite of recommendations for prescribed fire and hazardous fuels treatments that it states: "[t]hese recommendations, when implemented, should help reduce high-severity fire effects across broader forest landscapes and help protect Mexican spotted owl PACs, potential habitats, and suitable nesting/roosting habitat locations from future stand-replacing wildland fires and enhance landscape-level forest resiliency to climate variability."[104]

The project Fire and Fuels Effects Analysis Report states that the "KPERP project is aligned and supports" the National Cohesive Wildland Fire Management Strategy (2009).[105] However, as we noted in scoping comments, the Strategy advises the Forest Service to design and prioritize fuel treatments and strategically place those fuel treatments to interrupt fire spread across landscapes. The National Strategy clearly asserts that "[p]rescribed fire and managing wildfire for resource objectives have the greatest potential for treating large areas at lower cost than mechanical treatments."[106]

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[100] EA at 35.

[101] EA at 35.

[102] Mexican Spotted Owl Recovery Plan (2012) at 288 (emphasis added).

[103] Mexican Spotted Owl Recovery Plan (2012) at 288 (emphasis added).

[104] Mexican Spotted Owl Recovery Plan (2012) at 288.

[105] Kaibab National Forest, Kaibab Plateau Ecological Restoration Project: Fire and Fuels Effects Analysis (Aug. 6, 2019) at 12-13.

[106] The Science Analysis of The National Cohesive Wildland Fire Management Strategy, available at https://cohesivefire.nemac.org/national-guidance (last viewed August 10, 2020), and attached as Ex. 6.

Based on these statements, it appears that strategically placing and prioritizing mechanical treatments could and should be part of the proposed action. However, the proposed action does not take such an approach. Therefore, the proposed action, which lacks direction for strategic treatments, is distinguishable from the STFU.

Because the STFU alternative meets the project's purpose and need, and can be distinguished from the proposed action, it is a reasonable alternative that the agency must consider in detail.

3. The STFU Alternative Is Not Remote, Speculative, Impractical or Ineffective.

The STFU alternative is not remote, speculative, impractical or ineffective. In fact, based on scientific studies, the STFU alternative would meet the purpose and need for the project with less cost, and fewer adverse environmental impacts, than the proposed alternative.

As we described in scoping, and again here, treatment optimization is a long-studied management tool which the Forest Service has made available for use in NEPA projects. 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.[107] Collins and colleagues also 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 used as guidelines in the Strategic Treatments for Fire Use Alternative:

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

[107] Collins *et al.* 2010. See also Chung 2015. Optimizing fuel treatments to reduce wildland fire risk. *Current Forestry Reports* 1: 44-51; and 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.

• Treatment rates beyond 2% of the landscape per year yield little added benefit.[108]

Forest Service and academic scientists for years have provided mangers with analytical and planning tools to encourage informed deployment of mechanical thinning. Projects like the Kaibab Project are exactly where these tools should be utilized. Because the STFU alternative is not remote, speculative, impractical or ineffective, it is a reasonable alternative that the agency should have considered in detail.

4. The STFU Alternative Is Significantly Distinguishable from the Action and No Action Alternatives.

The Forest Service cannot fail to analyze the STFU alternative on the grounds that it is indistinguishable from the proposed action. The STFU alternative would result in numerous differences in on-the-ground treatments.

The primary manner by which the STFU is distinguishable from the proposed action is that the STFU would identify thinning treatment areas based on an informed, landscape level optimization analysis, consistent with the best available science, rather than leave decisions for treatment locations up for spur-of-the-moment judgments within the conditions-based management approach used in the proposed action.

The EA fails to identify the precise site-specific locations where 122,000 acres of logging treatments would occur.[109] Although the EA contains maps showing the general location within which treatments could occur, the EA does not identify their exact location.[110] The map depicting treatment areas notes that it "represents preliminary treatment areas. Boundaries and implementation schedules may be adjusted in the future … for … reasons identified during implementation and monitoring."[111] It appears that one of the few factors that determines if any given location is to be treated mechanically or by hand is design feature HSL06, which states: "To avoid adverse impacts to steep slopes such as compaction, rutting, etc.; wheeled or track-mounted ground-based machinery would be limited to slopes of less than 40 percent. Wheeled or track-mounted ground-based machinery will not be used on slopes equal to or greater than 40 percent."[112]

Based on these statements, it appears that anywhere that the landscape has a slope pf less than 40% within the dark green areas on Figure 1 could be subject to machinery-based treatment and

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[108] Collins *et al.* 2010

[109] The EA states: "The Forest Ecosystem Restoration Analysis Project (Kaibab Forest Health Focus) conducted by Northern Arizona University (Sisk and others 2009) identified several areas within the KPERP project area as priorities for ecological restoration," but the EA declines to identify the location of those areas. EA at 34.

[110] *See* EA at 5, 8-11.

[111] EA at 11.

[112] EA at 126.

anywhere over 40% slope is subject to hand thinning, and the exact location for either of those would be determined by nebulous conditions during the 15 years or more of project implementation.[113] Design Feature FIR01 makes this even clearer, stating:

> The sequencing of prescribed fire and mechanical treatments would be determined on a site-specific basis and would be dependent on factors, including but not limited to, weather conditions, resource restrictions, available personnel/equipment, thinning and prescribed fire schedules and fuel conditions.[114]

In contrast, the STFU would evaluate the landscape, including existing holding features, and identify the *subset* of the landscape that, if thinned, would allow use of prescribed or managed wildfire across a broader area. Thus, the STFU not only will target treatments to potentially far fewer acres (with fewer impacts on the ground and to climate emissions), but it has the added advantage of resulting in disclosure of site-specific impacts of the project, as NEPA mandates, something the proposed action's "condition-based" management approach fails to do.

5. The Forest Service's Failure to Analyze the STFU Is Arbitrary and Capricious.

Because the STFU alternative meets the project purpose and need, would effectively move the forest in the desired direction, and differs from the proposed alternative in critical ways, it is a reasonable alternate that the Forest Service should have analyzed in the EA. Failure to consider this reasonable, less damaging, middle-ground alternative violates the "heart" of the NEPA process.

Despite the fact that the Center proposed the STFU alternative in detail in comments on scoping and on the Draft EA, the Forest Service failed to even mention the proposal in the EA's section discussing alternatives considered but eliminated from detailed study.[115] Instead, the Forest Service buried its eight sentence review in the EA's "response to comments" section:

> An alternative referred to as "strategic treatments for fire use" was suggested by the public. Most of the concepts in that alternative were considered to develop the proposed action as a strategic use of fire treatments to create more fire-resilient conditions. The difference between the alternative suggested by the commenter and the proposed action lies in the commenter's interpretation of what an optimization analysis consists of. The proposed action would be implemented strategically considering many factors to optimize its effectiveness to safely and efficiently implement large-scale fire treatments across the landscape. Since all of zone 1 is targeted for prescribed fire, the question is not what needs to be treated, but rather how to safely and most efficiently to use fire treatments across this entire zone. Treatments in zone 2 would be much more limited, with only a small

[113] *See* EA at 8 (Figure 1).

[114] EA at 32.

[115] *See* EA at 26-27.

> portion of zone 2 proposed for treatment. Treatments would first target previously treated and disturbed areas, then through the monitoring effort determine if, how, and where other treatments may be beneficial and likely to be successful. See descriptions of the Prescribed Fire in the Kaibab Plateau Ecological Restoration Project (p. 13).[116]

This explanation does not make clear on what lawful basis the agency is declining to consider the STFU alternative in detail. The EA does not allege that the STFU alternative will not meet the project purpose and need, nor does it allege that the STFU alternative is remote, speculative, impractical or ineffective. It appears that the EA is arguing that the Kaibab Project's proposed action is "strategic," and so there's no need to consider a similarly "strategic" alternative. This ignores the facts above demonstrating that the STFU alternative is inarguably different from the proposed action alternative. The EA's response to comments fails to address those differences.

Because the STFU alternative meets all the criteria of a reasonable alternative, and because the Forest provided only an arbitrary and capricious basis for failing to consider it, the Forest Service must consider the STFU alternative in any subsequently prepared NEPA document.

> *Suggested Remedy*: The Forest Service should prepare a supplemental NEPA document that analyzes in detail the STFU alternative.

IV. THE EA FAILS TO USE BEST AVAILABLE SCIENCE IN DEFINING DESIRED CONDITIONS FOR KAIBAB PLATEAU REFERENCE SITES.

NEPA's implementing regulations mandate that date in EAs and EISs "must be of high quality. Accurate scientific analysis … [is] essential to implementing NEPA."[117] To ensure that the agency has taken the required "hard look," courts hold that the agency must utilize "the best available scientific information."[118]

The Forest Service's reliance on General Technical Report 310 (Reynolds et al 2013; GTR-310) as a basis for desired conditions for the Kaibab Project does not represent the best available scientific information because local data and history show that forests on the North Kaibab differ from those used to derive the reference conditions for GTR-310.

GTR-310 is the Forest Service's self-published desired conditions for dry conifer forest in the Southwest. The EA and supporting documents state that the project will move towards desired conditions consistent with GTR-310,[119] but the report's relevance to the Kaibab Project is

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[116] Final EA at 4.

[117] 40 C.F.R. § 1500.1(b).

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

[119] *See* EA at 2 (desired future conditions defining proposed action is based in part on Reynolds 2013 which is GTR-310); *id*. at 34 ("Proposed treatments are aligned with activities as outlined in the restoration framework (GTR-310-1)"); *id*. at 39 ("Trees per acre desired condition comes from research of reference conditions," citing Reynolds 2013 which is GTR-310); *id*. at 42

disputable and disputed given that historic conditions in the Project area differ substantially from those used to derive the report's standards.

The Forest Service cannot rely on GTR-310 because it too narrowly defines desired conditions and does not account for the Kaibab Plateau's unique forests. In comments on the EA, we argued that the GTR-310 framework is not suited for immediate adoption for meeting ecological needs, formulation of desired conditions, or development of restoration and ecosystem management projects and prescriptions for the Kaibab Project.[120]

The Vegetation Specialist Report states that:

> Ranges of reference conditions for ponderosa pine and dry mixed conifer forests which include ponderosa pine in the southwest United States indicate that desired densities occur at a range of 11-124 trees per acre (Reynolds 2013). This number of trees per acre generally supports the desired basal area ranges identified in the forest plan.[121]

The Kaibab National Forest plan states that in ponderosa pine forests "[b]asal area within forested areas generally ranges from 20 to 80 square feet per acre"[122] and in mixed conifer forests "[b]asal area within forested areas generally ranges from 30 to 100 square feet per acre."[123] The Forest Plan bumps up desired conditions for basal area significantly for mesic mixed conifer and spruce fire forests, stating: "Density ranges from 20 to 250 square feet of basal area per acre."[124]

These ranges – and thus the Forest Service's prescriptions for the Kaibab Project's treatments – are not supported by the best available science for application on the Kaibab Plateau. As a matter of "good forestry," trees per acre and basal area are not interchangeable. For example, 100 small trees per acre would be dramatically lower basal area than 100 large trees per acre. Heedless of these facts, the Vegetation Report suggests that the trees-per-acre ranges in GTR-310 are appropriate for the Kaibab Plateau. Regardless, looking at the two metrics of density and basal area, the best available science is clear that the range reported in GTR-310 and the Forest Plan are *far below what occurred on the landscape naturally*, and thus that reliance on GTR-310's

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(same). *See also* Kaibab National Forest, Kaibab Plateau Ecological Restoration Project Vegetation Report (Sep. 2019) at 2 ("Where quantifiable objectives were not described in the forest plan, reference conditions utilizing key elements to guide a restoration framework for ponderosa pine and conifer stands were primarily used from General Technical Report RMRS-GTR-310").

[120] The Center raised this issue in its Center 2018 Scoping Comments (Ex. 1) at 29-39, and in Center 2019 Draft EA Comments (Ex. 2) at 4-8.

[121] Kaibab Plateau Vegetation Report at 8.

[122] Kaibab National Forest Plan at 17.

[123] Kaibab National Forest Plan at 22.

[124] Kaibab National Forest Plan at 25.

metrics will lead to treatments that will result in a-historical conditions at the low end of, or below, the natural range of variation.

The Vegetation Report cites Fule et al (2002), but does not accurately reflect Fule's paper. We have summarized reference conditions reported in Fule's paper in the table below which conflict with and refute the ranges reported in GTR-310 and the Forest Plan.

Data reported in Fule et al 2002, "Natural variability in forests of the Grand Canyon, USA" Reconstructed 1880's forest structure at Grand Canyon area study sites. Reported values for Density (trees/acre) shown in Table 6 (Fule et al 2002, p. 39)				
General Area	*Study site*	*Mean Density*	*Minimum Density*	*Maximum Density*
South Rim	Kaibab Forest	58.7	8.1	226
South Rim	Grandview Point	56.7	4.1	247
North Rim	Powell Plateau	63.6	8.2	261.6
North Rim	Fire Point	61.8	16.2	125.6
North Rim	Rainbow Plateau	64.7	8.1	227.6
North Rim	Swamp Ridge	99.5	36.5	151.3
North Rim Mean	4 North Rim sites	72.4	17.3	191.5

Based on the numbers reported by Fule et al (2002), and transposed into the table above after converting from metric to standard units, the density values for the Kaibab Plateau, based on the four North Rim study sites, should be 8.1 to 261.6 trees/acre. Alternatively, the mean of ranges should be 17.3 to 191.5 trees/acre.

We have also provided the basal area values reported in Fule et al (2002) which also are incongruent with GTR-310 and the Forest Plan. These are below.

Data reported in Fule et al 2002, "Natural variability in forests of the Grand Canyon, USA" Reconstructed 1880's forest structure at Grand Canyon area study sites. Reported values for Basal Area (square feet/acre) shown in Table 6 (Fule et al 2002, p. 39)				
General Area	*Study site*	*Mean Basal Area*	*Minimum Basal Area*	*Maximum Basal Area*
South Rim	Kaibab Forest	54.9	14.4	132.4
South Rim	Grandview Point	39.6	1.3	99.3
North Rim	Powell Plateau	78	20.5	336.7
North Rim	Fire Point	89.3	28.3	131.6
North Rim	Rainbow Plateau	74	19.1	281
North Rim	Swamp Ridge	124.1	65.8	235.2
North Rim Mean	4 North Rim sites	91.35	33.4	246.1

Based on the numbers reported by Fule et al (2002), and transposed into the table above after converting from metric to standard units, the basal area values for the Kaibab Plateau, based on

the four North Rim study sites, should be 19.1 to 336.7 ft^2/acre. Alternatively, the mean of ranges should be 33.4 to 246.1 ft^2/acre. The EA fails to respond to this discrepancy.

As we noted in our scoping comments, desired conditions for dry conifer forests suggested by Reynolds and others (2013) are clearly not specific to the Kaibab Plateau, and should be critically reviewed prior to assuming their usefulness. Covington and Moore[125] reported that pre-settlement forests of the Kaibab Plateau were the densest of any forests studied in the Southwest up to that point in time, so the desired conditions for the Kaibab Project and all future projects should be modified to account for these site-specific characteristics. In our scoping comments we provided a copy of the Environmental History of the Kane and Two-Mile Ranches, which reviewed the best available science and historical accounts of the Kaibab Plateaus forests.[126]

The Vegetation Specialist Report cites Stoddard (2011) by claiming that mixed conifer forests "research has indicated that tree density of southwestern warm/dry mixed-conifer forests ranged from about 21 to 99 trees per acre while basal area varied from 34 to 124 ft^2 per acre, prior to Euro-American settlement of the region."[127] Interestingly, Stoddard's report *does not support his claim*. Stoddard's Table 1 describes the range of density values reported for mixed conifer varied from 43 to 235 ft^2/acre and 36 to 151 trees/acre. For ponderosa pine, Stoddard's Table 1 describes the range of density values reported varied from 0 to 337 ft^2/acre and 4 to 247 trees/acre. For both the mixed conifer and ponderosa pine types, Stoddard's report indicates that *the densest forests in the Southwest were those of the Kaibab Plateau*. We suggest the Forest Service review the data reported in Stoddard (2011) and see that the columns labelled as "range" of values are reflected properly here, but not in the EA or the Specialist Report. Failure to use the best available science and high-quality information violates NEPA.

The EA states that "over the entire simulation period, this frequent-fire mixed conifer would continue to carry tree densities higher than reference conditions as identified in Reynolds (2013)."[128] The ranges reported in GTR-310 do not reflect the studies cited therein. Reynolds et al. compiled the available studies and developed their desired range based on averages, which excludes the full range of values reported in the literature. Furthermore, Reynolds and others in GTR-310 itself admit uncertainty in their recommendation of desired conditions for dry conifer forest resulting from a paucity of supporting information and geographic imbalance of accessible data:

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[125] Covington, W. W., Moore, M.M., 1994. Post settlement changes in natural fire regimes and forest structure: ecological restoration of old-growth ponderosa pine forests. J. Sustain. For. 2, 153-181.

[126] J. Trudeau, Environmental History of the Kane and Two Mile Ranches in Arizona (2006), available at http://www.riversimulator.org/Resources/History/EnvironmentalHistoryKaneAndTwoMileRanches2006Trudeau.pdf (last viewed August 10, 2020) and attached as Ex. 7.

[127] KPERP Vegetation Report, Prepared by Ted Frank, Silviculturist, USDA Forest Service Enterprise Program, September 2019: page 13.

[128] EA at 43.

> There is a clear need for additional reference condition data sets, including sites from a wider spectrum across environmental gradients (e.g., soils, moisture, elevations, slopes, aspects) occupied by frequent-fire forests in the Southwest, especially in dry mixed-conifer. While the quantity of reference data sets is increasing, existing data represent a largely unbalanced sampling across gradients (e.g., most data sets are from basaltic soils and on dry to typic plant associations), and there have been few studies quantitatively.[129]

The Forest Service's response to this data and our comments – that the Forest Service cannot address these issues as part of the NEPA process for this project – are false, and arbitrary and capricious. For example, the Kaibab Plateau Vegetation Specialist Report states:

> Desired conditions are described in the forest plan, and we have not identified a need to amend the forest plan. The project is designed to be consistent with the forest plan. It is beyond the scope of this project to change the forest plan.[130]

This assertion that a plan amendment must be dismissed because it is beyond the scope of the project is incorrect. Forest Service regulations specifically provide that a "Forest Plan may be amended at any time," and provide for Forest Plan amendments as part of project or activity decision-making.[131] Further, the Forest Service will violate NEPA by ignoring the best available scientific information, and relying instead on studies that fail to address the nature of the forest at issue.

In responding to our comments, the Forest Service admits that it relied on GTR-310 "to develop the proposed action."[132] It also responds with the non-sequitur that the Forest Service also used other studies to develop the proposed action.[133] Nowhere does the EA respond to our comment that GTR-310 is based on data not relevant to the project area (in itself a NEPA violation), nor does the EA explain what data the other studies contain that supports the Forest Service's decision to set basal area targets below historical levels. The EA also states: "Desired basal areas in the forest plan are higher for Mexican spotted owl recovery habitat than those in GTR-310, and the project would be implemented to achieve desired conditions for Mexican spotted owl."[134] Simply because the Forest Plan contains a higher basal area standard for *some* parts of the forest does not mean that either that standard, or the standard for the rest of the Kaibab Project area, is based on the best available science. The Forest Service cannot legally rely on GTR-310 to set its desired future conditions for the Forest or this project.

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[129] Reynolds *et al.* (2013) at 12.

[130] Kaibab Plateau Vegetation Report at 8.

[131] 36 C.F.R. §§ 219.13(a); 219.13(b)(1).

[132] EA at 164.

[133] EA at 164.

[134] EA at 164.

NEPA requires agencies to disclose, discuss, and respond to "any responsible opposing view," and provide a rational basis for choosing one approach over the other.[135] Here, the Forest Service failed to acknowledge or respond to the expert opinion demonstrating that the Kaibab Plateau contained denser stands with higher basal areas than those used to derive the standards contained in GTR-310 and the Forest Plan, or explain the agency's contrary conclusions. Courts set aside action where, as here, agencies ignore contrary expert opinion. For example, in *Center for Biological Diversity v. U.S. Forest Service*, numerous parties provided comments to the Forest Service that directly refuted the agency's finding on the habitat preferences of the northern goshawk.[136] The Ninth Circuit concluded the Forest Service's approach of simply noting in the record that opposing views existed violated NEPA. "[NEPA's] regulations clearly state that the agency must disclose responsible opposing scientific opinion and indicate its response in the text of the final [environmental impact] statement itself. The mere presence of the information in the record alone does not cure the deficiency here."[137] Other courts have set aside Forest Service decisions that failed to engage contrary expert opinions.[138] Here, the Forest Service failed to respond to science showing that the agency is ignoring the best available data for historic conditions on the Kaibab Plateau. This was arbitrary and capricious.

By failing to adjust the desired conditions to what is reported in Fule et al. (2002) and sources described in the Environmental History of the Kane and Two-Mile Ranches report, among others, and our scoping and draft EA comments, the Forest Service makes an arbitrary and capricious decision that does not reflect the best available science as NEPA requires. Further, by failing to respond to contrary expert opinion, the Forest Service also violated NEPA.

> *Suggested Remedy*: The Forest Service should prepare a supplemental NEPA document that sets desired conditions for the project based on the best available science, including what is reported in Fule et al. (2002) and sources described in the Environmental History of the Kane and Two-Mile Ranches, and not including GTR-310. If setting such desired conditions requires an amendment to the Forest Plan, the Forest Service should prepare such an amendment as part of the NEPA process for this project. At an absolute minimum, the Forest Service must respond to the science indicating that its assumptions concerning the density and basal area of forests historically in the project area are incorrect.

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[135] *See* 40 C.F.R. § 1502.9(b).

[136] *Center for Biological Diversity v. U.S. Forest Serv*., 349 F.3d 1157, 1167-68 (9th Cir. 2003).

[137] *Id*. at 1169 (internal citation omitted).

[138] *See, e.g., High Country Conservation Advocates v. U.S. Forest Service*, 52 F. Supp. 3d 1174, 1198 (D. Colo. 2014) (setting aside Forest Service decision opening roadless forest to coal mining in part because agency failed to respond to expert report undermining agency's conclusions of environmental impacts).

V. THE FOREST SERVICE FAILS TO PROVIDE INFORMATION TO ENSURE THAT THE PROJECT WILL COMPLY WITH RECOVERY PLAN STANDARDS FOR ROOSTING/NESTING FOR MEXICAN SPOTTED OWL.

As a result of a petition filed by the Center in 1989, and litigation filed by the Center in 1991, the U.S. Fish and Wildlife Service (FWS) in 1993 listed the Mexican spotted owl as a threatened species pursuant to the Endangered Species Act (ESA). The FWS issued its most recent recovery plan in 2012.[139]

The 2012 Recovery Plan identifies "[t]hree levels of management" based on different habitats and how they are used by the owl: (1) protected activity centers (PACs); (2) rcovery habitat, including nesting/roosting habitat; and (3) other forest and woodland types, such as ponderosa pine forest, spruce-fir forest, and pinyon-juniper woodland.[140]

"The [Kaibab] project area is not currently occupied by Mexican spotted owl, but suitable habitat exists."[141] "The North Kaibab Ranger District contains approximately 231,572 acres of Mexican spotted owl critical habitat, and of that, approximately 173,000 acres (75 percent) overlap the KPERP area."[142] The Forest Service acknowledges that the Kaibab Project "may impact Mexican spotted owl nest/roost recovery habitat stands,"[143] as well as critical habitat, and so consulted with the U.S. Fish and Wildlife Service pursuant to ESA Section 7. The Forest Service explains:

> The project area is currently unoccupied by Mexican spotted owl, but suitable habitat exists and more potential habitat will become suitable as the result of the proposed action. Design elements, initial smaller-scale treatments in mixed conifer, and extensive follow-up monitoring to ensure consistency with critical habitat attributes desired conditions and low-severity fire effects are included in the proposed action. However, the large number of acres proposed for burning [and pre-fire thinning and logging] each year, combined with the mixed conifer vegetation type, and multiple entries over the life of the project could result in an unintentional loss of key habitat components and primary constituent elements to prescribed fire that could result in short-term adverse effects to Mexican spotted owls and their critical habitat. Therefore, the Kaibab Plateau Ecological

[139] The Center raised this issue in its Center 2018 Scoping Comments (Ex. 1) at 6, 8, 18, and in Center 2019 Draft EA Comments (Ex. 2) at 3.

[140] U.S. Fish & Wildlife Service, Recovery Plan For The Mexican Spotted Owl, First Revison [sic] (Nov. 2012) at VIII, attached as Ex. 8.

[141] EA at 75.

[142] U.S. Fish & Wildlife Service, Kaibab Plateau Ecological Restoration Project Biological Opinion (June 10, 2010) at 16.

[143] EA at 74.

> Restoration Project may affect and is likely to adversely affect Mexican spotted owl and its critical habitat.[144]

While the EA identifies steps it will take regarding recovery nesting/roosting habitat, the Forest Service violates NEPA and the ESA by failing to disclose either the location of such habitat, or where thinning treatments and prescribed fire will overlap with such habitat. The Recovery Plan mandates that land management agencies undertake a number of actions to protect the owl in "Forested *stands identified* as meeting or exceeding owl nest/roost conditions."[145] The Recovery Plan also identifies minimums, and not targets, for basal area and tree density for mixed-conifer and pine-oak forest areas managed for recovery nesting/roosting habitat.[146] A key pre-requisite for all of these standards is that the Forest Service *identify* nesting/roosting habitat using on a stand basis.[147]

But the EA and the BiOp appear to conflict with the Recovery Plan in several respects. For example, neither the EA nor the BiOp identifies the location of nesting/roosting habitat, as the Recovery Plan requires, or even the amount of that habitat that will be treated with thinning and/or fire. While the biological evaluation (BE) states that up to *100%* of nesting/roosting habitat in the project area could be subject to thinning treatments,[148] the EA admits that the Forest Service has not mapped that habitat yet. Instead, "[n]est/roost replacement habitat for Mexican spotted owl *will be* mapped and incorporated as refugia as much as possible, recognizing the larger prescribed fire strategy."[149] Thus, it appears that the Forest Service has not yet identified where logging will overlap with nest/roost habitat, and it will only do so *after* the agency makes its decision. Approving the Kaibab Project without first identifying the location and extent of logging treatments within nest/roost habitat violates the 2012 Recovery Plan and the ESA (as well as NEPA's hard look mandate).

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[144] EA at 80.

[145] Mexican Spotted Owl 2012 Recovery Plan at 275 (Table C.1) (emphasis added).

[146] Mexican Spotted Owl 2012 Recovery Plan at 278 (Table C.3).

[147] *See* EA at 137 (design elements concerning Mexican spotted owl "apply to forested stands *identified* as meeting or exceeding owl nest/roost conditions.") (emphasis added).

[148] Kaibab National Forest, Biological Evaluation, Kaibab Plateau Ecological Restoration Project (Aug. 2019) at 26 ("Essentially all of the recovery habitat on the district, including nesting/roosting recovery habitat, overlaps the project area. Although non-commercial mechanical machine treatments could occur anywhere within up to 94 percent of recovery habitat and 95 percent of Mexican spotted owl nesting/roosting recovery habitat (Table 6), a maximum of about 30,000 acres of mechanical treatments (both by machine and hand) would occur in the mixed conifer PNVTs. As a result, up to roughly 60 percent of Mexican spotted owl recovery habitat, and 100 percent of nest/roost recovery habitat, has the potential to be mechanically treated, but it is unlikely that all mixed conifer treatments would occur in recovery habitat or nest/roost recovery habitat.").

[149] EA at 155 (emphasis added).

Further, it appears that the Forest Service's analysis (and thus the FWS's BiOp) fail to address the impacts of pre-fire logging. The Forest Service admits that its modeling of the project's impacts on the state of the forest post-fire and post-thinning only accounts for the impacts of fire and not thinning. In response to comments, the EA states:

> [Forest Vegetation Simulator (FVS)] modeling does not include mechanical treatments. Forest Vegetation Report (p. 4) explains that mechanical treatments were not modeled in FVS due to less predictability of where, or what stands, it would be applied and is contingent on site-specific stand conditions. Modeling mechanical treatments would incorporate predictions with treatment timing and burn intensity variables to already modeled data and could offer less reliability to the resulting data.[150]

Again, this indicates that the Forest Service has failed to identify stands that the project will treat. Further, the Forest Service and FWS appear to assume that the agencies can ignore the impacts of thinning because "large trees" will not be logged.[151] But as discussed below, the Kaibab Project fails to define "large trees," making it possible that numerous trees 16" diameter at breast height (dbh), 18" dbh, 24" dbh or larger may be logged, to the owl's detriment. The FWS cannot rely on a Forest Service model that ignores thinning and a commitment to not log "larger" trees unless and until the Forest Service defines that term. Failing to include either a diameter cap or site-specific thinning information in the FVS model makes that model's output unreliable for the purpose of determining impacts to owls. Garbage in, garbage out. Unless and until the Forest Service and FWS evaluate the impacts of thinning, including the potential logging of numerous trees 16" dbh and large, it cannot conclude that the Kaibab Project will not likely adversely affect the owl or adversely modify critical habitat, nor can it conclude that the project complies with the 2012 Recovery Plan.

Further, despite the fact that the 2012 Recovery Plan contains specific direction concerning the protection of large trees, neither the EA nor the FWS's Biological Opinion reference this standard. The Recovery Plan, which is the best available science concerning the owl, states:

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[150] EA at 162.

[151] The EA states that the BiOp is based on the assumption that only "small diameter trees" will be thinned, and "larger or older trees" will be "protected," but never defines either term, making it impossible to know what impacts logging will actually have. *See* EA at 162 ("They [FWS] recognize that although the project may affect some of the primary constituent elements of critical habitat, it will enhance and protect the key habitat components of recovery nest/roost habitat, recovery foraging/dispersal habitat, and the primary constituent elements of critical habitat. *They stated the Forest Service will use mechanical treatments to remove smaller-diameter trees* with the goal of *protecting larger or older trees* by targeting understory and ladder fuels, generally maintaining existing forest structure. *The focus on small-diameter tree removal* and the overall goal of restoring fire as an ecological process in the action area would result in long-term benefits to the primary constituent elements and would assist with maintaining forest canopy and large-tree retention") (emphasis added).

> Because it takes many years for trees to reach large size, we recommend that trees ≥46- cm (18 inches) dbh not be removed in stands designated as recovery nest/roost habitat unless there are compelling safety reasons to do so or if it can be demonstrated that removal of those trees will not be detrimental to owl habitat.[152]

The EA not only fails to identify nest/roost habitat, it fails to include direction barring removal of tree 18" dbh and larger. Failure to include this direction – or any direction – concerning the protection of large trees renders the EA and the BiOp invalid.

The Forest Service's actions to obscure the effects of harmful projects on endangered species and critical habitat is similar to that found unlawful in *Center for Biological Diversity v. Rumsfeld*.[153] There, the U.S. District Court for the District of Arizona wrote:

> The ESA mandates that the biological opinion analyze the entire agency action to ensure that the action is fully protective of the endangered species and its habitat. 16 U.S.C. § 1536(b)(3)(A). The scope of the agency action is critical to whether the consultation process considers all the effects of the action and adequately mitigates potential impacts. Courts have to "analyze the effect of the *entire* agency action," *Conner v. Burford*, 848 F.2d 1441, 1453 (9th Cir. 1988), cert. denied, *Sun Exploration & Production v. Luganm*, 489 U.S. 1012, 103 L. Ed. 2d 184, 109 S. Ct. 1121 (1989) (emphasis added), including all indirect and cumulative effects of the action on threatened and endangered species, 50 C.F.R. § 402.14(g)(3); 50 C.F.R. § 402.02. An agency may not ignore future aspects of a federal action by segmenting that action into phases. In fact, in *Conner*, the Court held that all phases of oil and gas leasing had to be evaluated for potential impacts at the leasing stage, even though the final phase -construction of oil and gas wells - was uncertain to occur. *Conner*, 848 F.2d at 1453-1458; *See also North Slope Borough v. Andrus*, 206 U.S. App. D.C. 184, 642 F.2d 589, 608 (D.C. Cir. 1980 (agency may not deal exclusively with one stage of the project).
>
> In *Connor*, the FWS issued a biological opinion only with regard to the leasing stage because it did not have sufficient data to render a comprehensive opinion beyond the initial leasing phase. Instead of issuing a comprehensive biological opinion the FWS concluded that the leasing phase did not jeopardize endangered species. The FWS envisioned an "incremental-step consultation approach, with additional biological evaluations prior to subsequent activities." The court rejected this. The fact that insufficient evidence was available did not excuse the FWS from rendering a comprehensive opinion on the entire agency action. The court explained, as follows:
>
> > Although we recognize that the precise location and extent of future oil and gas activities were unknown at the time, extensive information about the behavior and habitat of the species in the areas covered by the leases was

[152] Mexican Spotted Owl 2012 Recovery Plan at 268.

[153] *Ctr. for Biological Diversity v. Rumsfeld*, 198 F. Supp. 2d 1139, 1153-54 (D. Ariz. 2002).

> available ... We agree with appellees that incomplete information about post-leasing activities does not excuse the failure to comply with the statutory requirement of a comprehensive biological opinion using the best information available.

Conner, 848 F.2d at 1453-1454.[154]

Here, because the Forest Service has failed to consult on the entire scope of the project – by omitting consultation on the impacts of the potential destruction of large and old trees by thinning, which thinning will only be identified at a site-specific level after the project has been approved – the Forest Service and FWS have failed to consult on the entire agency action, in violation of the ESA.

> *Suggested Remedy*: The Forest Service should prepare a supplemental NEPA document that identifies the nest/roost habitat where thinning will occur, that specifically identifies the impacts of that thinning, and that includes a commitment not to thin trees 18 inches dbh and greater, and should re-enter consultation with the U.S. Fish & Wildlife Service on that new proposal.

VI. THE FOREST SERVICE FAILS TO ADOPT CLEAR DESIGN STANDARDS REQUIRING LARGE AND OLD TREE PROTECTION.

The EA is premised on the fact that the Kaibab National Forest as a whole and the project area specifically "contain[] uncharacteristically dense forests with many more young trees than were present historically."[155] Put another way, there are few old and large trees left on the Kaibab Plateau, and, in our opinion, a commitment to selected removal of just small and young trees would benefit the project greatly.[156]

There has never been a scientifically valid article published that endorses logging old growth to mitigate fire risk in remote forests like the Kaibab Plateau. To the contrary, the bulk of restoration ecology literature has emphatically stressed the need to retain and protect *all* pre-settlement trees. The Forest Service has admitted the legacy of old growth cutting in the 4FRI Rim Country Draft EIS, stating that "[t]he loss of old growth and old trees would require decades to centuries to recover."[157] Significant cumulative loss of old growth forest is reasonably predictable in combination with continued implementation of previously approved vegetation management projects, including but not limited to the Jacob-Ryan project and others which are

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[154] *Ctr. for Biological Diversity v. Rumsfeld*, 198 F. Supp. 2d at 1155.

[155] *See* EA at 28 (discussing state of Kaibab National Forest); *id*. at 1 (same for project area); *id*. at 78 (same).

[156] The Center raised this issue in its Center 2018 Scoping Comments (Ex. 1) at 28, and in Center 2019 Draft EA Comments (Ex. 2) at 2-3.

[157] Forest Service, 4FRI Rim Country Project Draft Environmental Impact Statement (Jan. 2020) at 228, available at https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fseprd666974.pdf (last viewed August 10, 2020).

removing old growth forests. Ongoing fire management activities in the Kaibab National Forest and the adjacent Grand Canyon National Park, and the Burnt Corral project, as proposed, also threaten viability of old growth forests. Wherever old trees and old growth occurs, they/it must be protected, regardless of size. Many trees under the 14", 16", or 18" are in fact over 150 or 200 years old, or older. The risk of crown fire on the project is not clumps of old growth; it's the dense regeneration that has resulted from previous logging combined with fire suppression. Any groups or clumps of old growth must be left intact, without thinning through the group. Strict adherence to old tree retention criteria (yellow, plated bark, round or flattened top, high crown base height, etc.) is a fundamental stakeholder requirement as illustrated in both 4FRI landscape scale projects. If there is one thing that all forest restoration stakeholders agree on, it's that the retention of all old trees is imperative.

The proposed decision fails to protect large and old trees.

The EA and Draft Decision Notice state that the proposed action would protect "large trees," and "larger trees" except in limited circumstances. For example, the stated project need includes "increase[ing] diversity in the ponderosa pine forests by promoting regeneration, oak, herbaceous understory production, and large trees."[158] The Draft Decision Notice contends: "Mechanical treatments will remove smaller trees with the goal of protecting larger or older trees by targeting understory and ladder fuels."[159] To protect Mexican spotted owls, the EA adopts a design element that directs that the project will "[r]etain key owl habitat elements (large trees …)" in "Mexican spotted owl recovery habitat."[160]

The EA finds three circumstances under which "some larger trees may be cut," including to:

- provide safer conditions for workers or the public,
- prevent fire from crossing holding features, or
- protect habitat and heritage sites in localized areas that may be adversely affected by prescribed fire or wildfire if the larger trees were not removed.[161]

The EA repeatedly focuses on just the first two exceptions:

> Project design would ensure that *large trees would only be cut for safety reasons or to prevent fire from crossing holding areas*. FVS modeling shows that trees per

[158] EA at 1.

[159] Draft Decision Notice at 10; *see also id*. at 21 ("The benefit of the project in all vegetation types would be the reduction in fire hazard to reduce potential for active crown fire, and the ability to protect important habitat features such as large trees.").

[160] EA at 137 (design element WLD04). *See also id*. ("Retain large trees" in "Forested habitat occurring in mixed-conifer and pine/oak forests outside of PACs").

[161] EA at 15.

> acre larger than 18 inches diameter at breast height increases throughout the projection ….[162]

The "Vegetation Report" supporting the EA concurs: "Project design would ensure that large trees would only be cut for safety reasons or to prevent fire from crossing holding areas."[163]

But while the EA contains numerical standards for large dead trees (snags),[164] and sets a soft standard for protection of large piñon and juniper trees,[165] it never defines "large trees" or "larger trees" that the project will maintain when it undertakes logging via mechanical or hand treatments. To the contrary, the agency specifically *refuses* to provide such a limit. In response to comments that the Forest Service should "only allow removal of large (>16 inch d.b.h.) post-settlement ponderosa pines for ecological restoration objectives; outside of that a diameter cap of 18 inches would be appropriate,"[166] the EA responds:

> Mechanical treatments on the plateau would remove smaller trees with the goal of protecting larger or older trees by targeting understory and ladder fuels…. *Setting arbitrary diameter caps would not address the needs to provide safe conditions,* provide holding areas to facilitate prescribed fire, or protect special resources as described above.[167]

As such, the proposal leaves the door open to loggers felling trees up to 20" dbh, 24" dbh, 30" dbh, or even larger, apparently depending only on the whims of the logger's (or tree marker's) definition of "large." The Forest Service's rationale for declining to adopt a diameter cap – that doing so "would not address the needs to provide safe conditions" – is arbitrary and capricious. The agency could easily adopt a prescription that prohibits the logging of trees larger than 16" dbh, except where needed to ensure worker safety or prevent fire from crossing holding areas. Further, it is arbitrary and capricious for the agency to adopt a diameter limit for large piñon and juniper trees but not for other trees without explanation.

The omission of any definition of "large" trees is especially troubling because the Center previously found the Kaibab district marking to cut old growth trees smaller than 18-inches diameter at breast height (<18" dbh), including many with tell-tale orange and yellow plated bark

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[162] EA at 40 (emphasis added). *See also id*. at 18, 40, 82, 156 (same); id. at 40 ("Prescribed burning techniques have been refined over the past 20 years and are designed to reduce loss of large trees.").

[163] Vegetation Report at 15.

[164] EA at 42, 44 (identifying standards for the number of 12"-18" dbh snags in mixed conifer stands).

[165] EA at 6 ("Favor large (generally greater than 16 inches diameter root collar (DRC)) pinyon and juniper for retention"); *id*. at 165 (referencing same standard).

[166] EA at 149.

[167] EA at 150 (emphasis added).

and flat tops occurring within clumps and groups that properly constitute "old growth," per the Forest Plan's definition.[168]

The EA also rejects specific identification of, or protection for, old trees. While the EA states that "Other suggestions [including] … no cutting of any old trees, etc.) are not included [in the proposed action] for specific reasons."[169] The only "specific reason" we could locate in the EA for failing to include logging restrictions on old trees is: "The proposed action would reduce the risk of high-severity wildfires and protect large trees, so older trees would be better protected with the proposed action."[170] But, as noted above, not all old trees are large trees. And "thinning" forests by cutting down old trees does not protect them from fire; it merely definitely removes them in the face of a theoretical threat that could be mitigated without killing them.

Because the Forest Service fails to define "larger" trees (or "old" trees), and includes no actual standards for their protection, the agency's contention that "[p]roject design would ensure that large trees would only be cut for safety reasons or to prevent fire from crossing holding areas"[171] is also arbitrary and capricious because *there are no specified design features or criteria that actually protect large trees*. This also means that there is no support for the EA's contention that the project will meet its purpose and need, or its modeling that trees greater than 18" dbh will increase over time, if all trees below, say, 24" dbh are considered to be "small" trees that can be logged via thinning. Without a definition of "large trees," there can be no guarantee that critical wildlife and forest structure will be protected. The failure to define "large trees" thus violates NEPA because it does not allow the public to understand the project's impacts or to effectively compare alternatives.

The Forest Service may allege that it need not define "large trees" because its Forest Vegetation Simulator (FVS) model predicts that the number of 18" dbh trees per acre will increase by 20-40 years after the project begins.[172] But as noted above, the FVS model *does not address thinning at all*, so it cannot be used to reach any conclusions concerning the impacts of pre-fire logging.

In addition, the EA fails to disclose the breadth of the exception permitting the logging of "large trees" for "holding areas."[173] Depending on the size of "holding areas" – hundreds of acres? Thousands? – this exception could significantly reduce the number of large trees across the landscape. The project Biological Evaluation and FWS's Biological Opinion contain tables that

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[168] *See* May 8, 2009 CBD letter to District Ranger Timothy Short.

[169] EA at 150.

[170] EA at 165.

[171] Vegetation Report at 15.

[172] *See, e.g.*, EA at 39 (Tables 7 & 8); Kaibab National Forest, Biological Evaluation, Kaibab Plateau Ecological Restoration Project (Aug. 2019) at 28 (Table 7).

[173] *See, e.g.*, EA at 156 ("thinning is proposed for holding *areas* to facilitate prescribed fire") (emphasis added).

ostensibly disclose the potential impacts of "holding *lines*,"[174] but neither document adequately explains these tables, nor does the Forest Service address whether "holding lines" are synonymous with "holding areas" or "holding features," nor whether the latter terms identify larger areas than "holding lines" where more large trees could be removed. Failing to adequately disclose these impacts violates NEPA's "hard look" mandate.

> *Suggested Remedy*: The Forest Service should prepare a supplemental NEPA document that: (1) includes in the proposed action protection for all old and large trees, *defining* "large trees" as those 16 inches dbh and greater in size, and analyzes the impacts of preventing thinning of such trees; (2) includes in the proposed action protection for all old trees, defined as those with yellow, plated bark, round or flattened top, high crown base height, etc.; and (3) discloses and analyzes the impacts of logging large trees along holding lines, holding areas, and holding features.

VII. THE EA VIOLATES NEPA BECAUSE IT FAILS TO DISCLOSE SITE-SPECIFIC IMPACTS.

A. NEPA Requires Agencies to Take a Hard Look at Site-Specific Impacts.

NEPA is "'our basic national charter for protection of the environment.'"[175] 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."[176]

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."[177] "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."[178] Stated more directly, NEPA's "'action-forcing' procedures . . . require the [Forest Service] to

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[174] Kaibab National Forest, Biological Evaluation, Kaibab Plateau Ecological Restoration Project (Aug. 2019) at 15 (Table 5) (emphasis added); U.S. Fish & Wildlife Service, Kaibab Plateau Ecological Restoration Project Biological Opinion (June 10, 2010) at 29 (Table 3) (emphasis added).

[175] *Center for Biological Diversity v. United States Forest Serv*., 349 F.3d 1157, 1166 (9th Cir. 2003) (quoting 40 C.F.R. § 1500.1).

[176] 42 U.S.C. § 4331(a).

[177] *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.'").

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

take a 'hard look' at environmental consequences" *before* the agency approves an action.[179] "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."[180] 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."[181]

NEPA's review obligations are more stringent and detailed at the project level, or "implementation stage," given the nature of "individual site specific projects."[182] "[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."[183]

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.[184] Federal courts apply these touchstone criteria when evaluating whether an EIS is adequately site-specific.[185]

Analyzing and disclosing site-specific impacts is critical because where (and when and how) activities occur on a landscape strongly determines the 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

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

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

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

[182] *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").

[183] *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").

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

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

habitat between them."[186] 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.[187] Indeed, "location, not merely total surface disturbance, affects habitat fragmentation,"[188] 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.[189]

Courts in the Ninth Circuit have taken a similar approach. For example, in March 2020, the U.S. District Court held that the Forest Service's condition-based management approach to a large logging proposal on the Tongass National Forest violated NEPA.[190] The court explained that "NEPA requires that environmental analysis be specific enough to ensure informed decision-making and meaningful public participation. The Project EIS's omission of the actual location of proposed timber harvest and road construction within the Project Area falls short of that mandate."[191]

The district court also concluded that the Forest Service's "worst case analysis" was insufficient, explaining: "This approach, coupled with the lack of site-specific information in the Project EIS, detracts from a decisionmaker's or public participant's ability to conduct a meaningful comparison of the probable environmental impacts among the various alternatives."[192] Consequently, the court concluded that

> By authorizing an integrated resource management plan but deferring siting decisions to the future with no additional NEPA review, the Project EIS violates NEPA. The Forest Service has not yet taken the requisite hard look at the environmental impact of site-specific timber sales on Prince of Wales over the next 15 years. The Forest Service's plan for condition-based analysis may very well streamline management of the Tongass ... however, it does not comply with the procedural requirements of NEPA, which are binding on the agency. NEPA favors coherent and comprehensive up-front environmental analysis to ensure ...

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

[187] *Id*. at 707.

[188] *Id*.

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

[190] *Southeast Alaska Conservation Council v. United States Forest Serv*., 2020 U.S. Dist. LEXIS 43499 (D. Alaska Mar. 11, 2020), attached as Ex. 9.

[191] *Id*. at *19 (citations omitted).

[192] *Id*. at *27.

> that the agency will not act on incomplete information, only to regret its decision after it is too late to correct.[193]

The Kaibab Project is a project-level decision.[194] As a result, any NEPA analysis must include the detailed information and analysis that NEPA and the CEQ regulations require because the Forest Service admits there will be no further NEPA analysis beyond the Final EA.

B. The EA Fails to Disclose the Kaibab Project's Site-Specific Direct and Indirect Effects.

Although NEPA requires that analysis disclose specific information about the when, where, and how of any agency action, so that the impacts and alternatives can be described and weighed, the EA fails to contain much of this data or analysis. Instead, the Forest Service will apparently postpone important components of site-specific project design and impacts analysis until *after* the NEPA process is complete. This upends NEPA's central purpose that agencies look before they leap, as the Court concluded in *Southeast Alaska Conservation Council*.[195]

For example, as noted above, the Forest Service has not mapped nest/roost replacement habitat for Mexican spotted owl, and will not do so until after the project is approved.[196] The Forest Service admits that it does not have "reliable stand exam data" for *94%* of the forest project area, encompassing hundreds of thousands of acres.[197] The agency admits: "Data for the remaining area was either never collected or no longer represents current conditions due to forest growth, natural disturbance (i.e., wildfire), and/or management treatments," and the Forest Service does not intend to remedy this lack of data until after the project is approved, if ever.[198] The EA does not describe where and how individual treatments will occur, providing data only for "[m]aximum acres and miles of proposed activities … by vegetation type …. These are estimates only, and *actual amounts may vary based on conditions at time of implementation.*"[199]

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[193] *Id*. at *27-*28 (internal citations and quotations omitted). The Forest Service should not interpret the Alaska District's decision to somehow endorse the use of condition-based analyses for environmental assessments. Where the exercise of site-specific discretion is material to a project's environmental consequences, NEPA requires consideration of site-specific proposals and alternatives, regardless of whether the effects are "significant." 42 U.S.C. § 4332(2)(C), (E).

[194] While the EA envisions further site-specific data collection, monitoring, and project design, it does not anticipate or describe any future NEPA analysis or public involvement consistent with that law.

[195] The Center raised this issue in its Center 2019 Draft EA Comments (Ex. 2) at 18-20.

[196] EA at 155 ("[n]est/roost replacement habitat for Mexican spotted owl will be mapped and incorporated as refugia as much as possible, recognizing the larger prescribed fire strategy.").

[197] Vegetation Report at 3.

[198] Vegetation Report at 3. Further, some of the 6% surveyed may have been altered by the Mangum Fire.

[199] EA at 7 (emphasis added).

The EA further admits, as quoted above, that the Forest Service did not model the impacts of mechanical logging treatments "due to less predictability of where, or what stands, it would be applied" because such treatments are "*contingent on site-specific stand conditions*."[200] The agency also admits it will delay surveys of site-specific conditions until shortly before a treatment is implemented, potentially a decade after approving the project.[201] In other words, the Forest Service will only design treatments once it evaluates conditions on the ground. But NEPA requires agencies design and disclose the impacts of an action *before* approving the action.

The EA fails to disclose where specific logging or other treatments will occur, where new dozer line construction will occur, where "holding areas" or "holding lines" will be designated, nor does it disclose where certain values may exist that vegetation treatments are designed to protect or avoid. Thus, while the written record does not use the exact term "condition-based management," it employs a similar approach to avoid disclosing site-specific impacts, an approach the U.S. District Court found violated NEPA and required the court to strike down both the NEPA document and the decision approving the Prince of Wales project.

> *Suggested Remedy*: The Forest Service should prepare a supplemental NEPA document that undertakes the site-specific analysis NEPA requires, disclosing baseline conditions and the impacts to specific areas based on up-to-date data.

VIII. THE KAIBAB PROJECT MUST ENSURE COMPLIANCE WITH THE ROADLESS AREA CONSERVATION RULE.

The Forest Service adopted the Roadless Area Conservation Rule (Roadless Rule) in 2001 "to protect and conserve inventoried roadless areas on National Forest System lands."[202] The rule observed:

> Inventoried roadless areas provide clean drinking water and function as biological strongholds for populations of threatened and endangered species. They provide large, relatively undisturbed landscapes that are important to biological diversity and the long-term survival of many at risk species. Inventoried roadless areas provide opportunities for dispersed outdoor recreation, opportunities that diminish as open space and natural settings are developed elsewhere. They also serve as

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[200] EA at 162 (emphasis added); *see also* Vegetation Report at 4 (same).

[201] EA at 160 ("In some areas, surveys to determine resource conditions may be required immediately prior to (within one or two years) project implementation."). *See also id*. at 169 ("Pinyon-juniper woodlands may appear homogenous, but they often intermingle with other plant communities (Miller and others 2019). These distinctions are not mapped and must be verified on the ground by specialists as part of project design prior to implementation."); id. at 165 ("Design elements (appendix B) describe resource conditions that will be evaluated for protection or avoidance. Treatments will be implemented *after surveys are completed to determine location of resources to be protected*.") (emphasis added).

[202] Forest Service, Special Areas, Roadless Area Conservation, Final Rule, 66 Fed. Reg. 3244 (Jan. 12, 2001).

> bulwarks against the spread of non-native invasive plant species and provide reference areas for study and research.[203]

The Rule "prohibits road construction, reconstruction, and timber harvest in inventoried roadless areas because they have the greatest likelihood of altering and fragmenting landscapes, resulting in immediate, long-term loss of roadless area values and characteristics."[204]

We support the Forest Service's proposal to prohibit thinning within three inventoried roadless areas (IRAs), and to rely on prescribed fire in those areas instead. However, the Forest Service does not appear to address whether it will use vehicle routes within roadless areas, or address the potential impacts of using, maintaining, or reconstructing any such routes. Nor does it disclose the scope of mechanical logging to protect heritage resources. We urge the Forest Service to correct these omission.[205]

A. The Roadless Rule.

The Roadless Rule generally prohibits road, reconstruction and timber removal within IRAs.[206] The Roadless Rule contains exceptions to the logging prohibition, but they are narrowly tailored:

> Notwithstanding the prohibition in paragraph (a) of this section, timber may be cut, sold, or removed in inventoried roadless areas if the Responsible Official determines that one of the following circumstances exists. The cutting, sale, or removal of timber in these areas is expected to be infrequent.
>
> (1) The cutting, sale, or removal of *generally small diameter timber* is needed for one of the following purposes *and* will *maintain or improve one or more of the roadless area characteristics* as defined in § 294.11.
>
> (i) To *improve* threatened, endangered, proposed, or sensitive species habitat; or
>
> (ii) To maintain or restore the characteristics of ecosystem composition and structure, such as to reduce the risk of uncharacteristic wildfire effects, within the range of variability that would be expected to occur under natural disturbance regimes of the current climatic period.[207]

The Roadless Rule defines "roadless area characteristics" as including:

> (1) High quality or undisturbed soil, water, and air;

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[203] 66 Fed. Reg. at 3245.

[204] 66 Fed. Reg. at 3244.

[205] The Center raised this issue in its Center 2019 Draft EA Comments (Ex. 2) at 3.

[206] 36 C.F.R. § 294.12(a) (generally prohibiting road construction); 36 C.F.R. § 294.13(a) (generally prohibiting timber removal).

[207] 36 C.F.R. § 294.13(b)(1) (emphasis added).

(2) Sources of public drinking water;

(3) Diversity of plant and animal communities;

(4) Habitat for threatened, endangered, proposed, candidate, and sensitive species and for those species dependent on large, undisturbed areas of land;

(5) Primitive, semi-primitive nonmotorized and semi-primitive motorized classes of dispersed recreation;

(6) Reference landscapes;

(7) Natural appearing landscapes with high scenic quality;

(8) Traditional cultural properties and sacred sites; and

(9) Other locally identified unique characteristics.[208]

The Roadless Rule anticipates that the Forest Service will engage in a highly site-specific analysis before it can consider logging in IRAs, given the regulation's emphasis on "*locally identified* unique characteristics."[209] The Roadless Rule's preamble reinforces the need for such a site-specific analysis.

> Because of the great variation in stand characteristics between vegetation types in different areas, a description of what constitutes "generally small diameter timber" is not specifically included in this rule. Such determinations are best made through project specific or land and resource management plan NEPA analyses, as guided by ecological considerations such as those described below.
>
> The intent of the rule is to limit the cutting, sale, or removal of timber *to those areas that have become overgrown with smaller diameter trees*….
>
> [A]ll such *determinations of what constitutes* "*generally small diameter timber*" will consider how the cutting or removal of various size classes of trees would affect the potential for future development *of the stand*, and the characteristics and interrelationships of plant and animal communities associated with the site and the overall landscape. *Site productivity due to factors such as moisture and elevational gradients, site aspect, and soil types will be considered, as well as how such cutting or removal of various size classes of standing or down timber would mimic the role and legacies of natural disturbance regimes in providing the habitat patches, connectivity, and structural diversity critical to maintaining biological diversity*. In all cases, the cutting, sale, or removal of small diameter timber will be consistent with maintaining or improving one or more of the

[208] 36 C.F.R. § 294.11.

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

> roadless area characteristics as defined in § 294.11.[210] ….
>
> Vegetative management would focus on removing generally small diameter trees *while leaving the overstory trees intact*. The cutting, sale, or removal of trees pursuant to 294.13(b)(1) *must be clearly shown through project level analysis to contribute to the ecological objectives described*. Such management activities are expected to be rare and to focus on small diameter trees.[211]

B. The Forest Service Should Clarify Compliance with the Roadless Rule.

In general, the proposed action would bar:

> mechanical treatments with machinery or hand tools … in inventoried roadless areas. Prescribed fire may be used in Willis Canyon, Burro Canyon, Big Ridge and Red Point Roadless Areas to promote desired conditions and maintain roadless area characteristics by reducing the risk of uncharacteristic, high-intensity wildfires. The objective is to modify vegetation and fuel loads to allow us to better manage wildfires and promote the historical role of fire on the landscape. No holding lines would be constructed in inventoried roadless areas.[212]

The EA clarifies that some "mechanical treatments" for tree removal could occur in IRAs "to protect fire-sensitive heritage resources."[213] Further, the EA asserts: "No new roads or any changes to the maintenance level of existing roads are proposed for the project area."[214]

The proposed action raises two concerns regarding Roadless Rule compliance. First, the Forest Service does not identify the location of logging treatments to protect heritage resources, nor the extent (acreage) of logging required. The Roadless Rule requires site-specific analysis to ensure that logging complies with the narrow scope of the Rule's exceptions (here, to ensure that logging involves only generally small diameter trees, based on a stand-specific examination). We request that the Forest Service provide such an analysis and an estimate of the acres involved. Such analysis is particularly necessary because the EA fails to identify the size of "large trees" that the proposed action will "protect" from logging in IRAs or elsewhere.

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[210] Forest Service, Roadless Area Conservation Rule, 66 Fed. Reg. 3244, 3257 (Jan. 12, 2001) (emphasis added).

[211] *Id*. at 3258 (emphasis added).

[212] EA at 154.

[213] EA at 15; *see also id*. at 18 ("The only mechanical treatments proposed are those needed to protect fire-sensitive heritage resources in inventoried roadless areas, and only hand tools would be used to cut vegetation on or around sites or build hand lines around sites"); *id*. at 94 ("In inventoried roadless areas, the proposed action includes prescribed fire and mechanical cutting with hand tools and construction of hand line to protect fire-sensitive heritage sites. No other tree cutting would occur.").

[214] EA at 64.

Second, a recent federal court decision makes clear that the Forest Service must do more than simply assert that logging within IRAs will not involve road reconstruction (which the Roadless Rule prohibits). Instead, the Forest Service must identify the transportation system it intends to use within an IRA, and the motorized equipment it intends to use in order to ensure that road "maintenance" is not really road "reconstruction." In *Helena Hunters & Anglers Association v. Marten,* the U.S. District Court for the District of Montana held that the Helena-Lewis and Clark National Forest violated the Roadless Rule by failing to ensure that existing routes used for timber harvest in IRAs would not be effectively "reconstructed" under the guise of "maintenance."[215]

> *Suggested Remedy*: The Forest Service should prepare a supplemental NEPA document that: (1) undertakes and discloses to the public a stand-specific analysis of logging in IRAs that will occur to protect heritage resource; and (2) discloses the extent and nature of the use of motorized vehicles and equipment within IRAs likely to occur due to the Kaibab Project.

IX. THE EA FAILED TO ADDRESS ADEQUATELY THE CUMULATIVE EFFECTS OF THIS PROJECT TOGETHER WITH BURNT CORRAL.

NEPA requires the Forest Service to disclose the impacts of the proposed action together with those of past, present and reasonably foreseeable future actions. "Cumulative effects" are those that "result[] from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions."[216]

The Burnt Corral project is one that, together with the Kaibab Project, is likely to have cumulative impacts on a variety of resources near the north rim of the Grand Canyon.[217] Burnt Corral appears as a "doughnut hole" within the southwestern portion of the Kaibab Project boundary.[218] Due to the fact that the two projects are directly adjacent to each other, and that the ecosystems are overlapping, the Center has repeatedly urged the Forest Service to fold the Burnt Corral landscape into the Kaibab Project. The Forest Service has denied this request. The Forest Service issued a draft EA for the Burnt Corral Project while the agency was preparing the final EA for the Kaibab Project, so the two were being considered at the same time; the Forest Service intends to implement them on a similar timeframe.[219] The Forest Service has stated that the two projects are interrelated; the agency identifies the Burnt Corral Project "as the first phase of the

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[215] *See Helena Hunters & Anglers Ass'n v. Marten*, 2020 U.S. Dist. LEXIS 115652 (D. Mont. July 1, 2020) at *32-*38, attached as Ex. 10.

[216] 40 C.F.R. § 1508.7.

[217] The Center raised this issue in its Center 2018 Scoping Comments (Ex. 1) at 5, and in Center 2019 Draft EA Comments (Ex. 2) at 2.

[218] *See* EA at 8.

[219] *See* Center Comment Letter on Burnt Corral EA (May 26, 2020), attached as Ex. 11. *See also* Kaibab National Forest, Burnt Corral Vegetation Management Project Preliminary Environmental Assessment (Mar. 2020), attached as Ex. 12.

larger, landscape-level restoration approach (similar to treatment as proposed in the Kaibab Plateau Ecological Restoration Project) based on a collaborative, science-based assessment of forest composition and predicted fire behavior data."[220] The Forest Service states that "[t]he Burnt Corral Project is reasonably foreseeable and will be considered for cumulative effects."[221]

The Burnt Corral project will have numerous adverse impacts, including loss of old growth, spread of cheatgrass, erosion associated with opening ML-1 roads which have revegetated, disruption of northern goshawk nest sites, and indirect effects such as encouraging dense ladder fuels to grow into patch cuts and areas where canopy closure is reduced.[222] Together, then, both projects will, at a minimum in the short term, degrade habitat for Mexican spotted owl and for the northern goshawk. Because the Kaibab Project fails to define (and so, protect) "large trees," the two projects together may have synergistic and significant harmful effects on wildlife (including goshawk and owl) that depend on such trees. Even short-term impacts may be cumulative because both projects are projected to occur concurrently, meaning that there will be less undisturbed habitat in the short term across the larger landscape. The fact that the Burnt Corral project fails to protect old growth makes it even more important that the Kaibab Project adopt standards to protect large and old trees. Further, both projects will increase traffic on roads and noise and activity in the forest, further limiting the ability of recreationists to find quiet, remote areas to enjoy.

Although the Burnt Corral project will occur effectively inside the Kaibab Project area, Burnt Corral rates only a handful of passing references in the Kaibab Project EA, and almost none of those references address the potential synergistic impacts of the two projects together. For example, the Kaibab Plateau EA:

- mentions the Burnt Corral project and several past projects in asserting that "KPERP does not preclude those or other future efforts."[223]

- states that the two projects together would "would cumulatively help meet fuels management objectives by removing activity and natural fuels…. Reducing hazardous fuels may also help reduce the risk of wildfire spreading onto adjacent lands."[224]

- concludes that there "would be no cumulative effects to soils" from the two projects together because "[t]his project does not propose treatments in the Burnt Corral Project Area, so there would be no cumulative effects to soils associated with that project."[225]

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[220] Burnt Corral Preliminary EA (Ex. 12) at 3.

[221] EA at 143.

[222] Center Comment Letter on Burnt Corral EA (Ex. 11) at 9; *see also id*. at 24-25 (describing the Burnt Corral Project's lack of protection for old growth).

[223] EA at 4. *See also id*. at 149 (the Kaibab Plateau Project "does not preclude" the Burnt Corral Project, among others).

[224] EA at 36-37.

[225] EA at 61.

- asserts that there will be no cumulative effects to special status botanical species because "[t]his project does not propose treatments in the Burnt Corral Project" area.[226]

This does not meet the standard of a cumulative impact analysis. The statement that the two projects "do not preclude" one another fails to provide useful information concerning the potential for the impacts of one to reinforce or worsen those of the other project. The fact that the two projects do not occur on precisely the same acre of land is also irrelevant to understanding whether the two projects' impacts may each have impacts that will, when taken together, be greater than just one of the projects alone. Thus, the Kaibab Project's EA fails to address the fundamental issue of cumulative effects as defined by NEPA regulations.[227]

> *Suggested Remedy*: The Forest Service should prepare a supplemental NEPA document that discloses the synergistic and combined impacts of the Kaibab Project together with the impacts of the Burnt Corral Project, paying particular attention to disclosing the impacts to old growth forests and the wildlife that rely on them.

X. THE FOREST SERVICE MUST PREPARE AN EIS.

A. An Agency Must Prepare an EIS If There Are Questions as to Whether Impacts May Be Significant.

NEPA requires federal agencies to prepare a full environmental impact statement (EIS) before undertaking "major Federal actions significantly affecting the quality of the human environment."[228] The Ninth Circuit agrees.

> We have held that an EIS *must* be prepared if 'substantial questions are raised as to whether a project ... *may* cause significant degradation to some human environmental factor.' To trigger this requirement a 'plaintiff need not show that significant effects *will in fact occur*,' [but instead] raising 'substantial questions whether a project may have a significant effect' is sufficient.[229]

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[226] EA at 73.

[227] The Forest Service cannot rely on analysis in Burnt Corral NEPA documents to meet the agency's duty to disclose cumulative impacts. That duty applies to each NEPA document, and each agency decision. In any event, the Draft EA the Forest Service's Burnt Corral Draft EA published in March 2020 was similarly devoid of substantive analysis of the cumulative effects of the Burnt Corral and Kaibab Projects.

[228] 42 U.S.C. § 4332(C).

[229] *Idaho Sporting Cong. v. Thomas*, 137 F.3d 1146, 1149-50 (9th Cir. 1998) (citations omitted) (emphasis original). *See also Ocean Advocates v. U.S. Army Corps of Eng'rs*, 402 F.3d 846, 864-65 (9th Cir. 2005) ("To trigger this [EIS] requirement a plaintiff need not show that significlant effects will in fact occur, but raising substantial questions whether a project may have a significant effect is sufficient." (internal quotations, citations, and alterations omitted)).

The Tenth Circuit agrees. "If the agency determines that its proposed action *may* 'significantly affect' the environment, the agency must prepare a detailed statement on the environmental impact of the proposed action in the form of an EIS."[230]

If an agency "decides not to prepare an EIS, 'it must put forth a convincing statement of reasons' that explains why the project will impact the environment no more than insignificantly. This account proves crucial to evaluating whether the [agency] took the requisite 'hard look.'"[231]

"Significance" under NEPA requires consideration of the action's context and intensity.[232] An agency must analyze the significance of the action in several contexts, including short- and long-term effects within the setting of the proposed action (including site-specific, local impacts).[233] Intensity refers to the severity of the impact and requires consideration of ten identified factors that may generally lead to a significance determination, including:

> (1) whether the action may significantly impact public health or safety
>
> (2) unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas;
>
> (3) whether the action is likely to be highly controversial;
>
> (4) whether the action may have cumulative significant impacts;
>
> (5) the degree to which the action may establish a precedent for future actions with significant effects; and
>
> (6) the degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973.[234]

With respect to the degree to which the environmental effects are likely to be highly controversial, the word "controversial" refers to situations where "'substantial dispute exists as to the size, nature, or *effect* of the major federal action.'"[235]

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[230] *Airport Neighbors Alliance v. U.S.,* 90 F.3d 426, 429 (10th Cir. 1996) (citation omitted) (emphasis added).

[231] *Ocean Advoc.*, 402 F.3d at 864.

[232] 40 C.F.R. § 1508.27.

[233] *Id.* § 1508.27(a).

[234] *Id.* § 1508.27(b)(2)-(4), (6)-(7), (9).

[235] *Town of Cave Creek v. FAA,* 325 F.3d 320, 331 (D.C. Cir. 2003) (quoting *North American Wild Sheep v. U.S. Department of Agriculture*, 681 F.2d 1172, 1182 (9th Cir. 1982)) (emphasis in original). *See also Middle Rio Grande Conservancy Dist. v. Norton*, 294 F.3d 1220, 1229

B. Because the Project Is Likely to Have Significant Impacts, the Forest Service Should Prepare An EIS.

The Kaibab Project meets numerous standards for "significance."[236]

First, the proposed action may significantly impact public health or safety.[237] Burning up to tens of thousands of acres annually poses public health and safety risks and demands an intelligent and strategic plan for safely and effectively accomplishing objectives, one the Forest Service declined to adopt when it rejected analyzing the STFU alternative.

Second, the project is proximity to numerous historic or cultural resources, park lands, and ecologically critical areas.[238] These areas include proximity to:

- Grand Canyon National Park, which the project boundary directly abuts, a boundary where the Forest Service intends to begin treatments in the first year of project;
- Kanab Creek, Paria Canyon-Vermillion Cliffs, and Saddle Mountain Wilderness Areas, all of which the project abuts and with which the project shares long borders;
- Kaibab Squirrel National Natural Landmark, which the project overlaps; and
- the historic Grand Canyon Game Preserve, which the project overlaps.

The project also either abuts or is in close proximity to the Marble Canyon ACEC, Vermillion Cliffs National Monument, Grand Canyon-Parashant National Monument, Grand Staircase-Escalante National Monument, Pipe Springs National Monument, the Kaibab-Paiute and Navajo Indian Reservations, Glen Canyon National Recreation Area, and the historic Kane and Two-Mile Ranches, the concentration of northern goshawk territories.

Third, the effects of this project are highly controversial.[239] In this context, the term "controversial" refers to "cases where a substantial dispute exists as to the size, nature, or effect of the major Federal action rather than to the existence of opposition to a use."[240] Courts explain:

(10th Cir. 2002) (same); *Town of Superior v. U.S. Fish and Wildlife Serv.*, 913 F. Supp. 2d 1087, 1120 (D. Colo. 2012) (same).

[236] The Center raised this issue in its Center 2018 Scoping Comments (Ex. 1) at 3-6, and in Center 2019 Draft EA Comments (Ex. 2) at 21.

[237] 40 C.F.R. § 1508.27(b)(2).

[238] 40 C.F.R. § 1508.27(b)(3).

[239] 40 C.F.R. § 1508.27(b)(4).

[240] *Sierra Club v. United States Forest Serv*., 843 F.2d 1190, 1193 (9th Cir. 1988) (finding that where Sierra Club presented evidence from experts showing the EA's inadequacies and casting doubt on the agency's conclusions, "this is precisely the type of 'controversial' action for which an EIS must be prepared.").

> A substantial dispute exists when "evidence, raised prior to the preparation of an EIS or FONSI, casts serious doubt upon the reasonableness of the agency's conclusions." *Nat'l Parks* [*& Conservation Ass'n v. Babbitt,* 241 F.3d 722, 736 (9th Cir. 2001)] (internal citation omitted). Such evidence generally challenges the scope of the scientific analysis, the methodology used, or the data presented by the agency. *See Blue Mountain* [*Biodiversity Project v. Blackwood*, 161 F.3d 1208, 1212-13 (9th Cir. 1998)] (citing the Forest Service's failure to consider the recommendations and data of an independent scientific report that ran contrary to the proposed action as evidence of controversy).[241]

The Kaibab Project involves the very type of substantial dispute that courts have found sufficient to require preparation of an EIS. The Forest Service relies on studies, especially GTR-310, to set a target for the nature of forest stands that the project treatments intend to achieve, and sets design elements accordingly, although the GTR-310 relied on data from areas unlike the Kaibab Plateau. In doing so, the agency turned a blind eye to studies reviewing historical forest structure and data *within the Kaibab Project area*, which found a much denser forest historically, contradicting the Forest Service's assumptions and targets. There is thus a genuine controversy as to whether the project will meet the stated purpose and need, or will have the impacts predicted. This is precisely the type of "controversy" that courts find sufficient to require preparation of an EIS.[242] The dispute is heightened here because the Forest Service ignored and failed to respond to the studies concerning the flaws in GTR-310 and in the Forest Plan and project standards which rely on GTR-310.

Further, the Forest Service's failing to define "large trees" (which the EA alleges the project will protect) has left the door open to the logging huge trees and devastating old growth stands. Instead of acknowledging this potential impact, the Forest Service has simply denied it, relying on a black-box model to assume that, 20-40 years after project initiation, there will be a sufficient number of "large trees." This, too, results in a genuine controversy over the nature and scale of impacts; and here too the Forest Service failed to address this controversy in responses to comments, as NEPA mandates.

Fourth, this project may establish a precedent for future actions with significant effects.[243] We are aware of no other project in the Southwest where nearly a half-million acres were slated for mechanical and fire treatments that has not been analyzed in an EIS. Thus, to proceed with only an EA would establish a precedent of over-generalization and under-consideration of a suite of relevant ecological and other effects.

Fifth, the Kaibab Project is related to other actions with cumulatively significant impacts.[244] "Significance exists if it is reasonable to anticipate a cumulatively significant impact on the

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[241] *Anglers of the Au Sable v. United States Forest Serv.*, 565 F. Supp. 2d 812, 827-828 (E.D. Mich. 2008).

[242] *See id.*

[243] 40 C.F.R. § 1508.27(b)(6).

[244] 40 C.F.R. § 1508.27(b)(7).

environment. Significance cannot be avoided by terming an action temporary or by breaking it down into small component parts."[245] Significant cumulative effects are reasonably predictable in combination with ongoing fire management activities in the adjacent Grand Canyon National Park, the proposed vegetation management actions in the Burnt Corral analysis area, livestock, vegetation, and wildlife management activities on adjacent Bureau of Land Management areas (including the Shuttleworth-Suicide Habitat Management Project, the House Rock Valley Bison Management Project, and others), and continued implementation of previously decided vegetation management including but not limited to the Jacob-Ryan project. As discussed above, the Forest Service's analysis of cumulative impacts specifically failed to analyze or disclose the impacts of the Kaibab Project together with those of the Burnt Corral Project. An EIS is thus required to address the potential for significant impacts to occur when the effects of the two projects are viewed together.

Sixth, the Kaibab Project may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973.[246] As discussed above, the proposed action appears to contradict the Mexican spotted owl 2012 Recovery Plan in several respects. Unless and until those conflicts are resolved, the Forest Service must prepare an EIS.

> *Suggested Remedy*: The Forest Service should prepare an environmental impact statement for the Kaibab Project.

CONCLUSION.

The Center hereby 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 Center, to develop a project that is legally and ecologically sound and enjoys broad support from all stakeholders.

[245] *Id*.

[246] 40 C.F.R. § 1508.27(b)(9).

Sincerely,

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TABLE OF EXHIBITS