CENTER FOR BIOLOGICAL DIVERSITY
SIERRA CLUB ● WILDEARTH GUARDIANS
ALLIANCE FOR THE WILD ROCKIES
NATIVE ECOSYSTEMS COUNCIL

May 1, 2023

Mary Erickson (Reviewing Officer)
Objection Reviewing Officer
USDA Forest Service, Northern Region
26 Fort Missoula Rd.
Missoula, MT 59804
Submitted via email to: appeals-northern-regional-office@usda.gov; mary.erickson@usda.gov
And via on-line portal: https://cara.fs2c.usda.gov/Public/CommentInput?project=57353

Re: OBJECTIONS Pursuant to 36 C.F.R. § 218.8 to South Plateau Project Draft Decision Notice and Finding of No Significant Impact, Custer Gallatin National Forest

To the Objection Reviewing Officer:

The Center for Biological Diversity, Sierra Club, WildEarth Guardians, Alliance for the Wild Rockies, and Native Ecosystems Council submit these timely objections to the U.S. Forest Service's draft decision notice (2023 Draft DN), finding of no significant impact (FONSI), and final environmental assessment (2023 Final EA) for the South Plateau Area Landscape Treatment Project (South Plateau Project) on the Hebgen Lake Ranger District of the Custer Gallatin National Forest.

Project Objected To

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

> *Project*: South Plateau Landscape Area Treatment Project, Hebgen Lake Ranger District, Custer Gallatin National Forest, Gallatin County, Montana
>
> *Responsible Official and Forest/Ranger District*: Jason Brey, Hebgen Lake Ranger District

Timeliness

These objections are timely filed. Notice of the Draft DN and FONSI was published in the Bozeman Daily Chronicle (the newspaper of record) on March 15, 2023.[1]

[1] *See* Legal Notice, Bozeman Daily Chronicle (Mar. 15, 2023), attached as Ex. 1. The 45th day after the date of the March 15 notice is Saturday, April 29, and so the objection period expires at 11:59 PM Mountain time the next business day, Monday, May 1. *See* 36 C.F.R. § 218.6(a).

Lead Objector

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

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Interests and Participation of the Objectors

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

Sierra Club is a national non-profit conservation organization with more than 3.7 million members and supporters. Headquartered in Oakland, California, Sierra Club maintains offices throughout the country and has 69 chapters, including in Montana. Sierra Club is the nation's largest and most influential conservation organization, dedicated to exploring, enjoying, and protecting the wild places of the earth; to practicing and promoting the responsible use of the earth's ecosystems and resources; to educating and enlisting humanity to protect and restore the quality of the natural and human environment; and to using all lawful means to carry out these objectives. Sierra Club has a longstanding commitment to protection of public lands and wildlife habitat, and to full recovery of grizzly bears in and beyond Montana. Sierra Club members actively use our public lands in the region, including the Custer Gallatin National Forest, for wildlife watching, recreation and other pursuits.

WildEarth Guardians is a nonprofit conservation organization with offices in six states throughout the western United States. Guardians has more than 183,000 members and supporters across the United States and the world. WildEarth Guardians' staff, members, and supporters use and enjoy the Custer Gallatin National Forest and the lands within the South Plateau Project area. Guardians protects and restores the wildlife, wild places, wild rivers, and health of the American West. For many years, WildEarth Guardians has advocated for the Forest Service to maintain a balance between access, risks, impacts, and costs when managing its road system. Guardians continue to advocate for that balance here. Guardians is also concerned that the Forest Service demonstrates compliance with all federal laws in analyzing this project.

Alliance for the Wild Rockies is a tax-exempt, non-profit public interest organization dedicated to the protection and preservation of the native biodiversity of the Northern Rockies Bioregion, its native plant, fish, and animal life, and its naturally functioning ecosystems. Its registered office is located in Missoula, Montana. The Alliance has over 2,000 individual members, many of whom are located in Montana. Members of the Alliance observe, enjoy, and appreciate

Montana's native wildlife, water quality, and terrestrial habitat quality, and expect to continue to do so in the future, including in the South Plateau Project area.

Native Ecosystems Council is a non-profit Montana corporation with its principal place of business in Three Forks, Montana. Native Ecosystems Council is dedicated to the conservation of natural resources on public lands in the Northern Rockies. Its members use and will continue to use the Custer Gallatin National Forest for work and for outdoor recreation of all kinds, including fishing, hunting, hiking, horseback riding, and cross-country skiing.

The Center and Guardians submitted timely comments on the South Plateau 2021 draft environmental assessment ("2021 Draft EA") on September 15, 2021, and the Alliance for the Wild Rockies and Native Ecosystems Council submitted separate comments on that date. The Center, Sierra Club, Guardians and the Alliance for the Wild Rockies submitted comments on the 2022 draft environmental assessment ("2022 Revised EA") on November 5, 2022, and Native Ecosystems Council submitted separate comments, as did the Sierra Club on November 4, 2022.

Objectors remain gravely concerned about this project because it could result in more than 9,100 acres of thinning and 5,551 acres (more than 8 square miles) of 20-40 acre clearcuts, and up to 56.6 miles of road construction, across the landscape, although the agency fails to disclose precisely where or when those activities will take place. Objectors are also gravely concerned, among other things: with the more than $80 million in climate damage the Project could have; that the Project is likely to adversely affect three imperiled species; that the Project will apparently authorize bulldozing at least one road through one of the few remaining stands of old growth; and that to reach a finding of no significant impact, the agency relied on the weaker, Trump CEQ NEPA regulations rather than the more robust 1978 regulations.

I. THE FOREST SERVICE IMPROPERLY RELIED ON THE ILLEGALLY-ADOPTED 2020 COUNCIL ON ENVIRONMENTAL QAULITY NEPA REGULATIONS THOUGH IT DID NOT HAVE TO.

We are disappointed that the Forest Service failed to answer frankly which rules it applied in preparing this environmental analysis.[2] President Trump's Council on Environmental Quality issued a final rulemaking in July 2020 fundamentally rewriting and weakening the familiar 1978 NEPA regulations, but the Trump 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 South Plateau Project NEPA process began before September 2020; the Custer Gallatin NF's Schedule of Proposed Actions listed the project in January 2020, and a draft EA was issued in August 2020. So the Forest Service could have chosen to apply the familiar 1978 CEQ regulations, and we repeatedly urged the agency to do so. When directly asked whether it had chosen to apply the 1978 or the Trump 2020 version of the regulations, the Forest Service

[2] The Center raised this issue in our November 5, 2022 comments on the 2022 Revised EA. *See* letter of E. Zukoski, Center for Biological Diversity et al. to Custer Gallatin NF (Nov. 5, 2022) at 3 ("2022 Center Comment Letter"), attached as Ex. 2.

provided a vague and unenlightening response: "The Forest follows applicable law, regulation, and policy as a matter of course."[3]

However, for the first time in the 2023 Draft Decision Notice, the Forest Service makes clear that it has chosen to apply the Trump 2020 CEQ regulations although it could have applied the 1978 CEQ regulations.[4] The Forest Service does not explain why it chose to not respond to the question and clarify its choice of law, which has consequences for how it conducted its analysis. We urge the Forest Service in future to be honest and open with the public about what rules govern its analysis, and why it chose to apply the less protective 2020 regulations.

Further, the Forest Service cannot apply the 2020 regulations because they were illegally adopted in violation of the Administrative Procedure Act (APA) NEPA, and the Endangered Species Act (ESA). The 2020 regulations are the subject of numerous ongoing challenges, and a decision on this project will likely be fodder for a further challenge to those rules.[5]

> *Suggested Remedy*. The Custer Gallatin NF should prepare an EIS that applies the 1978 NEPA regulations, and does not rely on the 2020 Trump NEPA regulations, which were adopted in violation of law.

II. THE SOUTH PLATEAU EA VIOLATES NEPA BY FAILING TO DISCLOSE THE PROJECT'S SITE-SPECIFIC IMPACTS.

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

The South Plateau Final EA purports to be a project-level analysis. The EA does not contemplate additional NEPA analysis once analysis of the project is complete. Thus, any NEPA document prepared for the project must include the detailed information and analysis that NEPA and the Council on Environmental Quality (CEQ) regulations require because there will be no further NEPA analysis for this large, landscape-scale analysis.[6]

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."[7] 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

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[3] South Plateau Project Comment Consideration and Response (2023) at 198.

[4] 2023 Draft DN at 13, 15 (applying 40 C.F.R. § 1501.3 (2020) to determine significance).

[5] *See, e.g.,* Complaint*, Alaska Community Action on Toxics v. Council on Environmental Quality*, 3:20-cv-05199 (N.D. Cal. July 29, 2020), attached as Ex. 3; Complaint, *Wild Virginia v. Council on Environmental Quality*, 3:20-cv-00045-JPJ-PMS (W.D. Va. July 29, 2020), attached as Ex. 4.

[6] The Center raised this issue in our November 5, 2022 comments on the 2022 Revised EA. *See* 2022 Center Comment Letter (Ex. 2) at 3-16.

[7] 42 U.S.C. § 4331(a).

information will be available to a larger audience."[8] "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."[9] Stated more directly, NEPA's "'action-forcing' procedures . . . require the [Forest Service] to take a 'hard look' at environmental consequences"[10] *before* the agency approves an action. "By so focusing agency attention, NEPA ensures that the agency will not act on incomplete information, only to regret its decision after it is too late to correct."[11] 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."[12]

In *Natural Resources Defense Council v. U.S. Forest Service*, for example, the Court faulted the Forest Service for providing empty disclosures that lacked any analysis, explaining the agency "d[id] not disclose the effect" of continued logging on the Tongass National Forest and "d[id] not give detail on whether or how to lessen the cumulative impact" of the logging.[13] The Court explained that "general 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."[14] The court reasoned that the Forest Service also must provide the public "'the underlying environmental data' from which the Forest Service develop[ed] its opinions and arrive[d] at its decisions."[15] In the end, "vague and conclusory statements, without any supporting data, do not constitute a 'hard look' at the environmental consequences of the action as required by NEPA."[16]

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[8] *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.'").

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

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

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

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

[13] *Natural Res. Def. Council v. U.S. Forest Serv.,* 421 F.3d 797, 812 (9th Cir. 2005).

[14] *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").

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

[16] *Great Basin Mine Watch v. Hankins*, 456 F.3d 955, 973 (9th Cir. 2006).

"The agency must explain the conclusions it has drawn from its chosen methodology, and the reasons it considered the underlying evidence to be reliable."[17]

At the project level, as compared to a programmatic decision, the required level of analysis is stringent.[18] At the "implementation stage," the NEPA review is more tailored and detailed because the Forest Service is confronting "individual site specific projects."[19] Indeed, federal courts have faulted the Forest Service for failing to provide site-specific information in a landscape-level analysis:

> This paltry information does not allow the public to determine where the range for moose is located, whether the areas open to snowmobile use will affect that range, or whether the Forest Service considered alternatives that would avoid adverse impacts on moose and other big game wildlife. In other words, the EIS does not provide the information necessary to determine how specific land should be allocated to protect particular habitat important to the moose and other big game wildlife. Because the Forest Service did not make the relevant information available . . . the public was limited to two-dimensional advocacy—interested persons could argue only for the allocation of more or less land for snowmobile use, but not for the protection of particular areas. As a result, the Forest Service effectively stymied the public's ability to challenge agency action.[20]

When the Forest Service fails to conduct that site-specific analysis, the agency "does not allow the public to 'play a role in both the decision-making process and the implementation of that decision.'"[21] "Although the agency does have discretion to define the scope of its actions, . . . such discretion does not allow the agency to determine the specificity required by NEPA."[22] In *State of Cal. v. Block*, for example, the decision concerned 62 million acres of National Forest land, and the Ninth Circuit still required an analysis of "[t]he site-specific impact of this decisive allocative decision."[23] In short, NEPA's procedural safeguards are designed to guarantee that the public receives accurate *site-specific* information regarding the impacts of an agency's project-level decision *before* the agency approves the decision.

Analyzing and disclosing site-specific impacts is critical because where (and when and how) activities occur on a landscape strongly determines that nature of the impact. As the Tenth Circuit Court of Appeals has explained, the actual "location of development greatly influences

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

[18] *See, e.g., Friends of Yosemite Valley v. Norton*, 348 F.3d 789, 800-01 (9th Cir. 2003).

[19] *Forest Ecology Ctr., Inc. v. U.S. Forest Serv*., 192 F.3d 922, 923 n.2 (9th Cir. 1999).

[20] *WildEarth Guardians v. Montana Snowmobile Ass'n*, 790 F.3d 920, 927 (9th Cir. 2015).

[21] *Id*. at 928 (quoting Methow Valley Citizens Council, 490 U.S. at 349).

[22] *City of Tenakee Springs v. Block*, 778 F.2d 1402, 1407 (citing *California v. Block*, 690 F.2d 753, 765 (9th Cir. 1982)).

[23] *California v. Block*, 690 F.2d 753, 763 (9th Cir. 1982).

the likelihood and extent of habitat preservation. Disturbances on the same total surface area may produce wildly different impacts on plants and wildlife depending on the amount of contiguous habitat between them."[24] 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.[25] Indeed, "location, not merely total surface disturbance, affects habitat fragmentation,"[26] 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.[27]

Courts in the Ninth Circuit have taken a similar approach. For example, the U.S. District Court for the District of Alaska in 2019 issued a preliminary injunction in the case *Southeast Alaska Conservation Council v. U.S. Forest Service,* halting implementation of the Tongass National Forest's Prince of Wales Landscape Level Analysis Project.[28] The court did so because the Forest Service's condition-based management approach, which failed to disclose the site-specific impacts of that logging proposal, raised "serious questions" about whether that approach violated the National Environmental Policy Act (NEPA).

The district court explained the approach the Forest Service took in the Prince of Wales EIS:

> each alternative considered in the EIS "describe[d] the conditions being targeted for treatments and what conditions cannot be exceeded in an area, or place[d] limits on the intensity of specific activities such as timber harvest." But the EIS provides that "site-specific locations and methods will be determined during implementation based on defined conditions in the alternative selected in the . . . ROD . . . in conjunction with the . . . Implementation Plan . . . ." The Forest Service has termed this approach "condition-based analysis."[29]

The Prince of Wales EIS made assumptions "in order to consider the 'maximum effects' of the Project."[30] It also identified larger areas within which smaller areas of logging would later be identified, and approved the construction of 164 miles of road, but "did not identify the specific sites where the harvest or road construction would occur."[31]

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

[25] *Id*. at 707.

[26] *Id*.

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

[28] *Southeast Alaska Conservation Council v. U.S. Forest Serv.*, 413 F. Supp. 3d 973 (D. Ak. 2019).

[29] *See id.* at 976-77 (citations omitted).

[30] *Id*. at 977.

[31] *Id*.

The Court found the Forest Service's approach contradicted federal appellate court precedent, including *City of Tenakee Springs v. Block*, 778 F.2d 1402 (9th Cir. 1995). In that case, the appellate court set aside the Forest Service's decision to authorize pre-roading in a watershed without specifically evaluating where and when on approximately 750,000 acres it intended to authorize logging to occur. The district court evaluating the Prince of Wales project found the Forest Service's approach was equivalent to the deficient analysis set aside in *City of Tenakee Springs.*

> Plaintiffs argue that the Project EIS is similarly deficient and that by engaging in condition-based analysis, the Forest Service impermissibly limited the specificity of its environmental review. The EIS identified which areas within the roughly 1.8-million-acre project area could potentially be harvested over the Project's 15-year period, but expressly left site-specific determinations for the future. For example, the selected alternative allows 23,269 acres of old-growth harvest, but does not specify where this will be located within the 48,140 acres of old growth identified as suitable for harvest in the project area. Similar to the EIS found inadequate in *City of Tenakee Springs*, the EIS here does not include a determination of when and where the 23,269 acres of old-growth harvest will occur. As a result, the EIS also does not provide specific information about the amount and location of actual road construction under each alternative, stating instead that "[t]he total road miles needed will be determined by the specific harvest units offered and the needed transportation network."[32]

The district court concluded that plaintiffs in the case raised "serious questions" about whether the Prince of Wales EIS condition-based management approach violated NEPA because "the Project EIS does not identify individual harvest units; by only identifying broad areas within which harvest may occur, it does not fully explain to the public how or where actual timber activities will affect localized habitats."[33]

On March 11, 2020, the Alaska district court issued its merits opinion on the Prince of Wales Project, reaffirming its September 2019 preliminary injunction decision and holding that the Forest Service's condition-based management approach violated NEPA.[34] 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."[35]

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,

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[32] *Id*. at 982 (citations omitted).

[33] *Id*. at 983, 984.

[34] *Southeast Alaska Conservation Council v. United States Forest Serv*., 443 F. Supp. 3d 995 (D. Ak. 2020).

[35] *Id*. at 1009 (citations omitted).

detracts from a decisionmaker's or public participant's ability to conduct a meaningful comparison of the probable environmental impacts among the various alternatives."[36] 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 ... that the agency will not act on incomplete information, only to regret its decision after it is too late to correct.[37]

The South Plateau Project is a project-level decision.[38] 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. Failure to do so precludes informed agency decisionmaking and informed public comment, in violation of NEPA.

B. The Final EA Fails to Disclose the South Plateau 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 2022 Revised EA, like its predecessors, 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*.

Prior versions of the Forest Service NEPA analysis specifically admitted that the South Plateau Project would employ a condition-based management approach.

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[36] *Id*. at 1013.

[37] *Id*. at 1014-15 (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).

[38] While the 2023 Final EA envisions further site-specific data collection, monitoring, and project design, it does not anticipate or describe any future NEPA analysis or any future public involvement consistent with that law.

> The exact extent and location of treatments to be applied would be determined through the condition-based management approach. During the implementation period of this project, the Interdisciplinary Team would survey areas proposed for treatment to determine existing conditions and the appropriate treatment following the Treatment Matrix (Appendix A). Treatment types and location would adhere to the Design Features and Sideboards (Appendix B) which include acreage caps, temporary road limitations, and other resource protection measures.[39]

Although the Forest Service has apparently meticulously scrubbed the term "condition-based management" from the 2022 Revised EA and supporting documents, the agency's fundamental approach remains the same. The 2023 Final EA: foreswears that it can identify the "exact" nature of treatment units or roads; continues to omit key data necessary to understand site-specific information (e.g., the location of cutting units and road construction); continues to assert that locations for treatments and other actions could change; continues to identify a "pool" of "potential" treatment units in describing its proposed action; and continues to identify treatments in terms so vague as to make understanding the potential impacts extremely difficult.

For example, the 2023 Final EA states that the South Plateau Project "uses a landscape approach so the exact number of acres that would be treated within the maximum treatment extent listed in Table 1 is *not known*," and states that "[t]he exact locations of temporary roads *are not yet known*," and that "the exact location of treatment units *is not yet known*."[40]

The 2022 Revised EA also repeatedly refers to the "*potential* treatment units" that may be treated.[41]

> The Forest has identified areas as *preliminarily suitable* for treatment actions; suitable areas are shown in Figure 2. Resource specialists would survey suitable areas *to determine where within them to place smaller treatment units*. The type of treatment will be determined by applying the Treatment Matrix (Appendix A) and will generally be the type shown in Figure 2…. The *precise location and size*

[39] Forest Service, South Plateau Area Landscape Treatment Project, Final Environmental Assessment (Mar. 2021) at 6 (hereafter "2021 Final EA").

[40] Forest Service, South Plateau Area Landscape Treatment Project, Final Environmental Assessment (Oct. 2022) at 29 (number of acres unknown), 10 (temp road locations unknown), 80 n.34 (location of treatments unknow) (emphases added) (hereafter "2023 Final EA"). *See also id*. at 73 ("which temporary project roads will be in use at what time is not known"); South Plateau Project Comment Consideration and Response (2023) at 202 ("The location [of temporary roads] … is likely to change").

[41] *See* 2023 Final EA at 32 (hereafter "2022 Revised EA") ("The botanist would survey potential treatment units before treatments are applied"); *id*. at 34 ("mature trees are present in some potential treatment units"); *id*. at 50 ("Map of the project area showing scenic integrity objectives and critical viewing platforms overlaid with potential treatment areas."); *id*. at 53 ("If minimum coarse woody debris levels could not be met through mitigation, potential treatment units would not be treated").

> *of the treatment units* will be determined by applying the Design Features (Appendix B) ….[42]

Appendix A states that in the future, "[s]ite-specific silvicultural or fuels prescriptions *will be developed*."[43] The Forest Service will thus determine the "where" of logging and bulldozing actions *after* the agency approves the project. The 2023 Final EA does not disclose the "precise location and size of treatment units," nor does it define the "treatment acreage [or] the temporary road extent."[44]

Underscoring this lack of precision, many of the treatments are described in conditional terms of what the action "may" be.

> The acres of fuels reduction treatments *may be* increased if another type of treatment is deferred or dropped in a unit. If another type of treatment is dropped, fuels treatments *may be* applied to the identified unit if the treatment is analogous to or less intensive than the previously proposed type. For instance, if potential clearcut treatment units are dropped, fuels treatments such as small diameter thinning (less intensive than clearcutting) *may be* prescribed if treatment fits the Treatment Matrix and Design Features….
>
> Fuels treatments *may be* applied to any treatment unit as a secondary treatment. Depending on conditions, multiple treatments *may be* needed to meet fuels objectives. For instance, burning *may be* conducted after a commercial thinning treatment to reduce excess residual fuels to meet fuels objectives.
>
> ….
>
> Up to 56.8 miles of temporary project roads *may be* constructed to support project actions…. The exact locations of temporary roads are *not yet known*….[45]
>
> Activities associated with the proposed actions *may include, but are not limited to* thinning with mechanized equipment, slashing small trees, whole tree yarding, yarding unmerchantable material, hand and machine piling, pile and broadcast burning, hauling of commercial material, firewood removal, biomass reduction, chipping, erosion control, and the construction and rehabilitation of skid trails and landings. Any treatment *may include* the commercial or non-commercial removal of material.

[42] 2023 Final EA at 7 (emphasis added).

[43] 2023 Final EA at 90 (Appendix A) (emphasis added).

[44] *See* 2023 EA at 7.

[45] 2023 Final EA at 9-10 (emphasis added).

> Excess residual fuels *may be* lopped and scattered, trampled, masticated, chipped, piled or burned.[46]

One specialists' report admits: "Due to the Proposed Action *being adaptive in nature*, the exact acres of each treatment *are not known at this time*."[47]

And while the 2023 Final EA contains maps displaying the locations of different types of logging prescriptions, the wildlife specialist's report makes clear that these are acres where logging *could* occur, not areas the agency is specifically identified because it is proposed to undertake logging there. The Wildlife Report discloses that 7,737 acres of regeneration (clearcut) treatments overlap lynx habitat.[48] The report provides a footnote with a caveat concerning that the 7,737 acre figure:

> [T]here are currently 8,787 acres of clearcut identified in the standpool in the LAU [lynx analysis unit]. In order to meet Standard VEG S2, no more than 15% of lynx habitat on NFS lands in the LAU may be regenerated over a 10 year period. To satisfy this Standard, a maximum of 4,600 acres of regeneration harvest would be allowed in lynx habitat in the LAU.
>
> A maximum of 5,551 acres may be treated with clearcut harvest (*see* Table 1), so an additional 951 acres of clearcut harvest may be implemented in the project area outside of mapped lynx habitat (i.e. in non-lynx habitat).[49]
>
> ….
>
> [T]he maximum number of acres of regeneration harvest in lynx habitat on NFS lands in the LAU would be 4,600 acres in order to be in compliance with Standard Veg S2 of the NRLMD. *The spatial boundaries of actual regeneration harvest units would be determined during layout*…. A maximum of 4,600 acres of actual regeneration harvest would be laid out in a manner that complies with project sideboards and design features….[50]

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[46] 2023 Final EA at 10 (emphasis added).

[47] C. DeMastus & P. Tikusis, South Plateau Landscape Area Treatment: Revised Forest Vegetation Effects Analysis (Feb. 23, 2023) at 17 (hereafter "2023 Forest Vegetation Analysis").

[48] R. Scarlett, South Plateau Landscape Area Treatment Project Wildlife Report (Mar. 13, 2023) at 57, 73, 74 (hereafter "2023 Wildlife Report").

[49] 2023 Wildlife Report at 71.

[50] 2023 Wildlife Report at 74 (emphasis added). *See also id*. at 69 (explaining that "assumptions [concerning impact to lynx habitat] were made for a number of reasons, including the fact that project sideboards (related to wildlife, fisheries, hydrology, and other resources), design features, and other factors *will ultimately determine where activities occur and the extent (i.e. number of acres) of these activities on the landscape*." (emphasis added)).

In short, the Forest Service will not disclose or determine the number, shape, and location of clearcuts until after project approval, and potentially more than a decade thereafter. Clearcutting would occur over as many as 5,551 acres – over 8 square miles – apparently out of a potential pool of nearly 9,000 acres, but the Forest Service has not identified the number, location, shape or extent of any these hundreds of 20-40 acre clearcuts.

In understanding environmental impacts, location matters. Here, the Forest Service does not disclose where the 5,551 acres of clearcuts will occur, though it maps a larger 8,787 area within which they could occur. It is therefore impossible to tell whether clearcuts will be concentrated around previously logged stands (thus leaving larger blocks of less-disturbed habitat) or whether they will be dispersed (such that more of the forest will be directly fragmented by logging). The 2023 Final EA contains a map displaying the location of logged and burned areas, but the 2023 Final EA provides neither the public nor the decision-maker with the specific location of the South Plateau Project's clearcuts.[51] This makes it impossible to understand the project's direct, indirect, and cumulative effects. The public does not know, because the Forest Service does not disclose, whether impacts will be focused in a particular sub-watershed.

The 2023 Final EA's lack of precision concerning the location of clearcuts also makes it difficult to understand whether the agency will comply with the Custer Gallatin National Forest Plan. The Forest Plan states that openings created by clearcutting shall not exceed 40 acres unless necessary to achieve "desired ecological conditions for the plan area."[52] The Forest Plan also limits the maximum opening size under this exception to 75 acres.[53] NFMA states that project may allow for openings larger than 40 acres only after 60 days public notice and review by the regional forester. *See* 36 C.F.R. § 219.11(d)(4).

Here, the 2023 Final EA's map displays numerous polygons where clearcuts could occur that are much larger than 40 acres.[54] Yet, the Forest Service states that clearcut units will not exceed 40 acres in size and will have at least 500 feet between units and claims that prior to logging, the Forest Service will more precisely determine where to clearcut.[55] At a minimum, the Forest Service has failed to adequately disclose and explain the project and its impacts to the public, which results in the public's inability to provide informed comments, in violation of NEPA. Because there is a potential for the project to result in openings greater than 40 acres without the required 60 days public notice and without an explanation of why they are necessary to achieve desired ecological conditions of the project area, the Forest Service must explain why it will not violate the National Forest Management Act.

The Forest Service assumes that various "sideboards" will limit the impacts of the project once the project is "laid out on the ground," despite failing to identify where the clearcuts and thinning

[51] 2023 Final EA at 85 (Figure 15).

[52] 2022 Custer Gallatin Forest Plan at 78 (Plan standard FW-STD-TIM 08).

[53] *Id*.

[54] *See* 2023 Final EA at 6 (Figure 2).

[55] 2023 Final EA at 8.

treatments would occur.[56] For example, the Forest Service quantifies impacts to elk security areas from logging and admits that those impacts "would be relatively large," but then dismisses the impacts in part because logging would occur over time and the "actual affected acres [are] expected to substantially decrease due to sideboards, design measures, and other limitations."[57]

But this assumption – that predicted impacts will be mitigated by project design sideboards – is dangerous and unsubstantiated because the Forest Service admits that it cannot know where and when logging and road building will occur. And if the agency can't know where logging will occur, it can't understand or disclose to the public what those impacts will be.

Similarly, in evaluating the impacts of roads on wildlife, the EA states "it is unknown what temporary project roads would be in use at what time."[58] If the Forest Service cannot predict when which impacts will occur where, it cannot take the mandated hard look at site-specific impacts, nor can it logically conclude that impacts will not be significant.

The Forest Service also continues to describe the potential location of new road construction in grizzly habitat in terms that are incredibly vague:

> Up to 56.8 miles of temporary road would be constructed under the Proposed Action to access all of the proposed treatment units in the current stand pool. Some project routes would be constructed in areas that are already considered non-secure due to the presence of roads open to the public or administrative use. Others would create additional areas of non-secure habitat during implementation, as they would affect areas outside of the 500 meter buffer zones around existing open and administrative routes.[59]

In sum, some roads could be built here, others there; the Forest Service doesn't know where, and won't say where. But the Forest Service promises that wherever the roads might be built, they are certain that they will not harm grizzlies to a significant extent. Any such conclusion is arbitrary and capricious.

Similarly, to address the potential for the project to violate Forest Plan road density standards meant to protect grizzlies, the Final EA indicates that the agency has two options. The agency could either: (1) drop areas to be logged and roaded; or (2) "treatment and temporary road construction/use would be done in stages."[60] Either way, the Final EA concludes, impacts to road density standards would be less than those predicted.[61] However, impacts to other resources will differ greatly between the two options – building or not building the road. Because the Final EA

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[56] 2023 Wildlife Report at 72 ("sideboards, design features, and other requirements will reduce the amount of treatment when the project is put through these filters and laid out on the ground").

[57] 2023 Wildlife Report at 116.

[58] 2023 Wildlife Report at 42.

[59] 2023 Wildlife Report at 40.

[60] *Id.* at 42.

[61] *Id*.

and incorporated reports fail to provide specific information about where such treatments and road construction would occur, or would not occur, the agency cannot disclose the project's site-specific impacts, violating NEPA.

The Forest Service fails to explain where, when, and in what sequence and spatial relationship any of the roads will be constructed as well as the nature of those road segments (*i.e.*, length, etc.), and their juxtaposition, frankly admitting that: "it is unknown what temporary project roads would be in use at what time."[62] The Forest Service's approach makes it impossible for the agency to explain or disclose the site-specific impacts of any given road or *combination* of roads.

Because the Forest Service has neither identified nor surveyed the areas it intends to log, the agency cannot disclose the project's impacts with accuracy. For example, the EA asserts: "There are a total of 72 acres of potential treatment in the whitebark pine zone within the project area. Additional whitebark, if discovered during recon, may be treated in existing mapped units."[63] Thus, 72 acres may be logged in whitebark pine stands, or many more acres may be logged if the agency finds them. The agency simply doesn't know where it will be logging, and because it doesn't know the characteristics of the stands it will log, it can't disclose the site-specific impacts.

Further, at least one type of logging prescription – commercial thinning, which the project will authorize across 6,593 acres (or roughly 5,000 football fields) – is poorly and expansively defined, making it impossible to provide the public or the decisionmaker with an understanding of the prescription's impacts. The 2023 Final EA states:

> Thinning would reduce existing tree densities from current levels to a target residual density as shown in the Treatment Matrix (Appendix A), generally between 40 and 100 square feet of basal area per acre. Residual tree distribution is expected to be variable and include both even spacing and clumping.[64]

Because such treatments could be variable, it is unclear how the agency can disclose their impacts. There is a significant difference in biomass and trees left on the landscape (and the habitat, wildlife, scenic, and other values) when comparing an area with 40 square feet of basal area and one with a basal area 2.5 times that value. It's the difference between 50 trees 12 inches in diameter per acre and 125 such trees per acre. Further, there's a significance difference in terms of scenery, habitat security, and other values between an area with residual trees that are clumped together and those that are evenly spaced.

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[62] *Id.*

[63] *Id.* at 35 (citation omitted).

[64] 2023 Final EA at 8. Appendix A describes commercial thinning in certain habitats to involve "[r]educ[ing] stand densities to 40 to 100 square foot per acre of basal area or 20 to 25 foot spacing." *Id*. at 91. 92. 93. There is also a difference between a highly variable basal area standard and a variable spacing prescription, further making the nature and impacts of these treatments difficult if not impossible to understand.

The Forest Service's responds that "[a] range of residual stand densities as stated in the draft EA is not unusual,"[65] but that it is "not unusual" does not help the decision-maker or the public understand what values the forest will be left once commercial thinning is implemented. The agency further explains: "Fluctuation in natural stands, such as those in the project area, results from factors, such as (but not limited to) existing tree species, size classes, existing openings, and mortality."[66] While true, this again does not explain the character of the artificially-created stands the agency will leave after "thinning" in terms of any of these values. Nor does the prescription limit the Forest Service from thinning all stands down to the minimum of 40 square feet of basal area across all of the 11 square miles of the project the Forest will "treat." This prescription is so vaguely defined that without site-specific disclosure, the Forest Service cannot provide the hard look that NEPA requires.

We continue to agree with the comments of the Montana Department of Natural Resources and Conservation on the 2020 Draft EA that

> to understand the benefits, effectiveness, and impacts of the proposed treatments more details are needed about the size, location, and dispersal of treatments within targeted condition areas. The implementation information in the appendices [to the Draft EA] does not include enough detail to evaluate alternatives and support a decision.[67]

These comments are as relevant with respect to the 2023 Final EA as they were concerning the 2020 Draft EA. In response to the Department's comments, the Forest Service flatly refused to provide the requested information, saying that agency wouldn't know or disclose the size, location, or dispersal of treatments until after the project was approved, and the public eliminated from the process:

> The South Plateau Area Landscape Project is using a Condition-Based Management approach; therefore, the exact locations of treatments fuel breaks will be determined during the implementation phase of the project.[68]

While the Forest Service has carefully expunged the phrase "Condition-Based Management" from the 2023 Final EA, the approach is the virtually the same as that in the 2020 Draft EA. Because the 2023 Final EA fails to disclose site-specific impacts by identifying where, when, how, and how much, the agency proposes to log forest stands, the Forest Service violates NEPA.[69]

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[65] South Plateau Project Comment Consideration and Response (Mar. 2023) at 201.

[66] *Id*.

[67] Letter of H. Richards, Montana Dep't of Natural Resources and Conservation to J. Brey, U.S. Forest Service at 1-2 (Sep. 16, 2020), available in South Plateau project file.

[68] 2021 Final EA at 329.

[69] The Forest Service stated that it would address some concerns about the vague nature of the EA by stating: "A new map will be included in the Final EA to clarify the timing of implementation." South Plateau Project Comment Consideration and Response at 199. No such

One rational the Forest Service provides for postponing site-specific analysis and project design until after the NEPA process is complete is that "[a] landscape scale approach allows us to be more dynamic and respond to conditions on the ground over the implementation period," and "[t]he landscape scale approach, including design features and treatment matrix were developed … to account for varying conditions across the landscape."[70] This explanation lacks support and ignores CEQ and Forest Service regulations on at least two counts.

First, the Forest Service ignores that NEPA already is a flexible tool that permits agencies to supplement NEPA documents to address changed circumstances. Since at least 1978, NEPA regulations have explicitly provided that flexibility by authorizing agencies to change a project and/or to account for changed conditions via the use of supplemental NEPA analysis. *See* 40 C.F.R. 1502.9(c)(1) (2020); 40 C.F.R. 1502.9(c) (1978). Forest Service guidance incorporates and expands on the agency's duties and authorities to address new information, change circumstances, and adjustments to a project's actions, including when the analysis is contained in an EA. Forest Service Handbook 1909.15, Ch. 18. If years pass between NEPA completion and project implementation, the agency has the flexibility to take new conditions into account and to modify the project accordingly following supplemental analysis.

Second, NEPA also provides for a "phased" approach, wherein the agency can prepare a programmatic analysis followed by more concise, site-specific NEPA analysis when site-specific treatments are identified. Forest Service regulations also explicitly provide for "adaptive management." *See* 36 C.F.R. §§ 220.3, 220.5(e)(2). *See also* 73 Fed. Reg. 43,084, 43,090 (July 24, 2008) (preamble to 2008 rule adopting adaptive management provisions, stating that "[w]hen 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.").

The South Plateau Project, with its emphasis on "landscape" planning could also be considered a programmatic NEPA document. An agency may prepare a "programmatic" NEPA document broadly analyzing the cumulative effects of a program of work or set of connected actions, to which subsequent site-specific analyses may "tier." *Ventling v. Bergland*, 479 F. Supp. 174, 179 (D.S.D. 1979), aff'd, 615 F.2d 1365 (8th Cir. 1979); *Earth First v. Block*, 569 F. Supp. 415 (D. Or. 1983) (holding that the Forest Service erred by relying on a programmatic EIS that was deemed insufficient by the Ninth Circuit to prepare a subsequent EIS for the same Wilderness Area). Well-designed programmatic analysis can increase the efficiency in agency decision-making by deferring site-specific decisions for which site-specific information would be time consuming to obtain.[71] NEPA analysis works like a funnel, where the mouth is the full breadth of

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map appears in 2023 Final EA. The 2023 Final EA, at 12 (Figure 3), includes a map of "Priority Areas," but that designation does not indicate the timing of the sales.

[70] South Plateau Project Comment Consideration and Response (Mar. 2023) at 213, 197.

[71] *See, e.g.*, Memorandum from Michael Boots, Acting Director of Council on Env't Quality, to Heads of Fed. Dep'ts and Agencies, *Effective Use of Programmatic NEPA Reviews* (Dec. 18, 2014), available at https://obamawhitehouse.archives.gov/sites/default/files/docs/effective_use_of_programmatic_nepa_reviews_final_dec2014_searchable.pdf (last viewed May 1, 2023).

the agency's discretion and the spout is concrete, on-the-ground action. If an agency is starting from scratch every time, its site-specific analyses will be unwieldy and duplicative. Programmatic analysis, however, moves the agency partway down the funnel, putting sideboards on future actions and commensurately reducing the complexity of site-specific analysis.

This appears to be an apt description of the South Plateau Project's approach. But the Forest Service cannot rely on a programmatic NEPA analysis to disclose site-specific impacts; *step-down NEPA is required to address site-specific impacts*. If the agency were to retool the South Plateau Final EA as a programmatic analysis and commit to subsequent disclosure of site-specific actions and impacts, that might pass legal muster. But the Forest Service specifically rejects that approach.[72]

The agency's response to comments further argues that although the agency does not disclose what treatments or road construction will occur precisely where and when, none of the information matters for NEPA purposes because the agency can (illogically) predict that there can't possibly be significant impacts.[73] This is an argument for carte blanche management, not informed decision-making, particularly given the decade and a half project implementation may require.

The U.S. Environmental Protection Agency raised these precise concerns in its comment letter on the November 2020 EA:

> It appears the Forest is implementing a programmatic (vs. site-specific) approach and analysis that would authorize multiple non-commercial thinning, commercial logging, and prescribed fire projects without requiring future, site-specific project NEPA analyses. Given the lack of site-specific information and analysis, and potential for significant water quality, air quality and ecological impacts, it is unclear how the EA and FONSI will ensure significant impacts will be avoided

[72] South Plateau Project Comment Consideration and Response (Mar. 2023) at 195, 196 (rejecting programmatic approach). Further, for the South Plateau Project, the Forest Service provides no opportunities for public review when it delineates and defines future timber sales, just an annual update as to "what treatments or activities have been implemented, what treatments or activities are planned." 2023 Final EA at 90. The Custer Gallatin NF does not explain why it adopts one type of process for the South Otter Project, another self-described landscape-scale project on the Custer Gallatin NF (which at least provides for some public involvement after the decision notice), and a completely different one for the South Plateau Project with far less public involvement and disclosure. *See* South Otter Project 2023 EA, Appendix C, attached as Ex. 5. The Forest Service's creation of two different processes for landscape-scale projects underscores the arbitrary, ad hoc nature of the Forest Service's approach.

[73] *See* South Plateau Project Comment Consideration and Response (Mar. 2023) at 195 ("The project area, on the other hand is a relatively homogenous sea of lodgepole pine as described in the Forested Vegetation report, and the proposed actions are relatively routine. The potential effects are well understood through specialists' experience, expertise, and in the scientific literature.").

> for this project. We recommend the Forest develop this as a programmatic NEPA document that commits to tiered, site-specific NEPA analyses that provides opportunities for public involvement and comment on individual treatment projects.[74]
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> ….
>
> The Draft EA lacks site-specific information about existing conditions, analyses of impacts, and mitigation measures. Instead, the Forest proposes to use an implementation plan, treatment matrix, and design features to manage each individual treatment and logging area. Given this information, we were unable to evaluate the likelihood that significant effects will be avoided for the EA and FONSI. NEPA requires a "hard look" at potential environmental impacts of a proposed action and public disclosure of those impacts prior to implementation. The impacts associated with the proposed action will vary based on site-specific conditions including: vegetation community composition, soil-types, slopes, proximity to residences, proximity to aquatic resources, proximity to Class I airsheds, road construction needs, road maintenance status, volume and type of material burned, equipment used, volume of truck traffic, sensitive species habitat, etc., and those site-specific conditions are varied across the South Plateau landscape.
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> Although conditions vary throughout the planning area, and so impacts would be expected to vary as well, the Draft EA does not contain the actual locations of the timber sales and harvest units or where the temporary roads will be built and therefore it cannot disclose, analyze, or describe the localized impacts that can potentially occur. Individual treatment project design and impact assessment will occur post-FONSI, years after the public comment period on this Draft EA. This lack of site-specificity hampers informed decision-making as part of the NEPA process, and therefore meaningful public participation on the individual treatment projects, both important for understanding the potential for significant impacts and determining mechanisms for avoiding them.[75]

We agree.

We note that federal courts have set aside EAs where another federal agency raises questions about the EA's sufficiency to which the action agency fails to provide a convincing response. *See, e.g*., *Standing Rock Sioux Tribe v. U.S. Army Corps of Eng'rs*, 440 F. Supp. 3d 1, 13-17 (D.D.C. 2020) (holding agency failure to provide reasoned response to comments from agencies concerning the scope of impacts demonstrated sufficient controversy to require preparation of EIS), *aff'd in relevant part by* 985 F.3d 1032 (D.C. Cir. 2021); *Nat'l Parks Conservation Ass'n v. Semonite*, 916 F.3d 1075, 1085 (D.C. Cir. 2019) (finding agency violated NEPA by failing to

[74] Letter of M. McCoy, Manager, NEPA Branch, EPA Region 8 (Nov. 4, 2022) at 1, attached as Ex. 6.

[75] *Id*. at 3

prepare an EIS in light of criticism from other agencies). Here, the Forest Service effectively rejects without a rational basis EPA's questions and concerns about the lack of disclosure of site-specific impacts, and the Forest Service's failure to support its FONSI.

C. The Draft Layouts of Two Proposed Timber Sales Do Not Cure the Lack of Site-Specific Information that NEPA Requires Be Disclosed; Rather They Disclose that Impacts to Old Growth Forests May Be Significant.

The Forest Service's insistence that it can't (or won't) define the precise location, nature, and extent of road construction and tree removal is contradicted by the fact that the Forest Service has already begun to do so. While the Forest Service repeatedly states that it has not, and cannot, identify specific treatment areas, locations for roads, and the timing of actions until *after* the project is approved and public involvement is terminated, the agency apparently did just that by preliminarily laying out two timber sales, and preliminarily "delineat[ing]" a third. The agency provides maps showing the projected locations of clearcuts, other tree removal treatments, and temporary road construction for the first two sales, named Mosquito Gulch and Plateau.[76] The agency provides these maps to the public for the first time, at the Final EA stage. The Forest Service states that it has already engaged in "[f]ield testing the draft Design Features [which] resulted in revisions to improve resource protection while meeting the need for action."[77] Yet even with these field tested and mapped sales, the Forest Service states that the agency will not disclose the specific impacts of roads and logging at the identified locations because it admits that both sales may be modified: "Preliminary sale lay-outs may be modified in response to public comments or consultation with the US Fish and Wildlife Service."[78] Contracts for the two sales "could be awarded in the year the decision is signed, which is expected in 2023."[79]

The Forest Service's "layout" of these two sales, after "field testing" design features and revising the proposal, fails to cure the lack of site-specific analysis that NEPA requires.

For example, if the Forest Service has laid out these sales, and field-tested design features, the Forest Service could and should have disclosed the predicted site-specific impacts of these layouts, particularly given that the Forest Service *will finalize these sales and offer contracts with finalized, specific layouts in just a few months*. The agency failed to disclose the impacts, or what its "field-testing" showed, or how that testing resulted in revisions to the project. The Forest Service's continued insistence that it will not assess the layout of the sales, and will only lay out the sales *after* it has closed the NEPA process, is arbitrary and results in the agency

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[76] *See* 2023 Final EA at 11; Draft Layout for Mosquito Gulch and Plateau Timber Sales (Mar. 2023) at 1, attached as Ex. 7. The EA states that a "third sale area (Sale 3 "Hall Pass") has been preliminarily delineated in priority area 2 (the Plateau #1 bear management subunit)," 2023 Final EA at 11, but inexplicably fails to provide any documentation concerning that preliminary layout.

[77] Draft Layout for Mosquito Gulch and Plateau Timber Sales (Ex. 7) at 1; 2023 Final EA at 11.

[78] 2023 Final EA at 11.

[79] Draft Layout for Mosquito Gulch and Plateau Timber Sales (Ex. 7) at 1. *See also* 2023 Final EA at 11 ("Contracts for Sales 1 and 2 could be awarded in the year the decision is signed.").

leaping before looking, the opposite of NEPA's hard look. There is no rational basis for withholding that site-specific analysis now.

Further, the rationale that NEPA disclosure must await "field testing" of the timber sale layout is questionable given that the March 2023 "field tested" locations for temporary roads appear to match *exactly* the locations for temporary roads contained in the October 2022 Wildlife Report for the Project.[80] This means that the Forest Service could have predicted in its *October 2022 EA* the location of temporary roads throughout much of the project area, and disclosed the impacts of the roads and clearcut units which the roads access, yet the agency declined to do so.

But even lacking agency analysis, the layouts of the two sales demonstrates why disclosing these maps to the public during (not at the conclusion of) the NEPA process was necessary. Most importantly, the maps provided shows that the project will *involve bulldozing through old growth forest*, something that would have resulted in public calls for alternatives and better impact disclosure.

Specifically, the draft layout maps show that the Plateau Timber Sale would authorize constructing roughly 0.25 miles of temporary road construction connecting cutting units 8a and 13a *through old growth forest*.[81] Despite this proposal, the 2023 Final EA contains no mention of road construction through old growth stands, no analysis of such old growth destruction, nor does EA or the 2023 Draft Decision Notice explain how this road construction complies with the 2022 Custer Gallatin Forest Plan.

The Forest Plan directs that:

> To maintain habitat connectivity and minimize disturbance of old-growth associated wildlife, road construction (permanent or temporary) or other developments should be avoided in old growth (see glossary) unless access is needed to implement vegetation management activities and purposes as outlined in FW-GDL-VEGF-01 and there are no feasible alternative road locations.

FW-GDL-VEGF-02, Custer Gallatin Forest Plan (2022) at 39. Thus, temporary roads can be constructed through old growth forest only if the Forest Service demonstrates that the: (1) road access is needed to implement vegetation management activities and purposes; and (2) there are no feasible alternative road locations. Despite this clear mandate, neither the EA nor Draft Decision Notice explains how the exceptions to this guideline might apply; that is, the Forest Service does not explain why this specific road through old growth "is needed," and the Forest Service nowhere asserts or explains why "no feasible alternative road locations" exist.

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[80] Compare Draft Layout for Mosquito Gulch and Plateau Timber Sales (Ex. 7) (displaying temporary road segments) with R. Scarlett, South Plateau Landscape Area Treatment Project Wildlife Report (Oct. 4, 2022) at 146 (Figure 5) (displaying temporary roads in precisely the same locations), attached as Ex. 8.

[81] *See* Map from Draft Layout for Mosquito Gulch and Plateau Timber Sales (Mar. 2023), with added notations concerning road through old growth stand, attached as Ex. 9.

Further, a robust site-specific analysis would have disclosed this proposed road construction through old growth and would have allowed the public to request that the Forest Service *consider and adopt an alternative that would prohibit road construction through old growth stands*, and thus that would eliminate from the proposal logging in units 13a and 13b of the Plateau sale, which the temporary road through old growth would access. And the Forest Service could have analyzed such an alternative, weighing the impacts of old growth forest destruction against the need to treat those two specific stands. But because the agency doesn't undertake site-specific analysis, it fails to weigh these tradeoffs.

The Forest Service's record discussing impacts to old growth fails to disclose whether temporary road construction will carve through old growth stands. The Vegetation Effects Analysis states that "a decrease in the abundance, size, and distribution of stands with old growth characteristics within the project area is not expected" because of "project specific design features" and "[a]dherence to applicable [Forest Plan] Guidelines."[82] But this ignores that there are exceptions to the prohibition on road construction through old growth if the agency makes certain determinations. Further, the Vegetation Effects Analysis is painfully vague about whether such road construction will occur:

> As described in the Methodology section of this report, surveys for existing old growth stands will be conducted for every project prior to timber sale planning and implementation, and their locations will be shared with appropriate personnel to ensure potential treatments and associated transportation systems that affect old growth stands *can be adequately addressed*. By following this protocol, the Proposed Action is within compliance with parameters set forth in the Treatment Matrix, Design Features #24 and 27, and relevant components of the Land Management Plan (FW-DF-VEGF-09, FW-GDL-VEGF-01, FW-GDL-VEGF-02).[83]

But identifying the location of old growth and "adequately address[ing]" roads that may bulldoze through old growth does not protect old growth, or mitigate impacts to old growth, or even allow the public or the decision-maker to understand the scale of impacts to old growth. It could mean that hundreds of acres of old growth are destroyed for road building because the Forest Service determines, pursuant to the Plan, that the roads are "needed to implement vegetation management activities" and because "there are no feasible alternative road locations." Because the Forest Service leaves open the door to bulldozing through old growth, and in fact has proposed as much, it cannot assert either that it will protect old growth forest, or that it will avoid significant impacts, because complying with the Forest Plan may still result in significant old growth destruction. Thus, any FONSI would be arbitrary and capricious.

Nor will compliance with the even less-protective South Plateau proposed design features forestall old growth destruction or significant impacts. DF-27, which the Forest Service relies on, reads:

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[82] 2023 Forest Vegetation Analysis at 23.

[83] *Id*. at 23-24.

> Permanent or temporary road construction and other developments should be avoided in old growth stands to maintain habitat connectivity and minimize disturbance of old growth associated wildlife. Exceptions may be allowed in old growth lodgepole pine forests.[84]

The Forest Service doesn't explain why it is apparently waiving a Forest Plan guideline by allowing road construction through old growth lodgepole stands without following the Forest Plan direction that such construction be allowed only if "there are no feasible alternative road locations." Further, because the vast majority of the project is made up of lodgepole stands, the DF-27 "exception" effectively swallows the rule, potentially covering all old growth in the Project area. Yet even that is unknown, because the agency failed to undertake a site-specific analysis describing the nature and location of old growth within the project area.

The one fact about old growth the agency reveals is that the agency identified only 689 acres of it within the nearly 40,000-acre project area, meaning old growth constitutes less than 2% of the project area's forested landscape.[85] Thus the temporary road proposed in the draft layout of the Plateau timber sale will bulldoze through one of the very few existing old growth stands.

The potential for bulldozing through old growth also threatens to contradict the President's direction that the Forest Service must conserve old growth, not destroy it to build roads. *See* Executive Order 14072. The South Plateau Vegetation Report alleges that the project's *logging treatments* within old growth may be necessary "to increase stand resiliency in the event of wildfire," but road construction through old growth is not designed for that purpose. Bulldozing roads through old growth to treat other forest stands violates the plain meaning and intent of the Executive Order.

> <u>*Suggested Remedy*</u>. The Custer Gallatin NF should either prepare a new environmental analysis that discloses the project's site-specific impacts, or confirm that the South Plateau 2023 Final EA is a programmatic analysis that will bar any activities implementing the project until the Forest Service completes a subsequent, site-specific NEPA analysis informed by additional public comment.
>
> Further, the Forest Service should adopt a design feature that *prohibits* the construction of temporary roads through old growth forest. Alternatively, the Forest Service should prepare a subsequent, site-specific environmental impact statement that discloses the location and extent of bulldozing of roads through old growth forest, and considers and analyzes in detail an alternative that *prohibits* the construction of temporary roads through old growth forest stands, or provides a detailed explanation why it cannot analyze in detail such an alternative.

[84] *Id*. at 51.

[85] *Id*. at 12.

III. THE SOUTH PLATEAU PROJECT FAILS TO COMPLY WITH PLAN STANDARDS AND THE EA FAILS TO DISCLOSE THE PROJECT'S IMPACTS ON GRIZZLIES.[86]

The South Plateau Project lies within the Madison #2, Henry's #2, and Plateau #1 Bear Management Unit subunits.[87] The entire project area provides suitable habitat for and is well-used by grizzly bears, including grizzly bears of both sexes and all age classes in all seasons.[88] The Forest Service admits that the project may have negative impacts on grizzly bears, including that it may: reduce denning habitat; reduce secure habitat; reduce thermal, resting and security cover for bears; cause a temporary increase in total motorized access route density ("TMARD"); permanently increase open motorized access route density ("OMARD"); and increase the risk in displacement and mortality, largely due to an increase in roads and associated human presence.[89]

As discussed in comments submitted by Dr. David J. Mattson on previous iterations of this project, included with these comments and which we incorporate by reference, the Forest Service fails to adequately analyze project impacts on grizzly bears.[90] Specifically, the Forest Service fails to adequately address impacts to habitat security, grizzly bear foods, and cumulative impacts of climate change and human activity in regards to grizzly bear foods, habitat and habitat security, and fails to address science indicating the South Plateau area is a population sink. We request that the Forest Service respond directly to each of the points in Dr. Mattson's letter.

A. The Project Does Not Comply with Forest Plan Standards for Grizzly Bear.

In implementing the South Plateau Project, the Forest Service must comply with the National Forest Management Act ("NFMA") and its implementing regulations. NFMA requires the Forest Service to ensure that site-specific management projects are consistent with the applicable forest plan.[91] Thus, the Forest Service must ensure that all aspects of the proposed action comply with the recently revised Custer Gallatin National Forest Land Management Plan ("Forest Plan").

The 2022 Forest Plan contains standards regarding how forest management activities may impact grizzly bears and grizzly bear habitat. For example, the Forest Plan provides that the "[t]otal acreage of secure habitat below baseline values within a given bear management unit shall not exceed 1 percent of the acreage in the largest subunit within that bear management unit."[92] The

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[86] The Center raised this issue in our November 5, 2022 comments on the 2022 Revised EA. *See* 2022 Center Comment Letter (Ex. 2) at 16-23.

[87] 2023 Wildlife Report at 24.

[88] 2023 Wildlife Report at 25.

[89] 2023Wildlife Report at 22-23, 29.

[90] D.J. Mattson, Comments on South Plateau Area Landscape Treatment (SPLAT) project Draft Environmental Assessment Custer Gallatin National Forest, Hebgen Lake Ranger District, August 2020 (September 16, 2020), incorporated by reference and attached as Ex. 10.

[91] 16 U.S.C. § 1604(i).

[92] 2022 Custer Gallatin Forest Plan at 62 (Plan standard FW-STD-WLGB 03(b)).

Forest Service contends that the project complies with this standard because it will not implement all project activities at the same time. The agency further states that it will comply with this standard by coordinating with adjacent National Forests and taking one of several options laid out, determining which option it will follow at some later date in time.[93]

As written, the 2023 Final EA provides no substantial evidence by which the public can determine whether the Forest Service's approval of the South Plateau Project would comply with this Forest Plan mandatory standard. For instance, the EA states that the "exact locations of temporary roads are not yet known."[94] Without knowing the *location* of temporary roads, the Forest Service is unable to understand the Project's impact on secure grizzly bear habitat and is therefore unable to demonstrate compliance with this and other Forest Plan standards.[95] Thus, as the approval of this Project must be set aside as arbitrary and capricious.

The 2022 Forest Plan also provides the following standard:

> New temporary roads shall be limited to administrative purposes associated with project activities. Project implementation shall not reduce secure habitat below baseline levels for more than 4 consecutive years. The collective set of project roads that affect secure habitat below baseline levels shall be closed to all motorized travel after 3 years. Project roads shall be decommissioned such that secure habitat is restored within 1 year after road closure.[96]

The Forest Service states that "[a]ll temporary project roads that would impact secure habitat below baseline in the Henry's Lake #2 and Madison #2 Subunits would be in compliance with this standard."[97] However, the Wildlife Report on which the 2023 Final EA relies admits that "it is unknown what temporary project roads would be in use at what time," and alleges that if all temporary roads were constructed and used at the same time, the total motorized access route density—one measure for determining impacts to grizzly bears—would temporarily be 3.4% above the baseline level from 2021 in the Plateau #1 Subunit.[98] The Forest Service must disclose where the temporary roads will be built and discuss how the temporary roads will impact grizzly bear security in order to demonstrate compliance with the Forest Plan.[99]

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[93] 2023 Wildlife Report at 40-42.

[94] 2023 Final EA at 10.

[95] Including Standard FW-STD-WLGB 01 and FW-STD-WLGB 03.

[96] 2022 Custer Gallatin Forest Plan at 63 (Plan standard FW-STD-WLGB 03(c)).

[97] 2023 Wildlife Report at 42.

[98] 2023 Wildlife Report at 42.

[99] The Wildlife Report does contain a map displaying "impacts to grizzly bear Secure Habitat under the Proposed Action," including the location of "temporary project roads." 2023 Wildlife Report at 156 (Figure 8). It shows that the proposal will result in roads constructed in virtually every large polygon of grizzly bear Secure Habitat within the project area.

Contrary to best available science and the Memorandum of Understanding regarding implementation of the Grizzly Bear Conservation Strategy, the Forest Plan arbitrarily fails to provide standards related to OMARD and TMARD. However, according to the 2023 Wildlife Report, at Table 14, vegetative treatments will raise TMARD levels by 5.7% above the existing (2021) baseline in the Henry's Lake #2 Subunit, by 0.5% above baseline in the Madison #2 Subunit, and by 3.4% above the 2021 baseline in the Plateau #1 Subunit.[100] Contradictorily, the Wildlife Report states that:

> Given that TMARD values are dependent on the densities of roads open to motorized use, and it is unknown what temporary project roads would be in use at what time, the worst case scenario (representing TMARD values if all temporary roads were constructed and used at the same time) is shown in Table 14. TMARD would increase from 0.5% to 5.7% in the affected Subunits under this worst case scenario. This would not be the case in the Henry's Lake #2 Subunit, as Design Features (#12) would limit the temporary impact to secure habitat below baseline to one percent of the acreage of the largest Subunit in the Bear Management Unit. As either treatment (and associated temporary project roads) would be dropped, or treatment and temporary road construction/use would be done in stages impacts to TMARD are expected to less than displayed in Table 14.[101]

The Forest Service essentially shows that the TMARD in the Henry's Lake #2 Subunit could increase by 5.7% from 2021 levels depending on how the project is implemented, then says because that would violate the law, the public can rest assured the Forest Service will be mindful of the law during implementation. This is precisely why NEPA requires the Forest Service to disclose the site-specific direct, indirect, and cumulative impacts of an action *before* project approval. Finally, the 2023 Final EA not only fails to provide substantial evidence that temporary project roads in the Plateau #1 Subunit would comply with this Forest Plan standard, but never even asserts anticipated compliance. This fails to comply with NFMA and NEPA.

The Forest Plan also requires the following:

> Inside the recovery zone/primary conservation area, management actions shall not reduce the percent of secure habitat in each bear management subunit below 1998 baseline levels. For subunits identified in the 2007 Conservation Strategy as needing improvement above 1998 levels (Gallatin #3, Henrys Lake #2, and Madison #2), management actions shall not reduce the percent of secure habitat below levels attained from full implementation of the 2006 Gallatin National Forest Travel Management Plan. See glossary: baseline levels for grizzly bears, and plan appendix F for secure habitat values. Management actions that result in temporary or permanent reduction of secure habitat below the applicable baseline

[100] 2023 Wildlife Report at 43.

[101] 2023 Wildlife Report at 42.

> are allowed so long as they follow the application rules listed in standards FW-STD-WLGB 02 and 03 below.[102]

Rather than accurately assessing the precise area of secure habitat for grizzly bears, the Forest Service instead estimates secure habitat by using the "footprint" methodology.[103] This methodology is contrary to best available science and information and does not accurately consider the impacts of illegal road use known to exist on the Forest. Under the "footprint" methodology, the Forest Service alters the 1998 baseline and calculates less secure habitat than it did in the past. This means that the Forest Service can reduce secure habitat below the 1998 baseline.[104]

The Wildlife Report discloses that the Plateau #1 subunit will fall below 1998 baseline conditions (68.8%) during Project implementation but "would return to the existing condition at the project completion when temporary project roads are effectively decommissioned."[105] The Forest Service fails to demonstrate that the secure habitat would return to at least 68.8% secure habitat.

Because Henry's Lake #2 and Madison #2 were identified as in need of improvement, the Forest Plan states that these subunits must be maintained at or above secure habitat levels at full implementation of the 2006 Gallatin National Forest Travel Management Plan.[106] However, the EA fails to explain how the Project will increase secure habitat to meet be able to attain secure habitat at full travel plan implementation. The Forest Service fails to disclose what the Henry's Lake #2 and Madison #2 secure habitat percentage is now and fails to show how it will increase secure core to meet secure habitat at full implementation of the travel management plan. Moreover, because these subunits were identified as "in need of improvement," projects such as the South Plateau Project that contemplate 56.8 miles of temporary roads should not be on the table.

The Forest Plan also provides that "[o]nly one project affecting secure habitat below baseline values may be active within a given bear management subunit at any one time."[107] The Forest Service violates this standard. The 2023 Wildlife Report notes that a portion of the South Plateau Project and a portion of the North Hebgen project both lie within the Madison #2 Subunit.[108] The Forest Service assures the public that:

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[102] 2022 Custer Gallatin Forest Plan at 62 (Plan standard FW-STD-WLGB 01).

[103] 2023 Wildlife Report at 31.

[104] 2022 Custer Gallatin Forest Plan Biological Assessment at 112. We also object to the use of the 1998 baseline because it is outdated, contrary to best available information, limited in geographic scope and does not address all threats to grizzly bears. *See* following section.

[105] 2023 Wildlife Report at 40.

[106] 2022 Custer Gallatin Forest Plan at 62 (Plan standard FW-STD-WLGB 01).

[107] 2022 Custer Gallatin Forest Plan at 63 (Plan standard FW-STD-WLGB 03(a)).

[108] 2023 Wildlife Report at 40.

> Vegetative treatment activities in the Madison #2 subunit in the North Hebgen Project are largely complete as of this report. Some clean-up work and road decommissioning remain to be completed for the 2023 season. Activities on this project will be coordinated to ensure that impacts to secure habitat below baseline on the North Hebgen Project are complete and temporary roads affecting secure effectively decommissioned prior to implementing any South Plateau activities that would affect secure habitat below baseline in the Madison #2 Subunit.[109]

But with no specifics as to when and where the South Plateau Project will be implemented, it is impossible for the public to determine whether and how the Forest Service will comply with this standard. Commenters previously noted that the North Hebgen project was approved in 2017 and scheduled to be implemented over an 8-12 year period, while the South Plateau Project may be implemented over a 15-year period.[110] Moreover, the North Hebgen project reduced the Madison #2 BMU below baseline levels.[111] Thus, without substantial evidence, the Forest Service cannot rationally assume project implementation of the South Plateau and the North Hebgen projects in the Madison #2 Subunit will not overlap and will not result in a violation of the Forest Plan Standard. This is particularly true when the Forest Service has itself conceded that it does not know when and where the South Plateau treatments will occur.

In response to commenters raising this concern previously, the Forest Service asserted that "[t]he commenter is assuming that all activities that are proposed are occurring in secure habitat and that secure habitat would be temporarily reduced below the baseline for the life of the project."[112] This is not true. But it is true that neither the public nor the Forest Service can predict what proposed activities will occur in secure habitat because the Forest Service provides no site-specific information on the project. The Forest Service goes on to state that "[c]onceivably, the projects may overlap spatially (within the same Subunit) for up to 8 years (up to 4 years for each project, non-concurrently), but activities affecting secure habitat below the baseline would have no temporal overlap."[113] However, the Forest Service is required to analyze the effects of the *entire* action on the human environment which includes cumulative impacts in addition to direct and indirect impacts. Thus, aside from the Forest Service's "trust us, we will comply" approach and the vague repetition of legal requirements in Appendix B, the 2023 Final EA and the 2023 Wildlife Report on which it relies lacks analysis in this regard and contain nothing to support the agency's assertion that the project will in fact comply with the requisite Forest Plan standard.

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[109] 2023 Wildlife Report at 41.

[110] *See* comments of Center for Biological Diversity and WildEarth Guardians (Sep. 15, 2020) at 27-28 (in South Plateau project file).

[111] *See* Custer Gallatin National Forest, North Hebgen Multiple Resource Project Final Environmental Assessment (June 2017) at 70, attached as Ex. 11.

[112] 2021 Final EA at 333.

[113] *Id.*

B. The Forest Service Fails to Take a Hard Look at Impacts to Grizzly Bears, Violating NEPA.

As noted above, the 2023 Final EA admits that the South Plateau Project is likely to negatively impact grizzly bears in and around the project area. However, the Forest Service fails to take a hard look at numerous impacts from this project on grizzly bears and grizzly bear habitat.

First, the Forest Service's fails to acknowledge and analyze the project area as an important connectivity corridor, and in particular, fails to disclose and address the importance of the Henry's Lake area as a connectivity corridor for grizzly bears and other wildlife, violating NEPA's hard look requirements.[114] The Henry's Lake area provides a clear connection to the Centennials and into the Selway-Bitterroot Recovery Zone from the Greater Yellowstone Ecosystem. Numerous scientific reports confirm the long-standing importance of the Henry's Fork corridor, and the Forest Service's failure to review or acknowledge such reports demonstrates its failure to take a hard look at the project's impacts.[115] The fact that the Forest Service manages these lands and fails to consider the area as an important migration corridor for grizzly bears and other wildlife reflects a failure to address relevant scientific data, and data that conflicts with the Forest Service's analysis. The agency fails to take the hard look required by NEPA as to the South Plateau Project's impacts on this important connectivity corridor.

Second, the EA fails to disclose how increasing route densities above the current on-the-ground baseline will impact grizzly bears and grizzly bear habitat. The Ninth Circuit has recognized that "[e]stablishing appropriate baseline conditions is critical to any NEPA analysis." *Great Basin Res. Watch v. Bureau of Land Mgmt.*, 844 F.3d 1095, 1101 (9th Cir. 2016). Indeed, "[w]ithout 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." *Id.* (quoting *Half Moon Bay Fishermans' Mktg. Ass'n v. Carlucci*, 857 F.2d 505, 510 (9th Cir. 1988). Here, the 2023 Wildlife Report discloses the 2021 condition but provides no analysis as to the impacts of increasing route densities above the 2021 conditions. Further, the Forest Service provides no discussion on how it determined what constitutes the environmental baseline for road density and habitat security in the BMUs impacted by the project. For example, the Forest Service does not explain whether it included undetermined or

[114] *See generally* 2023 Wildlife Report at 39-52.

[115] *See* Carroll, Carlos, Reed F. Noss & Paul C. Paquet. 2001. Carnivores as Focal Species for Conservation Planning in the Rocky Mountains. Ecological Applications 11(4): 961-980, attached as Ex. 12; Carroll, Carlos, Reed F. Noss, Paul C. Paquet & Nathan H. Schumaker. 2003. Use of Population Viability Analysis and Reserve Selection Algorithms in Regional Conservation Plans. Ecological Applications 13(6): 1773-1789, attached as Ex. 13; Merrill, Troy & David Mattson. 2003. The Extent and Location of Habitat Biophysically Suitable for Grizzly Bears in the Yellowstone Region. Ursus 14(2): 171-187, attached as Ex. 14; Schwartz, Charles C., Mark A. Haroldson & Gary C. White. 2010. Hazards Affecting Grizzly Bear Survival in the Greater Yellowstone Ecosystem. Journal of Wildlife Management 74(4): 654-667, attached as Ex. 15; Walker, Richard & Lance Craighead. 1997. Analyzing Wildlife Movement Corridors in Montana Using GIS, attached as Ex. 16.

unauthorized roads in its baseline calculations. This does not comply with NEPA's hard-look mandate.

Additionally, the Forest Service does not clarify whether road closures during and especially after project implementation will be effective to prevent illegal motorized use. While the Forest Service plans to use gates, barricades, or earthen barriers to close temporary roads during project implementation, it appears that after project implementation the agency plans to solely recounter the roads and seed the areas, though of course it may take years for those seeds to germinate and properly cover the roads in vegetation. In fact, the Forest Service entirely fails to discuss how illegal road use impacts grizzly bears and how that impacts the calculation of secure habitat in the Project area. It is difficult for the public to understand the potential impacts of the temporary roads because without the required site-specific information, the public has no information as to where the roads will be and whether they will remain on the landscape for years to come.

The Forest Service also fails to disclose the extent to which road obliteration in the project area will effectively prevent unauthorized vehicle use of roads constructed for the project. Off-road vehicles become more powerful and prevalent in the last few decades, and Forest Service resources to monitor and police such use has not kept pace. On other forests in the area, such as the Kootenai National Forest, the Center is aware that route closures and obliteration have failed to prevent unauthorized vehicle use, and Forest Service efforts to correct such abuses and protect grizzly habitat from such disruption have been intermittent and, in many cases, ineffective. The 2023 Final EA fails to address the fact that its mitigation measures to protect bears from the disruption due to motorized use will not be 100% effective. Any subsequently prepared NEPA document must address this issue.

In response to our comments in this regard, the Forest Service indicates that road closure effectiveness ranged from 88% on relatively flat terrain to 97% in the North Hebgen Project area, and that the agency expects similar effectiveness for roads constructed for the South Plateau Project.[116] This is an admission that the Forest Service knows that closures are likely to fail, and could fail for as many as 1 of every 8 temporary roads, thus leading to widespread harm to secure grizzly habitat. Maps in the Wildlife Report show that dozens of temporary roads will likely be constructed throughout the project area, including dozens of roads within or impacting secure grizzly habitat.[117] Yet there is no evidence that the Forest Service disclosed, analyzed, or otherwise accounted for the impacts of these expected closure failures. This violates NEPA, and will likely lead to violations of the ESA. The U.S. District Court for the District of Montana recently enjoined a logging project on the Kootenai National Forest for failing to account for the impacts on grizzlies caused by illegal road use, and by vehicles evading closures.[118] The court

[116] South Plateau Project Comment Consideration and Response (2023) at 180 ("Monitoring completed for the neighboring North Hebgen Multiple Resource Project found that closure effectiveness ranged from 88% on relatively flat terrain to 97% in more mountainous terrain (Lamont 2015 and Lamont 2016). Similar closure effectiveness is anticipated for the SPLAT project area.").

[117] Wildlife Report at 153 (Figure 5).

[118] *See Center for Biological Diversity v. Forest Service*, 023 U.S. Dist. LEXIS 71235, 22-cv-91-M-DLC (D. Mont. Apr. 24, 2023), attached as Ex. 17.

held that it did not matter that the Forest Service closed roads before the end of the next bear year (as both the Kootenai NF and Custer Gallatin NF Forest Plans require); the fact that illegal road use was likely to occur required federal agencies must account for it.[119] Here, the Custer Gallatin has done precisely what the court found was likely arbitrary and capricious on the Kootenai National Forest. The Custer Gallatin's failure to account for such impacts is more troubling, given that the volume of general motor vehicle use of the South Plateau area (and thus the opportunity for illegal use) is almost certainly higher than that in the remote Kootenai NF.

Further, the Forest Service is aware of more effective mitigation measures for decommissioning roads to reduce the amount of illegal traffic. However, the Forest Service specifically declined to adopt a measure that would include "recontouring or complet[ely] removing the road template within the first 500 ft of any road at the entrance or interaction with an open road or trail." [120]

Moreover, the Forest Service fails to adequately analyze the impacts of roads, including construction of temporary roads, on grizzly bears. The IGBST annual reports disclose that a primary cause of grizzly bear death in the Greater Yellowstone Ecosystem is hunting conflicts. The Wildlife Report concedes that "[s]ome old logging roads continue to be used for non-motorized access by hunters and other recreationists, despite their being closed for motor vehicle travel, and increased access can impact grizzly bears by increasing risk of mortality due to negative encounters."[121] The Forest Service further concedes that "[u]se of decommissioned temporary project roads by hunters would continue to result in an unknown increase in mortality risk for some period into the future."[122] However, the Forest Service fails to consider whether the Project implementation of up to 56.8 miles of new temporary roads will impact grizzly bears in violation of NEPA.

In response, the Forest Service contends that "[t]he effects analysis related to temporay [sic] road effects to secure habitat and potential effects related to post-implementation non-motorized use of these temporary roads is provided on pages 39-44 of the wildlife report."[123] This is incorrect. The analysis at those pages addresses road density standards and disturbance from project implementation; it does not address the impacts to grizzlies from hunters accessing the temporary roads by foot or horse after project implementation.[124] The Forest Service failure to address these impacts violates NEPA.

Finally, the Forest Service's conclusion that the project's impacts on grizzly bears will not be significant is not supported by the record. The 2023 Final EA acknowledges that the project is likely to negatively impact grizzly bears, because it will cause, among other things: a reduction in denning habitat; a reduction in secure habitat, including the "fact that secure habitat would be

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[119] *Id*.

[120] South Plateau Project Comment Consideration and Response (2023) at 179.

[121] 2023 Wildlife Report at 50.

[122] 2023 Wildlife Report at 52.

[123] South Plateau Project Comment Consideration and Response (2023) at 141.

[124] 2023 Wildlife Report at 39-44.

temporarily reduced below the already degraded secure habitat baseline in the Madison #2 and Henry's Lake #2 Subunits;" a reduction in thermal, resting and security cover for bears; a temporary increase in TMARD; a permanent increase in OMARD; and an increased risk in displacement and mortality, largely due to an increase in roads and associated human presence.[125] The Forest Service concludes that for these and other reasons, the project is "likely to adversely affect" grizzly bears.[126]

The Custer Gallatin National Forest must provide substantial evidence, based on site-specific analysis, to demonstrate that the Project complies with all relevant Forest Plan standards. The Forest Service's failure to complete additional NEPA analysis in an EIS and to take a hard look at the project's impacts on grizzly bears, including its impact on connectivity corridors, the effectiveness of route closures, and the cumulative effects of the South Plateau Project together with the North Hebgen project, violated NEPA.

C. The Forest Service Fails to Take a Hard Look at the Cumulative Impacts of the Project on Grizzly Bears and other Wildlife.

The Forest Service has a duty to disclose the project's direct, indirect and cumulative impacts to wildlife. The Forest Service acknowledges at least three other projects occurring shortly before or during the projected implementation of the South Plateau Project, but fails to include analysis disclosing the impacts of the South Plateau Project together with the others.

The Final EA acknowledges, but does little to disclose the combined impacts of, the North Hebgen project when taken together with the South Plateau Project, as noted above. In addition, the EA mentions generally that "Other projects in [grizzly bear] Subunits on the Custer Gallatin and adjacent Caribou Targhee National Forests may temporarily reduce grizzly bear security, but the one at a time and 1% rules (Design Features #11 and 12) would serve as thresholds to prevent significant effects from this project alone or in combination with other projects."[127]

The Forest Service has also failed to adequately analyze the cumulative impacts of the South Plateau Project together with the North Hebgen project, which will overlap in some areas. The Forest Service's apparent response is to state that the Hebgen Lake Ranger District "will be coordinat[ing]" with adjacent Forest Service units to ensure that activities within these units are consistent with Forest Plan standards and ESA obligations.[128] This is not a cumulative impacts analysis; NEPA requires more to satisfy its hard-look standard. For example, the Forest Service should consider how road density, grizzly displacement, and mortality may be impacted by the North Hebgen project on top of the South Plateau Project. The Forest Service should consider

[125] 2023 Wildlife Report at 29 (logging has potential to reduce "thermal, resting, and security cover for bears"); *id*. at 44 ("increased human presence in the project area increases the potential for conflicts between humans and grizzly bears"); *id*. at 56 (project will reduce denning and secure habitat).

[126] 2023 Wildlife Report at 56.

[127] 2023 Final EA at 66.

[128] 2023 Wildlife Report at 41.

how the removal of cover and increase in road mileage from both projects together may cumulatively impact bear suitable habitat, including foraging, bedding, and denning habitat. Additionally, the Forest service must discuss cumulative impacts to all wildlife species impacted by the project and the North Hebgen project. The mere fact of coordination with another Ranger District does not apprise the public of these projects' cumulative impacts. The Forest Service's cumulative impact analysis is inadequate and fails to discuss relevant information and disclose impacts to the public and thus does not satisfy NEPA.

The 2023 Final EA provides little information other than the names of the projects on the Caribou Targhee National Forest, noting that the "future Black Mountain salvage project on the Caribou Targhee National Forest overlap[s] the Madison #2 and Henry's Lake #2 Subunits and add[s] to temporary displacement of ungulates."[129] This project was approved in 2019,[130] so it is unclear to what extent it remains a "future" project; neither the South Plateau EA nor supporting documents indicate when and how it has been or will be implemented.

Similarly, the 2022 Revised EA notes that "[t]he Yale Creek Project (Caribou Targhee National Forest) also lies within the Henry's Mountain Bear Management Units. Only one project may reduce secure habitat below baseline in a unit at a time."[131] The Yale Creek project was approved in 2017,[132] but again neither the South Plateau EA nor supporting documents indicate when and how it has been or will be implemented.

Aside from a few passing references to the Black Mountain project in the 2022 Wildlife Report, the Forest Service does little to address the potential impacts of the Caribou Targhee National Forest projects when taken together with the South Plateau Project, other than to allege that the impacts would be spread out over time.[133] And even that impact is not addressed. For if all of these projects together are spread out over time, secure habitat for grizzlies will be reduced likely for two decades. The impacts of continually forcing grizzlies to flee one section of the subunit for other to escape the noise and human presence of logging is nowhere disclosed.

The Forest Service also fails to address whether the proposed Rendezvous Nordic Ski Area Improvements will have cumulative impacts together with the South Plateau Project, given that the ski area project is meant to serve, and facilitate, increasing numbers of recreations, increased summer uses, including mountain biking. Trail and lighting construction may also impact wildlife.[134] We note that the South Plateau Project boundary nearly completely surrounds, but

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[129] 2023 Final EA at 69.

[130] Caribou Targhee National Forest, Decision Notice, Black Mountain Blowdown (May 20, 2019), attached as Ex. 18, and available at https://www.fs.usda.gov/project/?project=55373.

[131] 2023 Final EA at 97 (Appendix B).

[132] Caribou Targhee National Forest, Decision Notice, Yale Creek Fuels Reduction Project (Oct. 13, 2017), attached as Ex. 19, available at https://www.fs.usda.gov/project/?project=48761.

[133] 2023 Wildlife Report at 48-50 (scattered references to Black Mountain).

[134] Custer Gallatin NF, Rendezvous Nordic Ski Area Improvements Scoping Document (April 2023), attached as Ex. 20.

omits, the Rendezvous Ski Area.[135] Yet the 2023 Final EA includes several measures designed to address the cumulative effects of the South Plateau Project and the ski area, admitting the potential for, and need to address, such impacts.[136]

> *Suggested Remedy*: The Custer Gallatin NF should prepare an EIS that analyzes and discloses all reasonably foreseeable project impacts to grizzly bears, including but not limited to the impacts of foreseeable road closure failures, estimated to be as high as 12%.

IV. THE FOREST SERVICE FAILED TO APPLY BEST AVAILABLE SCIENCE WHEN MANAGING GRIZZLY BEARS IN THE PROJECT AREA.

The Forest Service has a duty to utilize best available science when managing grizzly bears within the South Plateau Project area.[137] In 1998, the Interagency Grizzly Bear Task Force recommended that the Cabinet-Yaak, Northern Continental Divide, Selkirk, and Yellowstone grizzly bear ecosystems implement three basic parameters—concerning: 1) open motorized route density; 2) total motorized route density; and 3) core area—as the foundation for access management for grizzly bears. The Interagency Grizzly Bear Committee also recommended that each subcommittee prepare a supplement to "document and provide rationale as to how the taskforce report recommendation are being applied according to ecosystem-specific information." Schwartz *et al*. (2010) also found that for grizzly bears in the Greater Yellowstone Ecosystem, "[t]he most important predictors of survival in our best model were the amount of secure habitat within a bear's home range *and* road densities outside of secure habitat."[138]

Because the South Plateau Project tiers to, and relies upon, the 2022 Custer Gallatin Forest Plan, it fails to incorporate the best available science. For example, the 2022 Forest Plan does not provide standards for open and total motorized route density and core areas that adequately protect grizzly bears. Instead, the Forest Plan only limits reduction of secure habitat from 1998 baseline levels (1998 Baseline).[139] The 1998 Baseline and its application to the Custer Gallatin is based on the Conservation Strategy for the Grizzly Bear in the Greater Yellowstone Ecosystem

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[135] 2023 Final EA at 2 (Figure 1).

[136] 2023 Final EA at 46 ("Seasonal operating restrictions (Design Feature 72 [sic, should be 73]) were incorporated to ensure that project activities will not affect winter recreation. Design features also include specific consideration for the … Rendezvous Ski Area."); B. Thompson, South Plateau: Recreation Effects Analysis (Jan. 2023) at 10 ("The project area contains world class snowmobiling opportunities and is adjacent to a world class Nordic ski area (Rendezvous Ski Area). If timber harvest and hauling were implemented in the winter, or if roads and trails were plowed in the spring and fall, then project activities would directly negatively affect winter recreation opportunities").

[137] The Center raised issues concerning grizzlies and best science in our November 5, 2022 comments on the 2022 Revised EA. *See* 2022 Center Comment Letter (Ex. 2) at 16-23.

[138] *See* Schwartz *et al*., Hazards Affecting Grizzly Bear Survival in the Greater Yellowstone Ecosystem (2010) (Ex. 15).

[139] *See* 2022 Custer Gallatin Forest Plan at 62 (Plan standard FW-STD-WLGB 01).

which was developed in anticipation of a delisted population. The1998 Baseline of secure habitat is thus not based on the best available science and is outdated. The best available science requires the utilization of standards for open and total motorized route density and core areas to manage grizzly bears in the Greater Yellowstone Ecosystem. By relying on the 1998 Baseline for secure habitat, the Forest Service will violate its duty to ensure that the South Plateau Project will not jeopardize the continued existence of grizzly bears.

As discussed in Dr. David J. Mattson's objection to the Custer Gallatin Forest Plan Revision, included with these comments and incorporated by reference, the 2022 Forest Plan disregards science, substitutes monitoring for standards, and conflates the recovery criteria with standards.[140] As Dr. Mattson states, there have been significant changes in grizzly bear habitat since 1998 which have substantial implications for grizzly bears on the Forest.

Dr. Mattson raises additional important issues that apply to the 2022 Forest plan, and its application to the South Plateau Project. To summarize, the 2022 Forest Plan provides indefensibly small thresholds for "secure" habitat for grizzly bears, lacks substantive standards and guidance for limiting road density, does not adequately address the primary underlying cause of grizzly bear mortality (which is roads and human use of roads), does not address the impact of non-motorized human activities, and fails to protect grizzly bears outside the Primary Conservation Area.

As Dr. Mattson demonstrates, the 2022 Custer Gallatin Forest Plan violates NFMA regulations which requires the use of "the best available scientific information to inform the planning process . . . for . . . developing, amending, or revising a plan."[141] By relying on that Plan, the South Plateau Project violates NFMA and NEPA.

> *Suggested Remedy*: The Custer Gallatin NF should prepare an EIS that responds to each of the issues raised in Dr. Mattson's objection to the Custer Gallatin Forest Plan because they relate specifically to whether the Forest Service can rely on outdated assumptions and can fail to rely on the best available science in approving the project.

V. THE FOREST FAILS TO COMPLY WITH THE FOREST PLAN AND NEPA REGARDING LYNX.[142]

The South Plateau Project lies entirely with the South Madison Lynx Analysis Unit (LAU) which is 39,944 acres in size.[143] Logging, burning and roadbuilding will occur in this LAU and in

[140] *See* D. Mattson, Custer Gallatin Land Management Plan Revision Objection (Sep. 4, 2020), attached as Ex. 21.

[141] 36 C.F.R. § 219.3; *Native Ecosystems Council v. Erickson*, 330 F.Supp.3d 1218 (D. Mont. 2018).

[142] The Center raised this in our November 5, 2022 comments on the 2022 Revised EA. *See* 2022 Center Comment Letter (Ex. 2) at 25-28.

[143] 2023 Wildlife Report at 58.

occupied lynx habitat and will render a significant portion of currently stable lynx habitat unsuitable and unusable. The project "is likely to adversely affect lynx."[144]

The current best available science indicates that lynx winter foraging habitat is critical to lynx persistence, and that this habitat should be abundant and well-distributed across lynx habitat.[145] Existing openings such as clearcuts not yet recovered are likely to be avoided by lynx in the winter.[146] Winter is the most constraining season for lynx in terms of resource use; starvation mortality has been found to be the most common during winter and early spring.[147] Prey availability for lynx is highest in the summer.[148]

Squires et al. (2013) noted in their research report that some lynx avoided crossing highways; in their report, they noted that only 12 of 44 radio-tagged lynx with home ranges including 2- lane highways crossed them.[149] Openings, whether small in uneven-aged management, or large with clearcutting, remove lynx winter travel habitat on those affected acres, since lynx avoid openings in the winter.[150] Squires et al., 2010 reported noted that in heavily managed landscapes, retention and recruitment of lynx habitat should be a priority.

The best available science since the adoption of the Northern Rockies Lynx Management Direction shows that the lynx population in Montana is declining;[151] that lynx in Montana are at a threshold for viability due to low hare densities, and that even a small decline in hare densities may render an area unsuitable for lynx persistence.

The Forest Service failed to adequately consider direct, indirect, and cumulative declines in hare habitat from South Plateau Project logging, burning, and road building activities and failed to accurately map hare habitat. Thus, the agency failed to accurately portray project impacts to hare habitat and lynx habitat. Additionally, the proposed project will increase lynx habitat fragmentation. Since lynx will generally not cross openings, and possibly thinned forests in the winter, the project will exacerbate habitat fragmentation. The agency did not adequately discuss why logging and prescribed fire will not affect lynx and lynx habitat. Nor did the agency discuss the project's effects on fragmentation along ridgelines, areas known to be important travel

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[144] 2023 Final EA at 63.

[145] *See* J.R. Squires et al., Seasonal Resource Selection of Canada Lynx in Managed Forests of the Northern Rocky Mountains, Jl. of Wildlife Management, 74(8):1648-1660. 2010. Attached as Ex. 22.

[146] *Id*. at 1655.

[147] *Id*. at 1656.

[148] J.R. Squires et al, Combining resource selection and movement behavior to predict corridors for Canada lynx at their southern range periphery, Biological Conservation, 157 (2013) 187-195, at 193. Attached as Ex. 23.

[149] *Id.* at 194.

[150] Squires et al. (2010) (Ex. 22) at 1655.

[151] *See* K. Weintraub, Lynx Numbers Are in Decline in the West, New York Times (Apr. 8, 2020), attached as Ex. 24.

corridors for lynx, in its lynx discussion. To the extent that the agencies rely on the Lynx Amendment without considering the most current, best available science, the agencies are in violation of NFMA as well as NEPA.

The 2022 Custer Gallatin Forest Plan incorporates the Northern Rockies Lynx Management Direction (NRLMD) as standard FW-STD-WLLX-01.[152] The standards set forth in the NRLMD apply to "occupied" lynx habitat. Additionally, the Lynx Amendment limits or prohibits logging depending on what structural stage the lynx habitat is in. Four standards were included in the NRLMD to ensure that forest vegetation management practices led to accomplishment of those objectives. These four standards have an exemption for fuel treatment projects in the "wildland urban interface (WUI) as defined by HFRA."[153]

HFRA defines the "wildland-urban interface," in relevant part, as an area "within or adjacent to" a community that is an "at-risk community that is identified in . . . a community wildlife protection plan."[154] An "at-risk community" is, in turn, defined by HFRA, in relevant part, as an area that is comprised of either (i) an "interface community" as defined by 66 Fed. Reg. 753 or (ii) "a group of homes and other structures with basic infrastructure and services (such as utilities and collectively maintained transportation routes) within or adjacent to Federal land."[155]

Here, however, the Forest Service exclusively relies on the Gallatin County Community Wildfire Protection Plan (CWPP) which the Forest Service asserted in October 2022 was "currently being updated."[156] The Forest Service has expunged this reference to the ongoing update without explanation.[157] First, the Gallatin County CWPP's define WUI in the project area is inconsistent with HFRA's definition, contrary to the NRLMD, and thus in violation of NFMA. Second, according to the 2022 Revised EA, the Gallatin County CWPP is yet to be completed and the public is unable to understand and comment on the applicability of the CWPP to the project and the Forest, in violation of NEPA. By utilizing the CWPP, the Forest Service inappropriately allows for a significant proportion of the project area to be exempted from compliance with the NRLMD. If the project were to use the correct definition of WUI, the project could not proceed. The failure to comply with logging restrictions outside the WUI violates NFMA. For instance, the project will allow harvest within multistory stands in the LAU, which is prohibited by Standard VEG S6 of the NRLMD, on a significant number of acres. The precise number of acres is not disclosed by the Forest Service (in violation of NEPA). The failure to adequately address this issue in the 2023 Final EA and failure to demonstrate compliance with the Lynx Amendment violates NEPA.

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[152] 2022 Custer Gallatin Forest Plan at 57, and Appendix G.

[153] NMRLD Standard VEG S1.

[154] 16 U.S.C. § 6511(16).

[155] 16 U.S.C. § 6511(1).

[156] 2022 Wildlife Report at 62.

[157] South Plateau Project Comment Consideration and Response (2023) at 51 (noting comment re: "currently being revised" but failing to respond.

The Forest Service maintains that the South Madison LAU is "well below the 30% maximum for Early Stand Initiation structure habitat" as required by NRLMD Standard VEG S1.[158] However, the Forest Service arbitrarily categorized the acreage of forest in "stand initiation structure (provides winter forage)" as well as "multistory structure" and utilized methods that do not comply with the NRLMD and best available science. For example, the Forest Service determined that stands older than 40 years do not provide habitat. As a result, the Forest Service misclassifies the majority of lynx habitat as "Other (does not provide forage)" which allows the Forest Service to evade standards meant to protect lynx habitat and thus to authorize a significant amount of logging in lynx habitat.[159] In fact, the Forest Service concedes that "up to 20% of the mapped 'other' structure stands . . . supports adequate horizontal cover for snowshoe hare foraging."[160] By misclassifying the project area's structural stages, the Forest Service evades compliance with the majority of the NRLMD standards.

Regarding cutting units outside the WUI, the Forest Service states that, even though the project will authorize harvest of units in lynx habitat outside WUI, they will conduct surveys at a later date but before actual harvest to "ensure that no multistory habitat" would be treated.[161] This violates NEPA because the Forest Service is required to disclose the specific nature of the project and its potential impacts to the environment to the public *prior* to its decision. By failing to conduct surveys and measurements of lynx habitat outside the WUI or disclosing where harvest will occur outside the WUI *prior* to making its decision, the public and the decisions makers are unable to understand the actual impacts to lynx.

The project, as analyzed in the 2023 Final EA, will result in a violation of NRLMD standard VEG S1 (which requires that less than 30% of the lynx habitat in an LAU be in stand initiation structural stage) and VEG S2 (which limits regeneration to less than 15% of lynx habitat) as well as all other VEG standards. For example, the Forest Service concedes that over 37% of the lynx habitat in the South Madison LAU will be in stand initiation structure following the South Plateau Project's implementation. The Forest Service states:

> sideboards, design features, and other requirements will reduce the amount of treatment when the project is put through these filters and laid out on the ground. It is expected that the actual acres of Multistory and Other stands post-implementation would be greater than displayed in Table 24 once sideboards and other requirements are applied to the current stand pool (i.e. less treatment in these structure types).[162]

However, the Forest Service must disclose what the project will authorize and the effects of the project prior to making its decision. Authorizing the action alterative, as proposed in the Draft

[158] 2023 Wildlife Report at 68.

[159] 2023 Wildlife Report at 68.

[160] 2023 Wildlife Report at 69.

[161] 2023 Wildlife Report at 69-70.

[162] 2023 Wildlife Report at 73-74.

Decision Notice, will violate the NRLMD. Authorizing logging in lynx habitat that has yet to be analyzed and disclosed to the public violates NEPA.

Finally, the Forest Service fails to analyze and disclose the cumulative impacts to lynx and lynx connectivity that will result from past, current, and reasonably foreseeable future actions. For example, the Forest Service does not analyze the cumulative impacts of the North Hebgen project and this project on lynx connectivity. The Forest Service must consider impacts to lynx outside the South Madison LAU because lynx are not bound by LAU boundaries and are known to travel long distances.

> *Suggested Remedy*: The Custer Gallatin NF should prepare an EIS that takes a hard look at the impacts to lynx, and addresses the inadequate analysis described above.

VI. THE EA FAILS TO DISCLOSE IMPACTS TO MARTEN.[163]

The 2021 Final EA predicted potentially significant impacts to pine marten habitat – the degradation of *40% of martin habitat in the project area* – due to the "3,175 acres of regeneration harvest [AKA, clearcuts] proposed in suitable marten habitat."[164] The 2021 Final EA asserted that impacts to marten habitat will be reduced because:

> sideboards and design measures would limit the total acreage of regeneration harvest that could occur in the project area (4,600 acre limit in lynx habitat, whereas 7,737 acres are identified as regeneration harvest in lynx habitat)…. As approximately 41% of regeneration harvest in lynx habitat would drop to meet NRLMD [North Rockies Lynx Management Direction] Standard VEG S2, effects to marten habitat would also be *expected* to decrease *to some degree, perhaps* proportional to this reduction."[165]

This "analysis," assuming impacts to marten would decline due to the application of sideboards, was not based on any site-specific review of where logging would occur, and so is mere speculation. It is also possible that because 4,600 acres of clearcuts permissible under lynx management direction could occur, that acreage could encompass all, or the vast majority, of the 3,175 acres of suitable marten habitat, resulting in the maximum destruction of marten habitat. When confronted with the possibility that the project could destroy 40% of martin habitat in the project area, the Forest Service did not disagree.[166]

More than 900 acres of clearcuts *outside* lynx habitat, with no sideboards, could result in even more impacts to marten habitat, as could thinning and road construction.[167] This demonstrates

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[163] The Center raised this issue in our November 5, 2022 comments on the 2022 Revised EA. *See* 2022 Center Comment Letter (Ex. 2) at 28.

[164] 2021 Final EA at 158.

[165] 2021 Final EA at 158 (emphasis added).

[166] South Plateau Project Comment Consideration and Response (2023) at 145.

[167] "Clearcut harvest is proposed on a maximum of 5,551 acres in the project; any acres over 4,600 could not be harvested in lynx habitat," 2023 Final EA at 64, and thus could be logged

why NEPA's mandate that agencies disclose *site-specific* impacts is so critical, and why the 2023 Final EA violates NEPA.

The Forest Service reviewed impact to marten in the 2021 Final EA because marten was a management indicator species.[168] The 2023 Final EA declined to mention or address impacts to marten because the 2022 Custer Gallatin Forest Plan was amended to eliminate procedural and substantive safeguards to management indicator species. Because marten was not designated as a species of conservation concern under the 2022 Forest Plan, the Forest Service takes the position that any level of impacts to marten can be ignored.[169] This is false. While across the Custer Gallatin NF, there may be "no major threats to populations or habitats,"[170] the South Plateau Project represents a major threat to both habitats and population in the project area for decades, according to the 2021 Final EA.[171] Because impacts to marten within the project area may be significant, the Forest Service had a duty to disclose them. Because it failed to do so, the Forest Service violated NEPA.

> *Suggested Remedy*: The Custer Gallatin NF should prepare an EIS that analyzes, discloses, and take a hard look at the impacts to marten, and addresses the inadequate analysis described above.

VII. THE FINAL EA FAILS TO DISCLOSE THE PROJECTS ON BIRDS.[172]

The 2023 Wildlife Report lists seven migratory bird species on the U.S. Fish and Wildlife Service's list of "Birds of Conservation Concern" as being present in the project area and/or having potential habitat present in the proposed "treatment" areas.[173] Nine Montana Species of Concern are documented as being present and/or having potential habitat in the project area slated for logging or other management activities.[174]

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elsewhere. The 2021 Final EA, at 157-58, noted that pine marten "[h]abitat quality would be reduced to some degree on suitable habitat acres affected by other [non-clearcut] treatment types," and concluded that the project could degrade *more than half* of suitable pine marten habitat in the project area. *See id*. at 159 (Table 62).

[168] 2021 Final EA at 123.

[169] *See* South Plateau Project Comment Consideration and Response (2023) at 115; *see also id*. at 174 (dismissing any impacts to marten because marten is "not [a] federally listed species").

[170] South Plateau Project Comment Consideration and Response (2023) at 115 (quoting Regional Forester's rationale for not designating marten a species of conservation concern).

[171] In responses to comments, the Forest Service dismisses any impacts to marten as "[s]hort term and temporary effects to habitat and local populations," though this conclusion is utterly unsupported because the agency concluded it need not analyze impacts to marten at all. South Plateau Project Comment Consideration and Response (2023) at 115, 120, 145.

[172] Sierra Club raised these issues in its comment (dated Nov. 4, 2022) on the 2022 Revised EA,

[173] 2023 Wildlife Report at 127.

[174] *Id*. at 128-29.

The Forest Service assumes that all migratory birds considered would have ample habitat to flee disturbance associated with the project: "While activities would occur over a number of years, they will not occur over the entire project area at once; displaced birds would be able to find nesting or foraging habitat in the vicinity,"[175] or that impacts would be minor (such as for evening grosbeak, great gray owl). In the case of northern goshawk, effects would be considered "negative" as 30% of the species' existing nesting habitat in the project area would be affected and prey habitat – particularly for red squirrel – would be impacted by the proposed action's logging activities.[176] Yet, it "is expected that goshawk would be able to access sufficient food to persist in the project area following implementation."[177] But the Forest Service does not explain on what its expectations are based. Without detailed site-specific analysis of where, when, and what type of "treatment" would be proposed, it is impossible for the public to discern the fate of goshawks or other species in the project area.

Project activities during the breeding season could result in the destruction of occupied nests, thereby causing egg/nestling mortality. Disturbance during nesting season could cause parents to flee/abandon the site, causing reproductive failure. Although birds may move as a result of the disturbance caused by project activities, other sites may be less suitable in terms of perch sites, foraging habitat, security and other important habitat components.[178] The Forest Service notes that ground conditions in the project area would likely make mechanical harvest unlikely until May; however, most migratory bird offspring don't fledge until July, so there is ample time for serious disturbance of migratory birds through project activities.

In regard to disturbance, the Forest Service asserts that migratory birds in the area have already adjusted to myriad disturbance factors, including subdivisions, commercial activity, roads, motorized use, dispersed recreation and other factors. On the horizon is the West Yellowstone To Reas Pass Rail to Trail Project; together with the effects of the South Plateau project, cumulative effects are expected to increase by only a "minor" degree.

But at some point, all the added causes of disturbance are so great that the species could abandon the area permanently, or be forced to use sub-optimal habitat, resulting in a reduction in abundance. The Forest Service assumes that one disturbance after another can be piled on top of each other, with only minor or no adverse effects to wildlife. There is a threshold, and just because those quantitative thresholds have not been established in the Custer Gallatin Forest Plan – as the Wildlife Report notes over and over again in seemingly every section – does not mean that a threshold doesn't exist for disturbance. Unfortunately, that only becomes clear after it's too late and the species permanently abandons an area or declines further. Yet the public is expected to trust that that won't happen, and accept yet another large logging and road-building project based on questionable purpose and need assumptions and extremely liberal designation of the WUI.

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[175] *Id*. at 132.

[176] *Id*. at 133.

[177] *Id*. at 133.

[178] *Id*. at 134.

In regard to any raptor nests (other than goshawk) discovered during "recon," the 2023 Final EA states that only the nest tree may be retained – any other protections such as spatial buffering or timing *may be* prescribed, but is not guaranteed: "Further protection will be prescribed by the Wildlife Biologist and may include spatial buffering and/or timing restrictions."[179] The wildlife biologist may prescribe no other measures ever. The Forest Service cannot rely on this vague, discretionary measure to provide any additional protection to nesting birds, and must assume that all such nests will be abandoned, because preserving the nest tree is simply not enough. The Forest Service failed to incorporate additional protections to ensure that more than the nest tree is preserved; for example, how will nest trees in clearcuts survive windstorms? We've all seen the lone tree in the middle of a clearcut that is supposedly there to allow birds to nest but that subsequently blows down and obliterates the nest, with major impacts to the nesting birds and their eggs/offspring.

> *Suggested Remedy*: The Custer Gallatin NF should prepare an EIS that analyzes, discloses, and take a hard look at the impacts to birds, and addresses the inadequate analysis described above.

VIII. THE FINAL EA FAILS TO DISCLOSE THE PROJECT'S IMPACTS ON CLIMATE POLLUTION.[180]

A. The Climate Crisis

The climate crisis is the overriding environmental issue of our time, threatening to drastically modify ecosystems, alter coastlines, worsen extreme weather events, degrade public health, and cause massive human displacement and suffering. Its impacts are already being felt in the United States, and recent studies confirm that time is running out to forestall the catastrophic damage that will result from 1.5 degrees Celsius of warming.[181] Studies have confirmed that climate change is accelerating, making the need to protect carbon stores even more urgent than it was just a few years ago.[182] Climate change is impacting Montana. A 2017 assessment found that temperatures in Montana had risen between 2.0-3.0°F (1.1-1.7°C), and concluded that:

> Montana is projected to continue to warm in all geographic locations, seasons, and under all emission scenarios throughout the 21st century. By mid-century, Montana temperatures are projected to increase by approximately 4.5-6.0°F (2.5-3.3°C) depending on the emission scenario. By the end-of-century, Montana

[179] 2023 Final EA at 100.

[180] The Center raised this issue in our November 5, 2022 comments on the 2022 Revised EA. *See* 2022 Center Comment Letter (Ex. 2) at 29-42, and in supplemental comments submitted in February 2023.

[181] *See* IPCC, Summary for Policymakers, Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways (2018), attached as Ex. 25.

[182] *See, e.g.*, H. Fountain, Climate Change Is Accelerating, Bringing World 'Dangerously Close' to Irreversible Change, The New York Times (Dec. 4, 2019), attached as Ex. 26.

> temperatures are projected to increase 5.6-9.8°F (3.1-5.4°C) depending on the emission scenario. These state-level changes are larger than the average changes projected globally and nationally.[183]

Information concerning climate change, especially guidance and policy from this administration reinforce the need for measuring, and acting to reduce, climate pollution.

B. President Biden Requires Prompt Action to Assess and Reduce Climate Pollution.

On the day he was inaugurated, President Biden committed to overturning the prior administration's failure to address, and its outright denial of, the climate emergency.

> It is, therefore, the policy of my Administration to listen to the science; to improve public health and protect our environment; to ensure access to clean air and water; to limit exposure to dangerous chemicals and pesticides; to hold polluters accountable, including those who disproportionately harm communities of color and low-income communities; *to reduce greenhouse gas emissions; to bolster resilience to the impacts of climate change*; to restore and expand our national treasures and monuments; and to prioritize both environmental justice and the creation of the well-paying union jobs necessary to deliver on these goals.
>
> To that end, this order directs *all executive departments and agencies* (agencies) to immediately review and, as appropriate and consistent with applicable law, take action to address the promulgation of Federal regulations and other actions during the last 4 years that conflict with these important national objectives, and *to immediately commence work to confront the climate crisis.*[184]

Days later, President Biden further committed to taking swift action to address the climate crisis. Per Executive Order 14,008, he has recognized that "[t]he United States and the world face a profound climate crisis. We have a narrow moment to pursue action at home and abroad in order to avoid the most catastrophic impacts of that crisis and to seize the opportunity that tackling climate change presents."[185] President Biden announced that under his administration,

> The Federal Government must drive *assessment, disclosure, and mitigation* of climate pollution and climate-related risks in every sector of our economy, marshaling the creativity, courage, and capital necessary to make our Nation

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[183] Whitlock C., Cross W., Maxwell B., Silverman N., Wade A.A. 2017. Executive Summary. Montana Climate Assessment. Bozeman and Missoula MT: Montana State University and University of Montana, Montana Institute on Ecosystems. doi:10.15788/m2ww8w. At pp. 8-9. Available at http://montanaclimate.org/sites/default/files/thumbnails/image/2017-Montana-Climate-Assessment-Executive-Summary-lr.pdf, and attached as Ex. 27.

[184] Executive Order 13,990, 86 Fed. Reg. 7037 (Jan. 20, 2021) at Sec. 1 (emphasis added), attached as Ex. 28.

[185] Executive Order 14,008, 86 Fed. Reg. 7619 (Jan. 27, 2021), attached as Ex. 29.

> resilient in the face of this threat. Together, we must combat the climate crisis with bold, progressive action that combines the full capacity of the Federal Government with efforts from every corner of our Nation, every level of government, and every sector of our economy.[186]

Addressing the need for the accurate assessment of climate costs, President Biden announced on day one that "[i]t is *essential* that agencies capture the full costs of greenhouse gas emissions as accurately as possible, including by taking global damages into account."[187] He noted that an effective way to undertake this essential task was to use the social cost of carbon to quantify and disclose the effects of additional climate pollution:

> The "social cost of carbon" (SCC), "social cost of nitrous oxide" (SCN), and "social cost of methane" (SCM) are estimates of the monetized damages associated with incremental increases in greenhouse gas emissions. They are intended to include changes in net agricultural productivity, human health, property damage from increased flood risk, and the value of ecosystem services. An accurate social cost is essential for agencies to accurately determine the social benefits of reducing greenhouse gas emissions when conducting cost-benefit analyses of regulatory *and other actions*.[188]

The President also re-established the Interagency Working Group on the Social Cost of Greenhouse Gases, and directed the Secretary of Agriculture to serve on it.[189] The President directed the Working Group to publish interim values for the social cost of greenhouse gases (including carbon) by February 19, 2021.[190] The Working Group that month set that price at $51/ton of CO2 equivalent at a 3% discount rate.[191] We note that the U.S. Department of Agriculture, the Forest Service's parent agency, is part of the Interagency Working Group and participated in, and endorsed, the update to the social cost of carbon.[192] Two U.S. courts of appeals have rejected challenges to the Interagency Working Group's social cost metric.[193]

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[186] *Id*. at 7622 (Sec. 201) (emphasis added).

[187] Executive Order 13,990 (Ex. 28), 86 Fed. Reg. at 7040, Sec. 5(a) (emphasis added).

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

[189] *Id*., Sec. 5(b).

[190] *Id*., Sec. 5(b)(ii)(A).

[191] Interagency Working Group on Social Cost of Greenhouse Gases, Technical Support Document: Social Cost of Carbon, Methane, and Nitrous Oxide Interim Estimates under Executive Order 13990 (Feb. 2021), available at https://www.whitehouse.gov/wp-content/uploads/2021/02/TechnicalSupportDocument_SocialCostofCarbonMethaneNitrousOxide.pdf (last viewed Nov. 5, 2022) and attached as Ex. 30.

[192] *Id*. at cover page, 14.

[193] *See Missouri v. Biden,* 2022 U.S. App. LEXIS 29324 (8th Cir. Oct. 21, 2022) (rejecting challenge to social cost of greenhouse gases metric because state plaintiffs lacked standing); *State of Louisiana v. Biden*, 2023 U.S. App. LEXIS 8149 (5th Cir. Apr. 5, 2023) (same).

C. NEPA Requires the Forest Service to Disclose the Climate Impacts of Proposed Actions.

The Forest Service must analyze the direct, indirect, and cumulative impacts of a proposed action. *Colo. Envtl. Coal. v. Dombeck*, 185 F.3d 1162, 1176 (10th Cir. 1999); *see also* 40 C.F.R. § 1508.25(c) (1978) (when determining the scope of an EIS, agencies "shall consider" direct, indirect, and cumulative impacts). NEPA and NFMA require the Forest Service to use high quality, accurate, scientific information to assess the effects of a proposed action on the environment. *See* 40 C.F.R. § 1500.1(b) (1978); 36 C.F.R. § 219.3.

NEPA requires agencies to undertake meaningful consideration of greenhouse gas emissions (GHGs) and carbon sequestration (carbon storage). *Ctr. for Biological Diversity v. Nat'l Highway Traffic Safety Admin*., 538 F.3d 1172, 1217 (9th Cir. 2008). As the Ninth Circuit has held, in the context of fuel economy standard rules:

> The impact of greenhouse gas emissions on climate change is precisely the kind of cumulative impacts analysis that NEPA requires agencies to conduct. Any given rule setting a CAFE standard might have an "individually minor" effect on the environment, but these rules are "collectively significant actions taking place over a period of time."

Id., 538 F.3d at 1216 (quoting 40 C.F.R. § 1508.7 (1978)). *See also WildEarth Guardians v. BLM*, 870 F.3d 1222, 1237 (10th Cir. 2017) (failure to disclose climate impacts of various alternatives "defeated NEPA's purpose"). Courts have held that a "general discussion of the effects of global climate change" does not satisfy NEPA's hard-look requirement. *High Country Conservation Advocates v. U.S. Forest Serv.*, 52 F. Supp. 3d 1174, 1189-90 (D. Colo. 2014).

Further, courts have ruled that federal agencies must consider indirect GHG emissions resulting from agency policy, regulatory, and fossil fuel leasing decisions. For example, agencies cannot ignore the indirect air quality and climate change impact of decisions that would open up access to coal reserves. *See Mid States Coal. For Progress v. Surface Transp. Bd*., 345 F.3d 520, 532, 550 (8th Cir. 2003); *High Country Conservation Advocates*, 52 F. Supp. 3d at 1197-98; *Montana Environmental Information Center v. U.S. Office of Surface Mining*, 274 F. Supp. 3d 1074 (D. Mont. 2017), *amended in part, adhered to in part*, 2017 WL 5047901 (D. Mont. 2017). A NEPA analysis that does not adequately consider the indirect effects of a proposed action, including climate emissions, violates NEPA. *Ctr. for Biological Diversity v. Bernhardt*, 982 F.3d 723, 2020 U.S. App. LEXIS 38033, *20 (9th Cir. 2020). The disclosure of merely the volume of GHG emissions is insufficient; agencies must also disclose the impacts of those emissions. *Utah Physicians For A Healthy Env't v. United States BLM*, 2021 U.S. Dist. LEXIS 57756 (D. Utah Mar. 24, 2021).

NEPA requires "reasonable forecasting," which includes the consideration of "reasonably foreseeable future actions … even if they are not specific proposals." *N. Plains Res. Council, Inc. v. Surface Transp. Bd.*, 668 F.3d 1067, 1079 (9th Cir. 2011) (citation omitted). That an agency cannot "accurately" calculate the total emissions expected from full development is not a rational basis for cutting off its analysis. "Because speculation is ... implicit in NEPA," agencies may not "shirk their responsibilities under NEPA by labeling any and all discussion of future

environmental effects as crystal ball inquiry." *Id*. (citations omitted). The D.C. Circuit has echoed this sentiment, rejecting the argument that it is "impossible to know exactly what quantity of greenhouse gases will be emitted" and concluding that "agencies may sometimes need to make educated assumptions about an uncertain future" in order to comply with NEPA's reasonable forecasting requirement. *Sierra Club v. Federal Energy Regulatory Commission*, 863 F.3d 1357, 1373-74 (D.C. Cir. 2017).

The 2016 final CEQ *Guidance on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in NEPA Review* provides useful direction on the issue of federal agency review of greenhouse gas emissions as foreseeable direct and indirect effects of a proposed action.[194] The CEQ guidance provides clear direction for agencies to conduct a lifecycle greenhouse gas analysis that quantifies GHG emissions and storage because the modeling and tools to conduct this type of analysis are available:

> If the direct and indirect GHG emissions can be quantified based on available information, including reasonable projections and assumptions, agencies should consider and disclose the reasonably foreseeable direct and indirect emissions when analyzing the direct and indirect effects of the proposed action. Agencies should disclose the information and any assumptions used in the analysis and explain any uncertainties. To compare a project's estimated direct and indirect emissions with GHG emissions from the no-action alternative, agencies should draw on existing, timely, objective, and authoritative analyses, such as those by the Energy Information Administration, the Federal Energy Management Program, or Office of Fossil Energy of the Department of Energy. In the absence of such analyses, agencies should use other available information.[195]

The guidance further specifies that estimating GHG emissions is appropriate and necessary for actions including federal logging projects like the South Plateau Project.

> In addressing biogenic GHG emissions, resource management agencies should include a comparison of estimated net GHG emissions and carbon stock changes that are projected to occur with and without implementation of proposed land or resource management actions. This analysis should take into account the GHG emissions, carbon sequestration potential, and the changes in carbon stocks that are relevant to decision making in light of the proposed actions and timeframes under consideration.[196]

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[194] Notice available at 81 Fed. Reg. 51,866 (Aug. 5, 2016); full guidance attached as Ex. 31, and available at https://ceq.doe.gov/docs/ceq-regulations-and-guidance/nepa_final_ghg_guidance.pdf (last viewed Nov. 5, 2022).

[195] *Id*. at 16 (citations omitted).

[196] *Id*. at 26 (citations omitted).

The guidance shows that CEQ expects that agencies will perform such analysis not only at a programmatic or plan level, but at the level of an individual project (such as an individual prescribed burn) as well.

> Biogenic GHG emissions and carbon stocks from some land or resource management activities, such as a prescribed burn of a forest or grassland conducted to limit loss of ecosystem function through wildfires or insect infestations, may result in short-term GHG emissions and loss of stored carbon, while in the longer term a restored, healthy ecosystem may provide long-term carbon sequestration. Therefore, the short- and long-term effects should be described in comparison to the no action alternative in the NEPA review.[197]

Although the Trump administration withdrew the 2016 CEQ guidance, President Biden on January 20, 2021 rescinded that Trump Executive Order, and directed CEQ to "review, revise, and update" its 2016 climate guidance.[198] On February 19, 2021, CEQ effectively reinstated the 2016 GHG guidance:

> CEQ will address in a separate notice its review of and any appropriate revisions and updates to the 2016 GHG Guidance. In the interim, agencies should consider all available tools and resources in assessing GHG emissions and climate change effects of their proposed actions, including, as appropriate and relevant, the 2016 GHG Guidance.[199]

In January 2023, the Council on Environmental Quality issued interim guidance on the evaluation of climate change in National Environmental Policy (NEPA) documents.[200] The 2023 CEQ Climate Guidance underscores the importance of a robust analysis of a project's climate pollution impacts, given the accelerating climate crisis:

> Given the urgency of the climate crisis and NEPA's important role in providing critical information to decision makers and the public, NEPA reviews should quantify proposed actions' GHG [greenhouse gas] emissions, place GHG emissions in appropriate context and disclose relevant GHG emissions and

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[197] *Id*. at 18.

[198] Executive Order 13,990 (Ex. 28), Sec. 7(e), 86 Fed. Reg. at 7042.

[199] Council on Environmental Quality, National Environmental Policy Act, Guidance on Consideration of Greenhouse Gas Emissions, 86 Fed. Reg. 10,252 (Feb. 19, 2021), attached as Ex. 32, and available at https://www.govinfo.gov/content/pkg/FR-2021-02-19/pdf/2021-03355.pdf (last viewed May 1, 2022).

[200] Council on Environmental Quality, National Environmental Policy Act Guidance on Consideration of Greenhouse Gas Emissions and Climate Change, 88 Fed. Reg. 1196 (Jan. 9, 2023) ("2023 CEQ Climate Guidance"), attached at Ex. 33.

relevant climate impacts, and identify alternatives and mitigation measures to avoid or reduce GHG emissions.[201]

2023 CEQ Climate Guidance, 88 Fed. Reg. at 1197.

The Guidance directs agencies to:

- "quantify a proposed action's projected GHG emissions or reductions for the expected lifetime of the action, considering available data and GHG quantification tools that are suitable for the proposed action."[202]

    - In quantifying such emissions, agencies "generally should quantify *all* reasonably foreseeable emissions associated with a proposed action and reasonable alternatives (as well as the no-action alternative). Quantification should include the reasonably foreseeable direct and indirect GHG emissions of their proposed actions."[203] "Indirect effects generally include reasonably foreseeable emissions related to a proposed action that are upstream or downstream of the activity resulting from the proposed action."[204]

- quantify a project's gross and net, and short-term and long-term, carbon pollution and storage. "As part of the NEPA documents they prepare, agencies should quantify the reasonably foreseeable gross GHG emissions increases and gross GHG emission reductions for the proposed action, no action alternative, and any reasonable alternatives over their projected lifetime, using reasonably available information and data."[205]

    - In other words, in comparing the no action to the action alternative, agencies may not simply assert that a proposed action will increase carbon releases somewhat but will likely lead to carbon storage later. The agency must disclose and quantify both the short-term carbon pollution increases and the longer-term carbon storage (if any).

    - CEQ makes clear that agencies should disclose *gross* carbon pollution increases and decreases when it emphasizes that "[a]gencies *also* should quantify proposed actions' total *net* GHG emissions or reductions (both by pollutant and by total CO2-equivalent emissions) relative to baseline conditions."[206]

    - CEQ also recommends that agencies address the impacts on climate pollution and carbon stores at *varying time scales, both short- and long-term*. "Agencies should

[201] 2023 CEQ Climate Guidance (Ex. 33), 88 Fed. Reg. at 1197.

[202] *Id*., 88 Fed. Reg. at 1198.

[203] *Id*., 88 Fed. Reg. at 1204 (emphasis added).

[204] *Id*.

[205] *Id*., 88 Fed. Reg. at 1201 (footnote omitted).

[206] *Id*., 88 Fed. Reg. at 1201 (footnote omitted) (emphasis added).

describe both short- and long-term effects in comparison to the no action alternative in NEPA reviews and clearly explain the net effect of their actions even if precision regarding the timing of short- and long-term effects is not possible."[207]

- assess site-specific data. Agencies must address the climate pollution and storage impacts of project-specific vegetation removal projects, "such as prescribed burning, timber stand improvements, fuel load reductions, and scheduled harvesting."[208]

    - In a section dedicated to "biogenic" emissions, the Guidance details how agencies should address the impacts of projects that will remove trees that store carbon:

        In the land and resource management context, how a proposed action and reasonable alternatives (as well as the no-action alternative) affects a net carbon sink or source will depend on multiple factors such as the local or regional climate and environment, the *distribution of carbon across carbon pools in the action area*, ongoing activities and trends, and the role of natural disturbances in the relevant area.

        In NEPA reviews, for actions involving potential changes to biological GHG sources and sinks, agencies should include a comparison of net GHG emissions and carbon stock changes that are anticipated to occur, with and without implementation of the proposed action and reasonable alternatives. The analysis should *consider the estimated GHG emissions (from biogenic and fossil-fuel sources), carbon sequestration potential, and the net change in relevant carbon stocks in light of the proposed actions and timeframes under consideration, and explain the basis for the analysis*.

        Some actions that involve ecosystem restoration can generate *short-term* biogenic emissions while resulting in overall long-term net reductions of atmospheric GHG concentrations through increases in carbon stocks or reduced risks of *future* emissions.[209]

- disclose the social cost of GHGs for each project. The CEQ Guidance recommends: "that agencies provide additional context for GHG emissions, including through the use of the best available social cost of GHG (SC-GHG) estimates, to translate climate impacts into the more accessible metric of dollars, allow decision makers and the public to make comparisons, help evaluate the significance of an action's climate change effects, and better understand the tradeoffs associated with an action and its alternatives."[210]

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[207] *Id*., 88 Fed. Reg. at 1206.

[208] *Id.*, 88 Fed. Reg. at 1206.

[209] *Id.*, 88 Fed. Reg. at 1207 (footnotes omitted) (emphases added).

[210] *Id*., 88 Fed. Reg. at 1198.

    - CEQ directs that agencies disclose the social cost of GHGs for a project even if the agency does not undertake a cost-benefit or other economic analysis.[211]

- not compare a project's impacts to national or global emissions. The 2023 guidance, like CEQ's 2016 guidance, cautions agencies against attempting to obscure or downplay the volume of a project's climate pollution by comparing it to global or national levels of pollution.[212]

- "should consider applying this guidance to actions in the EIS or EA preparation stage if this would inform the consideration of alternatives or help address comments raised through the public comment process."[213]

Further, whatever the state of federal guidance, the underlying requirement from federal caselaw to consider climate change impacts under NEPA, including indirect and cumulative combustion impacts and loss of sequestration foreseeably resulting from commercial logging decisions, has not changed. *See S. Fork Band Council of W. Shoshone v. United States Dept. of Interior*, 588 F.3d 718, 725 (9th Cir. 2009); *Ctr. for Biological Diversity*, 538 F.3d at 1214-15; *Mid States Coalition for Progress*, 345 F.3d at 550; *WildEarth Guardians v. United States Office of Surface Mining, Reclamation & Enf't*, 104 F. Supp. 3d 1208, 1230 (D. Colo. 2015) (coal combustion was indirect effect of agency's approval of mining plan modifications that "increased the area of federal land on which mining has occurred" and "led to an increase in the amount of federal coal available for combustion."); *Diné Citizens Against Ruining Our Env't v. United States Office of Surface Mining Reclamation & Enf't*, 82 F. Supp. 3d 1201, 1213-1218 (D. Colo. 2015); *High Country Conservation Advocates*, 52 F. Supp. 3d at 1174; *Utah Physicians For A Healthy Env't*, 2021 U.S. Dist. LEXIS 57756.

The Interagency Social Cost of Carbon was developed specifically to provide agencies with a way to quantify and compare those impacts, and courts and agencies have regularly required this method to disclose the climate impacts of federal actions. *High Country Conservation Advocates*, 52 F. Supp. 3d at 1190-93 (finding Forest Service violated NEPA by failing to disclose the climate impacts via the social cost of carbon); *Wildearth Guardians v. Bernhardt*, 2021 U.S. Dist. LEXIS 20792, CV 17-80-BLG-SPW (D. Mont. Feb. 3, 2021) at *25-*31 (finding Office of Surface Mining violated NEPA by failing to disclose the climate impacts via the social cost of carbon).[214]

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[211] *Id*., 88 Fed. Reg. at 1211 ("Agencies can use the SC-GHG to provide information on climate impacts *even if other costs and benefits cannot be quantified or monetized*") (emphasis added).

[212] *Id.*, 88 Fed. Reg. at 1201.

[213] *Id.*, 88 Fed. Reg. at 1212.

[214] *See also* CEQ, 2016 NEPA Climate Guidance (Ex. 32) at 32-33 (noting the appropriateness of monetizing climate impacts).

D. The Forest Service's Failure to Disclose and Quantify the South Plateau Project's Climate Damage Violates NEPA.

The South Plateau Project 2023 Final EA bases its twenty-sentence analysis of the project's climate impacts on an undated five-page "Carbon Storage and Sequestration" summary (for which no author is identified) in the project record, and two programmatic analyses on climate prepared for the 2020 Custer Gallatin Forest Plan Revision Final EIS.[215]

None of these documents – the 2023 Final EA, the undated South Plateau Carbon Summary, the 2020 Plan Revision Final EIS, or the 2019 Forest Carbon Assessment– take the hard look at the South Plateau Project's climate impacts that NEPA requires. None quantifies the South Plateau Project's impacts on the loss of carbon storage or on increased pollution due to project implementation. All continue to rely on questionable science, or ignore contrary science. And at least one engages in what amounts to climate denial concerning the impacts of logging on climate pollution. The Forest Service's climate analysis thus violates NEPA's hard look mandate.[216]

1. The Forest Service fails to disclose and quantify the South Plateau Project's impact on carbon storage.

a. The Forest Service ignores applicable guidance.

The Forest Service should have applied the 2023 CEQ Climate Guidance, but declined to do so. The South Plateau Carbon Summary asserts that the Forest Service won't apply the 2023 Guidance to apply the social cost of carbon because the guidance was published "late in the development process" for the project.[217] But CEQ urged agencies to "consider applying this

[215] 2023 Final EA at 37-38, citing: Custer Gallatin Forest Plan EIS, Carbon Section (2020) ("Forest Plan EIS Carbon Section") (attached as Ex. 34); A. Dugan et al., Forest Carbon Assessment for the Custer Gallatin National Forest in Region 1 (Dec. 5, 2019) ("Forest Carbon Assessment") (attached as Ex. 35); and Carbon Storage and Sequestration, Land Management Plan Environmental Impact Statement Summary for the South Plateau Landscape Area Treatment Project (no date) ("South Plateau Carbon Summary"), attached as Ex. 36.

[216] The Forest Service cannot allege that it can escape quantifying the project's climate impacts by relying on NEPA regulations concerning "incomplete or unavailable information." *See* 40 C.F.R. § 1502.22 (1978), 40 C.F.R. § 1502.21 (2020). Those provisions require the agency to identify the information as such, to "make clear that such information is lacking," and nonetheless include the information in the NEPA document if the overall costs of obtaining it are not "exorbitant" (1978 regs) or "unreasonable" (2020 regs) and the information is "essential to a reasoned choice among alternatives." The 2023 Final EA makes none of these required findings.

[217] South Plateau Carbon Summary (Ex. 36) at 1 (citing 2016 CEQ Guidance to justify tiering the project's carbon analysis to Forest Plan EIS's "relevant programmatic NEPA review[]").

guidance to actions in the EIS or EA preparation stage if this would inform the consideration of alternatives or help address comments raised through the public comment process."[218]

Here, multiple comments from the Center, other groups, and from the Environmental Protection Agency raised comments concerning the nature, scope, and sufficiency of the Forest Service's analysis of the climate impacts of this project. Applying the 2023 Guidance would clearly "help address" those comments. Similarly, President Biden's direction concerning the social cost of carbon pre-dated the publication of the 2022 Revised EA, and commenters repeatedly urged the agency to use the social cost of carbon. The agency's excuse that it was "late in the development process" also rings hollow given that approving this project will allow the agency slip this one last massive, 15-year project under the wire, escaping robust analysis. Because the project will last 15 years, a few more months to properly understand its impacts concerning the most consequential issue of our time is reasonable, particularly when the agency delayed the project *two years* to await, and then to address, the issuance of a new, weaker forest plan.

The Forest Service asserts that it relied upon CEQ's 2016 Guidance,[219] but the agency selectively relies on and ignores that direction, and alleges that it need not apply it because it is merely "recommendations," though never providing a rational basis for failing to quantify emissions.[220] As described in more detail below, the 2016 CEQ Guidance contains specific direction concerning how agencies should analyze climate impacts from site-specific forest management projects (using the example of "a prescribed burn"), guidance the agency largely ignored.

In addition, the South Plateau Carbon Summary alleges that the agencies "climate change/carbon analysis complies with guidance at FSM 2020.3, which states that the Forest Service, in projects and activity goals and objectives, should consider the recovery, maintenance, and enhancement of carbon stocks."[221] This manual is irrelevant, and provides no direction relevant to this project. FSM 2020.3 relates to the setting of restoration objectives in forest planning; it does not pretend address the Forest Service's duty to disclose project-level logging impacts on carbon storage. EPA agrees, stating: "We note this Forest Service Manual subchapter addresses the policy goals and objectives the Forest should consider in its land management decisions, but it is not related

[218] 2023 CEQ Climate Guidance (Ex. 33), 88 Fed. Reg. at 1212. *See also* letter of E. Zukoski, Center for Biological Diversity *et al*. to Custer Gallatin NF (Feb. 2, 2023) (describing how the Forest Service's carbon analysis at South Plateau fails to comply with the 2023 CEQ Climate Guidance). The Forest Service did not respond to this comment letter.

[219] 2023 Final EA at 38.

[220] *See, e.g.*, Comment Consideration and Response at 13 ("While there are recommendations for consideration of greenhouse gas emissions … [including the 2016] CEQ guidance … there are currently no requirements for this quantification at the project level analysis.").

[221] South Plateau Carbon Summary (Ex. 36) at 1. *See also* South Plateau Project Comment Consideration and Response (2023) at 13, 15, 17, 22, 23, 26, 28, 29, 31, 204 (citing reliance on FSM 2020.3).

to NEPA and how impacts should be considered in a NEPA analysis."[222] The Forest Service's reliance on this manual is arbitrary and capricious.

b. South Plateau Project logging will degrade carbon stores.

The South Plateau Project will have direct, indirect, and cumulative impacts on climate change because logging and burning forests will impact the ecosystem's ability to store carbon.

The Forest Service previously acknowledged that the project area's forests "are currently acting as carbon sinks," meaning they are storing more carbon than they are emitting.[223] Science makes clear that the South Plateau Project will likely worsen climate emissions by removing trees that are currently fixing carbon, turning them into wood products (which results in a significant loss of that carbon fixed in wood), and leaving a landscape with no trees and (eventually) seedlings that will take decades if not centuries to replace the carbon lost due to logging.

The South Plateau Project targets larger and older lodgepole pine – mature forest stands – for clearcutting. The vegetation specialist's report explains:

> The Land Management Plan list[s] the culmination of lodgepole pine to generally occur at 90 years. The Treatment Matrix developed within the Draft EA would allow stands of lodgepole pine that are >80-90 years old to be considered for clearcutting. This slightly younger age (80-90 years old) could still potentially be clearcut due to the present impacts of dwarf mistletoe and the high potential of mortality caused by mountain pine beetle across the project area, especially in stands of lodgepole pine with larger diameters. Within stands that are 80-90 years of age with widespread dwarf mistletoe impacts, stand growth has been impacted and likely has already culminated. Additionally, *the majority of surveyed lodgepole pine stands that have been proposed for clearcutting treatments have been confirmed to be over 90 years old*.[224]

The report thus confirms that *most* of the project's 5,551 acres of clearcuts will occur in mature forests.

The project also includes nearly 6,600 acres of commercial thinning. Commercial thinning "reduces stand density by removing a portion of the trees that are large enough to have

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[222] Letter of M. McCoy, EPA to R. Hecker, Ashland Ranger District (Mar. 4, 2023) at 5, attached as Ex. 37 (criticizing Custer Gallatin NF for relying on FSM 2020.3 in declining to disclose the climate impacts of the South Otter Project).

[223] 2021 Final EA at 254. The Forest Service omits this statement in the 2023 project-level South Plateau Carbon summary and the 2023 Final EA, and does not explain why, though the agency acknowledges that the Custer Gallatin as a whole is a "modest carbon sink." *See* Forest Carbon Assessment (Ex. 35) at 6; 2023 Final EA at 37.

[224] 2023 Forest Vegetation Analysis at pdf page 56. *See also* 2023 Final EA at 7 ("Per the Treatment Matrix (Appendix A), lodgepole pine stands more than 80 to 90 years old and more than 6 inches diameter at breast height may be suitable for clearcut harvest.").

commercial value: six inches or greater in diameter at breast height (DBH) for lodgepole pine and seven inches or greater DBH for other species."[225] The majority of these treatments are thus also likely to be mature forest.

The project is aimed at removing mature lodgepole because the project assumes that such trees are susceptible to mountain pine beetle, rendering the area at high risk of infestation.[226] Project prescriptions call for the clearcutting of lodgepole over 80-90 years old (that is, mature lodgepole) and 6 inches diameter at breast height (dbh) whether in the wildland urban interface or outside of it.[227] The project will also remove all "overstory" trees – the tallest and thus likely the oldest – other than Douglas fir in certain mixed conifer stands.[228]

Logging old and mature forests in particular worsens climate change by releasing significant amounts of carbon and by preventing such forests from continuing to sequester carbon. As the Forest Service has admitted regarding mature forests in Alaska, such forests "likely store considerably more carbon compared to younger forests in this area (within the individual trees themselves as well as within the organic soil layer found in mature forests)."[229] This is so because when a forest is cut down, the vast majority of the stored carbon in the forest is released over time as CO2, thereby converting forests from a sink to a "source" or "emitter."[230]

A 2012 review concluded that thinning forests to reduce fire severity likely would have negative impacts on the forests carbon stores, even assuming that a treated area would burn at lower severity than an untreated area. The report concludes:

> it appears unlikely that forest fuel-reduction treatments have the additional benefit of increasing terrestrial [carbon] storage simply by reducing future combustive losses and that, more often, treatment would result in a reduction in [carbon] stocks over space and time. Claims that fuel-reduction treatments reduce overall forest [carbon] emissions are generally not supported by first principles, modeling simulations, or empirical observations.[231]

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[225] 2023 Final EA at 8.

[226] 2023 Vegetation Report at 8 (alleging that one factor making a lodgepole stand at "high hazard" for beetle infestation is "when dbh [diameter at breast height] is 8 or more inches," that is when a tree is more than 2 feet in diameter).

[227] 2023 Final EA at 91, 92 (Appendix A).

[228] 2023 Final EA at 92, 93 (Appendix A). (Appendix A) (directing that the project should "Remove all non-Douglas-fir in the overstory" under certain conditions).

[229] Forest Service, Tongass Land and Resource Management Plan, Final EIS (2016) at 3-14, excerpts attached as Ex. 38.

[230] *See, e.g*., D. DellaSala, The Tongass Rainforest as Alaska's First Line of Climate Change Defense and Importance to the Paris Climate Change Agreements (2016) at 5, attached as Ex. 39.

[231] J.L. Campbell et al., Can fuel-reduction treatments really increase forest carbon storage in the western US by reducing future fire emissions? Frontiers in Ecology and the Environment, 2012;

A 2019 report found that protecting national forests in the American Northwest, including in Montana, would be an effective way to reduce the contribution of land management to climate pollution. The study concludes:

> If we are to avert our current trajectory toward massive global change, we need to make land stewardship a higher societal priority. Preserving temperate forests in the western United States that have medium to high potential carbon sequestration and low future climate vulnerability could account for approximately 8 yr of regional fossil fuel emissions, or 27–32% of the global mitigation potential previously identified for temperate and boreal forests, while also promoting ecosystem resilience and the maintenance of biodiversity.[232]

This study was funded in part by the USDA. The coarse-scale map provided with the study indicates that there may be forest stands in the South Plateau Project area that are rated as "medium" for preservation to mitigate climate change.[233] Even those forests ranked as "low" for carbon storage sequester significant amounts of carbon.[234]

Recent studies agree that maintaining forests rather than cutting them down can help reduce the impacts of climate change. "Stakeholders and policy makers need to recognize that the way to maximize carbon storage and sequestration is to grow intact forest ecosystems where possible."[235] One report concludes:

> Allowing forests to reach their biological potential for growth and sequestration, *maintaining large trees* (Lutz et al 2018), reforesting recently cut lands, and

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10(2): 83–90, doi:10.1890/110057 (published online 15 Dec. 2011), available at https://ir.library.oregonstate.edu/concern/articles/vd66w041v and attached as Ex. 40.

[232] P. Buotte *et al*., *Carbon sequestration and biodiversity co-benefits of preserving forests in the western United States*, Ecological Applications, Article e02039 (Oct. 2019) at 8, available at https://esajournals.onlinelibrary.wiley.com/doi/pdf/10.1002/eap.2039 (last viewed May 1, 2023), and attached as Ex. 41. The 2021 Final EA, at 299, attempted to discredit the relevance of this study by arguing that it "indicates forests in Montana to be ranked in low carbon priority due to lower carbon sequestration potential. 'Climate suitability for tree mortality from mountain pine beetles is projected to increase in some high-elevation whitebark pine forests which we ranked with low carbon priority due to lower carbon sequestration potential, or medium to high vulnerability to future drought or fire' (page 8)." The vast majority of stands the South Plateau Project proposes to log are lodgepole, not whitebark pine. The Buotte study does not mention lodgepole pine. The map in Buotte, at 4, shows there may be stands in the project area ranked medium or high for carbon priority. And merely because the forests are ranked as a "low" priority does not mean they have zero value for carbon storage.

[233] Buotte, *Carbon sequestration and biodiversity co-benefits* (Ex. 41) at 4 (Figure 1).

[234] *Id*. at 5 (Table 1).

[235] Moomaw, *et al*., Intact Forests in the United States: Proforestation Mitigates Climate Change and Serves the Greatest Good, Frontiers in Forests and Global Change (June 11, 2019) at 7 (emphasis added), attached as Ex. 42.

> afforestation of suitable areas *will remove additional CO2 from the atmosphere*. Global vegetation stores of carbon are 50% of their potential including western forests because of harvest activities (Erb et al 2017). Clearly, western forests could do more to address climate change through carbon sequestration *if allowed to grow longer*.[236]

Further, a June 2020 literature review from leading experts on forest carbon storage reported:

> There is absolutely no evidence that thinning forests increases biomass stored (Zhou et al. 2013). *It takes decades to centuries for carbon to accumulate in forest vegetation and soils* (Sun et al. 2004, Hudiburg et al. 2009, Schlesinger 2018), and it takes decades to centuries for dead wood to decompose. We must preserve medium to high biomass (carbon-dense) forest not only because of their carbon potential but also because they have the greatest biodiversity of forest species (Krankina et al. 2014, Buotte et al. 2019, 2020).[237]

Two experts in the field recently concluded:

> Recent projections show that to prevent the worst impacts of climate change, governments will have to increase their pledges to reduce carbon emissions by as much as 80%. We see the next 10 to 20 years as a critical window for climate action, and believe that *permanent protection for mature and old forests is the greatest opportunity for near-term climate benefits*.[238]

A 2021 letter to the President signed by dozens of scientists cited peer reviewed studies in support of the following conclusions:

> As hundreds of climate and forest scientists warned Congress last year, logging in U.S. forests emits 723 million tons of uncounted CO2 into our atmosphere each

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[236] T. Hudiburg *et al*., Meeting GHG reduction targets requires accounting for all forest sector emissions, Environ. Res. Lett. 14 (2019) (emphasis added), attached as Ex. 43.

[237] B. Law, et al., The Status of Science on Forest Carbon Management to Mitigate Climate Change (June 1, 2020), attached as Ex. 44. *See also* T. Hudiburg et al., Carbon dynamics of Oregon and Northern California forests and potential land-based carbon storage, *Ecological Applications* (2009), 19:163-180, attached as Ex. 45, and available at https://esajournals.onlinelibrary.wiley.com/doi/10.1890/07-2006.1 (last viewed May 1, 2023); O. Sun, Dynamics of carbon stocks in soils and detritus across chronosequences of different forest types in the Pacific Northwest, USA, *Global Change Biology* (2005) 10:1470-1481, attached as Ex. 46, and available at . https://doi.org/10.1111/j.1365-2486.2004.00829.x (last viewed May 1, 2023);

[238] B. Law & W. Moomaw, Keeping trees in the ground where they are already growing is an effective low-tech way to slow climate change, *The Conversation* (Feb. 23, 2021) (emphasis added), attached as Ex. 47, and available at https://theconversation.com/keeping-trees-in-the-ground-where-they-are-already-growing-is-an-effective-low-tech-way-to-slow-climate-change-154618 (last viewed May 1, 2023).

> year—more than 10 times the amount emitted by wildfires and tree mortality from insects combined. Greenhouse gas emissions from logging in U.S. forests are now comparable to the annual CO2 emissions from U.S. coal burning, and annual emissions from the building sector. Most of the carbon in trees removed from forests through logging is emitted almost immediately, as branches and tree tops are burned at biomass energy facilities, and mill residues are burned at the sawmills, typically for energy production—emitting more CO2 than burning coal, for equal energy produced. Logging conducted as commercial "thinning," under the rubric of fire management, emits about three times more CO2 than wildfire alone.[239]

Further, to address the climate crisis, agencies cannot rely on the re-growth of cleared forests to make up for the carbon removed when mature forest is logged. One prominent researcher explains: "It takes at least 100 to 350+ years to restore carbon in forests degraded by logging (Law et al. 2018, Hudiburg et al. 2009). If we are to prevent the most serious consequences of climate change, *we need to keep carbon in the forests because we don't have time to regain it once the forest is logged* (IPCC, 2018)."[240]

The importance of preserving mature forests in staving off the worst impacts of the climate crisis and the extinction crisis led President Biden on Earth Day in 2022 to issue Executive Order 14,072, "Strengthening the Nation's Forests, Communities, and Local Economies."[241] That order notes:

> Globally, forests represent some of the most biodiverse parts of our planet and play an irreplaceable role in reaching net-zero greenhouse gas emissions. Terrestrial carbon sinks absorb around 30 percent of the carbon dioxide emitted by human activities each year. Here at home, America's forests absorb more than 10 percent of annual United States economy-wide greenhouse gas emissions. *Conserving old-growth and mature forests on Federal lands* while supporting and advancing climate-smart forestry and sustainable forest products *is critical to protecting these and other ecosystem services provided by those forests*.[242]

The President directed the Forest Service to "within 1 year of the date of this order, define, identify, and complete an inventory of old-growth and mature forests on Federal lands," and after, that inventory is complete, to "analyze the threats to mature and old-growth forests on

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[239] B. Moomaw et al., Open Letter to President Biden and Members of Congress from Scientists: It is essential to Remove Climate-Harming Logging and Fossil Fuel Provisions from Reconciliation and Infrastructure Bills (Nov. 4, 2021) (citations omitted), attached as Ex. 48.

[240] B. Law, *et al*., The Status of Science on Forest Carbon Management (Ex. 47) (emphasis added).

[241] E.O. 14,072, 81 Fed. Reg. 24851 (Apr. 27, 2022), available at https://www.govinfo.gov/content/pkg/FR-2022-04-27/pdf/2022-09138.pdf and attached as Ex. 49.

[242] E.O. 14,072, 81 Fed. Reg. at 24851 (emphasis added).

Federal lands," and to develop strategies "that address threats to mature and old-growth forests on Federal lands."[243] That inventory is now complete and it demonstrates the catastrophic losses of old growth over the last century and the importance of protecting what mature and old growth forest remains.[244]

Despite the President's directive that the Forest Service respond to the climate crisis by conserving, inventorying, and developing policies to address threats to mature forests, the South Plateau Project area will remove vast swaths of mature forest, including the majority of the 5,551 acres of clearcuts and some of the thousands of acres of thinning. And despite the importance of responding to the climate crisis to protect forests and the wildlife that inhabit them, the Forest Service declines to quantify the project's climate impacts, makes invalid comparisons contrary to current guidance and caselaw, and provides a variety of excuses for why the impacts on carbon storage will be "negligible" or too difficult to determine.

The agency's failure to quantify the climate impacts of the project is arbitrary and capricious.

c. The Forest Service may not dismiss the impacts to carbon stores as "minimal" or "negligible."

The Forest Service's discussion of the South Plateau Project's climate impacts tiers to the Forest plan revision's Final EIS, which dismisses the impacts of management actions on the Custer Gallatin National Forest as "negligible," and compares them to total global and national emissions.[245]

This approach distorts the project's climate impacts, using metrics tailored to make the impacts of logging on carbon storage look small by comparison. Virtually any individual project impacting the climate, except perhaps those on a national scale, will look small when compared to climate emissions from all U.S. forests. CEQ's 2023 Climate Guidance, as well as the Council's 2016 NEPA climate guidance – the latter of which the Forest Service asserts that the agency relied upon[246] – specifically recommended against using the type of comparison employed by the Custer Gallatin Forest Plan Final EIS:

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[243] E.O. 14,072, Sec. 2, 81 Fed. Reg. at 24852.

[244] Forest Service, Mature and Old-Growth Forests: Definition, Identification, and Initial Inventory on Lands Managed by the Forest Service and Bureau of Land Management (April 2023), attached as Ex. 50, and available at https://www.fs.usda.gov/sites/default/files/mature-and-old-growth-forests-tech.pdf (last viewed May 1, 2023).

[245] Custer Gallatin Plan Revision FEIS, Vol. 1 (Jan. 2022) at 311 (Plan "alternatives would have a *minimal* direct effect on carbon emissions and carbon stocks…. All plan alternatives are projected to contribute *negligibly* to overall greenhouse gas emissions." (emphasis added)); *id*. at 307-08 ("Even the maximum potential management levels described by the plan alternatives would have a *negligible* impact on national and global emissions and on forest carbon stocks" (emphasis added)); *see also* Forest Plan EIS Carbon Section (Ex. 34) at pdf page 10 (same as FEIS at 311), 5 (same as FEIS at 307-08).

[246] 2023 Final EA at 38.

> a statement that emissions from a proposed Federal action represent only a small fraction of global emissions is essentially a statement about the nature of the climate change challenge, and is not an appropriate basis for deciding whether or to what extent to consider climate change impacts under NEPA. Moreover, these comparisons are also not an appropriate method for characterizing the potential impacts associated with a proposed action and its alternatives and mitigations because this approach does not reveal anything beyond the nature of the climate change challenge itself….[247]

The fundamental difficulty at the heart of climate change is that it is the product of thousands of different decisions, yet each one adds to and worsens a problem that threatens trillions of dollars in damage, will impair public health, and will disproportionately burden people of color and those with lower incomes, and worsen the biodiversity crisis, among other impacts. Carbon emitted or not stored today will warm the climate for centuries and have impacts far beyond those in Montana (or the U.S.).

The agency's decision declining to address the project's impacts because they are allegedly "negligible" in comparison to the role the world's (or nation's) forests play in climate change is thus not only misleading, it masks the fact that every additional bit of climate pollution, or elimination of carbon sequestration ability, makes the problem worse, and that every bit of sequestration and storage is critical to the solution. This approach is not only contrary to existing guidance, and Biden administration policy, as discussed above, it is contrary to federal court decisions. *350 Montana v. Haaland*, 50 F.4th 1254, 1259 (9th Cir. 2022) (setting aside agency's determination that a coal mine expansion would not have significant impacts in part because that determination relied "on the arbitrary and conclusory determination that the … project's emissions will be 'minor'" compared to global and domestic emissions); *WildEarth Guardians v. Zinke*, 2019 U.S. Dist. LEXIS 30357 (D. Mont. Feb. 11, 2019) at *25 (proposed findings) ("But by only comparing the estimated emissions to total U.S. emissions, OSM potentially diluted the adverse environmental effects of coal combustion at a local level. The Ninth Circuit has stated that when assessing the effects of an agency action, the appropriate analysis must include consideration of both broad scale and local impacts"); *Pac. Coast Fed. of Fisherman's Ass'ns v. Nat'l Marine Fisheries Serv.*, 265 F.3d 1028, 1036-37 (9th Cir. 2001); *Or. Nat. Res. Council Fund v. Brong*, 492 F.3d 1120, 1129-30 (9th Cir. 2007) (noting that averaging environmental effects based on a broad scope can lead to misleading results). The Forest Service must provide the public and the decision-maker with a sense of the relevant scale of the climate harm of the proposed action in comparison to the no action alternative so that the impacts may be compared.

Even if the logging permitted in the South Plateau Project—when viewed in isolation—may only result in relatively minor climate impacts (whatever that means), NEPA expressly requires agencies to consider whether agency actions are "related to other actions with individually insignificant but cumulatively significant impacts." 40 C.F.R. § 1508.27(b)(7) (1978). Thus, the Forest Service may not blithely dismiss and deny the climate impacts of the South Plateau Project without considering the cumulative significance of the project when added to other past, present, and reasonably foreseeable logging projects and Forest Service timber sales in the state, region, and nation. 40 C.F.R. § 1508.7 (1978); *WildEarth Guardians v. Zinke*, 368 F. Supp. 3d

[247] CEQ, 2016 NEPA Climate Guidance (Ex. 31) at 11.

41 (D.D.C. 2019) (holding that BLM erred by failing to consider the cumulative climate impacts of oil and gas leases together with "GHG emissions generated by past, present, and reasonably foreseeable BLM lease sales in the region and nation"). The Forest Service failed to address these cumulative effects, violating NEPA.

Despite the applicability of the 2016 CEQ NEPA Guidance, the Forest Plan Revision analysis of climate impacts (as well as the analysis at the project level) relies in part on 2009 guidance entitled "Climate Change Considerations in Project Level NEPA Analysis" to avoid analyzing and disclosing the South Plateau Project's climate change impacts.[248] In fact, the Forest Service relies on the outdated 2009 guidance to dismiss undertaking any project-specific carbon analysis at all:

> Because actions that are consistent with the Plan are likely to increase carbon storage and reduce emissions over the longer term, and the sum of management activities have historically been a fraction of the effects of natural disturbances, a quantitative analysis of carbon effects at the project level is not meaningful for a reasoned choice among plan alternatives (U.S. Department of Agriculture 2009).[249]

The Custer Gallatin NF cannot rely on the 2009 Climate Change Consideration guidance because it is the flawed product of the final week of the George W. Bush administration in January 2009, and it has long been overtaken by both federal case law and CEQ's 2016 guidance, as well as CEQ's 2023 climate guidance, each of which requires robust project level NEPA analysis of project-level climate impacts. The Forest Service cannot continue to rely on this guidance document unless and until it can explain how the 2009 guidance comports with current CEQ guidance, caselaw, and directly contrary Biden administration policy. When given a chance to explain itself, the Forest Service declined to do so.[250]

The 2009 guidance is flawed and outdated in part because the Federal interagency social cost of carbon estimates were developed after the 2009 guidance, and contradict numerous statements that project-level impacts are too small to estimate, as has the case law setting aside agency (including Forest Service) decisions that failed to use that metric, or explain why it could not.

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[248] *See* Custer Gallatin Plan Revision FEIS, Vol. 1 (Jan. 2022) at 308, citing Forest Service, Climate Change Considerations in Project Level NEPA Analysis (Jan. 13, 2009), attached as Ex. 51, and available at https://www.fs.usda.gov/emc/nepa/climate_change/includes/cc_nepa_guidance.pdf (last viewed May 1, 2022); Forest Plan EIS Carbon Section (Ex. 34) at pdf page 6; South Plateau Carbon Summary (Ex. 36) at 2 (citing same).

[249] South Plateau Carbon Summary (Ex. 36) at 2.

[250] *See* South Plateau Project Comment Consideration and Response (2023) at 22 (responding to comments re: agency reliance on outdated guidance by stating "Revised resource specific reports will include clarification on climate analysis in the context of this project," although the South Plateau Carbon Summary contains the same endorsement of the outdated, climate-denying 2009 guidance).

Further, we understand that the Forest Service FVS tool now includes a "carbon extension" that permits users to "model the effects that management choices may have on carbon stocks."[251]

The Forest Service's dated, superseded 2009 guidance is inconsistent with Presidential direction on its face, and cannot support the Forest Service's failure to utilize the USDA-endorsed social cost of carbon estimates, to provide the public and decision makers information on the project's global scale, long-lasting, irreversible climate-related impacts. The Forest Service's position is also flatly inconsistent with the February 2021 policy to use "all available tools" before CEQ updated its guidance, and the 2023 CEQ Guidance itself. Further, failing to undertake a robust analysis based on the outdated 2009 guidance borders on insubordination in light of the President's policy requiring a whole-government approach to tackling the climate crisis, including specific policy that "[t]he Federal Government must drive *assessment, disclosure,* and mitigation of climate pollution and climate-related risks *in every sector* of our economy."[252] The Forest Service has a critically important role to play in both disclosing climate risks and in taking pro-active measures to limit and mitigate those risks. Here, it has failed to do either.

d. The Forest Service's assertions of the carbon benefits of logging contradict best available science.

The Forest Service bases its dismissal of the South Plateau Project's climate impacts as "negligible" in part on the assumption that removing all trees from 5,551 acres (the equivalent of about 4,200 football fields) will result in storing carbon for years in wood products, that logging now will result in more resilient forests over the long term, and that the forest will regrow, storing carbon at that time. Scientific studies, largely unaddressed by the Forest Service, undercut each of these assumptions. Failing to address such contrary science violates NEPA's "hard look" mandate.

The 2023 Final EA states that "management activities that are consistent with Land Management Plan desired conditions" including, apparently, the massive clearcutting and thinning proposed at South Plateau "are likely to increase carbon storage and reduce emissions by … [among other things,] storing carbon in wood products."[253] The 2022 Forest Plan Revision FEIS (upon which the 2023 Final EA and South Plateau Carbon Summary relies) further alleges that "avoided fossil fuel emissions can be substantial where harvested wood products are used as a substitute for products that take more energy, and thus, more emissions to produce."[254]

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[251] *See* https://www.fs.usda.gov/ccrc/tool/forest-vegetation-simulator-fvs (last viewed May 1, 2023).

[252] Executive Order 14,008 (Ex. 16) (emphasis added).

[253] 2023 Final EA at 37. *See also* South Plateau Carbon Summary (Ex. 36) at 3; *id*. at 4 ("Some proposed vegetation treatments will also produce wood products which will provide long term storage of carbon"); Custer Gallatin Plan Revision FEIS, Vol. 1 (Jan. 2022) at 309; *id*., Vol. 4, at 20 ("harvesting and use of harvested wood products can play an important role in reducing carbon emissions."); Forest Plan EIS Carbon Section (Ex. 34) at pdf page 8.

[254] Custer Gallatin Plan Revision FEIS, Vol. 4 (Jan. 2022) at 20.

The Forest Service also asserts in the Forest Plan Revision FEIS that if forest stands are at an increased risk of carbon loss through disturbances, such as wildfires and insect epidemics, then there may be a carbon benefit to removing those stands and losing the benefit of the carbon the trees presently store:

> Another factor to consider with approaches to maximize carbon storage in the forest system is if there is an increased risk of carbon loss through disturbances, such as wildfires and insect epidemics. This can undercut the goal of maximizing carbon storage on forests. In some cases, reducing forest carbon stocks and moving that carbon embodied in the wood into harvested wood products streams is a more effective way to reduce carbon in the atmosphere.[255]

The Forest Service makes similar assertions in the 2023 Final EA.[256] None of agency's assertions is well founded; all of it is contradicted by science that the agency has failed to acknowledge or rebut.

First, contrary studies largely unaddressed by the Forest Service (an oversight that violates NEPA) demonstrate that significant volumes – in some cases a majority – of carbon stored in trees are *immediately* lost when trees are logged and milled, and the rest is likely to be returned to the atmosphere *sooner than would occur if the trees were left standing*, eliminating *any alleged benefits* from storing carbon in wood products.

> [H]arvesting carbon will increase the losses from the forest itself and to increase the overall forest sector carbon store, the lifespan of wood products carbon (including manufacturing losses) would have to exceed that of the forest. Under current practices this is unlikely to be the case. A substantial fraction (25%– 65%) of harvested carbon is lost to the atmosphere during manufacturing and construction depending on the product type and manufacturing method. The average lifespan of wood buildings is 80 years in the USA, which is determined as the time at which half the wood is no longer in use and either decomposes, burns or, to a lesser extent, is recycled. However, many forest trees have the potential to live hundreds of years ….[257]

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[255] Custer Gallatin Plan Revision FEIS, Vol. 4 (Jan. 2022) at 21.

[256] 2023 Final EA at 37 (logging projects consistent with the Forest Plan can "reduce emissions by reducing disturbance risk"); South Plateau Carbon Summary (Ex. 36) at 3.

[257] B. Law & M.E. Harmon, Forest sector carbon management, measurement and verification, and discussion of policy related to mitigation and adaptation of forests to climate change. *Carbon Management* (2011) 2(1), attached as Ex. 52, and available at https://www.researchgate.net/publication/235591616_Forest_sector_carbon_management_measurement_and_verification_and_discussion_of_policy_related_to_climate_change (last viewed May 1, 2023).

Second, additional studies conclude that the extent to which carbon benefits can be realized from leaving forests standing depends on a variety of factors, virtually none of which the Forest Service evaluated in either the Forest Plan FEIS or the South Plateau EA:

> The climate change mitigation benefit of keeping a forest as a carbon sink or to harvest it depends on several factors, including the inventory and age of standing timber, the growth rate of the forest, the dynamics of the carbon fluxes (including the threat of natural disturbance), the time frame being considered, and the context of carbon displacement factors used when wood products replace non-wood products.[258]

Peer-reviewed articles indicate that there is little substitution benefit of using wood compared to using other products (e.g., concrete for building), and that industry (and agency) talking points to the contrary vastly overestimate the carbon benefits of using wood.[259] Again, the Forest Service's failure to address contrary scientific conclusions violates NEPA.

Third, to address the climate crisis, agencies cannot rely on the re-growth of cleared forests to make up for the carbon removed when mature forest is logged. Yet the Forest Service does exactly that, asserting: "any carbon initially emitted from this proposed project's actions will only have a temporary influence on atmospheric CO2 concentrations as carbon will be removed from the atmosphere over time as the forest regrows."[260] Absent from the Forest Service's contention is any estimate for *how long* it will take to undo the carbon damage done by eliminating forests that are now efficiently storing carbon. As one prominent researcher explained:

> It takes at least 100 to 350+ years to restore carbon in forests degraded by logging (Law et al. 2018, Hudiburg et al. 2009). If we are to prevent the most serious

[258] C. Howard *et al.,* Wood product carbon substitution benefits: a critical review of assumptions, *Carbon Balance & Management* (2021) 16:9, at 2, attached as Ex. 53, available at https://www.researchgate.net/publication/350511044_Wood_product_carbon_substitution_benefits_a_critical_review_of_assumptions (last viewed May 1, 2023).

[259] *See* M. Harmon, Have product substitution carbon benefits been overestimated? A sensitivity analysis of key assumptions, *Environmental Research Letters* (2019), attached as Ex. 35, and available at https://iopscience.iop.org/article/10.1088/1748-9326/ab1e95/pdf (last viewed May 1, 2023) ("Substitution of wood for more fossil carbon intensive building materials has been projected to result in major climate mitigation benefits often exceeding those of the forests themselves. A reexamination of the fundamental assumptions underlying these projections indicates long-term mitigation benefits related to product substitution may have been overestimated 2- to 100-fold.").

[260] South Plateau Carbon Summary (Ex. 36) at 3.

> consequences of climate change, *we need to keep carbon in the forests because we don't have time to regain it once the forest is logged* (IPCC, 2018)."[261]

Another agrees: "The importance of forest carbon storage is now greatly amplified by a warming climate that must urgently be addressed with reductions in greenhouse gasses and natural climate solutions."[262]

The Forest Service ignores the timing aspect of the climate crisis and the fact that we must reduce climate pollution (and continue robust carbon storage) *now*, not decrease carbon storage and worsen emissions over the next century as the South Plateau Project would do.

Further, the Custer Gallatin Forest Plan Revisions Final EIS argues that certain destruction of carbon-storing forests now can be offset by the uncertain "increased risk of carbon loss through disturbances."[263] But reducing *risk* does not store carbon; mature forests do. The Forest Service appears to admit that the likelihood that logging to reduce risk of disturbance trades certain destruction of carbon stores in return for the "relatively rare" potential for climate benefit from forest protection:

> there is an inherent mismatch between placement of the treatments (which lower carbon stocks) and the (relatively rare) occurrence of wildfire on a given acre. This is only problematic or inconsistent with desired conditions if the objective is to maximize carbon stocks on every acre. Again, this is irrelevant because fuels treatments are done for many other reasons, but this does not preclude the *possibility* that there *could be* a carbon benefit in some instances, even if *relatively rare*.[264]

The Forest Service fails to disclose in the South Plateau 2022 Revised EA or in documents upon which that EA relies that its proposal to reduce the risk of beetle infestation is one such treatment where the alleged benefit to carbon stores of increasing "resilience" is unlikely to achieve any carbon benefit. The agency's failure to do so violated NEPA.

e. The Forest Service ignores science and guidance that it can and must quantify carbon storage impacts through life cycle analysis.

The Forest Service declines to quantify the project's impacts on climate stores or climate pollution not only because the impacts are so small, but also, apparently, because it would be

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[261] B. Law, *et al*., The Status of Science on Forest Carbon Management (Ex. 44) (emphasis added). *See also* IPCC (2018) (Ex. 25). *See also* T. Hudiburg et al., Carbon dynamics of Oregon and Northern California forests and potential land-based carbon storage (Ex. 45).

[262] D. Mildrexler *et al*., Large Trees Dominate Carbon Storage in Forests East of the Cascade Crest in the United States Pacific Northwest, *Frontiers in Forests and Global Change*, Vol. 3 (Nov. 2020) at 9, attached as Ex. 54, and available at https://www.frontiersin.org/articles/10.3389/ffgc.2020.594274/full (last viewed May 1, 2023).

[263] Custer Gallatin Plan Revision FEIS, Vol. 4 (Jan. 2022) at 21.

[264] Custer Gallatin Plan Revision FEIS, Vol. 4 (Jan. 2022) at 21 (emphasis added).

difficult to do so. This assertion is meritless because agencies, including federal land management agencies, have indeed estimated the climate impacts of logging proposals. The Forest Service's failure to quantify the climate impacts, or to provide a range of potential impacts, violates NEPA's hard look mandate, and is contrary to federal caselaw requiring agencies to undertake reasonable forecasting in NEPA analysis.

The 2022 Forest Plan EIS upon which the South Plateau EA's climate analysis relies alleges, among other things, that the fact of climate change makes it difficult to understand the proposal's climate impacts: "disturbance rates are projected to increase with climate change … making it challenging to use past trends to project the effects of disturbance and aging on forest carbon dynamics."[265] The Forest Service further asserts:

> Even more difficult is the ability to quantify potential carbon consequences of management alternatives in the future due to potential variability in future conditions and the stochastic nature of disturbances. The result of such uncertainty is often a very low signal-to-noise ratio: small differences in carbon impacts among management alternatives, coupled with high uncertainty in carbon stock estimates, make the detection of statistically meaningful differences among alternatives highly unlikely.[266]

But NEPA does not permit agencies to ignore impacts because understanding them may be "challenging" or "difficult." As noted above, "speculation is ... implicit in NEPA," and so agencies may not "shirk their responsibilities under NEPA by labeling any and all discussion of future environmental effects as crystal ball inquiry." *N. Plains Res. Council, Inc.*, 668 F.3d at 1079 (citations omitted). Further, if the Forest Service is to not gather this critical information, it must explain why it did not.[267]

The Forest Service's approach also violates NEPA because methods exist that would allow the agency to quantify climate impacts. For example, a 2018 study concludes that carbon storage impacts can be estimated, accounted for, and factored into a model that calculated the net amount of carbon lost due to forest logging in Oregon over two five-year periods.[268] This is precisely the

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[265] Custer Gallatin Plan Revision FEIS, Vol. 1 (Jan. 2022) at 307; Forest Plan EIS Carbon Section (Ex. 34) at pdf page 6.

[266] Custer Gallatin Plan Revision FEIS, Vol. 1 (Jan. 2022) at 308; Forest Plan EIS Carbon Section (Ex. 34) at pdf page 6. The Forest Service at the project level also claims that quantifying carbon stocks and climate emissions is difficult: "estimates of future carbon stocks and their trajectory over time remain unclear because of uncertainty from the multiple interacting factors that influence carbon dynamics." South Plateau Carbon Summary (Ex. 36) at 1.

[267] 40 C.F.R. § 1502.22 (1978), 40 C.F.R. § 1502.21 (2020).

[268] *See* B. Law et al., Land use strategies to mitigate climate change in carbon dense temperate forests, Proceedings of the Nat'l Academy of Sciences, vol. 115, no. 14 (Apr. 3, 2018) at 3664, attached as Ex. 55 ("Our LCA [life-cycle assessment] showed that in 2001–2005, Oregon's net wood product emissions were 32.61 million tCO2e [tons of carbon dioxide equivalent in net GHG emissions] (Table S3), and 3.7- fold wildfire emissions in the period that included the

type of analysis the Forest Service should, and could, have undertaken for South Plateau Project EA.

Similarly, Dr. DellaSala's 2016 report addressed carbon stores from wood products and concluded that logging Tongass old-growth forest under the 2016 Forest Plan would result in net annual CO2 emissions totaling between 4.2 million tons and 4.4 million tons, depending on the time horizon chosen.[269] The Bureau of Land Management more than a decade ago completed an EIS for its Western Oregon Resource Management Plan in which that agency also predicted the net carbon emissions from its forest and other resource management programs.[270] These studies, though they do not involve Montana forests, demonstrate that agencies and academics have quantified and compared the carbon emissions of alternative logging proposals. The Forest Service itself is familiar with and has used multiple models to address carbon losses due to logging.[271] And so NEPA requires the Forest Service to do so here.

The Forest Service failure to address or acknowledge that there are peer-reviewed scientific approaches to estimating net climate damage caused by logging forests is another independent NEPA violation. NEPA requires agencies to explain opposing viewpoints and their rationale for choosing one viewpoint over the other. 40 C.F.R. § 1502.9(b) (1978) (requiring agencies to disclose, discuss, and respond to "any responsible opposing view"). Courts will set aside a NEPA document where the agency fails to respond to scientific analysis that calls into question the agency's assumptions or conclusions. *See Ctr. for Biological Diversity v. U.S. Forest Serv*., 349 F.3d 1157, 1168 (9th Cir. 2003) (finding Forest Service's failure to disclose and respond to evidence and opinions challenging EIS's scientific assumptions violated NEPA); *Seattle Audubon Soc'y v. Moseley*, 798 F. Supp. 1473, 1482 (W.D. Wash. 1992) ("The agency's explanation is insufficient under NEPA – not because experts disagree, but because the FEIS lacks reasoned discussion of major scientific objections."), aff'd sub nom. *Seattle Audubon Soc'y v. Espy*, 998 F.2d 699, 704 (9th Cir. 1993) ("[i]t would not further NEPA's aims for environmental protection to allow the Forest Service to ignore reputable scientific criticisms that have surfaced").

The CEQ 2016 climate guidance, which CEQ in February 2021 urged agencies to rely on, and which the Forest Service here asserts that it relies on, contains explicit guidance on carbon storage, and notes:

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record fire year (15) (Fig. 2). In 2011–2015, net wood product emissions were 34.45 million tCO2e and almost 10-fold fire emissions, mostly due to lower fire emissions.").

[269] DellaSala (Ex. 39) at 14.

[270] *See* Bureau of Land Management, Western Oregon Proposed RMP Final EIS (2009) at 165-181, excerpts attached as Ex. 56.

[271] The 2016 CEQ Climate Guidance identifies a Forest Service model for quantifying climate emissions from land management actions. *See* 2016 CEQ Climate Guidance (Ex. 31) at 26 n.68. The 2019 Forest Carbon Assessment (Ex. 34) used two different models to address carbon stores and the impact of wildfire, logging, and other disturbances on carbon stocks.

> Quantification tools [to evaluate climate emissions or storage] *are widely available, and are already in broad use in the Federal and private sectors*, by state and local governments, and globally. Such quantification tools and methodologies have been developed to assist institutions, organizations, agencies, and companies with different levels of technical sophistication, data availability, and GHG source profiles. When data inputs are reasonably available to support calculations, agencies should conduct GHG analysis and disclose quantitative estimates of GHG emissions in their NEPA reviews. These tools can provide estimates of GHG emissions, including emissions from fossil fuel combustion and *estimates of GHG emissions and carbon sequestration for many of the sources and sinks potentially affected by proposed resource management actions*.[272]

The guidance further specifies that estimating GHG emissions is appropriate and necessary for actions such as individual federal forest projects.[273] As described above, the 2023 CEQ Guidance contains even more explicit direction on this point, which the agency chose to ignore.

The Forest Service nowhere explains why it is unable to address climate, carbon storage, and sequestration in a project covering 40,000 acres – which covers thousands of stands – but can do so at the Forest level, particularly here where the Forest Service proposes to *entirely remove all trees from an area of nearly 9 square miles*. Solely relying on the Forest Plan EIS again contradicts the 2016 CEQ climate guidance which assumes that land management agencies can and should address the climate effects of individual, site-specific projects.

The South Plateau Carbon Summary concludes of potential management actions over the 15-year life of the plan: "With maximum intensification, potential management actions would affect up to less than 0.25 percent of the forested area and much less than 1 [million tons of carbon] annually."[274] But "much less than" 1 million tons is imprecise, and is likely significant particularly in light of the fact that 1 million ton of carbon is the equivalent of 3.67 million tons of CO2e, the standard metric for evaluating climate impacts. For the South Plateau Project, there is no valid, quantified analysis for the Forest Service to tier to or incorporate, although NEPA, caselaw and guidance require the agency to do just that.

Even assuming logging at South Plateau will only result in 10% of the "maximum intensification" level over an annual basis, damage to carbon stores caused by tree removal that could result in 367,000 tons per year from CO2 emissions – slightly less than the amount of CO2 produced by running a natural gas power plant for a year.[275]

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[272] CEQ, 2016 NEPA Climate Guidance (Ex. 31) at 12 (emphasis added).

[273] *Id*. at 25.

[274] South Plateau Carbon Summary (Ex. 36) at 3.

[275] 367,000 tons of CO2 = 92% of the annual CO2 emissions of the average natural gas power plant. *See* https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator. *See also* M. Lavelle, Logging Plan on Yellowstone's Border Shows Limits of Biden Greenhouse Gas Policy, Inside Climate News (Apr. 7, 2023) attached as Ex. 57 (making similar calculations).

The 2022 Forest Plan EIS also may help provide a rough way to estimate the scale of carbon emissions from forest removal. That document states:

> The estimated treatment area for harvests and thinning under alternative F would average approximately 1,000 acres per year or about 0.04 percent of total forested area on the CGNF. This is similar to the no-action alternative, and a 150% from the average annual harvest levels recorded from 1990-2011 based on the Landsat satellite imagery.
>
> Assuming that the annual carbon impact also increases up to 1.5 times above past levels, harvest treatments under alternative F may result in a maximum removal of about 30,000 Mg of carbon [= 110,000 tons of CO2e] per year from aboveground pools.[276]

The South Plateau Project will equal about 1,000 acres per year of harvests and thinning (14,658 acres of commercial clearcuts, commercial thinning, and pre-commercial thinning) over the 15-year life of the project.[277] Thus, the Project may remove 110,000 tons of CO2 per year over 15 years, for a total of 1.65 million tons of CO2 lost. That's about the same as running the average natural gas powerplant for over 4 years.

This is a significant level of addition to carbon pollution, and should have been disclosed and quantified in the Project NEPA analysis.

f. The Forest Service cannot rely on the Forest Plan's analysis to ignore the project's climate impacts.

The Forest Service asserts that because the EIS for the Custer Gallatin Forest Plan concludes that overall the Forest will remain a carbon sink for the Plan's 15-year life, and that actions "consistent with the plan are likely to increase carbon storage and reduce emissions over the longer term," there is no need to address or quantify the South Plateau Project's carbon impacts.[278] This is wrong for several reasons.

First, as noted above, the Forest Plan EIS's carbon analysis is itself flawed.

Second, the 15-year South Plateau Project will be implemented beyond the expected lifetime of the 15-year forest plan, so the Forest Plan EIS cannot account for its impacts.

Third, while Forest Plan EIS predicts that the Forest will remain a carbon sink overall, that does not address whether *this project* will result in fixing more carbon. It won't. The Forest Plan EIS

[276] Forest Plan EIS Carbon Section (Ex. 34) at pdf 8 – pdf 9.

[277] 2023 Final EA at 7.

[278] South Plateau Project Comment Consideration and Response (2023) at 23.

expects that the Project will not, predicting that timber harvest will cause losses of carbon stores.[279]

Fourth, this analysis ignores the desperate need to keep carbon stores locked in forests now, and in keeping those forests sequestering carbon now, as the critical time to address the most damaging impacts of the climate emergency. This is particularly so given that the Forest Service never defines the "long term."

g. The Forest Service carefully discloses the economic costs, and ignores the climate costs, which is arbitrary and capricious.

The 2023 Final EA's (and related carbon analyses') studied ignorance on the project's impacts on carbon stores and climate emissions, and the Forest Service's failure to provide a quantitative assessment to enable a comparison with the no action alternative violates NEPA another way, because the agency quantifies other impacts and costs related to logging. The 2023 Final EA and the incorporated "Economic Effects Analysis" carefully quantify economic benefits of logging – a complex task – while declining to calculate the climate costs. The Economic Effects Analysis tallies the "Average Annual Employment and Labor Income Contributions from all Project Activities," and the project's present net value.[280] Yet the Forest Service fails not only to estimate the volume of climate emissions, it fails to weigh the economic benefits of the project against the costs of climate change, which can be estimated using the Interagency Working Group's global estimate of the social cost of carbon, as recommended by President Biden's Executive Orders, and the CEQ's 2023 Climate Guidance. *See High Country Conservation Advocates*, 52 F. Supp. 3d at 1190-93.

If the agency did apply the social cost of carbon to the project, the costs would dwarf the timber receipts. The social cost of carbon, at the standard 3% discount rate, ranges from $51/ton in 2020, to $67/ton in 2035 (when logging will not yet have finished) in 2020 dollars.[281] Conservatively assuming the low-end amount of $51/ton, and multiplying that by a rough estimate of 1.65 million tons of CO2 stores lost to logging over the project's life (*see supra*), the project's social cost due to carbon lost would be about $84 million, more than *30 times the value of timber receipts*.[282] Such a contrast underscores that the immediate climate damage far outweighs an economic benefit. The failure to disclose this disjunct result violates NEPA.

Once an agency chooses to "trumpet" a set of benefits, it also has a duty to disclose the related costs. *Sierra Club v. Sigler*, 695 F.2d 957, 979 (5th Cir. 1983). "There can be no hard look at costs and benefits unless all costs are disclosed." *Id*. The U.S. District Court for the District of

[279] Forest Plan EIS Carbon Section (Ex. 34) at pdf 9 ("harvest treatments under [the preferred alternative] may result in a maximum removal of about 30,000 Mg of carbon per year from aboveground pools")

[280] C. Sorenson, South Plateau Economic Effects Analysis (Feb. 2023) at pdf page 5.

[281] *See* Technical Support Document, Social Cost of Carbon (Ex. 30) at 24.

[282] South Plateau Economic Effects Analysis (2023) at pdf page 4 (estimating "timber harvest" revenue at $2.65 million).

Montana reinforced this requirement this year and last when it repeatedly set aside a federal agency NEPA analyses for failing to quantify the social costs of an agency action's climate pollution. In 2022, the Montana court found that a federal agency violated NEPA where it "quantified the benefits of the [federal action] without providing a balanced quantification of the costs," including and especially the climate-related costs. *Montana Env't Info. Ctr. v. Haaland*, 2022 U.S. Dist. LEXIS 128280, *22-23 (D. Mont. 2022). In the face of the agency's assertion that "there is a difference between discussing economic impacts and discussing economic benefits," the court held that "[t]his is distinction without difference where, as here, the economic benefits of the action were quantified while the costs were not." *Id*. Other decisions in Montana similarly conclude that where an agency discloses economic impacts, it must disclose climate costs as well. *See WildEarth Guardians v. Bernhardt*, 2021 U.S. Dist. LEXIS 20792 at *25-*32, 2021 WL 363955, CV 17-80-BLG-SPW (D. Mont. Feb. 3, 2021) (endorsing magistrate judge's determination that the Office of Surface Mining "failed to take a 'hard look' at the costs of greenhouse gas emissions and failed to reasonably justify its reasoning for not quantifying the costs of the mining plan when the Social Cost of Carbon Protocol ... was available to do just that"). A Utah district court in 2021 concluded that an agency's failure to quantify the climate impacts of a coal lease was arbitrary and capricious where project benefits had been tallied. *Utah Physicians For A Healthy Env't*, 2021 U.S. Dist. LEXIS 57756 at *16 (finding EIS violated NEPA in part because it contained "income, taxes, royalties, and related economic data" but "says nothing about the socioeconomic costs of GHGs—qualitatively or otherwise.").

As noted above, President Biden already directed that this administration should apply an interim Interagency Working Groups' Social Cost of Carbon using a metric that includes global damage from climate-forcing pollution. Here, the Forest Service provides neither quantitative nor qualitative projections of the project's impacts on climate pollution, other than to erroneously dismiss them as minimal.

h. Conclusion

The Forest Service failure to comply with its duty to disclose the South Plateau Project's impacts on climate change and carbon storage contradicts the Custer Gallatin National Forest's recognition that "carbon storage and associated climate regulation has been identified as a key ecosystem service provided by the Custer Gallatin."[283] If carbon storage is a "key ecosystem service," the National Forest should do more than merely wave away the South Plateau Project's impacts on that ecosystem service. And under caselaw, agency guidance, and President Biden's directives, it must do more.

2. The Forest Service fails to disclose and quantify the fossil fuel pollution of implementing the South Plateau Project.

Logging and burning treatments, and the nearly 60 miles of temporary road construction, as well as miles of reconstruction and "frequent" maintenance of some routes necessary to access the cutting units, for the 15-year life of the project will require the use of heavy equipment, almost

[283] Custer Gallatin Plan Revision FEIS, Vol. 1 (Jan. 2022) at 303; Forest Plan EIS Carbon Section (Ex. 34) at pdf page 1.

certainly exclusively powered by fossil-fueled engines.[284] So will transporting up to 162,000 CCF of logs to mills, a task that will involve up to 40,000 loaded truck trips to mills, and 40,000 empty truck trips to the project area.[285] This activity will result in greenhouse gas pollution that will worsen climate change for centuries, and that pollution will be over and above the pollution that would occur under the no action alternative. Milling and preparing wood products from raw logs, and transporting them to market, will also cause greenhouse gas pollution. Neither the 2023 Final EA, nor the Carbon Storage and Sequestration Report, nor any other document in the record acknowledges or attempts to disclose these impacts. In fact, the 2023 Final EA states: "The potential effects of the proposed action on climate change were assessed in terms of the effects on carbon storage and sequestration" only, which means that the agency *does not address* the project's carbon pollution impacts from road construction, logging, log transport, milling, and shipping products to market.[286]

This contrasts to the approach taken elsewhere by the Forest Service and by other agencies, such as the Office of Surface Mining, which have disclosed in NEPA documents the estimated pollution from internal combustion engines necessary to mine, process, and ship coal to market.[287] Federal courts have noted agencies have done so as well.[288]

These OSM or Federal Coal Lease Modifications analyses demonstrate that agencies, including the Forest Service, can and do attempt to disclose direct climate emissions from construction and transport activities[289]. While coal mining has different climate impacts than logging, the point is that agencies can and have disclosed the climate pollution from fossil fuel engines used in

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[284] 2023 Final EA at 1, 5, 7 (15-year implementation); *id*. at 9 (up to 56.8 miles of temporary road required).

[285] 2021 Final EA at 250 (stating that 50% of all project truck traffic may cross a specific bridge, resulting in 20,000 loaded truck crossings).

[286] 2023 Final EA at 37.

[287] *See, e.g.*, Office of Surface Mining & Bureau of Land Management, Environmental Assessment, Colowyo Coal Mine Collom Permit Expansion Area Project (Jan. 2016) at 4-15 – 4-18 (including table assessing "direct GHG emissions" from "drills," "dozers," "graders," "haul trucks," etc., for the proposed action), excerpts attached as Ex. 58 ; U.S. Forest Service, Supplemental Final Environmental Impact Statement, Federal Coal Lease Modifications COC-1362 & COC-67232 (Aug. 2017) at 102-113 (publishing tables estimating emissions of air pollutants, including greenhouse gases CO2 and CH4 (methane) for activities including road and well pad construction, heavy equipment use, and commuter vehicle trips for the no action and proposed action alternatives), excerpts attached as Ex. 59.

[288] *350 Montana v. Haaland*, 50 F.4th 1254, 1259 (9th Cir. 2022) (noting agency disclosed climates impacts of transporting coal by rail and then ship, and end-use combustion overseas).

[289] The Custer Gallatin NF dismisses the EISs prepared by the Forest Service elsewhere and by OSM as "irrelevant" because the South Plateau Project doesn't involve coal mining. *See* Custer Gallatin NF, Literature Consideration and Response (Mar. 2023) at 18. That dismissal misses the point. Those EISs are relevant because they show that agencies can disclose fossil fuel impacts from processing public lands resources, as the Custer Gallatin NF should do here.

resource extraction, transport, and end use. The Forest Service provides no basis (let alone a reasonable one) for failing to do the same for the South Plateau Project. This violates NEPA.

The Forest Service cannot assert that there is no reasonable way to collect this information because EPA has developed models that allow agencies to disclose the carbon pollution impacts of truck trips, bulldozers, and other equipment.[290] Tools exist for the Forest Service to undertake such analysis.

The Forest Service's failure to address the climate pollution impacts of timber sale preparation, road construction, transport, and milling is arbitrary because the agency discloses the *economic* impacts of these activities, but ignores the climate impacts. The economic analysis prepared for the project states: "Timber products harvested from the proposed project and the non-timber activities would have direct, indirect, and induced effects on local jobs and labor income," and the agency quantifies those impacts.[291] If the economic activities associated with timber products (transportation, milling, and sale) milling are foreseeable enough that the agency can identify and quantify their economic impact, they are foreseeable enough to disclose the climate pollution impacts.

It is also arbitrary because the Forest Service concludes that carbon losses from logging will be limited because cut trees will be turned into wood products. But it can't take credit for these alleged carbon saving without accounting for the climate pollution required (in the form of logging, transport to mills, milling, and transport to market) that it will take to turn those trees into wood products.

Federal courts have repeatedly concluded that federal agencies must take a "hard look" at foreseeable downstream impacts of a project, particularly where those impacts are part of the project's purpose. *See, e.g., Sierra Club v. FERC*, 867 F.3d 1357, 1372 (D.C. Cir. 2017) (holding that a federal agency violated NEPA by failing to take a hard look at the greenhouse gas emissions of burning gas that would be transported by the agency's approval of pipelines, where the burning of that gas was "not just reasonably foreseeable" but "the project's entire purpose"). Here, "[t]he South Plateau Landscape Area Treatment Project was proposed to … [among other things,] contribute to a sustained yield of timber products."[292] The Forest Service therefore must disclose the climate impacts of producing and shipping those timber products.

> <u>*Suggested Remedy*</u>. The Custer Gallatin NF should prepare an EIS, that
> (1) applies the 2023 CEQ Climate Guidance; and
> (2) discloses and quantifies the carbon pollution and carbon sequestration impacts of the South Plateau Project and alternatives thereto, including impacts due to:

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[290] *See, e.g.,* EPA, Overview of EPA's MOtor Vehicle Emission Simulator (MOVES3) (Mar. 2021), attached as Ex. 60, and available https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P1011KV2.pdf (last viewed May 1, 2023).

[291] *See* South Plateau Economic Effects Analysis (2023) at pdf pages 3-5.

[292] 2023 Final EA at 27.

a. removal of carbon stores via logging, analyzed with a life-cycle carbon analysis that addresses short-term carbon losses and potential (if any) long-term benefits; and
b. fossil fuel combustion needed to facilitate the construction, logging, log transport, milling, and transport to market of wood products that the project will require or cause.

IX. THE EA FAILS TO ADDRESS SCIENTIFIC STUDIES THAT UNDERMINE KEY ASSUMPTIONS UNDERPINNING THE ALLEGED NEED FOR, AND IMPACTS OF, THE ACTION.[293]

Information contained in a NEPA analysis "must be of high quality. Accurate scientific analysis … [is] essential to implementing NEPA."[294] An agency's "[h]ard look" analysis should utilize "the best available scientific information."[295] NEPA also requires agencies to explain opposing viewpoints and their rationale for choosing one viewpoint over the other.[296] Courts will set aside a NEPA document where the agency fails to respond to scientific analysis that calls into question the agency's assumptions or conclusions.[297]

Here, the Forest Service's failure to address peer-reviewed scientific studies concluding that the proposed logging treatments will be ineffective at best, and damaging at worst, violates NEPA.

The Forest Service assumes that hundreds of 20-40 acres clearcuts totaling up to 5,551 acres, and more than 9,100 acres of thinning, will "improve" the project area by, among other things "reduc[ing] hazardous fuels to increase fire suppression effectiveness and reduce risk to the public and first responders," and reducing fuels in the wildland-urban interface (WUI).[298] Clearcuts are purportedly needed to "increase[] resistance to pine beetles and increase[] forest resilience to disturbance" and to "reduce[] fuels available to wildfires."[299] Thus, the project is

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[293] The Center raised this issue in our November 5, 2022 comments on the 2022 Revised EA. *See* 2022 Center Comment Letter (Ex. 2) at 52-60.

[294] 40 C.F.R. § 1500.1(b) (1978).

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

[296] 40 C.F.R. § 1502.9(b) (1978) (requiring agencies to disclose, discuss, and respond to "any responsible opposing view"); 40 C.F.R. § 1502.9(c) (2020) (same).

[297] *See Ctr. for Biological Diversity v. U.S. Forest Serv*., 349 F.3d 1157, 1168 (9th Cir. 2003) (finding Forest Service's failure to disclose and respond to evidence and opinions challenging EIS's scientific assumptions violated NEPA); *Seattle Audubon Soc'y v. Moseley*, 798 F. Supp. 1473, 1482 (W.D. Wash. 1992) ("The agency's explanation is insufficient under NEPA – not because experts disagree, but because the FEIS lacks reasoned discussion of major scientific objections."), aff'd sub nom. *Seattle Audubon Soc'y v. Espy*, 998 F.2d 699, 704 (9th Cir. 1993) ("[i]t would not further NEPA's aims for environmental protection to allow the Forest Service to ignore reputable scientific criticisms that have surfaced").

[298] 2023 Final EA at 8, 21.

[299] 2023 Final EA at 7.

based on the assumption that thousands of acres of clearcuts will create patches of young forest that will be less susceptible to beetle outbreaks. The 2023 Final EA further justifies this approach by alleging that the majority of the area is at risk of a beetle outbreak and at risk of a stand-replacement fire.[300]

The Forest Service fails to address or meaningfully engage numerous peer-reviewed studies that contradict the 2023 Final EA's assumptions and the alleged effectiveness of the agency's prescriptions.

First, studies demonstrate that land managers have shown little ability to target treatments where fires later occur.[301] This means that any effort to "improve resilience" to fire may be wasted and unnecessary because fire is unlikely to ever occur in the area. This undermines the project's purpose and need.

The Final EA addresses this fact by arguing that its goal is to "increase forest resilience."[302] But this ignores the fact that the alternative of no action may result in an equally protected forest if no fire or pest outbreak ever occurs where logging takes place, as is a likely scenario. The Forest Service's failure to recognize this fact is arbitrary and capricious.

Second, studies show that forests impacted by mountain pine beetles are only weakly (if at all) correlated with increased fire risk, because forest fires are driven more by climate and weather than other factors. For example, studies investigating the correlation between beetle epidemics in the Western U.S. and fire concluded that beetle infestations have little impact on the extent of fire, and recommended that management efforts focus on adapting to fire, not limiting beetle outbreaks to reduce fire risk.

> Although MPB infestation and fire activity both independently increased in conjunction with recent warming, our results demonstrate that the annual area burned in the western United States has not increased in direct response to bark beetle activity. Therefore, policy discussions should focus on societal adaptation to the effects of recent increases in wildfire activity related to increased drought severity.[303]
>
> At a moderate spatiotemporal scale, both daily fire growth (DAB) and observed fire behavior, as recorded in ICS-209 reports, were driven by fire weather, not MPB [mountain pine beetle] outbreak in 56 large wildfire events that burned across the West during the 2003–2012 period. Given the relative rarity of wildfire

[300] 2023 Final EA at 3-4.

[301] Barnett, K., S.A. Parks, C. Miller, H.T. Naughton. 2016. Beyond Fuel Treatment Effectiveness: Characterizing Interactions between Fire and Treatments in the US. *Forests,* 7, 237. Attached as Ex. 61.

[302] 2023 Final EA at 29, 76.

[303] Hart, S.J., T. Schoennagel, T.T. Veblen, and T.B. Chapman. 2015. Area burned in the western United States is unaffected by recent mountain pine beetle outbreaks. Proceedings of the National Academy of Sciences. Vol. 112, No. 14. Attached as Ex. 62.

> burning in MPB-affected forests and negligible effects on daily fire activity, post-outbreak management strategies should emphasize mitigation of other negative effects on socioecological systems, including diminished tourism, tree-fall hazards, and effects on wildlife habitat (Morris et al 2018). In general, efforts to reduce the risk of extreme fire behavior should focus on societal adaption to future warming and extreme weather events.[304]
>
> The best available science indicates that outbreaks of bark beetles in lodgepole pine may have little or no effect on subsequent fires and may in some cases actually reduce the risk of fire. In contrast, there is strong scientific evidence linking severe forest fires in lodgepole pine to drought conditions (Bessie and Johnson, 1995; Sibold and Veblen, 2006; Schoennagel et al., 2004). Thus, the occurrence of severe fires in lodgepole pine forests is primarily influenced by climatic conditions rather than changes in fuels caused by bark beetle outbreaks.[305]

These studies thus call into question the 2023 Final EA's assumption that its proposed actions will achieve the project's purpose.

Another study noted that "[p]olicy and management approaches to wildfire have focused primarily on resisting wildfire through fire suppression and on protecting forests through fuels reduction on federal lands,"[306] as the South Plateau Project proposes to do here. "However, these approaches alone are inadequate to rectify past management practices or to address a new era of heightened wildfire activity in the West."[307]

The Forest Service failed to respond meaningfully to any of these studies, and simply repeated that it had other studies that reached differing conclusions. The agency never acknowledges the controversy that calls its conclusions into question, which violates NEPA.

Third, scientific studies demonstrate that thinning may do more harm than good, and may actually make treated stands more susceptible to pathogens. As one study concluded,

> While thinning has the potential to reduce tree stress, which can reduce susceptibility to insect attack, it also has the potential to bring about other conditions that can increase susceptibility. For example, thinning may injure

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[304] Hart, S.J., and D.L. Preston. 2020. Fire weather drives daily area burned and observations of fire behavior in mountain pine beetle affected landscapes. *Environ. Res. Lett.* 15 054007. Attached as Ex. 63.

[305] Black, S. H., D. Kulakowski, B.R. Noon, and D. DellaSala. 2010. Insects and Roadless Forests: A Scientific Review of Causes, Consequences and Management Alternatives. National Center for Conservation Science & Policy, Ashland OR. Attached as Ex. 64.

[306] Schoennagel, T. et al. 2016 Adapt to more wildfire in western North American forests as climate changes. Proceedings of the National Academy of Sciences. Vol. 114, No. 18. Attached as Ex. 65.

[307] *Id*.

> surviving trees and their roots, which can provide entry points for pathogens and ultimately reduce tree resistance to other organisms (Hagle and Schmitz 1993; Paine and Baker 1993; Goyer et al. 1998). Although thinning can be effective in maintaining adequate growing space and resources, there is accumulating evidence to suggest that tree injury, soil compaction, and temporary stress due to changed environmental conditions caused by thinning *may increase susceptibility of trees to bark beetles and pathogens* (Hagle and Schmitz 1993).[308]

An evaluation of scientific data on thinning concluded that while some studies found thinning effective at limiting beetle outbreaks, other studies found the opposite. Further, because land managers often failed to report failures, the incidences of "successful" treatments was likely over-reported by comparison. The study found that there were few, if any, long-term studies that addressed beetle impacts to thinned forests before, during and after an outbreak:

> While we may not have a complete understanding of how thinning works, it is clear that this practice can have a significant effect on mountain pine beetle infestations. Several studies have reported striking differences in mortality to trees caused by beetles in thinned vs. un-thinned forests (reviewed in [120,121]). In contrast, only a small number of studies have reported failures. However, the disparity in numbers of successes and failures must be placed within a broader context. Many studies assessing the efficacy of thinning have been conducted under non-outbreak conditions. Their results do not reflect how stands perform during an outbreak. Additionally, failures are often not reported, dismissed as a result of poor management 'next door' or targeted for management without evaluation. This is unfortunate because thinned stands that fail may have particular characteristics that could inform a better understanding and application of this approach.
>
> Studies conducted during outbreaks indicate that thinning can fail to protect stands. In Colorado, thinning treatments in lodgepole pine implemented in response to the outbreak that began in the 90s often only slowed the spread. Klenner and Arsenault [122] reported high levels of mortality due to the mountain pine beetle across a wide range of stands densities in lodgepole pine in British Columbia during the same outbreak. They noted that silvicultural treatments were largely ineffective in reducing damage to the beetle. Preisler and Mitchell [123] found that once beetles invaded a thinned stand the probability of trees being killed there can be greater than in unthinned stands and that larger spacings between trees in thinned stands did not reduce the likelihood of more trees being attacked. Whitehead and Russo [107] reported on the performance of 'beetle-proofed' (stands thinned to an even spacing of about 4–5 m between mature trees) and un-thinned stands in five areas in western Canada during approximately the same time period. These treatments were successful in protecting stands when they were combined with intensive direct control measures (removal of infested

[308] Black, S. H., D. Kulakowski, B.R. Noon, and D. DellaSala. 2013. Do Bark Beetle Outbreaks Increase Wildfire Risks in the Central U.S. Rocky Mountains? Implications from Recent Research. Natural Areas Journal, 33(1): 59-65. Attached as Ex. 66. Emphasis added.

> trees) in the areas surrounding the thinned units, but failed if units were exposed to beetle pressure from the neighboring area—a situation most thinned stands experience during an outbreak.
>
> Unfortunately, long-term replicated studies monitoring beetle responses to thinned forests from non-outbreak to outbreak to post-outbreak phase are virtually non-existent. One large fully-replicated long-term study was initiated in 1999 under non-outbreak conditions and continues to track beetle activity [113]. In this study, mountain pine beetle was low in all treatments in the period leading up to the outbreak, but increased in some controls and burn treatment replicates as the outbreak developed. Although more trees were killed overall in control units during the outbreak, all controls still retained a greater number of residual mature trees than did thinned stands as they entered the post-outbreak phase [124].[309]

In sum, the scientific basis supporting thinning as a method for reducing the risk of, and damage to forests from, a beetle outbreak, is weak. And one of the few long-term studies to track stands before, during, and after a beetle epidemic found more trees were killed via thinning than were by the epidemic itself.

In weighing the project's costs and benefits, the Forest Service fails to acknowledge the scientific evidence that its proposed thinning treatments may be ineffective, or may result in fewer trees on the landscape even after an epidemic than would be left if the Forest Service does nothing. In part, this is because the Forest Service fails to fairly compare the impacts of the proposed action to the "no action" alternative. Indeed, the phrase "no action" does not appear at all in the 2022 Revised EA, nor does the term appear in the supporting "Forest Vegetation Effects Analysis." This failure to acknowledge contrary evidence violates NEPA, and, as discussed below, the existence of a scientific controversy supports the need for the agency to prepare an EIS rather than a mere EA.

Fourth, thinning or clearcutting may result in destroying the very trees that are most resilient to beetle attack, and those with an ability to pass on that resilience to seedlings.

> For both whitebark and lodgepole pine, survivors and general population trees mostly segregated independently indicating a genetic basis for survivorship. Exceptions were a few general population trees that segregated with survivors in proportions roughly reflecting the proportion of survivors versus beetle-killed trees. Our results indicate that during outbreaks, beetle choice may result in strong selection for trees with greater resistance to attack. Our findings suggest that survivorship is genetically based and, thus, heritable. Therefore, retaining

[309] Six, D.L., E. Biber, E. Long. 2014. Management for Mountain Pine Beetle Outbreak Suppression: Does Relevant Science Support Current Policy? *Forests*, 5. Attached as Ex. 67.

survivors after outbreaks to act as primary seed sources could act to promote adaptation.[310]

The best way to ensure future resilience to a beetle outbreak thus may be to allow the beetles to identify the most genetically fit survivors, who will then provide the seedstock for future survivors. Neither the 2023 Final EA nor the "Forest Vegetation Effects Analysis" addresses this study or acknowledges that logging may destroy the best hope for improved resilience, in violation of NEPA.[311]

Fifth, large-scale thinning will likely create forest structure that is unlike those found historically in the area, despite the fact that some evidence suggests that retaining historic forest structure may be an effective way of retaining resilient forests. For example, Lundquist and Reich (2014) make the case, citing Hughes and Drever, that maintaining forests with their historic range of variability (HRV) is the most sensible approach to managing for beetle outbreaks.[312] In and near Yellowstone National Park, that would counsel against the Forest Service creating low-density stands or clearcuts in an attempt to make those stands resistant to beetles. Schoennagel et al. (2006) show that under the HRV, lodgepole pine stands in the Yellowstone area would have varied from about 20,000-90,000 trees/ha, a very high density.[313] A typical open, low-density lodgepole pine stand after thinning, especially at levels anticipated by the EA (which prescribes a basal area for many treatments as low as 40 ft^2/acre),[314] might have fewer than 500 trees/ha, which is far outside the HRV, thus violating the principle explained by Hughes and Drever. Clearcutting is also unlikely to mimic any natural process because both fires and beetle outbreaks result in patches of mortality, and rarely remove every tree in a 20- or 40-acre area. Clearcutting also produces a vast monoculture that has a structure that gives it the highest susceptibility to insects and disease.

We found no response to these scientific studies in the 2023 Final EA, nor any basis for creating what amounts to an artificial forest untethered to the historic ecosystem that thrived before Forest Service mismanagement of fire began in the early 20th Century.

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[310] Six, D.L., C. Vergobbi, and M. Cutter. 2018. Are Survivors Different? Genetic-Based Selection of Trees by Mountain Pine Beetle During a Climate Change-Driven Outbreak in a High-Elevation Pine Forest. Frontiers in Plant Science, Vol. 9, Article 993. Attached as Ex. 68.

[311] *See also* Comment Consideration and Response (Mar. 2023) (providing non-response to the study); Literature Consideration and Response (Mar. 2023) at 2020 (declining to address study's implication that the best way to ensure future resilience to a beetle outbreak thus may be to allow the beetles to identify the most genetically fit survivors).

[312] Lundquist, J.E. and R. Reich. 2014. Landscape Dynamics of Mountain Pine Beetles. *For. Sci*. 60(3):464–475. Attached as Ex. 69.

[313] Schoennagel, T., M.G. Turner, D.M. Kashian, A. Fall. 2006. Influence of fire regimes on lodgepole pine stand age and density across the Yellowstone National Park (USA). Landscape Ecol. 21:1281–1296. Attached as Ex. 70. *See*, e.g., *id*. at 1289, Figure 1 (HRV panels).

[314] 2023 Final EA at 91-93 (identifying basal area targets as low as 40 ft^2/acre for thinning prescriptions for lodgepole pine and mixed conifer stands).

Sixth, the project proposes aggressive logging within the 9,000+ acres of the "wildland urban interface" (WUI), with prescriptions which authorize thinning and clearcutting up to one-half mile from "values at risk," defined as "homes and communities, utilities, communications sites, other infrastructure, municipal drinking water, and ecosystem function."[315] Scientific studies, including those performed by Forest Service researchers, demonstrate that the most effective way to protect values is by thinning vegetation within 40 meters (or about 130 feet) of structures, a distance that is one-twentieth of that specified for the WUI area proposed by the Forest Service at South Plateau. A 1998 study concluded: "Model results indicate that ignitions from flame radiation are unlikely to occur from burning vegetation beyond 40 meters of a structure. Thinning vegetation within 40 meters has a significant ignition mitigation effect."[316] If the Forest Service has studies that demonstrate that thinning or clearcutting assists in the protection of other structures further than 40 meters from structures and other "values at risk," or other science contradicting Dr. Cohen's research, it should explain what those are, and explain what scientific research it has that supports the half-mile WUI prescriptions.

Seventh, the Forest Service must address studies that contradict the agency's assumption that "[c]learcut harvest increases resistance to pine beetles and increases forest resilience to disturbance by increasing age class diversity, resulting in a more heterogeneous landscape."[317] We are unaware of studies showing that Montana forests require treatment to increase "resilience" (a term the EA does not define), or that Montana forests have not "come back" following severe disturbance, and in response to comments, the agency fails to provide any.[318] The recovery of lodgepole forests following the 1988 fires in Yellowstone National Park next door to (and even including some of) the South Plateau Project area are a prime example of that fact, one unremarked upon by the Forest Service. Studies demonstrated that historic fires of the scale and intensity of those in Yellowstone in 1988 were within the historical ranges of variation.[319]

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[315] 2023 Final EA at 21, 23 (defining WUI); *id*. at 91-92 (defining logging prescriptions in the WUI).

[316] J.D. Cohen & B.W. Butler, Modeling Potential Structure Ignitions from Flame Radiation Exposure with Implications for Wildland/Urban Interface Fire Management (1996) at 81, in 13th Fire and Forest Meteorology Conference (Lorne, Australia), available at https://www.fs.usda.gov/rm/pubs_other/rmrs_1998_cohen_j001.pdf (last viewed Nov. 5, 2022) attached as Ex. 71. *See also* J.D. Cohen, Home Ignitability in the Wildland-Urban Interface. J. For. 2000, 98, 15-21. ("The home and its surrounding 40 meters determine home ignitability, home ignitions depend on home ignitability, and fire losses depend on home ignitions. Thus, the W-UI fire loss problem can be defined as a home ignitability issue largely independent of wildland fuel management issues"). Available at https://www.fs.usda.gov/rm/pubs_other/rmrs_2000_cohen_j002.pdf (last viewed Nov. 5, 2022), and attached as Ex. 72.

[317] 2023 Final EA at 7.

[318] Comment Consideration and Response (Mar. 2023) at 59.

[319] W.H. Romme & D.G. Despain, Historical Perspective on the Yellowstone Fires of 1988: A reconstruction of prehistoric fire history reveals that comparable fires occurred in the early

Eighth, published data shows a significant decline in the suitability of harvested forests that subsequently burn years later for the most fire-dependent bird species in mixed-conifer forests of the West.[320] In other words, an *unharvested* mature forest that burns is much more valuable to fire-dependent species than is a previously *harvested* forest that burns. The Forest Service does not address studies showing that the proposed action will degrade habitat for fire dependent species across the 14,000+ acres that would be logged under the project, except to dismiss them as inconsequential.[321]

Ninth, the Forest Service proposes clearcutting over thousands of acres in part to address the existence of endemic mistletoe in lodgepole stands. The 2023 Final EA alleges: "Stand resistance to dwarf mistletoe would be improved by clearcut harvest because the parasite would be removed in treated areas and regenerating trees would be able to mature with little or no mistletoe."[322] The Forest Service contends:

> The clearcut treatments included in the proposed action would also meet the need to increase forest resilience and decrease long-term losses in lodgepole pine stands by reducing the occurrence of dwarf mistletoe. Currently, dwarf mistletoe is widespread in the project area; it was present in nearly all surveyed stands.[323]

The Forest Service does not explain what purpose it serves to "increase forest resilience" by reducing dwarf mistletoe, aside from helping such trees retain commercial value and "volume" (which may benefit those seeking to reap profits from forests, but not the forest's denizens).[324] While mistletoe "*may* stunt young trees and cause a general decline or death in hosts,"[325] the cure the Forest Service proposes is to eradicate *all* trees over 5,551 acres, which will *certainly* cause death in host trees. Mistletoe will eventually return to seedlings that grow in the clearcuts because mistletoe is endemic.

The Forest Service's narrative fails to address contrary scientific literature describing the ecological importance and value of mistletoe as a food source for wildlife, and as habitat for nesting. One study found:

1700s. *BioScience*, Volume 39, Issue 10, November 1989, Pages 695–699, available at https://www.jstor.org/stable/1311000#references_tab_contents, attached as Ex. 73.

[320] R. Hutto, The Ecological Importance of Severe Wildfires: Some Like It Hot, Ecological Applications, 18(8), 2008, pp. 1827–1834, attached as Ex. 74.

[321] Custer Gallatin NF, Literature Consideration and Response (Mar. 2023) at 21.

[322] 2023 Final EA at 27.

[323] 2023 Final EA at 29.

[324] 2023 Final EA at 3 ("Dwarf mistletoe has also been found to reduce stand volume compared to healthy stands"); 2023 Forest Vegetation Analysis at 9 (complaining that mistletoe infestations results in "volume reduction" compared to non-infested stands).

[325] 2023 Final EA at 29 (emphasis added).

> Three years after mistletoe removal, treatment woodlands lost, on average, 20.9 per cent of their total species richness, 26.5 per cent of woodland-dependent bird species and 34.8 per cent of their woodland-dependent residents compared with moderate increases in control sites and no significant changes in mistletoe-free sites.[326]

A 1994 Forest Service report found that mistletoe provided food for a variety of birds, red squirrels and porcupines, and nesting sites for squirrels and birds.[327] Impacted trees also provided important habitat. "Both mule deer and elk in Colorado used infested stands more frequently than uninfested stands."[328] The Forest Service alleges that the agency addressed the project's wildlife report addresses project impacts, but that report does not even contain the word "mistletoe."[329] The Forest Service's failure to address these studies, and the impacts of removing these trees, violates NEPA.

The Forest Service must disclose and fully address all of these scientific studies and their data that undermine the 2023 Final EA's assumptions and conclusions in order to take the hard look that NEPA requires.

> *Suggested Remedy*: The Custer Gallatin NF should prepare an EIS that addresses and incorporates into its analysis peer-reviewed scientific studies demonstrating that the South Plateau Project's proposed logging treatments will be ineffective at best, and damaging at worst, and modify its proposed action accordingly.

X. THE EA FAILS TO TAKE THE HARD LOOK AT IMPACTS TO UNROADED AREAS, AND IMPACTS OF RECREATION.[330]

A. The Forest Service Fails to Disclose the Significant Damage the Project Will Inflict on Unroaded Lands.

We appreciate and support the Forest Service's commitment that "[n]o management actions would occur in the Dry Canyon Inventoried Roadless Area."[331]

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[326] D.M. Watson & M. Herring. Mistletoe as a keystone resource: an experimental test. Proc. R. Soc. B (2012) 279, 3853–3860. Published online 11 July 2012, and attached as Ex. 75.

[327] F.G. Hawksworth & D. Wiens, Dwarf Mistletoes: Biology, Pathology, and Systematics (1994) at Chapter 8. Available at https://www.fs.usda.gov/rm/pubs_other/rmrs_1996_hawksworth_f001.pdf (last viewed May 1, 2022). Excerpts attached as Ex. 76.

[328] *Id*.

[329] *See* 2023 Wildlife Report.

[330] The Center raised this issue in our November 5, 2022 comments on the 2022 Revised EA. *See* 2022 Center Comment Letter (Ex. 2) at 62-65.

[331] 2023 Final EA at 42.

The analysis of the project's impacts to unroaded areas, however, fails to take the hard look NEPA requires.

The Ninth Circuit has held that roadless areas are significant "because of their potential for designation as [W]ilderness areas under the Wilderness Act of 1964, 16 U.S.C. §§113-1136."[332] In cases involving *"inventoried* roadless areas . . . and inventoried roadless areas that contain *more than 5,000 acres*" consideration of the effects of logging on the roadless character of the roadless area is necessary.[333] Additionally, "[i]t is true that significant logging of a roadless area could have serious environmental consequences, even if the roadless area is neither inventoried nor greater than 5,000 acres."[334]

"[T]he decision to harvest timber on a previously undeveloped tract of land is 'an irreversible and irretrievable decision that could have 'serious environmental consequences.'"[335] The Ninth Circuit in *Smith v. Forest Service* held that logging in roadless areas is environmentally significant, because: 1) roadless areas have certain attributes that must be analyzed; and 2) roadless areas are significant because of their potential for designation as Wilderness.[336] There, the court considered an inventoried roadless area contiguous to an uninventoried roadless area.[337] Although logging was only to occur on the uninventoried land, the Court concluded that both the uninventoried and inventoried roadless areas must be analyzed as one combined roadless area totaling over 5,000 acres.[338] "[T]he possibility of further [W]ilderness classification triggers, at the very least, an obligation on the part of the agency to disclose the fact that development will affect a 5,000-acre roadless area."[339]

In 2010, the Forest Service published a worksheet titled "Our Approach to Roadless Area Analysis and Unroaded Lands." In it, the Forest Service determined:

> Based on court history, projects on lands contiguous to roadless areas must analyze the environmental consequences, including irreversible and irretrievable commitment of resources on roadless area attributes, and the effects of potential designation as wilderness under the Wilderness Act of 1964. *This analysis must consider the effects to the entire roadless expanse- that is both the roadless area and the unroaded lands contiguous to the roadless area*.[340]

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[332] *Lands Council v. Martin*, 529 F.3d 1219, 1230 (9th Cir. 2008).

[333] *Lands Council v. Martin*, 479 F.3d 639,640 (9th Cir. 2007) (emphasis in original).

[334] *Id*.

[335] *Smith v. Forest Service,* 33 F.3d 1071 (9th Cir.1994).

[336] *Id*. at 1078-79.

[337] *Id.* at 1077.

[338] *Id.*

[339] *Id.*

[340] Forest Service, Our Approach to Roadless Area Analysis and Unroaded Lands (Dec. 2, 2010) at 7 (emphasis added) available online at

Here, the Forest Service disclosed that two large portions of the project area are uninventoried roadless areas and connected to two inventoried roadless areas: the Two Top IRA and the Dry Canyon IRA.[341] The project will include roadbuilding and logging in these uninventoried roadless areas.[342] However, the Forest Service fails to consider the South Plateau Project's effects to the entire, combined roadless expanses. Doing so results in the Forest Service's failure to abide by its own policies regarding analysis of roadless areas, its failure to make an adequate determination as to whether project impacts are significant, and its failure to comply with NEPA's hard look mandate.

In addition, the EA fails to make clear that *all of the South Plateau Project's clearcuts* may be targeted at unroaded areas, degrading these areas for decades. The specialist's report on unroaded areas contains a table indicating that every one of the project's 5,551 acres of clearcuts could be targeted in the three unroaded areas (which total 14,230 acres), despite the fact that the unroaded lands make up only about a third of the project area.[343] It also appears the unroaded areas will be targeted for a majority of temporary road construction, although the Forest Service: (1) fails to provide a map overlaying temporary road construction on unroaded lands; and (2) fails to include a figure for estimated miles of road construction in unroaded areas, despite stating that it would do so.[344] Although we specifically requested that Final EA contain such a map and the promised data, the Forest Service failed to do so, instead responding:

> Temporary roads would be laid out according to the Treatment Matrix and Design Features. The preliminary or draft layouts for the first two potential sales, which served to test the Matrix and Design Features is available on the project webpage.[345]

Thus, the Forest Service fails to provide any estimate of road miles in unroaded areas because that will be decided later. This contradicts NEPA's "look before you leap" mandate. Further, punting the issue to maps of the two proposed timber sale layouts – which don't disclose the location of unroaded areas – is helpful to both the public and the decisionmaker.

Further, it appears from reviewing data in the Forest Service's "FACTS" database that many of the clearcuts proposed in the unroaded areas will essentially eliminate the last remaining intact, undisturbed forests in these landscapes. That database shows that portions of the unroaded areas

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https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fseprd528824.pdf (last viewed May 1, 2023).

[341] *See* B. Thompson, Revised Roadless/Unroaded Report (Feb. 2023) at 2.

[342] Compare *id.* with 2023 Final EA at 6.

[343] B. Thompson, Revised Roadless/Unroaded Report (Feb. 2023) at 10 (Table 1) (showing that up to 5,551 acres of clearcuts could occur in unroaded areas).

[344] *Compare* B. Thompson, Revised Roadless/Unroaded Report (Feb. 2023) at 10 ("Table 1 shows the … maximum mileage of temporary project roads that may occur") *with id*. (Table 1) (containing no road mileage data).

[345] Comment Consideration and Response (Mar. 2023) at 98.

were previously logged (including via clearcuts) in the 1960s through 2010s. The South Plateau Project will, in some places, apparently "finish the job" by logging those areas left alone via previous treatments. Comparing the map of unroaded areas in the Roadless Report and the map provided for the first time in the 2023 Final EA of past timber removal projects and the proposed action yields helps illustrate this as well.[346] For example, there are unroaded lands (part of Unroaded Area 2) on the east side of FS Road 1700 about a mile north of the southern boundary of the Dry Creek IRA and contiguous with the IRA.[347] The unroaded area is perforated by several clearcuts from the mid-1980s as part of the "Dry Bear" timber sale, according to the FACTS database. The South Plateau Project would apparently eliminate the remainder of areas not recently logged by targeting the entirety of the unroaded lands east of FS Road 1700 in this area with clearcuts.[348]

For another example, Unroaded Area 2 contains thousands of acres of what appear to be previously untreated acres surrounding an oval of lands about a mile southeast of Reas Pass.[349] The FACTS database reports that this oval was clearcut in the late 1960s. The South Plateau Project proposes to clearcut virtually all of the unroaded lands surrounding this existing clearcut, eliminating lands that, according to the FACTS database, have previously never been treated.[350]

Thus, this Project appears to be eliminating some of the last untreated stands outside of IRAs and wilderness in the project area, something that the 2023 Final EA fails to adequately disclose. Although the 2023 Final EA for the first time contains a map displaying past treatments,[351] which we appreciate, that map does not overlay those past and proposed treatments onto unroaded area boundaries, nor does providing a map alone *analyze* the damage the project will cause to the remnants of unroaded and previously untreated forest.

To take the hard look NEPA requires, the Forest Service should have provided maps showing which portions of the unroaded areas were logged since the 1950s, which remain untreated since the 1950s, and which the agency plans to treat via the South Plateau Project. This would have enabled the public and decisionmaker to easily understand the how damaging the project will be to these areas which, if left alone, could recover to the point where they could be recommended for wilderness protection. Further the agency should have analyzed and disclosed that the Project

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[346] *Compare* B. Thompson, Revised Roadless/Unroaded Report (Feb. 2023) at 2 (Figure 2) *with* 2023 Final EA at 85 (Figure 15).

[347] *Id*. at 2 (Figure 1).

[348] *See* 2023 Final EA at 6 (Figure 2) (displaying proposed clearcuts in unroaded lands east of FS Road 1700, except for areas apparently already clearcut in the 1980s).

[349] B. Thompson, Revised Roadless/Unroaded Report (July 2022) at 2 (Figure 1).

[350] *See* 2023 Final EA at 6 (Figure 2) (displaying proposed clearcuts in unroaded lands east of FS Rod 1700, except for areas apparently already clearcut in the 1980s); *see also* 2023 Final EA at 85 (Figure 15) (showing same).

[351] 2023 Final EA at 85 (Figure 15).

will virtually eliminate the remainder of the untreated, unroaded lands in the Project area, leaving it a nearly completely manipulated landscape. The agency failed to do so.

B. The Forest Service Failed to Analyze the Impacts of Increased Snowmobile Use in Logged Forests.

The use of over-the-snow motorized vehicles – snowmobiling – is a popular use of the South Plateau area.[352] "The number of participants has grown over time, as well as the extent of the areas that can be accessed, due to improvements in machine capability and technology."[353] The prevalence of snowmobile use in the area is apparently a key reason the Forest Service has proposed barring logging and road use in the project area in winter.[354] And while the EA and specialists' reports address the project's impacts on snowmobiling, it is unclear whether the Forest Service has disclosed the impact of the project when taken together with the increased opportunities for motorized use off groomed trails that the South Plateau Project will provide.

The Forest Service admits that clearcutting and thinning will open up forest areas to more winter motorized use. Logging will thus allow easier snowmobile access to remote areas for up to 30 years after thinning occurs, meaning that increased impacts from the expanded reach of winter motorized travel could last into the 2060s given that the project may take 15 years to implement.[355] In addressing the project's impacts on the wilderness characteristics of unroaded lands, the 2022 Revised EA stated:

> The proposed project would likely result in temporary adverse effects to the wilderness attributes of Undeveloped Character, Opportunities for Solitude, and Manageability because … *thinning would allow easier off-trail snowmobile access.* Effects to opportunities for solitude would be likely to last while project actions are ongoing; effect to manageability and undeveloped character are *expected to last no longer than 30 years after which time* forests will have regrown enough that timber harvest is not as evident to the casual viewer and *trees will again limit easier off-trail snowmobile travel*.[356]

The 2023 "Revised Roadless/Unroaded Report" concurs, stating:

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[352] 2023 Final EA at 20 (recognizing the popularity of the project area for snowmobiling). *See also* 2023 Wildlife Report at 49 ("Snowmobiling is a popular winter recreation activity in both [grizzly bear] subunits. The number of participants has grown over time.").

[353] 2023 Wildlife Report at 49.

[354] 2022 Wildlife Report at 98 ("Project implementation, snow plowing, and hauling would not be allowed in the area between November 1 and April 30 in order to eliminate impacts to winter recreation, including snowmobiling").

[355] *See* 2023 Final EA 10 ("The Forest estimates that it would take up to 15 years to fully implement all the actions associated with this project").

[356] 2022 Revised EA at 40.

> Manageability [of wilderness character lands] may be temporarily further limited as thinning and clearcut harvest may make off-trail snowmobile travel easier in these areas. Adverse effects would be expected until forested stands re-grow thickly enough to deter snowmobiles, likely within 30 years of project implementation.[357]

The 2023 Final EA, without explanation, alleges "effect[s] to manageability and undeveloped character are expected to last no longer than *20 years*,"[358] 10 years shorter than stated in the Revised Roadless/Unroaded Report and than stated in the 2022 Revised EA. Contradicting prior findings and the agency's own specialist's report without explanation is arbitrary and capricious.

The 30 years of snowmobile intrusions into formerly secure unroaded habitats will harm wildlife. The Forest Service admits that off-trail snowmobile use can degrade habitat used by grizzly bears for denning,[359] and cause wolverine to avoid some areas.[360]

However, the Forest Service does not seriously analyze and disclose the foreseeable impacts of 30 years of increased snowmobile use in clearcut and thinned areas across the project area for these and other wildlife. For example, while the 2023 Wildlife Report acknowledges generally that off-trail snowmobile use may displace wolverine, the agency downplays the fact that logging will open up now-closed areas to snowmobile use across 14,000 acres – both thinned areas and clearcuts – and that such use will continue for up to 30 years post-logging, degrading a huge swath of the area for wolverine use for decades. The 2023 Wildlife Report shrugs off the impacts, concluding: "While a potential increase in snowmobile access may cause disturbance in wolverine primary and maternal habitat, it is not expected that a change in this activity would result in impacts that would jeopardize the continued existence of the wolverine DPS."[361] This is not a hard look.

In addition, the 2023 Wildlife Report concludes that elk hiding cover in winter will be degraded by logging for up to 20 years, but the analysis of hiding cover addresses only vegetative cover, and not the impacts of motorized snowmobile use within forests for up to 30 years after logging has ceased.[362] The agency concludes that because elk "generally" won't be in the area in

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[357] B. Thompson, Revised Roadless/Unroaded Report (Feb. 2023) at 11 (".").

[358] 2023 Final EA at 46 (emphasis added).

[359] 2023 Wildlife Report at 49 (concluding that "localized effects [of snowmobile use] may reduce suitability of certain areas for [grizzly bear] denning").

[360] *See* 2023 Wildlife Report at 89 ("Heinemeyer and others (2017) found that wolverine respond to dispersed motorized and non-motorized recreation in the GYE by avoiding these activities to some degree.").

[361] 2023 Wildlife Report at 93.

[362] 2023 Wildlife Report at 117. *See also id*. at 170 (Figure 22) (showing significant portions of the project area denuded of hiding cover by the project).

winter,[363] they won't be harmed, though they provide no support for this conclusion, or address whether some elk may remain in the area.

If the Forest Service intends to rely on mitigation measures to limit these impacts, it must explain where and how they apply. For example, the 2022 Wildlife Report states: "Much of the action area is currently open to recreational activities, including snowmobiling, backcountry skiing, and other activities. Big game winter range and recommended wilderness are generally closed to winter motorized recreation activities."[364] But the project area does not appear to include any recommended wilderness on Forest Service land.[365] Nor could we locate a map of "big game winter range" in the project area in the EA or incorporated reports indicating where the Plateau is closed to winter recreation. While the Comment Consideration and Response (Mar. 2023) at 146, states that a "map of winter range will be included in the final wildlife report," that report fails to contain such a map.

To take the hard look NEPA requires, the Forest Service was required to prepare a NEPA document to disclose the impacts of an increase in snowmobile use in clearcut and thinned areas to all wildlife and other values within the project area. Because thinning and clearcuts may also pave the way for unauthorized off-road vehicle travel in other months, the Forest Service must address those impacts as well. The agency's failure to do so violated NEPA.

Suggested Remedy: The Custer Gallatin NF should prepare an EIS, that:

(1) accurately discloses the Project's disproportionate impacts to unroaded areas;
(2) corrects or explains the 2023 Final EA's changing its evaluation of the length of time snowmobile use may intrude into logged stands from 30 years to 20 years; and
(3) otherwise discloses the impacts logging and thinning will have on wildlife by allowing 30 years of snowmobile use into formerly inaccessible habitats.

XI. THE FOREST SERVICE FAILED TO TAKE A HARD LOOK AT BASELINE CONDITIONS, AND CUMULATIVE AND CONNECTED ACTION.[366]

A. The Forest Service Fails to Disclose Baseline Data Concerning, and the Cumulative Impacts of, Past Timber Sales in the Project Area.

The Forest Service's FACTS database displays the location of numerous prior clearcuts as well as "salvage" and thinning treatments within the project area. A map provided for the first time in the 2023 Final EA provides some of this information too.[367] While the agency generally acknowledges this history, it fails to address the impacts those prior treatments have (and

[363] Comment Consideration and Response (Mar. 2023) at 146.

[364] 2023 Wildlife Report at 89.

[365] B. Thompson, Revised Roadless/Unroaded Report (July 2022) at 1, 2 (Figure 1).

[366] The Center raised this issue in our November 5, 2022 comments on the 2022 Revised EA. *See* 2022 Center Comment Letter (Ex. 2) at 65-66.

[367] 2023 Final EA at 85 (Figure 15).

continue to have) and will have when taken together with the proposed South Plateau Project. The Forest Service must account for these impacts to comply with NEPA's mandate to disclose the baseline conditions of the existing environment, and to disclose the project's impacts when taken together with those past, present, and reasonably foreseeable projects, known as cumulative effects.

As noted above, comparing maps in the 2023 Final EA to those in the FACTS database (and to some extent, to Figure 15 in the 2023 Final EA) appear to show that the project will target for new clearcuts a significant portion of the project area where clearcutting and other logging has not occurred for the last 60 years, representing a significant assault on those dwindling portions of the landscape where mature lodgepole stands have been largely left untouched for decades. The failure to disclose this information and to analyze the impacts of this elimination of natural forest would have assisted the decisionmaker and the public in understanding the heterogeneity of stand ages across the project area, as well as the abundance (or lack thereof) of mature and old growth stands within the project area.

The 2023 Final EA also fails to map or analyze the existence of the tiny pockets of old growth forest – less than 2% of the forested landscape – or to project where roads will be bulldozed through that Forest, as discussed above.

B. The Forest Service Failed to Analyze the South Bridge Replacement as a Cumulative Action Together with the South Plateau Project.

The Forest Service appears to have violated NEPA by approving and implementing the replacement of the South Fork Bridge without addressing the fact that such replacement was designed to facilitate (and thus was a cumulative and connected action with) the South Plateau Project. The Forest Service states: "The [South Fork] bridge was replaced in the spring of 2022 *to meet the demands of the predicted timber sale use* and the construction of the Yellowstone Shortline Trail project."[368]

It is well settled that where the Forest Service improves a route to facilitate logging, the two actions must be considered together as "connected actions." *See, e.g.*, *Thomas v. Peterson*, 753 F.2d 754 (9th Cir. 1985). The Forest Service failed to so here, segmenting the analysis so that it failed to address the impacts of bridge replacement together with the South Project's logging that apparently could not have occurred (or could not have occurred as easily) without the bridge replacement. To address this legal violation, the Forest Service should have disclosed the impacts of the bridge replacement together with the impacts of this project. The 2023 Final EA failed to do so.

When confronted with comments on the 2022 Revised EA raising this issue, the Forest Service changed its story, claiming the bridge replacement was "routine maintenance" and expunging the statement that the bridge was replaced "to meet the demands of the predicted timber sale use."[369]

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[368] C. Davis & J. Kempff, South Plateau Landscape Area Treatment: Transportation System Effects Analysis (June 3, 2022) at 5.

[369] Comment Consideration and Response (Mar. 2023) at 180.

The Forest Service's new story is that "[t]he bridge was replaced in the spring of 2022 to meet the access needs for the construction of the Yellowstone Shortline Trail project, and ongoing administrative demands."[370] This apparent attempt to change the purpose of the bridge replacement to avoid a cumulative impacts analysis is arbitrary.

Suggested Remedy: The Custer Gallatin NF should prepare an EIS that:
(1) discloses baseline data concerning, and the cumulative impacts of, past timber sales in the project area; and
(2) analyzes the cumulative impacts of the South Plateau Project together with the impacts of the South Bridge replacement project.

XII. THE FOREST SERVICE ANALYSIS OF WATER QUALITY VIOLATES NEPA.[371]

A. The EA Fails to Take a Hard Look at the Project's Water Quality Impacts.

In its analysis of potential water quality impacts the Forest Service states: "[f]our indicators were used to evaluate the effects of the proposed actions on water quality: water yield, peak flows, sediment yield, and stream channel stability."[372] While these are useful indicators to consider, together they fail to take a hard look at the potential impacts to overall watershed conditions. The Forest Service also fails to properly consider watershed conditions in its analysis of aquatic species, particularly within riparian areas, instead the agency assumes that project design features and limits on project activities within designated inner riparian management zones precludes the need for detailed analysis of project activities, an erroneous assumption we address below.

Further, the Forest Service states in its aquatic species analysis that "[b]y design, sediment delivery to stream channels and its accumulation in spawning gravel would not exceed the Land Management Plan sediment standard (U.S. Department of Agriculture 2022c) and aquatic habitat capability would be maintained."[373] The 2022 "Gallatin National Forest standards set an allowable limit of 30% above reference level for sediment in Class A streams and 50% above reference level for sediment in Class B streams (see Regulatory Framework section of this report)."[374] Yet the Forest Service fails to demonstrate here at the project level how those standards adequately protect water quality or aquatic species, particularly given the omissions and erroneous assumptions detailed below.

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[370] C. Davis & J. Kempff, South Plateau Landscape Area Treatment: Transportation Analysis (Jan. 31, 2023) ("2023 Transportation Report") at 12.

[371] The Center raised this issue in our November 5, 2022 comments on the 2022 Revised EA. *See* 2022 Center Comment Letter (Ex. 2) at 66-73.

[372] 2023 Final EA at 60.

[373] 2023 Final EA at 35.

[374] D. White, Water Quality Specialist Report, South Plateau Project (Feb. 2, 2023) ("2023 Water Quality Report") at 14.

Overall, the agency fails to take a hard look at watershed conditions, even with the four indicators cited above. Specifically, the Forest Service references the Watershed Condition Framework (WCF) in the project's water quality report by disclosing that "[t]he Middle South Fork Madison River watershed is rated as functioning at risk due to factors including "poor" condition ratings for Aquatic Biota and Soil (Figure 2)."[375] We recognize the Middle S. Fork Madison River watershed rates as "good" regarding water quality, along with a number of other WCF indicators.[376] *See* Table 1 below.

Table 1. Regional Extent: Custer Gallatin National Forest

Forest Name	Custer Gallatin National Forest
Forest Unit ID	0111
Watershed Code	100200070204
Watershed Name	Middle South Fork Madison River
Watershed Condition Forest Service Area	Functioning at Risk
Total Watershed Area Acres	15,933
Forest Service Ownership Percent	97
Non-Forest Service Area Percent	3
Aquatic Biota Condition	Poor
Riparian/Wetland Vegetation Condition	Good
Water Quality Condition	Good
Water Quantity Condition	Fair
Aquatic Habitat Condition	Good
Road and Trail Condition	Fair
Soil Condition	Poor
Fire Effects/Fire Regime Condition	Good
Forest Cover Condition	Good
Forest Health Condition	Good
Terrestrial Invasive Species Condition	Good
Rangeland Vegetation Condition	Good

While the water quality rating is encouraging, the Forest Service offers no supporting discussion that may explain the "good" water quality. The WCF utilizes two water quality indicators: impaired waters and water quality problems not listed. Given the watershed contains no impaired streams, it is likely the agency bases its "good" rating solely on this score. However, the "poor" soil rating suggests that the Forest Service should have taken a harder look at the underlying attributes, which include soil productivity, soil erosion, and soil contamination. If the rating is due to soil erosion, then an increase in sedimentation allowed by the 2022 Forest Plan sedimentation standards may not only worsen the soil erosion attribute, but also lead to a reduction in water quality ratings, moving it from "good" to "fair." Unfortunately, the Forest

[375] *Id.* at 18.

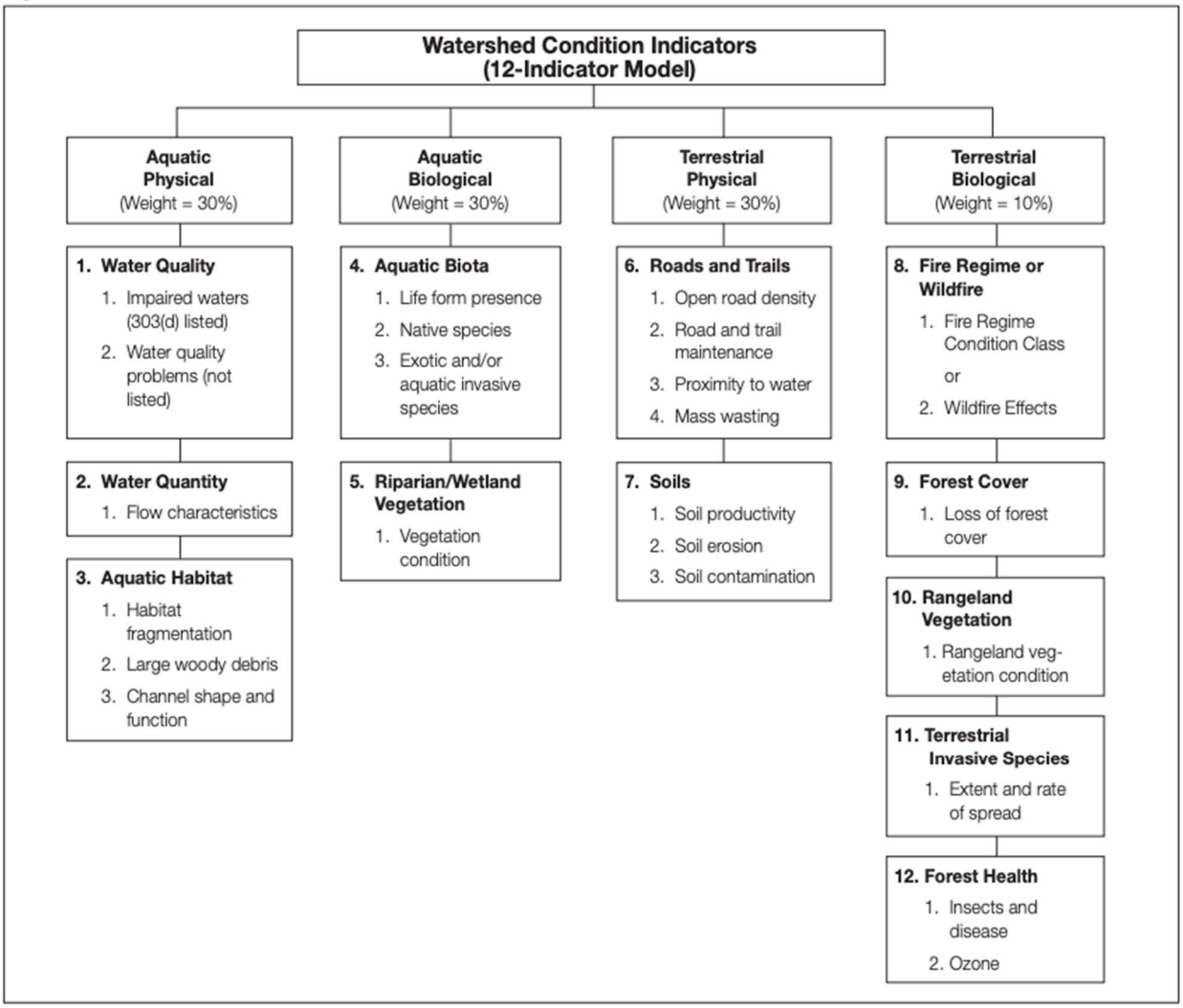
[376] *Id.*

Service fails to explain precisely why the soil and aquatic biota indicators have a poor rating, or how the project activities will affect those ratings. Rather, the agency simply concludes that "[t]he proposed actions are not expected to affect watershed condition ratings in any watersheds," and does so without considering any of the other WCF indicators or attributes.[377]

In order to take a hard look at the potential environmental consequences to watershed conditions from the proposed actions, the Forest Service should have provided a detailed analysis utilizing the WCF indicator and attributes. *See* Figure 1 below.

Figure 1. WCF Indicator and Attributes

Figure 2.—*Core national watershed condition indicators.*



While the 2023 Final EA considers some of these indicators, it completely omits others and overall fails to compare the proposed action effects to each indicator rating. This is especially problematic in regards to the Roads and Trails indicator that ranks just "fair," meaning it too is functioning at risk, which the Forest Service fails to disclose or discuss. In addition, the agency

[377] 2023 Water Quality Report at 18.

must explain how the proposed action will affect each attribute, in particular open road density. Here it is important to note that for classification purposes, and thus analysis purposes under NEPA, the Watershed Condition Classification Guide clarifies the meaning of its open road attribute as follows:

> For the purposes of this reconnaissance-level assessment, the term "road" is broadly defined to include roads and all lineal features on the landscape that typically influence watershed processes and conditions in a manner similar to roads. Roads, therefore, include Forest Service system roads (paved or nonpaved) *and any temporary roads* (skid trails, legacy roads) not closed or decommissioned, including private roads in these categories. Other linear features that might be included based on their prevalence or impact in a local area are motorized (off-road vehicle, all-terrain vehicle) and nonmotorized (recreational) trails and linear features, such as railroads. Properly closed roads should be hydrologically disconnected from the stream network. If roads have a closure order but are still contributing to hydrological damage they should be considered open for the purposes of road density calculations.[378]

Road densities, the proximity to water, maintenance and mass wasting are essential attributes to consider when determining potential watershed impacts. The Forest Service fails to consider these attributes, or the effects of the proposed road actions on sedimentation.

The agency recognizes the potential for sedimentation and the resulting consequences stating:

> Ground disturbance associated with harvest operations, temporary road construction, and increased use of existing roads by project related equipment have the potential to increase watershed sediment yield and thus affect stream water quality. Sediment yield is a useful indicator of water quality, particularly with respect to stream channel stability and impacts on aquatic organisms.[379]

Yet the Forest Service dismisses the increased sedimentation of these actions, in particular temporary road construction, opening and reconstructing an unspecified number of closed (ML 1) roads, or the use of these and existing open system roads. Rather, the agency explains that none of the proposed actions would exceed the 2022 Forest Plan standards for sedimentation:

> Implementing the proposed actions within the limits in the project design features (Appendix B) would temporarily increase sediment yields up to the predicted maximum yields shown in Table 7. Sediment analysis assumed treatments would be implemented over three years; in reality treatments would likely take five years

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[378] Forest Service, Watershed Condition Classification Technical Guide (July 2011) at 26 (emphasis added), attached as Ex. 77, and available at https://www.fs.usda.gov/biology/resources/pubs/watershed/maps/watershed_classification_guide2011FS978.pdf (last viewed May 1, 2023).

[379] 2023 Final EA at 61.

> per sale, and no more than two sales would occur at one time. Thus, actual increases would be lower than the predicted maximums shown in Table 7.[380]

This does not follow. The model's assumption appears to omit two years of actual treatment implementation, and even if only two sales occur at a time, the actual length of time when sedimentation may occur could be much longer. For example, the agency states "[u]p to 56.8 miles of temporary project roads may be constructed…. Temporary roads will be constructed, used, then closed and obliterated as part of timber sale or stewardship contracts (road obliteration standards are listed in Design Feature #42)."[381] The Forest Service assumes that once these roads receive treatment that they will no longer pose a threat to water quality. Yet the time temporary roads remain on the ground untreated is unclear. The agency states that "[c]ontracts would typically be five years in length, during which time temporary roads would be built, used, and obliterated, and harvest and other management activities would be completed."[382] The actual design feature states "[t]emporary roads accessing all units and tractor roads within all units shall be obliterated after they have served the Purchaser's purpose, and before the termination of the timber sale contract."[383] The potential for temporary roads to remain beyond five years is not reflected in the sedimentation analysis.

Further, the Forest Service assumes that temporary road treatments will effectively prevent future sedimentation. While that may be true over time, it will take much longer for them to establish vegetation and not pose a sedimentation risk. The same can be said of for the use of ML 1 roads, even more since the design features fail to require that they (and others) be hydrologically disconnected:

> Construction, reconstruction, and maintenance activities of roads, skid trails, temporary roads, and trails should hydrologically disconnect the drainage system from delivering water, sediment, and pollutants to the inner riparian management zone and water bodies (except at designated stream crossings).[384]

All ML 1 roads retained after project implementation *must* (not "should") be hydrologically disconnected.

Further, the Forest Service cannot assume ML 1 roads will not be subject to unauthorized use after receiving treatment under design feature #43:

> Maintenance Level 1 system roads opened for project activities must be effectively closed to all motorized traffic before the termination of the timber sale or stewardship contract with berms, Kelly humps, or other effective closure methods. Road prisms will be roughened and seeded with a Forest Service-

[380] 2023 Final EA at 62.

[381] 2023 Final EA at 10.

[382] 2023 Final EA at 10.

[383] 2023 Final EA at 105.

[384] 2023 Final EA at 109.

approved, locally adapted weed-free seed mix. Logging slash or other woody debris should then be scattered on top.[385]

The only effective closure method is recontouring or completing removing the road template within the first 500 ft of any road at the entrance or interaction with an open road or trail. Even then, illegal use may still occur. The Forest Service should have demonstrated that it can effectively close roads before assuming the proposed design features will be effective. To the contrary, the only evidence in the record indicates that as many as one in eight road closures may fail.[386] The Forest Service's failure to consider and analyze the potential impacts to watershed conditions from unauthorized road and trail use, and include that use in its sedimentation modeling if any roads remain hydrologically connected, violated NEPA, particularly because the agency itself predicts that as many as one in every eight closures of temporary roads may fail.

B. The Forest Service's Reliance on BMPs or Design Features Fails to Comply with NEPA.

The 2023 Final EA states that "[t]he proposed project incorporates watershed design features which will limit negative effects to water quality to within applicable standards…. Effects of the proposed action on water quality are therefore expected to be minor."[387] The agency's assertion does not absolve its responsibilities under NEPA and other applicable laws such as the Clean Water Act. In other words, use of watershed design features does not automatically equate to minor effects, and the agency's analysis fails to consider or disclose the harmful environmental consequences of both improper implementation of its design features, as well as the potential lack of effectiveness in mitigating resource effects: "Implementing the proposed actions within the limits in the project design features (Appendix B) would temporarily increase sediment yields up to the predicted maximum yields shown in Table 7."[388] Given the Forest Service fails to demonstrate a history of both proper implementation and effectiveness, its assumption regarding predicted maximum sediment yields is arbitrary.

When considering how effective BMPs or design features are at controlling nonpoint pollution on roads, both the rate of implementation, and their effectiveness should both be considered. The Forest Service tracks the rate of implementation and the relative effectiveness of BMPs from in-house audits. This information is summarized in the National BMP Monitoring Summary Report

[385] 2023 Final EA at 105.

[386] South Plateau Project Comment Consideration and Response (Mar. 2023) at 180 ("Monitoring completed for the neighboring North Hebgen Multiple Resource Project found that closure effectiveness ranged from 88% on relatively flat terrain to 97% in more mountainous terrain (Lamont 2015 and Lamont 2016). Similar closure effectiveness is anticipated for the SPLAT project area.").

[387] 2023 Final EA at 58.

[388] 2023 Final EA at 62.

with the most recent data being the fiscal years 2013-2014.[389] The rating categories for implementation are "fully implemented," "mostly implemented," "marginally implemented," "not implemented," and "no BMPs." "No BMPs" represents a failure to consider BMPs in the planning process. More than a hundred evaluations on roads were conducted in FY2014. Of these evaluations, only about one third of the road BMPs were found to be "fully implemented."[390]

The monitoring audit also rated the relative effectiveness of each BMP. The rating categories for effectiveness are "effective," "mostly effective," "marginally effective," and "not effective." "Effective" indicates no adverse impacts to water from projects or activities were evident. When treated roads were evaluated for effectiveness, almost half of the road BMPs were scored as either "marginally effective" or "not effective."[391]

Further, a technical report by the Forest Service entitled, "Effectiveness of Best Management Practices that Have Application to Forest Roads: A Literature Synthesis," summarized research and monitoring on the effectiveness of different BMP treatments for road construction, presence and use.[392] The report found that while several studies have concluded that some road BMPs are effective at reducing delivery of sediment to streams, the degree of each treatment has not been rigorously evaluated. Few road BMPs have been evaluated under a variety of conditions, and much more research is needed to determine the site-specific suitability of different BMPs.[393] Edwards *et al*. (2016) cites several reasons why BMPs may not be as effective as commonly thought. Most watershed-scale studies are short-term and do not account for variation over time, sediment measurements taken at the mouth of a watershed do not account for in-channel sediment storage and lag times, and it is impossible to measure the impact of individual BMPs when taken at the watershed scale. When individual BMPs are examined there is rarely broad-scale testing in different geologic, topographic, physiological, and climatic conditions. Further, Edwards *et al*. (2016) observe: "The similarity of forest road BMPs used in many different states' forestry BMP manuals and handbooks suggests a degree of confidence validation that may not be justified," because they rely on just a single study.[394] Therefore, ensuring BMP

[389] Carlson, J. P. Edwards, T. Ellsworth, and M. Eberle. 2015. National best management practices monitoring summary report. Program Phase-In Period Fiscal Years 2013-2014. USDA Forest Service. Washington, D.C. Attached as Ex. 78.

[390] *Id.* at 12.

[391] *Id.* at 13.

[392] Edwards, P.J., F. Wood, and R. L. Quinlivan. 2016. Effectiveness of best management practices that have application to forest roads: a literature synthesis. General Technical Report NRS-163. Parsons, WV: U.S. Department of Agriculture, Forest Service, Northern Research Station. 171 p. Attached as Ex. 79.

[393] Edwards *et al.* 2016 (Ex. 79); *see also* Anderson, C.J.; Lockaby, B.G. 2011. Research gaps related to forest management and stream sediment in the United States. Environmental Management. 47: 303-313. Attached as Ex. 80.

[394] Edwards *et al.* 2016 (Ex. 79) at 133.

effectiveness would require matching the site conditions found in that single study, a factor land managers rarely consider.

We appreciate that the Forest Service has provided data concerning several evaluations of the application and effectiveness of BMPs, but the results of those studies demonstrate that BMPs will not always be properly applied and will not always be effective.[395] That data show "major departure" or "gross neglect" of BMP applications about 1 time in 12 (8%), and departures in about 1 in 5 instances (19%).[396] Further, they show BMP effectives rated as not "adequate" about 14% of the time, or 1 time in 7.[397] The Forest Service thus cannot assume its BMP will prevent impacts to water quality.

Climate change will further put into question the effectiveness of many road BMPs.[398] While the impacts of climate will vary from region to region, more extreme weather is expected across the country which will increase the frequency of flooding, soil erosion, stream channel erosion, and variability of streamflow.[399] Flooding just a few miles away from the Project area, within Yellowstone National Park in 2022, demonstrate that climate-driven, extreme weather events that may render mitigation measures ineffective.[400] BMPs designed to limit erosion and stream sediment for current weather conditions may not be effective in the future. Edwards *et al*. (2016) states, "[m]ore-intense events, more frequent events, and longer duration events that accompany climate change may demonstrate that BMPs perform even more poorly in these situations. Research is urgently needed to identify BMP weaknesses under extreme events so that refinements, modifications, and development of BMPs do not lag behind the need."[401]

Significant uncertainties persist about BMP or design feature effectiveness as a result of climate change, which compound the inconsistencies revealed by BMP evaluations and demonstrate that the Forest Service cannot simply rely on them to mitigate project-level activities. This is especially relevant where the Forest Service cites use of BMPs or design features, and assumes their success instead of fully analyzing potentially harmful environmental consequences from road design, construction, maintenance or use, in studies and/or programmatic and site-specific NEPA analyses. Moreso, the Forest Service must demonstrate how BMP effectiveness will be maintained in the long term, especially given the lack of adequate road maintenance capacity. This the agency failed to do.

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[395] *See* 2023 Water Quality Report at 21-23.

[396] *Id*. at 22-23.

[397] *Id*.

[398] *See* Edwards *et al.* 2016 (Ex. 79).

[399] M.J. Furniss et al. (2013). Assessing the vulnerability of watersheds to climate change: Results of national forest watershed vulnerability pilot assessments. USDA PNW Research Station. General Technical Report PNW-GTR-884. Attached as Ex. 81.

[400] N. Pollack, The Yellowstone flood was a historic disaster. Climate change means it won't be the last. Casper Star Tribune (July 31, 2022), attached as Ex. 82.

[401] Edwards *et al*. (Ex. 79) at 136.

At a minimum, the Forest Service should have adjusted its analysis to account for the potential failure of its design features as it relates to sedimentation, and should have run its WATSED model without assuming 100% effectiveness. In order to take the requisite hard look NEPA requires, the Forest Service should have run the model without BMPs, and then effectiveness at 25%, 50% , 75% and 90% to fully capture the potential for sedimentation. The Forest Service cannot assume a 100% effectiveness rate for BMPs or design features. The fact that it apparently did so violates the hard look NEPA requires.

> *Suggested Remedy*: The Custer Gallatin NF should prepare an EIS that addresses the failures to properly disclose impacts to water quality, as described above.

XIII. THE FOREST SERVICE MUST ANALYZE A RANGE OF REASONABLE ALTERNATIVES.[402]

A. NEPA Requires Agencies to Evaluate a Range of Reasonable Alternatives in EAs.

In taking the "hard look" at impacts that NEPA requires, an EA must "study, develop, and describe" reasonable alternatives to the proposed action.[403] The Tenth Circuit explains that this mandate extends to EAs as well as EISs. "A properly-drafted EA must include a discussion of appropriate alternatives to the proposed project."[404] This alternatives analysis "is at the heart of the NEPA process, and is 'operative even if the agency finds no significant environmental impact.'"[405] 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."[406] When an agency considers reasonable alternatives, it "ensures that it has considered all possible approaches to, and potential

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[402] The Center raised this issue in our November 5, 2022 comments on the 2022 Revised EA. *See* 2022 Center Comment Letter (Ex. 2) at 74-81.

[403] 42 U.S.C. § 4332(2)(C) & (E); 40 C.F.R. § 1508.9(b) (1978) (an EA "[s]hall include brief discussions ... of alternatives"); 40 C.F.R. § 1501.5(c)(2) (2020) (EAs shall "briefly discuss … alternatives").

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

[405] *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").

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

environmental impacts of, a particular project; as a result, NEPA ensures that the most intelligent, optimally beneficial decision will ultimately be made."[407]

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."[408] Any alternative that is unreasonably excluded will invalidate the NEPA analysis. "The existence of a viable but unexamined alternative renders an alternatives analysis, and the EA which relies upon it, inadequate."[409] The agency's obligation to consider reasonable alternatives applies to citizen-proposed alternatives.[410]

Courts hold that an alternative may not be disregarded merely because it does not offer a complete solution to the problem.[411] 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."[412] 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."[413]

The courts also require that an agency adequately and explicitly explain in the EA any decision to eliminate an alternative from further study.[414]

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

[408] *Diné Citizens Against Ruining Our Env't*, 747 F. Supp. 2d at 1255 (quoting *New Mexico ex rel. Richardson*, 565 F.3d at 709).

[409] *Id.* at 1256.

[410] *See Ctr. for Biological Diversity v. Nat'l Highway Traffic Safety Admin*., 538 F.3d 1172, 1217-19 (9th Cir. 2008) (finding EA deficient, in part, for failing to evaluate a specific proposal submitted by petitioner); *Colo. Envtl. Coal. v. Dombeck*, 185 F.3d 1162, 1171 (10th Cir. 1999) (agency's "[h]ard look" analysis should utilize "*public comment* and the best available scientific information") (emphasis added).

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

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

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

[414] *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.

B. The EA Fails to Effectively Analyze the No Action Alternative.

NEPA mandates that agencies consider the alternative of no action.[415] The comparison between the action alternatives and the "no action" alternative enables the agency and the public to understand the difference between allowing the status quo to continue and taking the proposed action(s). To facilitate this review, EAs and EISs generally contain sections disclosing the environmental consequences of each alternative, including no action, to a variety of impacted resources. For example, the Custer Gallatin National Forest did just that when it analyzed the no action and three action alternatives in its final EA for the North Hebgen Multiple Resource Project in 2017, a project that directly borders and has overlapping impacts with the South Plateau Project.[416]

The South Plateau Project 2023 Final EA does not do so. The Forest Service fails to compare the impacts of the proposed action to the "no action" alternative; in fact the phrase "no action" appears nowhere in the 2023 Final EA. Specialists' reports upon which the EA relies and which the EA incorporates only occasionally describes the difference between the action and no action alternative. This failure to clearly contrast alternatives violates NEPA.

Contrasting the proposed action with the "no action" alternative is important for this project because the Forest Service is essentially making a bet that whatever damage it will cause with its proposed action will not be as harmful as leaving the forest alone. The proposed action is intended to mitigate future harm that might result from fire and beetle outbreaks, yet the 2023 Final EA fails to address the potential impacts from fire or beetles absent project implementation, nor does it address the likelihood that those actions will occur and when. The agency admits in its analysis that "the intensity and frequency of [potential future wildfire] events is difficult to predict."[417] Frankly acknowledging that the impacts the agency intends to forestall with the proposed action may never occur would provide the public and the decisionmaker a new perspective and a new way to weigh the projects costs that the 2023 Final EA at present does not provide.

The Montana Department of Natural Resources and Conservation commented on an earlier version of the EA that:

> It's important for this analysis to clearly identify the impacts to wildfire risk, forest health, habitats, and other forest conditions if a path of no action is followed. Some information on the existing condition and effects of the no action alternative is inserted in this analysis, but it is difficult to find and appears to be limited. The effects of no action would be more clearly disclosed and understood

[415] 40 C.F.R. § 1502.14 (1978); 40 C.F.R. § 1502.14(c) (2020).

[416] *See* Custer Gallatin National Forest, North Hebgen Multiple Resource Project Final Environmental Assessment (June 2017) (Ex. 11).

[417] 2023 Wildlife Report at 69, 121.

> if presented in a stand-alone section under the heading of "Effects of the No Action Alternative."[418]

We largely agree. The Forest Service should have clearly described the "no action" alternative, and presented a clear and direct comparison of the impacts of each alternative by resource, including explaining the likelihood of predicted impacts if the forest is not logged as the agency proposes. The agency's failure to do so violated NEPA.

C. The 2023 Final EA Fails to Analyze Any Action Alternatives Besides the Proposed Action.

The 2023 Final EA asserts that the agency need not consider *any* alternative to the proposed action.

> If proposed treatments could not be implemented while adhering to all design features (i.e., if there were conflicts between treatments and resources), then treatments will be deferred until conflicts are resolved, or the proposed treatments will be dropped from the project. Because *there will be no unresolved conflicts concerning alternative uses of available resources, alternative development and analysis were unnecessary*.[419]

This statement is inaccurate as a matter of law and fact.

The EA's contention is apparently a reference to NEPA's statutory mandate that agencies "study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources." 42 U.S.C. § 4332(2)(E).

The leading court case in the Ninth Circuit, in which the South Plateau Project is located, rejected a similar argument by the Interior Department decades ago. *Bob Marshall Alliance v. Hodel*, 852 F.2d 1223, 1229 (9th Cir. 1988) (emphasis added). There, the Interior Department argued it need not consider alternatives to an oil and gas lease that did not prevent surface disturbance because the lease was a paper transaction that did not result in impacts, and so there would be no unresolved conflicts. The court rejected this argument:

> [C]onsideration of alternatives is critical to the goals of NEPA even where a proposed action does not trigger the EIS process. This is reflected in the structure of the statute: while an EIS must also include alternatives to the proposed action, 42 U.S.C. § 4332(2)(C)(iii)(1982), the consideration of alternatives requirement is contained in a separate subsection of the statute and *therefore constitutes an independent requirement*. *See id.* § 4332(2)(E). The language and effect of the two subsections also indicate *that the consideration of alternatives requirement is of wider scope than the EIS requirement*. The former applies whenever an action

[418] Letter of H. Richards, Montana Dep't of Natural Resources and Conservation to J. Brey, U.S. Forest Service at 2 (Sep. 16, 2020) (in South Plateau project file).

[419] 2023 Final EA at 5 (emphasis added).

> involves conflicts, while the latter does not come into play unless the action will have significant environmental effects. An EIS is required where there has been an irretrievable commitment of resources; *but unresolved conflicts as to the proper use of available resources may exist well before that point*. Thus the consideration of alternatives requirement is both independent of, and broader than, the EIS requirement. *See, City of New York v. United States Department of Transportation*, 715 F.2d 732, 742 (2d Cir. 1983), *cert. denied*, 465 U.S. 1055, 104 S. Ct. 1403, 79 L. Ed. 2d 730 (1984); *Environmental Defense Fund, Inc. v. Corps of Engineers*, 492 F.2d 1123, 1135 (5th Cir. 1974); *California v. Bergland*, 483 F. Supp. 465, 488 (E.D. Cal. 1980), *aff'd sub nom. California v. Block*, 690 F.2d 753 (9th Cir. 1982). In short, *any* proposed federal action involving unresolved conflicts as to the proper use of resources triggers NEPA's consideration of alternatives requirement, whether or not an EIS is also required.

Bob Marshall Alliance, 852 F.2d at 1229 (emphasis added). The appellate court held that the proposed oil and gas leases, some of which did not preclude all surface impacts "involves such conflicts" sufficient to require the analysis of alternatives, specifically and including the "no action" alternative.

> [T]he sale of Deep Creek leases -- both NSO *and* non-NSO -- involves conflicts as to the present and future uses of Deep Creek, because the issuance of the leases may allow or lead to other activities that would affect Deep Creek's suitability for wilderness designation…. Because the Deep Creek lease sale opens the door to potentially harmful post-leasing activity, it "involves unresolved conflicts concerning alternative uses of available resources", NEPA therefore requires that alternatives -- *including the no-leasing option -- be given full and meaningful consideration*.

Id. (emphasis added).

The Ninth Circuit also specifically rejected the Forest Service's assertion that a thinning project would have no unresolved conflicts where conservation groups proposed an alternative that would have limited the size of trees logged, and would have limited road construction. *Environmental Protection Information Center v. United States Forest Service*, 234 Fed. Appx. 440, 442-43 (9th Cir. 2007).

As with the projects at issue in *Bob Marshall Alliance* and *Environmental Protection Information Center* the South Plateau Project involves "unresolved conflicts concerning alternative uses of available resources."

- Hundreds of clearcuts 20-40 acres in size and 56 miles of temporary road construction will degrade the area's visual quality for up to 5 years post project completion – or as long as 20 years.

- Stands now fixing carbon will be destroyed, and their ability to restore the losses in carbon stores will likely not be made up for generations, if ever.

- At least one road is proposed to be bulldozed through old growth in the name of protecting forest resilience elsewhere, illustrating the trade-offs (unresolved conflicts) the agency is juggling.

- The project will eliminate up to 40% of habitat for pine marten, and is "likely to adversely affect" the imperiled grizzly bears and will result in an "unknown" but appreciable risk of more deaths for grizzlies.

- The project, undertaken in the name of improving forest "resilience," may, according to peer-reviewed science, have little to no impact on wildfire impacts.

- Logging will result in "relatively large" losses of elk security habitat as well as lynx habitat in fact, during project implementation maps show the project will virtually eliminate elk security areas within the project boundary.[420]

- The project will largely eliminate wilderness character from unroaded lands across thousands of acres for a generation.

- The project favors winter motorized recreation at the expense of summer hiking, choosing to eliminate winter logging in part to benefit winter use while degrading the experience for hikers including on the Continental Divide National Scenic Trail and elsewhere for the life of the project and beyond.[421]

- The project acknowledges that focusing logging activities in the non-winter months will degrade habitat for migratory birds, but justifies the tradeoff as necessary to protect recreation.[422]

This partial list illustrates that there are numerous, unresolved conflicts concerning "alternative uses of available resources." The project area's forests could be "used" for storing carbon, providing secure habitat for wildlife, and maintaining current recreational uses undisturbed. Instead, the Forest Service will take a bet, against contradictory science, that its project will somehow make the forest less prone to fire and beetle infestation, and to provide a subsidy to

[420] 2023 Wildlife Report at 85, 116.

[421] *See, e.g.*, 2023 Wildlife Report at 98 ("Project implementation [including logging], snow plowing, and hauling would not be allowed in the area between November 1 and April 30 *in order to eliminate impacts to winter recreation, including snowmobiling*" (emphasis added)); *id*. at 98 ("Due to multiple resource concerns associated with recreational use, primarily along groomed snowmobile trails in the winter, there would be no timber harvest, snow plowing, and/or hauling between approximately November 1 and April 30."). *See also* G. Warren, Objection to the South Plateau Area Landscape Treatment Project (Apr. 26, 2023) (project file) (describing harm timber removal will cause to Continental Divide National Scenic Trail users, and how the Forest Service could have protected the Trail but declined to do so, demonstrating unresolved conflicts).

[422] 2023 Wildlife Report at 134 ("While winter harvest would reduce potential disturbance effects were it to occur, this is unlikely given constraints imposed by recreation")).

timber mills, which provide only a tiny fraction of jobs in Gallatin and Park Counties.[423] Thus, there are clearly alternative uses of the South Plateau's abundant resources other than this project.

And as in *Environmental Protection Information Center*, conservation groups here proposed alternatives to protect certain types of trees and limit road construction to address the unresolved conflicts, but the Forest Service rejected them out of hand.

In responding to comments, the Forest Service does not address any of these obvious conflicts, but simply repeats a stock answer, without support, that "there are no unresolved conflicts," citing the 2022 Revised EA.[424] The agency also asserts that proposed action effectively mitigates away all unresolved conflicts: "the extent of project actions and associated effects will be appropriately limited such that the need for action will be met while no effects thresholds are crossed."[425] Again, this fails to engage with the facts that multiple conflicts exist. The mere fact that some "effects thresholds" are not exceeded does not mean there are no unresolved conflicts. The Forest Service's position seems to be that because it has determined that the Project will have no significant impacts, the agency need not evaluate alternatives. But that would mean that no agency would *ever* need to consider alternatives when it undertook an EA, a result that directly conflicts years of caselaw and the CEQ regulations.

The South Plateau Project does involve conflicts in the uses of the forest – between protecting existing mature and old growth forests and clearcutting and/or bulldozing roads through them; between destroying current habitat for grizzlies, lynx, wolverine, marten and elk, and not doing so; between protecting scenic vistas on a national scenic trail and degrading them for decades; between protecting wildlife in summer from the noise and disturbance of logging activities and protecting recreational human uses. The Forest Service's conclusion that there are no unresolved conflicts is arbitrary and capricious.

The undersigned specifically requested that the Forest Service consider at least the following action alternatives, in addition to the proposed action, to address some of these conflicts:

- A "defined action" alternative. This alternative would require the Forest Service to identify the site-specific actions across the project area, specifically siting and designing all of the clearcuts and areas to be thinned. This would allow the public and the decision-maker to better understand the location and nature of the impacts, rather than wait for the project to be complete to understand the potential damage to the landscape. This would meet the project's purpose and need, and is distinct from the proposed action because it would allow for more precise disclosure of potential impacts, rather than relying in part on conjecture about the scale of impacts, as the 2022 Revised EA does now. This proposal should be easy for the agency to develop; indeed it may have already developed

[423] South Plateau Economic Effects Analysis (2023) at pdf page 3 (timber accounts for 0.1% of employment in the two counties).

[424] *See, e.g.*, Comment Consideration and Response (Mar. 2023) at 190, 191, 193, 198, 204, 206, 215.

[425] 2023 Final EA at 5.

it, because it has already "preliminarily laid out" two timber sales, and "preliminarily delineated" a third.[426]

- A "no temporary roads" alternative. Roads, even temporary ones, are the enemy of wildlife (particularly grizzlies), soils, and water quality. We requested that the Forest Service consider an alternative that would reduce impacts to all three values by requiring the agency to design a project that would focus treatments along existing roads, and would eliminate all use or construction of temporary roads, or one that would set a cap far below the current 56 miles of temporary road (say, 15 miles). Such an alternative would allow the Forest Service to achieve at least some of the project's aims in terms of timber removal, wildfire hazard reduction, and alleged benefits to limiting future insect infestations while placing in sharp relief any "benefits" of temporary roads versus the threat they pose to other values. We note that the Forest Service contends that "treatment units … are all adjacent to already roaded areas,"[427] so it is unclear why the agency cannot design a less road-construction-intense alternative. Such an alternative is distinct from the proposed action in terms of its design and impacts.

- A "focused fire protection" alternative. As noted, there is little science supporting the utility of undertaking fuel reduction projects more than 40 meter from structures. Yet the proposed action calls for fuel reduction logging and other management in the WUI half a mile from "high value resources."[428] We requested that the Forest Service consider an alternative that limits fuel reduction management within the WUI to landscapes within 40 meters of "high value resources."

- An "unroaded area protection" alternative. The proposed action may focus all 5,551 acres of clearcuts in unroaded areas, which includes those lands which likely are the least impacted by development outside of designated inventoried roadless areas. We requested that the Forest Service consider an alternative that limits forest manipulation in these areas to prescribed burning to allow these areas to recover and thrive in a less manipulated state.

- A "mature forest protection" alternative. President Biden has directed the Forest Service to inventory and conserve old and mature forests. The South Plateau Project takes the opposite approach, targeting the "majority "of clearcuts at mature lodgepole forests.[429] We requested that the Forest Service consider whether it can implement an alternative that does as the President directs, and conserves mature forests (lodgepole 80-90 years old and older).

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[426] 2023 Final EA at 11.

[427] 2023 Wildlife Report at 48.

[428] 2023 Final EA at 20 n.11, 22.

[429] 2023 Forest Vegetation Analysis at 20 ("Clearcut treatments would convert mature stands of lodgepole pine"); *id*. at 56 ("the majority of surveyed lodgepole pine stands that have been proposed for clearcutting treatments have been confirmed to be over 90 years old").

- A winter logging alternative. The Forest Service should make plain the tradeoff between disruption of winter recreation and the protection of grizzly bear secure habitat in the summer by considering in detail an alternative that requires implementing logging an timber removal in summer. Such an alternative may still have significant impacts, but it may place the burden on different values (winter recreationists, ungulate winter habitat use) while protecting some others (grizzlies, summer recreationists).

The Forest Service was required to either analyze these alternatives in detail or provide a compelling explanation for why it need not do so.

Neither the Draft Decision Notice nor the 2023 Final EA mentions any of these alternatives.[430] In responding to comments, the agency dismissed all of these proposals without basis.

In response to the "defined action" alternative the agency states:

> The Proposed Action including maps of where actions would occur is included on pages 5-18 of the Draft EA. The Forest has solicited public comment and considered public comment on the South Plateau project on three separate occasions and will make at least annual updates available on the project webpage. The draft maps of the preliminary sale layouts will be posted on the project webpage. As more activities are planned, maps and accompanying data will be made available on the project webpage at least annually.[431]

This is wrong and misses the point. It's wrong because the Proposed Action includes maps of where actions *could* (not "would") occur; the Forest Service will not define the site-specific actions until *after* the decision to proceed with the Project is made. Making "annual updates" after the decision is made does not allow the public to comment, or require the agency to respond, or allow the public to hold the agency accountable for violations of law. The purpose of the "defined action" alternative is to ensure that the public and the decision-makers understand the what, where, when, and how of project implementation before the die is case. The Forest Service's rationale for rejecting this alternative is arbitrary and capricious.

Responding to the "no or limited temporary roads" alternative, the Forest Service asserts: "The effects of construction of temporary roads were analyzed and disclosed in the Draft EA and resource specific reports. A no temporary road alternative would not meet the need for action."[432] The mere fact that the Final EA addresses the damaging impacts of temporary roads does not explain why the agency refused to consider an alternative that would prevent some or all of that damage from occurring. Nor does the agency explain why it chose precisely 56.8 miles of temporary road as the upper limit, and not a smaller number (say, 15 miles, or 30 miles) would not allow the agency to achieve at least some of its stated goals. This explanation, too, is arbitrary.

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[430] *See, e.g.*, 2023 Final EA at 19.

[431] Comment Consideration and Response (Mar. 2022) at 208.

[432] *Id*.

The agency's dismissal of the "unroaded area protection" alternative is similar. The Forest Service states: "The project's potential effects on the unroaded expanse are analyzed and disclosed in the "Roadless/Unroaded" resource specific report. Limiting treatment to prescribed burning only would not meet the need for action for this project."[433] Disclosing impacts of the proposed action on unroaded areas cannot replace disclosing the impacts of an alternative that protects those values and concentrates logging treatments elsewhere. What other values would be impacted if unroaded areas were spared? The rote statement that unless unroaded areas are target for logging the project, the purpose and need could not be met is conclusion, not analysis, and so is arbitrary.

The Forest Service states it will not consider an alternative to protect old growth and mature forests because:

> Compliance with Executive Order 14072 will be discussed in the revised Forested Vegetation resource report. Management only in younger trees would not meet the need for action as discussed in the Draft EA and resource specific reports, including reducing the risk of high severity fire and reducing the risk of mountain pine beetle outbreaks.[434]

This explanation is also arbitrary. "Discussing" compliance with an Executive Order that mandates old growth and mature forest protection is not the same as analyzing an alternative to protect those values or explaining why the agency will not in fact do so. It is apparently the Forest Service's position that one must target clearcuts at mature forests to "save" them, a self-defeating proposition. The rationale that mature lodgepole forests constitute a fire risk would allow all mature lodgepole forests to be removed, eviscerating Executive Order 14,072's purpose.

The Forest Service rejects a winter logging alternative by stating: "Because no significant impacts on grizzly bear secure [habitat?] would result from this project, there is no need to pursue a winter logging alternative to minimize impacts to said habitat."[435] This explanation is arbitrary for at least two reasons. First, logging when bears are out of dens will indisputably disturb and displace bears. The Forest Service admits: "Grizzly bears avoid human activities and development."[436] In addition, human-bear conflicts are a leading cause in grizzly deaths, and those conflicts are more likely when scores of personnel implementing the project are working and driving new roads within grizzly bear habitat, no matter how carefully workers safeguard their food.[437] Second, the statement that the Forest Service need not consider impacts because bears will experience "no significant impacts" ignores federal caselaw concluding that agencies must consider a range of alternatives in environmental assessments, even if the proposed action

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[433] *Id*.

[434] *Id*.

[435] *Id*.

[436] 2023 Wildlife Report at 29.

[437] *Id*. at 30 (human-grizzly conflicts more likely when roads are in use in bear habitat).

will not have significant impacts.[438] A winter logging alternative would allow the agency to weigh the benefits of limiting grizzly bear disturbance in the on-winter months while burdening winter recreationists with some disruption. The Forest Service's failure to consider such an alternative is arbitrary.

This discussion covers only a sampling of alternatives. The proposed action involves 14,600 acres of logging, up to 56 miles of road construction, and years of activity.[439] It is simply not credible that the proposed action is the *only* reasonable way to manage the landscape while still achieving at least *some* of the ends identified in the agency's purpose and need statement. If the Forest Service concludes that the proposed action is the only way, then the agency has apparently set its purpose and need statement too narrowly, violating NEPA.

> Suggested Remedy: The Custer Gallatin NF should prepare an EIS that analyzes in detail a range of reasonable alternatives, including those identified above.

XIV. THE FOREST SERVICE MUST PREPARE AN EIS.[440]

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."[441] The Ninth Circuit affirms this approach.

> 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.[442]

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[438] *See, e.g., Ayers v. Espy*, 873 F. Supp. 455, 473 (D. Colo. 1994) (reasonable alternatives must be analyzed in 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.") (internal citation omitted).

[439] The Forest Service also unlawfully dismissed alternatives that would provide greater protection for the vales of the Continental Divide National Scenic Trail. *See* G. Warren, Objection to the South Plateau Area Landscape Treatment Project (Apr. 26, 2023) (suggesting alternative) (project file); L. Fisher, Continental Divide Trail Coalition, Objection to the South Plateau Area Landscape Treatment (suggesting alternative) (Apr. 27, 2023),

[440] The Center raised this issue in our November 5, 2022 comments on the 2022 Revised EA. *See* 2022 Center Comment Letter (Ex. 2) at 81-86.

[441] 42 U.S.C. § 4332(C).

[442] *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 significant

Other circuits courts agree. "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."[443]

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.'"[444]

Under the familiar 1978 CEQ regulations, "significance" requires consideration of the action's context and intensity.[445] 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).[446] 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) 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;
>
> (2) whether the action is likely to be highly controversial;
>
> (3) whether the effects on the environment are highly uncertain or involve unique or unknown risks;
>
> (4) whether the action may have cumulative significant impacts;
>
> (5) 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; and
>
> (6) Whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment.[447]

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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)).

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

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

[445] 40 C.F.R. § 1508.27 (1978).

[446] 40 C.F.R. § 1508.27(a) (1978).

[447] 40 C.F.R. § 1508.27(b)(3)-(5), (7), (9)-(10) (1978).

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.'"[448]

Under the Trump 2020 CEQ regulations, to evaluate significance:

> agencies shall analyze the potentially affected environment and degree of the effects of the action….
>
> (1) In considering the potentially affected environment, agencies should consider, as appropriate to the specific action, the affected area (national, regional, or local) and its resources, such as listed species and designated critical habitat under the Endangered Species Act. Significance varies with the setting of the proposed action. For instance, in the case of a site-specific action, significance would usually depend only upon the effects in the local area.
>
> (2) In considering the degree of the effects, agencies should consider the following, as appropriate to the specific action:
> (i) Both short- and long-term effects.
> (ii) Both beneficial and adverse effects.
> (iii) Effects on public health and safety.
> (iv) Effects that would violate Federal, State, Tribal, or local law protecting the environment.[449]

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

The South Plateau Project meets numerous standards for "significance," under both the 1978 and 2020 regulations.[450]

Per the 1978 CEQ regulations, the South Plateau Project area has unique characteristics including its adjacency to Yellowstone National Park, its habitat for wolves, grizzlies, lynx, wolverine, and pine marten, and the fact that it is traversed by a national scenic trail. These unique and sensitive values are at risk from logging, road building, road maintenance, road use, and fire. The project area includes:

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[448] *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 (10th Cir. 2002) (same); *Town of Superior v. U.S. Fish and Wildlife Serv.*, 913 F. Supp. 2d 1087, 1120 (D. Colo. 2012) (same).

[449] 40 C.F.R. § 1501.3(b) (2020).

[450] Because the 2020 CEQ NEPA regulations were adopted unlawfully, the Forest Service cannot rely on them. *See supra*.

- The Continental Divide National Scenic Trail (CDNST) runs through the project area for 13 miles, and the project would degrade the experience along the trail for almost a generation.[451] Logging, bulldozing, and other disturbance would be concentrated during the period for virtually all trail use, with logging activities being restricted to the peak hiking period between April 30 and November 1, in part to benefit snow machine users at the expense of other recreators.[452] "[C]ut stumps, slash piles, skid trails [and] temporary roads" will likely be visible from the Trail for up to "five years [after] completion of all project activities," or 20 years after the project starts.[453] We note an objection was filed to this proposed decision focusing exclusively on the damage the project will cause to the Trail, and the Final EA's failure to ensure any impacts to the trail are mitigated, and failure to ensure that the Forest protects the Trail's purposes.[454] While the Forest Service has made minor changes to the project since then, the current proposal will not eliminate impacts to the Trail.

- Wildlife habitat. Habitat for numerous imperiled species of wildlife, including grizzly bears, lynx, marten, and moose will be degraded by the proposed action, and habitat for the proposed wolverine is also present.

  The project is likely to result in the death of grizzly bears, and is "likely to adversely affect" grizzlies.[455]

  The 2021 Final EA also concluded that "[a]t the landscape and regional scale, the South Plateau Project would *appreciably* impact [that is, damage] overall habitat quality or reduce connectivity of lynx habitat,"[456] (a conclusion that the 2022 Wildlife Report arbitrarily reverses without explanation), while the 2023 Final EA admits that the Project "is likely to adversely affect the Canada lynx."[457]

  The proposed action will destroy up to 40% of pine marten suitable habitat in the project area, according to the 2021 Final EA.[458]

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[451] B. Thompson, South Plateau: Recreation Effects Analysis (Jan. 2023) at 5 ("13 miles of the CDNST cross the project area").

[452] 2023 Final EA at 111 ("No project activities or plowing on roads and trails in the project area would take place between November 1st and April 30th to prevent impacts to over snow recreation.").

[453] 2023 Final EA at 48.

[454] *See* G. Warren, Objection to the South Plateau Area Landscape Treatment Project (Apr. 26, 2023) (project file)

[455] Biological Assessment, South Plateau Project (Oct. 12, 2022) at 5 (project file).

[456] 2021 Final EA at 100.

[457] 2023 Final EA at 63.

[458] 2021 Final EA at 158, 159 ("This treatment type would result in unsuitable conditions in up to 40% of suitable marten habitat, based on the current stand pool").

The proposed action "could result in disturbance to wolverines, including interruptions in dispersal, foraging, and … denning."[459]

The proposed action is also "likely to adversely affect" whitebark pine, a key food source for Yellowstone ecosystem grizzlies.[460]

Any one of these impacts reaches the threshold that the project "may affect" these rare species; together they demonstrate the need to prepare an EIS. The Ninth Circuit court of appeals ruled last year that a finding that threatened or endangered species are "likely to be adversely affected" by federal action "is prima facie evidence that an EIS should have been prepared." *Env't Def. Ctr. v. Bureau of Ocean Energy Mgmt.*, 36 F.4th 850, 879 (9th Cir. 2022).

Further, the project will result in a loss of 13,724 acres of spring, summer, and fall hiding cover for elk, and 4,655 acres of the winter hiding cover in the Henry's Mountains Elk Analysis Unit, impacts that the Forest Service estimates would persist for up to 20 years and that would "decrease" elk use across a significant portion of the project area.[461] The project will degrade or render useless "approximately 50% … of moose winter cover in the analysis area."[462] Impacts to ungulates and big game are therefore likely to be significant.

- Other special areas. The project area directly abuts Yellowstone National Park, meaning that the project will take place in the Greater Yellowstone Ecosystem, a unique area and one deeply cherished for its tremendous wildlife values. Yet there is no evidence that the Forest Service has coordinated with the National Park Service on this project, and the EA does not highlight the Park's resources, which overlap with, and (as, for example, with wildlife) move from the adjacent forest land into the Park. Nor does the EA address the fact that the proposed action will continue the Forest Service's history of creating a landscape pock-marked with clearcuts on the very doorstop of the iconic national park.

  Further, the Forest Service indicates that all of the South Plateau Project's clearcuts may be targeted at unroaded areas, severely degraded these areas' wilderness character and characteristics for decades into the future. Areas that could be recovering from past logging and road use will become ground zero for potentially most of the project's damaging impacts.

All of these values may be impacted by the proposed action, and the 2023 Final EA itself admits damage and potential for damage to numerous values. These facts require the Forest Service to prepare an EIS.

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[459] 2023 Wildlife Report at 91.

[460] 2023 Final EA at 34.

[461] 2023 Wildlife Report at 118, 124. *See also id*. at 170 (Figure 22) (showing that the Project will denude of hiding cover significant portions of the project area).

[462] 2023 Wildlife Report at 119.

The size of the protect alone – involving logging across more than 14,600 acres (the size of over 11,000 football fields), including more than 5,500 acres of clearcuts, and the removal of 83 million board feet (162,000 CCF) of commercial timber – is significant.

The scale of the project, when considered cumulatively together with just one other project that the Custer Gallatin NF is currently reviewing, the South Otter project – is breathtaking because the two together *will exceed the objective for timber production for the entire 15-year life of the Forest Plan.*

The Forest Service estimates that the 162,000 CCF of timber removed from the South Plateau Project will occur over an 8-10 year period, thus averaging at the low end 16,200 CCF per year over a decade.[463] The South Otter project proposes to remove 219,984 CCF of timber over that same 8-10 year period, or roughly 22,000 CCF per year.[464] Together, the two projects will result in about 382,000 CCF of timber, or 38.2 million cubic feet, over 8-10 years, or and low-end average of 3.8 million board feet per year. The 2022 Custer Gallatin Forest Plan states as its objective for production of "timber meeting product utilization standards for sale at an average projected timber sale quantity" is "2 million cubic feet … measured on a decadal basis," or 30 million cubic feet over the 15-year life of the plan.[465] The South Plateau Project and the South Otter project *will far exceed the Forest Plan's 2 million cubic foot annual objective during the life of the projects, and in fact will exceed the 30 million cubic foot objective for the entire planning period*. By any measure of output, the South Plateau Project is significant; it is even more so when considered in light of other reasonably foreseeable projects on the Forest.[466]

The South Plateau Project's effects on the environment are also highly uncertain or involve unique or unknown risks. The 2023 Final EA is based on the critical assumption that logging and burning now will improve the forest's "resilience" in comparison to doing nothing because it will forestall damaging impacts (e.g., from fire or bugs). But while logging will immediately degrade mature forests, bear habitat and other values, the threat such logging attempts to forestall may never occur.

Further, the project's impacts are highly uncertain because the Forest Service does not disclose, and has not yet identified, the location of up to 56 miles of temporary road, or the precise location or timing of clearcuts. The Forest Service cannot have it both ways: it cannot both

[463] South Plateau Economic Effects Analysis (2023) at pdf page 4, 5.

[464] C. Sorenson, South Otter: Economic Effects Analysis (Sep. 20, 2020) at 4, 5, attached as Ex. 83.

[465] Custer Gallatin Forest Plan (2022) at 76, Objective FW-OBJ-TIM.

[466] The Forest Service responds that this level of logging will not violate the Forest Plan. Comment Consideration and Response (Mar. 2023) at 209-210. That response misses the point. The logging levels anticipated by these two projects together is huge, and is most of the volume of commercial timber the Forest expects to log in the coming 15 years. That is a significant volume, and will have significant impacts. Impacts can be significant without violating the law.

conclude that this huge project will have no significant effects, while simultaneously declining to disclose the site-specific impacts of hundreds of clearcuts and dozens of miles of roads.

For similar reasons, the South Plateau Project will have significant impacts as evaluated under the unlawfully-adopted 2020 Trump CEQ NEPA regulations. The nature and scale of impacts in the "local area," including more than 9,100 acres of thinning and 5,551 acres across less than 39,000 acres of forest within Project boundaries. As described above, the Project is "likely to adversely affect" grizzly bears, lynx, and whitebark pine. Short-term impacts – to scenic integrity, unroaded areas, wildlife habitat, and other values described above – are significant as described above. Long-term impacts, including tens of millions of dollars of climate damage, are significant as well.[467]

C. The Proposed Action Is Highly Controversial Because the Science Upon Which It Is Based Is Questionable.

The effects of this project meet the 1978 CEQ regulations' definition of "highly controversial.[468] 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."[469] Courts explain:

> 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).[470]

Here, the Forest Service assumes that thinning and clearcutting will enhance landscape "resilience" to beetle outbreaks and lower fire risk to communities, despite contrary evidence and

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[467] That said, it is possible that the Forest Service reached a determination of no significance relying on the weaker, Trump 2020 CEQ NEPA regulations new definition of "significance" reduces the number of actions deemed substantial enough to trigger the preparation of an environmental impact statement. *See* Complaint*, Alaska Community Action on Toxics v. Council on Environmental Quality*, 3:20-cv-05199 (N.D. Cal. July 29, 2020) (Ex. 3).

[468] 40 C.F.R. § 1508.27(b)(4) (1978).

[469] *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.").

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

studies. *See supra*. There is thus a genuine controversy as to whether the project will meet the stated purpose and need, or will have the impacts predicted, given the scientific studies cited above that undercut, or refute, those conclusions. This is precisely the type of "controversy" that courts find sufficient to require preparation of an EIS.[471] The dispute is heightened here because the Forest Service has so far ignored and failed to acknowledge many of these contrary studies.

> *Suggested Remedy*: The Custer Gallatin NF should prepare an EIS to fully disclose the impacts of the South Plateau Project.

CONCLUSION

The Center for Biological Diversity, Sierra Club, WildEarth Guardians, Alliance for the Wild Rockies, and Native Ecosystems Council appreciate your consideration of the information and concerns raised in our comments and highlighted in this objection.

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

Sincerely,

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[471] *See id*.

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Exhibit 18. Caribou Targhee National Forest, Decision Notice, Black Mountain Blowdown (May 20, 2019)

Exhibit 19. Custer Gallatin NF, Rendezvous Nordic Ski Area Improvements Scoping Document (April 2023)

Exhibit 20. Custer Gallatin NF, Rendezvous Nordic Ski Area Improvements Scoping Document (April 2023)

Exhibit 21. D. Mattson, Custer Gallatin Land Management Plan Revision Objection (Sep. 4, 2020

Exhibit 22. J.R. Squires et al., Seasonal Resource Selection of Canada Lynx in Managed Forests of the Northern Rocky Mountains, Jl. of Wildlife Management, 74(8):1648-1660. 2010.

Exhibit 23. J.R. Squires et al, Combining resource selection and movem ent behavior to predict corridors for Canada lynx at their southern range periphery, Biological Conservation, 157 (2013) 187-195

Exhibit 24. K. Weintraub, Lynx Numbers Are in Decline in the West, New York Times (Apr. 8, 2020)

Exhibit 25. IPCC, Summary for Policymakers, Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways (2018)

Exhibit 26. H. Fountain, Climate Change Is Accelerating, Bringing World 'Dangerously Close' to Irreversible Change, The New York Times (Dec. 4, 2019)

Exhibit 27. Whitlock C., Cross W., Maxwell B., Silverman N., Wade A.A. 2017. Executive Summary. Montana Climate Assessment. Bozeman and Missoula MT: Montana State University and University of Montana, Montana Institute on Ecosystems. doi:10.15788/m2ww8w.

Exhibit 28. Executive Order 13,990, 86 Fed. Reg. 7037 (Jan. 20, 2021)

Exhibit 29. Executive Order 14,008, 86 Fed. Reg. 7619 (Jan. 27, 2021)

Exhibit 30. Interagency Working Group on Social Cost of Greenhouse Gases, Technical Support Document: Social Cost of Carbon, Methane, and Nitrous Oxide Interim Estimates under Executive Order 13990 (Feb. 2021)

Exhibit 31. Council on Environmental Quality, Final Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in National Environmental Policy Act Reviews (Aug. 1, 2016)

Exhibit 32. Council on Environmental Quality, National Environmental Policy Act, Guidance on Consideration of Greenhouse Gas Emissions, 86 Fed. Reg. 10,252 (Feb. 19, 2021)

Exhibit 33. Council on Environmental Quality, National Environmental Policy Act Guidance on Consideration of Greenhouse Gas Emissions and Climate Change, 88 Fed. Reg. 1196 (Jan. 9, 2023)

Exhibit 34. Custer Gallatin Forest Plan EIS, Carbon Section (2020)

Exhibit 35. A. Dugan et al., Forest Carbon Assessment for the Custer Gallatin National Forest in Region 1 (Dec. 5, 2019)

Exhibit 36. Carbon Storage and Sequestration, Land Management Plan Environmental Impact Statement Summary for the South Plateau Landscape Area Treatment Project (no date)

Exhibit 37. Letter of M. McCoy, EPA to R. Hecker, Ashland Ranger District (Mar. 4, 2023)

Exhibit 38. Forest Service, Tongass Land and Resource Management Plan, Final EIS (2016)

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Exhibit 40. J.L. Campbell et al., Can fuel-reduction treatments really increase forest carbon storage in the western US by reducing future fire emissions? Frontiers in Ecology and the Environment, 2012; 10(2): 83–90, doi:10.1890/110057 (published online 15 Dec. 2011)

Exhibit 41. P. Buotte *et al*., *Carbon sequestration and biodiversity co-benefits of preserving forests in the western United States*, Ecological Applications, Article e02039 (Oct. 2019)

Exhibit 42. Moomaw, *et al*., Intact Forests in the United States: Proforestation Mitigates Climate Change and Serves the Greatest Good, Frontiers in Forests and Global Change (June 11, 2019)

Exhibit 43. T. Hudiburg *et al*., Meeting GHG reduction targets requires accounting for all forest sector emissions, Environ. Res. Lett. 14 (2019)

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Exhibit 45. T. Hudiburg et al., Carbon dynamics of Oregon and Northern California forests and potential land-based carbon storage, *Ecological Applications* (2009), 19:163-180

Exhibit 46. O. Sun, Dynamics of carbon stocks in soils and detritus across chronosequences of different forest types in the Pacific Northwest, USA, *Global Change Biology* (2005) 10:1470-1481

Exhibit 47. B. Law & W. Moomaw, Keeping trees in the ground where they are already growing is an effective low-tech way to slow climate change, *The Conversation* (Feb. 23, 2021)

Exhibit 48. B. Moomaw et al., Open Letter to President Biden and Members of Congress from Scientists: It is essential to Remove Climate-Harming Logging and Fossil Fuel Provisions from Reconciliation and Infrastructure Bills (Nov. 4, 2021)

Exhibit 49. E.O. 14,072, 81 Fed. Reg. 24851 (Apr. 27, 2022)

Exhibit 50. Forest Service, Mature and Old-Growth Forests: Definition, Identification, and Initial Inventory on Lands Managed by the Forest Service and Bureau of Land Management (April 2023)

Exhibit 51. Forest Service, Climate Change Considerations in Project Level NEPA Analysis (Jan. 13, 2009)

Exhibit 52. B. Law & M.E. Harmon, Forest sector carbon management, measurement and verification, and discussion of policy related to mitigation and adaptation of forests to climate change. *Carbon Management* (2011) 2(1)

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Exhibit 62. Hart, S.J., T. Schoennagel, T.T. Veblen, and T.B. Chapman. 2015. Area burned in the western United States is unaffected by recent mountain pine beetle outbreaks. Proceedings of the National Academy of Sciences. Vol. 112, No. 14

Exhibit 63. Hart, S.J., and D.L. Preston. 2020. Fire weather drives daily area burned and observations of fire behavior in mountain pine beetle affected landscapes. *Environ. Res. Lett.* 15 054007

Exhibit 64. Black, S. H., D. Kulakowski, B.R. Noon, and D. DellaSala. 2010. Insects and Roadless Forests: A Scientific Review of Causes, Consequences and Management Alternatives. National Center for Conservation Science & Policy, Ashland OR

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