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Comments: To the Forest Service:

Attached please find comments and the first batch of exhibits (Exs. 1-9) to the Center for Biological Diversity's comments on the Spruce project.

Edward B. Zukoski

Dear Mr. Underhill:

On behalf of the Center for Biological Diversity (the Center), and its more than one million members and online activists, thank you for the opportunity to provide these comments on the Spruce Vegetation Management Project. The Center is a 501(c)(3) nonprofit organization based in Tucson, Arizona, with offices across the country. The Center is dedicated to protecting and restoring imperiled species and natural ecosystems. The Center uses science, policy, and law to advocate for the conservation and recovery of species on the brink of extinction and the habitats they need to survive. The Center, as it has for decades, continues to actively advocate for increased protections for species and their habitats across the United States, including South Dakota and Wyoming.

I. THE SPRUCE PROJECT

The Scoping Package states that the Spruce Project's purpose and need includes:

- * The need to increase the occurrence of ponderosa pine and aspen in mixed conifer stands that are now dominated by spruce;
- * The need to increase the structural heterogeneity in those stands that were always spruce dominated;
- * The need to create openings in over-mature spruce dominated stands that have increasing fuel loads and ladder fuels, and;
- * The need to provide economic support to local communities by providing wood fiber and creating jobs in a sustainable manner.¹

The Scoping Package further asserts that action is needed to address the fact that

Current conditions are represented by large, uninterrupted blocks of over-mature spruce dominated stands that have increasing fuel loads and ladder fuels. Historically, mixed conifer, pine, and aspen stands were more prevalent. These stands are succeeding to spruce in the absence of fire. Between 1897 and 1987, the total area of forestland considered as white spruce has significantly expanded from an estimated 15,000-20,000 acres forest-wide to approximately 50,000 acres.

[hellip].

The results of all inventory methods indicate that the current level of white spruce is well above the forest plan objective to manage for 20,000 acres and that aspen is well below the forest plan objective to manage for 92,000 acres.²

The Scoping Package states that the purpose of the proposal is:

to reduce the number of acres dominated by white spruce and increase the number of acres of pine and aspen forest-wide with the objective of increasing overall forest resiliency and reducing undesirable fire behavior across the Black Hills National Forest landscape.³

The Scoping Package asserts that "there are approximately 30,000 acres of pure spruce and mixed conifer stands, both within and outside of the wildland urban interface (WUI), that would be assessed for management designed to align current conditions with forest plan direction."⁴ Of these 30,000 acres, nowhere identified on the maps provided by the agency, the Forest Service would remove spruce using a variety of techniques, including clearcutting "on up to 25,000 acres of spruce dominated forest stands."⁵

II. ANY ANALYSIS MUST CONTAIN THE NECESSARY SITE-SPECIFIC DETAIL TO COMPLY WITH NEPA.

A. NEPA Requires the Forest Service to Produce a Spatially and Temporally Specific Analysis for Project-Level Decisions.

NEPA is "our basic national charter for protection of the environment."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 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.¹¹ "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."¹² 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."¹³

In other words, whenever an agency proposes to choose among options that have different site-specific environmental consequences[mdash]like logging in one area versus another[mdash]the agency must provide site-specific analysis of those environmental consequences during the NEPA process before making a final decision.¹⁴ Specifically, when an agency prepares a site-specific analysis for a project-level action, it must include "a reasonably thorough discussion of the distinguishing characteristics and unique attributes of each area affected by the proposed action."¹⁵ Moreover, in order to "facilitate public discussion," the project's "proposed activities must be sufficiently correlated with environmental factors" and values[mdash]such as the presence of plant and wildlife species, for example[mdash]in each area that will be affected by the project.¹⁶

NEPA's review obligations are more stringent and detailed at the project level, or "implementation stage," given the nature of "individual site specific projects."¹⁷ "[G]eneral statements about possible effects and some risk do not constitute a hard look, absent a justification regarding why more definitive information could not be provided."¹⁸

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

landscape strongly determines that nature of the impact. As the Tenth Circuit Court of Appeals has explained, the actual "location of development greatly influences the likelihood and extent of habitat preservation. Disturbances on the same total surface area may produce wildly different impacts on plants and wildlife depending on the amount of contiguous habitat between them."¹⁹ 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.²⁰ Indeed, "location, not merely total surface disturbance, affects habitat fragmentation,"²¹ and therefore location data is critical to the site-specific analysis NEPA requires.

Site-specific analysis and public input are required to assess environmental baselines,²² develop and compare differences among alternatives,²³ and develop site-appropriate mitigation measures.²⁴ The obligation to undertake and disclose this sort of analysis during the NEPA process is set forth by NEPA's plain terms. For on-the-ground or otherwise project-level actions that require preparation of an environmental impact statement ("EIS"), the obligation to evaluate site-specific impacts arises from the "detailed statement" requirement of Section 102(2)(C) of NEPA and the requirement that agencies consider all reasonable alternatives.²⁵ A "detailed statement" of effects must include analysis of impacts that depend on location or timing.²⁶ An agency cannot take a hard look at impacts to wildlife, for example, without first understanding exactly where the action will take place and which wildlife species are using the affected area. In addition, an EIS must evaluate alternatives to the proposed action[mdash]a requirement that has long been understood as the "heart" of the NEPA process.²⁷ Where alternatives involve choices between locations or timing, the comparison must account for those site-specific or time-dependent differences.²⁸ In addition, agencies must understand the type and degree of site- and time-specific impacts in order to identify mitigation measures.²⁹

For on-the-ground or otherwise project-level actions that do not require preparation of an EIS, NEPA nevertheless requires site-specific analysis in environmental assessments ("EAs") for agency actions where the choice of sites is environmentally consequential. An EA is not solely a tool for deciding whether an EIS is needed; it is also the mechanism required to comply with Section 102(2)(E) of NEPA,³⁰ which requires agencies to develop and consider alternatives when there are "unresolved conflicts concerning alternative uses of available resources"[mdash]an obligation that exists independent of Section 102(2)(C)'s "detailed statement" requirement. The requirement to consider alternatives arises when the choice is environmentally consequential[mdash]i.e., whenever an agency's objective "can be achieved in one of two or more ways that will have differing impacts on the environment."³¹ Accordingly, if an agency's purpose can be met by acting in different locations (or at different times or in different ways) with different environmental consequences and the agency is exercising discretion to choose among those places or times, an EA must consider the different effects corresponding to those location or timing options.³² For example, where and how to conduct logging or build roads are the sorts of decisions explicitly left "unresolved" in forest plans and deferred to future project-level decisions, requiring site-specific analysis at the project level.³³ In addition, the requirement to consider site-specific impacts is inherent in the EA's role of assisting decisionmakers to determine whether an EIS is required. Without site-specific analysis, an agency cannot credibly justify a finding of no significant impact ("FONSI") for a site-specific project.

Particularly relevant to this project, the District Court for the District of Alaska in 2020 set aside the Prince of Wales timber sale because it failed to contain site-specific locations for roads and treatments, relying instead on a "condition based management" approach that put off site-specific project design until after the NEPA process was complete. In its decision, the District Court explains the approach the Forest Service took in the Prince of Wales EIS, describing that the document "analyzed" four alternatives, but that:

the alternatives do not provide the specific locations or configurations of harvest or roadbuilding within the LSTA [Logging System Transportation Analysis]. Instead, the Project EIS provides that "site-specific locations and methods" for activities such as timber harvest "will be determined during implementation" over the 15-year lifespan of the Project. It explains that siting decisions and the parameters of actual timber sales will be

determined pursuant to an Implementation Plan [hellip]. However, the EIS makes clear that these subsequent, site-specific decisions will not be subject to additional NEPA review. The Forest Service terms this approach "condition-based analysis."³⁴

The Prince of Wales EIS made assumptions "[i]n order to capture the 'maximum effects' of the Project."³⁵ 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 "the Project EIS does not include a determination[mdash]or even an estimate[mdash]of when and where the harvest activities or road construction authorized by each alternative will actually occur."³⁶

The Court found the Forest Service's approach violated the law and specifically contradicted Ninth Circuit precedent, *City of Tenakee Springs v. Block*, 778 F.2d 1402 (9th 1995), which set aside the Forest Service's decision to authorize pre-roading in the Kadashan Watershed, without specifically evaluating where and when on approximately 750,000 acres of land on Baranof and Chichagof Islands it intended to authorize logging to occur. The district court evaluating the Prince of Wales project found that the Forest Service's condition-based analysis was equivalent to the deficient analysis set aside in *City of Tenakee Springs*, holding that:

the Circuit's reasoning [in *Tenakee Springs*] is still binding precedent: NEPA requires that environmental analysis be specific enough to ensure informed decisionmaking 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.³⁷

The District of Alaska's decision demonstrates that condition-based management as implemented by the Forest Service cannot comply with law.

NEPA further mandates that the agency provide the public "the underlying environmental data' from which the Forest Service develop[ed] its opinions and arrive[d] at its decisions."³⁸ "The agency must explain the conclusions it has drawn from its chosen methodology, and the reasons it considered the underlying evidence to be reliable."³⁹ 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."⁴⁰

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

In addition to being legally required, site-specific NEPA analysis is effective and important as a practical matter. First, site-specific analysis during the deliberative NEPA process is critical to ensuring informed and effective public participation, formulating and evaluating alternatives, and avoiding or mitigating adverse project impacts. Site-specific information related to, for example, where logging will occur or new roads will be built, is essential for an agency and the public to understand and evaluate the reasonably foreseeable impacts of a proposal.⁴¹

An informed public is empowered to correct agencies' mistakes, offer alternative means by which to accomplish the purpose and need of a project, provide additional relevant information, and persuade agencies that some impacts may simply be unacceptable. Project improvements are driven by public input, usually centering on concerns about site-specific impacts. As CEQ has previously recognized, site-specific NEPA analysis leads to better outcomes, period.⁴²

The Spruce Project is a project-level decision. As a result, any NEPA analysis must include the detailed information and analysis that NEPA and the CEQ regulations require - including identifying the when, where, and how of road construction and of specific treatments by stand - because the Forest Service is unlikely to

undertake any further NEPA analysis beyond the proposed EA.

The Scoping Package does not contain the detail required by NEPA. For example, the Scoping Package identifies where spruce stands are located on the Blacks Hills, but does not map any data useful to understanding project impacts, including but not limited to:

- * where the Forest proposes to log spruce stands;
- * the location of "pure spruce stands" compared to "mixed conifer stands;"
- * where any clearcuts will be or their size;
- * the slope or aspect of the terrain where spruce are located;
- * where the WUI is compared to spruce stands (a particularly important piece of information because project prescriptions differ for those stands that are within the WUI);⁴³ and
- * which haul routes will be used, or the location of new or temporary road construction.

Further, the Scoping Package indicates that the Forest Service may never disclose some or all of this information in a NEPA document because it intends to utilize "a condition-based management approach."⁴⁴

As part of that approach, the Forest Service fails to disclose, and may never disclose as part of the NEPA process, key data, including the nature and extent of logging. For example, the Scoping Package states:

Total treatment acres will be based on both the actual white spruce area in implementation planning areas per pre-treatment surveys and the amount of white spruce that is desirable to reserve to meet other resource objectives in addition to the project needs discussed below.⁴⁵

It appears that the Forest Service intends to undertake the "pre-treatment surveys" post-NEPA, which will deprive the public and the decision-makers of the data necessary to understand the nature of spruce stands at issue, and the location, acreage, and impacts of logging. This contravenes NEPA.

Because condition-based management conflicts with the letter of NEPA as well as its spirit, we urge Forest Service not to utilize this unlawful approach. We urge the Forest Service instead to comply with the law by disclosing the necessary site-specific information in any subsequently prepared NEPA document.

B. The Forest Service Must Disclose the Project Area's Baseline Conditions.

Any EA or EIS must "succinctly describe the environment of the area(s) to be affected or created by the alternative under consideration."⁴⁶ NEPA also requires the action agency to set an appropriate baseline detailing the nature and extent of the resources in the area: "The concept of a baseline against which to compare predictions of the effects of the proposed action and reasonable alternatives is critical to the NEPA process."⁴⁷ "Without establishing ... baseline conditions ... there is simply no way to determine what effect [an action] will have on the environment and, consequently, no way to comply with NEPA."⁴⁸

Without baseline data, neither the public nor the agency can understand the effects of the proposed action or craft and analyze alternatives and mitigation measures to protect these values. As such, the Forest Service must identify the environmental baseline and affected environment, as well as the scope of impacts and where those impacts are most likely to be felt.

We urge the Forest Service in any subsequently prepared NEPA document to include baseline, site-specific information about the project area and the treatment areas within the project, so that the public can better understand and appreciate the values at issue and how the proposed action and alternatives may impact those values. We strongly urge the Forest Service to include:

* data describing the nature of spruce and aspen stands on the Forest. The Scoping Package contains conflicting information about the extent of spruce on the Forest, with "[t]he most recent Forest Inventory and Analysis (FIA) 2017-2019 inventory data indicat[ing] that the total white spruce forest type area now occurs on 52,000 acres" while "[t]he forest inventory database (FSVeg) estimates that there is 33,600 to 51,000 acres of white spruce forest depending upon the sampling methods considered."⁴⁹ If the lower end of the FSVeg data is correct, logging up to 25,000 acres as the proposed alternative would virtually eliminate spruce on the Forest.

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the common stand exam data for stands within the project area. The Forest Service may have common stand exam data already, as the Scoping Package reports:

Of the approximate 50,000 acres of spruce dominated stands forest-wide, a review of recently collected common stand exam data 2016-2018 (forest stand level sampling intensity) indicates that there are approximately 30,000 acres of pure spruce and mixed conifer stands, both within and outside of the wildland urban interface (WUI), that would be assessed for management designed to align current conditions with forest plan direction.⁵⁰

Common stand exam data would help the public understand the impacts of the proposed action.

* maps displaying key values, including management area boundaries, vegetation cover, watersheds, prior fire history, prior logging history, proposed adjacent and overlapping logging projects, wetland/riparian areas, and important habitat and corridors for wildlife.

* science and monitoring data describing the unique habitat values of spruce on the Black Hills National Forest, and describing which species of wildlife rely in part on mature spruce forests for habitat. For example, the Forest Service must disclose the extent to which spruce stands may provide habitat for the northern goshawk, a rare and imperiled species on the Forest. Other species that may be impacted include: : Ladies' slipper orchid, red and Flying squirrels, American marten, Northern goshawk, Black-backed and Three-toed woodpecker, Oreohelix snails, and the Northern myotis. The Forest Plan states as an objective that the Forest must "Maintain habitat for golden-crowned kinglets" which rely on spruce.⁵¹ We understand that the Black Hills is the westernmost occurrence of white spruce. Black Hills spruce is a variant found only on this Forest, meaning that these spruce plant communities exist nowhere else on the planet. The Black Hills spruce is recognized as the state tree of South Dakota. They, by their nature, hold moisture. Of all ecotypes found on the Black Hills National Forest, these are the most species-rich, holding the greatest number of species proportionate to their area. The Forest Service must disclose and explain the potential impacts to the unique plant communities that it proposes to destroy.

* science supporting the need for treatments in the WUI where the "WUI is defined as [$\frac{1}{2}$] mile from private property."⁵² This is particularly important because numerous studies prepared by Forest Service researchers have concluded that logging or thinning forests more than a few hundred feet from structures has little impact on whether those structure are at risk of fire.

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site-specific information about each stand proposed for treatment.

C. The Forest Service Should Disclose Basic Information About the Alternatives and Their Impacts.

The Scoping Package fails to disclose basic information about the proposal that must be contained in any subsequently prepared NEPA document. For example, any NEPA document should disclose:

* The duration of the project (2 years? 10? 20?).

* The location of key features to be approved by the proposed action, including maintained, reconstructed, and temporary roads proposed for use; cutting unit boundaries; landings; skid trails; clearcuts ("regeneration" cuts), including those larger than 40 acres, etc.

* The project's socio-economic impacts. The project's purpose includes responding to the "[t]he need to provide

economic support to local communities by providing wood fiber and creating jobs in a sustainable manner."⁵³ Because supporting local industry is a project goal, any subsequently prepared NEPA document must contain projections and quantifications of the likely board-feet the project will make available to local mills, and the project's economic impact. The Forest Service has or can generate detailed stand data for the project area, so it would seem to be a relatively straightforward analysis. We note that the Forest Service has estimated board-feet likely to be harvested and project economic impacts for numerous other projects. Because the Forest Service determined in RMRS GTR-422 that its logging program for ponderosa pine could not sustainably continue at the rate anticipated by the existing Forest Plan, it is particularly important that the agency disclose the volume of ponderosa pine that the Spruce Project proposes to log.

* The indirect impacts of road construction and maintenance, which will encourage illegal use on temporary roads, even after "closure," and more legal use on roads that are improved for the project. The Forest Service must disclose the degree to which past closures have been effective at preventing illegal use off road.

* The timing and location of all post-logging "timber stand improvement" activities "to treat spruce less than 7 inches diameter breast height (DBH) and then by machine piling, pile burning, and/or prescribed fire."⁵⁴

* The location, nature, and volume of ponderosa pine trees that will be logged in mixed conifer stands, where "residual ponderosa will be thinned," and the justification for thinning as part of this project.⁵⁵ The Scoping Package states that the agency will undertake such thinning in mixed conifer stands that "may still be dominated by ponderosa," but fails to define "dominated," or the location, nature, or extent of such stands, or to explain how logging ponderosa pine will help meet the project purpose and need.⁵⁶

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The science supporting the prescriptions in each alternative. For example, the Scoping Package states that one purpose of logging is to increase the amount of aspen on the Forest, and to increase ponderosa pine in current mixed conifer stands. The Forest Service should disclose monitoring data concerning the impact of prior similar treatments so that the public may understand whether such treatments actually resulted in increased aspen and ponderosa pine, or whether such treatments simply revegetated to spruce. Without data showing the impacts of such treatments, the impacts of the Spruce Project will be highly uncertain, requiring preparation of an EIS.

Further, one of the prescriptions for logging in mixed conifer forests states: "Younger, small diameter stands would be thinned from below to 80 basal area."⁵⁷ We urge the Forest Service to disclose the scientific and policy basis the 80 basal area target.

In addition, the proposed action will include clearcuts larger than 40 acres (or more than 30 football fields) in size. How many? And what science supports the artificial creation of such huge openings? Why are single, massive clearcuts preferable to numerous, smaller clearcuts that may leave more forest structure intact for species that rely on spruce? And why does the Scoping Package propose 40-acre clearcuts in mixed conifer stands,⁵⁸ which include other species of trees besides spruce? What science supports the assertion that creating large opening will reduce the spread of fire, when logging, slash, and the increase of human presence and access caused by such openings are likely to increase fire risk?

* Any science and data supporting the contention that the proposed action will serve the goal "of increasing overall forest resiliency and reducing undesirable fire behavior."⁵⁹ One would think that if logging could make a forest more resilient to fire, the Black Hills would be supremely fire resistant, given its history of intense and unsustainable logging.

* How all of the project proponents will be funded. We understand that in implementing several recent projects, the Forest Service has undertaken the commercially valuable timber removal components while failing to implement logging of small trees to reduce fire risks also proposed for the project. For the Spruce Project, the Forest Service should: (1) disclose this prior history; and (2) explain whether and how it intends to ensure that the removal of trees smaller than 7 inches DBH proposed for this project will occur.

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The science and data supporting any contentions concerning monitoring and the effectiveness of mitigation measures. The Forest Service should disclose the scientific and monitoring data from prior timber sales that

demonstrates that "protection measures" would actually "minimize or eliminate potential adverse impacts from the proposed actions on other resources such as soils, aquatics, fisheries, wildlife, rare plants, cultural resources, and recreation."⁶⁰

We note that the Forest Service has a history of ignoring its commitments to undertake both monitoring and public review of proposed treatments when implementing "condition-based management" projects on the Black Hills. For example, according to a Freedom of Information Act response from December 2021, despite commitments to prepare and public annual monitoring reports for its plan and projects, the Black Hills National Forest has prepared:

- * no monitoring reports for its Forest Plan since 2014;
- * no monitoring reports for the Mountain Pine Beetle Response Project since 2017; and
- * no monitoring reports ever for the 2018 Black Hills Resilient Landscapes project.

Further, although the Rocky Mountain Regional Forester ordered the Black Hills National Forest to undertake collaborative monitoring to "help inform the need for any future project modifications,"⁶¹ the Black Hills has undertaken only a single such site-visit with the public to two proposed timber sales in 2019, but nothing since then.

Therefore, the Forest Service cannot rely on commitments to monitor to mitigate impacts because the agency has repeatedly demonstrated that it fails to monitor, and fails to inform the public of what monitoring it may perform.

D. The Forest Service Should Disclose Meaningful Information about Cumulative Effects.

Any subsequently prepared NEPA document must disclose not only the direct and indirect impacts but also the cumulative impacts of the project when taken together with the impacts of past, present, and reasonably foreseeable actions. The Forest Service must disclose the location of nearby projects, whether they overlap with the Slater project area, and what the impacts of those projects might be.

For example, any subsequently prepared NEPA document must disclose the impacts of the Spruce Project when taken together with:

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The following nearby projects, all of which are open for scoping comment at the same time and which will all apparently overlap in terms of timing of implementation, types of impacts, project purposes, and physical location:

- * the Westside Project on the Mystic Ranger District (comment deadline April 6)
- * the Chimera Vegetation Management Project on the Northern Hills Ranger District (scoping comment deadline April 9)
- * the Theodore Restoration Project on the Mystic Ranger District (scoping comment deadline April 23)

- * Past, present, and reasonably foreseeable livestock grazing in the area;
- * Past, present, and reasonably foreseeable recreational activity, including off-road vehicle travel and hunting;
- * Past logging, fire, and fire suppression, including the disturbance (fire) history of each unit; for example, we understand that the ongoing Black Hills Resilient Landscapes project and the Mountain Pine Beetle Response project targeted for logging ponderosa pine in and adjacent to spruce stands within the Spruce Project area;

- * Past, present, and predicted beetle activity;
- * Climate change, including the ongoing drought in the area, particularly because drier conditions may favor some species (such as ponderosa pine) over spruce; and
- * Private and state land development within and adjacent to the project, including any efforts (or lack thereof) by private landowners to reduce fuels near homes and structures.

Any NEPA document must do more than merely list other projects and assert that impacts will not rise to the level of significance. The NEPA document must analyze and discuss where the other projects have occurred or will occur, disclose the kinds of impacts they may have, and analyze how they may interact and accumulate with those of the Spruce Project.

D. The 2020 NEPA Regulations Cannot Eliminate the Forest Service's Duty to Consider Cumulative Effects.

If the Forest Service determines that it should or must apply the 2020 NEPA regulations, it still has a legal duty to analyze and disclose cumulative effects: the impacts of the proposal together with those of other reasonably foreseeable actions likely to cumulatively impact the environment in the area. While the 1978 NEPA regulations identified three types of impacts - direct, indirect, and cumulative - the revised 2020 regulations eliminate the terms "indirect" and "cumulative," and explicitly repeal the definition of cumulative effects.⁶² However, this attempt to eliminate the mandate that agencies analyze and disclose cumulative impacts contravenes Congressional intent, statutory language, previous CEQ guidance, and federal court decisions interpreting NEPA prior to the adoption of the agency's 1978 regulations that the 2020 regulations purport to repeal. Further, CEQ has issued a draft proposal, due to be finalized shortly, restoring the definition of and requirement to consider cumulative effects.⁶³ And the Forest Service NEPA Handbook, 1909.15 retains the mandate that the agency disclose cumulative effects.⁶⁴ If the Forest Service here fails to address cumulative effects, it does so at considerable legal peril.⁶⁵

Legislative history shows that Congress adopted NEPA in part to address cumulative effects. As it considered taking action that ultimately resulted in NEPA's enactment, the United States Congress hosted a joint House-Senate Colloquium on a "National Policy for the Environment" on July 17, 1968.⁶⁶ Invited to participate in the Colloquium were "interested members with executive branch heads and leaders of industrial, commercial, academic, and scientific organizations," with the purpose of "focus[ing] on the evolving task the Congress faces in finding more adequate means to manage the quality of the American environment."⁶⁷ The outcome of the day-long discussion was a Congressional White Paper on a National Policy for the Environment, published in October 1968.⁶⁸ Noting the near-consensus views expressed by those participating in the Colloquium, the Congressional White Paper explained that "in the recent past, a good deal of public interest in the environment has shifted from its preoccupation with the extraction of natural resources to the more compelling problems of deterioration on natural systems of air, land, and water. The essential policy issue of conflicting demands has become well recognized."⁶⁹

The Congressional White Paper highlighted additional issues that stakeholders agreed were essential and ripe for Congressional consideration in its development of a national environmental policy. For example, Dr. Walter Orr Roberts, an atmospheric physicist and founder of the National Center for Atmospheric Research, explained the importance of considering climate change due to "[s]ubtle alterations of the chemical constitution of the atmosphere, through pollutants added in the form of trace gases, liquids, or solids, result from industrial activity or urbanization. This is an area of biometeorology that has significance in every living person and yet we have not yet seen even the first beginnings of an adequately sustained research effort in this area."⁷⁰ Subtle alterations from multiple projects, including the type of projects at issue here, could also have significant impacts when viewed cumulatively.

NEPA's legislative history is replete with additional references to the complexity of environmental impacts, the consequences of "letting them accumulate in slow attrition of the environment" and the "ultimate consequences of quiet, creeping environmental decline," all of which Congress concluded required an analysis of proposed impacts beyond the immediate, direct effects of an action.⁷¹ For 50 years, CEQ interpreted the law to accomplish just that.

The text of NEPA itself also indicates that agencies should address cumulative environmental effects. The evaluation of a proposed project must include a "detailed statement" on "the environmental impact of the proposed action," including "any adverse environmental effects which cannot be avoided should the proposal be implemented."⁷² The evaluation must examine "the environmental impact of the proposed action" "to the fullest extent possible."⁷³ The evaluating agency must also seek out other agencies' expertise regarding "any environmental impact involved."⁷⁴ The statute requires agencies to "recognize the worldwide and long-range character of environmental problems."⁷⁵

Further, the statute anticipates that agencies will consider impacts that, like climate pollution and climate change, may accrete from numerous projects with small individual impacts to harm our "biosphere."⁷⁶

Within a few months of its establishment, CEQ interpreted NEPA to require the disclosure of all environmental impacts, including cumulative effects. "The statutory clause 'major Federal actions significantly affecting the quality of the human environment' is to be construed by agencies with a view to the overall, cumulative impacts of the action proposed (and of further actions contemplated)."⁷⁷ CEQ published interim guidance in 1971 that confirmed this mandate.⁷⁸ The guidance explained that the requirement in Section 102(2)(C) of NEPA to identify "the relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity" in the detailed statement (now known as an EIS) required the agency "to assess the action for cumulative and long-term effects from the perspective that each generation is trustee of the environment for succeeding generations."⁷⁹

Some of the earliest Federal court decisions, issued years before CEQ adopted its 1978 regulations, concluded that NEPA requires disclosure of cumulative effects. The Second Circuit ruled in 1972 in the case of *Hanly v. Kleindienst*:

In the absence of any Congressional or administrative interpretation of the term, we are persuaded that in deciding whether a major federal action will "significantly" affect the quality of the human environment the agency in charge, although vested with broad discretion, should normally be required to review the proposed action in the light of at least two relevant factors: (1) the extent to which the action will cause adverse environmental effects in excess of those created by existing uses in the area affected by it, and (2) the absolute quantitative adverse environmental effects of the action itself, including the cumulative harm that results from its contribution to existing adverse conditions or uses in the affected area.⁸⁰

Following *Hanly*, the Second Circuit reiterated the importance of disclosing cumulative impacts.

As was recognized by Congress at the time of passage of NEPA, a good deal of our present air and water pollution has resulted from the accumulation of small amounts of pollutants added to the air and water by a great number of individual, unrelated sources. 'Important decisions concerning the use and the shape of man's future environment continue to be made in small but steady increments which perpetuate rather than avoid the recognized mistakes of previous decades.' S. Rep. No. 91-296, 91 Cong., 1st Sess. 5 (1969). NEPA was, in large measure, an attempt by Congress to instill in the environmental decisionmaking process a more comprehensive approach so that long term and cumulative effects of small and unrelated decisions could be recognized, evaluated and either avoided, mitigated, or accepted as the price to be paid for the major federal action under consideration.⁸¹

The Ninth Circuit in 1975 further explained:

while "foreseeing the unforeseeable" is not required, an agency must use its best efforts to find out all that it reasonably can: It must be remembered that the basic thrust of an agency's responsibilities under NEPA is to predict the environmental effects of proposed action before the action is taken and those effects fully known. Reasonable forecasting and speculation is thus implicit in NEPA, and we must reject any attempt by agencies to shirk their responsibilities under NEPA by labeling any and all discussion of future environmental effects as "crystal ball inquiry." Nor does characterization of industrial development as a "secondary" impact aid the defendants. As the Council on Environmental Quality only recently pointed out, consideration of secondary impacts may often be more important than consideration of primary impacts.

Impact statements usually analyze the initial or primary effects of a project, but they very often ignore the secondary or induced effects. A new highway located in a rural area may directly cause increased air pollution as a primary effect. But the highway may also induce residential and industrial growth, which may in turn create substantial pressures on available water supplies, sewage treatment facilities, and so forth. For many projects, these secondary or induced effects may be more significant than the project's primary effects.

[hellip]

While the analysis of secondary effects is often more difficult than defining the first-order physical effects, it is also indispensable. If impact statements are to be useful, they must address the major environmental problems likely to be created by a project. Statements that do not address themselves to these major problems are increasingly likely to be viewed as inadequate. As experience is gained in defining and understanding these secondary effects, new methodologies are likely to develop for forecasting them, and the usefulness of impact statements will increase.⁸²

The Supreme Court in 1976 endorsed the Second and Ninth Circuits' view that the statute requires disclosure of cumulative effects.

[W]hen several proposals for coal-related actions that will have cumulative or synergistic environmental impact upon a region are pending concurrently before an agency, their environmental consequence must be considered together. Only through comprehensive consideration of pending proposals can the agency evaluate different courses of action.⁸³

In sum, CEQ's attempt in its 2020 regulations to eliminate an agency's duty to consider cumulative effects is contrary to legislative intent, statutory language, nearly 50 years of caselaw, and consistent CEQ interpretation. Therefore, the Forest Service must continue to disclose the cumulative effect of federal actions, including for the Prince of Wales road access project.⁸⁴

F. The Forest Service Should Consider Preparing a Single EIS for the Spruce, Westside, Chimera, and Theodore Projects.

The Forest Service must consider preparing a single EIS for the Spruce, Westside, Chimera, and Theodore projects because they involve connected, cumulative, and similar actions.

1. Agencies Must Address Connected Actions in the Same NEPA Document.

Regulations implementing NEPA define "connected actions" as those that "are closely related and therefore should be discussed in the same impact statement."⁸⁵ Further, statement "proposals or parts of proposals that

are related to each other closely enough to be, in effect, a single course of action."⁸⁶

An agency must consider all "connected actions" in a single EIS.⁸⁷ The "purpose of this requirement is to prevent an agency from dividing a project into multiple actions, each of which individually has an insignificant environmental impact, but which collectively have a substantial impact."⁸⁸

2. The Forest Service Must Consider the Four Projects Together in a Single EIS or Explain Why They Are Not Required to Do So.

Courts have made clear that an agency must not "segment" its NEPA analysis of a proposal. This rule "prevents agencies from dividing one project into multiple individual actions each of which individually has an insignificant environmental impact, but which collectively have a substantial impact."⁸⁹

The Forest Service must explain why it is failing to address in a single EIS four significant logging project at the same time, in overlapping or adjoining areas, in four separate and segmented analyses. These actions appear connected, interrelated, similar, and will have cumulative effects on one another.

IV. THE FOREST SERVICE MUST DISCLOSE THE PROJECT'S IMPACTS ON CLIMATE POLLUTION AND CARBON STORAGE.

1.

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.⁹⁰ More recent 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.⁹¹ Climate change is impacting South Dakota. A 2017 assessment found that:

In the past century, most of the state has warmed by one to two degrees (F). Rainstorms are becoming more intense, and annual rainfall is increasing. In the coming decades, summers are likely to become increasingly hot, which may amplify some risks to human health and decrease yields of some crops while lengthening the growing season for others.⁹²

2.

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.⁹³

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."⁹⁴ Pres. 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 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.⁹⁵

Addressing the need for the accurate assessment of climate costs, Pres. 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."⁹⁶ 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.⁹⁷

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.⁹⁸ The President directed the Working Group to publish interim values for the social cost of carbon by February 19, 2021.⁹⁹ The Working Group that month set that price at \$51/ton at a 3% discount rate.¹⁰⁰ 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.¹⁰¹

3.

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.¹⁰² 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.¹⁰³

NEPA requires agencies to undertake meaningful consideration of greenhouse gas emissions (GHGs) and carbon sequestration (carbon storage).¹⁰⁴ 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."¹⁰⁵

Courts have held that a "general discussion of the effects of global climate change" does not satisfy NEPA's

hard-look requirement.¹⁰⁶

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.¹⁰⁷ A NEPA analysis that does not adequately consider the indirect effects of a proposed action, including climate emissions, violates NEPA.¹⁰⁸ The disclosure of merely the volume of GHG emissions is insufficient; agencies must also disclose the impacts of those emissions.¹⁰⁹

NEPA requires "reasonable forecasting," which includes the consideration of "reasonably foreseeable future actions [hellip] even if they are not specific proposals."¹¹⁰ 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."¹¹¹ 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.¹¹²

Nor can the Forest Service allege that it need not quantify the project's climate impacts by relying on NEPA regulations concerning "incomplete or unavailable information." Those NEPA 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" and the information is "essential to a reasoned choice among alternatives."

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.¹¹³ 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.¹¹⁴

The guidance further specifies that estimating GHG emissions is appropriate and necessary for actions such as federal logging projects.

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.¹¹⁵

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.¹¹⁶

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.¹¹⁷ 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.¹¹⁸

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.¹¹⁹

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.¹²⁰

4.

The Forest Service Must Disclose and Quantify the Spruce Project's Climate Damage.

To comply with NEPA and Biden administration direction, the Forest Service must disclose and quantify the impacts of logging tens of thousands of acres of spruce trees, and the soil disturbance that accompanies logging, on the climate stored on the Black Hills NF.

The Spruce 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.

Science makes clear that the Spruce 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 fix far less carbon than mature forests for decades if not centuries.

The Spruce Project will remove virtually all spruce trees (targeting the largest and oldest spruce) across a huge landscape, including larger and older spruce. Project prescriptions call for the clearcutting of all spruce 7 inches DBH or greater within 6,500 acres within the WUI, accompanied by "stand improvement work" that would eliminate "spruce saplings and seedlings less than 7.0 inches in diameter at breast height to remove competition with pine and aspen regeneration."¹²¹ Within up to 4,000 acres of pure spruce stands outside the WUI, "[s]pruce would be removed from groups ranging in size from 3-5 acres on up to 40 percent of the total stand area."¹²² And within up to 19,500 acres of mixed conifer forests, spruce larger than 7 inches DBH would be clearcut, including in patches larger than 40 acres, and smaller trees would also be removed.¹²³

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)."124 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."125

According to a 2019 IPCC report, deforestation causes climate pollution, and avoiding deforestation will reduce climate pollution.126

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."127 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 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.128

Two experts in the field wrote last year:

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.129

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)."130 Scientists have also concluded

Mature and old forests store more carbon in trees and soil than young forests, and continue to accumulate it over decades to centuries (Hudiburg et al. 2009) making them the most effective forest-related climate mitigation strategy. Converting mature and older forests to younger forests results in a significant loss of total carbon stores, even when wood products are considered (Harmon & Marks 2002, Hudiburg et al. 2019).131

These scientists also conclude that: "Preserving and protecting mature and old forests would not only increase carbon stocks and growing accumulation, they would address accelerating species loss and ecosystem deterioration and provide greater resilience to increasingly severe weather events."132

Logging within the Spruce Project area will remove vast swaths of forest. Therefore, the Forest Service must quantify the climate impacts of logging proposed by the Spruce Project.

The Forest Service cannot dismiss as minimal the climate damage caused by the Spruce Project, 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 2016 NEPA climate guidance recommends against using the type of comparison that makes impacts look small:

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 itself¹³³.

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, 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).

Any analysis that declines to address the project's impacts because they are allegedly "negligible" or "minimal" in comparison to the role the world's forests play in climate change would be not only misleading, it would mask 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 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.¹³⁴ 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 Spruce Project¹³⁵ when viewed in isolation¹³⁶ may only result in a relatively minor climate impacts, NEPA expressly requires agencies to consider whether agency actions are "related to other actions with individually insignificant but cumulatively significant impacts." Thus, the Forest Service may not dismiss the climate impacts of the Spruce 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.¹³⁶

Nor can the Forest Service rely on guidance entitled "Climate Change Considerations in Project Level NEPA Analysis" to avoid analyzing and disclosing the Spruce Project's climate change impacts.¹³⁷ The Climate Change Consideration guidance 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, now restored, both of which require 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 administration policy.

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. 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."¹³⁸

Failing to undertake a robust analysis based on the outdated 2009 guidance would border 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."¹³⁹ 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. It must do both as part of the Spruce Project NEPA analysis.

The Forest Service cannot decline to address the Spruce project's carbon impacts on the grounds that doing so is difficult. Several 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.¹⁴⁰ This is

precisely the type of analysis the Forest Service should undertake for the Spruce Project.

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.¹⁴¹ 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.¹⁴² Because agencies and academics have quantified and compared the carbon emissions of alternative logging proposals, NEPA requires the Forest Service to do so here.

The CEQ 2016 climate guidance, which CEQ in February 2021 urged agencies to rely on, contains explicit guidance on carbon storage, and notes:

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.¹⁴³

The guidance further specifies that estimating GHG emissions is appropriate and necessary for actions such as individual federal forest projects.¹⁴⁴

Logging and burning treatments, and any temporary road construction, road reconstruction and maintenance necessary to access the cutting units, for the year life of the project will require the use of heavy equipment, almost certainly exclusively powered by fossil-fueled engines. So will transporting logs to mills.

Further, the foreseeable downstream activities of milling logs will also cause 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. Any NEPA document must disclose these impacts.

The Forest Service and other agencies, such as the Office of Surface Mining, have disclosed in NEPA documents the estimated pollution from internal combustion engines necessary to mine, process, and ship coal to market.¹⁴⁵ While we do not endorse as sufficient either the OSM or

Federal Coal Lease Modifications analyses, they demonstrate that agencies (including the Forest Service) can and do attempt to disclose direct climate emissions from construction and transport activities. The Forest Service must do the same for the Spruce Project.

V. THE FOREST SERVICE MUST ANALYZE A RANGE OF REASONABLE ALTERNATIVES.

In taking the "hard look" at impacts that NEPA requires, the statute itself requires that an EA must "study, develop, and describe" reasonable alternatives to the proposed action.¹⁴⁶ This mandate extends to EAs as well as EISs. "A properly-drafted EA must include a discussion of appropriate alternatives to the proposed project."¹⁴⁷ This alternatives analysis "is at the heart of the NEPA process, and is 'operative even if the agency finds no significant environmental impact.'"¹⁴⁸ 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."¹⁴⁹ When an agency considers reasonable alternatives, it

"ensures that it has considered all possible approaches to, and potential environmental impacts of, a particular project; as a result, NEPA ensures that the most intelligent, optimally beneficial decision will ultimately be made."¹⁵⁰

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."¹⁵¹ 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."¹⁵² The agency's obligation to consider reasonable alternatives applies to citizen-proposed alternatives.¹⁵³ Courts require that an agency adequately and explicitly explain in the EA any decision to eliminate an alternative from further study.¹⁵⁴ Agencies cannot "define the project so narrowly that it foreclosed a reasonable consideration of alternatives."¹⁵⁵

1.

The Forest Service Must Analyze the No Action Alternative.

NEPA mandates that agencies consider the alternative of no action.¹⁵⁶ 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.

The Forest Service in any subsequently prepared NEPA document should include a concise description of the no action alternative, and a clear and direct comparison of the impacts of each alternative by resource. This will permit the public to better understand the proposed action and other alternatives.

2.

The Forest Service Should Analyze an Alternative to Protect Old or Large Trees.

The Forest Service should consider an alternative that protects large and old spruce trees to retain their critical ecosystem and carbon storage values, and should concentrate any proposed logging on dense stands of trees 7 inches DBH or less. Such an alternative could meet at least part of the project purpose and need by reducing some ladder fuels.

3.

The Forest Service Must Address Other Reasonable Alternatives.

We propose that the Forest Service consider an alternative that combines some or all of the following elements:

* No clearcuts or "regeneration" cuts greater than 40 acres. The Forest Service must, at a minimum, explain in detail why such massive clearcuts are required, and why the agency could not achieve the project's purpose and need with smaller cuts.

* No construction of new permanent or temporary roads.

* Limit logging in the WUI to those areas close to communities, homes, and structures (as opposed to merely property lines). The Scoping Package proposes to log in the WUI up to a half-mile away from property boundaries.¹⁵⁷ Forest Service research has long concluded that the most effective treatments for protecting structures is to treat the area within 40 meters or less of that structure.¹⁵⁸

* Bar logging and/or road construction within sensitive watersheds, in riparian corridors, on sensitive soils, and on

steeper slopes.

* Use tools besides logging in mixed conifer stands. The Scoping Package states that although mixed conifer stands with a significant spruce component "are spruce habitat types, with disturbance, they would not be dominated by spruce. This change in species dominance is attributed to past management practices such as selective logging and fire exclusion."¹⁵⁹ If fire is a potential tool for reducing the spruce component, the Forest Service should consider how to restore fire to the area without logging, or explain why the agency cannot do so.

We also request that the Forest Service specifically address adopting each of these proposed measures as mitigation, and evaluate their effectiveness, as required by NEPA.

V. THE FOREST SERVICE SHOULD CONSIDER PREPARING AN ENVIRONMENTAL IMPACT STATEMENT ON THE SPRUCE PROJECT.

A. Agencies Must Prepare EISs When 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."¹⁶⁰ As the Tenth Circuit has explained, "[i]f 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."¹⁶¹ The Ninth Circuit agrees.

We have held that an EIS must be prepared if 'substantial questions are raised as to whether a project ... may cause significant degradation to some human environmental factor.' To trigger this requirement a 'plaintiff need not show that significant effects will in fact occur,' [but instead] raising 'substantial questions whether a project may have a significant effect' is sufficient.¹⁶²

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.'"¹⁶³

"Significance" under NEPA requires consideration of the action's context and intensity.¹⁶⁴ 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).¹⁶⁵ Intensity refers to the severity of the impact and requires consideration of ten identified factors that may generally lead to a significance determination, including: (1) whether the action is likely to be highly controversial; (2) whether the effects on the environment are highly uncertain or involve unique or unknown risks; and (3) whether the action may have cumulative significant impacts.¹⁶⁶ 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."¹⁶⁷

Here, despite the vagueness of the proposal at this early stage, it appears that the Spruce Project may have significant impacts, triggering the Forest Service's duty to prepare an EIS.

B. The Spruce Project May Have Significant Impacts.

The scale of the project itself may be significant. The Spruce Project proposes to eliminate spruce trees across 25,000 acres, or nearly 40 square miles. It will likely require tens of miles of road maintenance, temporary roads, and/or skid trails. It will liquidate roughly half of the spruce habitat on the Black Hills NF, habitat that many species of wildlife now rely on. These impacts and the large scale of logging and burning support a conclusion of significance.

The project's impacts, when considered with other proposed and past projects, is likely to be significant. The Spruce Project will occur in an area recently impacted (or proposed for further treatment) in the Black Hills Resilient Landscapes project and the Mountain Pine Beetle Response project, and three other project proposed in the last month will occur adjacent to, or overlapping, the project. Whatever the impact of all of these projects individually, they are together likely to change a broad expanse of forest, a significant impact.

The impacts of this project are "highly uncertain" because, as discussed above, the project itself - its duration, the location of specific impacts such as roads or logging treatments, the precise nature of treatments themselves - is poorly defined. Because the Forest Service intends to apply condition-based management, the agency is unlikely to make more certain the when, where, and how of project treatments until after the NEPA process is complete.

Because there is a potential for the proposal to have significant impacts, we recommend that the Forest Service prepare an EIS for the Spruce Project.

CONCLUSION.

Thank you for this opportunity to comment. If you have any questions about this letter, please contact me at the number or email below.

Sincerely,

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TABLE OF EXHIBITS (See Attachments)

ATTACHMENT: Exhibit 1. IPCC, Summary for Policymakers, Global Warming of 1.5[deg]C. An IPCC Special Report on the impacts of global warming of 1.5[deg]C above pre-industrial levels and related global greenhouse gas emission pathways (2018)

ATTACHMENT: Exhibit 2. H. Fountain, Climate Change Is Accelerating, Bringing World 'Dangerously Close' to Irreversible Change, The New York Times (Dec. 4, 2019)

ATTACHMENT: Exhibit 3. 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)

ATTACHMENT: Exhibit 4. Council on Environmental Quality, National Environmental Policy Act, Guidance on

Consideration of Greenhouse Gas Emissions, 86 Fed. Reg. 10,252 (Feb. 19, 2021)

ATTACHMENT: Exhibit 5. Forest Service, Tongass Land and Resource Management Plan, Final EIS (2016) (excerpts)

ATTACHMENT: Exhibit 6. D. DellaSala, The Tongass Rainforest as Alaska's First Line of Climate Change Defense and Importance to the Paris Climate Change Agreements (2016)

ATTACHMENT: Exhibit 7. Intergovernmental Panel on Climate Change, Special Report on Climate Change, Desertification, Land Degradation, Sustainable Land Management, Food Security, and Greenhouse gas fluxes in Terrestrial Ecosystems, Summary for Policymakers (Aug. 2019)

ATTACHMENT: Exhibit 8. 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)

ATTACHMENT: Exhibit 9. 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)

ATTACHMENT: Exhibit 10. T. Hudiburg et al., Meeting GHG reduction targets requires accounting for all forest sector emissions, Environ. Res. Lett. 14 (2019)

ATTACHMENT: Exhibit 11. 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)

ATTACHMENT: Exhibit 12. B. Law, et al., The Status of Science on Forest Carbon Management to Mitigate Climate Change (June 1, 2020)

ATTACHMENT: Exhibit 13. B. Law, et al., The Status of Science on Forest Carbon Management to Mitigate Climate Change and Protect Water and Biodiversity (Mar. 9, 2022)

ATTACHMENT: Exhibit 14. Forest Service, Climate Change Considerations in Project Level NEPA Analysis (January 13, 2009)

ATTACHMENT: Exhibit 15. Bureau of Land Management, Western Oregon Proposed RMP Final EIS (2009) (excerpts)

ATTACHMENT: Exhibit 16. Office of Surface Mining & Bureau of Land Management, Environmental Assessment, Colowyo Coal Mine Collom Permit Expansion Area Project (Jan. 2016) (excerpts)

ATTACHMENT: Exhibit 17. U.S. Forest Service, Supplemental Final Environmental Impact Statement, Federal Coal Lease Modifications COC-1362 & COC-67232 (Aug. 2017) (excerpts)

FOOTNOTES

1 Black Hills National Forest, Spruce Vegetation Management Project Scoping Package (Feb. 2022) at 5-6 (hereafter "Spruce Scoping Package").

2 Spruce Scoping Package at 5.

3 Spruce Scoping Package at 6.

4 Spruce Scoping Package at 5.

5 Spruce Scoping Package at 6.

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

7 42 U.S.C. [sect] 4331(a).

8 Env'tl. 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. [sect] 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)). See also California v. Block, 690 F.2d 753, 761 (9th Cir. 1982) (holding that site-specific impacts must be "fully evaluated" when an agency proposes to make an "irreversible and irretrievable commitment" of resources to a project at a particular site).

11 Congress alone may make exceptions to this rule. E.g., 16 U.S.C. [sect][sect] 6591a(b)(2), 6591b(a)(1), 6591(d) (allowing the Forest Service to skip NEPA for site-specific actions that otherwise would require an EA or EIS, provided that all the requirements for eligibility are met. Such exceptions are narrow and rare).

12 Marsh, 490 U.S. at 371 (citation omitted).

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

14 See, e.g., Western Watersheds Project v. Abbey, 719 F.3d 1035, 1049 (9th Cir. 2013) (internal citation omitted) (holding that BLM has a "critical duty to 'fully evaluate[]' site-specific impacts" even after issuing a programmatic EIS); City of Tenakee Springs v. Block, 778 F.2d 1402, 1407 (9th Cir. 1985) (finding that "NEPA requires both a programmatic and a site-specific EIS," and that agencies do not have discretion "to determine the specificity required by NEPA" in a site-specific EIS but must instead adhere to the statute); Wilderness Soc'y v. U.S. Forest Serv., 850 F. Supp. 2d 1144, 1150, 1157 (D. Idaho 2012) (holding that the U.S. Forest Service was required to "take a 'hard look'" at the impact of 94 miles of roads under NEPA "before making them a part of the designated route system in the area" despite the roads having been used unofficially for years); Klamath-Siskiyou Wildlands Ctr. v. U.S. Forest Serv., No. 2:05-CV-0299, 2006 WL 1991414, at *9-10 (E.D. Cal. July 14, 2006) (invalidating the use of an EA without site-specific analysis for project locations).

15 Stein v. Barton, 740 F. Supp. 743, 749 (D. Alaska 1990); see Klamath-Siskiyou Wildlands Ctr., 2006 WL 1991414, at *9-10.

16 Stein, 740 F. Supp. at 749; see also Ayers v. Espy, 873 F. Supp. 455 (D. Colo. 1994) (holding that where the Forest Service's EA for a timber sale in the Arapaho and Roosevelt National Forests selected an alternative despite "grossly inadequate" soil data, the agency was required to conduct a soils inventory and analysis providing site-specific information sufficient to properly evaluate each proposed alternative and the reasons for each alternative's selection or rejection).

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

18 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").

19 New Mexico ex rel Richardson, 565 F.3d at 706.

20 Id. at 707.

21 Id.

22 Oregon Nat. Desert Ass'n v. Jewell, 840 F.3d 562, 568 (9th Cir. 2016) (holding that an accurate baseline is a "practical requirement" of NEPA and that environmental data must be made "available to public officials and citizens before decisions are made and before actions are taken.") (emphasis in original) (internal citations omitted).

23 40 C.F.R. [sect] 1502.14 (2020).

24 Id. at [sect] 1502.16.

25 42 U.S.C. [sect] 4332(2)(C)(iii).

26 See Southeast Alaska Conservation Council v. U.S. Forest Serv., 443 F. Supp. 3d 995, 1013 (D. Alaska 2020) (holding that condition-based management project on the Tongass National Forest violated NEPA's hard-look standard because the Forest Service did not analyze where and when logging and road construction would occur).

27 Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 352 (1989).

28 See, e.g., New Mexico ex rel. Richardson v. Bureau of Land Mgmt., 565 F.3d 683, 705-07 (10th Cir. 2009) (requiring BLM to conduct additional site-specific NEPA analysis when it significantly modified chosen alternative without completing any additional analysis).

29 Robertson, 490 U.S. at 351 (holding that a discussion of mitigation measures is an "essential ingredient" of an EIS which "flows both from the language of the [Clean Water] Act and . . . from CEQ's implementing regulations."); see also 42 U.S.C. [sect] 4332(C)(ii) (requiring a detailed statement for "any adverse environmental effects which cannot be avoided should the proposal be implemented").

30 40 C.F.R. [sect] 1508.9 (1978); 40 C.F.R. [sect] 1501.5(c)(2) (2020).

31 42 U.S.C. [sect] 4332(2)(E); Trinity Episcopal Sch. Corp. v. Romney, 523 F.2d 88, 93 (2d Cir. 1975).

32 Trinity Episcopal, 523 F.2d at 93.

33 E.g., U.S. DEP'T OF AGRIC., U.S. FOREST SERV., FINAL ENVIRONMENTAL IMPACT STATEMENT FOR THE REVISED LAND AND RESOURCE MANAGEMENT PLAN FOR THE NATIONAL FORESTS IN FLORIDA ch. 3, at 1 (1999), https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fseprd500375.pdf; U.S. DEP'T OF AGRIC., U.S. FOREST SERV., FINAL ENVIRONMENTAL IMPACT STATEMENT FOR THE LAND AND RESOURCE MANAGEMENT PLAN: CHATTAHOOCHEE-OCONEE NATIONAL FORESTS: APPENDIX G: RESPONSE TO PUBLIC COMMENTS 40, 108 (2004), https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fsm9_028731.pdf; U.S. DEP'T OF AGRIC., U.S. FOREST SERV., PISGAH-NANTAHALA FOREST PLAN ENVIRONMENTAL IMPACT STATEMENT: FINAL SUPPLEMENT TO THE FINAL ENVIRONMENTAL IMPACT STATEMENT: VOLUME II, at app. N-68 (1994).

34 See Southeast Alaska Conservation Council v. U.S. Forest Serv., 443 F. Supp. 3d 995, 1002-03 (D. Ak. 2020) (citations omitted).

35 Id. at 1002.

36 Id. at 1009.

37 Id.

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

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

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

41 See, e.g., Southeast Alaska Conservation Council, 443 F. Supp. 3d at 1014 (explaining where a project analysis "identified a total acreage of potential timber harvest, but not the distribution of the specific acreage authorized by each alternative within these areas" "[t]his omission is meaningful given the duration and scale of the project" and "fails to provide a meaningful comparison of alternatives.").

42 Memorandum from Michael Boots, Chair of Council on Env't Quality, to Heads of Fed. Dep'ts and Agencies 5 (Dec. 18, 2014) (Memorandum is entitled "Effective Use of Programmatic NEPA Reviews," and states that the NEPA process of using programmatic and site-specific analysis "leads to better outcomes" for the environment, public engagement, and government decisionmaking), available at https://obamawhitehouse.archives.gov/sites/default/files/docs/effective_use_of_programmatic_nepa_reviews_final_dec2014_searchable.pdf (last viewed Mar. 25, 2022).

43 See Spruce Scoping Package at 7, Table 7 (specific prescription proposed for up to 6,500 acres "located within the WUI").

44 Spruce Scoping Package at 6.

45 Spruce Scoping Package at 5.

46 40 C.F.R. [sect] 1502.15.

47 See Council on Environmental Quality, Considering Cumulative Effects under the National Environmental Policy Act (Jan. 1997) at 41, available at https://ceq.doe.gov/publications/cumulative_effects.html (last viewed Mar. 25, 2022).

48 Half Moon Bay Fishermans' Mktg. Ass'n v. Carlucci, 857 F.2d 505, 510 (9th Cir. 1988).

49 Spruce Scoping Package at 5.

50 Spruce Scoping Package at 5.

51 Black Hills National Forest Plan at Objective 238.

52 Spruce Scoping Package at 6, n.6.

53 Spruce Scoping Package at 6.

54 Spruce Scoping Package at 6.

55 Spruce Scoping Package at 6, n.7.

56 Spruce Scoping Package at 6, n.7.

57 Spruce Scoping Package at 8.

58 Spruce Scoping Package at 6.

59 Spruce Scoping Package at 6.

60 Spruce Scoping Package at 8.

61 See, e.g., Forest Service, Black Hills Resilient Landscapes Project Record of Decision (July 2018) ("Members of the public, National Forest Advisory Board (NFAB), and objectors will be invited to participate in field monitoring activities, when possible, as part of multiparty collaborative monitoring as instructed by the Objection Reviewing Officer in her letters dated May 30, 2018"), available at https://www.fs.usda.gov/nfs/11558/www/nepa/103904_FSPLT3_4389333.pdf (last viewed Mar. 24, 2022).

62 40 C.F.R. [sect] 1508.1(g)(3) (2020).

63 86 Fed. Reg. 55,757, 55,764 (Oct. 7, 2021).

64 Forest Service Handbook 1901.15, Ch. 05 (defining cumulative effects); *id.* at Ch. 15 (explaining duty to consider cumulative impacts in an EA).

65 In addition, the 2020 CEQ regulations have been challenged as illegal in numerous courts and could soon be vacated by a court. See *Environmental Justice Health Alliance v. CEQ*, Case 1:20-cv-06143 (S.D.N.Y. Aug. 6, 2020); *Wild Virginia v. CEQ*, Case 3:20-cv-00045-NKM (W.D. Va. July 29, 2020) (on appeal); *Alaska Community Action on Toxics v. CEQ*, Case 3:20-cv-05199-RS (N.D. Ca. July 29, 2020); *State of California v. Council on Environmental Quality*, Case No. 3:20-cv-06057 (N.D. Cal. Aug. 28, 2020).

66 See Congressional White Paper on a National Policy for the Environment, U.S. Gov't Printing Office (Oct. 1968), available at <https://ceq.doe.gov/docs/laws-regulations/Congress-White-Paper.pdf> (last viewed Mar. 25, 2022).

67 *Id.* at III, 1.

68 Id.

69 Id. at 1.

70 Id. at 1.

71 115 Cong. Rec. 29070 (October 8, 1969) (emphasis added); see also, S. Rep. No. 91-296, 91st Cong., 1st Sess. (July 9, 1969) at 5 (bemoaning the fact that "[i]mportant decisions concerning the use and the shape of man's future environment continue to be made in small but steady increments which perpetuate rather than avoid the recognized mistakes of previous decades."), available at <https://ceq.doe.gov/docs/laws-regulations/Senate-Report-on-NEPA.pdf> (last viewed Mar. 25, 2022).

72 42 U.S.C. [sect] 4332(2)(C)(ii) (emphasis added).

73 Id. [sect][sect] 4332 (emphasis added), 4332(2)(C)(i).

74 Id. [sect] 4332(2)(C) (emphasis added).

75 Id. [sect] 4332(2)(F) (emphasis added).

76 42 U.S.C. [sect] 4321 (NEPA's purpose is "to declare a national policy which will encourage productive and enjoyable harmony between man and his environment; [and] to promote efforts which will prevent or eliminate damage to the environment and biosphere [hellip].") (emphasis added)).

77 Council on Environmental Quality: Statements on Proposed Federal Actions Affecting the Environment; Interim Guidelines, April 30, 1970, Section 5(b) (filed with Fed. Reg. May 11, 1970), available in Environmental Quality, The First Annual Report of the Council on Environmental Quality (1970) at 288, available at <https://www.slideshare.net/whitehouse/august-1970-environmental-quality-the-first-annual-report-of> (last viewed Mar. 25, 2022).

78 CEQ, Statements On Proposed Federal Actions Affecting The Environment Guidelines, 36 Fed. Reg. 7,724 (April 23, 1971).

79 Id. at 7,725 (interpreting 42 U.S.C. 4332(2)(C)(iv)).

80 Hanly v. Kleindienst, 471 F.2d 823, 830-31 (2d Cir. 1972) (emphasis added)).

81 Natural Resources Defense Council v. Callaway, 524 F.2d 79, 88-89 (2d Cir. 1975) (emphasis added) (citation omitted).

82 City of Davis v. Coleman, 521 F.2d 661, 676-77 (9th Cir. 1975) (quoting Scientists' Institute for Public Information v. A.E.C., 481 F.2d 1079, 1092 (D.C. Cir. 1973). See also CEQ, Fifth Annual Report of the Council on Environmental Quality, 410-11 (Dec. 1974), available at <https://www.slideshare.net/whitehouse/august-1974-the-fifth-annual-report-of-the-council-on-environmental-quality> (last viewed Mar. 25, 2022)).

83 Kleppe v. Sierra Club, 427 U.S. 390, 410 (1976) (emphasis added) (citation omitted).

84 The Forest Service has neither rescinded nor amended its NEPA handbook which requires the agency to consider cumulative effects. See Forest Service Handbook 1909.15, Ch. 15.1.

85 40 C.F.R. [sect] 1501.9(e)(1) (2020); 40 C.F.R. [sect] 1508.25(a)(1) (1978).

86 40 C.F.R. [sect] 1502.4(a) (2020). See also 40 C.F.R. [sect] 1502.4(a) (1978) (containing nearly identical language).

87 *Great Basin Mine Watch v. Hankins*, 456 F.3d 955, 968-69 (9th Cir. 2006). See also *Kleppe v. Sierra Club*, 427 U.S. 390, 399 (1976) (a single environmental review document is required for distinct projects when there is a single proposal governing the projects); *Klamath-Siskiyou Wildlands Ctr. v. BLM*, 387 F.3d 989, 998 (9th Cir. 2004) ("[p]roposals or parts of proposals which are related to each other closely enough to be, in effect, a single course of action shall be evaluated in a single impact statement"); *Utahns for Better Transp. v. U.S. Dep't of Transp.*, 305 F.3d 1152, 1182 (10th Cir. 2002).

88 *Great Basin Mine Watch*, 456 F.3d at 969 (quotation marks omitted).

89 *NRDC v. Hodel*, 865 F.2d 288, 297 (D.C. Cir. 1988).

90 See IPCC, Summary for Policymakers, Global Warming of 1.5[deg]C. An IPCC Special Report on the impacts of global warming of 1.5[deg]C above pre-industrial levels and related global greenhouse gas emission pathways (2018), attached as Ex. 1.

91 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. 2.

92 U.S. Environmental Protection Agency, What Climate Change Means for South Dakota (Aug. 2016), available at <https://19january2017snapshot.epa.gov/sites/production/files/2016-09/documents/climate-change-sd.pdf> (last viewed Mar. 25, 2022).

93 Executive Order 13,990, 86 Fed. Reg. 7037 (Jan. 20, 2021) at Sec. 1 (emphasis added).

94 Executive Order 14,008, 86 Fed. Reg. 7619 (Jan. 27, 2021).

95 *Id.* at 7622 (Sec. 201) (emphasis added).

96 Executive Order 13,990, 86 Fed. Reg. at 7040, Sec. 5(a) (emphasis added).

97 *Id.* (emphasis added).

98 *Id.*, Sec. 5(b).

99 *Id.*, Sec. 5(b)(ii)(A).

100 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 Mar. 25, 2022).

101 *Id.* at cover page, 14. The Fifth Circuit Court of Appeals recently vacated an injunction limiting the Biden administration's ability to use the social cost of carbon. See A. Guillen, Appeals court revives key climate measure rejected by Trump judge, *Politico* (Mar. 16, 2022), available at <https://www.politico.com/news/2022/03/16/appeals-court-social-cost-carbon-biden-trump-00017986> (last viewed

Mar. 25, 2022).

102 Colo. Envtl. Coal. v. Dombeck, 185 F.3d 1162, 1176 (10th Cir. 1999); see also 40 C.F.R. [sect] 1508.25(c) (1978) (when determining the scope of an EIS, agencies "shall consider" direct, indirect, and cumulative impacts).

103 See 40 C.F.R. [sect] 1500.1(b) (1978); 36 C.F.R. [sect] 219.3.

104 Ctr. for Biological Diversity v. Nat'l Highway Traffic Safety Admin., 538 F.3d 1172, 1217 (9th Cir. 2008).

105 Id., 538 F.3d at 1216 (quoting 40 C.F.R. [sect] 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").

106 High Country Conservation Advocates v. U.S. Forest Serv., 52 F. Supp. 3d 1174, 1189-90 (D. Colo. 2014).

107 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).

108 Ctr. for Biological Diversity v. Bernhardt, 982 F.3d 723, 2020 U.S. App. LEXIS 38033, *20 (9th Cir. 2020).

109 Utah Physicians For A Healthy Env't v. United States BLM, 2021 U.S. Dist. LEXIS 57756 (D. Utah Mar. 24, 2021).

110 N. Plains Res. Council, Inc. v. Surface Transp. Bd., 668 F.3d 1067, 1079 (9th Cir. 2011) (citation omitted).

111 Id. (citations omitted).

112 Sierra Club v. Federal Energy Regulatory Commission, 863 F.3d 1357, 1373-74 (D.C. Cir. 2017).

113 Notice available at 81 Fed. Reg. 51,866 (Aug. 5, 2016); full guidance attached as Ex. 3, and available at https://ceq.doe.gov/docs/ceq-regulations-and-guidance/nepa_final_ghg_guidance.pdf (last viewed Mar. 25, 2022).

114 Id. at 16 (citations omitted).

115 Id. at 26 (citations omitted).

116 Id. at 18.

117 Executive Order 13,990, Sec. 7(e), 86 Fed. Reg. at 7042.

118 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. 4, and available at <https://www.govinfo.gov/content/pkg/FR-2021-02-19/pdf/2021-03355.pdf> (last viewed Apr. 23, 2021).

119 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."); *Din[eacute] 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.

120 *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). See also CEQ, 2016 NEPA Climate Guidance (Ex. 3) at 32-33 (noting the appropriateness of monetizing climate impacts).

121 Spruce Scoping Package at 7.

122 *Id.*

123 Spruce Scoping Package at 8.

124 Forest Service, Tongass Land and Resource Management Plan, Final EIS (2016) at 3-14, excerpts attached as Ex. 5.

125 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. 6.

126 Intergovernmental Panel on Climate Change, *Special Report on Climate Change, Desertification, Land Degradation, Sustainable Land Management, Food Security, and Greenhouse gas fluxes in Terrestrial Ecosystems, Summary for Policymakers* (Aug. 2019) at 7, 23, attached as Ex. 7. See also 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 3663 ("Proven strategies immediately available to mitigate carbon emissions from forest activities include ... reducing emissions from deforestation and degradation."), attached as 6, available at <https://www.pnas.org/doi/pdf/10.1073/pnas.1720064115> (last viewed Mar. 25, 2022).

127 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. 9.

128 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. 10.

129 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. 11, 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 Mar. 25, 2022).

130 B. Law, et al., *The Status of Science on Forest Carbon Management to Mitigate Climate Change* (June 1, 2020) (emphasis added), attached as Ex. 12.

131 B. Law, et al., *The Status of Science on Forest Carbon Management to Mitigate Climate Change and Protect Water and Biodiversity* (Mar. 9, 2022) at 2, attached as Ex. 13.

132 *Id.* at 1.

133 CEQ, 2016 NEPA Climate Guidance (Ex. 3) at 11.

134 *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).

135 40 C.F.R. [sect] 1508.27(b)(7) (1978).

136 40 C.F.R. [sect] 1508.7 (1978); *WildEarth Guardians v. Zinke*, 368 F. Supp. 3d 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").

137 See Forest Service, *Climate Change Considerations in Project Level NEPA Analysis* (January 13, 2009), attached as Ex. 14, and available at https://www.fs.fed.us/emc/nepa/climate_change/includes/cc_nepa_guidance.pdf (last viewed Mar. 25, 2022).

139 Executive Order 14,008 (emphasis added).

140 See Law et al., *Land use strategies* (Ex. 8) at 3664 ("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 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.").

141 DellaSala (Ex. 6) at 14.

142 See Bureau of Land Management, *Western Oregon Proposed RMP Final EIS* (2009) at 165-181, excerpts attached as Ex. 15.

143 CEQ, 2016 NEPA Climate Guidance (Ex. 3) at 12 (emphasis added).

144 *Id.* at 25.

145 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. 16; 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. 17.

146 42 U.S.C. [sect] 4332(2)(C) & (E); 40 C.F.R. [sect] 1508.9(b) (an EA "[s]hall include brief discussions ... of alternatives").

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

148 *Din[acute] 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. [sect] 1502.14 (describing alternatives analysis as the "heart of the environmental impact statement").

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

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

151 *Din[acute] Citizens Against Ruining Our Env't*, 747 F. Supp. 2d at 1255 (quoting *New Mexico ex rel. Richardson*, 565 F.3d at 709).

152 *Id.* at 1256.

153 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. Env'tl. 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).

154 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. 155 *Davis v. Mineta*, 302 F.3d 1104, 1119 (10th Cir. 2002), citing *Colo. Env'tl. Coalition v. Dombeck*, 185 F.3d 1162, 1174-75 (10th Cir. 1999); *Simmons v. United States Army Corps of Eng'rs*, 120 F.3d 664, 669 (7th Cir. 1997).

156 40 C.F.R. [sect] 1502.14(c) (2020); 40 C.F.R. [sect] 1502.14 (1978).

157 *Spruce Scoping Package* at 6, n.6.

158 J. Cohen & B. Butler, *Modeling Potential Structure Ignitions from Flame Radiation Exposure with Implications for Wildland/Urban Interface Fire Management*, 13th Fire and Forest Meteorology Conference (1998), available at https://www.fs.fed.us/rm/pubs_other/rmrs_1998_cohen_j001.pdf (last viewed Mar. 25, 2022).

159 *Spruce Scoping Package* at 2.

160 42 U.S.C. [sect] 4332(C).

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

162 *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 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)).

163 *Ocean Advoc.*, 402 F.3d at 864.

164 40 C.F.R. [sect] 1508.27 (1978) (defining significance); Forest Service Handbook 1909.15, Chapter 05 (same); see also 40 C.F.R. [sect] 1501.3(b) (2020) (defining significance).

165 *Id.* [sect] 1508.27(a).

166 *Id.* [sect] 1508.27(b)(4)-(5), (7) (1978).

167 *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).