



Tom Buchele
Co-Director and Clinical Professor

Earthrise Law Center at Lewis & Clark Law School
10010 S. Terwilliger Blvd.
Portland, OR 97219-7799
phone 503-768-6736
fax 503-768-6642
tbuchele@lclark.edu
earthriselaw.org

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Shane Jeffries, Forest Supervisor
Ochoco National Forest
3160 NE Third Street
Prineville OR 97754

Re: Comments for BMBP on the USFS Forest Management Direction for Large Diameter Trees in Eastern Oregon Preliminary Environmental Assessment: submitted electronically via:<https://cara.ecosystem-management.org/Public/CommentInput?project=58050> and to SM.FS.EScreens21@usda.gov, and via U.S. certified mail # 7016 2140 0000 3900 3417

Dear Mr. Jeffries,

Blue Mountain Biodiversity Project (“BMBP”) submits the following comments on the United States Forest Service’s (“Forest Service”) August 2020 Preliminary Environmental Assessment (“Draft EA” or “amendment”) regarding Forest Management Direction for Large Diameter Trees in Eastern Oregon.

BMBP’s mailing address is 27803 Williams Lane, Fossil, Oregon 97830.

BMBP’s attorney, Tom Buchele, is submitting and signing these comments on behalf of his client, BMBP. BMBP is submitting these comments via certified U.S. mail and electronically. The certified mail copy includes a USB flash drive with electronic copies of all the exhibits cited below in these comments. A list of those exhibits is included at the end of this comment.

BMBP opposes the proposed amendments to the Eastside Screens 21-inch rule; an amendment which would eliminate the mandatory protection for trees 21” and larger in Oregon’s Eastside forests, an area that is still recovering from the deficit of large trees which prompted the need for the mandatory protective rule in the first place. The Forest Service should retain the mandatory 21-inch rule to protect and increase old and large trees. Retaining the current, mandatory 21-inch rule would protect biodiversity, water quality, and wildlife habitat, in addition to aiding with carbon sequestration and wildfire resiliency. In addition to opposing the substance of the proposed amendments, BMBP explains below how the Forest Service has violated the National Environmental Policy Act (“NEPA”) and its own regulations by failing to conduct a public scoping period, and has violated both NEPA and the National Forest Management Act (“NFMA”) by failing to create an environmental impact statement, rather than a cursory environmental assessment, for such a significant amendment.

I. Introduction

First, a huge geographic area of National Forests across most of Oregon's National Forests and extending into southeast Washington would be affected by the Forest Plan amendments. These amendments to six National Forests' Forest Plans would pose significant negative effects to wildlife, climate change abatement, carbon storage and sequestration, wildfire resilience, fish and other aquatic habitat, recreational uses of the Forests, biodiversity, soil productivity, and natural ecological processes and functions. Changing the mandatory 21" dbh limit on logging live trees (except for hazard trees) on multiple National Forests is not a minor or insignificant change. The changes to major Forest Plan goals and multiple values over such a large geographic area during the same time period represents a series of connected actions across a large geographic area, which necessitates the preparation of a full Environmental Impact Statement ("EIS") with much broader public notice and input and a full 45 day comment period, not just an Environmental Assessment ("EA").

Further, such an EIS should be required to be prepared for each of the affected National Forests separately, as each National Forest has different ecosystems, public constituencies, cultural histories, and Forest-specific values that need to be fully considered through in-depth analysis for each Forest.

Instead, the Forest Service is rushing these major Forest Plan amendments through a truncated public process during the Covid-19 pandemic, eliminating needed public face-to-face meetings, field trips, and full accessibility for the public to respond. Many people in rural areas, in particular, have limited or no access to the internet and the Covid-19 closures of libraries, coffee shops, and offices have made internet access more difficult than usual. It is likely that the majority of the affected public using the six affected National Forests have no idea that large tree logging through Forest Plan amendments is currently being planned. Forest Service staged virtual presentations on the internet are no substitute for typical broad outreach and multiple public meetings held locally in each affected National Forest area that would ordinarily be the standard procedure for major long-term Forest Plan amendments and for such a publicly and scientifically controversial major change to Forest Plan goals, standards, and outcomes. Such a fundamental reversal of these Forest Plan goals, standards, and intended outcomes have real world consequences to wildlife species' viability on these Forests; ecological processes and functions; aquatic system functioning and fisheries; tree and soil carbon storage and climate change effects; recreational values; scenic quality; cultural uses and sense of place. The scientific controversy over the effects of the Forest Plan amendments alone warrants preparation of a full EIS for each National Forest affected, although the majority of current science is solidly opposed to renewed logging of large and old trees. The Forest Service is manufacturing an extremely biased sampling and interpretation of the relevant science in order to allow them to greatly increase the volume of logging, as they are being ordered to do by the Trump administration.

The existing Draft EA for this major change to Forest Plan goals and standards across multiple Forests is ridiculously inadequate in its highly biased, incomplete and inaccurate analysis, which ignores a great deal of current high-quality science that supports protection of all existing large and old trees. The Draft EA also neglects to include the necessary analysis of the full effects of removing large trees per se, even though the increased logging removal of large

trees across all of these Forests would foreseeably be very great, especially as consideration of protecting large (and often, inevitably old) trees would be reduced to a voluntary guideline rather than an enforceable standard. There is nothing in any of the offered action alternatives that instills public trust in the Forest Service through adaptive management provisions, as these assume public trust that adaptive management would really take place or that such adaptive management would take place soon enough to avert the catastrophic loss of large tree structure across Eastern Oregon and Southeast Washington, along with associated loss of large tree and old growth dependent wildlife, ecological processes and functions (including soil nutrient cycling and carbon sequestration), cultural and recreational values, and already threatened aquatic systems, fisheries, and Sensitive and Threatened plant species. There is absolutely no reason, based on our 29 years of experience with the Forest Service in this region, to trust the Forest Service with only a voluntary guideline instead of an enforceable standard to protect large and old trees. Logging of trees 21 to 30” dbh will inevitably kill and remove many old trees, as well as large tree structure, and remove the size class of trees that would otherwise be the next generation of the largest and oldest legacy trees. This is essentially a plan for the eradication of both large and old tree structure over time, as there would be loss of the next size class and generation to replace existing legacy trees and structure that will be lost as they age and become snags and logs and return to the soil. This would be a drastic and irreversible shock to forest ecosystem functioning and wildlife species’ viability and a tremendous disservice to the public and violation of Native indigenous people’s treaty rights in perpetuity.

We also have no reason to trust the Forest Service to actually implement adaptive management or to fully monitor trends or respond to public concerns based on our substantial experience with failed “restoration” projects. The Forest Service also has an established record of failure to abandon false fundamental assumptions and ecologically degrading practices, such as overlogging to incredibly low basal areas on a landscape scale (current practice) and failure to allow for enough trees to stay in the forest for future mortality to provide sufficient numbers of snags and logs for wildlife, aquatic systems, soil nutrient cycling, and tree and soil carbon storage. The intensive and ubiquitous livestock damage across Eastern Oregon National Forests (with the exception of the Deschutes, where there is virtually no livestock grazing permitted) also testifies to the agency’s persistent failure to use sufficient adaptive management to allow for full restoration of riparian ecosystems to reference conditions.

Another reason for lack of public trust in the agency is the Forest Service’s abject failure to revise the severely outdated Forest Plans and their rejection of the scientifically sound Interior Columbia Basin Ecosystem Management Plan. The Forest Service, with this EA, is ignoring a critical constraint: The Eastside Screens, including the 21” dbh limit on logging live trees, was implemented by the Forest Service to avoid litigation by NRDC over the need to update the seriously outdated Eastside Forest Plans.¹ There has been no revision of the outdated Forest Plans. If the Forest Service eliminates the Eastside Screens 21” dbh limit on logging prior to revising the Forest Plans in their entirety, it is likely that litigation over the very outdated Forest Plans would be resumed.

A critical omission in the Draft EA’s Introduction section is that whole Forest Plans are meant to be updated and revised on a regular basis—about every 10-15 years—and that the

¹ See Exhibit 001 at 9 (The environmental assessment for the original Eastside Screens).

Forest Plans for all six National Forests at issue are seriously outdated, having been published in 1989 or 1990—a full 30 to 31 years ago! This situation calls for full revision and updating of each Forest Plan as a whole to keep the entirety of the plans based on the full range of current high quality science and responsive to changing conditions such as extreme climate change effects, not just piecemeal amendments out of context with the rest of the Forest Plans’ content and contradictory existing Forest Plan goals and standards. It is inappropriate, and not proper procedure under the National Forest Management Act, to use piecemeal Forest Plan amendments to change fundamental Forest Plan goals and standards without fully updating and revising the Forest Plans in their entirety. The Forest Plan amendment process was not intended to override or negate the need for complete Forest Plan revisions, which the Forest Service has failed to accomplish.

It’s noteworthy that the Forest Service threw out the best attempt at Forest Plan revision to update current science and management years ago with the rejection of the Interior Columbia Basin Ecosystem Management Plan, with little or no explanation to the public. The Forest Service in Region 6 then spent 12 to 14 years preparing a Blue Mountains Forest Plans Revision, only to discard it upon complaints by economic interests (e.g. the timber industry and the counties) and due to the agency’s failure to construct a legally legitimate Forest Plan by arbitrarily jettisoning Management Indicator species already adopted by the Forest Service in existing Forest Plans and failing to include enough enforceable standards and to use the full range of high quality science. Yet somehow all of this relevant recent historical context is not discussed in the current Draft EA, which also neglects to include much relevant context regarding the establishment of the Eastside Screens and the petition from NRDC to use the Eastside Screens until the Forest Plans were fully revised in their entirety. These are serious omissions resulting in highly biased and misleading analysis in the Draft EA, rendering the Draft EA’s analysis inadequate.

A fully inclusive and responsive public process is needed to revise the outdated Forest Plans, with public meetings across the two states and a long enough public response time not impeded by the restrictions of the Coronavirus pandemic, as warranted by the standard Forest Plan revision process. Instead, the Forest Service has narrowed down the updating of the Forest Plans to item #1 on the timber industry wish list—a return to logging large trees, regardless of the consequences. The average dbh of trees offered in current sales is only about 10 to 11” dbh due to extreme over-logging on unsustainable fast logging rotations, now also on an unsustainable landscape scale of tens of thousands of acres per sale. The average small diameter of commercial size trees is based on the Forest Service/timber industry history of having logged out most of the existing large and old tree structure, making the remaining large and old trees vital to continued forest ecosystem functioning due to their scarcity. The Forest Service/timber industry goal of returning to a bygone era of logging large trees does not reflect the current reality of the great deficit in large and old trees compared to historic conditions due to over-logging.

We need to retain all large trees 21”dbh and larger to ensure that there are future generations of the old legacy trees and to maximize large tree structure for future snags and down logs for wildlife, carbon sequestration and storage to reduce climate change effects severity, continue needed large carbon and nutrient inputs to forest soils, provide large tree

structure for slope erosion control and fish habitat; and continue to provide large and old trees for cultural and recreational values and future generations.

The Forest Service was originally created to stop out-of-control corporate logging of U.S. forest reserves, but somehow that history does not appear in this EA or most other timber sale or logging proposal agency documentation. Yet such history is a useful lens by which to evaluate current proposals and to assess when a complete reversal of the Forest Service's mission to promotion of corporate logging on public/treaty lands occurred, why, and how to shift gears back to an ecologically and culturally sustainable mission for the Forest Service that does not serve to bolster corporate profits regardless of the costs to other public land/treaty land values.

II. Factual Background

In 1992, monitoring reports for national forests in Oregon and Washington east of the Cascade Crest expressed concern over forest conditions due to over-logging.² These reports acknowledged that “excess timber cutting can conflict with promoting forest health” and that “the number of trees available for nesting has been declining.”³ Further, the reports indicated alarmingly low number of wildlife, including elk, deer, and anadromous fish.⁴ The reports specifically noted that there were many reasons for this decline, but one reason was the loss of cover from timber harvest. The reports also concluded that prior timber harvesting practices “have left numerous treated acres on the Forest without adequate dead tree densities to meet the habitat and needs of primary excavators.”⁵ As a result of these problems, Congress “requested and funded a scientific analysis of the effects of Forest Service management practices on the forest ecosystems in eastern Washington and Oregon.”⁶ Over 113 scientists contributed to the Eastside Forest Ecosystem Health Assessment and concluded that “eastside ecosystems are stressed and unstable” because of “management practices of this century that have reduced density . . . and long-term productivity . . .”⁷

Because of these scientific findings, on August 18, 1993, the Regional Forester issued an Interim Direction that established riparian, ecosystem, and wildlife standards for timber sales in Eastside forests.⁸ In addition to other requirements, the Eastside Screens prohibit logging “live trees” greater than 21 inches diameter breast height (“dbh”) and timber sale harvest activities within late and old structure (“LOS”) stages that are below the historic range of variability.⁹ This direction is intentionally restrictive and requires the Eastside forests to use specific standards to “screen” timber sales. The purpose of the interim direction is “to preserve future planning options *until completion of the [regional] Eastside EIS,*” which will assess “risks to species, ecological groupings of species, and habitats” throughout the Eastside forests, and will provide long-term strategy for ecosystem management on the Eastside forests.¹⁰

² See Exhibit 002 (1994 Decision Notice for the original Eastside Screens).

³ *Id.* at 9; *id.* at 10.

⁴ *Id.* at 10.

⁵ *Id.*

⁶ *Id.* at 10–11.

⁷ *Id.* at 11.

⁸ *Id.* at Appendix A.

⁹ Draft EA at 161 (Appendix C).

¹⁰ Exhibit 002 at 2.

As recently as 2015, the Forest Service acknowledged that the forest conditions justifying the Eastside Screens Restrictions—a shortage of large trees, including grand fir—continues to exist in all of the eastside forests.¹¹ An actual regional EIS regarding these issues would need to thoroughly disclose and analyze the direct and cumulative impacts of resuming the logging of large trees on the wildlife that depends upon them.

The original Eastside Screens were put into place as an interim measure until a more comprehensive plan could be developed.¹² The Forest Service has failed to implement a comprehensive plan that analyzes the entire landscape and ecosystem, and thus these interim measures have continued in effect as necessary protections in the absence of such a comprehensive plan. Here, instead of developing such a plan to replace these mandatory measures, the Forest Service comes up short, purporting to amend these measures with non-mandatory replacements, and to do so by preparing a mere Draft EA that violates both NEPA and NFMA.

III. Legal Requirements

a. The National Environmental Policy Act

The National Environmental Policy Act (“NEPA”) is this country’s “basic national charter for protection of the environment.”¹³ NEPA seeks to “promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man.”¹⁴ To this end, NEPA requires all federal agencies to prepare a “detailed statement” assessing the environmental impacts of all “major Federal actions significantly affecting the quality of the human environment.”¹⁵ This statement is known as an Environmental Impact Statement (“EIS”). The Council on Environmental Quality (“CEQ”) has promulgated regulations at 40 C.F.R. Parts 1500–1508 to implement NEPA across all federal agencies. NEPA’s primary goals are twofold: (1) to ensure that the agency has carefully and fully contemplated the environmental effects of its action; and (2) to ensure that the public has sufficient information before any decisions are made.¹⁶ While new NEPA regulations were placed into effect in September 2020, the Draft EA explicitly relies on the regulations in effect while drafting the EA.¹⁷ In preparing these comments, BMBP expressly relied on the Forest Service’s decision to use the 2019 NEPA regulations.

b. The National Forest Management Act

The National Forest Management Act (“NFMA”), 16 U.S.C. §§ 1600–1614, is the primary statute governing the administration of national forests. NFMA requires the Forest Service to develop and implement land and resource management plans (“LRMP” or “Forest

¹¹ See Exhibit 003 at 1 (Eastside Screens Guidance Letter from Regional Forester Peña).

¹² Exhibit 002 at 7.

¹³ 40 C.F.R. § 1500.1(a) (2019).

¹⁴ 42 U.S.C. § 4321.

¹⁵ *Id.* § 4332(C).

¹⁶ *Id.*

¹⁷ See, e.g., Draft EA at 105 (citing 40 C.F.R. § 1508.7 (2019)).

Plan”) for each unit of the National Forest System.¹⁸ In developing and maintaining forest plans, the Forest Service must “use a systematic interdisciplinary approach to achieve integrated consideration of physical, biological, economic, and other sciences.”¹⁹ Further, the plans must “provide for multiple use and sustained yield of the products and services obtained therefrom” and “include coordination of outdoor recreation, range, timber, watershed, wildlife and fish, and wilderness.”²⁰ Any amendment to a forest plan that results in “significant change” must comply with additional procedural conditions and public participation.²¹ The Forest Service has adopted regulations setting forth the process for developing forest plans and the guidelines and standards that must be incorporated into the plans. The Forest Service is relying on its 2012 planning regulations for this revision.²²

IV. The Forest Service violated NEPA by failing to prepare an EIS, failing to adequately analyze cumulative impacts, failing to consider a reasonable range of alternatives, and failing to scope the proposed amendment.

Under NEPA, the agency must “provide full and fair discussion of [the] significant environmental impacts” of the proposed action.²³ In particular, the agency must take a “hard look” at the direct, indirect, and cumulative impacts of a proposed project. “General statements about ‘possible’ effects and ‘some risk’ do not constitute a ‘hard look’ absent a justification regarding why more definitive information could not be provided.”²⁴

a. The proposed amendment is significant and requires an EIS

NEPA requires federal agencies to prepare an environmental impact statement (“EIS”) for all “major Federal actions significantly affecting the quality of the human environment.” To determine if a project will “significantly” affect the environment, “NEPA requires considerations of both context and intensity.”²⁵ Context refers to the “significance of an action... in several contexts such as society as a whole (human, national), the affected region, the affected interests, and the locality.”²⁶ Intensity “refers to the severity of impact” and involves the consideration of several factors including whether the action is related to other actions with individually insignificant but cumulatively significant effects; the degree to which the effects on the quality of the human environment are likely to be highly controversial; unique characteristics of the geographic area; and the degree to which the action may adversely affect endangered or threatened species or its habitat that has been determined to be critical under the ESA.²⁷ Taken together, these factors indicate that the project is indeed significant, meriting an EIS.

¹⁸ 16 U.S.C. § 1604(a).

¹⁹ *Id.* at § 1604(b).

²⁰ *Id.* at § 1604(e)(1).

²¹ *Id.* at §§ 1604(d), (f)(4).

²² *See* 36 C.F.R. § 219.

²³ 40 C.F.R. § 1502.1 (2019).

²⁴ *Neighbors of Cuddy Mountain v. U.S. Forest Serv.*, 137 F.3d 1372, 1379 (9th Cir. 1998).

²⁵ 40 C.F.R. § 1508.27 (2019).

²⁶ *Id.* at § 1508.27(a).

²⁷ *Id.* at § 1508.27(b).

Given the analysis provided in the Draft EA and its supporting documents, the Forest Service will not be able to sustain a finding of *no significant* impact under the CEQ regulations.²⁸ The large scale of this amendment and affected interests warrants an EIS. The Forest Service acknowledges that the proposal will affect a wide variety of interests noting that “[r]esidents hold a broad spectrum of perspectives and preferences ranging from complete preservation to maximum development and utilization of natural resources.”²⁹

Additionally, the Draft EA is focused on retaining older trees and removing large trees that are less than 150 years old. Table 3 of the Draft EA shows that a majority of the large trees in the planning area are less than 150 years old.³⁰ This demonstrates the widespread scope of impacts this proposal will have. The planning area for this significant proposal covers a large geographic region spanning six national forests and approximately 9.5 million acres. The number of potential trees that could be cut across six national forests shows the amendment’s overall significance, thus meriting an EIS.

The proposed changes to the Screens are much different in terms of permanent impacts than the original Screens amendments. While an EA was sufficient for analyzing the impacts of the earlier amendments that prevented the logging of all large trees, and thus preserved those trees until the Forest Service comprehensively revised the underlying Forest plans, these new proposed amendments do the opposite. They remove the mandatory protections for all large trees and thus open the way for permanently removing many of those large trees and eliminate planning options when the underlying plans are ultimately fully revised, thereby causing immediate, long-term impacts that must be analyzed in a complete EIS.

i. The amendment is highly controversial thus requiring an EIS.

The Amendment removing the Eastside screens is highly controversial and requires an EIS to comprehensively analyze and disclose the proposal’s controversies and effects.³¹ “A project is 'highly controversial' if there is a 'substantial dispute [about] the size, nature, or effect of the major Federal action rather than the existence of opposition to a use.’”³² Additionally, “a substantial dispute exists when evidence... casts serious doubt upon the reasonableness of an agency's conclusions.”³³

The Forest Service acknowledged the controversy regarding the science underlying this proposal at the May 11, 2020 Science Forum. This Forum had a panel of scientists and Forest Service employees who discussed their differing views on the proposal. They expressed their opinions on the global climate crisis, the effects of the proposal on wildfire resilience, and the overall role of large trees in the ecosystem. One of the scientists from the forum, Dr. Dominick

²⁸ 40 C.F.R. § 1508.27 (2019).

²⁹ Draft EA at 43.

³⁰ Draft EA at 34.

³¹ See 40 C.F.R. § 1508.27(b)(4) (2019).

³² *Native Ecosystems Council v. United States Forest Serv.*, 428 F.3d 1233, 1240 (9th Cir. 2005) (alteration in original) (quoting *Blue Mts. Biodiversity Project v. Blackwood*, 161 F.3d 1208, 1212 (9th Cir. 1998)).

³³ *In Def. of Animals v. United States DOI*, 751 F.3d 1054, 1069 (9th Cir. 2014) (quoting *Nat'l Parks & Conservation Ass'n v. Babbitt*, 241 F.3d 722, 736 (9th Cir. 2001)).

DellaSala, in addition to Dr. William Baker, authored a report highlighting the controversy underlying the proposed amendment.³⁴ The report reveals that, contrary to the Draft EA, large trees do not inhibit restoration, thinning does not help with wildfire resilience, and the Forest Service’s use of the Forest Vegetation Simulator modeling is flawed.³⁵ They conclude that “the EA does not have the support of the scientific community, and may even lead to social conflict.”³⁶

Additionally, in a separate letter reviewing the proposed amendment and alternatives, Dr. Jerry Franklin, Dr. K. Norm Johnson, and Dr. S. Trent Seager all critiqued the modeling being used by the Forest Service in the Draft EA.³⁷ This letter states that scientists have “significant concerns about the science and analysis in the EA relevant to the stated goals. This is especially important since some alternatives within the EA propose significant reductions in existing old tree populations.”³⁸

The Draft EA failed to consider the full range of high quality science and accurate scientific analysis or acknowledge scientific controversy regarding assumptions about key issues such as wildfire regimes and vegetation HRV; fire risk to ecological resources; ecological benefits of wildfire (including large and high severity fires); historical documents and forest conditions; Bark beetles and other native insects and diseases; efficacy of logging to address wildfire concerns or change fire behavior; long-term landscape level plans regarding restoring wildfire to the ecosystem (or the lack of those plans); the Van Pelt guidelines and determining the age of Grand fir; and other issues.³⁹

Accordingly, scientists and experts from different disciplines have raised questions about the science used in the Forest Service’s Draft EA. These scientists show disagreement regarding the nature and effects of the amendment, thus meeting the “highly controversial” element necessitating an EIS.⁴⁰

ii. The amendment is related to other actions with cumulatively significant impacts meriting an EIS.

Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment.⁴¹ “It is not appropriate to defer consideration of cumulative impacts to a future date when meaningful consideration can be given now.”⁴² BMBP has articulated its concerns with the Forest Service’s inadequate consideration of cumulative impacts elsewhere in this comment, such inadequacy also weighs in favor of significance under this factor.⁴³

³⁴ Exhibit 004 (DellaSala and Baker Report).

³⁵ *Id.*

³⁶ *Id.* at 10.

³⁷ Exhibit 005.

³⁸ *Id.* at 2.

³⁹ See Exhibit 148 (Van Pelt Guidelines).

⁴⁰ 40 C.F.R. § 1508.27(b)(4) (2019).

⁴¹ *Id.* § 1508.27(b)(7) (2019).

⁴² *Kern v. U.S. Bureau of Land Mgmt.*, 284 F.3d 1062, 1075 (9th Cir. 2002).

⁴³ See Part IV(b) (discussing the Draft EA’s inadequate effects analysis); 40 C.F.R. § 1508.27(b)(7) (2019).

iii. The planning area contains unique characteristics requiring an EIS.

The Forest Service must consider the “unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas.”⁴⁴ In an open letter signed by hundreds of scientists from around the world, the coalition emphasized the importance of the planning area stating that, “[p]rimary forests and large, old trees, both living and dead, provide irreplaceable benefits to society that are essential to forestalling the loss of biodiversity and climate change related environmental emergencies.”⁴⁵ They continue to say that there “is no substitute for large, old trees, living and dead” and the loss of such trees has impacted “biodiversity, compromised water quality, and added damaging emissions.”⁴⁶ Moreover, other scientists, DellaSala and Baker, discussed in their report that “many scientists have been calling instead for protection of all remaining now rare large trees and generally intact forests, including remnant and recovering old forests.”⁴⁷ Due to the project area’s impact on a substantial amount of forest land containing unique large and old trees, this intensity factor weighs in heavily in favor of the preparation of an EIS.

b. The Forest Service violated NEPA by performing an inadequate direct indirect, and cumulative impacts analysis.

NEPA requires the consideration of direct, indirect, and cumulative effects including those from connected actions. For NEPA analysis purposes, indirect effects are those “caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable.”⁴⁸ The Forest Service must also consider cumulative impacts. A cumulative impact is “the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions...[and which] can result from individually minor but collectively significant actions taking place over a period of time.”⁴⁹ For all cumulative effects analysis, it is not sufficient for the environmental analysis only to contain “very broad and general statements devoid of specific, reasoned conclusions.”⁵⁰

Large trees are integral to a variety of crucial aquatic and riparian ecosystem functions and processes. They play central roles in these ecosystems, such as helping to store sediments and nutrients; shaping channel morphology and instream habitats and conditions necessary for fish and other aquatic organisms; supporting groundwater flows, hyporheic flows and groundwater storage (and so providing cold water flows into streams); and providing key habitat for numerous species.⁵¹ Should this amendment be implemented, the loss of large trees due to

⁴⁴ 40 C.F.R. § 1508.27(b)(3) (2019).

⁴⁵ Exhibit 006 at 1.

⁴⁶ *Id.* at 2.

⁴⁷ Exhibit 004 at 11.

⁴⁸ 40 C.F.R. § 1508.8(b) (2019).

⁴⁹ *Id.* § 1508.7 (2019).

⁵⁰ *Muckleshoot Indian Tribe v. U.S. Forest Serv.*, 177 F.3d 800, 811 (9th Cir. 1999).

⁵¹ See Exhibit 007 (Bisson et al. 1987); Exhibit 008 (Bilby & Bisson 1998); Exhibit 009 (Frissell et al. 2014); Exhibit 010 (Hicks et al. 1991); Exhibit 011 (Pollock & Beechie 2014); Exhibit 012 (Ralph et al. 1994); Exhibit 013 (Spies et al. 2013).

logging, and the loss of future recruitment of large trees, would likely have significant effects.

Aquatic and riparian ecosystems are especially vulnerable to negative impacts from the loss of large trees (and the loss of recruitment for large tree structure), both from logging within RHCAs and from upslope logging. The Draft EA failed to adequately disclose, analyze, or avoid the negative effects that increased logging of large trees would have on these ecosystems and the cumulative impacts of ongoing threats (roads, livestock grazing, fragmentation, climate change, logging, invasive species, etc.). The Draft EA cherry-picked science that bolstered their desired outcome of increased logging of large trees, while ignoring or severely downplaying science that did not align with the agency's assumptions or conclusions regarding the increased logging of large trees.

The deficit of large trees across the landscape due to past logging has been extensively well-documented, and as a result is a central focus for protection in the original Eastside Screens. The past and ongoing deficit of large trees has important implications for wildlife. Many species rely on large trees and snags habitat, particularly in riparian forests. Yet, the Draft EA fails to adequately incorporate the importance of large trees, large snags, and large logs—or the complex processes necessary for creating and maintaining these components-- into its analyses or priorities for protection and restoration. The Draft EA fails to acknowledge, for example, the key ecosystem functions of large Grand fir, and the need to protect large fir for wildlife habitat. The Draft EA also fails to adequately consider the importance of multistory forests for wildlife species and their habitat needs.

Bull et al. 1997 highlights the importance of large fir with cavities, as well as the importance and rarity of the multilayer stands that produce this habitat. notes that **“In northeastern Oregon, grand fir and western larch make up most of the hollow trees used by wildlife.”**⁵² Bull et al. 1997 goes on to note that “[l]arge, hollow trees are uncommon in managed landscapes and typically are found only in late- and old-seral stands of grand fir and western red cedar. Although isolated hollow trees in young stands have significant value to wildlife, these young stands cannot reproduce this type of structure for at least 150 to 200 years. **The late-seral, multilayer stands that produce hollow trees comprise less than 3 percent of the forested landscape in the interior Columbia River basin.**”⁵³

The Forest Service Region 6's Response to Blue Mountains Biodiversity Project's Freedom of Information Act request (2016-FS-R6-001106-F) included the “Eastside Screens Enclosure; Recent Science Findings and Practical Experience: Implications for the Eastside Screens September 2015”.⁵⁴ This Enclosure also recognizes the importance and rarity of large hollow firs. The Enclosure noted (emphases added): “Implementation of the Screens has substantial species management implications. For example, the white-headed woodpecker, Lewis's woodpecker and several species of bats are Regional Forester's Sensitive Species that rely on large snags and defective trees for part of their life history. **Large, defective grand fir trees and snags provide critical roosting and denning habitat for black bears, Vaux's swifts, pileated woodpeckers, American marten, and bats** (Bull et al., 1997). **These legacy**

⁵² Exhibit 014 at 10.

⁵³ *Id.*

⁵⁴ Exhibit 015.

trees, especially large, hollow grand fir, are rare on the landscape and have declined from historical conditions on the eastside of Oregon and Washington.”⁵⁵ The enclosure also states: “These findings reinforce the importance of retaining and recruiting large, old trees in dry, mesic and moist mixed conifer forests on the eastside of the Region. It is critical that silvicultural prescriptions provide for **large snags and defective trees in adequate numbers through time...large, hollow grand firs take 150 to 200 years to develop (Bull et al. 1997): adequate numbers of smaller trees need to be left to allow for the processes that create replacement hollow trees.**”⁵⁶

The Integrated Scientific Assessment for Ecosystem Management in the Interior Columbia Basin and Portions of the Klamath and Great Basin (Quigley et al. 1996) includes summaries of their findings.⁵⁷ The “Highlighted Findings” note that **there has been a 27 percent decline in multi-story old forest structures.**⁵⁸ Given the extensive portion of forests that have already been logged on the landscape, large trees and patches of mature and old forests (and the large trees, snags, and logs within them) often provide some of the last high-quality wildlife habitat and connectivity corridors in and adjacent to timber sale areas.

Because forests within Riparian Habitat Conservation Areas (“RHCAs”) have been somewhat more protected in the last few decades, these forests often have comparatively more large trees and mature and large forests compared to upland forests. Unfortunately, these riparian forests have become increasingly targeted for logging in recent years. Given the paucity of surrounding mid-to-large trees in the uplands, logging in RHCAs threatens the remaining crucial wildlife habitat in these areas. This proposal would increase logging of large trees, and have far-reaching and damaging impacts to large trees structure, large trees with cavities, snags, downed logs, and large woody debris for streams. This, in turn, would have far-reaching and damaging impacts to wildlife, fish, and water quality in riparian systems. In addition, the Forest Service’s narrow focus on the logging of large trees ignores mycorrhizal networks, sharing resources among trees; windthrow; or other situations in which nearby trees and tree cohorts benefit each other and promote biodiversity.

Within the larger planning area, as well as for each forest, questions such as the following are not addressed within the Draft EA: What portion of the forests outside of wilderness and roadless areas are currently considered Ponderosa pine plantations? What portion of forests outside of Wilderness and Roadless are currently considered to be young Ponderosa-pine dominant forests? What portion of these forests have been previously logged/thinned? What portion has been logged within the past 20, 50, and 80 years? What portion of these previously logged Ponderosa pine forests, which are now growing in with younger trees, are becoming fir dominant despite not showing historical evidence of fir dominance or codominance?

Logging large trees in mixed-conifer forests within and adjacent to in riparian corridors will negatively impact wildlife. For example, Northern goshawk and other accipiter hawks, American marten, Great gray owls, Black-backed woodpeckers, Three-toed woodpeckers,

⁵⁵ *Id.*

⁵⁶ *Id.*

⁵⁷ Exhibit 016; *See also* Exhibit 159 (Al-Chokhachy et al. 2010)

⁵⁸ *Id.* at 181.

Pileated woodpeckers, Olive-sided flycatchers, and other species that rely on denser forests, mature or old growth mixed conifer forests will be negatively affected by logging in riparian corridors. The primary threats and stressors to special-status and at-risk riparian and aquatic species on National Forests in eastern Oregon are livestock grazing, logging, and roads. These activities result in increased fine sediment inputs to streams, warming stream temperature, increased diurnal stream temperature fluctuations, stream bank instability, soil compaction and erosion, fish passage barriers, and other widespread problems. Potential impacts of increased logging of large trees to water quality, watershed hydrology, channel morphology, fish, and aquatic species were not adequately analyzed, or avoided. The Draft EA has little or no analysis of the potential impacts to these parameters, or to the direct and indirect consequences of negative impacts (such as increased erosion and sediment potentially caused by changes to peak flow timing and magnitude). The Forest Service also did not adequately analyze or avoid negative effects due to increased large tree logging to hyporheic zones, groundwater function, or stream downcutting. The Draft EA's emphasis on logging large trees to address forest health is not in line with the actual impacts, threats, and stressors to listed and at-risk riparian and aquatic species, and will instead exacerbate these issues.

The Draft EA encourages logging of large fir. None of the alternatives within the Draft EA offer effective or enforceable protections for large trees of any species. Nor would a guideline (rather than a standard) offer effective and enforceable protections for trees larger than 30" dbh. The ensuing increases in logging large trees, including Ponderosa pines, would result in an increase in the intensity of logging. The spatial footprint of logging on the ground would also increase. In areas where logging was previously not economically viable, logging would become more profitable. The increased profits associated with logging large trees will allow for auctioning of sale units which previously did not contain adequate board feet to be profitable. Also, the increased profits associated with logging large trees will allow for additional road building and reopening in order to access forests that were previously inaccessible for logging.

Logging can be associated with changes in macroinvertebrate community structure or metrics,⁵⁹ alterations in nutrient cycling and leaf litter decomposition rates,⁶⁰ and increases in stream temperatures.⁶¹ Flaspohler et al. (2002) noted that changes to biota associated with selective logging were found decades after logging.⁶² The Draft Forest Plan Revision for the Blue Mountains states (emphases added): "Timber harvest can influence aquatic ecological condition via such activities as removal of trees in the riparian zone, removal of upslope trees, and associated understory or slash burning (Hicks et al. 1991). These activities can affect wood recruitment, stream temperatures, erosion potential, stream flow regime, and nutrient runoff, among others (Hicks et al. 1991). Effects of harvest are likely to be different at different scales. Hemstad and Newman (2006) found few effects of harvest at the site or reach scale, but found that harvest five to eight years earlier resulted in losses of habitat quality and species diversity at the scale of a stream segment (larger than a reach) or at the subwatershed level. Those losses were revealed in terms of increases in bank instability and fine sediment throughout the watershed and increased water temperatures and sediment problems throughout the channel

⁵⁹ See Exhibit 017 (Flaspohler et al. 2002); Exhibit 018 (Kreutzweiser et al. 2005).

⁶⁰ See Exhibit 019 (Lecerf & Richardson 2010).

⁶¹ See Exhibit 020 (Guenther et al. 2012); Exhibit 164 (McCullough et al. 2009).

⁶² Exhibit 017.

segment. The cumulative effects of widespread harvest within a single drainage in a short period of time resulted in deterioration of the aquatic and riparian habitats, but evidence of effects lagged harvest by several years and different evidence of deterioration showed up at different spatial scales within the watershed”.⁶³

Headwater streams and non-fish bearing streams are particularly at risk and need more, not less, protection. In order to protect downstream fish bearing reaches, headwater streams need at least as much protection as larger downstream reaches.⁶⁴ Both Erman et al., (1996) and Rhodes et al., (1994) concluded, based on review of available information, that intermittent and non-fish-bearing streams should receive stream buffers significantly larger than those afforded by PACFISH/ INFISH.⁶⁵ Negative impacts to upstream reaches, such as higher temperatures, increased sediment loading, down-cutting, and altered hydrographs also negatively affect downstream reaches.

The Draft EA’s encouragement to increase logging of large trees across the planning area flies in the face of widespread scientific consensus to increase core habitats and connectivity in response to climate change.⁶⁶ Current climate change-related threats require that the agency address existing conditions as well as land management threats to hydrologic functions. The agency needs to consider how existing conditions and the proposed increases in large tree logging would potentially exacerbate possible negative impacts due to climate change. The Draft EA has an extreme and disproportional emphasis on logging and fails to consider the importance of solutions to climate change that do not focus on logging.

Agency direction in the Draft EA unfortunately does not align with addressing primary problems and drivers of water quality impairments and riparian habitat degradation such as roads, grazing, logging, and other actions that increase stream temperature and fine sediment loading. Grazing is a far more pervasive and direct threat to water quality and riparian ecosystems than the Forest Service’s perceived forest species composition issues, which are the justification for the agency’s proposal to log more large trees. For example, the Blue Mountains Forest Plan Revision FEIS notes in relation to riparian impacts from grazing: “degraded stream channels may remain in relatively poor condition long after the original impact because changes in stream channel conditions may make these streams more susceptible to damage from subsequent floods, making it difficult to identify the principal cause of degradation. Maloney et al. (1999) reported elevated stream temperatures in intensively grazed watersheds in the John Day basin, and the lowest stream temperatures were observed in ungrazed watersheds, but results were confounded by 100 years of prior grazing history.”⁶⁷

Timber harvest, grazing, and the synergistic impacts of these activities have significant negative impacts on aquatic habitats. From NOAA 5-Year Review of Snake River Salmonids: “Information from the [PACFISH Biological Opinion Monitoring Program] PIBO monitoring program indicates that unmanaged or reference reaches (streams in watersheds with little or no

⁶³ Exhibit 021 at 48 (citing Exhibit 10); Exhibit 142 (Kreutzweiser & Capell 2001); Exhibit 163 (Lewis et al. 2001); Exhibit 165 (Pierce & Meyer 2008).

⁶⁴ See Exhibit 022 (Rhodes et al. 1994); Exhibit 023 (Erman et al. 1996); Exhibit 024 (Espinosa et al. 1997).

⁶⁵ See Exhibit 022 (Rhodes et al. 1994); Exhibit 023 (Erman et al. 1996).

⁶⁶ See Exhibit 025 (Heller & Zavaleta 2008).

⁶⁷ See also Exhibit 169 (Alila et al. 2009).

impact from road building grazing, timber harvest, and mining) on Federal lands in the Interior Columbia basin (including the Snake River basin) are in better condition than managed streams (Al-Chockhachy et al. 2010b). In particular, managed watersheds with high road densities or livestock grazing tend to have stream reaches with worse habitat conditions than streams in reference watersheds. When roads and grazing both occur in the same watershed, the presence of grazing has an additional significant negative effect on the relationship between road density and the condition of stream habitat (Al-Chockhachy et al. 2010b).⁶⁸

The Forest Service claims that this proposal will create no significant cumulative effects, “only slight changes in indicators.”⁶⁹ Additionally, the Forest Service actively ignores any of the impacts of any past actions by stating that “effects of past actions are reflected in the existing conditions and are not described or listed in extensive detail because they inherently contributed to the present state of the landscape.”⁷⁰ This type of broad statement is clearly “devoid of specific, reasoned conclusions” and is impermissible under NEPA.⁷¹ Additionally, allowing an agency to roll past actions into the analysis for present actions would render the requirement to consider “past actions” as mere surplusage. An agency may not pick and choose which sections of a regulation it wishes to honor.

There are a number of potential impacts which may result from the proposed amendment and which should be considered by the Forest Service in its cumulative impacts analysis. For example, the Forest Service should analyze impacts related to, among other things, climate change, wildlife, grazing, road construction, and wildfire. The Forest Service also must acknowledge that an increase of logging large trees will also increase the intensity of logging. The amendment could incentivize logging in areas where it was not previously economically viable.

i. The Forest Service failed to adequately analyze the effects of climate change.

The Draft EA states that “all action alternatives directly address concerns about climate change and wildfires as these alternatives allow for management strategies that increase resilience to future climate and disturbance regimes.”⁷² While the Draft EA attempts to contemplate climate change in terms of resiliency, the Draft EA is entirely devoid of climate change mitigation analysis and fails to mention the proposal’s effects on carbon emissions. The Forest Service should analyze the effects of logging large trees on millions of acres, essentially converting effective carbon storage to yet another source of carbon emissions. The Forest Service should be prioritizing carbon sequestration by retaining large trees and mature forests.⁷³ Logging these larger trees will increase carbon emissions, which will in turn exacerbate the negative ecological impacts of climate change. Further, the impacts on carbon emissions need to be analyzed cumulatively with other foreseeable sources of emissions such as wildfires, grazing,

⁶⁸ See Exhibit 026 (Al-Chockachy et al 2010);

⁶⁹ Draft EA at 106.

⁷⁰ *Id.* at 105.

⁷¹ See *Muckleshoot Indian Tribe*, 177 F.3d at 811.

⁷² Draft EA at 9.

⁷³ See Exhibit 161 (Law & Waring 2014).

and road construction.

We are concerned about the effects of increased logging of large trees, both in uplands and in RHCAs, on riparian and aquatic ecosystems vulnerable to climate change. Logging of large trees in riparian corridors is likely to decrease connectivity, especially connectivity in mixed-conifer areas that currently serve as important corridors and are among the last remaining areas that can provide connectivity for species that are associated with LOS, mixed-conifer forests, denser forests, etc. Commercial logging, in order to be viable, is likely to further incentivize removal of a greater number of trees, and further exacerbate an already concerning situation.

Increasing connectivity is the most commonly recommended strategy for preserving biodiversity in the face of climate change, according to a review of 22 years of scientific recommendations.⁷⁴ Increasing connectivity includes actions such as removing barriers to species dispersal, locating reserves near each other, and reforestation. Other commonly recommended connectivity-related actions include creating “ecological reserve networks [i.e.,] large reserves, connected by small reserves, stepping stones”; “protecting the “full range of bioclimatic variation”; increasing the number and size of reserves; and creating and managing buffer zones around reserves.⁷⁵ Large blocks of habitat that are well-connected to each other are important for the long-term survival for many species in the face of climate change.

It is essential that we preserve core habitats and connectivity corridors because these areas are very important for maintaining genetic diversity, facilitating movement and migration, and providing for range and habitat needs. Connectivity corridors also allow for species to colonize new areas or recolonize after disturbances, which will help species adapt to shifts in geographic range due to climate change. Many species are already facing threats to their viability due to fragmentation and a lack of connectivity; climate change threatens to severely exacerbate risks to their continued survival by further fragmenting habitats. **Increased logging of large trees is likely to exacerbate some of the negative effects of climate change on riparian and stream ecosystems. Stream temperature is a primary concern.** Actions that minimize increased water temperatures are important for maintaining cold water refugia. The Independent Scientific Advisory Board (2007) states: “Adequate protection or restoration of riparian buffers along streams is the most effective method of providing summer shade. This action will be most effective in headwater tributaries where shading is crucial for maintaining cool water temperatures. Expanding efforts to protect riparian areas from grazing, logging, development, or other activities that could impact riparian vegetation will help reduce water temperature increases. It will be especially important to ensure that this type of protection is afforded to potential thermal refugia. Removing barriers to fish passage into thermal refugia also should be a high priority.”⁷⁶

Salmon face serious threats to their continued existence due to climate change, and are predicted to suffer significant habitat loss. The Independent Scientific Advisory Board (2007) notes that according to some research predictions: “[T]emperature increases alone will render

⁷⁴ See Exhibit 025 (Heller & Zavaleta 2008).

⁷⁵ *Id.*

⁷⁶ Exhibit 027.

2% to 7% of current trout habitat in the Pacific Northwest unsuitable by 2030, 5%-20% by 2060, and 8% to 33% by 2090. Salmon habitat may be more severely affected, in part because these fishes can only occupy areas below barriers and are thus restricted to lower, hence warmer, elevations within the region. Salmon habitat loss would be most severe in Oregon and Idaho with potential losses exceeding 40% by 2090.”⁷⁷

Bull trout may lose over 90% of their habitat within the next 50 years due to increased stream temperatures as a result of climate change. Bull trout require very cold headwater streams for spawning, and so are likely to be disproportionately affected by stream temperature increases due to climate change. Recent projections of the loss of suitable habitat for bull trout in the Columbia Basin range from 22% to 92%.⁷⁸ The US Fish and Wildlife Service notes that: “[g]lobal climate change threatens bull trout throughout its range in the coterminous United States....With a warming climate, thermally suitable bull trout spawning and rearing areas are predicted to shrink during warm seasons, in some cases very dramatically, becoming even more isolated from one another under moderate climate change scenarios....Climate change will likely interact with other stressors, such as habitat loss and fragmentation; invasions of nonnative fish; diseases and parasites; predators and competitors; and flow alteration, rendering some current spawning, rearing, and migratory habitats marginal or wholly unsuitable.”⁷⁹

Increased logging of large trees would exacerbate stream temperature issues. Even localized temperature increases may have negative effects on struggling fish populations, especially when repeated in numerous streams across the landscape. Past and current logging, grazing, and roads have increased stream temperatures to ecologically and legally unacceptable extremes. High stream temperatures, as well as increased fine sediment in many areas, are likely the pressing risks to fish viability and stream ecosystems. The synergistic effects of climate change, high temperatures, and increased fine sediments warrant actions such as protecting shade, ecosystem integrity, and terrestrial and aquatic connectivity. HRV of tree species composition and perceived wildfire dangers pose far less of a threat to these parameters than widespread logging of large trees.

In combination with climate change, the negative effects of increased logging of large trees may have especially severe consequences and unforeseen consequences. Logging has well documented negative effects on watershed hydrology and baseflows. In many areas, climate change is predicted to also lower baseflows and alter watershed hydrology. Jones & Grant (1996) found that watersheds with drier conditions and more intense summer droughts were more sensitive to the effects of logging and roads on increased peak flows.⁸⁰ Hicks et al. (1991) found base flows increased for 8 to 9 years after clearcut logging because rainfall is not intercepted, evaporated, and transpired by trees.⁸¹ Instead, most rainfall becomes surface, subsurface, or groundwater flow once the trees are removed, and therefore contributes to base flow increases.

⁷⁷ *Id.*

⁷⁸ *Id.* at iv.

⁷⁹ Exhibit 028.

⁸⁰ Exhibit 029.

⁸¹ Exhibit 010.

However, the author found that base flow rates declined to lower than normal volumes in areas of hardwood riparian re-growth for the following 18 of 19 years in their study.⁸²

The Walla Walla River Bull Trout Ten Year Retrospective highlights the need to consider Bull trout, habitat for Bull trout, and the potential effects of climate change to both species and their habitats at multiple scales.⁸³ The climate change discussion in this report provides an example of the sort of information which the Forest Service should be incorporating into a comprehensive ecosystem protection strategy, rather than the narrow proposal to increase logging of large trees as is currently proposed. The Walla Walla River Bull Trout report focuses on Bull trout, but these considerations should also be analyzed for other listed, imperiled, and sensitive aquatic species such as MCR steelhead, Redband trout, Pacific lamprey, and Margined sculpin in portions of the planning area. Highlights from the Report include:⁸⁴

“Climate change is projected to increase stream temperatures and disrupt hydrologic regimes which will likely impact bull trout across their native range given their thermal sensitivity (Isaak et al. 2010).”

“Results from our life cycle viability model simulations indicate that at the metapopulation level, when individual local populations have different long term trends in abundance, connectivity and a continuum of suitable habitat conditions are important for maintaining smaller, declining populations (e.g., a rescue effect). This variability clearly relates directly to the Walla Walla River Core Area, where one local population is stable and the others appear to be declining. In order for dispersal to aid in maintaining persistence, connectivity and habitat conditions in the mainstem Walla Walla River will have to be restored and protected accordingly.”

“Estimates of habitat loss associated with increased stream temperature varied considerably among populations, depending on the spatial arrangement of available habitat and the quality of habitat near a thermal boundary.”

“The bull trout population of South Fork Walla Walla River appears stable; however, there is some indication that large migratory individuals may be in decline (e.g., mark recapture trend analysis; redd counts) and there is high variability in survival for this size group. However, given the declining trend in large adults, the long-term stability of the population structure is uncertain and may not reflect the historical population structure and evolutionary history of bull trout.”

The Draft EA failed to adequately disclose or analyze how conditions are already being affected by climate change, or to consider how the increased logging of large trees would likely exacerbate the negative ecological effects (both current and projected) of climate change.

The Draft EA also failed to consider the importance of carbon sequestration. Large trees and intact, unmanaged forests sequester the most carbon. Logging is the largest source of carbon

⁸² *Id.* at 219.

⁸³ *See* Exhibit 030.

⁸⁴ *Id.* (emphasis added).

emissions in Oregon.⁸⁵ The Forest Service failed to analyze how increased logging of large trees on federal lands would further increase carbon emissions, or consider alternatives to instead prioritize carbon sequestration.

Hutto et al. 2016 note, in relation to climate change, that increased efforts towards fuels reduction would be an untenable emphasis: “Any perceived problem with future changes in fire behavior cannot be solved by redoubling our effort to treat this particular climate change symptom by installing widespread fuel treatments that do nothing to stop the warming trend, and do little to reduce the extent or severity of weather-driven fires (Gedalof et al. 2005). Therefore, fuel management efforts to reduce undesirable effects of wildfires outside the xeric ponderosa pine forest types could be more strategically directed toward creating fire-safe communities....Fuel treatment efforts more distant from human communities may carry the negative ecological consequences we outlined earlier and do little to stop or mitigate the effects of fires that are increasingly weather driven (Rhodes and Baker 2008, Franklin et al. 2014, Moritz et al. 2014, Odion et al. 2014).”⁸⁶

ii. The Forest Service failed to adequately analyze effects on wildlife.

A number of fish and wildlife species rely on large trees and large snags for habitat. The Forest Service cannot protect the viability of these species without analyzing the effects of this amendment on their habitats, ranges, and habitat connectivity.

The Draft EA states that “[r]ecreation, roads management, grazing and other forest management activities that influence wildlife habitat and viability... will continue, and the cumulative effects of these actions would not change the impact of the proposed action or any of the alternatives.”⁸⁷ Simply stating that these activities will not create a cumulative effect, does not constitute a “hard look” under NEPA. The Forest Service provides no analysis regarding how these activities, in conjunction with the proposed action, will *not* have any cumulative effects.

The original Eastside Screens stated that the intent was that “[u]ntil a full conservation assessment is completed that describes in more detail the movement patters and needs of various species and communities of species in eastside ecosystems, it is important to insure that blocks of habitat maintain a high degree of connectivity between them, and that blocks of habitat do not become fragmented in the short-term.”⁸⁸ The current Draft EA does not adequately analyze these likely adverse effects on wildlife, wildlife habitat, or connectivity corridors.

⁸⁵ Exhibit 031 (Law et al. 2018).

⁸⁶ Exhibit 032.

⁸⁷ Draft EA at 106.

⁸⁸ Draft EA at 161 (citing the 1995 Interim Management Direction Establishing Riparian, Ecosystem and Wildlife Standards for Timber Sales).

iii. The environmental assessment fails to adequately address effects to water quality and aquatic and riparian ecosystems from logging large trees.

Large woody debris (LWD):

We are very concerned that the increased logging of large trees in uplands and RHCAs would negatively impact the availability of large wood and future large wood recruitment for LWD in streams. Large wood recruitment and delivery to streams is a crucial cornerstone of ecological integrity for streams, essential for the viability of many native and ESA-listed aquatic species, and a driving force of recovery for stream morphology. Hyporheic flows and groundwater storage and movement depend in part on large wood and future large wood recruitment, and are important for maintaining cold water in perennial streams. Groundwater movement and storage is interconnected with a number of complex watershed processes and forest components.

Aquatic ecosystems include complex and interdependent interactions. The loss of large woody debris in streams negatively affects stream morphology, including pools. The reduction of LWD and smaller wood for streams, as well as future recruitment for these components, is already occurring through logging in many timber sales across the landscape. Logging of large trees will greatly exacerbate this issue, negatively affect aquatic ecosystems, and potentially violate RMOs under PACFISH/INFISH.

It is important to highlight that small intermittent streams, as well as perennial streams, would also be negatively affected by the loss of large wood, and that those effects are felt downstream. Loss of large wood in small intermittent streams will negatively impact recruitment of large wood in downstream reaches. This, in turn, will negatively impact instream habitats and water quality for aquatic species including imperiled salmon and trout. Loss of large wood in intermittent streams in small catchments will result in less large wood in perennial streams, and thus result in fewer large pools and habitat complexity. Large wood is very important for protecting underground water storage and movement of small intermittent streams. Small streams are crucial to maintaining cold water for downstream perennial waterways, and to creating and ensuring cold water refugia for fish.⁸⁹

Stream temperature:

The most common water quality impairment in National Forest System lands is stream temperature. Elevated stream temperatures are known to negatively impact fish stocks in National Forest lands in the Blue Mountains, including anadromous fish, and listed and at-risk fish such as Bull trout. Water quality standards for temperature, sediment, and other water quality parameters are not being met on hundreds of miles of streams on these National Forest lands. TMDLs and WQRPs have not been developed in a timely fashion for many 303(d) listed basins. BMPs have not been adequately re-evaluated or adjusted to assure compliance with water quality parameters such as temperature. WQRPs plans and TMDLs often do not adequately deal with forest management activities, and monitoring is not always followed through on and lacks

⁸⁹ See Exhibit 033 (Benda et al. 2005); Exhibit 034 (Caissie 2006), Exhibit 035 (Kaufmann & Faustin 2011).

public transparency.

More than 1,240 stream miles on National Forest lands in the Blue Mountains are listed as not meeting water quality criteria. The most common water quality impairment on National Forest lands is stream temperature.⁹⁰ This baseline figure from the BMFPR is almost certainly an underestimate-- the large volume of recent data submissions in 2019 from the Forest Service to ODEQ reflect even more widespread problems with stream temperature violations across the landscape. The recent data submission was the first effort by the Forest Service to share a substantial portion of their data with ODEQ in over a decade.

Increased logging of large trees in upland and riparian forests would cause additional increases in stream temperatures across the landscape. High stream temperatures are already a limiting factor for at-risk and special status aquatic species in many areas. Threatened fish stocks are struggling due to high stream temperatures and increased fine sediments. Stream temperature increases, especially in areas that are already in violation of state and Forest Plan stream temperature standards, are especially dangerous to ESA-listed Threatened Bull trout and steelhead populations. Even localized increases at the subwatershed or reach scale can jeopardize already ESA-listed fish—especially if the problem is repeated in multiple stream reaches across the landscape. At-risk aquatic species such as Bull trout are already suffering from fragmented and small populations. Creating additional negative impacts across the landscape as a result of increased logging large trees is extremely risky at best. Small and isolated populations make for fragile populations (that are subject to declines due to localized events, genetic drift, and other factors). Reiman et al. (2001) noted that: “**...vulnerable aquatic species could be impacted in the short term in ways from which they could not easily recover...**” even in cases where the management actions resulted in long-term benefits in later years. The negative effects on water quality parameters such as stream temperature from ongoing logging throughout the region are already putting Bull trout and Steelhead at risk. The increased stream temperatures that would result from the increased logging of large trees in this proposal would exacerbate the already dire situation for water quality and imperiled aquatic species across eastside Forests.

Logging of large trees in upland areas will increase surface runoff and overland flow, which delivers warmer water (and excess sediments) into streams quickly and can affect peak flows and increase stream temperatures. In addition, increased surface runoff and faster delivery of water into streams also means that less water becomes groundwater. This decreases groundwater storage, groundwater flows, and hyporheic flows.⁹¹ Logging, including upland logging, can cause decreases in summer baseflows in the long-term. Decreased canopy cover due to logging can cause more snow to accumulate in these more open areas, which alters the timing and magnitude of runoff from snow melt. This can also cause changes to peak flows.⁹² Should this proposal to increase logging of large trees be implemented, it would create more open canopies across the landscape, which will then increase solar radiation inputs in watersheds, and as a result may increase the amount of early snow melt. This, in turn, may further alter peak flows and groundwater recharge and the hyporheic cold water delivery downstream, including to

⁹⁰ See Exhibit 36 at 272 (Draft EIS for the Blue Mountains Forest Plan Revision, Volume 1).

⁹¹ See Exhibit 037 (Coutant 1999); Exhibit 038 (Croke & Hairsine 2006); Exhibit 029 (Jones & Grant 2006).

⁹² See Exhibit 039 (Harr & Coffin 1992).

perennial streams.⁹³ Logging alters microclimates, creating hotter, drier, and windier conditions that stretch beyond forests directly affected and into adjacent forests, sometimes for distances of hundreds of feet. Such microclimate edge effects could extend into the entirety of riparian buffers, especially in smaller headwater streams.⁹⁴

Protecting groundwater storage, groundwater flows, and hyporheic flows associated with intermittent streams is crucial for protecting temperatures in larger downstream perennial streams. Cold water inputs from intermittent streams to downstream reaches are essential providing cold water refugia for special-status and imperiled aquatic organisms, including ESA-listed fish.⁹⁵ Patches of cold water refugia are crucial for fish. Shallow groundwater patterns can be important for influencing stream temperatures,⁹⁶ and so are likely vulnerable to upslope logging.⁹⁷ In research in eastern Oregon, Ebersole 2015 found that dry streams supplied cold water to downstream reaches at confluence sites. Such cold water refugia habitats are important for fish, which were observed at these locations.

The Forest Service has increasingly been logging within RHCAs in recent years. Logging within RHCAs has well-documented and negative effects on stream temperatures. Should this proposal be implemented, the increased logging of large trees within RHCAs would be very likely to increase water temperatures. Logging within RHCAs or forest wetlands can magnify water quality and hydrology impacts from upland logging.⁹⁸ Janisch et al. (2011 and 2012) and Buttle et al. (2009) found that wetlands associated with headwater and low order streams are more common and influential on stream hydrology and water quality than previously realized. Many of the wetlands associated with first order streams are small and fall below the size requirements for protection in relation to timber sales.⁹⁹ Janisch et al.(2012) found streams in headwater catchments with wetlands had larger and more consistent increases in temperature in relation to adjacent logging than did the catchments that did not contain wetlands.¹⁰⁰ The authors found that in streams with wetlands present in their catchments tended to have streams with finer sediments in their substrates. Guenther et al. (2012) found increases in stream temperature in relation to selective logging.¹⁰¹ The Guenther study found increases in bed temperatures and in stream daily maximum temperatures in relation to 50% removal of basal area in both upland and riparian areas. Increases in daily maximum temperatures varied within the harvest area from 1.6 to 3 degrees Celsius. Pollock et al. 2009 found that stream temperature was more closely associated with degree of logging within catchments than with streamside vegetation.¹⁰²

⁹³ *Id.*; Exhibit 034.

⁹⁴ See Exhibit 040 (Chen et al. 1995); Exhibit 041 (Brosofske et al. 1997); Exhibit 139 (Chen et al. 1992).

⁹⁵ See Exhibit 034 (Caissie 2006); Exhibit 042 (Ebersole et al. 2015); Exhibit 043 (Grant & Swanson 1990); Exhibit 044 (Groom et al. 2011 (a)); Exhibit 045 (Groom et al. 2011 (b)); Exhibit 029 (Jones & Grant 1996); Exhibit 046 (Pollock et al. 2009).

⁹⁶ See Exhibit 047 (Poole et al. 2008).

⁹⁷ See Exhibit 034 (Caissie 2006).

⁹⁸ See Exhibit 010 (Hicks et al. 1991); Exhibit 048 (Moore & Wondzell 2005);

⁹⁹ Exhibit 049 (Janisch et al. 2011); Exhibit 050 (Janisch et al. 2012); Exhibit 051 (Buttle et al. 2009).

¹⁰⁰ Exhibit 050 (Janisch et al. 2012).

¹⁰¹ Exhibit 020 (Guenther et al. 2012).

¹⁰² Exhibit 046 (Pollock et al. 2012).

Even in situations where logging within RHCAs is limited to thinning of smaller diameter trees, logging may compromise the ability of the RHCA buffer to protect streams or ameliorate the negative impacts from upland logging, including increased stream temperatures and the delivery of sediment and nutrients into waterways. Logging of large trees within RHCAs will substantially worsen these ecologically damaging dynamics. Small streams are particularly vulnerable to temperature, even with limited selective logging. There is evidence to suggest that wider buffer widths may be necessary to protect stream temperatures, particularly in intermittent and headwater streams, and particularly when logging within 100' of streams. Parameters that influence stream temperatures include, stream shade, overland flow, groundwater and hyporheic flows, and groundwater storage. Alteration of these parameters can increase stream temperatures, especially in small streams. Logging alters these parameters, and degrades the ability of these parameters to support cold water, and is likely to increase stream temperatures.¹⁰³

Should this proposal be implemented, the increased logging of large trees would be likely to shift current baseline conditions in stream temperatures, including diurnal temperature patterns (as well as loss of shade, increase in stream temperature and sediment, loss of biomass, loss of wildlife habitat). Road-related activities associated with logging, and logging on steep slopes above creeks will negatively affect stream temperatures and stream temperature variability, and will pose large risks to the continued viability of Bull trout and other listed and imperiled aquatic species.

Fine sediments & turbidity:

Hood (2015, Master's Thesis) provides a summary of effects to fish from excess fine sediments: "Fish, amphibians, and macroinvertebrate communities may be negatively impacted by excess fine sediment inputs resulting from logging and roads. (Bryce et al. 2010, Nietch et al. 2005). Increases in fine sediment loading can cause simplification of 6 complex habitats and channel structure either through settling on or scouring out the streambed (Cover et al. 2008, Nietch et al. 2005). As a result, habitats such as pools, riffles, and side channels required by stream organisms for egg laying, resting, hiding, and rearing of young may be degraded or eliminated (Bryce et al. 2010, USEPA 2006). In addition, excess fine sediment loading, particularly in combination with the alteration of flow regimes and hydrologic processes, may negatively impact stream channel stability, limit hyporheic exchange, and alter groundwater inputs, potentially degrading conditions for stream organisms by further increasing sediment loading, decreasing necessary physical habitat, and altering stream water volume which can affect temperature and dissolved oxygen, and limit resources (Croke and Hairsine 2006, Moore and Wondzell 2005, Nietch et al. 2005, USEPA 2006). Fine sediment inputs exceeding natural background levels may bury and smother fish and amphibian eggs or young, decrease dissolved oxygen (DO) levels, interfere with behaviors such as mating, feeding and predator avoidance, cause shifts in macroinvertebrate community structures, and increase macroinvertebrate drift rates (Bryce et al. 2010, Nietch et al. 2005, USEPA 2006). For example, Coho salmon egg

¹⁰³ Exhibit 034 (Caissie 2006); Exhibit 052 (Davies & Nelson 1994); Exhibit 053 (DeWalle 2010); Exhibit 054 (Kiffney et al. 2003); Exhibit 044 (Groom et al. 2011 (a)); Exhibit 045 (Groom et al. 2011 (b)); Exhibit 055 (Jones et al. 2006); Exhibit 056 (Sweeney & Newbold 2014); Exhibit 046 (Pollock et al. 2009); Exhibit 057 (Wigington et al. 2006); Exhibit 047 (Poole et al., 2008); Exhibit 042 (Ebersole et al. 2015); Exhibit 058 (Poole & Berman 2001); Exhibit 144 (Newcombe & Jensen 1996); Exhibit 146 (Poole & Berman 2001).

survival and fry emergence were negatively correlated with embedded fines of greater than 10%. In addition, when fines exceeded 20%, average survival decreases dramatically (Cederholm 1980). Macroinvertebrate drift rates increased significantly when exposed to suspended sediment concentrations of 8 mg/L for 5 hours, though ephemeroptera and plecoptera drift more rapidly upon exposure to sediments compared to those not exposed to sediments. Some ephemeroptera species, when exposed to concentrations of suspended sediments greater than 29mg/L for 30 days, 7 will disappear entirely. Longer exposure durations and smaller particle sizes caused increased rates of drift (IDEQ 2003).”¹⁰⁴

Studies have found selective logging may be associated with increases of instream fine sediments.¹⁰⁵ Upslope logging, particularly on steep slopes above streams, can increase fine sediment inputs into streams, contribute to stream temperature increases, cause increased variability in water quality and aquatic habitat parameters, and alter stream morphology and watershed hydrology. Additionally, logging on thin soils, on ash soils, and in rain-on-snow zones greatly increases the risk of soil damage, erosion, and excess fine sediments in streams. Zhang et al (2009) found long-term impacts to macroinvertebrate communities and streambed substrates.¹⁰⁶ These impacts lasted for up to 40 years due to excess fine sediments associated with logging. Effects, such as changes to sediment loading and stream morphology, may not show up for many years after logging.¹⁰⁷

Ashy soils typically hold more moisture than sandy or poor soils. As a result, they are often associated with mixed-conifer forests. Because the EA encourages logging of large firs, mixed-conifer forests on ashy soils are likely to be targeted for logging, and would be at risk of soil damage, compaction, and displacement, should this proposal be implemented. The Upper Touchet FEA (pg. 47) notes that the “[e]ffects of ashy soil displacement and compaction by ground-based and cable activities on soil productivity is immediate and will persist on the landscape for up to 20 years or more (Giest, 1989).”¹⁰⁸ The Upper Touchet FEA states: “Ashy soils have low bearing strength and are susceptible to increased soil displacement and compaction by logging activities. When non-mixed ashy soils are disturbed, erosion is greater due to fine particle size and lack of cohesiveness between ash particles. The FEA also notes that “[a]sh cap soils cover about 80 percent of all the units in the project area”.

The agency has, in practice, been shrinking the size of protective RHCA buffers across the landscape. In addition, headwater streams do not have adequate buffers to protect them from the logging already occurring on the landscape. Increased logging of large trees would further exacerbate these issues and degrade water quality and riparian and aquatic habitats. Should this proposal be implemented, the increased logging of large trees and the road-related activities associated with logging, will result in increases in excess fine sediments and turbidity in streams, and harm special-status and imperiled aquatic species such as Bull trout and Mid-Columbia River steelhead.

¹⁰⁴ See Exhibit 059 (Hood 2015 Master Thesis); See also Exhibit 170 (Ebersole et al. 2003).

¹⁰⁵ See, e.g., Exhibit 018 (Kreutzweiser et al. 2005); Exhibit 060 (Miserendino & Masi 2010).

¹⁰⁶ Exhibit 061 (Zhang et al. 2009).

¹⁰⁷ See Exhibit 062 (Beexhie 2001); Exhibit 063 (Benda & Dunne 1997); Exhibit 064 (Madej & Ozaki 1996).

¹⁰⁸ U.S. FOREST SERV., *Upper Touchet Vegetation Management Project Environmental Assessment* (2020), https://www.fs.usda.gov/nfs/11558/www/nepa/108700_FSPLT3_5221795.pdf.

Nutrients:

As logging is increasingly occurring within stream buffers, the agency has, in practice, been shrinking the size of protective RHCA buffers across the landscape. Headwater streams and small intermittent streams do not have buffer widths that are sufficient to protect water quality and stream habitats. Wider buffers are needed in order to prevent excess fine sediments and nutrients from entering waterways.¹⁰⁹ Many special-status, at-risk and imperiled aquatic species rely on clean, cold water to survive. Logging of large trees in the planning area would degrade water quality, and instream and riparian habitats. Widespread problems with excessively high stream temperatures, excess fine sediments, and turbidity will be greatly exacerbated by increased large tree logging and the associated road-related activities.

Roads:

Increased logging of large trees will inevitably incentivize road building, rebuilding, and reopening of roads in order to access areas in which logging was previously not economically viable. Increased road maintenance and reconstruction, hydrologically connected roads, and increased use on roads adjacent to or in RHCA's are likely to contribute disproportionately to detrimental impacts to aquatic and riparian ecosystems. Effects to stream waters quality which may be associated with roads includes excess fine sediment loading, increased stream temperatures, alterations in peak and base flows, degradation of stream morphology, and alteration of watershed hydrology. The degradation of water quality and stream habitats associated with road-related impacts can harm special status, at-risk, and imperiled aquatic and riparian species. The current bloated, fiscally burdensome and ecologically damaging road network that currently exists across National Forests on eastern Oregon will be further exacerbated by the increases in logging of large trees, should this proposal be implemented. As a result, we are concerned that the proposal will not comply with laws and regulations which protect riparian and aquatic species and habitats, including the Clean Water Act, the Endangered Species Act, PACFISH/INFISH and associated RMOs, and National Forest Management Act.

Hood provides a summary of roads-related processes and effects related to sediment: Excess fine sediments generated by road related erosion or harvest related soil compaction may be carried farther across the landscape because of decreases in water infiltration or runoff rates over damaged soils, which in turn can cause an increase in the distance of overland flow transporting the sediments.¹¹⁰ Thus, the sediments generated by management activity may be more likely to reach streams.¹¹¹ In addition, improper road drainage can cause gullies, landslides, and other erosional features, which in turn lead to sediment generation, increased runoff, and more direct and rapid transport of runoff and sediment to streams.¹¹² Furthermore, the distance of travel required for sediments to enter streams may be shortened by the artificial extension of stream networks by roads and culverts.¹¹³ Increases in the efficiency of delivery of water and

¹⁰⁹ See Exhibit 065 (Freeman et al. 2007); Exhibit 066 (Gomi et al. 2002); Exhibit 067 (Nieber et al. 2011); Exhibit 056.

¹¹⁰ See Exhibit 059 (Hood, 2015 Master's thesis).

¹¹¹ See Exhibit 038 (Croke & Hairsine 2006); Exhibit 068 (Wemple et al. 2000).

¹¹² *Id.*; Exhibit 167 (Reid et al. 2010).

¹¹³ *Id.*; Exhibit 149 (Wemple et al. 1996).

sediment to streams due to road networks and changes to soil infiltration and groundwater inputs can affect the timing, magnitude, duration, and frequency of sediment inputs.” Roads increase peak flows by intercepting surface and subsurface flow, and diverting it into culverts and ditches that drain into streams.¹¹⁴ Instream sediment dynamics such as timing and placement of fine sediment deposition, embeddedness, and scour are affected by stream power and flow regimes.¹¹⁵

A large number of scientific studies have implicated roads as a primary factor in altering watershed hydrology and/or declines in fish stocks,¹¹⁶ especially in combination with other impacts such as livestock grazing.¹¹⁷ Fish stocks are stronger and better distributed in areas of little or no management and low road densities, even in fire suppressed areas, and even if severe fires occur. Numerous studies and reports show that many benefits are gained by leaving forests unroaded, and to their own ecological processes (including processes involving fire, insects, and disease).¹¹⁸

The effects of roads and stream sediments on stream integrity and aquatic habitats affect Bull trout, Steelhead, and other fish are well recognized. The Federal Registrar, Department of the Interior Fish and Wildlife Service 50 CFR part 17 (2010) Final Rule for Revised Designation of Critical Habitat for Bull Trout also recognizes the ecological threats posed by roads to fish and water quality: “Sedimentation negatively affects bull trout embryo survival and juvenile bull trout rearing densities (Shepard et al. 1984, p. 6; Pratt 1992, p. 6). An assessment of the interior Columbia Basin ecosystem revealed that increasing road densities were associated with declines in four nonanadromous salmonid species (bull trout, Yellowstone cutthroat trout (*Oncorhynchus clarkii bouvieri*), westslope cutthroat trout (*O. c. lewisi*), and redband trout (*O. mykiss spp.*)) within the Columbia River basin, likely through a variety of factors associated with roads. Bull trout were less likely to use highly roaded basins for spawning and rearing and, if present in such areas, were likely to be at lower population levels (Quigley and Arbelbide 1997, p. 1183).”¹¹⁹ Meredith et al. 2014 found that increased logging of large trees resulted in increased road-related impacts, potentially negatively affecting the abundance and recruitment of wood in streams, and that high road densities were correlated with lower large wood abundance in streams.¹²⁰ The presence of roads in RHCAs also may increase solar radiation and stream temperatures.

¹¹⁴ Exhibit 149 (Wemple et al. 1996).

¹¹⁵ Exhibit 048 (Moore & Wondzell 2005); Exhibit 069 (Wood & Armitage 1997); Exhibit 150 (Wondzell et al. 2005).

¹¹⁶ Exhibit 070 (Bader 2000); Exhibit 071 (Bradley et al. 2002); Exhibit 072 (Frissell & Carnefix 2009); Exhibit 073 (Public Lands Initiative 2004); Exhibit 074 (Reiman & Clayton 1997); Exhibit 075 (Frissell & Carnefix 2007); Exhibit 076 (Thurrow et al. 2001); Exhibit 077 (Reiman et al. 2000); Exhibit 078 (DellaSala et al. 2011); Exhibit 079 (Quigley & Arbelbide 1997); Exhibit 080 (Western Native Trout Campaign 2001).

¹¹⁷ See Exhibit 026 (Al-Chokhachy et al. 2010).

¹¹⁸ Exhibit 070 (Bader 2000); Exhibit 071 (Bradley et al. 2002); Exhibit 072 (Frissell & Carnefix 2009); Exhibit 073 (Public Lands Initiative 2004); Exhibit 074 (Reiman & Clayton 1997); Exhibit 075 (Frissell & Carnefix 2007); Exhibit 076 (Thurrow et al. 2001); Exhibit 077 (Reiman et al. 2000); Exhibit 078 (DellaSala et al. 2011); Exhibit 079 (Quigley & Arbelbide 1997); Exhibit 080 (Western Native Trout Campaign 2001); Exhibit 141 (Jones 2000); Exhibit 147 (Trombulak & Frissell 2000).

¹¹⁹ See Exhibit 028 (USFW Bull Trout Final Rule).

¹²⁰ Exhibit 081 (Meredith et al. 2014).

Carnefix and Frissell (2009) discussed impacts from roads, and show that significant negative impacts to sensitive aquatic species are present at road densities greater than one mile per square mile: “Multiple, convergent lines of empirical evidence summarized herein support two robust conclusions: 1) no truly “safe” threshold for road density exists, but rather negative impacts begin to accrue and be expressed with incursion of the very first road segment; and 2) highly significant impacts (e.g., threats of extirpation of sensitive species) are already apparent at road densities on the order of 0.6 km per square km (1 mile per square mile) or less. Therefore, restoration strategies prioritized to reduce road densities in areas of high aquatic resource value from low-to-moderately-low levels to zero-to-low densities (e.g., 1 mile per square mile, lower if attainable) are likely to be most efficient and effective in terms of both economic cost and ecological benefit. By strong inference from these empirical studies of systems and species sensitive to humans’ environmental impact, with limited exceptions, investments that only reduce high road density to moderate road density are unlikely to produce any but small incremental improvements in abundance, and will not result in robust populations of sensitive species.”¹²¹

The additional road-related reopening and rebuilding which will stem from the increased logging of large trees would certainly include “temporary” roads. The Forest Service often builds “temporary” roads (that have impacts for decades or centuries on the landscape), as well as rebuilds “existing temporary roads” to access logging units. Roads that the agency terms “temporary” are not in reality “temporary.” This is made evident by the repeated re-use of ‘existing roadbeds’ and the use of ‘existing disturbance areas’ for creating roads with each new timber sale. The Forest Service continues to repeatedly re-use these areas of permanent disturbance on the landscape as roads in current timber sales (and the USFS regularly uses these roads as reasons for disqualifying areas for IRAs or Potential Wilderness). Yet the USFS repeatedly claims that these roads won’t actually continue to exist beyond each new timber sale’s completion. These roads remain as scars on the landscape and show signs of erosion, compaction, or other impacts for years if not decades to come. “Temporary” roads which were not decommissioned or recontoured are ubiquitous on the landscape. They are also not well-documented or monitored, and they are often not included in road density calculations.

It is unacceptable for the agency to propose increased logging of large trees in a narrow Amendment—Logging which will certainly incentivize the reopening and rebuilding of roads and building “temporary” roads and so increase road-related impacts to watersheds and streams. The agency needs to develop and implement a comprehensive ecological protection plan, one which includes addressing roads, which are one of the primary drivers (if not the primary driver) of water quality degradation across the landscape. Road densities that exceed standards are a regular problem in watersheds and across Forests. Existing road density in, for example, the Malheur National Forest is well above the 2-miles/square mile NOAA (1996) threshold for watersheds to be considered “properly functioning”. NOAA (1996) notes: properly functioning: 2 miles/sq mile; at risk 2-3 mi/sq mi; not properly functioning >3mi/sq mi. The widespread, chronic negative impacts to watersheds and streams caused by the bloated, unsustainable, and badly managed road network across public lands must be addressed by the agency.

¹²¹ Exhibit 072 (Carnefix & Frissell (2009)).

Furthermore, two Forests within the planning area have not yet completed Travel Planning as required by the 2005 Final Rule for Travel Management. The Malheur and Wallowa-Whitman National Forests currently have existing road densities at levels that are recognized as threats to water quality, fish, and watershed health. The Malheur and the Wallowa-Whitman National Forests continue to exceed Forest Plan standards for road density in many watersheds, including those designated for prioritizing the protection of water quality and fish. Existing average road density on the Malheur National Forest is *3.56 miles per square mile*. The average open road density averaged across the forest is 2.56 miles per square mile. If Wilderness and Roadless areas are excluded, then the average existing road density is *4.23 miles per square mile* and the open road density is *3.05 miles per square mile*. Wilderness and Roadless areas occupy a small percentage of these forests, and the excessive road density outside of these areas has serious and ongoing negative ecological consequences for the majority of watersheds on these forests. Wilderness areas, for example, occupy approximately 17.1 percent of the combined area of the Malheur and Wallowa Whitman National Forests, and only four percent of Oregon's total land area. The agency needs to abandon their narrow attempt to increase large tree logging and instead address the actual causes of ecosystem degradation across the landscape.

Special-status and at-risk Fish and Aquatic Species:

We are concerned that increased logging of large trees will negatively affect sensitive, at-risk, special-status, and imperiled riparian and aquatic species and their habitats, including: Bull trout, Columbia River steelhead; Snake River Steelhead; Redback trout; Cutthroat trout; Chinook salmon; Sockeye salmon; Shortnose sucker; Long River sucker; Warner sucker; Margined sculpin; Pacific lamprey; and special-status aquatic invertebrates (including mussels).

The Draft EA does not contain any mechanisms to ensure that the increased logging of large trees will not cause long-term detrimental effects to or loss of viability of at-risk and ESA-listed species. Logging is known to cause adverse impacts to water quality and riparian habitats, which in turn can harm sensitive, special-status, and at-risk fish and aquatic species, as discussed throughout the aquatics section of this document.

The Forest Service manages much of the land in core and critical habitats for spawning and rearing for numerous listed fish species. Spawning and rearing habitat quality is a limiting factor in the continued viability of these species, due in part to the widespread problems with high stream temperatures and excess fine sediments across National Forests in eastern Oregon (Middle Fork IMW Working Group 2017).¹²²

Evidence suggests that current BMPs and/or Project Design Criteria may not be sufficiently protective of sensitive aquatic species such as Bull trout. For example, the Fish and Wildlife Service Final Rule for Bull trout (Department of the Interior Fish and Wildlife Service 50 CFR part 17 2010) states that: "Special management considerations or protection that may be needed include the implementation of best management practices specifically designed to reduce these impacts in streams with bull trout, particularly in spawning and rearing habitat. Such best management practices could require measures to ensure that road stream crossings do not impede fish migration or occur in or near spawning/rearing areas, or increase road surface drainage into

¹²² See Exhibit 143.

streams.”¹²³ The study *Key findings for Stream Temperature Variability: Why It Matters To Salmon* by Steele and Beckman (2014) found that “Commonly used degree-day accumulation model is not sufficient to predict how organisms respond to stream temperatures. Changes in how the degree days are delivered have the potential to alter the timing of life history transitions in Chinook salmon and other organisms. Emerging from the gravel a few days earlier or later could directly affect their survival due to changes in available food resources, competition for feeding grounds, or strong currents.”¹²⁴

Logging may pose a greater risk to aquatic species than wildfire, even high-severity wildfire. The USFS proposed Forest Plan Revision (2014), “[r]edband trout and bull trout have been shown to recolonize severely burned drainages within two years, provided the drainages were physically accessible (i.e., no culvert barriers, and provided that other fish in unburned areas were close enough to discover and move back into the recently burned habitat”¹²⁵

Increased logging of large trees in uplands and in riparian corridors pose clear and serious risks to imperiled and at-risk aquatic and riparian species. The current status of salmon and native trout in the planning area warrants extreme caution. Please see the above discussions for more detail on the effects of logging large trees on large wood for streams, riparian habitats, stream temperatures and sediments, stream morphology, and watershed hydrology.

We are extremely concerned about special status fish such as ESA-listed Bull trout, Mid-Columbia River steelhead, Snake River steelhead, and others. However, our concerns also include other ESA-listed, special status, imperiled, and at-risk aquatic and riparian species. For example, the Upper Touchet FEA notes that Margined sculpin could become threatened or endangered without habitat protection and coordinated efforts, in part because of their small and isolated populations: “Populations in southeastern Washington appear stable, but based on the species’ small geographic distribution and limited quality habitat, it could become threatened or endangered without protection of habitat and cooperative management.”¹²⁶ The FEA also notes that disturbances such as logging can degrade waters inhabited by Margined sculpin: “The species appears to be locally common, but disturbances can have profound effects on its persistence. Most of the waters inhabited by margined sculpins have been degraded by development, logging, agriculture, livestock grazing, and channelization. These activities produce sedimentation of substrate, elevated water temperatures, algal blooms, and reduction in pool habitat.”¹²⁷ Yet, the Forest Service is planning to log large trees on steep slopes above streams in the Upper Touchet timber sale. Should the proposed amendments to the 21” Screens be implemented, such problematic logging will greatly increase across the landscape.

The Forest Service must take responsibility for their part in the continued viability of fish that use key habitats on national forest lands, rather than downplaying and refusing to acknowledge the impacts from Forest Service Management, including this proposal to increase

¹²³ See Exhibit 028.

¹²⁴ Exhibit 082 (Steele & Beckman 2014).

¹²⁵ Exhibit 021 at 60.

¹²⁶ See United States Forest Service 2020. Upper Touchet Vegetation Management Project Environmental Assessment. Accessed online at: https://www.fs.usda.gov/nfs/11558/www/nepa/108700_FSPLT3_5221795.pdf

¹²⁷ *Id.*

logging of large trees. Logging on National Forests continues to cause ongoing negative affects to anadromous and resident fish populations that have important consequences for long-term trends and continued viability. The Draft EA will greatly exacerbate these negative impacts to ESA-listed species. Increased logging of large trees will harm ESA-listed aquatic and riparian species, jeopardize their recoveries, cause downward trends in their populations, result in local extirpations or extinctions, and losses of viability.

c. The environmental assessment will weaken riparian ecosystems contrary to the PACFISH/INFISH direction.

The Pacific Anadromous Fish Strategy (PACFISH) and the Inland Native Fish Strategy (INFISH) are riparian management objectives that have been incorporated into every land management plan for the six national forests in the planning area. In the *Aquatic Resources* section of the Draft EA, the Forest Service states that “[t]he PACFISH and INFISH objectives, goals, standards and guides would not be changed . . . Since no changes will be made to these aquatic conservation strategies, a No Effect determination applies to all Threatened and Endangered, R6 Sensitive and MIS fish species . . . in the analysis area.”¹²⁸ Essentially, the Draft EA claims that because there are not proposed changes to INFISH or PACFISH there will be no effects.

This reasoning is arbitrary and capricious. Under all of the action alternatives, large trees will now be cut in RHCAs. The Draft EA claims that logging within RHCAs only occurs if Resource Management Objectives (RMOs) are met and logging does not retard attainment of RMOs. This standard is highly subjective, and has not excluded logging, including commercial logging, in RHCAs adjacent to streams that were not meeting RMOs.

Unfortunately, the reality on the ground is that extensive logging in riparian areas has occurred in recent years in the planning area, including in RHCAs whose streams were not meeting RMOs. The failure to meet RMOs in streams with commercial logging proposed within their RHCAs is documented in the USFS NEPA analyses for numerous sales. Examples include streams in the Camp Lick, Ragged Ruby, and Big Mosquito sales on the Malheur National Forest, and the Gap sale on the Ochoco National Forest. Some of these sales include commercial logging within RHCAs along streams that regularly exceeds stream temperature standards for RMOs and state water quality standards.

Logging of trees up to 21” dbh within RHCAs, including commercial logging, has become a regular part of many timber sales on the eastside. Despite the large increases in logging within RHCAs in recent years, the Forest Service has generally not logged trees ≥ 21 ” dbh within RHCAs since the Eastside Screens and PACFISH/INFISH were implemented. While there is no express diameter size limit for logging trees within RHCAs, the Forest Service commonly logs trees within RHCAs up to the dbh considered to be ‘large’ (21” dbh) under the Eastside Screens. Should this proposal be implemented, logging of trees ≥ 21 ” dbh would become far more common and widespread within RHCAs.

¹²⁸ Draft EA at 69.

Even in areas where there is ample evidence of historic fir dominance, silvicultural prescriptions regarding large trees in mixed-conifer forests within RHCAs and in upslope areas often seek to shift species composition towards early seral species and lessen the amount of mature fir in stands. The proposed Forest Plan Amendment encourages logging of fir >21" dbh, and so increased logging of larger fir within RHCAs would be in alignment with the silvicultural prescriptions under this proposal, and with the ongoing Forest Service practice of targeting mature firs for logging. Riparian forests in particular likely played important roles historically as fire refugia and terrestrial and aquatic connectivity corridors. It is important to note that successful wide-spread fire suppression did not occur until the 1950's after World War II military equipment came into play. Fire suppression efforts of the past were highly unlikely to have been widespread or effective in remote areas such as those within the project area until recent decades. The 100+ year timeframe the FEA puts forth for fire exclusion is an extreme overestimate. Heyerdahl et al. (2002) note that fire suppression was not effective until recent decades: *"...active re suppression by land-management agencies because these efforts were probably not effective until the 1940s–50s when surplus military aircraft became available"*.¹²⁹

Riparian forests, aquatic habitats, fish, and water quality will be significantly affected by this proposal as a result of increased logging of large trees in the uplands and within RHCAs. The EA has ignored key issues such as decreased recruitment of large woody debris; likely increases in stream temperature and excess fine sediments; and alteration of watershed hydrology and stream morphology due to the increased logging of large trees; and other likely negative effects to aquatic systems that will result in possible violations to NFMA, PACFISH/INFISH, the Clean Water Act, and the Endangered Species Act.

The amendment allows for large trees to be cut within the RHCAs as long as the logging does not hinder the attainment of RMOs.¹³⁰ To satisfy NEPA's requirement of analyzing cumulative effects, the EA should analyze the amendment's effect on the riparian and aquatic ecosystem, including discussing bank stability and water temperature. The Forest Service should detail quantitative and enforceable standards for protecting riparian resources.

d. The Forest Service violated NEPA by failing to consider a reasonable range of alternatives.

NEPA requires federal agencies to "study, develop, and describe appropriate alternatives" for a proposed project whether the agency is preparing an EA or an EIS.¹³¹ The alternatives analyzed for a proposed action are "the heart" of an agency's NEPA analysis and are necessary to "defin[e] the issues and provid[e] a clear basis for choice among options by the decisionmaker and the public."¹³² The Ninth Circuit has held that "[t]he existence of a viable but unexamined alternative renders an EA inadequate."¹³³

Here, the Forest Service neither considered whether there were unexamined alternatives

¹²⁹ Exhibit 083.

¹³⁰ Draft EA at 69.

¹³¹ 42 U.S.C. § 4332(2)(E).

¹³² 40 C.F.R. § 1502.14 (2019) (emphasis added).

¹³³ *Western Watersheds Project v. Abbey*, 719 F.3d 1035, 1050 (9th Cir. 2013).

nor determined whether a consensus over the use of resources existed prior to beginning work on the Draft EA, because it never completed scoping.

Because there are unresolved conflicts about alternative uses of available resources, NEPA stipulates that the Forest Service must study, develop, and describe a reasonable range of alternatives. Instead of fulfilling its NEPA obligations, the Forest Service looked at a narrow range of alternatives that are somehow simultaneously too similar to be distinct alternatives, and too vague to provide any concrete analysis as to outcomes from those alternatives. This does not represent a reasonable range of alternatives.

Had the public had an opportunity to participate in scoping before the issuance of an EA, the public could have provided the Forest Service with alternatives that do not jeopardize the protections of the original Eastside Screens. Because scoping was not provided before the EA was issued, BMBP now offers the following alternatives, which could be included in a revised draft EA before a final decision is made.

i. The Forest Service should analyze a more protective standard.

None of the current alternatives presented in the Draft EA acknowledge the purpose behind the original Eastside screens—to protect large trees and the crucial roles they have in the ecosystems. The Forest Service should also analyze an alternative which protects trees smaller than 21” dbh.

ii. The Forest Service should analyze the option of completing comprehensive plan instead of a narrow amendment.

The Forest Service should also consider an alternative which is a comprehensive revision to the forest plans as opposed to a narrow amendment. As contemplated by the original Eastside Screens, the Forest Service should only amend the 21” in dbh standard if it takes part in a large-scale revision process. The District of Oregon has stated that site-specific amendments are inadequate unless the Forest Service can “adequately articulate a rational connection between the characteristics of the project area and the choice to adopt a site-specific, rather than forest-wide, amendment.”¹³⁴ Here, there is no articulated reason why the Forest Service must create a site-specific amendment rather than undertaking a full comprehensive revision.

iii. The draft environmental assessment improperly dismisses proposed alternatives.

The Draft EA lists alternatives considered but not fully analyzed.¹³⁵ These proposed alternatives should have been considered in more detail. In fact, a lower diameter limit of 15 to 16” dbh *would* allow for removing competition with old trees across the landscape, as by far the majority of “ladder fuel” trees and dense in-growth is less than 15” dbh. This is indisputable on the ground in proposed sale areas. This should have been analyzed as a viable action alternative.

¹³⁴ *League of Wilderness Defs. v. Connaughton*, No. 3:12-cv-02271-HZ, 2014 WL 6977911, at *50.

¹³⁵ Draft EA at 12.

There is an insufficient range of action alternatives offered.

The concept of logging increasing “the basal area-weighted age of stands” is a devious Forest Service analysis trick used to make it look like large and old trees were increased (although still at their pre-existing levels) through removal of small and mature trees raising the average size and age of the stand artificially. This could also be used to allow logging of large and old trees if enough younger and smaller trees were removed to increase the resulting percentage of the stand that is older. “No net loss of LOS” is another analysis deception that allows for greatly reducing the quality and habitat suitability of LOS and old growth by leaving the minimum number of large trees required for LOS classification. As in the Crow HFR sale, this can be used to eliminate LOS status designation over time to remove LOS protection, as it may only take one to three live large trees to become snags or logs (in the case of the Crow sale) to not meet the LOS definition. This alternative—especially with all the exceptions—would clearly fail to preserve sufficient large and old tree structure.

Live large tree retention and increases are also necessary, not just snags and logs, rendering the “cut and remain on site” alternative unacceptable.

It’s noteworthy that the Forest Service rejects the combined age and diameter suggested alternative because it would be a mandatory standard rather than an ignorable voluntary guideline. We support the existing 21” dbh standard although the limit should really be 15” dbh to keep up with the loss of mature trees under 21” dbh and increase the abundance of large and old trees over time. We support lowering the logging limit to 15” dbh and reconsidering the viability of the Forest Service timber sale program in general.

The snag and green tree retention change is an obvious loophole to allow cutting of large snags greater than 20” dbh, even based on the vague “other documented procedures” and to retain and recruit large trees only “of the *appropriate* species and spatial arrangements” –i.e. only Ponderosa pine and Western larch and with logging to very low basal area retention (aka appropriate “spatial arrangements.”). This would greatly reduce both large snags and green tree retention across the landscape and is unacceptable, throwing out more of the Eastside Screens.

iv. The alternatives considered by the draft environmental assessment are flawed.

This proposed Forest Plans amendment is not based on the high-quality science through consideration of the full spectrum of the science, including the science that supported the 21” dbh limit. The Draft EA fails to disclose the relevant scientific controversy.

The “Old Tree Standard” and “Adaptive Management” alternatives are contrary to the stated Purpose and Need. Both the “Old tree standard” alternative and the “Adaptive management” alternative would completely discard any mandatory protection of large trees, completely contrary to the Eastside Screens and the great majority of the best science. The “age prohibition” under the Old tree standard alternative would be highly subjective and inconsistent as Forest Service staff decide on their own which “best available science information” to use and how to determine the age of trees based on physical characteristics that are not always accurate

and would be subjectively assessed—especially when applied to fir species, which still lack a proven method for visually determining their age. The Adaptive management alternative would throw out both tree age and large size protections in complete contravention of the highest quality science. All three of the action alternatives would be grossly inconsistent with many goals and standards in the existing Forest Plans, indicating the need to either fully revise each National Forest Plan for consistency and adherence to the full range of high quality science and cultural uses of the Forests, or leave the Forest Plans as they are currently until such revision. All three action alternatives would cause local community instability, likely loss of recreational and tourism revenue, loss of sense of place, and profound long-term loss of biodiversity, essential forest ecosystem functions, and the viability of multiple species.

The Forest Service needs to stop making management decisions based on the implicit assumption that all forest and LOS density is undesirable, regardless of the forest type, moisture regime, elevation, slope aspect and soil type, which in Eastern Oregon largely determine the historic and current natural range of productivity, tree species composition, and density. The Blue Mountains National Forests are incredibly heterogeneous in plant associations and forest types based on varied topography, elevation, moisture retention, slope aspect, and soil type. All of these wonderful natural nuances that make Eastern Oregon very biodiverse are ignored by the Forest Service in the interest of maximizing individual tree growth of timber industry preferred tree species—i.e. managing the National Forests like private land tree farms but logging them on even faster timber sale rotations and on larger scale timber sale.

The proposed alternative would not just allow “slightly more large trees” to be cut but most large trees to be logged, since most large trees still remaining from past logging are less than 30” dbh.¹³⁶ See the implicit admission of this in the last paragraph of “[r]esults across alternatives are similar because stands outside of LOS have few old or large trees that would be managed differently between alternatives.”¹³⁷

A reduction of the current median canopy closure by 46% by 15% under all the action alternatives to about 31% closure would be catastrophic for many density-associated wildlife species, including elk, Mule deer, Northern goshawk, Cooper’s hawk, Pileated woodpecker, American marten, Blackbacked woodpecker (re: snag density), Northern Pygmy owl, and multi-canopy layer-associated songbirds, including many Neotropical migratory songbirds.¹³⁸ The negative impacts to these and other species of such canopy closure and density reduction are not analyzed in the Wildlife effects section of the EA at all.

Finally, Forest Service admits that “—the majority of trees that need to be removed to achieve open conditions are less than 21 inches.”¹³⁹ This is reiterated three times on page 38. This acknowledges that the Forest Plans amendment is not really about the need to remove large trees to decrease inter-tree competition and reduce the decline in old trees, but about increasing the abundance of timber industry preferred tree species over time and increasing timber sale

¹³⁶ Draft EA at 37.

¹³⁷ *Id.*

¹³⁸ See Draft EA at 37.

¹³⁹ Draft EA at 38.

volume. “Open conditions” means more trees logged and more fir removed.

All the action alternatives would result in fewer large trees per acre compared to current management under the 21” dbh limit. We are skeptical that the number of large trees would show an increase over time, as unaccounted for factors include climate change-related potentially increased extent of fires, insect outbreaks, and droughts, and logging of large trees spurred by no mandatory standard in excess of model expectations, as well as the usual loss of large trees through hazard tree removal, illegal firewood cutting, road construction and other unrecorded losses. There has certainly been no elimination of the deficit in large trees compared to historical conditions so far, only more reductions.

Adaptive management would clearly not ensure LOS is increasing across the landscape, based on the Draft EA analysis, contrary to that claim on Draft EA page 40. There is no guarantee that any of the action alternatives would stop or even significantly decrease old tree mortality, as the Forest Service’s own modeling indicates.¹⁴⁰ So that calls into question the stated Purpose and Need for this Forest Plans amendment.

The EA discussion of disturbance regimes again ignores substantial evidence that by far most tree density and competition with old trees is from small trees (generally only 9 to 14” dbh), not from large trees > 21” dbh.¹⁴¹ This is true also for altered tree species where it occurs.

e. The USFS failed to scope the proposed amendment as required by NEPA, the 2012 Planning Rule and its own regulations.

Scoping is one of the major phases of the NEPA process, and is one that not only provides an opportunity for public participation, but also helps to determine the range of issues and interests to be addressed in subsequent phases. CEQ’s NEPA implementing regulations require that “[t]here shall be an early and open process for determining the scope of issues to be addressed and for identifying the significant issues related to a proposed action. This process shall be termed scoping.”¹⁴² The Forest Service itself has specifically adopted the requirement that scoping is mandatory for *all* Forest Service proposed actions under NEPA, and is not limited by the type of analysis undertaken (whether it be CE, EA, or EIS).

Although the Council on Environmental Quality (CEQ) regulations require scoping only for environmental impact statement (EIS) preparation, the Forest Service has broadened the concept to apply to all proposed actions. “Scoping is required for all Forest Service proposed actions, including those that would appear to be categorically excluded from further analysis and documentation in an EA or an EIS (§220.6).”¹⁴³

Here, the Forest Service specifically calls out the need to complete scoping even for actions which would normally require only a CE - a NEPA document with much less rigorous procedural requirements than an EA. Even if the Forest Service had not already required scoping

¹⁴⁰ See Draft EA at 40 (discussion under “Modeling Results”).

¹⁴¹ Draft EA at 41–42.

¹⁴² 40 CFR § 1501.7 (2019).

¹⁴³ 2012 Forest Service Handbook 1909.15_10 introduction to § 11, quoting 36 CFR 220.4(e)(1).

for “all proposed actions,” it would naturally follow that if even the most basic NEPA analysis (a CE) requires scoping, then a more rigorous analysis (an EA) would require scoping as well. The 2012 Planning Rule, as amended, also clearly intends for all plan amendments to be scoped. It reaffirms that every plan be amended “consistent with Forest Service NEPA procedures.”¹⁴⁴ It also requires that the responsible official give notice if a plan amendment is subject to objection during scoping *and* in the subsequent EA or EIS.¹⁴⁵

Yet, despite the requirement that an agency “shall” conduct scoping as part of the NEPA process and the Forest Service requiring *itself* to complete scoping for *all* proposed actions- including this proposed amendment- in a binding, mandatory regulation, 36 C.F.R. §220.4(e)(1), the Forest Service failed to undertake this critical, and mandatory, phase during its development of the proposed amendment to the Eastside Screens. As the Forest Service itself states: “[t]he process of scoping is an integral part of environmental analysis.” 2012 Forest Service Handbook 1909.15_10 introduction to § 11. It goes on to describe the purposes and impact of the scoping process:

Scoping includes refining the proposed action, determining the responsible official and lead and cooperating agencies, identifying preliminary issues, and identifying interested and affected persons. Effective scoping depends on all of the above as well as presenting a coherent proposal. The results of scoping are used to clarify public involvement methods, refine issues, select an interdisciplinary team, establish analysis criteria, and explore possible alternatives and their probable environmental effects.¹⁴⁶

By bypassing the scoping phase of this project, the Forest Service has denied the public the opportunity to comment and provide input on the above process. Scoping and public scoping comments are intended to help guide the development of the proposed project and analysis, but one cannot guide the creation of something that already exists. Further, public comments on the already-drafted EA cannot with any integrity be alleged to count as “scoping comments” when the scope of the project, methods, analysis, and alternatives have already been determined. By skipping the scoping process and moving directly to publishing the Draft EA for the proposed amendment, the Forest Service has denied the public the ability to add to the dialogue about issues of concern, methodology, and ultimately helping to shape the alternatives considered in the actual NEPA analysis.

Many of the deficiencies raised by this comment could have been avoided by conducting a proper scoping and public comment phase. As just one example, had proper scoping been conducted, the Forest Service would have gotten public input regarding proposed alternatives, and thus may have adopted or modified the range of alternatives analyzed in the Draft EA. As things stand, BMBP does not believe that an adequate range of alternatives was considered in the Draft EA (as discussed in Part IV(d) of these comments) - a situation that could have been remedied by properly involving the public in the scoping process.

By skipping over a proper scoping period, the Forest Service has violated its own binding regulations and the requirements and underlying purposes of NEPA, depriving its analysis of

¹⁴⁴ 36 C.F.R. § 219.13(b)(3).

¹⁴⁵ *Id.* § 219.52(a).

¹⁴⁶ 2012 Forest Service Handbook 1909.15_10 introduction to § 11.

proper pre-analysis public input. For example, it has analyzed three proposed amendments in the EA, all thus far bereft of meaningful public input; at this point, comments are unlikely to alter the scope dramatically. *Compare Prairie Band Pottawatomie Nation v. Fed. Highway Admin.*, 684 F.3d 1002, 1012 (10th Cir. 2012) (no unreasonable or bad faith selection of alternatives selected after the government “conduct[ed] an ‘early and open’ scoping process in conformity with NEPA-implementing regulations”). If this type of circumvention were permissible, it would essentially obviate the need for scoping to begin with. The failure by the Forest Service to conduct scoping is plainly both illegal and completely at odds with NEPA’s requirement for early and meaningful public engagement.

BMBP therefore requests that the Forest Service withdraw its Draft EA and undertake proper and adequate scoping for this project, in accordance with its own regulations, before it undertakes the drafting of its actual NEPA analysis.

f. Scoping is a separate obligation under NEPA that is not fulfilled by analyzing a proposal in an EA and providing an opportunity to comment on that EA.

Comments permit citizens to weigh in on the agency’s actual draft environmental analysis. Conversely, scoping is intended to address and inform the scope of the proposed NEPA environmental analysis – which must necessarily precede that analysis. See 40 C.F.R. § 1501.7 (defining scoping, which is an “early and open” process used to “determin[e] the scope of issues to be addressed and [to] identify[] the significant issues related to a proposed action.”) (emphasis added); *see also Lands Council v. Powell*, 395 F.3d 1019, 1025 n.3 (9th Cir. 2005) (observing that “[s]coping” describes when an agency begins *initial consideration* of a project, and identifies the significant issues related to the contemplated action”) (emphasis added); *Kootenai Tribe of Idaho v. Veneman*, 313 F.3d 1094, 1117 (9th Cir. 2002) (identifying limited NEPA scoping requirements, which do, however, include “narrowing the issues[,] . . . providing adequate notice and beginning a meaningful dialogue with members of the public about a proposed action”), *abrogated on other grounds by Wilderness Soc. v. U.S. Forest Serv.*, 630 F.3d 1173 (9th Cir. 2011); *Los Padres ForestWatch v. U.S. Forest Serv.*, 776 F. Supp. 2d 1042, 1050 (N.D. Cal. 2011) (plaintiff likely to prevail on NEPA claim where agency conducted no scoping prior to applying a CE); *see also Sierra Club v. Bosworth*, 510 F.3d 1016, 1027 (9th Cir. 2007) (invalidating a CE where its promulgation should have taken place “*after* scoping” and criticizing “[p]ost-hoc examination of data to support a pre-determined conclusion” as frustrating the fundamental purpose of NEPA, “which is to ensure that federal agencies take a ‘hard look’ at the environmental consequences of their actions, early enough so that it can serve as an important contribution to the decision making process”) (citation omitted) (emphasis in original).

As discussed above, for an EA, proper scoping is required *under the Forest Service’s own regulations*. 36 C.F.R. § 220.4(e) (“[s]coping is required for all Forest Service proposed actions”); *see also Alaska Ctr. For Env’t v. U.S. Forest Serv.*, 189 F.3d 851, 858 (9th Cir. 1999) (observing that the Forest Service scopes for “all proposed actions”). Additionally, the Forest Service’s regulations identify scoping and the NEPA comment period as two different periods. *See* 36 C.F.R. § 218.5(a) (describing them separately in regulating who may file an objection); *see also* 36 C.F.R. § 218.24(b)(4) (referencing comment period for project that is “to be

documented” in an EA, underscoring that scoping comments should occur before EA is prepared). The Forest Service appears to be conscious of this, as it routinely scopes for EAs.¹⁴⁷

It is almost incomprehensible that the Forest Service would simply ignore a phase of NEPA planning process that is so integral to the development of the project alternatives and which functions as an important milestone in the public involvement process.¹⁴⁸ Almost, but not impossible. It was just such a deficiency that likely halted proposed logging at Walton Lake in 2017. In that instance, the Forest Service failed to re-scope the project after initially withdrawing its anemic CE and beginning work on an EA. There, the Forest Service had undertaken scoping and public comments on the CE, but not on the subsequent EA. After reviewing objections to that draft EA regarding the failure to re-scope the project, the Forest Service itself realized its process was inadequate and withdrew the EA, going back to the drawing board and restarting its NEPA process with a fresh scoping process. Failing to scope *at all*, which is the case here, is a much more egregious violation of the NEPA process and should also require that the Forest Service restart the NEPA process with a scoping period.

Although not explicitly stated, the Forest Service perhaps believes that allowing for public comments on the Draft EA satisfies its requirement to scope and receive public scoping comments. For all the reasons discussed above, this is incorrect. Conducting scoping and receiving public scoping comments is a duty separate from its subsequent duty to seek public comment on the Draft EA (which should be developed with those scoping comments in mind). Those distinct obligations cannot be satisfied using one, combined public comment period.

Similarly, hosting a few forums does not satisfy the scoping requirement. Hosting an in-person public forum would not regularly be considered proper scoping. Moreover, these forums took place virtually and during a global pandemic. These forums primarily included lectures and panel presentations and left limited time for meaningful public input.¹⁴⁹ The Forest Service did not address how people were having difficulties engaging in a virtual process. The Forest Service did not consider that some participants engaged over the phone while other participants were using the video conference service. Participants who called into the forums could not see the presentation slides or any discussion taking place in the video’s “chat” function. Further, participants who were able to use the chat feature to discuss their concerns with the project raised many issues that were left unanswered.¹⁵⁰ This is an incredibly inefficient and insufficient process to have the public provide their input about issues of concern, methodology, or alternatives.

There was absolutely no legitimate reason for the Forest Service to not conduct scoping on this significant amendment to the Eastside Screens, nor does it even attempt to justify its failure to do so. The effect of not scoping was to prevent the public from submitting scoping

¹⁴⁷ See, e.g., *ForestKeeper v. Elliott*, 50 F.Supp.3d 1371, 1375-76 (E.D. Cal. 2014); *Sierra Nevada Forest Prot. Campaign v. Weingardt*, 376 F.Supp.2d 984, 987 (E.D. Cal. 2005).

¹⁴⁸ “Every planning process will involve traditional scoping and public comment; in addition, the responsible official will determine the combination of additional public participation strategies that would best engage a diverse set of people and communities in the planning process.” 2012 National Forest System Land Management Planning Rule preamble, 77 Fed. Reg. 21195.

¹⁴⁹ See Exhibit 084 (Excerpt of the transcript from the May 15, 2020 forum).

¹⁵⁰ See Exhibit 085 (Excerpt of the transcript from the May 13, 2020 forum).

comments on the range of alternatives and the proposed plan amendment being considered in the EA before the Forest Service actually drafted that EA. Avoiding pre-analysis scoping comments, which is what the Forest Service has accomplished, is not a legitimate purpose for failing to scope under NEPA. Seeking comments only after it has published the draft EA does not cure that omission and is completely at odds with the underlying rationale for requiring pre-analysis public scoping.

g. The Forest Service’s decision to replace the Eastside Screens with a voluntary guideline allowing logging of trees greater than 21 inches diameter breast height is arbitrary and capricious and violates NEPA.

The Forest Service’s Draft EA undermines the Eastside Screens. Instead of fully prohibiting the logging of trees greater than or equal to 21 inches dbh, the Forest Service is proposing a non-binding guideline. The Draft EA states that in the proposed action, “[m]anagers *should retain and generally emphasize* recruitment of old trees and large trees...”¹⁵¹

This is a significant reversal from the original Eastside Screens and is contrary to the Forest Service’s repeated acknowledgment of the importance of retaining and recruiting large and old trees in eastside forests due to their rarity on the landscape and their importance to wildlife. In 2015, the Forest Service acknowledged that “[l]arge defective grand fir trees and snags provide critical roosting and denning habitat” for certain species and that “legacy trees, especially large, hollow grand fir, are rare on the landscape and have declined from historical conditions on the eastside of Oregon and Washington.”¹⁵² Peña went on to say that these findings reinforced the “importance of retaining and recruiting large, old trees in dry, mesic and moist mixed conifer forests on the eastside of the Region.”¹⁵³

The Draft EA relies on largely speculative analysis stating what “may” happen. The Draft EA states that “replacing the 21-inch standard with different conservation policies *may* result in more large trees being cut, better providing for stand and landscape scale resilience to disturbance *has the potential* to optimize provision of large trees over time.”¹⁵⁴

There is also uncertainty regarding whether the Grand fir and White fir trees in the area can even be properly aged using external characteristics. While there may be reliable ways to identify pine trees’ age, there is no reliable method to assess the age of Grand and White firs. The Draft EA defines old trees as “having visual characteristics that suggest an age of ≥ 150 years.”¹⁵⁵ Looking at the “visual characteristics” is the only guideline the Draft EA provides. Without a clear way to age the Grand and White firs, the EA’s Guidance becomes even less enforceable and more arbitrary.

Further, as discussed above, due to the inadequate cumulative impacts analysis, the amendment’s ultimate actual impacts are unknown.

¹⁵¹ Draft EA at 10 (emphasis added).

¹⁵² Exhibit 003 at 1.

¹⁵³ *Id.*

¹⁵⁴ Draft EA at 8 (emphasis added).

¹⁵⁵ Draft EA at 11.

h. The amendment’s “Purpose and Need” is overly narrow, inconsistent, and contrary to high quality science and accurate scientific analysis.

The stated purpose and need for the proposed action is too narrowly construed, resulting in the Forest Service rejecting suggested alternatives because they would require a mandatory standard or would cause the Forest Service to change their management approach! The Draft EA’s Purpose and Need is overly narrowly construed and will result in harm to riparian and aquatic ecosystems.

Should the Forest Service’s proposal be implemented, riparian habitats, water quality, and fish would be directly impacted by the Forest Service’s failure to recognize the importance of large trees, and by the increased logging of these large trees. Approximately 75% of eastside terrestrial species depend upon riparian habitats for their life cycle needs or use these habitats more than others.¹⁵⁶ Riparian and aquatic ecosystems are heavily reliant on large tree structure (including large living trees, large trees with cavities, large snags, large downed wood, and large woody debris in streams). Aquatic ecosystem integrity is intertwined with mature and old forests—and includes large *and* old trees, not *just* old trees.

These are not “durable, science-based alternatives.” The Forest Service is only highlighting very limited science findings not representative of the full range and majority of the science that is implied to support logging of large trees. “Experience restoring Eastern Oregon forests” is often simply calling business as usual commercial timber sales “restoration” and using the commercial logging to pay for any restoration work really needed, such as small tree non-commercial thinning, road culvert replacement, road decommissioning, or aspen enclosure fencing. The commercial logging creates unnatural negative ecological impacts and is not really restorative.¹⁵⁷

Achieving more effective conservation of *large* trees in Eastern Oregon is also important to Native Nations, recreationists, local communities, and the general public, not just old trees. Large trees are also at a great deficit compared to historic conditions. Logging the next generation of old legacy trees (21-30” dbh) will perpetuate the decline of old trees over time, not increase them. It is far more common that implementation of the 21” limit allows for old trees to persist, as most trees > 21” dbh are old and if not, are next in line to become old if not removed. To describe large trees as “young” is a fallacy, ignoring the mature tree age class. Not all Eastern Oregon forests were historically low basal areas and low density with more shade intolerant species. This ignores higher elevation and moister mixed conifer forest types. Increases in stand basal area and tree density are mostly attributable to the fast growth of small trees, not slower growing large trees—generally small trees only up to about 9” dbh or sometimes up to 11” dbh, as the Forest Service knows perfectly well. This is very obvious on the ground and based on measurements and is reflected by greatly increased acreages of planned non-commercial thinning, which also reflects the increasing deficit in trees large enough for viable commercial logging. These are some of the many blatantly false foundational assumptions of this EA.

¹⁵⁶ See Henjum et al. 1994.

¹⁵⁷ See Draft EA at 7.

This is not “a variety of empirical studies and science syntheses” but heavy reliance on a handful of authors and agency scientists.¹⁵⁸ Many of the studies cited to support logging of large trees do not actually address the issue of logging large trees or support logging large trees. Logging large trees will also not “protect large trees from fire, insects, and drought.”¹⁵⁹ In fact, logging large trees directly causes their mortality. Many more large trees will be lost to logging under the proposed Forest Plans amendment (regardless of the alternative) in addition to those lost to mortality from disturbance processes—especially as disturbance processes become more extensive or intensive in the coming decades from predicted climate change effects. It is Orwellian to suggest that logging large trees will protect large or old trees from mortality. “Better providing for stand and landscape scale resilience to disturbance does not require large tree logging.”¹⁶⁰ Retention of large trees actually increases stand resilience to disturbances and optimizes provision of large trees over time.

i. The Draft EA’s goal is not “synonymous” with the Purpose and Need for the original screens.

Moreover, the Draft EA’s goal statement, claimed to be synonymous with the purpose and need for the Eastside Screens, carefully omits the Eastside Screens’ intent to retain and increase large trees, not just old trees.¹⁶¹ The 21” limit *has* been conserving remnant LOS and large trees it was meant to protect. What is not being said in the Draft EA is that getting rid of the Eastside Screens prohibition on logging large trees when LOS is below HRV is the key to increasing large tree timber sale volume.

The Forest Service states that the goals in the Draft EA are “synonymous with the Purpose and Need for the original screens, which is the “need to maintain the abundance and distribution of old forest structure” The purpose in the 1994 EA is “to preserve those components of the landscape—old forest abundance, wildlife habitat in late and old structural stages, and riparian areas—which new information suggests is vitally important to certain species of wildlife and fish and to the overall vegetative structure of the forest”¹⁶²

The agency’s assertion that the Purpose and Need in the current proposal is synonymous with the Purpose and Need of the original screens ignores the science and understanding behind the Screens, and the Screens themselves. The original Screens incorporated the importance of large trees (regardless of age or species) and recognized that large trees are vital ecosystem components, provide crucial habitat for numerous wildlife species, and require protection. The agency’s narrow focus on only maintaining the abundance and distribution of ‘old forest structure’ is interpreted throughout the Draft EA as a narrow focus on the need to maintain only old trees. The narrow lens through which the Forest Service has construed the original Purpose and Need of the Screens completely omits the larger and very important context: the Screens were meant to operate as an interim measure to preserve all old and large trees until a larger Eastside EIS was developed and put into place. It also ignores the central role large trees, snags,

¹⁵⁸ See Draft EA at 7–8.

¹⁵⁹ See Exhibit 162 (Law et al. 2013).

¹⁶⁰ Draft EA at 8.

¹⁶¹ *Id.*

¹⁶² Draft EA at 8.

and downed wood play as components in mature and old forests, as defined by the original Screens.

Notably, the original Screens EA *included* the protection of *large and old* trees as part its Purpose and Need. Large trees, and the wildlife habitat needs they provide, were explicitly included as part of the definition of what constitutes old and late seral structure. The Wildlife Standard in the original Screens EA states that “**the definition of 'remnant old and late seral and/or structural live trees' has been clarified by adding '>21 inch dbh' to better define what is meant.**”¹⁶³ Also, *large* trees were central to the habitat needs of Late and Old Forest-Associated species in the original Screens EA. The Screens EA states that the “Habitat Needs of Late and Old Forest-Associated species” for northern goshawk, pileated, white-headed, and three-toed woodpeckers and the pine marten” were part of the significant issues considered in the analysis; these species were identified as management indicator species for late and old forest habitats. Each of these species depends on the habitat provided by large trees. The original Screens EA further highlights the importance of *large* tree structure by noting that “**Large** down woody debris (logs) provide habitat for numerous species” (emphasis ours). The original Screens EA also emphasizes the need to protect “high levels of **large** snags” under the Wildlife Interim Standards (emphasis ours). The current Purpose and Need’s narrow focus on including only *old* forest structure without proper context fails to protect wildlife species that rely on large tree structure, which were both clear goals of the original Screens. Also, the Draft EA notes but largely ignores that the 1990’s Eastside Forests Ecosystem Health Assessment (EFEHA) team concluded that there was a “loss of large trees”, and that the team “developed the Eastside Screens in part to keep existing **large** and old trees and manage national forests to promote an increase in the number of **large** and old trees.”¹⁶⁴ The agency’s failure to protect and acknowledge wildlife habitat and old forest components (including large tree structure) produces myopic and incorrect assumptions and interpretations regarding large tree, wildlife habitats, and other ecosystem components in the current Draft EA.

The Eastside Forests Scientific Society Panel was convened in 1993, not long after the order by President Clinton for the Forest Service to “develop a scientifically sound and ecosystem-based strategy for management of eastside forests.” The recommendations and science in *The Interim Protections for Late Successional Forests, Fisheries, and Watershed: National Forests East of the Cascade Crest, Oregon, and Washington* by Henjum et al. (1994) were a part of the science and developments that history that help inform the Eastside Screens.

The Interim Protections for Late Successional Forests, Fisheries, and Watershed: National Forests East of the Cascade Crest, Oregon, and Washington by Henjum et al. 1994, included the following recommendation: “**Cut no trees of any species older than 150 years or with a diameter at breast height of 20 inches or greater**”. The report goes on to say that “**These mature trees have lived for decades, even centuries;** their very existence demonstrates that they have the genetic characteristics to survive the full range of environmental variation present in eastern Oregon and Washington. Their complex structure, the product of a millennia of natural selection, offers unique niches for microbes, invertebrates, and vertebrates. They serve as reservoirs of genetic diversity and irreplaceable sources of seed for forest regeneration; **they**

¹⁶³ Exhibit 002 (Decision Notice for Original Eastside Screens 1994).

¹⁶⁴ Draft EA at 5 (emphases added).

renew the supply of large snags and fallen logs, which furnish nest and den sites for many animals; they provide nutrients to the soil; and they stand as a unique historic record, an irreplaceable link between the past and the future. These trees are living examples of our long-term objectives” Clearly, the authors recognized the importance of large trees of any species, including those that were ‘mature’ and ‘decades’ old. The authors highlighted the importance of ongoing future recruitment of large snags and logs, and the necessity of large wood structure and recruitment for providing ongoing sources of wildlife habitat. They highlight the need to protect large *and* old trees—it was not limited to only old trees—and reflected the need to protect processes and functions dependent on large trees well into the future.

Henjum et al. 1994 further discussed the key importance of large trees for wildlife species. For example, “the pileated woodpecker (*Dryocopus pileatus*) relies on large snags for roosting, nesting, and foraging sites. Loss of large trees eliminates habitat for this species. Because the woodpecker builds cavities that are in turn used by many other species, species besides the woodpecker can also disappear from a site when snags are removed.”¹⁶⁵ The authors also discuss the importance of large trees for species such as bald eagles, Vaux’s swifts, and bears.¹⁶⁶ Furthermore, the authors recognized the importance of large Grand fir in providing key wildlife habitat: “Pileated woodpeckers depend on large snags for nesting and roosting (Bull et al. 1992). Within eastside forests, pileated woodpeckers seem to be closely tied to old grand fir (*Abies grandis*) stands with trees in advanced decay caused by the Indian paint fungus (*Echinodontium tinctorium*) (Bull et al. 1992); Bull and Holthausen 1993), a keystone organism that softens core wood. The woodpeckers in turn provide other keystone services by excavating nesting and shelter cavities in infected core wood, and these are eventually used by many birds and mammals (Thomas et al. 1979a).”¹⁶⁷ Clearly, large Grand fir were recognized as important and as needing to be preserved in the literature and analyses that helped to form the Screens.

Henjum et al. 1994 highlights the importance of preserving large trees in relation to climate change--something that the Forest Service has generally failed to acknowledge some 26 years later: “Loss of large trees alters patterns of gas exchange, especially for carbon dioxide, changing global climate patterns.”¹⁶⁸

Also in *The Interim Protections for Late Successional Forests, Fisheries, and Watersheds* (Henjum et al. 1994), the authors discuss the reduction in average dbh of trees as a result of the loss of large of large trees across the landscape: “In the mid 1950’s, the acreage of sawtimber trees 21.0 dbh and larger was 2.5 million acres; the present inventory shows 1.4 million acres—a reduction of 44%.”¹⁶⁹ In addition, the authors note the alarming decline of old growth Douglas fir in certain regions: “Douglas fir were also abundant at low and middle elevations in northern and south-central Washington.... Whereas the earliest logging in Washington took predominantly ponderosa pine, roughly equal amounts of ponderosa and Douglas fir were being logged by 1970 (Wall 1970). We do not know how much old-growth Douglas fir remains today,

¹⁶⁵ Henjum et al. at 176.

¹⁶⁶ *Id.* at 184, 185, 188.

¹⁶⁷ *Id.* at 185.

¹⁶⁸ *Id.* at 172.

¹⁶⁹ *Id.* at 18.

but the amount is almost certainly well below historic levels.”¹⁷⁰ The report further discusses that in regions such as the northern Umatilla National Forest, Ponderosa pine “were never as extensive as elsewhere in the region” and that “low elevation Douglas fir played a similar ecological role.” The Forest Service does not seem to have taken such information of Douglas fir into account, or considered the diversity and uniqueness of ecotones across the landscape, particularly with regard to moist forests, fire refugia, and naturally moist and productive areas.

The Forest Service has overly narrowly construed the Purpose and Need, as a result of excluding the protection of large trees. Hence, the Purpose and Need not only fails to be synonymous with original Screens as claimed, but also fails to protect large trees and old and mature forests. By excluding large trees from the stated need for protection within the Purpose and Need statement, the agency has improperly skewed the overall goals of the analysis, the Alternatives presented, the Proposed Action, and the assumptions and recommendations of the Draft EA. Alternatives that flow out of the agency’s flawed and overly narrowly construed Purpose and Need are thus, in turn, flawed. The Forest Service has failed to acknowledge the clear intent of the original Screens to protect *large* trees and the vital roles that large trees (regardless of age or species) serve in ecosystems.

The Forest Service appears to be trying to side-step the incongruity with the original Screens by claiming that ‘new science’ directs them to log large trees (in direct opposition to the original direction and intent of the Screens). The Draft EA states that “[g]iven new science and our evolving understanding of landscape ecology, a standard that prohibits logging of all trees larger than or equal to 21 inches diameter at breast height (dbh) is no longer adequate to support landscape restoration and resiliency efforts, nor conserve the remnant old and late seral and/or structural live trees it was meant to protect.”¹⁷¹ Ultimately, the Forest Service’s stated Purpose and Need for the assessment is “to analyze a durable, science-based alternative to the 21-inch standard in the Eastside Screens. Adapting the standard to incorporate science and 25 years of learning would enable managers to more effectively restore forestlands in eastern Oregon.”¹⁷²

However, the “25 years of learning” stated in the Draft EA’s Purpose and Need does not reflect the abundance of science and learning regarding the importance of large trees (those ≥ 21 ” dbh), large snags, and Large Woody Debris or the recruitment of these components, including in riparian and aquatic ecosystems. The EA repeatedly ignores or severely downplays the high quality science published since the Screens were implemented, which confirms the importance of large trees for wildlife, fish, clean water, watershed hydrology, and carbon sequestration.¹⁷³ The analysis ignores or severely downplays the many well-documented negative effects on aquatic and terrestrial ecosystems due to logging (especially logging of large trees) and associated road-related impacts. It ignores the need for a comprehensive ecosystem protection plan. It also ignores or severely downplays the beneficial ecological effects of mid and high-severity wildfire; the controversy regarding forest density and fire regimes; the importance of intact forests to fight climate change and ameliorate its ecological effects; the importance of connectivity and large

¹⁷⁰ *Id.* at 18.

¹⁷¹ Draft EA at 8.

¹⁷² Draft EA at 7.

¹⁷³ *See* Exhibit 004 (DellaSala and Baker Report 2020).

blocks of habitat; and other scientific controversy regarding this proposal.¹⁷⁴ Such issues should have been included as part of a larger comprehensive ecosystem protection plan EIS. All of these issues are particularly relevant for riparian and aquatic habitats, given their sensitivity and the disproportionately important role riparian habitats play in forested ecosystems.

ii. The purpose of the Draft EA is contrary to high quality science and accurate scientific analysis.

The purpose of the proposed Forest Plans amendment is also out of step with current high quality science that solidly supports protecting all existing large and old trees.¹⁷⁵ This is contrary to the Purpose and Need given for the amendment of keeping “plans current and responsive as conditions change or updated science changes our understanding.”¹⁷⁶

To log large trees at this point, when the current pace and scale of logging is unsustainable and the remaining forest has not had sufficient time to regrow large or old trees to replace those lost to recent and prior logging, is to liquidate the forest. Such forest liquidation would effectively discard multiple Forest Plan goals, such as to *increase* large and old trees across the landscape, to manage for *multiple* values, and to manage for *sustained* yield and local community stability. The consequences to local communities of the proposed Forest Plans amendment would be unsustainable logging causing community instability through an economic boom-bust shock, as well as from removal of iconic large trees and old growth habitat structure, leaving visible wasteland wreckage across popular hunting areas, near or within popular recreation areas, along scenic roadways, and adjacent to many communities, destroying values that attract tourist revenue, Forest recreation, and the high quality of life associated with rural communities and proximity to wild lands.

The proposed Forest Plans amendment would not just have insignificant effects, as implied in the Draft EA, but would stimulate a fast, large scale reduction of large and old trees. This is evident from the Malheur National Forest’s increasing pace and scale of incremental timber sale reduction of large trees in many timber sales since the Eastside Screen’s establishment. The Malheur’s logging of large trees has been ever increasing in scale and significance over time. Now, in the planned Crow “Healthy Forest Restoration” timber sale, about 8,000 acres of large tree logging between 21 and 30” dbh is being planned, apparently in anticipation of the Region 6 Forest Plan amendment being implemented. These plans include not just the usual focus on large Grand fir, but also the logging of large Douglas fir and Ponderosa pine despite the Forest Service’s former rationale for logging large Grand fir being that it was competing with older Ponderosa pine. Old growth Ponderosa pine would inevitably be logged under the new Region 6 Forest Plans amendment, since the original 21” dbh limit was set based on the statistical probability that Ponderosa pine is 150 years or older (and thus designated as “old growth”) at 21” dbh. That’s just one timber sale on one district (the Emigrant Creek District of the Malheur NF) planning to amend the Ochoco National Forest Plan if the proposed Region 6 Forest Plan amendment is not adopted.

¹⁷⁴ See Exhibit 160 (Heyerdahl et al. 2001).

¹⁷⁵ *Id.*

¹⁷⁶ Draft EA at 4.

The adoption of the Region 6 Forest Plan amendment to scrap the 21” dbh limit would have repercussions across six National Forests. Cumulatively this would result in a huge logging rush on the Eastside National Forests. The Trump administration has already given direction that Forests increased the timber volume cut. This Region 6 Forest Plans amendment is designed to meet this mandate, given the current state of depletion of commercially viable trees to be logged. Of course, the adoption of the Forest Plans amendment would simply escalate the depletion of available commercially viable trees to be logged and set the Forests back for many decades. The proposed Forest Plans amendment clearly has nothing to do with restoration or fire resilience (since large trees are the most fire resilient in the Forest, regardless of species) and everything to do with political mandates.

The changing condition of accelerated and severe climate change effects makes it imperative to preserve all large trees for maximum forest carbon storage to slow or reduce climate change effects. It is also crucially important to retain large trees of all species as the most fire resilient trees on the landscape in the face of climate change potential, in order to increase the extent and intensity of fires under drought conditions, high ambient temperatures, and high winds. Updated current science strongly supports the need to retain all large and old trees, not remove them by logging. Old trees will be needed for their adaptations to micro-climate site-specific conditions as climate changes and only the most adapted trees may survive—including their progeny. Thus the proposed action of logging large trees over 21” dbh is inconsistent with Forest Service Purpose and Need rationales related to increasing forest resiliency to fire and climate change effects.

The Forest Service has failed to revise the Forest Plans in order to protect large and old trees from logging in line with the science in 1994-1995, which is still valid quality science today, and bolstered by more recent science findings. The Eastside Screens’ subsection 2 of the Wildlife Screen’s Scenario A is unambiguous in its intent: “The intent is still to maintain and/or enhance LOS [Late and Old forest Structure] components in stands subject to timber harvest as much as possible, by adhering to the following standards: a) Maintain all late and old seral and/or structural live trees= \geq 21” dbh that currently exist within stands proposed for harvest activities.”¹⁷⁷

The Forest Service has been trying to get rid of most Grand fir in the forest since at least 1910, based on historical records. In those days, the agency was far more blatant about their true motives—that it was considered a “weed”-like tree to be eradicated since it is not a timber industry preferred tree species. The Forest Service has been ‘managing’ for (i.e. replacing other tree species with) Ponderosa pine due to its higher commercial value for many decades. Thus, the incremental and steady conversion of complex, multi-species, biodiverse moist mixed conifer forest often dominated historically by late successional old growth Grand fir to even age monoculture Ponderosa pine plantations on the East side of the Cascades.

This history informs the Forest Service current policies of managing for “early seral” tree species (Ponderosa pine and Western larch) instead of “late seral” (late successional) species for moist mixed conifer forests that were historically dominated by Grand fir, with Engelmann spruce, Douglas fir, and Western larch components, as well as White pine and Lodgepole pine.

¹⁷⁷ Exhibit 001 (Original Eastside Screens EA).

This history explains the Forest Service’s strong desire to greatly reduce Grand fir in particular, which they now try to pass off with public relations rhetoric implying that all or most of the Eastside forests were historically dominated by Ponderosa pine. The Forest Service also identifies Ponderosa pine and Western larch as the most fire-resistant trees even though large Douglas fir is also notorious for having incredibly thick, fire resistant bark and high crowns and large Grand firs also have thicker, more fire-resistant bark and higher crowns and do survive fires, with fire scars to prove it.

What is most noteworthy about this EA is everything it is omitting—the current science that strongly supports retention and protection of large and old trees, relevant Forest Service and timber industry history that reveals the economic interests behind this push to log large trees—especially firs, and the foreseeable unprecedented scale and intensity of environmental impacts cascading through the ecosystem from removing already low levels of remaining large trees, exacerbated by the cumulative effects from global warming, the greatest global crisis of our times.¹⁷⁸

Just because the Forest Service has been implementing numerous Forest Plan amendments erroneously characterized as “site-specific” to get away with logging of large trees in violation of the Forest Plan-embedded Eastside Screens, this does not mean, as implied in the EA, that the 21” dbh limit should be scrapped. The Forest Service is truly the fox in the hen house when they claim that there were “no significant adverse impacts to resources as a result of these amendments” because the Forest Service-authored project level analyses claimed no significant adverse impacts in advance of the effects, with no monitoring follow-through to support the claims. Likewise, the Forest Service pre-determination of the “desired future conditions” regardless of public input to the contrary, makes it easy for the agency to claim, as the author of the analysis, that “in fact the analyses have demonstrated positive impacts in terms of restoring stand and landscape resilience” while omitting all science and evidence to the contrary in the analysis.¹⁷⁹

Our extensive field reconnaissance of the actual effects on the ground after these timber sales in our region of influence (five of the six affected Forests) has shown otherwise. In general, the legacy of past logging of large and old trees and recent logging is an over-logged wasteland that is more arid than it was prior to logging, with less shading and moisture retention and increased wind speeds through stands and that has lost most structural complexity and tree and other plant species diversity. This prevalent condition greatly reduces the area’s wildlife diversity and forest resilience to natural disturbances. “Fuel” reduction and large tree removal results in little biomass to recycle soil nutrients and store carbon. Large and mature tree overstory removal results in dense in-growth of small, highly flammable trees. Logging and biomass reduction on the ground, often combined with continued livestock grazing, has resulted in the introduction and dispersal of exotic invasive plants and widespread detrimental soil impacts. Logging of large trees removes important wildlife habitat, carbon storage, soil nutrient inputs, and recreational and scenic quality appeal.

¹⁷⁸ See Exhibit 004 (DellaSala and Baker Report 2020).

¹⁷⁹ See Draft EA at 6.

Notably, the Forest Service does not identify specific benefits from logging large trees or commercial-size mature logging in general and does not explain how logging large trees is [assumed to be] “restoring stand and landscape resilience.” Removing large trees definitely decreases forest resilience to fire, as large trees are more resistant to fire through greater diameter, thicker bark (especially on the lower trunk) and higher crowns. Large trees are also more likely to be old trees, so their removal also removes live tree genetic resistance to pathogens (enabling the old trees to live so long) and genetic adaptations to those particular sites.

Further, an ecosystem is not just trees, but interconnected natural processes and functions and wildlife interactions. Large trees provide crucial structure for erosion control, pools for fish, large cavities for cavity-nesting or denning species (such as for Pileated woodpecker, American marten, and Pacific fisher), biomass for soil nutrient cycling and soil carbon storage, and large climbing, perching, and nesting or denning structure for large animals such as Black bear, Northern goshawk, and Great Grey owl, as well as for a wide variety of bird species, bat species, and rodent species.

The Draft EA fails to address with detailed analysis the critical contributions large trees make to wildlife habitat; aquatic habitat; predator habitat; soil nutrient cycling; forest carbon storage and sequestration; and forest structural complexity needed by a wide range of wildlife species. This is an incredibly myopic, tunnel vision focused, and biased Environmental Assessment, which is legally insufficient.

The Forest Service abandons consideration of all the complexities of forest ecosystems and wants the reader to focus only on the Forest Service/timber industry desired tree species composition and on the idea that large trees 21 to 30” dbh are “young”, which ignores that most trees on the East side of the Cascades are at least 100 years old, and for Ponderosa pine, generally at least 150 years old as a statistical average. It is illogical not to include a mature tree category between “young” and “old,” as the Forest Service fails to do in their efforts to brainwash the public into agreeing that large trees should be sacrificed to the timber industry.

The Eastside Forests Ecosystem Health Assessment (EFEHA) was charged with completing “a scientific evaluation of the effects of Forest Service management practices on the sustainability of eastern Oregon and Washington forests. EFEHA concluded that there was a loss of large and old forests, fragmented landscapes caused by small harvest units, and conditions were ripe for large and severe insect, disease, and wildfire disturbances due to a large increase in forested area, density, and shade-tolerant forest cover.”¹⁸⁰ Yet their conclusion from the science regarding these problems was not to log large or old trees: “Regional Forester John Lowe asked the EFEHA team to develop interim policies that could be applied to vegetation management and timber sale policies.” (Here the Forest Service fails to specify that the “interim” policies were to stand until the full revision of the Eastside Forest Plans.) “This team developed the Eastside Screens in part to *keep* existing *large* and old trees and manage national forests to promote an *increase* in the number of *large* and old trees.”¹⁸¹ Note that the Eastside Screens were established not just to preserve old trees, but also large trees, and not only to “keep” them (i.e. retain them) but to “increase” their number—in other words, to retain existing large trees, as well as to

¹⁸⁰ Draft EA at 5.

¹⁸¹ Draft EA at 5 (emphasis added).

increase them over time through protecting them from logging removal. Yet the Forest Service wishes to reduce existing large and old trees, which foreseeably prevents their increase over currently existing levels, since there would be an immediate and long-term reduction in the number of large and old trees. Large and old trees require decades to 150 years to achieve large or “old” status and structure, so models failing to incorporate predictable ongoing logging of large and old trees over time into the future and future natural disturbances, which may increase under climate change, cannot reliably predict that there would be more large and old trees in 50 years with the adoption of the proposed Forest Plans amendment. Timber sales currently scheduled may not be logged for 10 years after the decision documentation, and there is a current backlog of planned sales that have yet to be issued decisions, that could be released soon after the adoption of the Forest Plans amendment if it is adopted. This accounts for a predictable flood of new timber sales changed to allow for large tree logging even prior to new sales being designed after the proposed Forest Plans amendment.

In contrast to the Forest Service emphasis on vaguely alleged “limitations” of the 21” standard, we have witnessed on the ground how the 21” dbh limit saved thousands of acres of remaining large trees from being logged. Some of the past timber sale units still have blue paint marking to cut on large and old trees that were planned for logging before the Eastside Screens were implemented. Other past timber sales unfortunately logged almost every tree up to 21” dbh (especially firs), leaving almost only large trees, eliminating structural complexity and wildlife habitat suitability for many species associated with moister mixed conifer old growth forest. This is a common situation in the “LOS” designated sale units of the Crow HFR timber sale, leaving these heavily manipulated (logged and burned) Late and Old structure forest stands with virtually nothing to log commercially except for large and old trees spared by the Eastside Screens, with the adoption of the 21” dbh limit. Thus arises the Forest Service determination to get the cut out through this 21” limit Forest Plans amendment process. In many areas, the Forest Service has allowed overlogging to the point that there is little if any commercial value in each new planned timber sale area except for large trees spared by the adoption of the Eastside Screens. The forest ecosystem is likely to unravel if large tree logging becomes the new norm, in the process eliminating significant forest carbon storage and likely driving large tree-associated wildlife species to local and Forest-wide extirpation, contributing to their up-listing under the Endangered Species Act.

As an example of what is to come if the Forest Plans amendment goes through, the Crow sale logging of about 8,000 acres of large trees—unspecified numbers per acre of Grand fir, Douglas fir, and Ponderosa pine—would include removing many of the last remaining large trees in sale units that do not currently qualify as LOS (Late and Old Structure), and in sale units that currently qualify as high quality old growth habitat (with some of these never logged before), as well as in the “LOS” designated sale units. In other words, this is a wholesale removal of large trees 21 to 30” dbh, which accounts for the majority of the large trees in the sale area. Depending on the varying existing conditions of the sale units, this would remove most of the last individual large trees left (a LOS prevention program) or seriously degrade the existing old growth habitat quality, across the entire sale area.

A lot of the Region 6 Forest Plans amendment Draft EA is self-contradictory, with tragic future outcomes. For instance, “the need for new approaches to forest management...given

ongoing changes such as an increase in the length of [the] fire season and the area burned by wildfires,” Draft EA at 6, is certainly not met by removing many or most of the large trees from the Forests, since most large trees 21” to 30” dbh (including Douglas fir and Grand fir) have already developed thick, fire-resistant bark and higher crowns with fewer or no low limbs, both characteristics increasing fire resistance much more than that of smaller trees. We (myself and volunteers during the 2020 field season) systematically sampled and photographed thicker, more fire-resistant bark and higher crowns in 21-30” dbh Grand fir, Douglas fir, and Ponderosa pine in the Crow HFR sale units where these species would be logged in that size range. Ponderosa pine and Douglas fir are already well documented to develop thick, more fire-resistant bark and higher crowns in large trees \geq 21” dbh. We found the majority of all three species sampled (including Grand fir) at 21-30” dbh showed these more fire-resistant characteristics. We have field survey sheets and photographs of these trees as evidence.

All trees may compete with each other for moisture, sunlight, and nutrients, but the Forest Service framing of this issue as one tree species against another as with villains and victims is grossly over-simplified, as there is a known forest type in Eastern Oregon and Southeastern Washington of Grand fir and Ponderosa pine co-dominance (acknowledged by the Forest Service in various EAs and EISs), as well as the common Douglas fir and Ponderosa pine co-dominant forest type. Further, Western larch are well known to be a shade intolerant early successional species that is naturally out-competed by over-topping from late successional tree species over time. Western larch is also well known to not be able to seed successfully without enough bare ground (which is often created by stand replacement wildfire or mosaics of mixed severity fire.) Western larch is a disturbance-dependent (and fire-associated) species and tends to re-establish itself quite well after fires, including stand replacement fires. With projected increased wildfire extent and intensity from escalating climate change effects, there should be increased prevalence of Western larch in moister mixed conifer forest and Ponderosa pine in drier forest. Ponderosa pine is also the most likely tree species on the east side of the Cascades, other than juniper, to survive extended droughts. So, tree species competition is a “straw man” argument to justify a return to large tree logging for disturbance-resistant conditions.”¹⁸²

Further, as the Forest Service should know quite well, the vast majority of “fast growing shade tolerant species” competing with old pines and larch are not only young, but small—for Grand fir and Douglas fir, generally up to only 9” dbh with occasional ladder fuel trees up to 12” to 14” dbh, not in the range of 21” to 30” dbh. Most 21-30” dbh trees were historically there for at least 100 years, with the outliers being mostly in the 80-100 year range typically in moister, more productive high elevation sites, such as on the Sisters Ranger District in the Metolius area on the Deschutes, near or within the high snowfall zone of the Pacific crest. The Deschutes Bend-Fort Rock District Forest Service staff did core a number of Grand firs in the Ursus sale and determined that the appropriate diameter cutting limit for old growth Grand fir (150 years old) should be 22” dbh—not much higher than the existing 21” dbh limit. Limited coring of Grand firs 21-30” dbh in the Ochoco National Forest Wolf timber sale revealed most to be about +/-130 years old—certainly not young. Thus most large firs 21-30” dbh on the East side survived at least 80-150 years of co-existence with large old Ponderosa pine and larch as part of the

¹⁸² See Draft EA at 6.

historic mix of tree species—which also accounts for their seed source in these areas.

Most of the large firs on the East side are not a result of widespread and effective fire suppression, whereas many of the *small* firs (generally only up to 9-12” dbh) that have grown into gaps in stands could be the result of a combination of overstory logging, livestock grazing (in some cases) and wildfire suppression. Successful wide-spread fire suppression did not occur until the 1950’s after World War II military equipment came into play.

It seems clear from our hiking of thousands of acres of proposed commercial timber sale units in the region each summer since 1993, at various times over all the Forests at issue except the Fremont-Winema, that there may be excessive density in some areas of small trees (generally only up to 9-12” dbh) from Forest Service management (including overstory logging to low basal areas per acre, clearcutting, plantation over-planting, livestock grazing, and active agency participation in fire suppression) compared to historic conditions—especially in dry Ponderosa pine- dominant forest, not necessarily in moist, more productive, mixed conifer forest. However, there is no “excess” density of mature (≥ 15 ” dbh) or large (≥ 21 ” dbh) trees due to extensive past over-logging of large trees and more recent over-logging of mature trees in general. We have hundreds of survey sheets and photographs of timber sale conditions over the past 29 years documenting these conditions, including numerous old growth and large tree stumps.

Current and future mortality of old trees from large disturbances is an unreliable parameter by which to change management policies, as the causal factors of an old tree’s death could be anything from old age to natural mortality from drought or insects, or mortality from past logging effects and livestock grazing effects such as stimulation of dense young, small tree growth or loss of mycorrhizal fungal communities or blocked nutrient transport to the tree. This old tree mortality excuse to log large trees doesn’t hold water (or scientific credibility) since other large trees in proximity to the old trees is one of the least likely factors causing that mortality and there is no way of knowing for sure if that mortality would have happened without the presence of other large trees. In fact, other large trees in proximity to the old tree that died could even be its progeny, if they are the same species. Models pretending to predict future old tree mortality without being able to factor in the effects of future climate change, natural disturbances such as wildfire and insect outbreaks, and logging constitute inaccurate use of the science.¹⁸³

The Draft EA’s claim of using a “science-based approach” is disingenuous. The Forest Plans amendment action alternatives clearly do not recognize large trees as ecologically valuable and also knowingly sacrifices old trees.¹⁸⁴ The proposed amendment clearly does *not* retain the original intent of the Eastside Screens to protect and promote LOS for wildlife habitat, as LOS is dependent on retention of large and old structure, not its reduction through logging. These assurances are all doublespeak used as public relations propaganda.

¹⁸³ See Exhibit 004 (DellaSala and Baker Report 2020).

¹⁸⁴ *Id.*

V. The Environmental Assessment needs to analyze road impacts and roadless areas to comply with connectivity requirements.

Given the extensive and cumulative impacts of roads on ecosystem processes, wildlife, water quality, and fire ignitions (see below), a *minimum road density analysis* needs to be conducted to assure the public that there are no excessive open or temporary roads and that more roads can be decommissioned and obliterated rather than mainly improving and building more of them. The Draft EA needs to provide a transportation plan analysis to fully assess road-related wildfire ignitions associated with public access and to come up with an alternative that reduces them.

Importantly, roads are only superficially mentioned in the Draft EA, which does not address the numerous road-related impacts to ecosystems, including, but not limited to, human-caused fire ignitions, carbon emissions, invasive species, aquatic degradation, and habitat fragmentation that can extend up to 1 km on either side of the road prism. Given regional drought projections, the agency should be managing for improved water quality by reducing road impacts (closures, removals, culvert repairs), along with removing livestock from riparian areas and seeps, restoring channel morphology damaged by cows, and storing more water naturally by reintroducing beavers.

Ibisch et al. (2016) provide a global synthesis of road-related impacts including: wildlife mortality (vehicle collisions); poaching pressure; sediment increases (runoff); chemical contamination; carbon emissions; spread of invasive species; wildfire ignitions; and habitat fragmentation among others.¹⁸⁵ These impacts can extend out to 1 km on either side of the road prism. Thus, road impacts need to be fully assessed and properly mitigated using not just the presence of roads on the landscape but the effects within the “road ecology zone.”¹⁸⁶

In sum, the EA needs to fully disclose road-related impacts as follows:

- Roads and logging contributions to soil erosion and sediment inputs affecting water-quality even when roads are improved.
- Probability of human-caused wildfire ignitions associated with improved road access (see Balch et al. 2017 for human-caused ignitions).
- Fragmentation and degradation of wildlife habitat at road densities > 1 mi/sq mi, particularly to aquatic ecosystems and species.
- Spread of invasive species and effects on fire regimes.
- Likelihood of mass-wasting events on steep erosive slopes along the road prism.

The ecological importance of roadless areas is well-documented and emphasized in landmark Forest Service policies such as the Roadless Conservation Rule.¹⁸⁷ At a minimum, the EA needs to disclose any treatments proposed in unprotected/uninventoried roadless areas and low density roaded areas (<1 mi/sq mi) and must avoid logging and road building in these areas because of their high conservation value, particularly as relatively unfragmented blocks that can be used as

¹⁸⁵ See Exhibit 086 (Ibisch et al. 2016)

¹⁸⁶ *Id.*

¹⁸⁷ See, e.g., Exhibit 087 (Stritthold & DellaSala 2001); Exhibit 088 (Loucks et al. 2003); Exhibit 086 (Ibisch et al. 2016); Exhibit 138 (Crist et al. 2005); Exhibit 078 (DellaSala et al. 2011).

habitat “stepping stones” or restoration blueprints. Roadless areas and low-density roaded areas are of considerable importance to ecosystem integrity as they are often at the headwaters of watersheds essential in maintaining water quality and ecosystem integrity (DellaSala et al 2011). Roadless areas also tend to be of much lower priority for fuels reduction given their fire regimes are less altered by suppression and they lack the ignition problems associated with roaded areas.¹⁸⁸ Thus, the agency needs to step up protections for unroaded (>1,000 acres) areas for the reasons stated and, at a minimum, keep treatments out of inventoried roadless areas.

VI. The Forest Service’s Environmental Assessment violates NFMA.

a. The amendment constitutes a significant amendment under NFMA that requires an EIS and additional procedures.

Under the National Forest Management Act (NFMA), the Forest Service can make non-significant amendments to a forest plan in “any manner whatsoever after final adoption after the public notice.”¹⁸⁹ However, any amendment to a forest plan that results in a “significant change” requires compliance with heightened procedural conditions and additional public participation.¹⁹⁰

i. The amendment is significant because it will affect multiple-use goods and services and will negatively affect the entire land planning area.

The Forest Service Manual provides guidance for determining when a change is considered “significant” under NFMA. FSM 1926.52 (2015).¹⁹¹ The Manual states that an amendment to a forest plan is significant if it would “significantly alter the long-term relationship between levels of multiple-use goods and services [or]... have an important effect on the entire land management plan or affect land and resources throughout a large portion of the planning area.”¹⁹² Further, the Responsible Official is required to determine “whether the change is significant or not significant in a decision document.” FSM 1926.5. Nowhere in the EA does the Forest Service discuss or analyze whether this amendment is a significant change under NFMA.¹⁹³

This proposed amendment is a significant change under NFMA that requires additional procedures because it will alter the long-term relationship between levels of multiple-use goods and services and will have an important effect throughout the entire land management planning area.¹⁹⁴ The proposed amendment will clearly have an important and deleterious effect throughout the entire land management planning area, because it is intended to remove protections for trees 21” dbh and greater, not only across an entire forest, but across six national

¹⁸⁸ See, e.g., Exhibit 089 (DellaSala & Frost 2011).

¹⁸⁹ 16 U.S.C. §§ 1604(d), (f)(4).

¹⁹⁰ *Id.*

¹⁹¹ It is unclear whether this section of the Manual is still in force, but the Forest Service has not provided any more recent direction on the determination of “changes to the land management plan that are significant.” FSM 1926.52 (2015).

¹⁹² FSM 1926.52 (2015).

¹⁹³ See 16 U.S.C. §§ 1604(d), (f)(4).

¹⁹⁴ See FSM 1926.52, 36 C.F.R. § 219.13(b)(3).

forests, at a total of nearly 10 million acres. If the Forest Service does not consider an amendment of this scope to be considered significant, then what is?

In terms of the long-term relationship between levels of multiple-use goods and services the EA largely views the forests simply as a source of revenue rather than a more complicated, interconnected ecosystem. Instead of allowing the forest to continue its recovery from past, extensive logging, the Forest Service is focused again on logging large trees. The real value of the large trees is however not for commercial logging but rather for the wildlife that relies on them. There are many birds that rely on large trees associated with mature forests, old growth forests, mixed-conifer forests, and/or Grand fir or Doug fir.¹⁹⁵ The EA does not fully contemplate the effects this amendment will have on those species. Appendix D of the EA simply lists the species that may be affected along with little to no analysis.

The Forest Service Manual provides further guidance regarding how to approach adopting a significant change:

In developing and obtaining approval of the amendment for significant change to the land management plan, follow the same procedures as are required for developing and approving the land management plan (see secs. 219.10(f) and 219.12 of the planning regulations in effect before November 9, 2000 (36 CFR parts 200 to 299, revised as of July 1, 2000)).¹⁹⁶

The Manual incorporates 36 CFR § 219(f) (2000), which requires that “[b]ased on an analysis of the objectives, guidelines, and other contents of the forest plan, the Forest Supervisor shall determine whether a proposed amendment would result in a significant change in the plan[,]” and 36 CFR § 219.12 (2000) which requires that “[t]he environmental impact statement for each forest plan shall be prepared according to NEPA procedures.” Taken together, this clearly requires that an EIS be completed for significant amendments to forest plans, because they are to follow the same procedures required for approving new forest plans. Additionally, in *League of Wilderness Defs. v. Connaughton*, the court stated that “any Forest Plan amendment that results in a “significant change” requires the Forest Service to prepare an EIS; non-significant amendments only require the simpler notice and comment process.”¹⁹⁷

The Ninth Circuit discussed forest plan amendment significance in *Native Ecosystems Council v. Dombeck*.¹⁹⁸ In that case, the Forest Service created a site-specific amendment that they claimed was not significant to the forest plan’s road density requirement. *Id.* at 898. The court held that the Forest Service’s amendment to the forest plan was not significant because the amendment did “not alter multiple-use goals or objectives for long term land and resource management, nor significantly change the planned outputs for the forest.” *Id.* at 900.

¹⁹⁵ See USGS North American Breeding Bird Survey Results and Analysis 1966-2017, www.mbr-pwrc.usgs.gov/ (last visited Oct. 1, 2020).

¹⁹⁶ FSM 1926.52.

¹⁹⁷ No. 3:12-CV-02271-HZ, 2014 WL 6977611, at *27 (D. Or. Dec. 9, 2014).

¹⁹⁸ 304 F.3d 866, 898 (9th Cir. 2002).

Unlike the situation in *Native Ecosystems Council v. Dombeck*, the proposed amendment to the Eastside Screens in six forest-wide management plans *does* alter long-term goals and objectives. The Eastside Screens were implemented to aid the Forest Service in meeting multiple objectives, such as retaining old forest structure, protecting wildlife, and improving fish viability. *See* (discussion above regarding history of the Eastside Screen/intro). The proposed amendment, however, favors only one objective; timber production. The amendment here contradicts the long-term goals of the LRMPs' adoption of the Eastside Screens. Both the original 1994 Decision Notice and the current 2020 EA explain that there is a "...need to maintain the abundance and distribution of old forest structure."¹⁹⁹ The EA states that "[o]ld trees play a valuable role in forests by maintaining a legacy of species genetics and providing ecosystem value through long-lived structure and demonstrated resistance to disturbance."²⁰⁰ This acknowledgement demonstrates the importance of retaining the late and old structure ("LOS") and large trees that still exist because without these structures, the ecosystem is off-balance. The Eastside Screens have been in place for 25 years, but in the life of a tree this is not a substantial amount of time. Trees across the landscape have had only this limited period to grow larger and ameliorate the original deficit by growing into LOS and large trees. Allowing logging to occur across six national forests fundamentally contradicts the original Eastside Screens EA's long-term goals and objectives and will have significant, long-term impacts across Eastern Oregon forests.²⁰¹

Additionally, the amendment at issue in *Native Ecosystems Council* involved temporary negative impacts because, after logging, the Forest Service would close the roads at issue. Here, however, the Forest Service is making permanent changes with long-term ramifications. Once logging of trees 21 inches dbh and larger and logging in LOS occurs, those important trees will be gone forever. The permanence of the actions the proposal will authorize makes them much more significant. This difference, an amendment authorizing the extensive logging of large trees, versus the 1994 Screens amendments, which prevented the logging of large trees, also explains why the 1994 amendments were not a significant change, while this proposed amendment clearly is.

Although NEPA and NFMA use the term "significant" in different contexts, the Forest Service planning rules have stated that if a proposal is significant enough under NEPA to require an EIS, it is also considered a "significant change for the purposes of NFMA."²⁰² For all the foregoing reasons, as well as the in-depth discussion of NEPA significance elsewhere in this comment, the proposed amendment will significantly affect the environment and thus requires an EIS under NEPA. As a significant action under NEPA, the Forest Service must prepare an EIS and thus the proposed amendment is, in turn, considered a significant change under NFMA.

¹⁹⁹ Draft EA at 8; Exhibit 002 (Decision Notice for Original Eastside Screens).

²⁰⁰ Draft EA at 20.

²⁰¹ *See also* Part IV (b).

²⁰² 36 C.F.R. § 219.13(b)(3) (2012).

ii. The amendment requires additional procedures both under NFMA and NEPA.

When an amendment results in “significant change” under NFMA, additional procedural requirements are triggered. The 2015 Forest Service Manual articulates that for significant changes, the Forest Service shall follow the same procedure as required for the development and approval of a forest plan.²⁰³ This includes making all decisions consistent with the multiple uses of the Forest Service’s renewable resources, in accordance with the Multiple-Use Sustained-Yield Act of 1960 (16 U.S.C. §§ 528–531), as well as the concomitant NEPA requirement for an EIS that accompanies the development and approval of forest plans.²⁰⁴

In addition to NEPA public participation requirements, NFMA itself requires public involvement in any amendment process. Section 16 U.S.C. § 1604(d) mandates that there be sufficient public participation in the “development, review, and revision” of land management plans including, but not limited to, making the “plans or revisions available to the public at convenient locations in the vicinity of the affected unit for a period at least three months before final adoption” and during that time the official “shall publicize and hold public meetings.”²⁰⁵ The Forest Service is also required to hold a 90-day comment period for the proposed plan and draft EIS.²⁰⁶

As discussed above, the proposed amendment to the Eastside Screens is a significant change under NFMA because it alters the long-term goals and objectives of the impacted forest plans, and will have important and negative impacts across the majority of six national forests. Such a significant change demands an EIS under both NEPA and NFMA to assure that impacts are properly and thoroughly addressed. The Forest Service is in clear violation of NFMA by preparing only a cursory EA for a significant amendment to multiple forest plans, which by law demands an EIS. The Forest Service must restart its NEPA process for this proposed change by initiating a scoping process for an EIS, and complying with all heightened procedural requirements mandated by NFMA.

b. The Draft EA fails to ensure that viable populations of species will be maintained.

There are many wildlife species that rely on mature and old forests which include large trees such as Pileated woodpeckers, American marten, lynx, goshawks, Great grey owls, and many others.²⁰⁷ Logging of large trees not only eliminates the current habitat for dependent species; it also decreases the number of large trees that are eligible to become large snag habitat in the future.²⁰⁸ The Forest Service only provides inadequate, biased, and arbitrary and capricious analysis of effects on wildlife.

²⁰³ FSM 1926.52 (2015).

²⁰⁴ 16 U.S.C. §§ 1604(e) and (f); 36 C.F.R. § 219.13(b)(3).

²⁰⁵ 16 U.S.C. § 1604(d).

²⁰⁶ 36 C.F.R. § 219.13(b)(3) (2017).

²⁰⁷ See Exhibit 004 (DellaSala and Baker Report 2020); Exhibit 005 (An Open Review of the Proposed Action).

²⁰⁸ See Exhibit 004 at 11 (DellaSala and Baker Report 2020); Exhibit 168 (Windom & Bates 2008).

We are very concerned about the potential effects to these species from the Forest Service's proposed changes to the 21" Screens and increased logging of large trees, should the proposal be implemented.²⁰⁹ Thomas (1979) highlights several wildlife species that rely on large trees and mixed-conifer, mature and old forests, and Grand fir.²¹⁰ We are concerned about these species and the full complement of native species that would be affected by increased logging of large trees in the planning area.

The Draft EA fails to consider many at-risk species that may be negatively affected by the loss of large trees across the landscape, should the Forest Service's proposal to increase the logging of large trees be implemented. Wildlife species in the Blue Mountains that rely on large trees for a key portion of their life cycle (such as reproduction). For example, Pacific fishers, American marten, Spotted skunks, and Black bears rely on large trees with cavities for reproduction.

Further, we are concerned about wildlife species that rely on mixed-conifer forests, mature and old forests, and Grand fir. Wildlife species that rely on mixed-conifer forests, mature and old forests, and Grand fir, will be negatively affected by increased logging within these forest types. Increased logging within these forests, which the Forest Service is targeting, may result in loss of key forest components which these species rely upon. The Forest Service's proposed increases in large tree logging, and the resulting increase in intensity and amount of logging area, would have significant impacts available habitat, connectivity, and ranges (especially when climate change is considered). Examples of wildlife species that rely on mixed-conifer forests, mature and old forests, and Grand fir for at least part of their life histories (such as reproduction and feeding) include: Pacific fishers, American marten, Black bears, Canada lynx, bobcat, Snowshoe hare, White-tailed deer, Northern flying squirrel, numerous bats, Rubber boa, Malheur shrew, Vagrant shrew, Dusky shrew, Heather vole, Long-tailed vole, Gapper red-backed vole, Black bear, Short-tailed weasel, Jumping mouse, and mule deer.²¹¹

The Forest Service failed to adequately consider the direct and indirect effects of the amendment on snags and species that rely on them in the planning area. The Draft EA states that "[i]mproved snag science and management *would likely* enhance the long-term viability of species associated with snags."²¹² Again, the Forest Service is basing its analysis on speculation rather than binding management standards. The Forest Service's predictions regarding the effects of the Draft EA on species and their habitat are too speculative and thus do not ensure the viability of species. The Draft EA also fails to acknowledge or analyze that collecting firewood can influence species viability.²¹³ The Forest Service should include a restriction on the size of snags that people can harvest for firewood.

While Appendix D of the Draft EA attempts to analyze the amendment's effects on wildlife, the table is void of any analysis and only provides basic information about each species

²⁰⁹ See Exhibit 090 (Thomas 1979); Exhibit 166 (Pilliod et al. 2006).

²¹⁰ *Id.*

²¹¹ *Id.*

²¹² Draft EA at 98 (emphasis added).

²¹³ See Draft EA at 74.

and possible threats.²¹⁴ The table does not include information as to each species' habitat needs for snags and down wood. The Forest Service should analyze science-based information on the kind of habitat each species uses, the size and abundance of snags each species needs, whether they depend on down log foraging and how well these habitat requirements would be met by the proposed action for each habitat type.

BMBP remains concerned about the continued viability of the vulnerable ranked pileated woodpecker and American marten throughout the planning area, and the potential for the amendment to contribute to an upward listing trend for both species under the Endangered Species Act, especially due to large tree removal, substantial mature tree reduction, and the fact that this amendment covers six national forests.

The Draft EA *never* mentions either the pileated woodpecker or the American marten. The Forest Service must, at a minimum, acknowledge and analyze affects to these species. There is science that strongly suggests significant impacts for pileated woodpeckers by removing thousands of large grand fir trees from six national forests.²¹⁵

i. The amendment does not address “Species of Conservation Concern” as the 2012 Planning Rules requires.

The 2012 Planning Rule requires the responsible official to determine whether the proposed plan amendment provides the ecological conditions necessary to contribute to the recovery of federally listed threatened and endangered species, conserve proposed and candidate species, and maintain a viable population of each species of conservation concern within the plan area.²¹⁶ Suppose the responsible official determines that the plan components are insufficient to provide such ecological conditions. In that case, additional species-specific plan components, including standards or guidelines, must be included in the plan to provide such ecological conditions in the plan area.²¹⁷ “Species of conservation concern” are those species “other than federally recognized threatened, endangered, proposed, or candidate species, that [are] known to occur in the plan area and for which the regional forester has determined that the best available scientific indicates substantial concern about the species’ capability to persist over the long-term in the plan area.”²¹⁸

The Draft EA mentions “species of conservation concern” in the section titled *Compliance with NFMA-Substantive Requirements*; however, they are never mentioned again in the EA, much less any analysis regarding impacts to such species.²¹⁹

²¹⁴ Draft EA at 167–173.

²¹⁵ See Exhibit 091 at Summary (Bull et al. 2007) (stating that the pileated woodpecker... is a management indicator species that depends on snags and hollow trees for roosting, snags for nesting; and logs, snags, and live trees for foraging); Exhibit 092 at 131 (stating that the pileated woodpecker is a species of concern to forest managers because of “its association with older forests”).

²¹⁶ 36 C.F.R. § 219.9(b)(1).

²¹⁷ *Id.*

²¹⁸ *Id.* at § 219.9(c).

²¹⁹ See Draft EA at 14.

Many wildlife species rely on these existing large trees, regardless of their age. Proposing to eliminate protections for these trees without adequately considering the unavoidable impacts to wildlife is a clear violation of the Forest Service’s own 2012 Planning Rule.

ii. The amendment failed to properly address effects to birds.

In recent years, numerous studies have raised alarms regarding habitat loss, climate change, and decline of fauna and biodiversity across the planet. Warnings have been sounded by scientists regarding the declining bird populations we are seeing, and the projections of far greater losses to come. For example, the Rosenberg et al. (2019) study *Decline of the North American Avifauna* reported a “staggering decline of bird populations, and found “wide-spread population declines of birds over the past half-century, resulting in the cumulative loss of billions of breeding individuals across a wide range of species and habitats. They show that declines are not restricted to rare and threatened species—those once considered common and wide-spread are also diminished. These results have major implications for ecosystem integrity, the conservation of wildlife more broadly, and policies associated with the protection of birds and native ecosystems on which they depend.”²²⁰

Given the urgent need to address the biodiversity and climate crises, which includes species and habitats in the Blue Mountains, the agency needs to focus on protecting wildlife, clean water, high-quality habitat, and ecosystem integrity. Birds are an integral part of forested ecosystems on the Blue Mountains, and were not adequately considered in the Draft EA. For example, a number of bird species rely on forest types or structural components that would be significantly affected by the proposed changes to the 21” Screens. These structural components and forest types include: large trees, mixed-conifer forests, fir dominant or codominant forests, and mature and late old structure forests. While the Draft EA explicitly encourages increased logging of large firs, the proposed changes would greatly increase logging of *all* species of large trees, not just fir. The Draft EA did not adequately analyze or avoid the negative effects to birds that would occur under all action alternatives.

The Forest Service did not conduct a thorough analysis regarding cavity nesting species and how eliminating the Eastside Screens mandatory restrictions may have direct and cumulative impacts on these species. The current standard of the Eastside Screens is to maintain snags and green replacement trees of greater than 21 inches dbh at “100% potential population levels of primary cavity excavators. This should be determined using the best available science on species requirements as applied through current snag modes or other documented procedures.”²²¹ Instead of continuing to use this straightforward rule, the amendment proposes that the Forest Service can have a choice to maintain snags greater than 20 inches dbh *or* simply complete a “snag analysis.”²²² There is little to no analysis regarding what management directions will be used for “snag analysis.” The only direction provided states that it will be completed with “best available science... or other documented procedures to maintain or increase habitat...”²²³ This is a vague standard that will be difficult to implement uniformly. This standard also shows that the Forest

²²⁰ Exhibit 093.

²²¹ Draft EA at 147.

²²² Draft EA at 13.

²²³ Draft EA at 147.

Service only requires the use of “best available science” when the snags are not greater than 20 inches dbh. Currently, the Eastside Screens *always* requires the use of best available science, not only when the Forest Service is looking at smaller snags. There is no analysis in the Draft EA regarding how this change to an ambiguous standard will affect wildlife. Instead, the Draft EA makes the conclusory statement that “[i]mproved snag science and management would likely enhance the long-term viability of species associated with snags.”²²⁴ Having fewer snags throughout the landscape will undoubtedly have significant effects on wildlife that must be thoroughly analyzed.

The following is a summary of birds in the Blue Mountains of Oregon and SE Washington that are likely to be affected by the FS’s proposed rollback of protections for large trees under the current 21” wildlife screens. For additional detail and citation information, please see the detailed notes and spreadsheet exhibits that compliment this section.²²⁵ These documents include additional detail about BBS population trends, Langham et al. (2015) climate threat determinations,²²⁶ and habitat descriptions from Csuti et al (1997),²²⁷ Thomas et al. (1979),²²⁸ Miller (personal communication),²²⁹ and Marshall et al. (2006).²³⁰

Birds that rely on large trees: The Draft EA fails to consider many at-risk species that may be negatively affected by the loss of large trees across the landscape, should the Forest Service’s proposal to increase the logging of large trees be implemented. Bird species in the Blue Mountains that rely on large trees for a key portion of their life cycle (such as reproduction) include Bufflehead; Barrow’s goldeneye; Common merganser; Hooded merganser; Wood duck; Red crossbill; White crossbill; Brown creeper; Vaux’s swift; American three-toed woodpecker; Black-backed woodpecker; Lewis’ woodpecker; Pileated woodpecker; Williamson’s sapsucker; Boreal owl; Flammulated owl; Great grey owl; Long-eared owl; Western screech owl; Northern saw-whet owl; Bald eagles; Golden eagles; and Osprey.

Documented population declines & birds that rely on large trees: According to the Breeding Bird Survey (BBS),²³¹ several of these birds that rely on large trees (listed above) are also facing declining populations across the Northern Rockies, the Great Basin Ecoregions, and/or Oregon

²²⁴ Draft EA at 98.

²²⁵ See Exhibits 152, 153.

²²⁶ Exhibit 094.

²²⁷ Csuti, B.; Kimerling, J.; O’Neill, T.; Shaughnessy, M.; Gaines, E.; Huso, M. (1997). Atlas of Oregon Wildlife: Distribution, Habitat, and Natural History. Oregon State University Press, Corvallis, Oregon. (*Book*)

²²⁸ Exhibit 090.

²²⁹ Dr. Craig Miller, personal communication, September 2020. Dr. Craig Miller has studied birds and related avian habitat in Oregon since moving to Bend in 1981. He was co-author of the "Preliminary Draft: Oregon County Checklists and Maps" published by the Oregon Field Ornithologist in 1993. He contributed technical expertise for the Oregon Breeding Bird Atlas, and authored 11 species accounts in *Birds of Oregon a General Reference*. He is the regional eBird reviewer for Lake County, Oregon. He has served as a member of the Oregon Bird Records Committee most years since 1996. He has conducted up to four Breeding Bird Surveys annually since 1993. He found and identified the first Red-throated Pipit to be verified in Oregon. He has studied birds extensively throughout the United States, especially Alaska, California, Texas, Arizona, Florida, Ohio, and Michigan. He has studied birds throughout the world, including all 7 continents.

²³⁰ Marshall, D.; Hunter, M.; Contreras, A. (2003) Birds of Oregon A General Reference. Oregon State University Press, Corvallis, Oregon. (*Book*)

²³¹ USGS North American Breeding Bird Survey Results and Analysis 1966-2017. Accessed online 9/2020 at: <https://www.mbr-pwrc.usgs.gov/>

or Washington state. Some of these also face declining populations across their entire survey range and the US. Birds that rely on large trees and also facing declining populations include: Bufflehead; Barrow's goldeneye; Common merganser; Wood duck; Vaux's swift; Lewis' woodpecker; Williamson's sapsucker; and Western screech owl.

Association with mature and old forests, mixed-conifer forests, and fir dominant or co-dominant forests & birds that rely on large trees: Many of the birds that rely on large trees are associated with mature forests, old growth forests, mixed-conifer forests, and/or Grand fir or Doug fir during a key portion of their life history. These include: Bufflehead; Barrow's goldeneye; Hooded merganser; Wood duck; Red crossbill; Brown creeper; Vaux's swift; Pileated woodpecker; American three-toed woodpecker; Black-backed woodpecker; Lewis' woodpecker; Williamson's sapsucker; Great grey owl; Boreal owl; Long-eared owl; Flammulated owl; Northern saw-whet owl; Bald eagles; Golden eagles; and Osprey. All of these have either seen declining populations according to the BBS, and/or are considered climate endangered or climate threatened by Langham et al. (2015).²³²

Birds that rely on large trees and are at risk from climate change: Climate change will affect bird populations, habitat availability, and ranges. In order to ensure the viability of native birds including waterfowl, raptors, neotropical songbirds and other migratory birds, the Forest Service must consider how climate change will impact these birds and the cumulative impacts with increased logging in mixed-conifer and mature and old growth forests.

Langham et al. 2015 *Conservation Status of North American Birds in the Face of Future Climate Change* identified 314 birds at risk of losing more than half of their current geographic ranges under climate change scenarios.²³³ In addition, 126 of these are not expected to see gains in their geographic ranges. The authors note: "Our results demonstrate the need to include climate sensitivity into current conservation planning and to develop adaptive management strategies that accommodate shrinking and shifting geographic ranges. The persistence of many North American birds will depend on their ability to colonize climatically suitable areas outside of current ranges and management actions that target climate adaptation."²³⁴ The authors also note: "We suggest that the 126 species in this category be considered by conservation entities for immediate monitoring beyond existing programs such as BBS and CBC."²³⁵

Birds that rely on large trees (noted above) and are also considered climate threatened or climate endangered by Langham et al. (2015) include: Bufflehead; Barrow's goldeneye; Common merganser; Hooded merganser; Wood duck; Red Crossbill; White-winged crossbill; Brown creeper; Vaux's swift; American three-toed woodpecker; Black-backed woodpecker; Lewis' woodpecker; Williamson's sapsucker; Boreal owl; Great grey owl; Long-eared owl; Western screech owl; Northern saw-whet owl; Bald eagles; Golden eagles; Osprey.²³⁶

²³² Exhibit 094 (Langham et al. 2015).

²³³ *Id.*

²³⁴ *Id.*

²³⁵ *Id.*

²³⁶ *Id.*

Birds that rely on mixed-conifer forests, mature and old forests, and Grand fir: Should the Forest Service’s proposal be implemented, the increased logging of large trees will increase the intensity and impact of logging projects. In addition, if implemented, the agency’s proposal would incentivize logging in areas that previously were not economically viable, thus also increasing the area and overall footprint of logging projects. Birds that rely on mixed-conifer forests, mature and old forests, and Grand fir will be negatively affected by increased logging within these forest types. Increased logging within these forests, which the Forest Service is targeting, may result in loss of key forest components such as multi-story canopies, shrubs, understory structure, unfragmented forests, needed cavities in trees and snags, snags, and logs. Logging of large trees, as well as increased size and intensity of logging projects, would result in forests becoming more younger, more homogenous and even aged, open, and drier. The FS’s proposed increases in large tree logging, and the resulting increase in intensity and amount of logging area, would have significant impacts on tree species composition and forest density across the landscape. As a direct result, available habitat, connectivity, and ranges (especially when climate change is considered) would be affected across the landscape by the FS’s proposed changes.

Birds that rely on mixed-conifer forests, mature and old forests, and Grand fir for at least part of their life histories (such as reproduction and feeding) include: Harlequin duck; Red crossbill; White-winged crossbill; Brown creeper; Vaux’s swift; Evening grosbeak; Pine grosbeak; Hermit thrush; Swainson’s thrush; Varied thrush; Pine siskin; Cordilleran flycatcher; Golden-crowned kinglet; Ruby-crowned kinglet; Black-capped chickadee; Chestnut-backed chickadee; Mountain chickadee; MacGillivray’s warbler; Townsend’s warbler; Yellow-rumped warbler; Mountain bluebird; Calliope hummingbird; Rufous hummingbird; Red-breasted nuthatch; Brown Creeper; White-winged crossbill; Red Crossbill; American three-toed woodpecker; Black-backed woodpecker; Downy woodpecker, Hairy woodpecker, Lewis’ woodpecker; Pileated woodpecker, Williamson’s sapsucker; American kestrel, Winter Wren, Western Tanager, Hammond’s flycatcher, Boreal owl; Flammulated owl; Great grey owl; Long-eared owl; Northern saw-whet owl; Northern pygmy owl, Bald eagle; Golden eagle; Osprey; Merlin, Peregrine falcon, and Northern goshawk.

In addition, most of the birds listed above are also facing current population declines in part of all of their range within the Blue Mountains (according to the BBS) or are considered climate threatened or climate endangered (Langham et al. 2015).²³⁷ The habitat requirements of birds imperiled by declining populations and/or climate change should have been considered and analyzed in the Draft EA. The Forest Service cannot protect the viability of these species without analyzing the effects of this proposal on their habitats, ranges, connectivity, and needed forest components and structures.

c. The Draft EA fails to provide for diversity of animal communities.

The 2012 Planning Rule states that a forest plan revision “must provide for the diversity of plant and animal communities.”²³⁸ The Forest Service’s Draft EA does not satisfy this

²³⁷ See *id.*; USGS North American Breeding Bird Survey Results and Analysis 1966-2017. Accessed online 9/2020 at: <https://www.mbr-pwrc.usgs.gov/>

²³⁸ 36 C.F.R. § 219.9.

requirement for the same reasons as discussed above regarding why the Draft EA does not adequately ensure the viability of species.

Appropriately modeling and maintaining the mixture of natural disturbance processes on the national forests is key to meeting the diversity and connectivity requirements of the 2012 Forest Planning Rule. The Draft EA is deficient in this regard as it over emphasizes tree removal and low-intensity wildfires that will degrade ecological processes, ecological conditions, and ecological integrity:

- The selected set of ecological conditions and key ecosystem characteristics related to the composition, structure, ecological processes, and connectivity of plan area ecosystems (terrestrial, riparian, and aquatic), provide the basis for monitoring ecosystem integrity (36 CFR § 219.8(a)(1)) and the diversity of plant and animal communities (*Id.* § 219.9)
- The selected set of ecological conditions and key ecosystem characteristics related to the composition, structure, ecological processes, and connectivity of plan area ecosystems (terrestrial, riparian, and aquatic), provide the basis for monitoring ecosystem integrity (*Id.* § 219.8(a)(1)) and the diversity of plant and animal communities (*Id.* § 219.9).
- The planning requirements at *Id.* § 219.6(b) describes the content of the assessment for plan development and plan revision such as system drivers. System drivers, including dominant ecological processes, disturbance regimes, and stressors, such as natural succession, wildland fire, invasive species, and climate change; and the ability of the terrestrial and aquatic ecosystems on the plan area to adapt to change (*Id.* § 219.8)
- Ecological conditions. The biological and physical environment that can affect the diversity of plant and animal communities, the persistence of native species, and the productive capacity of ecological systems. Ecological conditions include habitat and other influences on species and the environment. Examples of ecological conditions include the abundance and distribution of aquatic and terrestrial habitats, connectivity, roads, and other structural developments, human uses, and invasive species.

d. The Draft EA violates NFMA because the document does not contemplate proper monitoring

The 2012 Planning Rule requires the development of a monitoring program for the plan area.²³⁹ The monitoring requirement's purpose is to provide the responsible official with sufficient information to inform future forest planning decisions and amendments. *Id.* This monitoring plan must include at least one monitoring question and associated indicators for each of the following; the status of select watershed conditions, the status of select ecological conditions, the status of focal species, the status of ecological conditions regarding the viability of species, the status of visitor use, changes related to climate change, progress towards meeting the desired condition, and the effects of each management system to determine they do not substantially impair productivity of the land.²⁴⁰ The Draft EA discusses none of these monitoring plan requirements.

²³⁹ 36 C.F.R. § 219.12(a)(1).

²⁴⁰ *Id.* at 219.12(a)(5)(i)–(viii).

The Forest Service has repeatedly demonstrated that it does not have the ability to collect, organize, store, analyze, or share data and monitoring information in an effective, consistent, and transparent manner. The following are a few examples of problematic issues with the Forest Service's monitoring efforts:²⁴¹

- The Forest Service lacks the will or internal organization to share data with outside agencies, such as Oregon Department of Environmental Quality, on a regular basis. Until BMBP wrote letters to Forest Supervisors and ODEQ staff calling attention to this issue, the USFS had not shared the vast majority of their water quality data with ODEQ for over a decade. After we highlighted this issue during the last ODEQ 'call for data' in 2018, the Forest Service shared large amounts of data with ODEQ, finally. However, based on stream temperature data that BMBP received through FOIA, the Forest Service still has not provided ODEQ with existing stream temperature data for some streams, including streams in violation of water quality standards. BMBP had to appeal the first FOIA response we received from the Forest Service in order to finally get the bulk of the data we received.
- The agency is unwilling to be transparent with the public. The Forest Service has repeatedly made it difficult to obtain water quality information.
- The agency is unable to properly organize data storage or coordinate data sharing among staff members. For example, water temperature data does not generally seem to be housed in a central location in most instances. Submission of existing data into the centralized database is voluntary for staff members in charge of such data. Once it became clear that the Forest Service was planning to (finally) submit some of their data to ODEQ during the ODEQ 'call for data', it became clear that the Forest Service did not have an adequate internal system or protocol for data storage or organization. Much of this data was housed with individuals who were not required submit it to the centralized database for eventual submission to ODEQ.
- The Forest Service often does not have accurate or consistent water quality data in NEPA documents. We have documented this issue for numerous streams. For examples, please see our exhibit with our letter to the Malheur National Forest requesting an SEIS for the Camp Lick timber sale.
- The Forest Service does not conduct an adequate or statistically robust number of site visits to determine BMP and PDC effectiveness in timber sales. Such monitoring only happens for a handful (or less) of timber sale sites on each forest per year. While the Forest Service claims that BMP monitoring is effectively protecting water quality and aquatic habitats, in reality the agency does not have enough data to make this determination.
- The Forest Service is unable to follow through with monitoring plans and efforts (for example, stream temperature monitoring promises made and broken).
- The Forest Service sometimes uses very limited monitoring data in an inappropriate fashion. For example, the agency will sometimes collect a small number of tree cores without standardized protocols or scientifically accepted sampling design, not conduct appropriate analyses on the data, and then use the data to justify log large trees in timber sales (even when the diameter limits in the sales don't correspond to the data collected).

²⁴¹ See Exhibit 151 (BMBP Comments on the Snow Basin SEIS).

- The agency lacks an appropriate framework for adaptive management. In many cases, the agency lacks baseline data, which is a key component of an adaptive management framework.
- When designing monitoring goals, the agency will often narrowly focus on monitoring parameters relative to ‘fuels’, silvicultural questions, tree species composition, or some other aspect of measuring trees or wood. The Forest Service rarely focuses substantial or widespread effort to systematically or responsibly collect data on and monitor issues such as: water quality response to logging in a before/after upstream/downstream design; wildlife or fish response to logging or grazing; soil compaction; etc.

Based on these and other issues with current monitoring, there is no reason to believe that the Forest Service is able to conduct an adequate or comprehensive monitoring program in relation to the logging of large trees. Furthermore, the monitoring that the Forest Service is narrowly focused on parameters that miss the mark for actually looking for indicators of ecosystem response, or potential effects to wildlife, birds, water quality, riparian habitats, instream habitats, etc.

The Draft EA only contemplates monitoring the mortality of large trees.²⁴² This is an overly narrow focus that does not provide the proper information regarding ecological integrity, biodiversity, or wildlife habitat available in the forest. The Forest Service should be monitoring other indicators such as wildlife, snag densities, or water quality. By only providing a narrow view of the monitoring program, the Forest Service is in direct violation with its own Planning Rules.

VII. The decision should be made by the Regional Forester.

The proposed amendment to the Eastside Screens will impact 6 national forests at a total nearly 10 million acres across Region 6. Such a far-reaching amendment should be guided, and the ultimate decision made, by the Region 6 Forester instead of an individual Forest Supervisor.

As the Forest Service itself describes, Regional Foresters are responsible for “*coordinat[ing] activities between national forests and grasslands, monitor[ing] activities on those lands to ensure quality operations, provide[ing] guidance for forest plans, allocat[ing] budgets to the forests[,] and “oversee[ing] Forest Supervisors” within their region.*²⁴³ By contrast, Forest Supervisors direct the work of districts and coordination within *individual* forests.²⁴⁴ This structure is set out by planning regulations at 36 CFR § 200.1(c)(2). The Forest Service Manual provides further evidence that Regional Foresters are responsible for actions impacting multiple forest units, stating that “it is the responsibility of the Regional Forester to:

1. Coordinate planning efforts among adjoining units and Regions.

²⁴² See Draft EA at 11.

²⁴³ <https://www.fs.usda.gov/about-agency/organization#:~:text=A%20regional%20forester%20oversees%20forest,allocates%20budgets%20to%20the%20forests> (last visited Oct. 4, 2020) (emphasis added)

²⁴⁴ *Id.*

2. Coordinate monitoring among multiple units to address broader geographic scale questions and to maintain a broader-scale monitoring strategy that supports these needs.

...

6. Coordinate on broader-scale monitoring strategies with other Regional Foresters, Research Station Directors, and the Northeastern Area State and Private Forestry Director, as appropriate...²⁴⁵

It is clear that the Regional Forester is ultimately responsible for overseeing management and impacts to forest resources on multi-unit level. Region 6 contains 16 national forests, six of which will be severely impacted by this proposed amendment. While Forest Supervisors may be well-versed in the intricacies of potential impacts to their own forests, this knowledge cannot be presumed to extend to five additional and individually unique national forests. With over one-third of Region 6 forests impacted by this action, the development of and decision to implement such an amendment clearly and appropriately falls under the purview of the Regional Forester's responsibilities, instead of leaving such a monumental decision to the much more narrowly-focused decision-making of an individual Forest Supervisor.

It appears that the Forest Service already anticipates that Glen Casamassa, the current Region 6 Forester, will be involved and overseeing development of certain key stages of this proposed amendment.²⁴⁶ Despite this, Mr. Casamassa has designated Shane Jeffries, the Ochoco Forest Supervisor, as the signing authority on behalf of all six forests.²⁴⁷ It makes little sense to put such a decision into the hands of a single Forest Supervisor, when the Regional Forester ostensibly should have the involvement and understanding to make this decision himself. The Regional Forester should not have delegated this authority. Even if it *was* proper to delegate this authority, as the agent of the Regional Forester in this capacity, any decision made by Mr. Jeffries will both legally and factually be treated as the decision of the regional forester, Mr. Casamassa, himself.

The Forest Service has previously recognized the need to have such a broad-reaching amendment be decided by the Regional Forester. In fact, the original decision to continue the interim measures of the Eastside Screens²⁴⁸ and the subsequent revision to the Screens²⁴⁹ were both decided and signed by the Regional Forester. The Forest Service should continue to recognize the importance of this process and decision, and should continue to require the Regional Forester to be the decision maker for proposed changes to the Eastside Screens.

²⁴⁵ FSM 1921.04a (2015).

²⁴⁶ Exhibit 095 ("Team 21 Project Decision Making Chart").

²⁴⁷ Exhibit 096 at 1 (Letter from Glen Casamassa dated April 1, 2020).

²⁴⁸ Exhibit 002 (1994 Decision Notice).

²⁴⁹ Exhibit 097 (1995 Decision Notice).

VIII. The Eastside Screens Interim protections, including the 21” Screens, were meant to be replaced by a comprehensive plan, not with a narrow Amendment focusing only on vegetation composition that encourages logging of large trees.

The Forest Service appears to be attempting to side-step the expectations and intent of the original Screens, as well as the body of science and recommendations that helped to form the Screens, by ignoring the clear directive to replace these ‘interim’ measures with a comprehensive ecosystem management plan. *The Environmental Assessment for the Continuation of Interim Management Direction Establishing Riparian, Ecosystem, and Wildlife Standards for Timber Sales* includes key context for the original Screens.²⁵⁰ The Purpose and Need states that “Region 6 of the Forest Service has a short-term need to **maintain future management options for consideration in the Eastside EIS**. In particular, there is a need to maintain the abundance and distribution of old forest structure and to protect riparian areas for wildlife and fish species that are showing population declines as these habitat components are reduced....The Forest Service proposes to meet this need through the continued use of interim management direction **designed to offer further protection to riparian, ecosystem and wildlife values.**” The original Screens were put into place as an interim measure until a more comprehensive restoration plan for ecosystems could be developed and implemented. The Forest Service, 25 years later, still has not implemented a comprehensive plan aimed at landscape-scale ecosystem protection and planning.

This is further emphasized by the Decision Notice. The Decision Notice for the Continuation of Interim Management Direction Establishing Riparian, Ecosystem and Wildlife Standards for Timber Sales United States Forest Service Region 6 Colville, Deschutes, Fremont, Malheur, Ochoco, Okanogan, Umatilla, Wallowa-Whitman and Winema National Forests in Oregon and Washington states that: “This Decision Notice identifies that the Interim Direction of August 18, 1993 (Appendix A of the EA), as modified in the attached Regional Forester's Forest Plan Amendment #1, will continue to be applied on the nine national forests on the east side of the Cascade Mountains through amendments to appropriate. forest plans **pending completion of the environmental impact statement as part of the Eastside Ecosystem Management Strategy, Pacific Northwest Region (Eastside EIS)**”²⁵¹ The Decision Notice goes on further emphasize that: “This Decision Notice identifies that the Interim Direction of August 18, 1993 (Appendix A of the EA), as modified in the attached Regional Forester's Forest Plan Amendment #1, will continue to be applied on the nine national forests on the east side of the Cascade Mountains through amendments to appropriate forest plans **pending completion of the environmental impact statement as part of the Eastside Ecosystem Management Strategy, Pacific Northwest Region (Eastside EIS)**....This Decision will not set a precedent for future actions likely to result in significant environmental consequences, nor will it represent a decision in principle about future considerations **because the Eastside EIS will develop an ecosystem management strategy that will supersede this Decision**” (emphasis added). The Intent Statement within the original Eastside Screens highlights the need to consider wildlife: “Until a full conservation assessment is completed that describes in more detail the movement patterns and needs of various species and communities of species in eastside ecosystems, **it is important to insure that blocks of habitat maintain a high degree of connectivity between them, and**

²⁵⁰ Exhibit 001 (Original Eastside Screens EA).

²⁵¹ Exhibit 002 (1994 Decision Notice)(emphasis added).

that blocks of habitat do not become fragmented in the short-term.”²⁵² The intent statement discusses the need to consider effects to species that were sensitive to ‘edge’ habitats and that rely on connectivity corridors for free movement and “interaction of adults and dispersal of young”.

The Environmental Assessment for the Continuation of Interim Management Direction Establishing Riparian, Ecosystem, and Wildlife Standards for Timber Sales notes that “the Regional Forester instituted an interim screening process for FY 93 timber sales on August 18, 1993 (hereinafter, Interim Direction), and called for the preparation of the Eastside Ecosystem Management Strategy, Pacific Northwest Region (Eastside EIS) to fully analyze the developing information and to develop a coordinated ecosystem management strategy. In order to develop this eastside Ecosystem Management Strategy, agencies began the preparation of an environmental impact statement for forests and public lands east of the Cascade Mountains in the States of Oregon and Washington in order to “develop and adopt a coordinated ecosystem management strategy.”²⁵³ This coordinated ecosystem planning strategy became known as the Interior Columbia Basin Ecosystem Management Project (ICBEMP). The agency never finalized or implemented a decision for ICBEMP.²⁵⁴

The Interim Protections for Late Successional Forests, Fisheries, and Watershed: National Forests East of the Cascade Crest, Oregon, and Washington by Henjum et al. (1994) also emphasized that interim protections be replaced only if a long-term strategy of protection was developed. These recommendations were “aimed at protecting resources remaining on the Eastside until, **and only until**, a long-term strategy of protection can be developed. The recommendations concentrate on remaining late-successional/old-growth forests, aquatic diversity areas, roadless regions, riparian corridors, and soils because these elements constitute the basic building blocks for restoring the eastside landscape.”²⁵⁵ Henjum et al. (1994) stated “... the risk of future environmental damage from extreme climatic events is great because many watersheds are degraded already. Criteria for management performance based solely on economic targets...or on habitat structure measured at a particular site are not enough to evaluate the cumulative effects of forest management activities throughout a watershed or to ensure the continued viability of diverse communities of organisms. ...**A comprehensive recovery strategy for eastside landscapes, watershed, and habitats should be put in place to restore the critical elements and processes that have until now provided the evolutionary template for biological organization and adaption across the region. Only if policymakers implement an ecologically sound management program today can the benefits of forests east of the Cascade Crest, and their associated resources, be available for generations in the future.**”²⁵⁶ One of the key recommendations issued in the report was to “...**develop a coordinated strategy for restoration of the eastside landscape and its component ecosystems. Emphasize protecting the health and integrity of regional biological systems and well as the processes on which they depend.**”²⁵⁷ As part of this recommendation, the

²⁵² Exhibit 097 (1995 Decision Notice.)

²⁵³ *Id.*

²⁵⁴ *See* Exhibit 140.

²⁵⁵ Henjum et al. at 200.

²⁵⁶ *Id.* at 199–200.

²⁵⁷ *Id.*

authors note: “The ecological integrity of regional landscapes depends on protecting both the elements (genetic diversity, richness of species and habitats) and processes (Demography, hydrology, species interactions, nutrient cycling, fire) within regional landscapes. Long-term management programs designed to protect that integrity must be given the highest priority on private as well as public lands.” The authors also emphasize that as part of the above recommendations: **“Consideration of aquatic habitat—protection, restoration, and management—should be an integral component of all forest and silvicultural plans. The role of aquatic systems as crucial integrators of forest condition must be recognized.”**²⁵⁸ Henjum et al. 1994 also recommended establishing a **“comprehensive quantitative biological monitoring program.”** They suggested that “[d]ata collection should be done from an appropriate sampling design that tracks ecological condition and change.”

The Forest Service’s current proposal to amend the Eastside Screens does not adequately analyze or avoid negative impacts to wildlife, wildlife habitat, connectivity corridors (terrestrial or aquatic) or riparian and aquatic systems. This failure is in direct contradiction with direction and intent when implementing the original Screens to replace them only with a more comprehensive plan that included protecting the necessary building blocks to restore ecosystem integrity.

IX. The environmental assessment should take into consideration historical documents and forest conditions.

The following are the primary summary points gleaned from review of historical documents dated from the early to mid 1900s. The forest conditions described in these historical documents, such as generally dense forests and abundant representation of fir trees in the pictures, are conditions that run contrary to the EA’s assumptions used to justify logging of large firs. Please see the Historical Documents: A Summary of Forest Density and Species Composition for in-depth quotations, excerpts, and citations upon which these summary points are based.²⁵⁹

- Clumps of higher density forests are natural and documented in early historical accounts—even within Ponderosa pine forests.
- Grand fir and other non-Ponderosa pine species were historically well-represented on the landscape. Historical accounts of mixed conifer stands include descriptions of fir being the most abundant and dominant species in those forest types; Douglas fir and smaller percentages of Western larch were also described. Early seral species were not the dominant or most abundant components of these stands in the majority of historical accounts. Mixed conifer forests comprised large percentages of the forested landscapes in Eastern Oregon. In some watersheds, close to half of the forests were mixed conifer stands. Percentages vary according to historical documents and geographic area.
- Ponderosa pine forests also contained a substantial percentage of other tree species, including Grand fir. Pure Ponderosa pine stands were rare.

²⁵⁸ *Id.* at 11–12.

²⁵⁹ Exhibit 098 (A compiled list of historical document referenced) (citing Exhibits 099, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117); Exhibit 154 (historical photographs).

- Grand fir was targeted for removal as per regional direction to foresters working on National Forests. Current estimates of Grand fir density and volume may be erroneously based on anecdotal observations that occurred after substantial proportions of fir were already removed across the landscape.
- Extensive overgrazing during the turn of the century may have created artificially open forest stands in some areas

a. Case Studies

The Crow Timber Sale, Malheur National Forest:

The EA focuses on encouraging logging of large fir. However, none of the Action Alternatives offer enforceable protections for large trees of any species. While the agency is using fir, particularly Grand fir, to justify their attempts to gut regulations for protecting large trees, it is clear that large trees of all species would be put at risk by this proposal.

For example, the Forest Service is already moving forward with ramping up logging of other species, such as Ponderosa pine, in the Crow timber sale on the Malheur National Forest. The Crow “Hazardous Fuels Reduction Project” proposes to log large trees greater than ≥ 21 ” diameter at breast height (dbh) on approximately 8,000 acres. The Forest Service is proposing to log large Ponderosa pines, Grand fir, and Douglas fir on approximately 3,378 acres, as well as large Grand fir and Douglas fir across an additional 4,635 acres.

Back-to-back sales in the Middle Fork John Day River Watershed, Malheur National Forest:

The cumulative impacts of large tree logging on terrestrial species and aquatic habitats across the landscape are already extremely concerning. Should this proposal be implemented, the increased logging of large trees will severely exacerbate this issue at an accelerated and widespread scale across all eastside forests. For example, the Austin, Big Mosquito, Camp Lick, Magone, and Ragged Ruby sales compose a back-to-back series of sales that equal over 49,900 acres of recent, current, and proposed commercial logging within the Middle Fork of the John Day River watershed. All but one of these sales (the Magone sale) includes logging of large trees.

The Forest Service has failed to adequately consider, for example, the cumulative impacts of these sales to species such as Bull trout and Mid-Columbia River steelhead, which are listed as Threatened under the Endangered Species Act, or to species such as Redband trout and the Columbia spotted frog, which are considered Sensitive. For example, in the NEPA analyses for these sales, the Forest Service failed to even take the simple step of quantitatively summing the amount of habitat that would be potentially affected for species such as ESA-listed Threatened Bull trout and Mid-Columbia River steelhead. The cumulative effects to wildlife, water quality, and imperiled salmon and trout as a result of the widespread logging of large trees within this watershed is cause for alarm and greater scrutiny.

Upper Touchet timber sale, Umatilla National Forest:

The Forest Service is proposing to log large trees in the Upper Touchet timber sale on the Umatilla National Forest. The project area (~1,500 acres) is surrounded on three sides by Wilderness and Inventoried Roadless Areas, and includes magnificent high elevation moist mixed conifer forest with huge old growth Grand firs and old growth Engelmann spruce. Much of this area is rugged and steep, with logging planned on steep slopes above creeks. Many sale units have never been logged or only minimally logged. The area also encompasses a ski recreation area and hiking trails.

The Upper Touchet timber sale is one example (of many) where the Forest Service is proposing ecologically inappropriate and destructive logging of large trees. Logging large trees in the Upper Touchet project will threaten the ecological integrity of a forest that supports high quality wildlife habitat, imperiled fish, and clean water. The forest in the Upper Touchet project area is a moist, productive forest that historically supported abundant large fir and spruce that will be degraded by the logging of large trees.

X. BMBP's has other concerns regarding deficiencies and flawed analysis in the draft environmental assessment.

a. The overall proposed action is flawed.

The new, proposed action guideline is overall too subjective. By allowing logging of large trees 21-30" dbh the Forest Service would not maintain or enhance LOS components in stands subject to logging "as much as possible", since LOS is maintained and enhanced by full retention of large and old trees, and is degraded or eliminated by removal of large and old trees. Thus the intent is not the same.

The new guideline states that "[m]anagers should retain and generally emphasize recruitment of old and large trees."²⁶⁰ The qualifier "generally" is an agency attempt to side-step not emphasizing "recruitment" (rather than "retention" and "increasing" of old and large trees. "Recruitment" could be deemed a future increase in large and old trees—a speculative outcome as opposed to actual immediate and long-term loss of large and old trees to logging. Many log trucks would be able to drive through the loopholes of using a subjective choice of science to identify old and large trees. "Management activities should consider species composition and spatial arrangement" is Forest Service code for converting the forests to timber industry-preferred tree species (Ponderosa pine and Western larch) and logging to very low basal area retention. The priority for retention has been reduced to "old" trees based on subjective visual assessment alone, no longer prioritizing retention of large trees (21-30" dbh) for fir despite their critical importance to wildlife, LOS, and old growth habitat quality, soil nutrient cycling, carbon sequestration and storage, and recreational and aesthetic values.

The judgment call for whether "restoration treatments" (i.e. heavy logging including removal of large trees) are ineffective at conserving old trees would be left up to the Forest Service, the authors and advocates for this proposal. So the conclusion that such logging is

²⁶⁰ Draft EA at 11.

ineffective at conserving old trees would be considerably delayed at best (until maximum profits are reaped and unsustainable timber volume targets are met) or never decided at all—or not until a sea change in federal policy direction takes place.

The effectiveness monitoring questions are bound to have unclear answers, given all the variables involved. However, based on our field experience, management can be anticipated to decrease forest resiliency and increase mortality.

Furthermore, the monitoring the Forest Service proposes fails to monitor the effects of logging large trees on wildlife, birds, water quality and stream habitats, microclimates, soil health and compaction, and other crucial components which would be negatively affected by this proposal. Additionally, the proposed action states that “[m]ulti-party site visits would also be encouraged.”²⁶¹ The word “encouraged” is being used to indicate a voluntary suggestion, not a mandate, so these may never happen.

b. The Draft EA relies on invalid assumptions.

The Draft EA omits the information that large trees are still lacking (at a regional deficit) compared to historic levels, not just old trees.²⁶² FIA data does not show that the regional deficit in large trees has been addressed compared to historic conditions and is no longer a concern. The FIA data only shows the changes in large tree abundance from 2001 to 2017, not in comparison to historic abundance of large trees.

Additionally, the forest succession assumptions assume an unrealistic static condition scenario and do not include likely outcomes of climate change, such as Grand fir mortality starting to increase due to droughts and higher temperatures and Grand fir being more susceptible to increased fire intensity than Ponderosa pine, Western larch, and Douglas fir, and the consequent trend toward more open, less dense forest structure without Forest Service management intervention. The signs of these changes are already evident in some of the marginal forest areas, such as in the proposed Loco Categorical Exclusion timber sale on the southern dry Emigrant Creek Ranger District. Of course, with continued increased emphasis on overstory and large tree removal, creation of openings, and reduction of density to very low basal areas even in moist mixed conifer forest, as planned, dense young and highly flammable tree growth would still be stimulated.

The Draft EA states “[growth of shade tolerant trees will continue to outpace growth of other species.”²⁶³ This ignores all the timber sales already removing shade tolerant tree density up to 21” dbh, greatly reducing current fir abundance that would otherwise eventually become large trees. None of this science, as stated, indicates a need for large tree removal, as most tree density and competition stress is from small young trees.

The Draft EA also relies on flawed management assumptions. This modeling of 100,000 acres of logging (“treatment”) per year indicates the Forest Service intention to greatly increase

²⁶¹ Draft EA at 11.

²⁶² See Draft EA at 30.

²⁶³ Draft EA at 24.

the timber volume cut through the proposed amendment of these Forest Plans. Otherwise, using the current rate of commercial logging of 34,000 acres per year for the past decade would have been used. Obviously stand level silvicultural logging (“treatments”) would not be consistent with the Eastside Screens goal of maintaining the abundance and distribution of LOS forest, as claimed, as the proposed Forest Plans amendment would remove potentially high numbers of large trees, a critical component of LOS, and cause current LOS acreage to become non-LOS over time.²⁶⁴

A 30” dbh limit for logging large fir under the proposed alternative does not constitute “direct measurement of age” as implied in the description of the Old tree standard alternative description. *See* Draft EA at 27. Many old fir trees (= $>$ 150 years old) would be logged under the proposed alternative, based on visual old growth characteristics of firs 21-30” dbh planned for logging in the Crow HFR sale sampled and documented by Blue Mountains Biodiversity Project and witnessed also in many other proposed timber sales across the region.

Contrary to the Draft EA’s claim otherwise, the Forest Service actually, up to this point, has generally assumed that live trees = $>$ 21 “dbh should not be cut due to the need for large trees to maintain or enhance LOS structure, and have acted accordingly. The allowance provided in subsection 1 of Scenario A is to commercially log in LOS at all, thinning trees $<$ 21” dbh in order to change Old forest multi-strata to Old forest single stratum structure. Large tree logging cannot credibly be judged to maintain or improve Late Old Structure as it degrades LOS habitat conditions and over time could eliminate LOS status designation for the stand, since this is based on the number of large trees per acre. Thus, the Draft EA assumption that Subsection 1 of Scenario A does not prohibit logging live trees = $>$ 21” dbh is a novel construction, bending the existing rules under the Eastside Screens while pretending that the Forest Plans amendment would be congruent with the Eastside Screens intent. We can’t support any dilution or scrapping of the Eastside Screens.²⁶⁵

The EA’s species composition analysis neglects to recognize that large Grand fir and Douglas fir = $>$ 21” dbh are considerably more fire resistant than small or medium-sized trees.²⁶⁶ Thus large trees are important for maintaining tree species diversity after fire and for maintaining forest cover (usually in mosaic patches) after fire.

The Eastside Screens intended to maintain and increase LOS forest until it was within historical levels and that no net loss of LOS from a particular biophysical environment should occur.”²⁶⁷ The Late and Old Structure is still not within historical levels and remains at a deficit compared to historic conditions. The proposed Forest Plans amendment would not meet either of these Eastside Screens goals and would represent a departure from both goals and therefore is not congruent with the Eastside Screens goals and objectives, as claimed in the Draft EA.

In the Draft EA section entitled, “[o]ld [t]rees,” there is no mention in this section of the huge contribution of logging to the decline of old growth trees across the landscape, including

²⁶⁴ *See* Draft EA at 26.

²⁶⁵ *See* Draft EA at 27 (under “Additional Management Assumptions”).

²⁶⁶ Draft EA at 27.

²⁶⁷ Draft EA at 32.

logging removal of the next generation size class of trees that would otherwise become old trees, hazard tree removal, and increasing sale by sale logging of large trees greater than 21” dbh, as well as illegal firewood cutting of old trees.²⁶⁸ Logging contribution to the recent decline of old growth trees is a necessary but missing part of the analysis. Inter-tree species competition and insect outbreaks are not the only causes of old tree mortality. Old tree declines are also likely due to logging pressures (including loss of mycorrhizal fungal community nutrient transport to the trees) and accelerating climate change effects. Old growth Grand fir and juniper are not desired by the timber industry, which may account for their small increase. Grand fir are subject to substantial internal decay in old age, which makes them great wildlife trees. There are many old log decks in the Eastside forests filled with old growth Grand fir, likely due to internal rot discovered after felling. Some timber sales since 2001, including many on the Malheur, have been incrementally logging more and more large trees, using so-called “site specific” Forest Plan amendments. Some timber sales are converting forested areas to non-forested conditions, and this is also a likely outcome of extreme climate change effects in marginal forest/grassland areas. The Draft EA section entitled “[l]arge [t]rees” is also incorrect.²⁶⁹ Fire contributing to greater mortality of large and old trees is a good reason to retain what large and old trees survive fire and all large and old trees in areas that have not burned recently. There is certainly not an average of six trees per acre consistently on the five forests we survey, as much acreage has either been clearcut and converted to young Ponderosa pine plantations (e.g. witness the majority of the Bend-Fort Rock District of the Deschutes National Forest and the clearcut checkerboard across much of the Umatilla National Forest, as well as much of the Wallowa-Whitman National Forest) or high-graded, removing the largest trees available at the time (this includes most of the Malheur and Ochoco National Forests). So what remains of Late and Old Structure and old growth habitat is very patchy and fragmented, with most historical large tree abundance missing where it once occurred. This is very evident on timber sale maps that display locations of different forest structures.

Since most Eastern Oregon timber sales use a combination of commercial logging and prescribed fire, a 17% decrease in large trees should be predicted for most timber sales.²⁷⁰ Plus there could be a 20% loss from either prescribed fire alone or wildfire, so that should be calculated as part of the total tree loss in a timber sale area where only prescribed burning is used. This indicates a compelling need to protect large trees from logging and maintain existing large trees across the landscape, as well as to not use so much prescribed fire. The Forest Service should stop using prescribed fire in moister mixed conifer habitat as these areas were usually historically subject to mixed severity or stand replacement wildfire, not the low intensity, frequent fire that prescribed fire is intended to mimic. Given the expected increase in wildfire and the losses of large trees associated with prescribed fire, less prescribed fire could be used in dry Ponderosa pine-dominant forest where small tree thinning is not needed or is preferable to burning. Prescribed fire burns large live trees, large snags, and large logs, and also often results in secondary Pine bark beetle infestations, likely from stressing the burned trees, possibly from removing moisture in the soil outside of the typical dry season. This is a de facto extension of drought stress. These calculated losses in large trees from logging and prescribed fire management support my contentions above that the effects of logging and other management

²⁶⁸ Draft EA at 32.

²⁶⁹ Draft EA at 32.

²⁷⁰ See Draft EA at 33.

must be considered in analysis of old and large tree declines and factor into decisions about how to maintain and increase large and old trees on the landscape—which is certainly not by commercial size logging and prescribed burning. Size classes of trees greater than 15” dbh increasing in all tree species, as claimed is likely due to the Eastside Screens 21” dbh limit more than to opening up stands with commercial logging.²⁷¹

The EA’s Environmental Effects—Species Composition section makes it clear that the real goal of the Forest Plans amendment is to convert more forest to Ponderosa pine or Western larch whether it was dominated by those species historically or not—in other words, business as usual for the timber industry, with much greater timber volume. The ecological role of succession is ignored and the discussion now focuses not on protecting old trees but on conversion to timber industry desired tree species composition.

The characterization of the current management alternative at 3.1.6.1.1.2 falsely assumes that there are no other stand thinning mechanisms other than logging and wildfire, whereas insects, disease, wind throw, droughts, and inter-tree competition and suppression are all natural thinning mechanisms that act to thin forests into historic mosaics.²⁷² Wildfire suppression, overstory logging, and livestock grazing are most to blame for current in-growth of small trees, as well as an earlier moister climatic period.

The limited assumptions (rather than in-depth analysis) addressing the proposed “Old and large tree guideline alternative” and the “Old tree standard alternative” both complain that “succession will continue to promote shade tolerant species like white fir/grand fir” (it’s Grand fir), as if this is an unnatural problem to be solved rather than a natural successional stage for moister mixed conifer forest and high elevation forest with heavier snowpack. This set of stated assumptions ignores the fact that natural succession is a natural ecological process that should be allowed to occur to create Late and Old Structure and old growth habitat regardless of the climax tree species dominance. All this emphasis on only allowing large fire tolerant species to become old is not just about fire resilience but about artificial prevention of natural succession to climax species such as Grand fir and Douglas fir to gratify the timber industry. This is, in effect, an old growth and LOS prevention program for moist mixed conifer forest and cold dry high elevation forest types, as well as for “warm dry” Douglas fir dominant or co-dominant forest. For these forest types (with the exception of co-dominant Ponderosa pine and Douglas fir or co-dominant Ponderosa pine and Grand fir), Ponderosa pine and Western larch are early successional species or edge species that are not climax species and should not be expected to dominate these forest types in late successional stages. This is ecological reality context that the Forest Service avoids discussing in this Draft EA. The result is strung together assumptions rather than the in-depth analysis required by NEPA.

Additionally, the claim that National Forest lands in the region have longer timber logging rotation periods than private lands is laughable.²⁷³ Current Forest Service timber sale rotations are far short of 150 years in Eastern Oregon and as frequent as 30 years or less. I’ve been back to the same timber sale areas I’ve surveyed before on Eastern Oregon National Forests

²⁷¹ See Draft EA at 34.

²⁷² Draft EA at 35.

²⁷³ Draft EA at 105.

within the last 29 years and as soon as only nine years later twice to survey yet another planned timber sale within the previous sale footprint. Arguably the current accelerated pace and scale of logging in Eastern Oregon by the Forest Service on National Forests now exceeds that of the timber industry on most private lands. The current pace, scale, and intensity of Forest Service logging in Eastern Oregon and Southeastern Washington is completely unsustainable and would be increased by the proposed Forest Plans amendment.

c. Additional wildlife concerns.

So where is the in-depth analysis of potential effects of the action alternatives to each individual species associated with Late and Old Structure referenced on page 72 of the Draft EA? Why are the Sensitive listed species associated with Late and Old Structure not even identified by name? This is ridiculously inadequate analysis.

Somehow the size of snags and down wood is not considered a “relevant parameter” for discussing the relationship of snags to wildlife and ecological processes, even though size is generally more important for wildlife and ecological processes than species composition. This is a critical analysis omission since it is mostly the size of available snags and down wood that would be affected by the three action alternatives.

What does this mean, that data were “imputed” using plots from 2001 to 2016 to somehow make trend data available from 1995, when the first trend data referenced in the Draft EA (page 72) is only from 2001? This appears to be inaccurate use of the science.

It’s absurd that no large wood effects analysis was conducted and apparently no projection of potential effects to future large snag abundance was conducted, since logging large trees also removes future large snags and logs. This is grossly insufficient analysis.

This is an incredibly scanty, unnuanced, and biased portrayal of wildlife effects, lacking relevant detail and current trends. There is no discussion of known population status, population trends, reproductive success rates, or vulnerability ranking for any of the LOS-associated wildlife species on these Forests, all of which is necessary for determining species viability. There is not even any analysis of availability of suitable habitat for the LOS-associated species or the effects of the alternatives. The Forest Service has almost completely ignored effects to wildlife from the proposed Forest Plans amendment.

All three action alternatives would exacerbate the poor viability outcomes referenced in 2nd par. under “Blue Mountains Ecoregion” on page 75, as even species in decline that are associated with more open conditions are often dependent on large tree abundance, including Whiteheaded woodpecker, Northern Flicker, Williamson’s Sapsucker, and Great gray owl. The apparent intent of the action alternatives is not only to log more large and old trees, which may account for declines of many Blue Mountains species since past over-logging of large and old trees (including Whiteheaded woodpecker), but also to remove forest density, which is driving many density-associated species into decline already, including Vulnerable-ranked American marten, Pileated woodpecker, Three-toed woodpecker, Blackbacked woodpecker (at least in the Deschutes), and Mule deer (in the Deschutes and apparently now in the Malheur.) This list,

which is not in the Draft EA, does not even include the many Neotropical migratory songbirds already in decline that use multi-layered canopy forest in the Blue Mountains as summer habitat. Northern goshawk may soon be in decline due to the increased scale and pace of logging focusing on removal of dense trees.

The Forest Service chronically cites benefits to Whiteheaded woodpecker from logging to very low basal areas. The species is dependent on large old Ponderosa pine that the Forest Service is culpable for allowing to be logged in the past but the Forest Service often fails to acknowledge that the Whiteheaded woodpecker also uses smaller tree Ponderosa pine thickets for insect gleaning. The EA fails to consider the cumulative effects to density-associated species of many large timber sales already implemented, especially on the Malheur, to benefit Whiteheaded woodpecker by removing dense trees.

Why are the Sensitive species associated with LOS on each Forest not identified? We are left to guess which species they are. These LOS-associated Sensitive species are as varied in their habitat needs as mammals and birds can be, since they likely include Pacific fisher and Lewis' woodpecker. Each LOS-associated species needs to be identified and analyzed for effects of the action alternatives and current management. This is some of the most inadequate analysis we have seen in 29 years of reading EAs and EISs for the affected Forests in the Blue Mountains region and 19 years of reading EAs and EISs from the Deschutes National Forest staff.

The Management Indicator species (MIS) associated with Late and Old Structure on these Forests are not even identified, even though MIS were designated by the Forest Service to meet National Forest Management Act requirements, which include monitoring and protecting Management Indicator species to ensure the viability of a much broader range of species that MIS represent for use of similar habitats. For the Blue Mountains Forests, Management Indicator species include Pileated woodpecker, American marten, and all primary cavity excavating woodpeckers, many of which are associated with Late and Old Structure forest, including Pileated, Whiteheaded, Lewis' and Three-toed woodpeckers, Northern flicker, Williamson's sapsucker, and American marten. Rocky Mountain elk is also a Management Indicator species for these Forests that is associated with denser forest, which is also being threatened with significant reduction through the three action alternatives. All of these species should have been individually analyzed for effects from the action alternatives, as they represent different types of suitable habitat and forest structure requirements. This individualized analysis for the different species at risk from proposed actions is standard for EAs and EISs for the Blue Mountains and Eastern Cascades National Forests, as NEPA requires in-depth analysis of potential environmental impacts. As with the Sensitive and Threatened-listed species, this EA does not even identify these species' habitat requirements, the amounts of suitable habitat available for them on each affected Forest, or the cumulative impacts to those habitats.

Just numbers in a table (Table 16, Draft EA at 77) of Management Indicator species, Federally-listed species, and Sensitive listed species and the numbers of those associated with LOS for each Forest tells us nothing about how the Forest Plans amendment could affect these specially designated species that were designated so that their viability would be monitored and protected—in part, through detailed analysis of potential effects to these species in NEPA

documents.

The EA's analysis on the current status of Rocky Mountain elk, Mule deer, and Columbia White-tailed deer is wholly inadequate.²⁷⁴ What about detail on their respective needs for adequate forest cover and security? What about their avoidance of disturbance, such as for logging and road use? Why is there no discussion on the current decline of Mule deer on the Deschutes and Malheur National Forests? The effects analysis for deer and elk in the Draft EA only addresses their need for forage, as if they don't need hiding and thermal cover (security cover), specific fawning and calving security cover areas, and wildlife connectivity corridors for migration or dispersal to more suitable habitat, all of which the three action alternatives would threaten by further reducing forest density down to very low basal areas with the removal of large trees. Reduction of forest density appears to be an integral part of this Forest Plans amendment even though it is not stated explicitly as part of the purpose and need for the amendment. The analysis fails to acknowledge the high preference of elk for closed canopy dense forests for security cover or their avoidance of roads. Regarding deer and elk forage requirements, the analysis does not consider the leading causes of forage depletion—livestock grazing in the Blue Mountains Forests and increasing shrub mowing in the Deschutes National Forest. This is extremely biased and inadequate analysis.

This is a very inadequate analysis of the complex issues of wildlife effects from climate change, not even mentioning many species' need to migrate or disperse to more suitable habitat in moister, denser forest at higher elevations and North as currently suitable habitat becomes unsuitable, or their need for security cover in wildlife connectivity corridors.²⁷⁵ These considerations are needed for the Forest Plans amendment analysis because the analysis admits that the proposed action—and all of the action alternatives—would greatly reduce forest density to very low canopy closure and basal areas across the six Forests affected. Species affected by the need for migration and dispersal security cover would include MIS Pileated woodpecker, American marten, and Rocky Mountain elk, as well as Sensitive Pacific fisher, Threatened-listed Canada lynx, Candidate for up-listing wolverine, and even potentially Sensitive Columbia frogs, who migrate to headwaters areas, and Threatened Gray wolves in search of dispersing prey species.

There's no discussion (or even mention) of increased declines in many Neotropical migratory songbirds due to lack of suitable multi-layered canopy forest habitat and large trees, both of which would be sacrificed further under the proposed Forest Plans amendment, and how climate change would likely exacerbate these habitat losses and contribute to a trend toward up-listing for the affected species.

There's no analysis of the need to maximize mature and large tree carbon sequestration and storage and the related need for maximizing tree carbon for soil carbon sequestration and storage to reduce the effects of climate change to both wildlife and people. There's also no discussion of how the action alternatives would further reduce carbon storage and sequestration. There's also no energy use budget calculated for net contributions to Carbon dioxide emissions from the increased logging intensity and the increased loss of large trees posed by all three action

²⁷⁴ Draft EA at 77–78.

²⁷⁵ See Draft EA at 78.

alternatives.

The refusal in the EA to even briefly consider potential effects to Threatened-listed Gray wolf, Candidate for up-listing wolverine, and Columbia spotted frog is striking in its incongruence with other EAs and EISs.²⁷⁶ Canada lynx are also known to occur on the Ochoco National Forest and the Umatilla National Forest and are likely to occur on the Deschutes National Forest in the Wilderness Areas and high elevation forest with suitable habitat. Lynx are also known to historically occur on the Malheur National Forest and may still exist there—particularly on the Prairie City Ranger District. Lynx also disperse far more widely in the summer, using habitat far lower in elevation and of different forest types than winter habitat. Lynx have been seen in the summer near the John Day River and in mid-elevation Ponderosa pine/Douglas fir habitat near the Southwest end of the Umatilla National Forest. There used to be Lynx Analysis Units designated in both the Umatilla and Ochoco National Forests. Their removal from designation was politically motivated, not based on science, according to an agency employee privy to the internal agency discussions at the time. Effects to Canada lynx should have been analyzed based on historic and more recent evidence of lynx in the region. A lynx was positively sighted by agency staff in the Ochoco National Forest in the 1990's and again by Blue Mountains Biodiversity Project volunteers there in about 2003. There are likely lynx in the Eagle Cap Wilderness area and the Snow Basin timber sale area nearby on the Wallowa-Whitman National Forest, as well as local sightings of lynx in the past on the Prairie City District of the Malheur National Forest. There is suitable habitat for lynx in all of the National Forests we survey, which includes all of the Forests affected by the Forest Plans amendment except for the Fremont-Winema. Forest fragmentation negatively affects Canada lynx and would be exacerbated by the proposed Forest Plans amendment.

Suitable security cover (including thermal cover) for deer and elk requires at least 40% canopy closure, but this is not included as a key indicator of effects to habitat and the species; only forage availability and quality is considered.²⁷⁷ This is very biased analysis supporting reduction of forest density for forage without consideration of the competing need for deer and elk to have suitable security cover.

There is only an incomplete listing (only two species) of wildlife species associated with LOS closed canopy habitats, which fails to include Pileated woodpecker, American marten, numerous bird species, etc.²⁷⁸ Pacific fisher also exist on the Ochoco and Umatilla National Forests. The Forest Service has acknowledged existence of Pacific fisher in the Fox roadless area of the Umatilla National Forest. A volunteer and I both had a positive daylight sighting of a Pacific fisher in the Wolf sale on the Ochoco National Forest when we were field surveying that sale. Pacific fisher have also been documented as possibly being in the Newberry Volcanic National Monument crater area on the Bend-Ft. Rock District. Clearly, the Forest Service does know about the Forest Service-recorded sightings or photographs of Pacific fisher on these Forests but inexplicably failed to include them in this Draft EA. There should have been detailed analysis regarding effects to Pacific fisher in this Draft EA, as Pacific fisher rely on large old trees with interior decay cavities for denning as well as the presence of very large logs, which

²⁷⁶ Draft EA at 78.

²⁷⁷ Table 17, Draft EA at 80.

²⁷⁸ See Draft EA at 80.

they use like travel runways.

Contrary to the implication on page 80 of the Draft EA and elsewhere that outdated science regarding desired snag levels for wildlife and current management lacking specific guidelines regarding snag recruitment through green tree retention would be addressed by the proposed action alternative, that alternative would actually reduce large snag abundance and large green tree retention below current management levels.

It is simply not true, as claimed under “Meadow and Wetland Habitats” that the current tree diameter limit of 21” dbh for logging “has limited the ability to remove conifers encroaching on meadows and wetlands” to any significant degree, as the vast majority of “encroaching” trees are very small (generally only up to 10” dbh) and large trees >21” dbh are old enough to not likely represent encroachment from wildfire suppression.

The Draft EA further states that for deer and elk, current management has not only allowed, but succeeded in opening a lot of closed canopy forest habitat without logging large trees, as recognized elsewhere in the Draft EA. The lack of large tree logging has not significantly limited thinning to increase the quality and quantity of forage for deer and elk. This is a very biased analysis.

Likewise, not logging large trees has not caused any significant reduction in active management that would theoretically “restore forest resiliency and enhance the sustainability of LOS habitats and other forested habitats,” as claimed on Draft EA page 82.

There is no justification in the analysis for the assumption that monitoring would allow “changes in the availability of late and old trees to be detected in a timely fashion so that adaptive management occurs before the viability outcome of any MIS or R6 Sensitive species is reduced.” Draft EA at 82. There is no apparent plan or guaranteed funding to make sure such monitoring and adaptive management actually take place—much less in a timely fashion—under the proposed alternative. There is also no analysis-based justification that the proposed alternative would “provide for the viability of wildlife species associated with late-closed [LOS] habitats.” Viability outcomes are already below historical conditions not just for the Whiteheaded woodpecker, but for the Vulnerable ranked marten, the Three-toed woodpecker, and other species needing denser LOS habitat.

It is false to claim that large tree logging is needed “so that the impact of stressors such as competition, fire, insects, diseases, and drought would be reduced”, as most competition between trees is only from small trees (generally 9-12” dbh), not large ones =/ >21” dbh and as large trees are far more resistant to fire in particular, yet would be removed.²⁷⁹

In fact, the proposed alternative would reduce resilience to stressors through more logging to low basal areas and significant reductions in biomass needed for soil nutrient cycling, carbon storage, and wildlife and would reduce the retention of snags >20” dbh and green tree retention below current management levels. This is not clarified or analyzed in the wildlife analysis even though it’s clear from other sections of the Draft EA.

²⁷⁹ Draft EA at 83.

d. Additional concerns for other plant species.

The plant effects analysis and Table 24 assessment of threats to listed and Sensitive plant species fail to address loss of future large down wood and large snags from logging large trees, reduced large snag retention under the action alternatives, potential negative change in micro-climates from logging more large trees, and specific (by plant) disturbance from logging large trees, as well as fine sediment increase to riparian areas from logging large trees.

The sweeping conclusion of MIIH for all 47-117 species of Sensitive plants per Forest (see Table 22, Draft EA at 89) is not justified with any detailed analysis for each plant species in the EA, although this is the norm for Forest Service botany effects analysis.

Again, regarding the current management alternative, large tree logging is not necessary or desirable for reducing “uncharacteristic” tree mortality from disturbance. In fact, logging large trees constitutes uncharacteristic large and old tree mortality. The characterization of current management is again biased in the Botany section of the analysis to favor the action alternatives.

XI. A forest and fire ecologist’s concerns regarding the proposed amendment.

Chad Hanson, Ph.D. is an Ecologist for the John Muir Project of Earth Island Institute. He has reviewed the Draft EA at the request of BMBP and has many additional concerns.²⁸⁰

a. Omission of entire bodies of dissenting science on historical forest density, composition, and mixed/high-severity fire.

The Draft EA relies on a group of U.S. Forest Service-funded studies that were recently found to have severely underestimated historical forest density (by at least twofold to threefold), and historical occurrence of higher-severity fire, due to improper exclusion of key data and failure to correct for well-documented underestimations in forest density (which were acknowledged by the Forest Service in multiple reports in the early 20th century) in historical US Forest Service surveys used as the basis for these studies. Yet the Draft EA fails to acknowledge, discuss, or cite to the studies that have identified and corrected these methodological errors, thus improperly omitting entire bodies of dissenting scientific evidence finding that the historical forests were much denser, had more fir, and had more mixed- and high-severity fire than previously claimed or assumed (and, in fact, current forests have less higher-severity fire than these forests had historically, prior to fire suppression). The studies improperly omitted by the EA include Williams and Baker (2012), Odion et al. (2014), Odion et al. (2016), Baker (2017), Baker and Hanson (2017), and Baker et al. (2018).²⁸¹ This omitted research establishes a very high level of accuracy of these data, based on the most extensive accuracy-checking and cross-validation in the history of fire ecology, including: 20 modern validations with plot data; 47 specific historical cross-validations in small areas; six large areas with general cross-validations; 99 corroborating observations from scientific studies; and general corroboration from seven

²⁸⁰ See Exhibit 118 (Chad Hanson’s Comments 2020).

²⁸¹ Exhibit 119 (William & Baker 1012); Exhibit 120 (Odion et al. 2014); Exhibit 121 (Odion et al. 2016); Exhibit 122 (Baker 2017); Exhibit 123 (Baker & Hanson 2017); Exhibit 124 (Baker et al. 2018).

paleo-reconstructions (Baker et al. 2018).²⁸²

The Draft EA cites in numerous places to Johnston (2016), but that study attempted to reconstruct historical forest density by using current forests and then determining how many of the current trees were alive in the historical reference time period based on their size and age. However, this approach necessarily excludes the countless trees that lived during the historical reference period, but which died due to age, fire, or drought and native bark beetles, and which fell and decayed into soil long before the field sampling of current forests was conducted.²⁸³ Thus, this approach is guaranteed to substantially underestimate historical forest density.

Further, when John C. Fremont and his team, including Kit Carson, explored the Blue Mountains in 1845, Fremont's journals frequently described forest conditions. Below, in order, are quotes pertaining to all of his descriptions of forest density and structure (generally, tree size) in the Blue Mountains (journal excerpts attached to these comments):²⁸⁴

Page 540: "...the country is covered with nutritious grasses and dense forestland..."

Page 540: "...the timber exhibits a luxuriance of growth unknown to the eastern part of the continent..."

Page 542: "From the summit here, the whole horizon shows high mountains...and on the left, from south around by the west to north, the mountains are black with pines; while, through the remaining space to the eastward, they are bald with the exception of some scattered trees..."

Page 542: "You will remark that we are now entering a region where all the elevated parts are covered with dense and heavy forests."

Page 543: "It is probable that they have received their name of the Blue moutitains [sic] from the dark-blue appearance given to them by the pines."

Page 544: "On either side, the mountains here are densely covered with tall and handsome trees; and, mingled with the green of a variety of pines..."

Page 546: "There are some pines here on the low hills at the creek; and in the northwest corner of the Rond is a very heavy body of timber, which descends into the plain."

Page 546: "Passing through a point of pines...in which the trees were sometimes apparently 200 feet high and 3 to 7 feet in diameter..."

Page 546: "Resuming our journey, we commenced the ascent of the mountain through an open pine forest of large and stately trees..."

²⁸² See Exhibit 124.

²⁸³ See Exhibit 123 (Baker & Hanson 2017). See also Exhibit 155 (Hart & Preston 2020); Exhibit 156 (Meigs et al. 2016); Exhibit 157 (Six et al. 2018).

²⁸⁴ The full text of Fremont's observations during his travels through the Blue Mountains can be found at: http://www.archive.org/stream/expeditionsofjoh01fr/expeditionsofjoh01fr_djvu.txt.

Page 547: "...continuing our route among the pines, which were more dense than yesterday, and still retained their magnificent size."

Page 547: "After a few miles we ceased to see any pines... These trees appeared from 60 to nearly 200 feet in height; the usual circumference being 10 to 12 feet, and in the pines sometimes 21 feet."

Page 547-548: "After travelling occasionally through open places in the forest, we were obliged to cut a way through a dense body of timber, from which we emerged on an open mountain side..."

Page 548: "We continued to travel through the forest, in which the road was rendered difficult by fallen trunks, and obstructed by many small trees, which it was necessary to cut down... A laborious day, which had advanced us only six miles..."

Page 548: [the following day] "The trail passed sometimes through very thick young timber, in which there was much cutting to be done; but, after travelling a few miles, the mountains became more bald..."

Page 548: "On our right was a mountain plateau, covered with a dense forest; and to the westward, immediately below us, was the great Nez Perce (pierced nose) prairie, in which dark lines of timber indicated the course of many affluents..."

Page 549: "...descending a bad ravine, into which we drove our animals, and had much trouble with them, in a very close growth of small pines."

Page 549: "After cutting through two thick bodies of timber... the forest became more open... The pines here were 11 or 12 feet in circumference..."

From these journal notes, of approximately 18 references to forest density, 12 of them (67%) describe dense/heavy/dark/thick/close forests versus 6 pertaining to open/bald conditions. In approximately half of the locations in which dominant tree size is discussed, the trees were small, while large overstory trees dominated in other locations. These notes indicate highly variable historical forest conditions, contrary to the relatively homogeneous conditions that the Scoping Notice assumes to have occurred. Moreover, Fremont's descriptions are generally consistent with the findings of Williams and Baker (2012), based on late 19th century General Land Office field data, of highly variable forests—with many medium to high density areas—dominated by mixed-severity fire effects, not by low-severity fire (40% of forests were characterized by low-severity fire effects, while 60% were characterized by mixed/high-severity fire).

b. Omission of entire bodies of dissenting science regarding the role of logging, including logging of larger trees, in increasing fire severity.

The Draft EA claims repeatedly that increased logging and removal of larger trees will somehow reduce future fire severity, but the Draft EA omits numerous dissenting scientific studies finding that logging, including commercial thinning that removes mature trees, increases fire severity by reducing the cooling shade of forest canopy cover, creating hotter, drier, and windier conditions, spreading combustible invasive grasses like cheatgrass, and leaving behind some kindling-like logging slash debris. The omitted studies include Hanson and Odion (2006), Thompson et al. (2007), Cruz et al. (2008), Cruz and Alexander (2010), Cruz et al. (2014), Bradley et al. (2016), and Zald and Dunn (2018).²⁸⁵

The Draft EA relies upon Prichard et al. (2020) for the proposition that commercial thinning is an effective fire management strategy, but fails to divulge that, despite misleading statements in the Abstract and elsewhere by the authors, Prichard et al. (2020) actually found that most of the thinned areas burned at higher severities (see Figures 1, 3, and 10 of Prichard et al. 2020), and Prichard et al. (2020) failed to disclose the portion of trees that were killed and removed by thinning itself, so the cumulative mortality from thinning and fire would have been even higher than the authors reported. This is a key issue, since studies which have directly investigated this issue, and which were omitted by the Draft EA, have found that thinning, conducted ostensibly as fire management and to facilitate greater net survival of trees, results in an overall net loss of forest carbon storage and an increase in carbon emissions, which is another way to say that thinning kills more trees than it prevents from being killed.²⁸⁶

c. The Draft EA omits key evidence regarding imperiled wildlife.

The Draft EA fails to divulge research finding serious adverse impacts to imperiled martens from commercial thinning (Moriarty et al. 2016).²⁸⁷ Moreover, the Draft EA claims, without citing to any primary studies on this species, that imperiled white-headed woodpeckers depend on open (low canopy cover), old forests, and that this species is threatened by higher-intensity fire—a claim the Draft EA uses to justify logging and removal of larger, old trees. However, white-headed woodpeckers are strongly associated with large *dead* trees, not large live ones, and they do not use higher-severity fire areas (where no postfire logging has occurred) less than unburned old forest (Hanson 2007, Hanson and North 2008), in direct contradiction to the assumptions in the Draft EA.²⁸⁸

²⁸⁵ Exhibit 125 (Hanson & Odion 2006); Exhibit 126 (Thompson et al. 2007); Exhibit 127 (Cruz et al. 2008); Exhibit 128 (Cruz & Alexander 2010); Exhibit 129 (Cruz et al., 2014); Exhibit 130 (Bradley et al. 2016); Exhibit 131 (Zald & Dunn 2018); Exhibit 158 (DellaSala & Hanson 2019).

²⁸⁶ See, e.g., Exhibit 132 (Campbell et al. 2012); Exhibit 133 (Hudiberg et al. 2013); Exhibit 134 (Six et al. 2014).

²⁸⁷ Exhibit 135 (Moriarty et al. 2016).

²⁸⁸ Exhibit 136 (Hanson 2007); Exhibit 137 (Hanson & North 2008).

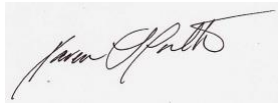
XII. Conclusion

The existing 21” diameter limit on logging created by the original Eastside Screens establishes a clear and enforceable standard to protect large and old trees. This Draft EA abandons the original practical standard and is replacing it with a subjective and non-enforceable guideline. In addition to the weak guideline being proposed, the Draft EA is a direct contradiction to the original Eastside Screens. The Eastside Screens were intended only to be replaced by a more comprehensive plan that focuses on overall ecosystem restoration, not a narrow amendment like the current proposal sets forth. The Forest Service must restart its NEPA process for this proposed change by preparing a comprehensive EIS and complying with all heightened procedural requirements mandated by NFMA.

Sincerely,



Tom Buchele
Earthrise Law Center
Counsel for BMBP



Karen Coulter
Director
BMBP



Paula Hood
Co-Director
BMBP

List of Exhibits:

Exhibit 001: *Environmental Assessment for the Continuation of Interim Management Direction Establishing Riparian, Ecosystem and Wildlife Standards for Timber Sales*, U.S. FOREST SERV. REGION 6.

Exhibit 002: *Decision Notice for the Continuation of Interim Management Direction Establishing Riparian, Ecosystem, and Wildlife Standards for Timber Sales*, U.S. FOREST SERV., (May 20, 1994).

Exhibit 003: *Eastside Screens Enclosure to Guidance Letter from Regional Forester James M. Peña to Forest Supervisors and Deputy Forest Supervisors regarding Revision of the 2003 Goodman Letter and Guidance on Projects with Proposed Project-Specific Plan Amendments*, U.S. FOREST SERV., (Sept. 2015).

Exhibit 004: Dominick A DellaSala, Ph. D & William L. Baker, Ph. D, *Large Trees: Oregon's Bio-Cultural Legacy Essential to Wildlife, Clean Water, and Carbon Storage* (Oct. 2020).

Exhibit 005: Franklin et al., *An Open Review of the: Proposed Action and Alternatives in the US Forest Service Pacific Northwest Region's Forest Plans Amendment: Management Direction for Large Diameter Trees in Eastern Oregon Environmental Assessment (preliminary, August 2020)*.

Exhibit 006: Dominick A. DellaSala, Ph.D. et al., *Open Letter to The Forest Service on the Importance of Large, Old Trees and Forests*.

Exhibit 007: Bisson et al., *Large Woody Debris in Forested Streams in the Pacific Northwest: Past, Present, Future, in Streamside Management: Forestry and Fishery Interactions 143– 190* (Ernest O. Salo & Terrance W. Cundy eds., 1987).

Exhibit 008: Robert E. Bilby & Peter A. Bisson, *Function and distribution of Large Woody Debris, in Rivery Ecology and Management: Lessons from the Pacific Coastal Ecoregion 324– 346* (Robert J. Naiman et al. eds., 1998).

Exhibit 009: Christopher Frissell et al., *Conservation of Aquatic and Fishery Resources in the Pacific Northwest: Implications of New Science for the Aquatic Conservation Strategy of the Northwest Forest Plan*. Prepared for the Coast Range Association (Aug. 2014).

Exhibit 010: Brendan J. Hicks et al., *Long-term Changes in Streamflow Following Logging in Western Oregon and Associated Fisheries Implications*, 27 *Water Resources Bulletin* 2, at 217– 226 (1991).

Exhibit 011: Michael Pollock & Timothy Beechie, *Does Riparian Forest Thinning Enhance Forest Biodiversity? The Ecological Importance of Downed Wood*, 50 *Journal of American Waters Resource Association (JAWRA)* 3, at 543–559 (2014). DOI: 10.1111/jawr.12206.

Exhibit 012: S. Ralph et al., *Stream channel morphology and woody debris in logged and unlogged basins of western Washington*, 51 *Canadian Journal of Fisheries and Aquatic Sciences* 1, at 37–51 (1994).

Exhibit 013: Thomas Spies, et al. *Effects of Riparian Thinning on Wood Recruitment: A Scientific Synthesis*. Science Review Team, Northwest Fisheries Science Center (Jan. 28, 2013).

Exhibit 014: Evelyn L. Bull et al., *Trees and Logs Important to Wildlife in the Interior Columbia River Basin*, U.S. FOREST SERV., General Technical Report 391 (1997).

Exhibit 015: U.S. FOREST SERV. FOIA RESPONSE NO. 2016-FS-R6-00106-F, *Eastside Screens Enclosure; Recent Science Findings and Practical Experience: Implications for the Eastside Screens September 2015*.

Exhibit 016: Thomas M. Quigley et al., *Integrated Scientific Assessment for Ecosystem Management in the Interior Columbia Basin and Portions of the Klamath and Great Basins*, U.S. FOREST SERV., PNW Research Station., PNW-GTR-382 (1996).

Exhibit 017: David J. Flaspohler, *Temporal Patterns in Aquatic and Avian Communities Following Selective Logging in the Upper Great Lakes Region*, 48 *Forest Science* 2, at 339– 349 (2002).

Exhibit 018: Kreutzweiser et al., *Macroinvertebrate Community Responses to Selection Logging in Riparian and Upland Areas of Headwater Catchments in a Northern Hardwood Forest*, 24 *Journal of the North American Benthological Society* 1, at 208–222 (2005).

Exhibit 019: Antoine Lecerf & John S. Richardson, *Litter decomposition can detect effects of high and moderate levels of forest disturbance on stream condition*, *Forest Ecology and Management*, 2433– 2443 (2010).

Exhibit 020: S.M. Guenther et al., *Stream and bed temperature variability in a coastal headwater catchment: influences of surface-subsurface interactions and partial-retention forest harvesting*, 28 *Hydrological Processes*, at 1238–1249 (2012).

Exhibit 021: *Draft Environmental Impact Statement: Proposed Revised Land Management Plans for the Malheur, Umatilla, and Wallowa-Whitman National Forests, Volume 2*, U.S. FOREST SERV. (Feb. 2014).

Exhibit 022: Jonathan Rhodes et al., *A Coarse Screening Process for Evaluation of the Effects of Land Management Activities on Salmon Spawning and Rearing Habitat in ESA Consultations*, CRITFC Tech. Rept. 94-4 (Dec. 1994).

Exhibit 023: Don C. Erman et al., *Riparian Areas and Wetlands: Appendix 3- Management and land use buffers*. Sierra Nevada Ecosystem Project Final Report to Congress, Vol. III, at 270–273. Wildland Resources Center Report No. 39, University of California, Davis (1996).

Exhibit 024: F. Al Espinosa et al., *The Failure of Existing Plans to Protect Salmon Habitat on the Clearwater National Forest in Idaho*, 49 *J. Env't Mgmt.*, at 205–230 (1995).

Exhibit 025: Nicole Heller & Erika S. Zavaleta, *Biodiversity management in the face of climate change: A review of 22 years of recommendations*, *Biological Conservation* 142, at 14–32 (2008).

Exhibit 026: Robert Al-Chokhachy et al., *Evaluating the Status and Trends of Physical Stream Habitat in Headwater Streams within the Interior Columbia River and Upper Missouri River Basins Using an Index Approach*, *American Fisheries Society* (2010).

Exhibit 027: Independent Scientific Advisory Board, *Climate Change Impacts on Columbia River Basin Fish and Wildlife* (May 11, 2007).

Exhibit 028: United States Fish and Wildlife Service (USFWS), *Bull Trout Final Habitat Justification: Rational for Why Habitat is Essential, and Documentation of Occupancy* (Oct. 18, 2010), http://www.fws.gov/pacific/bulltrout/pdf/Justification_Docs/BTFinalJustifyfulldoc.pdf .

Exhibit 029: J. A. Jones, J. & G. E. Grant, *Peak flow responses to clear-cutting and roads in small and large basins, western Cascades, Oregon*, 34 *Water Resources Research* 4, at 959–974 (1996).

Exhibit 030: Steve Haeseker et al., *Walla Walla River Bull Trout Ten Year Retrospective Analysis and Implications for Recovery Planning*, Funded by U.S. Fish and Wildlife Service and U.S. Geological Survey, Utah Cooperative Fish and Wildlife Research Unit, Department of Watershed Sciences, and Utah State University (Sept. 20, 2014).

Exhibit 031: Beverly E. Law et al., *Land Use Strategies to Mitigate Climate Change in Carbon Dense Temperate Forests*, *PNAS* (Jan. 22, 2018).

Exhibit 032: Richard L. Hutto et al., *Toward a more ecologically informed view of severe forest fires*, 7 *Ecosphere* 2, e01255. 10.1002/ecs2.1255 (2016).

Exhibit 033: Lee Benda et al., *Geomorphology of steep headwaters: the transition from hillslopes to channels*, *Journal of the American Water Resources Association* 41, at 835–851 (Aug. 2005).

Exhibit 034: D. Caissie, *The thermal regime of rivers: a review*, 51 *Freshwater Biology*, at 1389– 1406 (2006).

Exhibit 035: Philip R. Kaufmann & John M. Faustini, *Simple measures of channel habitat complexity predict transient hydraulic storage in streams*, *Hydrobiologia* 685: 69–95 (2012).

Exhibit 036: *Draft Environmental Impact Statement: Proposed Revised Land Management Plans for the Malheur, Umatilla, and Wallowa-Whitman National Forests, Volume 1*, U.S. FOREST SERV. (Feb. 2014).

Exhibit 037: Charles C. Coutant, *Perspectives on temperature in the Pacific Northwest's fresh waters*. *Environmental Sciences Division Publication*, US DEPT. OF ENERGY, TENNESSEE (1999).

Exhibit 038: J.C. Croke & P.B. Hairsine, *Sediment delivery in managed forests: a review*, *Environmental Review*, v. 14, at 59–87 (2006).

Exhibit 039: R. Dennis Harr & Bengt A. Coffin, *Influence of Timber Harvest on Rain-On-Snow Runoff: A Mechanism for Cumulative Watershed Effects*. *Interdisciplinary Approaches in Hydrology and Hydrogeology*, American Institute of Hydrology, at 455–469 (1992).

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