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21 July 2025

TO: Objections Reviewing Officer, Eric Watrud, Umatilla Forest Supervisor
VIA: objections-pnw-umatilla@usda.gov

Subject: 36 CFR 218 objection of the Ellis Project draft ROD

Dear Forest Service:

In accordance with 36 CFR 218, Oregon Wild hereby objects to the project described below.

DOCUMENT TITLE: Draft Record of Decision, and Final Environmental Impact Statement for the Ellis Integrated Vegetation Project

PROJECT DESCRIPTION: dROD chooses Alt 2

- 25,207 acres of conifer thinning with 21" dbh limit (including 4,996 ac juniper treatment)
- 53,872 acres of small diameter thinning (0-9" dbh)
- 273 miles of 500' fuel breaks: includes 7,557 acres of commercial thinning up to 21" dbh and 23,519 acres of small diameter thinning
- 17 miles road construction
- 606 miles haul routes
- 87,000 acres prescribed fire
- dROD also chooses No Action for road management (road closures) so it's not really an "integrated" project anymore

PROJECT LOCATION (Forest/District): Heppner Ranger District, North Fork John Day Ranger District, Umatilla National Forest, Morrow, Umatilla, and Grant Counties, Oregon.

Project Link: https://www.fs.usda.gov/r06/umatilla/projects/41350

NAME AND TITLE OF RESPONSIBLE OFFICIAL: Doug McKay, Heppner District Ranger

LEAD OBJECTOR: Oregon Wild

REQUEST FOR MEETING TO DISCUSS RESOLUTION: Oregon Wild hereby requests a meeting to discuss potential resolution of the issues raised in this objection.

NARRATIVE DESCRIPTION OF THOSE ASPECTS OF THE PROPOSED DECISION ADDRESSED BY THE OBJECTION:

Oregon Wild objects to:

1. The decision to NOT adopt the road closures and decommissioning in Alt 2, and the lack of hard look analysis of the decision to DISintegrate this supposedly *integrated* project. Failure to disclose the effects of the modified alternative and consider the adverse effects, especially on elk security and elk distribution.
2. Logging and road building in unroaded areas >1,000 acres or contiguous with inventoried roadless areas or wilderness.
3. The large spatial footprint of the logging and the failure to consider the cumulative effects of such large-scale commercial logging (some on steep slopes), plus road construction, road use, and other management actions.
4. Failure to take a hard look at the cumulative watershed effects of logging and roads on ESA-listed Middle-Columbia River steelhead and its critical habitat.
5. Failure to take a hard look at the effects of regen harvest (shelterwood, seed tree, etc) that violates the Eastside Screens mandate to manage toward LOS.
6. Counterfactual analysis and failure to take a hard look at the effects of heavy thinning that captures mortality, reduces recruitment of snags and dead wood habitat over many decades, and pushes the landscape away from (not toward) reference conditions and away from LOS conditions in violation of the Eastside Screens.
7. Failure to take a hard look at scientifically unsupported management actions (in both ember reduction zones and fuel breaks) which makes fire harder to manage due to excessive thinning of canopy trees within fuels breaks which makes the stand hotter, drier, windier, and stimulates the growth of surface and ladder fuels, and increases the frequency and cost of future maintenance treatments.
8. Failure to take a hard look at the long-term adverse effects of 17 miles of road construction.
9. Counterfactual analysis and failure to take a hard look at the effects of logging on the cumulative over-abundance of greenhouse gas emissions and the global climate.
10. Failure to disclose how the project complies with substantive requirements, such as the Endangered Species Act, and the Umatilla LRMP as amended by the Eastside Screens:
    a. How does this project move stands toward LOS conditions when it moves snag habitat farther from reference conditions?
    b. How does this project meet the connectivity requirements of the Eastside Screens:
        i. were all existing LOS stands mapped?
        ii. are all those LOS stands connected in at least two directions with connectivity corridors at least 400 feet wide?
        iii. will high canopy cover be maintained in connectivity corridors that are logged?
    c. Are road density requirements met at the scale intended by the LRMP?
    d. Are LRMP requirements for elk Habitat Effectiveness Index (HEI) being met after accounting for landings, roads being built, roads not being stored/decommissioned, skid trails, etc? (Table 3-30 shows that HEI analysis areas 2, 4, 6 will violate road density requirements under Alt 1.)

11. Imprecise analysis of effects that blurs the site-specific effects of different treatments in different places.

SUGGESTED REMEDIES THAT WOULD RESOLVE THE OBJECTION:
Oregon Wild respectfully requests that the Forest Service withdraw the recommended project and —

- Issue a clear decision that avoids logging and road building in roadless and unroaded areas, and protects mature and old-growth trees and stands, and protects important habitat features for native species of terrestrial and aquatic flora and fauna. Our suggestions for avoiding adverse impacts and improving this project are set forth below; or
- Prepare a new EIS to address the significant impacts and unresolved conflicts and fully complies with the requirements of NEPA and the CEQ regulations and addresses the specific concerns expressed below.

DESCRIBE HOW THE OBJECTIONS RELATE TO PRIOR COMMENTS:
Oregon Wild submitted detailed comments during both scoping, and DEIS phases of this project. These comments were submitted on or about 1-4-2019, 10-7-2019, and 4-18-2022. Oregon Wild's Rob Klavins also participated in meetings with the Forest Service where he provided comments on the Ellis Project. These prior comments covered all of the issues covered in this objection. We incorporate by reference all of our prior comments.

SPECIFIC ISSUES RELATED TO THE PROPOSED ACTION:

Contents

Failure to take a hard look at the decision to exclude road closures from this decision.

After the EIS was written, and after public comment was taken, the Forest Service decided to modify the selected Alternative 2 to exclude road closure and decommissioning, which were an integral aspect of this proposal design to improve elk security, elk distribution, and reduce elk impacts to private lands. The effects of this modified decision are not reflected in the EIS analysis.

Since this is an "integrated resource" project, it is difficult to disentangle one aspect of the project without affecting other aspects of this proposal.

Many aspects of this decision conflict with the goals of Oregon Wild, but the road closures and decommissioning helped make this project more acceptable overall.

Also, we find it highly unfair to exclude travel management decisions to remove roads, but to allow travel management decisions to build new roads. This is arbitrary and capricious.

Failure to take a hard look at the long-term adverse effects of 17 miles of road construction.

Roads are one of the most impactful things we do in the forest, and we don't need roads for non-commercial thinning and prescribed fire which are just as effective or more effective in meeting the purpose and need.

Problems with roads/culverts include:

- Soil disturbance, erosion, compaction, loss of forest productivity
- Pollution: sedimentation, thermal loading
- Hydrologic modification: flow interception, accelerated run-off, peak flows
- Impaired floodplain function
- Barrier to movement of wood and spawning gravel
- Habitat removal
- Reduced recruitment of snags and down wood habitat
- Fragmentation: wildlife dispersal barrier
- Human disturbance, weed vector, hunting pressure, loss of snags, litter, nest predation, human fire ignition, etc.
- Reduced carbon storage in the road prism and in adjacent and nearby forests

Temporary roads are temporary in name only. Their impacts are in fact long-lasting even if they are only used for a short time. Efforts to decommission roads are imperfect and do not fully mitigate for the impacts of the road, so it's better to avoid roads than try to remove them later.

Failure to take a hard look at the effects of logging and road building in unroaded areas

As explained in our comments and in the authorities below, unroaded areas >1,000 acres (or contiguous with inventoried roadless areas or wilderness) are ecologically significant, under-represented on the landscape, and an important part of the natural range of variability. Protecting and restoring large unroaded blocks of habitat should be part of the purpose and need, just like restoring tree density, forest species composition, etc. Logging in unroaded areas may have significant effects on soil, water, fish & wildlife, carbon storage, fire resilience, recreation, and other values. The EIS failed to take a hard look at the adverse effects of logging and roads in unroaded areas.

Even if the Forest Service does not have a policy requiring conservation of unroaded areas 1,000-5,000 acres, they still have an obligation to disclose the effects of logging and roads in those areas, especially because logging will have disproportionate adverse effects on the disproportionate benefits of unroaded areas, e.g., biodiversity, water quality, carbon storage, and other ecosystem services.

World Wildlife Fund and the Conservation Biology Institute summarized the important attributes of small roadless areas (1,000-5,000 acres).

> Small roadless areas share many of attributes in common with larger ones, including:
> • Essential habitat for species key to the recovery of forests following disturbance such as herbaceous plants, lichens, and mycorrhizal fungi
> • Habitat refugia for threatened species and those with restricted distributions (endemics)
> • Aquatic strongholds for salmonids
> • Undisturbed habitats for mollusks and amphibians
> • Remaining pockets of old-growth forests
> • Overwintering habitat for resident birds and ungulates
> • Dispersal "stepping stones" for wildlife movement across fragmented landscapes.[1]

In a 1997 letter to President Clinton, 136 scientists said:

> There is a growing consensus among academic and agency scientists that existing roadless areas–irrespective of size–contribute substantially to maintaining biodiversity and ecological integrity on the national forests. The Eastside Forests Scientific Societies Panel, including representatives from the American Fisheries Society, American Ornithologists' Union, Ecological Society of America, Society for Conservation Biology, and The Wildlife Society, recommended a prohibition on the construction of new roads and logging within existing (1) roadless regions larger than 1,000 acres, and (2) roadless regions smaller than 1,000 acres that are biologically significant.... Other scientists have also recommended protection of all roadless areas greater than 1,000 acres, at least until landscapes degraded by past management have recovered.... As you have acknowledged, a national policy prohibiting road building and other forms of development in roadless areas represents a major step towards balancing sustainable forest management with

[1] DellaSala, Dominick and James Strittholt. 2002. Scientific Basis For Roadless Area Conservation. World Wildlife Fund. Ashland, OR; Conservation Biology Institute. (June 2002 - Updated October 2003) https://consbio.org/wp-content/uploads/2022/05/Scientific_Basis_For_Roadless_Area_Conservation.pdf.

conserving environmental values on federal lands. In our view, a scientifically based policy for roadless areas on public lands should, at a minimum, protect from development all roadless areas larger than 1,000 acres and those smaller areas that have special ecological significance because of their contributions to regional landscapes.[2]

An IUCN Policy Statement on Primary Forests says:

> "While primary forests of all extents have conservation value, areas of greater extent warrant particular attention where they persist, as they support more biodiversity, contain larger carbon stocks, provide more ecosystem services, encompass larger-scaled natural processes, and are more resilient to external stresses. The significance of large areas of primary forests has been highlighted by the global mapping of Intact Forest Landscapes (IFL) greater than 500 km2 in extent. While suitable for many purposes, other thresholds may be more suitable at regional and national levels that reflect local ecological factors."[3]

Logging Violates the Eastside Screens Requirement to Manage Toward Late Old Structure Conditions

The Eastside Screens requires that logging outside LOS move stands toward Late Old Structure (LOS) conditions. LOS conditions includes a natural abundance of dead trees and down wood,[4] but these important LOS habitat elements are below reference conditions,[5] and extensive logging (heavy thinning and especially regen) will capture mortality, and consequently move stands away from desired LOS conditions, and this effect will be long-lasting because logging will reduce the population of green trees available for future recruitment of dead wood.[6]

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[2] Letter to President Clinton from 136 scientists (Dec. 10, 1997).

https://drive.google.com/file/d/0B4L_-RD-MJwrRzhFcm5QcFR0MHM/view?usp=sharing&resourcekey=0-2-sbGMN3bOUBQGGMDBQM1Q.

[3] IUCN Policy Statement on Primary Forests, https://www.iucn.org/sites/dev/files/content/documents/iucn_pf-ifl_policy_2020_approved_version.pdf.

[4] Old growth is defined by ICBEMP as:

1. Large trees for species and site.
2. Wide variation in tree sizes and spacing.
3. Accumulations of large-size dead standing and fallen trees that are high relative to earlier stages.
4. Decadence in the form of broken or deformed tops or bole and root decay.
5. Multiple canopy layers.
6. Canopy gaps and understory patchiness.

USDA/USDI. ICBEMP SDEIS. Appendix 17a – Definitions of Old Forest. https://web.archive.org/web/20161221104651/http://www.icbemp.gov/pdfs/sdeis/volume2/appendix17a.pdf.

[5] Jerome J. Korol, Miles A. Hemstrom, Wendel J. Hann, and Rebecca A. Gravenmier. 2002. *Snags and Down Wood in the Interior Columbia Basin Ecosystem Management Project*. PNW-GTR-181. http://www.fs.usda.gov/psw/publications/documents/gtr-181/049_Korol.pdf; Miles A. Hemstrom, Wendel J. Hann, Rebecca A. Gravenmier, Jerome J. Korol. 2000. [SAG] Landscape Effects Analysis of the [ICBEMP] SDEIS Alternatives. USDA/USDI, *draft* March 2000. ("Across the [interior Columbia River] basin (all lands) large snags have declined more than 30 percent. This was most likely a reflection of the loss of late-seral forests, particularly in the dry and moist PVGs.")

[6] Garman, Steven L.; Cissel, John H.; Mayo, James H. 2003. Accelerating development of late-successional conditions in young managed Douglas-fir stands: a simulation study. Gen. Tech. Rep. PNW-GTR-557. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station. 57 p. http://andrewsforest.oregonstate.edu/pubs/pdf/pub2722.pdf; USDA Forest Service. 2007. Curran Junetta Thin EA.

The EIS failed to take a hard look at the adverse effects of logging (extensive thinning, plus shelterwood, seed tree, etc) that violates the Eastside Screens mandate to manage toward LOS. These regen prescriptions are particularly problematic because they take the stand down to as low as 10% tree cover or basal area of just 10 ft^2/acre.

As explained in our comments, the EIS contains counterfactual analysis and fails to take a hard look at the effects of heavy thinning that captures mortality, reduces recruitment of snags and dead wood habitat over many decades, and pushes the landscape away from (not toward) reference conditions and away from LOS conditions in violation of the Eastside Screens.

LOS conditions also include dense canopy that provides cool, moist conditions that offer wildlife refuge from the extremes of global climate change. Dense forests thus increase forest ecosystem resilience. Excessive logging moves stands way from these LOS conditions and degrades these microclimate resilience benefits.

Logging Conflicts with the Purpose and Need for Reduce Fire Hazard.

The EIS failed to take a hard look at proposed scientifically unsupported management actions (such as ember reduction zones and fuel breaks) which makes fire harder to manage due to excessive thinning of canopy trees within fuels breaks which makes the stand hotter, drier, windier, and stimulates the growth of surface and ladder fuels, and increases the frequency and cost of future maintenance treatments.

We are concerned that reducing fuels in the ember-reduction zone is at best an excuse to get the cut out, and at worst, it will expose communities to greater fire hazard. As explained in our comments, managing to reduce fuels in ember reduction zones is not scientifically supported because: (i) long-distance movement of embers is a function of wind, not fuels; (ii) wildfires create embers across a wide range of fuel conditions; to effectively limit embers would require virtually no fuel, and no forest; (iii) trees actually help intercept embers; and removing lots of trees within the ember-reduction zone, actually makes it easier for embers to travel long distances; (iv) excessive thinning in the ember-reduction zone will generate a lot of hazardous slash; will make light, water, and nutrients available to stimulate the growth of hazardous surface and ladder fuels; and make future fuel maintenance treatments more frequent and more expensive; and (v) if the goal is to protect homes and communities from embers, the most effective treatments are to fire-harden the actual structures, or reduce fuels within 100 feet of structures.

As noted in our scoping comments …

Cottage Grove Ranger District, Umpqua National Forest. June 2007. https://usfs-public.app.box.com/v/PinyonPublic/folder/158152590920.

"Ember reduction" across 57,000 acres is not a scientifically supported restoration or fuel reduction activity. Embers are natural and unavoidable. The trees that remain in the so-called ember zone can still produce a lot of embers. Trees outside the ember zone can also produce embers. This is not a fruitful focus for forest management. Homes and communities can be made reasonably safe by focusing efforts on the structure-ignition zone. Logging the National Forest to reduce embers is misguided. The stated intent of the ember reduction is not ecologically-based. The ecological integrity of our National Forests should not be compromised for very marginal, very speculative increase in controlling fires that are not a threat to ecosystem values, especially when communities can be reasonably protected with efforts in the structure-ignition zone and without wrecking the forest. "The ember reduction zone is designed to create and maintain vegetation conditions contributing to the following WUI-related goals (Moghaddas and Craggs 2007): increased penetration of retardant to surface fuels, improved visual contact between fire crews, safe access to the main fire, and quick suppression of spot fires." The FS cannot predict future wildfire location, timing or intensity, so these treatments have a very low probability of every being used to meet these stated goals. The fuels will likely regrow long before the ember zone encounters fire. The NEPA analysis needs to clearly describe the trade-offs (including the probability of positive and negative effects) associated with this proposal.

Gibbons et al (2012) explain:

> The typical response to destructive wildfires is to increase the total area of land that is fuel-reduced [10,13]. Our results instead indicate that a shift in emphasis from broad-scale fuel-reduction treatments to intensive fuel treatments close to houses will more effectively mitigate impacts from wildfires on houses. This result is consistent with observations that the density of airborne embers and amount of radiant heat (the principal causes of house loss during wildfires) are greatest closer to the fuel source. This suggests that the actions of private landholders, who manage fuel close to houses, are extremely important when reducing risks to houses posed by fuel.[7]

A review of studies of fuel treatment effectiveness brings into question the effectiveness of fuel reduction, especially when it is accomplished with commercial timber sales. The NEPA analysis needs to clearly disclose the extent to which commercial log extraction undermines fuel hazard reduction objectives.

> Ex et al. (2019) addressed a question that is applicable to many montane landscapes in western North America that contain a patchwork of cover types associated with different topographic settings. They asked whether it would be more effective to treat more mesic north-facing slopes dominated by Douglas fir versus more xeric south-facing slopes dominated by ponderosa pine, given a one-time treatment opportunity at the start of a 50-year simulation. The south-facing slope strategy was initially more effective, but after the first decade, effects of the two strategies became more similar, and both strategies were ultimately less effective than the untreated control at reducing the ratio of crown fire to surface fire (Ex et al. 2019).

[7] Gibbons P, van Bommel L, Gill AM, Cary GJ, Driscoll DA, et al. (2012) Land Management Practices Associated with House Loss in Wildfires. PLoS ONE 7(1): e29212. doi:10.1371/journal.pone.0029212. http://nature.berkeley.edu/moritzlab/docs/Gibbons_etal_2012_PLoS.pdf.

> …
> Studies that compared fuel treatment scenarios with scenarios where the main objective was commercial timber harvest (or a combination of harvest and fuel reduction) showed that harvest-oriented scenarios tended to be less effective at reducing fire impacts (Fig. 11; Merzenich et al. 2003; Ganz et al. 2007; Kim et al. 2009; Cassell 2018; Krofcheck et al. 2019b) and sometimes even resulted in increased fire impacts compared to untreated scenarios (Merzenich et al. 2003) … Prescriptions aimed at restoring historical forest structure also tended to be less effective …
> …
> Sturtevant et al. (2009) found that eliminating ignitions caused by debris burning had a greater effect than fuel treatments on reducing area burned by wildfire on a forested landscape in northern Wisconsin.
> …
> Tradeoffs between wildfire protection and other management objectives such as commercial harvest, forest restoration, habitat protection, and carbon sequestration may need to be addressed on many managed landscapes (Stockmann et al. 2010; Ager et al. 2016, 2019; Stevens et al. 2016; James et al. 2018). Potential strategies for dealing with these tradeoffs include adjustments to harvesting procedures or restoration prescriptions to make them better aligned with fuel reduction goals (Acuna et al. 2010; Stephens et al. 2021) or the use of optimization algorithms to identify management solutions that could maximize a set of competing benefits (Hummel and Calkin 2005; Bagdon et al. 2016; Kreitler et al. 2020).
> … [S]ingle-year studies did not capture feedbacks between fuel treatments, wildfire, and vegetation succession, such as the possibility that short-term reductions in wildfire due to treatments allow greater fuel buildup leading to more damaging subsequent wildfires (Calkin et al. 2015; Parks et al. 2016; McKenzie and Littell 2017).[8]

Hakkenberg et al. (2024) showed that ladder fuels were the main driver of wildfire severity, whereas dense, high canopy fuels tend to reduce fire severity, even during extreme fire conditions.

> Here we employed GEDI space-borne lidar to consistently assess how pre-fire forest fuel structure affected wildfire severity across 42 California wildfires between 2019–2021. Using a spatial-hierarchical modeling framework, we found a positive concave-down relationship between GEDI-derived fuel structure and wildfire severity, marked by increasing severity with greater fuel loads until a decline in severity in the tallest and most voluminous forest canopies. Critically, indicators of canopy fuel volumes (like biomass and height) became decoupled from severity patterns in extreme topographic and weather conditions (slopes >20°; winds > 9.3 m/s). On the other hand, vertical continuity metrics like layering and ladder fuels more consistently predicted severity in extreme conditions – especially ladder fuels, where sparse understories were uniformly associated with lower severity levels.
> …
> Vertical fuel continuity is especially important for lower stratum ladder fuels, where greater continuity may enable flames to transition from ground and surface fires to higher canopy strata, thereby increasing contagion … [W]e observed that steep slopes,

[8] Ott, J.E., Kilkenny, F.F. & Jain, T.B. Fuel treatment effectiveness at the landscape scale: a systematic review of simulation studies comparing treatment scenarios in North America. fire ecol 19, 10 (2023). https://doi.org/10.1186/s42408-022-00163-2. https://fireecology.springeropen.com/counter/pdf/10.1186/s42408-022-00163-2.pdf *citing* Ex, S.A., J.P. Ziegler, W.T. Tinkham, and C.M. Hoffman. 2019. Long-term impacts of fuel treatment placement with respect to forest cover type on potential fire behavior across a mountainous landscape. Forests 10 (5): 438. https://doi.org/10.3390/f10050438.

> dry conditions and high winds overwhelmed most fuel structural conditions to constrain landscape severity patterns. Importantly, the sole exception to this pattern occurred with ladder fuels …
> … This finding suggests that high-intensity fuel treatments (which target entire forest canopies rather than focusing on lower stratum ladder fuels only) may have a limited effect on wildfire severity in extreme conditions. Conversely, sparse understories (<10 m) – even those that concurrently possess robust mid- strata (>10 m) – were associated with reduced wildfire severity. This result has important management implications, especially for treatment interventions that focus on vertical fuel continuity such as understory thinning or cultural burns, which have been found to be effective in reducing high-severity burns2. Understory treatments have also been found to lessen externalities associated with more intensive thinning operations71 and simultaneously promote culturally- and ecologically-beneficial wildfire outcomes across a wide variety of topographic, weather and climate contexts1,72.[9]

The NEPA failed to address the fact that there is very little scientific support for aggressive thinning to reduce fire hazard. In fact, there is mounting scientific evidence that thinning can make the fuel hazard worse instead of better. Thinning makes forests "Hotter, Drier and Winder." Science still has a long way to go to be able to confidently predict the consequences of various combinations of thinning and other treatments. "Detailed site-specific data on anything beyond basic forest structure and fuel properties are rare, limiting our analytical capability to prescribe management actions to achieve desired conditions for altering fuels and fire hazard."[10]

The agency must recognize that canopy thinning in particular has complex effects on fuel and fire hazard. Canopy thinning makes the stand hotter, drier, windier, produces lots of slash, and stimulates the growth of ladder fuels.

> In many forests, latent ladder fuels exist in the form of advance regeneration—seedlings and saplings occurring in the understory that are capable of accelerated growth upon disturbance to (or cutting of) the overstory. … [D]ry mixed conifer forests often include species with high or moderate shade tolerance, and
> advance regeneration of those species beneath a ponderosa pine dominated canopy is common. The rate of accelerated growth upon treatment is proportional to site quality and thinning intensity.
> Ladder fuel growth is governed by the number and sizes of overstory trees. [Overstory trees] can help fuel managers identify cutting levels that meet fuels management goals yet suppress seedling (ladder fuel) growth.
> … [R]etaining more and larger trees serves to suppress ladder fuel development.
> …
> Fuel treatments directly affect the recruitment of ladder fuels by the extent to which bare mineral soil is exposed. Treatments that burn or scarify the forest floor will generally result in the accelerated recruitment of new ladder fuels. Commercial thinning, for example, scarifies the forest floor and provides a mineral soil seedbed that enhances ponderosa pine seedling germination and survival (Oliver and Ryker 1990), increases light to the forest floor that facilitates litter decomposition, and enhances the growth and

[9] Hakkenberg, C. R., Clark, M. L., Bailey, T., Burns, P., & Goetz, S. J. (2024). Ladder fuels rather than canopy volumes consistently predict wildfire severity even in extreme topographic-weather conditions. *Communications Earth & Environment*, *5*(1), 1-11. https://doi.org/10.1038/s43247-024-01893-8; pdf.

[10] Graham, Russell T.; McCaffrey, Sarah; Jain, Theresa B.(tech. eds.) 2004. Science basis for changing forest structure to modify wildfire behavior and severity. Gen. Tech. Rep. RMRS-GTR-120. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 43 p. https://www.fs.usda.gov/rm/pubs/rmrs_gtr120.pdf.

fecundity of residual trees that can result in greater seed production. … [M]echanical and prescribed fire treatments that result in greater ground disturbance will typically result in less longevity than treatments that minimize forest floor scarification.

Figure 12.2. Thinning intensity in canopy fuel treatment often involves a trade-off between immediate treatment impact and treatment longevity. In this example from central Oregon, heavy thinning in a ponderosa pine /mixed-conifer stand successfully reduced canopy bulk density. However, it stalled crown recession and promoted the development of ladder fuels, thereby reducing the capacity of the stand to sustain a reduced torching potential over time.[11]

Failure to Consider Cumulative Effects

The EIS failed to take a hard look at the cumulative effects and the large spatial footprint of this 25,000 acre logging project (some on steep slopes), plus 17 miles of road construction, running heavy trucks on hundreds of miles of haul roads, and other management actions. The cumulative effects include: watershed degradation, soil erosion, long-lasting reduction in snag

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[11] Jain, Theresa B.; Battaglia, Mike A.; Han, Han-Sup; Graham, Russell T.; Keyes, Christopher R.; Fried, Jeremy S.; Sandquist, Jonathan E. 2012. A comprehensive guide to fuel management practices for dry mixed conifer forests in the northwestern United States. USDA Forest Service Gen. Tech. Rep. RMRS-GTR-292. 2012 https://www.fs.usda.gov/rm/pubs/rmrs_gtr292.pdf. A meta-analysis of the effects of partial cutting showed that understory growth was stimulated in all cases. D. Zhou, S. Q. Zhao, S. Liu, and J. Oeding. 2013. A meta-analysis on the impacts of partial cutting on forest structure and carbon storage. Biogeosciences, 10, 3691–3703, 2013. https://www.biogeosciences.net/10/3691/2013/bg-10-3691-2013.pdf. ("Understory C was stimulated significantly by partial cutting in all of the studies. This stimulation can be mostly attributed to an increase in the availability of light, water, and nutrients to the understory because of tree removal (Aussenac, 2000; Kleintjes et al., 2004; Deal, 2007)").

habitat, carbon emissions, elk impacts to private lands, loss of resilience for wildlife that need microclimate refugia, abundant snags, and low road density.

Failure to Adequately Consider Effects to ESA-Listed Fish and Critical Habitat.

The EIS failed to take a hard look at the cumulative watershed effects of logging and roads on the ESA-listed Middle-Columbia River steelhead and its 85.7 miles of designated Critical Habitat in the project area. It is well-established that fish populations do better in watersheds with less logging an fewer roads. This project includes extensive disturbance of soil and vegetation which will increase the risk of soil erosion, peak flows, increased stream temperature, and other adverse impacts. The EIS did not take a hard look at these individual and cumulative impacts. The EIS failed to provide a compelling explanation whether the logging and roads may cause a violation of the National Forest Management Act requirement to maintain viable populations of native wildlife.

Counterfactual analysis and failure to take a hard look at the effects of logging on the cumulative over-abundance of greenhouse gas emissions and the global climate.

The EIS includes misleading statements about (for instance) the mitigating effect of carbon stored in wood products and the carbon recaptured by the growing forest after logging, but the EIS never provides a clear and compelling disclosure of the carbon and climate effects of this project, including several issues raised in our prior comments:

- The EIS says "Climate change is currently affecting national forests and rangelands and is expected to intensify in the future." (EIS, p 66). But the EIS does not clearly disclose that logging will make this bad situation worse. Instead it offers this misleading statement, "The proposed Ellis project contributes to the goal of building ecosystem resilience to climate change by implementing the purpose and need for the project." (EIS, p 160). The EIS never discloses that the alleged resilience benefits of logging are all local, while the resilience harms caused by logging-related GHG emissions will be global. In fact, the EIS fails to disclose the adverse local climate effects of logging (from both GHG emissions and loss of microclimate refugia[12]), let alone the global impacts.

[12] Jes Burns 2016. Old-Growth Forests Provide Temperature Refuges In Face Of Climate Change: Study. OPB/EarthFix | April 22, 2016 http://www.opb.org/news/article/forest-refuges-climate-change/ *citing* Sarah J. K. Frey, Adam S. Hadley, Sherri L. Johnson, Mark Schulze, Julia A. Jones, Matthew G. Betts. 2016. Spatial models reveal the microclimatic buffering capacity of old-growth forests. SCIENCE ADVANCES. 22 APR 2016 : E1501392. http://advances.sciencemag.org/content/advances/2/4/e1501392.full.pdf; Christopher Wolf, David M. Bell, Hankyu Kim, Michael Paul Nelson, Mark Schulze, Matthew G. Betts, Temporal consistency of undercanopy thermal refugia in old-growth forest. Agricultural and Forest Meteorology, Volume 307, 15 Sept 2021, 108520, ISSN 0168-1923, https://doi.org/10.1016/j.agrformet.2021.108520; Xiyan Xu, Anqi Huang, Elise Belle, Pieter De Frenne, And Gensuo Jia 2022. Protected areas provide thermal buffer against climate change. SCIENCE ADVANCES. 2 Nov 2022. Vol 8, Issue 44. DOI: 10.1126/sciadv.abo01.
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9629704/pdf/sciadv.abo0119.pdf

- The EIS fails to explain that wood products represent net carbon emissions, not net carbon storage. Only a small fraction of the carbon in a logged forest ends up in wood products. Most of the carbon is transferred to the atmosphere at an accelerated rate. Also, wood products are subject to decay at about the same rate as dead wood in the forest. Whereas, green trees hold onto to carbon (and accumulate carbon) far better than dead wood products;
- The EIS never clearly accounts for the forgone opportunity to store carbon in unlogged forests that continue to grow. The climate benefits of carbon recaptured after logging will never catch up to the carbon stored in forests that continue to grow if they are not logged;
- The Ellis project area will be more at risk from fire and insects due to the GHG emissions caused by logging;
- The EIS fails to explain that density reduction may have unintended effect of reducing resilience by increasing climate-driven drought stress. Logging will increase penetration of warm dry air and increase evaporative demand and increase vapor pressure deficit and add to the cumulative drought stress on trees caused by climate change. New science says this adverse effect of logging might be worse than the alleged benefits of reducing competition for soil moisture;[13]
- The so-called "substitution" effect is vastly over-estimated. Carbon accounting methods that attempt to account for *substitution* of wood for other high-carbon building materials are fraught with uncertainty and too often represent maximum potential substitution effects rather than lower realistic estimates;[14]
- The EIS statement that "treatments would stabilize carbon stocks" fails to recognize that stabilizing carbo at the stand scale is not a climate solution. The only scale that matters is the global scale, and if treatments increase GHG emissions more than fire (which is highly likely), then this project will make global climate change worse, not better. Dr. Law told Congress "[T]here is no guarantee that thinning across vast landscapes will stabilize carbon stores. Rather the best available scientific study has shown that thinning reduces carbon stores more than fire itself and reduces carbon stores whether or not fire burns that particular forest."[15] In order to address the global climate crisis, we need to

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[13] Watts, Andrea; Wondzell, Steve; Jarecke, Karla; Bladon, Kevin. 2024. Hot air or dry dirt: Investigating the greater drought risk to forests in the Pacific Northwest. Science Findings 268. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station. 6 p. https://www.fs.usda.gov/pnw/sciencef/scifi268.pdf. See also, Karla M. Jarecke, Linnia R. Hawkins, Kevin D. Bladon, Steven M. Wondzell 2023. Carbon uptake by Douglas-fir is more sensitive to increased temperature and vapor pressure deficit than reduced rainfall in the western Cascade Mountains, Oregon, USA. Agricultural and Forest Meteorology, Volume 329, 15 February 2023, 109267. https://www.sciencedirect.com/science/article/abs/pii/S0168192322004543; Watts, Andrea; Wondzell, Steve; Jarecke, Karla; Bladon, Kevin. 2024. Hot air or dry dirt: Investigating the greater drought risk to forests in the Pacific Northwest. Science Findings 268. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station. 6 p. https://www.fs.usda.gov/pnw/sciencef/scifi268.pdf.

[14] Mark E Harmon 2019. Have product substitution carbon benefits been overestimated? A sensitivity analysis of key assumptions. Environ. Res. Lett. *in press* https://doi.org/10.1088/1748-9326/ab1e95; Moomaw et al 2020. Scientists Letter to Congress Urging Protection of Forests to Mitigate the Climate Crisis, May 13, 2020. https://96a.96e.myftpupload.com/wp-content/uploads/2020/05/200TopClimateScientistCongressProtectForestsForClimateChange13May20.pdf.

[15] Law, B. 2021. Response to Questions for the Record, *attached to* Statement Of Dr. Beverly Law, Professor Emeritus, Oregon State University, Before The United States House Of Representatives, Subcommittee On National Parks, Forests And Public Lands, April 29, 2021, Concerning "Wildfire In A Warming World: Opportunities To Improve Community Collaboration, Climate Resilience, And Workforce Capacity"

reduce atmospheric carbon at the *global* scale, not *stabilize* forest carbon at the *local* scale. This is because Earth's atmosphere is well-mixed. It does not matter if forest carbon booms and busts at the scale of stands or even landscapes. What matters is the total amount of carbon in the atmosphere, which is the net result of both carbon emissions in some locations, and carbon uptake in the rest of the living landscape that is still growing. From a climate perspective, it might make more sense to let forests grow and accumulate carbon in vegetation and soils (let forest carbon *boom*), even if it is not considered "sustainable" over the long term because it will eventually burn (the carbon might go *bust*), because every day/week/month/year that carbon stays in forests and soils is a day/week/month/year with less solar forcing. The goal of stabilizing carbon is especially suspect when the proposed activities required to stabilize carbon themselves emit carbon. The first problem is that emissions come first and alleged carbon benefits from avoided disturbance are delayed. This time lag conflicts with the urgent need to avoid emissions and store carbon in the near term. The second problem is that the carbon emissions from efforts to stabilize carbon very likely exceed the carbon "savings" from those stabilizing actions. This is because it is impossible to predict where or when natural destabilizing events such as wildfire might occur. Only a small fraction of deliberate actions taken to stabilize forest carbon will actually interact with natural disturbance events and provide carbon benefits. Most individual efforts to stabilize carbon will cause carbon emissions without any offsetting carbon benefits, so collectively, efforts to stabilize carbon will emit more carbon than just letting forest carbon accumulate, and eventually boom and bust.

- The EIS uses misleading euphemisms, such as saying that GHG emissions from logging would "reduce carbon." (EIS, p160). The EIS needs to say plainly that logging would increase GHG emissions and worsen global climate change and ocean acidification.
- The EIS fails to harmonize the competing objectives of climate change mitigation (via carbon storage and avoided emissions) vs climate change adaptation (via density reduction). These two goas are at odds must may be harmonized by focusing on light thinning of very small diameter material that retains most of the carbon.

As explained in our prior comments, the EIS needs to disclose the contribution of this logging project on the cumulative overabundance of greenhouse gases in our atmosphere. This extra carbon will make global climate change incrementally worse, and reduce ecosystem resilience for this forest, and ecosystems around the world.

Failure to disclose how the project complies with substantive requirements

NEPA requires disclosure of information necessary to determine compliance with legal requirements such as the Endangered Species Act, Clean Water Act, National Forest Management Act, and applicable Forest Plan Standards & Guidelines. See 40 CFR 1508.27(b)(10) and NW Indian Cemetery Protective Association v. Peterson, 795 F2d 688 (9th Circ. 1986). In this G-O Road case, the NEPA document described water quality changes

https://web.archive.org/web/20210501190104/https://naturalresources.house.gov/imo/media/doc/Law,%20Beverly%20-%20Testimony%20-%20NPFPL%20Ov%20Hrg%2004.29.21.pdf.

resulting from a road project in terms of 7-day average changes, whereas the applicable WQ standard was defined by daily peak changes. The court found this to be a NEPA violation.[16]

The EIS does not adequately disclose how this project will comply with the Endangered Species Act, and the Umatilla LRMP as amended by the Eastside Screens. For instance:

How does this project meet the requirement of the Eastside Screens to move stands toward LOS conditions when it moves snag habitat farther from reference conditions?
See above.

How does this project meet the connectivity requirements of the Eastside Screens:
- were all existing LOS stands mapped?
- are all those LOS stands connected in at least two directions with connectivity corridors at least 400 feet wide?
- will high canopy cover be maintained in connectivity corridors that are logged?

Are road density requirements met at the scale intended by the LRMP?

Are LRMP requirements for elk Habitat Effectiveness Index (HEI) being met
The EIS analysis of elk habitat effectiveness fails to account for landings, roads being built, roads not being stored/ decommissioned, skid trails, etc? (Table 3-30 shows that HEI analysis areas 2, 4, 6 will violate road density requirements under Alt 1.)

The FEIS fails to analyze the effect of applying new guidance on implementing the Eastside Screens which deviate substantially from long-standing policy. For over 20 years the Screens have been consistently interpreted to require retention of large trees both inside and outside LOS forests. The Trump Admin seems to be embarking on a radical new policy that would allow removal of large trees inside LOS, the very forests that best poised to correct the deficit of LOS forests in the region. This is arbitrary and capricious.

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[16] See also, Judge King's October 2003 Decision in ONRC Action v. U.S. Forest Service, CV. 03-613-KI ("The underlying EAs for the timber sales at issue did not properly frame the Forest Service's survey and manage duties, they did not analyze a range of alternatives based upon these duties, they did not evaluate completed surveys, they did not demonstrate that the Forest Service had all of the proper information before it before allowing logging, and they did not provide for public influence over the decisions. For all of these reasons, the underlying EAs are legally deficient." *Emphasis added.*)
http://web.archive.org/web/20041105214752/http://www.onrc.org/press/ONRCv.USFS.pdf

And see Judge Hogan's ruling in Klamath Siskiyou Wildlands Center v. Boody (D. Or. #03-3124-CO. May 18, 2004) where he held "plaintiffs have raised a serious question as to whether BLM violated NEPA in failing to disclose sufficient information in the EA to confirm compliance with ... the RMP." (Order at page 18). https://casetext.com/case/klamath-siskiyou-wildlands-center-v-boody-2.

Imprecise analysis of effects that blurs the site-specific effects of different treatments in different places.

The EIS analysis makes conclusions about the effects of logging that are averaged across the entire project. This is fine when discussion cumulative effects, but NEPA analysis must also be site-specific To disclose average effects across the project blurs more extreme site-specific effects that the public and the decision-maker should be informed about so they can consider options to avoid, minimize, and/or mitigate those extreme effects.

As explained in our prior comments:

> The DEIS makes lots of conclusions about logging under the different alternatives being beneficial to snags and other resources, which is patently incorrect and misleading when considered at the stand scale where prescription are applied. Describing effects at the scale of each alternative (which involves a variety of treatments across more than 100,000 acres) is misleading and blurs the mix of potentially positive and negative effects of different treatment sin different forest types. The DEIS needs to describe the effects of each treatment type in each forest type, within each alternative. That is the only way for the public and the decision-maker to understand that regen logging, large tree removal, and removal of “dominant trees” will unquestionably adverse to snag habitat.

Sincerely,

Doug Heiken