1 Feb 2022

TO: Clackamas River Ranger District

ATTN: Clackamas Fires Roadside Danger Tree Assessment

VIA: <https://cara.ecosystem-management.org/Public/CommentInput?Project=61043>

**Subject: Clackamas Fires Roadside Danger Tree Abatement EA— scoping comments**

Please accept the following scoping comments from Oregon Wild concerning the Clackamas Fires Roadside Danger Tree Assessment, <https://www.fs.usda.gov/project/?project=61043>. Oregon Wild represents 20,000 members and supporters who share our mission to protect and restore Oregon’s wildlands, wildlife, and water as an enduring legacy. Our goal is to protect areas that remain intact while striving to restore areas that have been degraded. This can be accomplished by moving over-represented ecosystem elements (such as logged and roaded areas) toward characteristics that are currently under-represented (such as roadless areas and complex old forest).

The proposed action involves commercial non-commercial cutting and removal of fire-killed and fire-damaged trees that pose a risk to the public and employees because they are within striking distance roads, developed recreation areas, and administrative sites affected by the Riverside and Lionshead fires that burned in 2020. The 1/7/22 scoping notice says

On August 10, 2021, a decision memo titled “Clackamas Fires Danger Tree Abatement – Roads1” was signed by the District Ranger for the Clackamas River Ranger District that authorized some danger tree work within the Riverside and Lionshead Fires. However, there are remaining needs for other urgent danger tree work that was not included in the 2021 decision memo. Those remaining urgent needs are further discussed below and will be analyzed in this environmental assessment, which will likely replace or supersede the 2021 decision memo. This project will address all roads and areas within or immediately adjacent to the fire perimeters.

With this environmental assessment, a decision would be made related to the striking distance for danger tree cutting along open roads in all the areas affected by the Riverside, Lionshead, and Bull Complex Fires. …

With this environmental assessment, all roads that were open prior to the fires within the fire perimeters will be examined. This project will analyze whether to cut the danger trees and/or whether to make a travel management-related decision for each road (e.g., close or decommission).

The objective of public safety is laudable, but there are gradations of risk based on characteristics of the site and the tree and the type and amount of public exposure, so felling of hazard trees must be balanced against other important objectives such as wildlife habitat, carbon storage, water quality/stream shade, etc.

Furthermore, clearing large areas along an extensive road system can have significant negative cumulative impacts such as: soil degradation from heavy equipment operating off roads and biomass removal, water quality degradation from heavy equipment affecting ditches that convey water to streams; cumulative loss of habitat associated with snags, down wood, and diverse early seral vegetation; accelerated carbon emissions; increased fire hazard associated with fire ignition risks, and plantation fuel structure; habitat fragmentation and loss of habitat connectivity caused by increasing the width of non-habitat associated with roads; etc. These potentially significant effects deserve careful consideration in the Environmental Assessment or possibly an Environmental Impact Statement.

The agency should be more risk tolerant in order to mitigate the adverse effects of danger tree removal and retain more trees in sensitive areas, such as unroaded areas, riparian areas, and mature & old-growth stands and conservation areas.

To protect soil and water quality and vegetation diversity, heavy equipment should not be allowed off of roads. If this was really a road maintenance project, there would not be any need to operate heavy equipment outside the road prism, nor would there be a need for significant log hauling.

The agency should only fall trees that pose an imminent hazard to the public. There is little need to fell trees that lean away from the road. Trees more than 100 feet from the road have a low probability of falling on the road, even if they are taller than 100 feet. This is because of all the cardinal directions these trees could fall, only a small subset would reach the road. There are several reasons that it is not necessary to fell danger trees more than 100 feet from roads. The chance of trees more than 100 feet from roads impacting the road are not very high because the tree would have to fall in precisely the right direction toward the road. And there is a much higher chance it will fall in numerous directions that do not threaten the road.

In addition, many dead tree tops break off and fall close to the base of the tree, leaving a shorter snag with a more limited zone of hazard. Felling trees more than 100 feet from roads is unnecessarily risk averse, and unjustifiably sacrifices environmental values (such as snag habitat, dead wood habitat, and soil health).

The risk of a dead trees actually falling and hitting someone is extremely remote and must be put in perspective. For instance, the agency allows the public to use thousands of miles of roads where the risk of death or injury from collisions or other accidents is far far higher than the risk of being hit by a falling tree. The agency also allows boating and swimming in dangerous waterbodies, winter camping, mountain climbing, off-road vehicle use, and hunting with dangerous weapons. The agency also *promotes* dangerous occupations such as logging and firefighting, and piloting aircraft used for a variety of forest management activities. Furthermore, public use of public lands is skewed toward the summer months, while the extreme weather that tends to cause trees to fall is skewed toward the winter months. If the purpose of this project is to increase public safety please consider all the alternative ways that safety might be enhanced.

The hazards from trees falling is also mitigated by time. These are not high use roads. The chance that an employee or member of the public will be there when the tree falls is very low.  To put things in perspective, there are almost 16 million seconds in a year. How many seconds are there vehicles on the road under these trees during the course of a year, and what fraction 16 million is that?

The FS should strive to implement important USFS roads policies, including the road density targets in the Mt Hood LRMP and the requirements of the National Forest Roads Policy:

**7702 - OBJECTIVES**

…

2. To manage a forest transportation system within the environmental capabilities of the land.

3. To manage forest transportation system facilities to provide user safety, convenience, and efficiency of operations in an environmentally responsible manner and to achieve road related ecosystem restoration within the limits of current and likely funding levels.

…

**7703 - POLICY.** Determine and provide for the minimum forest transportation system

that best serves current and anticipated management objectives and public uses of

National Forest System (NFS) lands, as identified in the appropriate land and resource

management plans (FSM 1920). In managing the forest transportation system for access,

Responsible Officials must coordinate with other public and private transportation system

agencies to integrate transportation information and to balance transportation facility

investments and maintenance costs against the need to maintain land health and water

quality.

…

**7703.1 - Road Management**. In accordance with 36 CFR § 212.5(b)(1), when

managing NFS roads, responsible officials are to:

1. Address both the access benefits and ecological costs of road-associated effects.

2. Give priority to reconstructing and maintaining needed roads and decommissioning unneeded roads, or, where appropriate, converting them to less costly and more environmentally beneficial other uses.

3. Use a roads analysis process (FSM 7712.1) to ensure that road management decisions are based on identification and consideration of social and ecological effects. See FSM 7712.13 for guidance on the scope and scale of roads analysis required.

…

Give priority to upgrading the most heavily used roads to provide safe and efficient travel and to reduce adverse environmental impacts. If necessary for environmental protection and due to lack of funding, travel on classified roads may need to be restricted or closed.

…

Use an open and public roads analysis process (FSM 7712.1) to help identify roads that should be decommissioned, to identify restoration needs, and to establish decommissioning priorities. It may be necessary to regulate use on some unneeded roads until decommissioning or other approved uses, such as conversion to trails, can be achieved.

USFS Road Management Policy. <https://www.fs.usda.gov/nfs/11558/www/nepa/115185_FSPLT3_5597368.pdf>.

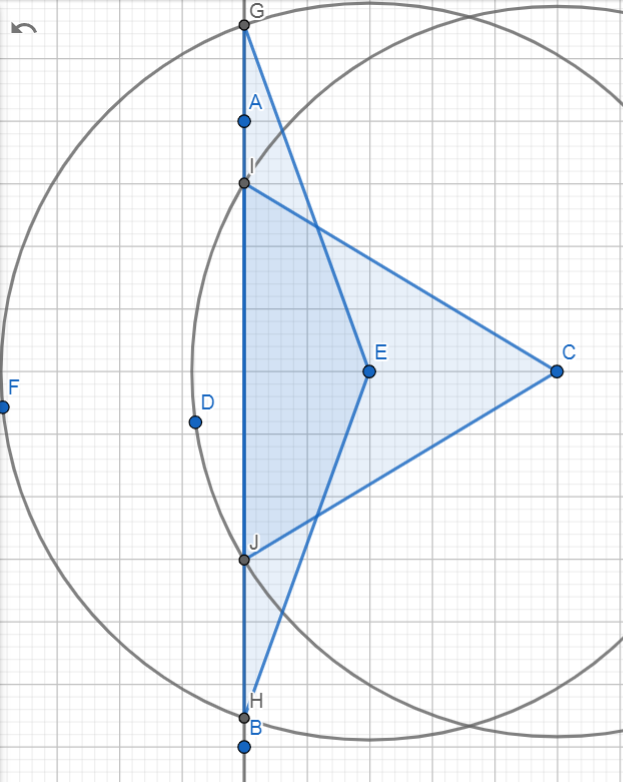
These policies highlight several important points:

* The FS has discretion (and a duty) to balance interests. This project cannot be designed or described as a one-dimensional safety project. It involves a complex process of balancing interests that are sometimes aligned and sometimes in conflict;
* The need to manage the roads system in an environmentally sensitive way that recognizes the important long-term biophysical value of snags and abundant dead wood;
* The need to identify and manage toward the minimum road system;
* the need for the FS to use an open, public roads analysis process to balance competing interests, which makes it inappropriate to use a Categorical Exclusion;
* the need to focus maintenance treatments on highest use roads, and emphasize road decommissioning of roads that are not used very often or have significant environmental trade-offs;
* As recognized in the Roads Policy the agency should consider alternative means of managing hazards from falling trees, such as (1) minimizing human activities near hazard trees (closing roads). This may not work where a hazard trees is adjacent to a high traffic road, but some little used roads can be closed. (2) topping trees so they are too short to reach the road when they fall, and (3) placing signs to warn people of the hazards so that people can evaluate the risks for themselves. Often the hazard is not from the tree falling directly on people, but from cars colliding with trees that have previously fallen. This hazard can be mitigated with signage and speed limits, while allowing valuable wildlife trees to persist until they fall, and cleanup can happen after trees fall naturally rather than before.
* The FS should prepare and EA or EIS to carefully weigh trade-offs, and harmonize goals, such as fire hazard (caused by tree removal and replanting dense uniform stands), habitat fragmentation caused by long linear plantations (and more roads than necessary) threaded through the forest, bringing road density within optimal levels for fish/hydrology/climate change, cumulative effects, cumulative snag loss related to road density, fire ignition risk related to keeping unnecessary roads open, carbon emissions related to salvage logging and plantation fire hazard, soil impacts related to heavy equipment and biomass removal, weeds related to soil disturbance and retarded recovery of native vegetation, loss complex early seral related to removal of legacy structures and replanting that displaces diverse early seral non-conifer vegetation, habitat diversity related to adding more acres of plantations to a landscape that already has too many.

The agency should consider alternative means of managing hazards from falling trees:

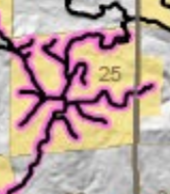
* Minimize human activities near hazard trees (e.g., closing roads). This may not work where a hazard trees is adjacent to a high traffic road, but some little used roads can be closed. Analyze whether spurs or overgrown roads truly receive public use that justifies hazard tree removal;
* Temporarily limit the use of roads that cannot be permanently closed until the risk of falling trees is naturally reduced;
* Top trees, rather than kill them, if shortening them would reduce the chance they would reach the road if they fell;
* Place signage warning people of post-fire hazards, particularly on roads that are infrequently used. This way people can evaluate the risks for themselves;
* Often the hazard is not from the tree falling directly on people, but from cars colliding with trees that have previously fallen. This hazard can be mitigated with signage and speed limits, while allowing valuable wildlife trees to persist;
* Prohibit cutting live, green trees, since all surviving trees are helping to rebuild the below-ground ecosystem, stabilize soils, and serve a valuable role as legacy structure and a recruitment pool for future large trees and snags;
* Focus tree removal on imminent danger or hazard trees located within striking distance of high use areas, such as developed sites, parking lots, and paved roads. Wherever possible, use hazard trees for restoration of streams and placement in nearby stands that lack large wood;
* Where they do not pose an immediate threat to safety, all trees presumed to be dying should be treated as live until they are dead, so as to not lose the ecological benefits of those trees that may survive;
* Take measures to stabilize impacted slopes in areas where roadside logging is unavoidable; and
* Analyze the cumulative impacts of all post-fire sales and roadside logging projects across agency jurisdictions.

The agency should only fall trees that pose an imminent hazard to the public. There is little need to fell trees that lean away from the road. Trees more than 100 feet from the road have a low probability of falling on the road, even if they are taller than 100 feet. This is because of all the directions these trees could fall, only a small subset would reach the road. For instance, in the figure below, if a tree located at point (E) is close to a road (represented by line G-H) there is a much higher risk of it hitting the road compared to a tree at the location of point (C). The sum of the angles from the tree to the road (in the blue shaded areas) represent either broad or narrow risk of a tree falling and hitting the road depending on its distance from the road.

<https://www.geogebra.org/geometry?lang=en>

There are several reasons that danger tree felling should be limited to 100 feet from roads. The chance of trees more than 100 feet from roads impacting the road are not very high because the tree would have to fall in precisely the right direction toward the road. And there is a much higher chance it will fall in numerous directions that do not threaten the road. In addition, many dead tree tops break off and fall close to the base of the tree, leaving a shorter snag with a more limited zone of hazard. Felling trees more than 100 feet from roads is unnecessarily risk averse, and unjustifiably sacrifices environmental values (such as snag habitat, dead wood habitat, and soil health).

The cumulative impact of hazard tree removal needs to be carefully considered. There is a dense road network across the federal/non-federal landscape and if all the hazard trees are removed a certain distance from all those roads, then the area of the forest that can support large snags become greatly diminished. See, for instance, these roadside danger tree removal plans from Eugene BLM’s McKenzie watershed:

<https://eplanning.blm.gov/eplanning-ui/project/2009923/570>. In their danger tree CX BLM said "Effects to potential spotted owl foraging in moderately and severely burned areas would not be significant because hazard tree removal would affect a linear corridor rather than entire forest stands" But they did not appear to account for these situations where is a dense road network and the linear corridors affect a large fraction of the stand. The cumulative effects analysis must also account for the lost potential for high quality large snag habitat caused by past regeneration harvest and salvage logging. The NEPA analysis should disclose how the forest can meet DecAID 50-80% tolerance objectives given the cumulative loss of large snag habitat.

We urge the FS to consider alternatives that let some roads close naturally where and when possible. The FS should adopt a purpose and need to protect and grow large blocks of natural habitat that better match the conditions that wildlife evolved under, such as unroaded areas larger than 1,000 acres. 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

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://d2k78bk4kdhbpr.cloudfront.net/media/reports/files/Scientific_Basis_For_Roadless_Area_Conservation.pdf>.

And, 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 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.

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

<https://docs.google.com/open?id=0B4L_-RD-MJwrRzhFcm5QcFR0MHM>.

To the list of special values found within unroaded areas must be added carbon storage. European policy leaders consider roadless areas effective for carbon storage and climate mitigation:

[T]he European Parliament has agreed to raise the issue of roadbuilding in intact forests at the UN Climate Change Conference to be held next month in Warsaw (Poland); it calls on parties to use the existence of roads in forest areas as an early negative performance indicator of REDD+ projects, and to prioritise the allocation of REDD+ funds towards road free forests.

Oct 24, 2013 Press release: EUROPEAN PARLIAMENT BACKS THE PROTECTION OF ROADFREE AREAS. <http://kritonarsenis.gr/eng/actions/view/european-parliament-backs-the-protection>.

We urge the FS to consider alternatives that retain all green trees (to help feed the below ground ecosystem) and retain dead wood instead of removing it. This approach is especially appropriate in all reserves and other land allocations devoted to wildlife, as well as in critical habitat for the spotted owl. Science shows a strong association between abundant dead wood and spotted owl prey.

Small logs provide escape cover or shelter for small species. … Tallmon and Mills (1994) have shown that red-backed voles, a primary prey species for the spotted owl, are highly associated with large down material in more advanced decay stages. Truffles, a dietary staple of the northern flying squirrel, have also been loosely associated with down material.

Gregg, M. 2013. Wildlife Report for Management Indicator Species, Species of Concern from the Northwest Forest Plan, and Landbirds - Pole Creek Fire Timber Salvage. <http://a123.g.akamai.net/7/123/11558/abc123/forestservic.download.akamai.com/11558/www/nepa/94141_FSPLT3_1451590.pdf>

Several small mammals, such as the northern flying squirrel form the prey base for the Endangered Species Act (ESA) listed spotted owl and are among the species associated with abundant large dead standing and down wood. This presumably, is why spotted owls prefer to forage in stands with abundant standing and fallen dead wood (Table 2, North et al. 1999). The fruiting bodies of hypogeous fungi are a food source of northern flying squirrels and are also associated with down logs, suggesting that there are complex, indirect paths through which dead wood supports spotted owls (Amaranthus et al. 1994, Carey 2000).

Thomas Spies, Michael Pollock, Gordon Reeves, and Tim Beechie 2013. Effects of Riparian Thinning on Wood Recruitment: A Scientific Synthesis - Science Review Team Wood Recruitment Subgroup. Jan 28, 2013, p 36. <http://www.mediate.com/DSConsulting/docs/FINAL%20wood%20recruitment%20document.pdf>

North et al. (1999) noted in a study of foraging habitat selection by northern spotted owls, “In our study area, stands with high use by owls typically included many ‘legacies’ (large trees and snags) that survived a fire or windstorm that destroyed much of the previous stand. They found that “stands with 142 m3/ha of intact snags and a high diversity of tree heights had medium or high foraging use by spotted owls. In these old-growth stands, biological legacies (e.g., large trees and snags) produced by past disturbance provide important forest structures associated with spotted owl foraging.” North, Franklin, Carey, Forsman, Hamer. 1999. Forest Stand Structure of the Northern Spotted Owl’s Foraging Habitat. For. Sci. 45(4):520-527.

The agency should focus on roads that are heavily used by the public and workers. There is a trade-off between safety and habitat, and the agency should conserve defective trees and snag habitat in areas that receive little public use.

The agency should fell trees as absolutely necessary, but wherever possible leave the trees on-site to provide down wood habitat. When tree removal is necessary use the wood to restore stream habitat or to add down wood to previously clearcut plantations where down wood habitat is severely lacking.

We object to commercial sale of hazard trees, because there are economic conflicts of interest that could lead to ecologically important large trees being removed for the wrong reasons. And the need for large trees for restoration purposes far outstrips the supply.

The cumulative impact of hazard tree removal needs to be carefully considered. There is a dense road network across the federal/non-federal landscape and if all the hazard trees are removed a certain distance from all those roads, then the area of the forest that can support large snags become greatly diminished. The cumulative effects analysis must also account for the lost potential for high quality large snag habitat caused by past regeneration harvest and salvage logging. The NEPA analysis should disclose how the forest can meet DecAID 50-80% tolerance objectives given the cumulative loss of large snag habitat.

There are multiple options for managing safety, (a) manage the physical feature presenting the hazard, or (b) mange public use so that the public is less likely to be subject to the physical hazard. We strongly support retention of large snags while educating the public and managing public use to keep the public out of harm’s way as much as possible. Truly hazardous trees (i.e., imminent risk of falling in very high use areas) may need to be felled (often leaving a high stump for wildlife) but the boles of such trees should generally be left to provide for wildlife and soil needs.

The agencies’ field guide for danger tree identification indicates that little-used logging roads are a low priority for danger tree removal because of intermittent and infrequent hazard exposure.

There are many miles of roads that may have danger trees adjacent to them. It is not possible to correct the danger tree problem immediately, so it is necessary to prioritize the danger tree treatment workload. The treatment priority should be highest where people are most likely to be impacted by danger trees. Consideration of exposure level and traffic frequency provides a way to prioritize the workload.

…

Another aspect of exposure along roads is traffic frequency. Roads that have a higher traffic frequency expose more people to a danger tree than roads with a lower traffic frequency.

The longer people are exposed to a tree, the more opportunity there is for the failed tree to impact them. If exposure duration and traffic frequency are reduced, the opportunity for the tree to impact people is also reduced. The qualified person should consider traffic frequency and exposure duration when determining whether a tree poses a danger to people.

Toupin, Filip, Erkert & Barger. 2008. Field Guide for Danger Tree Identification and Response. USDA FS, USDI BLM, Oregon OSHA. <http://www.blm.gov/or/districts/medford/plans/files/fieldguidedangertree.pdf>

Sometimes the motivation for eliminating hazards is based on a misunderstanding of legal liabilities. The NEPA analysis needs to acknowledge that the public assumes certain risk when recreating on public lands, so not every hazardous tree on every dead end spur road needs to be felled and removed. Under-represented snag habitat should be retained on along low standard roads because the PNW Region of the Forest Service already distributes an educational brochure titled “Getting Around on National Forest Roads” which says of low standard roads “If you choose to drive these roads, plan to encounter rocks and boulders, road washouts, downed trees and brush encroaching on the roadway. For safety, … carry extra equipment such as axe, shovel, gloves …” See “Getting Around on National Forest Roads” R6-ENG-RG-01-01. <https://babel.hathitrust.org/cgi/pt?id=umn.31951002920989g&view=1up&seq=2>.. The public already expects some inconvenience when driving remote forest roads and would willingly trade some risk of inconvenience and small chance of encountering safety hazards for viable populations of native wildlife.

Also, the Federal Tort Liability Act provides the government some degree of immunity in exercising their discretionary functions like hazard tree management. For instance, the National Park Service was found not liable for failing to remove a tree weakened by root rot that fell and killed a recreational motorist at Great Smokey Mountains National Park, even when the road involved was a high use paved road near a visitor center, and when the tree species at issue (Black Locust) was known by the Park Service to be prone to fall down. AUTERY v. UNITED STATES 992 F.2d 1523 (11th Cir. 1993). [https://web.archive.org/web/20051203012108/http://classweb.gmu.edu/erodger1/prls560/content/autery.htm](https://web.archive.org/web/20051203012108/http:/classweb.gmu.edu/erodger1/prls560/content/autery.htm). The appeal court overturned the district court and held that the agency’s balancing of public safety and preserving natural areas prevented judicial second guessing and gave them immunity from liability for the death of the motorist.

Based upon the evidence in this case, the appeals court held that"the decisions made by GSMNP personnel in designing and implementing its unwritten tree inspection program fall within the ambit of the discretionary function exception."

Although the district court may have disagreed with the balance struck by the Park Service, or believed that some other policy would have been better, the discretionary function exception is designed to protect against just this type of "judicial 'second-guessing"...

To decide on a method of inspecting potentially hazardous trees, and in carrying out the plan, **the Park Service likely had to determine and weigh the risk of harm from trees in various locations, the need for other safety programs, the extent to which the natural state of the forest should be preserved, and the limited financial and human resources available**.Indeed, the district court recognized this when it criticized the Park Service for elevating he overriding policy considerations of protecting the trees and the natural state of the area over the safety of humans using the park roadway.

This means that the agency is free to weigh the value of snags for wildlife and other ecosystem services and need not reflexively cut down every hazard tree. The agency’s proposal in the present case is not consistent with applicable law or conservation principles.

See also ORS §§ 105.672(3), 105.682(1) and Brewer v. ODFW, 2 P.3d 418, 167 Or.App. 173. <http://www.publications.ojd.state.or.us/A103245.htm>.

Each substantive issue discussed in these comments should be (i) incorporated into the purpose and need for the project, (ii) used to develop NEPA alternatives that balance tradeoffs in different ways, (iii) carefully analyzed and documented as part of the effects analysis, and (iv) considered for mitigation.

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Sincerely,



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