CASCADIA WILDLANDS
We like it wild.

December 26, 2025

Darren Cross, District Ranger
Jessica Eves, NEPA Planner
McKenzie River Ranger District
57600 McKenzie Highway
McKenzie Bridge, OR 97413

Submitted online via https://cara.fs2c.usda.gov/Public/CommentInput?Project=68829

Re: Tie Project (#68829)

Please consider the following comments on the Cala-Wiley project, submitted on behalf of Cascadia Wildlands. Founded in 1998, Eugene-based Cascadia Wildlands represents approximately 15,000 members and supporters with a mission to defend and restore Cascadia's wild ecosystems in the forests, in the courts, and in the streets. Cascadia Wildlands envisions vast old-growth forests, rivers full of wild salmon, wolves howling in the backcountry, a stable climate, and vibrant communities sustained by the unique landscapes of the Cascadia bioregion.

Project Description

The Tie project area is 36,982 acres located five miles from McKenzie Bridge, OR. Logging in 7,898 acres is proposed through 6,108 acres of variable density thinning with skips and gaps and 772 acres of overlapping roadside shaded fuel breaks, plus 1,790 of additional roadside shaded fuel breaks. The project would include road system improvements, including temporary roads that would be decommissioned after use. Mileage is not specified in the scoping notice.

The district indicates the purpose and needs to be fulfilled by this project are (1) Providing a sustainable timber supply to support local economies, (2) Reducing wildfire risk through strategic thinning and shaded fuel breaks, (3) Improving forest health and resilience by enhancing forest structure, species diversity, and stand density, and (4) Maintaining and improving road systems for management, recreation, and wildfire response. The district intends to produce an estimated 120 mmbf of timber from this project.

Public Engagement

Thank you for preparing an Environmental Assessment (EA) for the Tie project. Thank you also for hosting a community meeting, which Cascadia Wildlands staff attended, to share information about the project. The project was described as a response to national directions to increase timber output, as well as a proactive effort to reduce fire risk paired with an acknowledgment that emergency roadside work involves less oversight from the district and has resulted in heavier natural resource impacts. The project also includes roads with existing fuel breaks that were implemented under emergency authorization during active firefighting for maintenance purposes (e.g., along FS Road 2653).

We are grateful for the transparency in planning from the district and wish to stay informed and engaged as project planning continues. We strongly encourage this district and others to continue to prepare thorough analyses to support project decisions and allow for meaningful review and comment opportunities throughout the planning process.

We requested a **public field tour** while attending the public meeting in December and reiterate that request here. The ability to see the project area conditions and discuss implementation on the ground with staff is tremendously helpful for providing informed feedback on the project. Please ensure a tour is scheduled when the area is accessible and either before or during a comment period so there is an opportunity for feedback to be taken into consideration.

This project area is particularly significant to Cascadia Wildlands, our partners at Oregon Wild, and our many members and supporters who engaged with the district when it previously proposed the Flat Country Project. Flat Country received significant backlash from the public, elected officials, and scientists in response to the agency's proposal to log stands that were older, complex, and fully capable of developing high quality habitat without intervention. That project was cancelled in 2022. Throughout the development of Flat Country, Cascadia Wildlands and others urged the agency to drop older stands. The Tie project consists of the Flat project area but targets younger stands (30–50 years old). We are glad to see this pivot away from logging in older, ecologically rich stands, however we urge the agency to view the landscape collectively and thoroughly evaluate impacts to adjacent and nearby mature and old-growth forests in the EA.

The Forest Service is collaborating with the Oregon Department of Forestry to implement this project under the Good Neighbor Authority. Also, the Forest Service has contracted with the firm Sundance to carry out environmental analysis and NEPA planning documentation for the project. The Forest Service is responsible for the project design, oversight of environmental review, and all final decisions. Why wasn't this disclosed in the scoping notice? We ask that the agencies continue to be transparent about how these entities and processes work

together and to maintain public engagement throughout project planning and implementation.

Recommendations

Our organization remains steadfastly opposed to the logging of mature forest stands and regeneration harvesting that increases fire hazard, removes wildlife habitat, and exacerbates climate change, but we are generally supportive of small-diameter thinning projects in young, managed plantations, as is predominantly proposed for this project. This is the type of work on which we encourage the agency to focus. Even so, we ask that the agency evaluate and balance the many trade-offs associated with logging of any kind, including thinning, and thoroughly consider impacts to surrounding older stands and quality habitat. Any units that do not fit this description (young, previously-managed, dense plantations) should be dropped from the project.

Please consider the following recommendations for the project. Also note that this is a large project acreage and estimated timber production amount. The impacts of this project are likely to be significant. Please consider preparing an Environmental Impact Statement to adequality evaluate the project's impacts.

1. Balance Trade-offs of Logging

Focus the analysis on "trade-offs" related to logging. All logging, including thinning stands of any age, include some adverse impacts and trade-offs. Some impacts of logging are unavoidable, so there is no such thing as a logging operation that is 100% beneficial. Depending on how thinning is done, it can have adverse impacts such as soil disturbance; habitat disturbance; damage to the shrub layer; carbon removal; spreading weeds; reduced populations of prey for carnivorous species; reduced recruitment of snags; road-related impacts on soil, water, site productivity, and habitat; moving fuels from the canopy to the ground, hotter-drier-windier microclimate that is favorable to greater flame lengths and rate of fire spread, etc. Some of these negative effects are fundamentally unavoidable, therefore all thinning has negative effects that must be compensated by beneficial effects such as reducing competition between trees so that some can grow larger faster, increased resistance drought stress and insects, possible increasing species and structural diversity, possible fire hazard reduction, etc.

It is generally accepted that when thinning very young stands, the benefits outweigh the adverse impacts and net benefits are likely. It is also widely understood that thinning older stands tends to have greater impacts on soil, water, weeds, carbon, dead wood recruitment so the impacts very often outweigh the benefits, resulting in net negative outcome on the balance sheet. Thus, as we move from young forest to older forests, the net benefits turn into

net negative impacts.[1] These are some of the trade-offs that must be disclosed and weighed in the NEPA document.

2. Implementation

When conducting commercial thinning projects, take the opportunity to implement other critical aspects of watershed restoration – especially pre-commercial thinning, restoring fish passage, reducing the impacts of the road system, and treating invasive weeds. Focus on treating the youngest stands that are most "plastic" and amenable to restoration. Use projects as an opportunity to learn by conducting monitoring and research on the effects of thinning.

Generally, retain all the largest trees and some of the smaller trees in all age-size classes. This can be accomplished in part by retaining untreated "skips" embedded within the stand. Retain and protect under-represented conifer and non-conifer trees. Protect shrubs as much as possible, especially deciduous and tall shrubs and those that produce insects, berries and mast.

Strive for a variable density outcome. Be creative in establishing diversity and complexity both within and between stands. Use skips and gaps within units to help achieve diversity. Gaps should be small, while skips should be a little larger, but even small clumps and patches of trees are desirable. Gaps should not be clearcut but rather should retain some residual structure in the form of live or dead trees. Landings do not make good gaps because they are clearcut, highly compacted and disturbed, more likely subject to repeated disturbance, and directly associated with roads. Additionally, we would caution the Forest Service not to use variable density prescriptions to justify clearcutting and simply group the retention in a corner of the logging unit that for whatever reason is not a priority for logging (i.e. steep, spindly, wet). We have seen when these prescriptions are left to logging company discretion this is the inevitable outcome. If this requires agency marking of units, or detailed unit layout in prospectuses, please utilize these strategies to actually achieve some of the purported outcomes of variable density thinning.

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[1] See Klaus J. Puettmann, Adrian Ares, and Erich Dodson. 2011. Over- and understory vegetation responses to thinning treatments: Can we accelerate late successional stand structures? Symposium: Density Management In The 21st Century: West Side Story. http://oregonstate.edu/conferences/event/densitymanagement2011/agenda.pdf ("growth of large trees was less responsive to thinning and low mortality rates for larger trees resulted in little recruitment of large snags or coarse woody debris (down wood). In general, thinning increased abundance and diversity of early-seral understory species, with little effect on late-seral species. On sites where shrub cover was already high harvesting initially reduced the cover, but shrubs recovered over time. Exotic species slightly increased in response to treatment …"); and Erich K. Dodson, Adrian Ares, and Klaus J. Puettmann. 2011. Thinning effects on tree mortality and snag recruitment. Symposium: Density Management In The 21st Century: West Side Story. http://oregonstate.edu/conferences/event/densitymanagement2011/agenda.pdf ("…thinning did little to accelerate the development of large snags and coarse downed wood that provide critical wildlife habitat…").

The scale of patches in variable density thinning regimes is important. Ideally variability should be implemented at numerous scales ranging from small to large, including: the scale of tree fall events; pockets of variably contagious disturbance from insects, disease, and mixed-severity fire; soil-property heterogeneity; topographic discontinuities; the imprint of natural historical events; etc.

3. Shaded Fuel Breaks

We generally support focusing light, small-diameter, variable thinning from below on young, treated stands. However, we are concerned that young stand thinning proposed as part of the network of shaded fuel breaks and could create more problems than it solves. Will fuel breaks be cut through mature and old-growth forest? Please disclose this in the EA and analyze potential impacts.

Staff said fuel breaks will extend 150 feet from either side of the road. What will maintenance needs be? Will there be capacity and resources to meet those needs? The EA needs to consider and weigh these risks and enduring costs against not logging these fuel breaks, or perhaps a smaller break.

We are concerned that young stand thinning proposed as part of the network of shaded fuel breaks may create more problems than it solves. Heavy thinning (say, to as low as 40% canopy cover) would open the stand too much likely create problems such as:

- Warm/dry/windy microclimate that dries fuels more rapidly and increases flame lengths.
- Heavy thinning moves more fine fuels for the canopy to the ground where they are more vulnerable to fire. Treating these activity fuels is expensive and rarely entirely effective. Plus, there is a time period after the fuels are put on the ground and before they are treated.
- Opening the canopy will make resources available to stimulate excessive growth of future hazardous surface and ladder fuels.
- Greater growth of surface fuels requires more frequent and more expensive retreatment that the agency lacks funding for. The agency may be tempted to keep removing mature trees to pay for removal of small trees and brush, but this causes a vicious cycle of unwanted fuel growth and funding shortfalls.

For area thinning, what prescription will the district implement? Will underburning be implemented? If area thinning is too heavy, it would open the stand, creating problems related to warm/dry/windy microclimate, and stimulate growth of hazardous surface and ladder fuels that the agency does not have adequate resources to retreat. So, when the fire

does come, the agency would be left with a brushy condition that it cannot safely put defensive fire into. Use a lighter thinning prescription and retain a more densely shaded condition along all the roads that are part of the SFB network. Please consider these risks in the NEPA analysis.

The changing climate is creating drier fuels and longer fire seasons. This increases the potential for extreme fire behavior where embers can travel long distances during high fire growth periods and render shaded fuel breaks ineffective at stopping or slowing fire spread. Fuel breaks can have significant trade-offs, including: spreading weeds through soil and canopy disturbance, habitat fragmentation and edge effects, exacerbating barriers to wildlife movement, impaired wildlife connectivity, loss of wildlife cover, loss of snag and dead wood habitat, facilitating unauthorized OHVs, increased carbon emissions, etc. NEPA analysis is needed to disclose and consider these trade-offs and develop alternatives that avoid, minimize, and mitigate adverse effects.

The agency should retain, not reduce, canopy fuels because canopy fuels actually help maintain a favorable microclimate and reduce surface and ladder fuels which are the greater hazard. If there is a perceived need to reduce the continuity of canopy fuels, the road itself serves that purpose. Hakkenberg et al. (2024)[2] 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,

[2] 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.

> 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 burns. Understory treatments have also been found to lessen externalities associated with more intensive thinning operations and simultaneously promote culturally- and ecologically-beneficial wildfire outcomes across a wide variety of topographic, weather and climate contexts.

If implemented correctly, shaded-fuel breaks can be a useful tool for fire management. Done incorrectly they can make the situation worse and cause a lot of unintended adverse trade-offs. Shaded fuel breaks implemented non-commercially with significant canopy retention may be an effective fuel treatment *if* they are maintained over time. If fuel breaks remove too much canopy and are accomplished with heavy equipment that disturbs too much soil, fuel breaks can stimulate the growth of hazardous fuels and weeds, making fire hazard worse instead of better, while making long-term maintenance more difficult and more expensive. We are concerned about the agency's limited resources and capacity and potential limits to long-term maintenance of fuel breaks.

Fuel breaks are largely untested with potentially uncertain ecological effects. Shinneman *et al*. (2019) reported that there is little scientific information available regarding their [fuel breaks] ecological effects. They report that fuel breaks can: (1) directly alter ecosystems; (2) create edges and edge effects; (3) serve as vectors for wildlife movement and plant invasions; and (4) preemptively fragment otherwise contiguous sagebrush landscapes.[3]

[3] Kauffman, Beschta et al 2020. Comments on Boise BLM's Tri-State Fuel Break Project. 22 Dec 2020. https://drive.google.com/open?id=1AEA3PTs31Sv_-RZZnMsduhHCb1hniZ_e *citing* Shinneman, Douglas J.; Germino, Matthew J.; Pilliod, David S.; Aldridge, Cameron L.; Vaillant, Nicole M.; Coates, Peter S. 2019. The ecological uncertainty of wildfire fuel breaks: examples from the sagebrush steppe. Frontiers in Ecology and the Environment 17(5):279-288. https://doi.org/10.1002/fee.2045. ("Fuel breaks are increasingly being implemented at broad scales (100s to 10,000s of square kilometers) in fire-prone landscapes globally, yet there is little scientific information available regarding their ecological effects (e.g. habitat fragmentation). … Given uncertain outcomes, we examine how implementation of fuel breaks might (1) directly alter ecosystems, (2) create edges and edge effects, (3) serve as vectors for wildlife movement and plant invasions, (4) fragment otherwise contiguous sagebrush landscapes, and (5) benefit from scientific investigation intended to disentangle their ecological costs and benefits."). See also Shinneman, D.J., Aldridge, C.L., Coates, P.S., Germino, M.J., Pilliod,

PODs and fuel breaks should be explicitly planned and designed to facilitate the return of fire to the landscape, not to perpetuate the failed policy of continued suppression of wildfire. If the fuels breaks are intended for continued fire suppression, then the NEPA analysis should disclose the adverse environmental effects of that outdated policy.[4]

4. Wildlife Habitat and Water Impacts

We are concerned about impacts to imperiled species in the project area, including northern spotted owls. The agency must take a hard look at impacts to owls, as well as their habitat and prey.

Young stands do not exist in isolation, so be sure to consider the effects of thinning on adjacent mature and old-growth habitat which may provide habitat for spotted owls, red tree vole, and other imperiled species. Spotted owls may use young stands for dispersal, foraging, and security from predators. It may be helpful to create a "risk map" that identifies areas that are more or less suitable for thinning based on criteria such as: existing habitat characteristics, proximity to occupied habitat or activity centers, proximity to suitable habitat, and proximity to recently thinned areas, non-habitat, and roads. The agency should also consider adjusting both the location and timing of thinning to minimize the cumulative effects of widespread thinning on imperiled species.

Recognize and mitigate adverse effects of thinning on spotted owl prey such as flying squirrels, red tree voles, and chipmunks. Avoid impacts to raptor nests and enhance habitat for diverse prey species. Train marking crews and cutting crews to look up and avoid cutting trees with nests of any sort and retain trees with defects such as forks, broken tops, etc.

What wildlife surveys have been or will be completed? What protocol is the agency following? There are recent studies from the authors of the spotted owl protocol that have highlighted the negative effects barred owls have had on spotted owl survey results. Please disclose in the EA of how exactly surveys will be implemented and evaluated. This will help inform our comments and field reviews. Additionally, please analyze how will thinning, shaded fuel breaks, and roads contribute to habitat fragmentation and edge effects, weed spread, or water quality degradation? What waterways and fish species are in the project area and will be

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D.S., and Vaillant, N.M., 2018, A conservation paradox in the Great Basin—Altering sagebrush landscapes with fuel breaks to reduce habitat loss from wildfire: U.S. Geological Survey Open-File Report 2018–1034, 70 p., https://doi.org/10.3133/ofr20181034.

[4] Timothy Ingalsbee 2005. Fuelbreaks for Wildland Fire Management: A Moat or a Drawbridge for Ecosystem Fire Restoration? Journal of Fire Ecology, Pages: 85-99. DOI:10.4996/fireecology.0101085. https://web.archive.org/web/20070818123112/http://www.fireecology.net/pdfs/7_ingalsbee.pdf.

impacted? How will thinning and roadwork impact instream flows? Please share any survey results and documents related to consultation with USFWS or NMFS with the EA.

The adverse effects of thinning on flying squirrels and spotted owls should be considered in the context of the competitive pressure that barred owls impose on populations of flying squirrels, which are the primary prey of both barred owls and spotted owls. The EA should consider the effects of barred owls in its analysis.

The McKenzie River is the sole source of drinking water for over 200,000 Oregon residents, including Eugene and Springfield downstream. How will the project impact drinking water? Please analyze and disclose impacts in the EA.

The Flat Country project evaluated meadow restoration, which staff indicated were planned and ready to be implemented though not as a part of this project. We encourage the Forest Service to pursue those restoration efforts.

5. Snags and Dead Wood

Retain abundant snags and course wood both distributed and in clumps so that thinning mimics natural disturbance. Retention of dead wood should generally be proportional to the intensity of the thinning, e.g., heavy thinning should leave behind more snags not less. Retain wildlife trees such as hollows, forked tops, broken tops, leaning trees, etc.

Commercial thinning has an adverse effect on snags and dead wood. Thinning might produce the first large trees, but those trees would be vigorous and less likely to experience mortality, so developing large snags is not direct and immediate result of growing large trees. Thinning also dramatically reduces the pool from which future mortality can be recruited, so thinning actually slows development of some attributes of older forest habitat including snags and down wood. NEPA analyses often assert that, "As a result of thinning, growth of retained live trees would be accelerated, so larger trees would be available sooner for recruitment as snags and coarse woody debris than without thinning." This is misleading. Accelerating development of a few larger *live trees* (that *might* become snags if a few of them happen to die) *comes at the cost* of a significant reduction in the number of medium and large snags over time. From an ecological perspective, the net result of commercial logging is undeniably averse to snag habitat. The agency cannot present logging as a benefit to snag habitat when it is really a cost that needs to be mitigated.

Please disclose in the EA (i) whether the project will retain an adequate pool of green trees from which to recruit snags and (ii) whether the project will retain the ecological processes that cause mortality, including density dependent mortality and other mechanisms. Commercial logging will significantly harm both of these snag recruitment factors, so

mitigation measures are needed. Green tree retention, including generous unthinned "skips" where density dependent mortality will play out, is necessary to support this process. This is especially critical in previously logged uplands that are already short of snags and in riparian areas where recruitment of large wood is important to stream structure.

Artificial snag creation is often proposed as mitigation for the loss of snags during logging, but snags fall down and dead wood decays, so a one-time snag creation effort provides very short-term benefits. Since logging has long-term adverse effects on snag recruitment, it is necessary to adopt mitigation with long-term effects, such as retaining generous untreated "skips" embedded within treatments areas where natural mortality processes can flourish.

Recognize that dead wood values are sacrificed in thinned areas due to the effect of "captured mortality," while other late successional values, such as rapid development of large trees and understory diversity may be delayed in unthinned areas, so an important step in the restoration process is to identify the most optimal mix of treated (thinned) and untreated (unthinned) areas. We think this should be a conscious and well-documented part of the NEPA analysis, not just an accidental byproduct of what's economically thinnable. Tools like DecAID might be used to identify goals for large and small snags that need to be met over time and at the geographic scale of home-ranges of focal species. This can help identify the scale and distribution of untreated "skips."

If using techniques such as whole-tree yarding or yarding with tops attached to control fuels, the agency should top a portion of the trees and leave the greens in the forest in order to retain nutrients on site.[5]

Thinning creates activity fuels that can be treated (or not treated) in a variety of ways. Strive to treat fuels in ways that provide public benefits such as wildlife habitat (e.g., complex woody structure) and charcoal production (e.g., enhanced soil carbon storage), and reduce detrimental soil impacts from machine piling and hot burn piles.[6] Please ensure slash is treated in a timely manner.

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[5] Achat, Deleuze, et al 2015. Quantifying consequences of removing harvesting residues on forest soils and tree growth – A meta-analysis. Forest Ecology and Management Volume 348, 15 July 2015, Pages 124–141. http://www.sciencedirect.com/science/article/pii/S0378112715001814 ("Our study showed that, compared with conventional stem-only harvest, removing the stem plus the harvesting residues generally increases nutrient outputs thereby leading to reduced amounts of total and available nutrients in soils and soil acidification, particularly when foliage is harvested along with the branches. … Soil fertility losses were shown to have consequences for the subsequent forest ecosystem: tree growth was reduced by 3-7% in the short or medium term (up to 33 years after harvest) in the most intensive harvests (e.g. when branches are exported with foliage). Combining all the results showed that, overall, whole-tree harvesting has negative impacts on soil properties and trees that may have an impact on the functioning of forest ecosystems.")

[6] Deborah S. Page-Dumroese et al. 2017. Methods to Reduce Forest Residue Volume after Timber Harvesting and Produce Black Carbon. Scientifica. Volume 2017 (2017), Article ID 2745764, https://doi.org/10.1155/2017/2745764; https://www.hindawi.com/journals/scientifica/2017/2745764/.

Buffer streams from the effects of heavy equipment and loss of bank trees and trees that shade streams. Mitigate for the loss of large woody debris input by retaining extra snags and wood (and green trees for recruitment) in riparian areas. Recognize that thinning "captures mortality" and results in a long-term reduction in recruitment of functional down wood, and that effect is not mitigated by future growth.

6. Roads and Weeds

The scoping notice indicates road maintenance and temporary road construction will take place. What are the current conditions and typical use pattern/intensity of these roads? We consistently encourage the district to analyze decommissioning or storing roads to work toward a more sustainable road system. We are aware of the Regional Forester's "Interim Guidance for Travel Management Proposals and Decisions" issued June 2025. While we find the interim guidance to be misguided in its speculative and anticipatory approach and retention of unnecessary and potentially environmentally damaging roads, we understand the district's need to comply with regional direction. Has the district has analyzed the need for decommissioning or storing roads in the project area? If so, please share it.

Building new roads, including temporary roads, causes lasting environmental degradation. We are concerned about the agency's ability to maintain the current road system given current resources and staff capacity, and thus have concerns about adding any additional to it. Roads have a variety of long-lasting adverse impacts on soil, water, and wildlife. Inaccessible areas can be treated non-commercially or become part of the landscape mosaic that is untreated and serve important ecological values such as dense forest cover, carbon storage, and natural rates of snag recruitment.

Avoid log hauling during the wet season. If considered, the agency must disclose the full range of impacts associated and include safeguards to limit sedimentation as much as possible. For instance, require that operators delay haul for 24 hours or more following a rain event delivering x amount of precipitation or resulting in standing water along the route.

Avoid placement of landings or roads that would require cutting large-diameter trees.

Are weed infestations present on the district? In the project area? Will this project exacerbate those conditions? Take proactive steps to avoid the spread of weeds. Use canopy cover to suppress weeds. Avoid soil disturbance and road construction. Scarifying landings and temporary roads and planting with native seeds is a good idea but please take steps to ensure that it is effective.

Weed species spread by logging and roads can increase fire risk. Consider increased flammability and heightened fire risk when evaluating weeds. Consider weed spread and treatment when evaluating quarries and related impacts.

7. Fire Risk

We are concerned that logging and road building increases fire risk. Heavy thinning (say, to as low as 40% canopy cover) that would open the stand too much likely creates problems such as:

- Warm/dry/windy microclimate that dries fuels more rapidly and increases flame lengths.
- Heavy thinning moves more fine fuels for the canopy to the ground where they are more vulnerable to fire. Treating these activity fuels is expensive and rarely entirely effective. Plus, there is a time period after the fuels are put on the ground and before they are treated.
- Opening the canopy makes resources available to stimulate excessive growth of future hazardous surface and ladder fuels.
- Greater growth of surface fuels requires more frequent and more expensive retreatment that the agency lacks funding for. The agency may be tempted to keep removing mature trees to pay for removal of small trees and brush, but this causes a vicious cycle of unwanted fuel growth and funding shortfalls.

If area thinning is too heavy, it opens the stand and stimulate growth of fuels that the agency does not have adequate resources to retreat. So, when the fire does come, the agency would be left with a brushy condition that it cannot safely put defensive fire into.

Also, road construction increases the risks of fire ignition given the increased access and usage. Please consider these risks in the NEPA analysis or develop and analyze concrete ways to mitigate these effects and consider an alternative that does not increase fire risk.

8. Climate Change and Carbon

Please include a full climate change and carbon analysis in the draft EA. Merely discussing carbon impacts and concluding they will be minor fails to take a hard look and climate change and carbon impacts of logging projects.

The Montana District Court determined the United States Forest Service (USFS) failed to take a hard look at climate change impacts in an EA in *Ctr. for Biological Diversity v. United States Forest Serv.*, 2023 U.S. Dist. LEXIS 144726. There, the proposed Black Ram Project would have authorized thousands of acres of logging included clearcutting on 1,783 acres

and harvesting in old-growth stands of trees up to 230 years old. The agency determined the project would "affect only a tiny percentage of the forest carbon stocks of the Kootenai National Forest, and an infinitesimal amount of the total forest carbon stocks of the United States," so no further effects analysis of the Project's impact on climate change was required. *Id.* At 31. This was not "the high quality and accurate scientific analysis that NEPA's implementing regulations demand of environmental information produced by agencies." *Id.* (citing 350 Mont., 50 F.4th at 1270). The court explained the agency's failure to comport with NEPA as follows:

> In light of the above, the USFS's consideration of the Project's climate impacts fails NEPA in two ways. First, by relying almost entirely on the cookie-cutter and boilerplate Project Climate Report to analyze the carbon impact of the project, the USFS did not utilize high quality and accurate information which NEPA requires. See 40 C.F.R § 1500.1. Second, even though the USFS posited that the short-term loss of carbon from logging would be outweighed by the net increase in carbon sequestration resulting from a healthier forest, this assertion is not backed up by a scientific explanation. Rather, the USFS generally concludes that carbon as a result of the Project's activities make up "only a tiny percentage of forest carbon stocks of the Kootenai National Forest, and an infinitesimal amount of total forest carbon stocks of the United States." FS-020743. Under this logic, the USFS could always skirt "hard look" analysis when doing a carbon impacts review by breaking up a project into small pieces and comparing them to huge carbon stocks such as those contained within the over two million acres of land in the Kootenai National Forest.
>
> …
>
> NEPA requires more than a statement of platitudes, it requires appraisal to the public of the actual impacts of an individual project. . . [T]he USFS has the responsibility to give the public an accurate picture of what impacts a project may have, no matter how "infinitesimal" they believe they may be.

Id. at 32-33, 36.

We suggest that the district adopt a purpose and need to maintain and increase carbon storage in forest ecosystems. In scoping materials, the district indicates one of the needs for this project is to generate revenue from timber sales. The district should reconsider timber targets and other short-sighted economic goals in light of the fact that the public *needs* carbon storage to reduce global climate change much more than they *need* revenue or wood products. The NEPA analysis also needs to account for the fact that managing forests for water quality, water quantity, quality of life, and carbon storage for a stable climate also contribute greatly to community stability.

Please develop an alternative that maximizes carbon storage, forest resilience, ecological diversity, and habitat connectivity. Recognize that there is a carbon cost associated with thinning. As stands develop from young to mature to old, they recruit large amounts of material from the live tree pool to the dead wood pool and this pool continues to accumulate large amounts of carbon for centuries. Logging, even thinning, can dramatically affect the accumulation of carbon in the dead wood pool by capturing mortality, diverting it from the forest, and accelerating the transfer of carbon to the atmosphere. Carbon stays out of the atmosphere much longer if it remains in the forest as live and/or dead trees, instead of being converted to wood products and industrial and consumer waste.

Conclusion

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 EA, and (iv) considered for mitigation.

We thank the district for its public engagement process for this project and respectfully request that the district continue to offer meaningful opportunities for public review of materials and comment opportunities as the project is developed. Please keep us informed of any additional subsequent NEPA documents, decisions, and engagement opportunities for this project as it is developed. Thank you for taking our input into consideration.

Sincerely,

Grace Brahler
Cascadia Wildlands
PO Box 10455 Eugene, OR 97440
grace@cascwild.org
541.434.1463