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Ms. Jacque Buchanan, Regional Forester
Pacific Northwest Region
United States Forest Service
1220 SW 3rd Avenue
Portland, OR. 97204

Submitted via webportal: <https://cara.fs2c.usda.gov/Public//CommentInput?Project=64745>

RE: Comments on the Region 5 and Region 6; California, Oregon, and Washington; Forest Plan Amendment for Planning and Management of Northwest Forests Within the Range of the Northern Spotted Owl

Dear Ms. Buchanan:

Thank you for the opportunity to provide input on the Forest Plan Amendment for Planning and Management of Northwest Forests Within the Range of the Northern Spotted Owl, Document No. 2023-27742. Cascade Forest Conservancy's (CFC) mission is to protect and sustain the forests, streams, wildlife, and communities in the southern Washington Cascades through conservation, education, and advocacy. We represent over 12,000 members and supporters, mostly based in the Pacific Northwest. We focus much of our efforts within the Gifford Pinchot National Forest (GPNF), a forest managed under the Northwest Forest Plan (NWFP). Many of these recommendations, although developed as recommendations specific to the GPNF in southwest Washington, could be adapted and transferred to other national forests through the update to the Northwest Forest Plan.

I. Climate, Old-Growth, & Tribal Focused Update to the Northwest Forest Plan

The update to the Northwest Forest Plan (NWFP) should be focused on addressing climate change, preserving old-growth, and including tribal voices into the plan. Updates should also address protecting mature and old-growth forests, and the Draft EIS should examine new strategies including creating dedicated climate resilience and mitigation areas. We've included several additional recommendations herein that could help address the stressors of climate

change and would be appropriate for a climate smart amendment to the NWFP. We would like to see these strategies analyzed and considered within the Draft EIS.

Additionally, making a concerted effort to include tribal voices and interests in this update by allowing for co-stewardship and by including indigenous knowledge as a focus is something CFC supports. Tribes were not adequately represented or consulted in the initial NWFP and that oversight should be corrected in this amendment.

II. Protection Strategies for Mature & Old-Growth Forests

CFC has identified several strategies that could help protect and conserve mature and old-growth forests and build climate resilience across the Northwest Forest Plan landscape. These strategies are included in this section by topic and we request the agency analyze them within the Draft EIS.

A. Matrix to LSR Switch

Matrix lands are those areas within the NWFP where timber harvest is a primary management objective. In Matrix lands, it is common to see treatments called “heavy thinning” or “regeneration harvest.” The use of these logging prescriptions in old forests runs counter to the broadly agreed-upon goals of protecting old forests, preserving habitat for species that rely on them, and responsibly managing the carbon storage capabilities of Pacific Northwest coniferous forests. Unfortunately, there are large amounts of old forests currently located on Matrix lands. Unlike forests in Late Successional Reserves (LSRs) and Inventoried Roadless Areas, which have adequate baseline levels of protection, old forests on Matrix lands lack important safeguards.

Our recommendation is to change the designation of, at the very least, a portion of old forests on Matrix lands to an LSR allocation. To move all mature and old-growth forests currently in Matrix to LSR could be impractical, so we narrowed down our recommended locations within the GPNF using a hierarchical and replicable spatial analysis process. The methodology for this process was outlined in an article published in *Forest Management and Ecology* in February of 2024.¹

For identifying priority locations for a Matrix to LSR shift, this process weighed ecological measures and public and economic considerations and began with a spatial analysis to identify westside forest stands in Matrix allocation that are over 100 years old and which were either modeled in our connectivity model as “habitat core areas” or “corridors” between habitat core

¹ Shiloh M. Halsey, *Prioritizing new conservation areas during forest plan updates*, 553 *Forest Ecology & Mgmt* 121445 (2024).

areas. The locations were then narrowed down further using other factors such as presence of old-growth (in this case looking at forests over 200 years old) and presence of high priority carbon storage areas (as modeled through research by Law et al. 2021²). In addition to serving as a prioritization metric, these additional measures enabled a process of refinement and helped create a final set of conservation locations that were more contiguous and which would better translate to forest management boundaries. Our focus is on the GPNF but our analysis methods can be applied to other national forests in the Pacific Northwest that are managed under the NWFP.

Using a threshold of 100 years for the initial stage of the prioritization process recognizes the value of trees at this age, as they are our future old-growth and are already starting to serve important habitat roles for wildlife. They generally contain a biodiverse understory, varied canopy levels, and large downed trees that create habitat niches on the forest floor. They also store large amounts of carbon.

Connectivity is another important measure, so this process employs a connectivity model that identifies areas with a high density of mature forests (habitat core areas) and pathways in between these areas where connectivity and wildlife movement would be least encumbered by patches of low quality habitat or infrastructure. The connectivity measures used for the Matrix to LSR analysis were derived from a connectivity model created and published in CFC's 2017 Wildlife and Climate Resilience Guidebook.³

We have not included stands in the eastern part of the GPNF as these areas could potentially benefit from more flexible management, such as areas where encroaching young grand firs increase drought and fire risks for old-growth ponderosa pines and Douglas-firs.

We must recognize the ongoing need for wood as a building and paper resource, acknowledging its crucial role in the regional economy. While an LSR designation moderates the intensity of logging, it doesn't entirely prohibit it, focusing instead on preserving and enhancing old-growth traits in certain areas. In addition to thinning of monoculture plantations and dry forest types, the potential economic effects of reduced logging in these targeted Matrix to LSR regions can be mitigated by diversifying the local economy and tapping into the revenue potential of restoration projects being carried out by contractors in road decommissioning, road improvement, and instream restoration. Supportive government programs are also helpful in facilitating a transition towards a more varied and resilient economic model that is less dependent on timber.

² Beverly E. Law et al., *Strategic Forest Reserves can protect biodiversity in the western United States and mitigate climate change*, *Comm. Earth & Env't* 2, 254 (2021).

³ The Wildlife and Climate Resilience Guidebook: A Conservation Plan for the Southern Washington Cascades, Cascade Forest Conservancy, available at <https://www.cascadeforest.org/our-work/climate-resilience-guidebook/> (2017).

In summary, this recommended change to the Northwest Forest Plan would help align forest management goals with current on-the-ground realities regarding climate change, the overall lack of old forests on the landscape, the lack of habitat connectivity, and the state and distributions of rare species that depend on these habitats. We recommend that federal agencies adopt this transfer process (shifting a subset of older forest lands from Matrix to LSR allocation) and use the prioritization principles summarized above and outlined in detail in the referenced publication.

B. LSR Objectives Update

Currently, one of the primary objectives for LSRs is to accelerate forest stands to old-growth as quickly as possible. While we support the general goal of enhancing old-growth characteristics, we also recognize the role that these forests serve in storing and sequestering carbon, as well as the ecological damage that can be caused through logging activities. Unfortunately, carbon values are not currently recognized as a management consideration for LSR. In current practice, the Forest Service will sometimes thin at high intensities to accelerate growth of the older trees in an LSR stand. This can, in some situations, help the larger trees reach maturity quicker, but there are negative impacts of this type of logging, including impacts to wildlife, soils, and mycorrhizal communities (underground networks of fungus) as well as the likely introduction of invasive species. And, as it pertains to this recommended update, logging almost always works contrary to the goal of carbon storage and sequestration, even acknowledging that some carbon is retained in wood products.

Our objective with this strategy is to ensure carbon storage becomes one of the primary management objectives for LSRs. Although there currently are a variety of management objectives in LSR, the two primary objectives under this new scenario would be 1) accelerating or supporting old-growth characteristics and 2) increasing carbon storage. This objective and management shift should be interpreted to mean less intensive forestry management in most cases, particularly in wetter westside forest types. For instance, if a current canopy cover target in certain LSR stands is 40%, the integration of carbon dynamics as a management consideration would result in this target number being higher in future prescriptions, helping retain more trees in the stand and increasing its carbon storage potential. This type of management change may not be appropriate for certain dry or mixed-conifer forests where more intensive thinning could reduce fire risk.

This recommendation aligns with federal directives, like the 2012 Planning Rule and the 2022 Executive Order focused on protecting old-growth. Integrating this strategy into upcoming NWFP amendments is a logical next step.

C. Protect All Old-Growth Forests

In addition to protecting key patches of older forest by changing their land allocation from Matrix to LSR, the update to the NWFP should also examine protecting all old-growth regardless of land allocation as a strategy to build climate resilience. This protection for moist forests should disallow active management within old-growth. For drier, mixed-conifer forests, management guidance should focus on building resilience and restoring historic fire regimes, as opposed to using short-term economic metrics to drive management decisions in areas with a mix of young and old trees.

D. Individual Tree Protections

Another strategy the Draft EIS should examine is having the NWFP retain and protect all trees established before 1920 in moist forest zones, including transition areas. This echoes recommendations outlined by Johnson et al. (2023) in *Making of the Northwest Forest Plan*.⁴ The difference between this strategy and the one outlined in Section II A. (select areas for a Matrix to LSR transfer) is that the earlier recommendation involves protection of contiguous forest stands that may encompass a mix of forest ages whereas this recommendation targets the protection of individual trees without stated retention of surrounding forest areas. A combination approach would allow both targeted protection of older trees and larger-scale protections of contiguous habitat patches.

This strategy, if incorporated in the NWFP, could be effectively integrated into harvest prescriptions, which could include approaches employing selective thinning of smaller trees or variable density thinning whereby certain structural elements—such as large trees, high priority tree species, standing dead snags, or any other desired features—are retained (possibly in clumps) and incorporated into the future heterogeneity of the larger area. This strategy is especially relevant for management guidelines in Matrix and Adaptive Management Areas, since management guidelines for LSRs already discourage cutting trees over 80 years unless it is advancing old-growth characteristics or resilience in dry or mixed-conifer forests.

While a stand origin threshold of 1920 may suggest we support logging of trees that are in the 80- to 100-year range, this is generally not the case. From an ecological perspective, when looking at moist, westside forests (which make up the bulk of the GPNF), it is optimal to retain these older trees as much as possible, especially those which are starting to gain attributes allowing them to serve increasingly important habitat roles.

⁴ Johnson, K. N., Franklin, J. F. & Reeves, G. H. *The Making of the Northwest Forest Plan: The Wild Science of Saving Old Growth Ecosystems*. (Oregon State University Press, 2023).

In sum, to ensure climate resilience, CFC recommends the agency include in the Draft EIS the protection of all trees with an origin date before 1920 in moist forest types.

III. Fire Risk Mitigation & Active Fire Management

Eastside and westside forests within the Cascades are very different and require different management strategies, particularly with regards to fire-risk mitigation. Unlike in the drier, mixed-conifer forests where thinning may decrease the risk of severe ecosystem disturbance, forest thinning efforts in the western part of the Cascades will, in most cases, not help in improving ecosystem resilience from fire. The nuances around the different forest types should be recognized and articulated in any fire management related updates to the NWFP. Treating wetter westside forests like eastside forests, i.e., logging in an attempt to impact fire severity, will decrease forest health and resilience and would be counter to the stated objective of managing the forests to bolster climate resilience.

Regarding fire management once a burn is underway, the NWFP generally does not allow for naturally caused fire to be passively managed unless it is in wilderness. Giving managers the option to passively manage natural fire, though, would be a positive step in restoring more sustainable fire regimes to the Cascades. Managers should have the ability to allow “good” fire to benefit the ecosystem when it makes sense.

Following a wildfire event, the common assumption is that immediate actions, such as salvage logging or replanting, are needed to restore the “fire-damaged” landscape. In general, these types of activities are unnecessary and, in the case of salvage logging, can be particularly damaging. Salvage logging can lead to high levels of sedimentation in streams, an introduction of invasive plants, severe soil impacts, disruption of post-fire habitats, and the impairment of the natural revegetation process. Also, trees killed or damaged by wildfire can serve important roles for wildlife; the ecological services they previously provided in a pre-fire forest do not disappear, they simply change.

In Oregon, the Biscuit Fire in 2002 burned over 500,000 acres and included the whole footprint of the 93,000-acre Silver Fire that burned 15 years earlier. After the Silver Fire, some of the area was allowed to regenerate naturally and other areas were salvage logged and replanted. Researchers were able to compare these two different areas and measure how they fared through another fire. Compared to stands that were left alone, fire severity was 16–61% higher in areas that were logged and planted after the first fire.⁵ Post-fire logging is not just ecologically damaging to wildlife and soils—the practice itself decreases resilience, disrupts ecological integrity, and, in contrast to some assertions, does not decrease future wildfire risk. In 2021 a

⁵ Jonathan R. Thompson, Thomas A. Spies, & Lisa M. Ganio, *Reburn severity in managed and unmanaged vegetation in a large wildfire*, 104 *Bio. Sciences* 10743-10748 (2007).

literature review by Leverkus et al. of 96 studies found that salvage logging does not decrease future fire-risk and in some cases can increase risk in the near term.

In sum, the efficacy of salvage logging in altering fire risk depends on how it affects the temporal trajectory of the fuel bed after disturbance. Coarse surface fuels are generally reduced immediately after logging of windthrows, yet salvaging of fire- and insect-affected stands increases small fuels in the early years and reduces large fuels at later stages. Salvage logging can increase fire intensity by producing drier fuels and if accompanied by reforestation. Thus, salvage logging alters the composition of fuels which can affect fire behaviour and impact, but rarely appears justified as a way to reduce fire likelihood.⁶

Fire-related changes to the NWFP that would increase climate resilience and help address threats to mature and old-growth forests include 1) clearly differentiating fire risk management realities for westside forests as different from drier forest types, 2) allowing managers to passively manage natural fire starts, and 3) reducing salvage logging within national forests.

IV. Right Size the Road System

In amending the Northwest Forest Plan, the Forest Service must take into account its oversized and unsustainable road system and incorporate specific standards and guidelines aimed at reducing the size of its road network to restore watersheds and fish habitat and achieve greater habitat connectivity. There are approximately 90,000 miles of national forest system roads in the Pacific Northwest Region, by far the largest road system of any Forest Service region.⁷ The NWFP recognized “[t]his extensive network has the potential to significantly affect the hydrology of many streams” within the planning area.⁸ Reducing these impacts should be a key component of this amendment process.

Such an objective aligns with existing Forest Service regulations and programs. For example, a primary objective of the agency’s travel management rule is for each forest to identify a “minimum road system” that “minimizes adverse environmental impacts.”⁹ Relatedly, that rule also sought to “aggressively decommission” roads that are “damaging to the environment” or

⁶ Alexandro B. Leverkus et al., *Tamm review: Does salvage logging mitigate subsequent forest disturbances?*, 481 *Forest Ecology & Mgmt.* 118721 (2021)

⁷ Jacob Smith, *Mile By Mile: Ten Years of Legacy Roads and Trails Success*, App. D (2017).

⁸ U.S. Forest Service, *Final Supplemental Environmental Impact Statement on Management of Habitat for Late-Successional and Old-Growth Forest Related Species Within the Range of the Northern Spotted Owl*, Ch. 3&4-55 (Feb. 1994).

⁹ 36 C.F.R. § 212.5(b)(1).

“no longer necessary for achieving resource management objectives.”¹⁰ In addition, the Legacy Road and Trail Remediation Program (LRT) requires the Forest Service to prioritize funding for projects that, among other things, “protect or improve water quality in public drinking water source areas” and “restore habitat for threatened, endangered, or sensitive fish or wildlife species.”¹¹

The Forest Service should incorporate these principles into the amendment process, ideally through its Aquatic Conservation Strategy (ACS). The ACS set forth four components: riparian reserves, key watersheds, watershed analysis, and watershed restoration. The last component, watershed restoration, overlaps significantly with the goals of both the travel management rule and the LRT program. The Forest Service should set goals within the planning area to (1) identify a minimum road system for each forest within the planning area that has not done so, (2) “aggressively decommission” unneeded roads, and (3) ensure that LRT funding is directed toward projects that prioritize protecting and improving drinking water and restoring habitat for threatened and endangered species.

V. Conclusion

In conclusion, there are several changes to the NWFP that could help the Forest Service and USDA prepare NWFP forests for a changing climate including 1) protecting mature and old-growth forests through one or more of the strategies above in Section II, 2) employing a nuanced fire-risk mitigation strategy, and 3) right-sizing the road system. We encourage the agencies to include all of the strategies within this comment letter in the Draft EIS.

Thank you for your time and consideration.

Sincerely,

A handwritten signature in black ink, appearing to read 'Ashley Short', with a stylized flourish at the end.

Ashley Short
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Cascade Forest Conservancy
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¹⁰ 66 Fed.Reg. 3206, 3207 (Jan. 12, 2001); *see also* 36 C.F.R. § 212.5(b)(2).

¹¹ 16 U.S.C. § 538a(c)(2)(C).