Data Submitted (UTC 11): 3/17/2025 4:00:00 AM
First name: Joe
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Title:
Comments: Please ignore the previous comment letter submitted by Bird Alliance/Audubon chapters on 3/16/25 and include the attached one here as the final version. Sorry for the inconvenience and thank you.

Joe Liebezeit

Statewide Conservation Director

Bird Alliance of Oregon

March 16, 2025

Regional Forester Jacqueline Buchanan Pacific Northwest Region

U.S. Forest Service 1220 SW 3rd Avenue Portland, OR 97204

Regional Forester Jennifer Eberlien Pacific Southwest Region

U.S. Forest Service 1323 Club Drive

Vallejo, CA 94592

Re: Northwest Forest Plan Amendment Draft Environmental Impact Statement

Dear Regional Foresters Buchanan and Eberlien,

Please accept this comment letter on behalf of 18 chapters of Bird Alliance and Audubon chapters in Oregon, Washington, and California representing tens of thousands of members and supporters. We appreciate the opportunity to provide our input on this incredibly important forest plan.

Oregon Audubon/Bird Alliance Chapters have worked for decades to protect the Northwest[rsquo]s federal forests. In 1988, Bird Alliance of Oregon (BAO), formerly Portland Audubon) commissioned a status review that provided the basis for listing the Marbled Murrelet under the Federal Endangered Species Act. BAO subsequently petitioned and sued the U.S. Fish and Wildlife Service to list the Marbled Murrelet, resulting in the designation of the species as threatened under the Federal Endangered Species Act in 1992. In 1990, BAO filed a petition with Birds Connect Seattle (formerly Seattle Audubon) and others that led to the listing of the Northern Spotted Owl as threatened under the Endangered Species Act in 1990. The listing of these mature/old-growth forest birds species paved the way for the first significant protections of old growth ecosystems under the Northwest Forest Plan (NWFP) in 1994. The Vancouver Audubon Society has worked for decades to protect birds on the Gifford Pinchot National Forest. The Tahoma Bird Alliance (TBA) is a Washington-based 501.(c).(3) non-profit organization that was established in 1969. TBA (formerly Tahoma Audubon Society) advocates for the protection of wildlife and promotes conservation throughout its regions which includes the western boundary of the Mount Baker-Snoqualmie National Forest.

The Hood Canal Environmental Council (HCEC) is a Washington-based 501.(c).(4) non-profit organization that was established in 1969 by concerned citizens. HCEC supports activities that protect the environment, water quality, and the quality of life in

the Hood Canal watershed which includes the eastern boundary of the Olympic National Forest. Other signatories to this letter have service areas that include the following National Forests that are within the NWFP amendment DEIS boundaries: Olympic, Mount Baker-Snoqualmie, Gifford Pinchot, Mount Hood, Siuslaw, Willamette, Deschutes, Umpqua, Rogue River-Siskiyou, Klamath and Mendocino.

While imperfect, the 1994 NWFP has made very big steps in the right direction. It laid out a landscape-level science-based plan for protecting and restoring old-growth habitat, it created an [ldquo]Aquatic Conservation Strategy[rdquo] (ACS) that set aside buffers along waterways to protect water quality and fish habitat (including economically important and endangered salmon species), and it set relatively strong standards for restoring forests that had previously been logged while also setting more sustainable timber harvest levels compared to the more aggressive previous regimen. There is much to appreciate in the conservation elements of the current NWFP. It halted the decimation of mature forests and much of the remaining old-growth. It also engendered greater public appreciation for the ecological, aesthetic, spiritual, and cultural value of our National Forests and resulted in diversification of rural economies.

That said, the NWFP left much to be improved upon including: 1) Significant mature and old-growth forest tracts were not included in the Late-Successional Reserves (LSRs) and so remain open to logging in the [ldquo]matrix[rdquo] areas; 2) Issues resulting from more than a century of fire suppression were not sufficiently addressed; 3) Impacts from the extensive and still expanding network of logging roads was not adequately addressed; and 4) Tribal engagement was minimal at best.

With this backdrop, we were hopeful the NWFP amendment process would provide an opportunity to improve on the existing plan. However, we are now extremely concerned that substantial negative impacts will occur from the significant increase in logging proposed under the NWFPA[rsquo]s Alternatives B and D. We recognize four critical flaws:

1. Alternatives B and D abandon the NWFP[rsquo]s focus on protection and preservation of habitat for threatened and endangered species. The NWFP put an end to over a century of unsustainable timber harvest and shifted focus toward recovery of endangered and sensitive species (e.g. Marbled Murrelets, Northern Spotted Owls, Red Tree Voles, salmonids), aiming to balance restoration of habitat with harvest in a more holistic way. Without this balance, species will once again be at grave risk.
2. All proposed alternatives presume that thinning and logging across moist and dry forests within the planning area will reduce wildfire risk and therefore provide greater [ldquo]adaptation[rdquo] and [ldquo]resilience.[rdquo] We provide scientific literature that refutes that presumption and calls for a more nuanced approach.
3. None of the alternatives provide recommendations that align with Climate Smart objectives[mdash]an approach that moves forest management towards carbon storage and sequestration goals and natural climate solutions strategies.
4. The plan myopically focuses on the economics of timber production with little or no consideration of other increasingly important economic drivers, including recreation and ecosystem services.

We frame the bulk of our comments and recommendations on the Northwest Forest Plan Amendment (NWFPA) Draft Environmental Impact Statement (DEIS) on the five [ldquo]needs[rdquo] identified by the U.S. Forest Service (USFS) that were put forward as the reasoning to amend the NWFP (NWFP 1.2.2):

Need #1: Improving wildfire resistance and resilience across the NWFP Area.

Need #2: Strengthening the capacity of NWFP ecosystems to adapt to the ongoing effects of climate change.

Need #3: Improving conservation and recruitment of mature and old-growth forest conditions, ensuring adequate habitat for species dependent upon mature and old-growth ecosystems and supporting regional biodiversity.

Need #4: Incorporating Indigenous Knowledge into planning, project design, and implementation to achieve forest management goals and meet the agency[rsquo]s general trust responsibilities.

Need #5: Providing a predictable supply of timber and non-timber products and other economic opportunities to support the long-term sustainability of communities located proximate to NFS land and economically connected to forest resources.

In short, we are concerned that none of the NWFPA Alternatives (save potentially some components of Alternative C) will actually address Needs #1-5 as identified by the USFS. Below we provide more detailed reasoning to support this conclusion, and we request that the USFS consider our recommendations in preparing the NWFPA Final EIS.

Need #1: Improving wildfire resistance and resilience across the NWFP Area

In our view, the DEIS relies on a flawed justification that logging and thinning in mature west-side moist forests west of the Cascade crest will reduce wildfire risk. Current science indicates that forests with historically long fire frequency intervals, like western Oregon moist forests, do not suffer as a result of fire suppression and will not benefit from fuel reduction1. In fact wildfire risks may be reduced as forests grow and canopy closure increases, cooling the microclimate2 and reducing the growth of understory ladder fuels3. Additionally, tree bark thickens and roots grow deeper, providing stronger fire resistance in individual trees4,5. Logging and thinning in moist forests, particularly in ecosystems where wildfires have historically been rare, can have significant negative effects on biodiversity by altering microclimates, ignition susceptibility, fuel loads, and fire regimes over time6.

Fire frequency intervals in moist Pacific Northwest forests are typically low even when considering the recent 2020 fires, which [ndash]though larger than past fires[ndash] were remarkably consistent with historical fire regimes7. Reports from the early 1900s, along

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1 Northern Spotted Owl: Appendix F. USDI Fish and Wildlife Service. Washington, D.C

2 Frey et al. 2016. https://www.science.org/doi/10.1126/sciadv.1501392

3 Odion, D.C., E.J. Frost, J.R. Strittholt, H. Jiang, D.A. DellaSala and M.A. Moritz. 2004. Patterns of fire severity and forest conditions in the western Klamath Mountains, California. Conservation Biology 18(4): 927-936. http://nature.berkeley.edu/moritzlab/docs/Odion_etal_2004.pdf

Vickers, D., Thomas, C. K., Pettijohn, C., Martin, J. G., & Law, B. E. (2012). Five years of carbon fluxes and inherent water-use efficiency at two semi-arid pine forests with different disturbance histories. Tellus B, 64, 17159. https://doi.org/10.3402/tellusb.v64i0.17159

4 Cannon et al. 2022. https://www.nature.com/articles/s41477-021-01088-5

5 Pellegrini et al. 2017. https://doi.org/10.1111/ele.12725

6 Lindenmayer, D. B. Hunter, M. L., Burton, pg. J., & Gibbons, pg. (2020). Effects of Logging on Fire Regimes in Moist Forests, Conservation Letters, 2, 271-74. 10.1111/j.1755-263X.2009.00080.x

7 Reilly, M. J., Zuspan, A., Halofsky, J. S., Raymond, C., McEvoy, A., Dye, A. W., Donato, D. C., Kim, J.B., Potter, B. E., Walker, N., Davis, R. J., Dunn, C. J., Bell, D. M., Gregory, M. J., Johnston, J. D., Harvey, B. J., Halofsky, J. E., & Kerns, B. K. (2023). Cathe Northern Spotted Owl: Appendix F. USDI Fish and Wildlife Service. Washington, D.C The Cascadia Burning: The Historic, but not Historically Unprecedented, 2020 Wildfires in the Pacific Northwest, USA. Ecosphere, 13(6), 6-14. https://doi.org/10.1002/ecs2.4070

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with paleo- and dendro-ecological records, indicate similar and potentially larger wildfires over the last millennium. Moreover, fire severity in moist forests is predominantly low to moderate, with high severity fire remaining relatively rare8. Finally, because no one can reliably predict where and when wildfires will occur and vegetative recovery is generally vigorous, fuel treatments (logging and thinning) intended to modify fire behavior must be extensive and repetitive on a short and regular basis (forest-wide management zones). This is neither economically nor logistically feasible and conflicts with DEIS [ldquo]Need[rdquo] #3 (particularly in LSRs) where such treatments would have deleterious impacts on many forest species, in particular, closed-canopy-dependent species such as the Northern Spotted Owl and Marbled Murrelet. Also, in many cases, [ldquo]fuel reduction treatments[rdquo], especially when targeting canopy trees, can actually increase fire hazards as they make stands hotter, drier, and windier9 and stimulate the growth of understory ladder fuels. Yet, this is just what the DEIS alternatives propose in moist forest to [ldquo]create wildfire resistance and resilience[rdquo].

East-side forests (dry forests on the east side of the Cascade crest) that comprise the NWFP area and within the range of the Northern Spotted Owl are primarily moist mixed conifer forests that transition into lower elevation dry forests. Unlike western moist forests, many east-side forests historically had more frequent, lower severity fires10, with wide variability in spatial and temporal scales, but they also experienced higher severity wildfires. In these dry forest types, it may be more amenable to use fuel treatments (thinning, prescribed burns) to mitigate the impacts of a century of fire suppression and return forests[rsquo] ecological functionality11,12 while benefiting wildlife. However, guidance provided for management must be thoughtful precautionary because it[rsquo]s not been uncommon for on-the-ground operational and economic factors to outweigh considerations for broader forest ecosystem resilience, leading to treatments and road networks across the landscape, regardless of topography, aspect, moisture, or species composition.

We are also concerned that the moist-dry landscape characterization framework from the 1994 NWFP does not adequately account for the wide variation of forests in our region. As a result, management guidance from the coarse moist-dry framework could impact some forests with varied species and plant communities that have unique

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8 Donnegan, Joseph; Campbell, Sally; Azuma, Dave, tech. eds. 2008. Oregon's forest resources, 2001[ndash]2005: five-year Forest Inventory and Analysis report. Gen. Tech. Rep. PNW-GTR-765. Portland, OR: U.S. Forest Service, Pacific Northwest Research Station. 186 p. http://www.fs.fed.us/pnw/publications/gtr765/pnw-gtr765b.pdf

9 Fitzgerald, S. and M. Bennett. 2013. A land manager[rsquo]s guide for creating fire-resistant forests. OSU Extension Service, 14pp.

10 Peeler, J. L., McCauley, L. A., Metlen, K. L., Woolley, T. J., Davis, K. T., Robles, M. D., Haugo, R. D., Riley, K. L., Higuera, pg. E., Fargione, J., Addington, R. N., Bassett, S., Blankenship, K., Case, M. J., Chapman, T. B., Smith, E. B., Swaty, R., & Welch, N. (2023). Identifying opportunity hot spots for reducing the risk of wildfire-caused carbon loss in western US conifer forests. Environmental Research Letters, 18(9), 094040[ndash]094040. https://doi.org/10.1088/1748-9326/acf05a

11 McIver, J. D., Stephens, S. L., Agee, J. K., Barbour, J., Boerner, R. E. J., Edminster, C. B., Erickson, K. L., Farris, K. L., Fettig, C. J., Fiedler, C. E., Haase, S., Hart, S. C., Keeley, J. E., Knapp, E. E., Lehmkuhl, J. F., Moghaddas, J. J., Otrosina, W., Outcalt, K. W., Schwilk, D. W., [hellip] Zack, S. (2013). Ecological effects of alternative fuel-reduction treatments: highlights of the National Fire and Fire Surrogate study (FFS). International Journal of Wildland Fire, 22(1), 63[ndash]82. https://doi.org/10.1071/WF11130

12 Johnston, J. D., Olszewski, J. H., Miller, B. A., Schmidt, M. R., Vernon, M. J., & Ellsworth, L.M. (2021). Mechanical thinning without controlled fire moderates wildfire behavior in an Eastern Oregon, USA ponderosa pine forest. Forest Ecology and Management, 501, 119674-. https://doi.org/10.1016/j.foreco.2021.119674

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values. The impacts may be especially great in the Klamath Province where the forests of the Siskiyou Mountains, which get up to 200 inches per year in precipitation and have a high number of unique, endemic tree species, are considered [ldquo]dry[rdquo] [ndash]the same as east side pine forests with far fewer species, different fire regimes, different post-fire vegetation responses, and lower precipitation rates. The USFS needs to consider additional criteria to develop more appropriate guidance for land characterization, especially if more active management is intended. Such criteria should include plant community associations, post-fire vegetation responses, precipitation rates, and fire regimes to ensure that management objectives of resilience can be met and that unique ecosystems of [ldquo]dry[rdquo] forests will not be degraded by increased logging targets.

In addition, logging recommended as fuel reduction treatments in the DEIS alternatives will likely cause adverse impacts on municipal drinking water source areas across the planning area from both the logging and the expected increase in the extent and density of logging road construction. Moreover, resulting sedimentation may be exacerbated by weather conditions. For example in central Oregon intense storms are known to accelerate erosion of bare ground (i.e, roads/skid trails) and degrade stream water quality. Increased sedimentation and water turbidity is known to increase water treatment costs. The DEIS suggests that water quality and quantity may be affected but that [ldquo]impacts to water resources would not be expected to change because the proposed amendment does not modify the framework of the Aquatic Conservation Strategy (ACS).[rdquo] However the DEIS does not recognize the close relationship between forests and conservation of high water quality and does not provide sufficient documentation to justify its statement that water resources and aquatic habitats will not be impacted by proposed increases in logging. The DEIS does not consider that with increases in logging, the ACS may be insufficient to prevent cumulative impacts to aquatic ecosystems.

According to the U.S. Forest Service[rsquo]s [ldquo]Ecosystem Restoration Policy,[rdquo] [ldquo]Ecological restoration focuses on reestablishing the composition, structure, pattern, and ecological processes over appropriate time scales that are necessary to facilitate terrestrial and aquatic ecosystem sustainability, resilience, and health under current and future conditions.[rdquo]13 Although the DEIS states the need to improve resilience, the USFS does not appear to follow its own policy of ecological restoration and all that it entails.

In short, the action alternatives presented in the DEIS will not meet Need #1 because, as the weight of science evidence shows, significant increases in logging proposed will not effectively reduce fire risk for communities and will not create resilience in varied forest and aquatic ecosystems.
Need #1: Recommendations
We recommend the following changes be included in the NWFPA FEIS with respect to improving wildfire resistance and resilience to minimize wildfire impacts:

* None of the alternatives should include forest-wide fire management zones in moist forests. Fire management needs to occur only within the fire danger or [ldquo]ignition zone[rdquo] near at-risk communities and other human infrastructure. The

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13https://www.federalregister.gov/documents/2016/04/27/2016-09750/ecosystem-restoration-policy

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most effective way to reduce the threat of wildfire to communities is to treat fuels in the immediate vicinity of homes, buildings and other vulnerable infrastructure. Reducing fire hazard within 300 feet of infrastructure should take priority14.

Encouraging native and climate-adapted species (and removing invasives) through restoration projects near communities can also decrease fuel loading while providing important wildlife habitat15. For sake of effectiveness and efficiency, the USFS should focus its resources on community preparedness and protection rather than on large-scale thinning projects across federal lands.

* We suggest that the principal focus for fuel modification and reduction efforts be in the wildland urban interface (WUI) to most efficiently protect people, property, and infrastructure. Conversely, we suggest that the USFS identify large roadless patches of forest where a hands-off policy of nature-based, self-maintenance of allowing wildfires in areas that are low risk to people and infrastructure and that do not provide for critical ecosystem services[ndash]can be developed, refined, and followed. Pairing these strategies would best achieve the coordinated risk management approach identified in the DEIS: [ldquo]Fire managers strive to manage the natural role of fire while protecting values from adverse impacts of fire. This can be accomplished by implementing a coordinated risk management approach to promote landscapes that are resilient to fire-related disturbances and preparing for and executing a safe, effective, and efficient response to fire.[rdquo]
* We urge the USFS to avoid removing canopy trees as a means to reduce fuels. Such actions, which have been taken before in Oregon16, have degraded closed-canopy and late-successional habitat for ESA-listed species, such as the Northern Spotted Owl, but also for other species that use forests, including the Northern Goshawk, Pacific fisher, Pileated Woodpecker, and many others.
* Shaded fuel breaks should be directed primarily at protecting communities and infrastructure, but large scale thinning and logging treatments that would significantly degrade habitat and negatively impact wildlife should be avoided.
* Reestablishment of wildfire as an ecological process should be foundational to dry forest management, excepting verifiable fuel reduction needs immediately adjacent to human infrastructure.
* The USFS needs to develop more appropriate guidance for land characterization, including plant community associations, post-fire vegetation responses, precipitation rates, and fire regimes to ensure that management objectives of resilience can be met.
* The DEIS needs to include an assessment on the impacts to municipal water resources from increased timber harvest in the action alternatives and develop guidance to prevent degradation of drinking water source areas.

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14 Cohen, Jack D. 1999. Reducing the Wildland Fire Threat to Homes: Where and How Much? USDA Forest

Service Gen. Tech. Rep. PSW-GTR-173. 1999
http://www.firewise.org/resources/files/WUI_HIR/Reducingfirethreat.pdf

15 Bend Park and Recreation District Fire Management recommendations:
https://www.bendparksandrec.org/about/maintenance/fire-management/

16http://www.blm.gov/or/districts/roseburg/plans/collab_forestry/files/RSBRG_Collaborative_Forestry_Pilot.pdf

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Need #2: Strengthening the capacity of NWFP ecosystems to adapt to the ongoing effects of climate change
In our view, none of the DEIS alternatives provide recommendations that will meet Need #2. In fact, the USFS[rsquo]s proposal to increase the age limit of trees available for harvest from 80 to 120 years in moist forests and from 80 to 150 years in dry forests will result in massive logging operations and conflicts with science that suggests that older trees are important forest components in adapting to the effects of climate change. Removing canopy trees and thinning in moist forests can actually increase fire risk associated with climate change (see above).

Moreover, we have a crucial opportunity to make real gains in sequestering carbon in our Pacific Northwest forests. Moist forests in the western U.S. have the potential to sequester up to 5,450 Tg CO2 equivalent (1,485 Tg C) by 2099, which is up to 20% of the global mitigation potential previously identified for all temperate and boreal forests, or up to ~6 years of current regional fossil fuel emissions17. A single big old tree can add the same amount of carbon to the forest within a year as is contained in an entire

mid-sized tree18,19. Restricting harvest on public lands increases the region[rsquo]s net ecosystem carbon balance significantly20. Moist Pacific Northwest forests could be much more effective in the fight against climate change if we protect accumulated carbon stocks in older forests and reduce harvest levels21,22. None of the alternatives in the NWFPA DEIS provide ways to increase carbon sequestration and in fact, backtrack on what could be gained.
Need #2 Recommendations:
* The NWFPA DEIS is scant on recommendations about ensuring that Natural Climate Solutions are a key component of the plan to meet Need #2. Discussion on Climate Change resilience and adaptation in the DEIS is primarily focused on [ldquo]fuel reduction treatments[rdquo] - i.e. logging of older mature forests as the principal method for adapting to climate change. There must be a robust assessment of the gains/losses in the amount of carbon sequestered for each alternative.

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17 Buotte PC, Law BE, Ripple WJ, Berner LT. Carbon sequestration and biodiversity co-benefits of preserving forests in the western United States. Ecol Appl. 2020 Mar;30(2):e02039. doi: 10.1002/eap.2039. Epub 2019 Dec 27. PMID: 31802566; PMCID: PMC7078986.

18 Stephenson NL, Das AJ, Condit R, Russo SE, Baker PJ, Beckman NG, Coomes DA, Lines ER, Morris WK, R[uuml]ger N, Alvarez E, Blundo C, Bunyavejchewin S, Chuyong G, Davies SJ, Duque A, Ewango CN, Flores O, Franklin JF, Grau HR, Hao Z, Harmon ME, Hubbell SP, Kenfack D, Lin Y, Makana JR, Malizia A, Malizia LR, Pabst RJ, Pongpattananurak N, Su SH, Sun IF, Tan S, Thomas D, van Mantgem PJ, Wang X, Wiser SK, Zavala MA. Rate of tree carbon accumulation increases continuously with tree size. Nature. 2014 Mar 6;507(7490):90-3. doi: 10.1038/nature12914. Epub 2014 Jan 15. PMID: 24429523.

19 Lutz JA, Larson AJ, Swanson ME, Freund JA (2012) Ecological Importance of Large-Diameter Trees in a Temperate Mixed-Conifer Forest. PLoS ONE 7(5): e36131. https://doi.org/10.1371/journal.pone.0036131

20 Law BE, Hudiburg TW, Berner LT, Kent JJ, Buotte PC, Harmon ME. Land use strategies to mitigate climate change in carbon dense temperate forests. Proc Natl Acad Sci U S A. 2018 Apr 3;115(14):3663-3668. doi: 10.1073/pnas.1720064115. Epub 2018 Mar 19. PMID: 29555758; PMCID: PMC5889652.

21 Pan, Y., Birdsey, R.A., Phillips, O.L. et al. The enduring world forest carbon sink. Nature 631, 563[ndash]569 (2024). https://doi.org/10.1038/s41586-024-07602-x

22 Law B.E. , Berner L.T. , Mildrexler D.J., Bloemers R.O. , and Ripple W.J. 2022.Strategic reserves in Oregon[rsquo]s forests for biodiversity, water, and carbon to mitigate and adapt to climate changeFrontiers in . Forests and Global Change 5. DOI=10.3389/ffgc.2022.1028401. ISSN=2624-893X

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* Beaver focus for habitat restoration and wildfire resilience: In the FEIS, the USFS should include a plan to support beaver-driven restoration and wildfire resilience in the planning area. By actively supporting beavers on the landscape, many of the concerns about wildfire resilience and habitat restoration can be rectified naturally and more efficiently. Beaver activities, such as canal-digging, dam-building, and pond-filling can help slow water flow, restore impacted water tables and underground aquifers, create natural wetlands, expand riparian habitats, incorporate woody debris in streams for salmon and aquatic insect habitat23, and reconnect rivers to their floodplains24. These beaver-created aquatic habitats can also provide natural firebreaks across the landscape, cutting off the spread of wildfire and overall reducing burn patch sizes25. A raised water table makes groundwater more abundant and accessible to vegetation; this increased hydration means that plants are less water-stressed during droughts and less likely to burn during fires26. Riparian habitats surrounding beaver ponds have increased moisture of both soil and vegetation, and are more fire resistant27. When a fire is actively burning, these beavers ponds, wetlands, and expanded floodplains may provide refugia to animals escaping the flames and heat. Groundwater restored by beavers can supplement rivers by providing cool, subsurface water stores during low flows that typically occur at the end of the dry season in late summer28. Overall, beavers naturally make our ecosystems more fire-resilient.
* Beaver focus for carbon capture: beaver formed wetlands and wet meadows remove large amounts of carbon from the atmosphere and store it in roots and decaying matter in the soil and riparian vegetation -- making them natural carbon sequestration areas. A unit volume of soil under an active beaver meadow (wetland) stores at least 3X more organic carbon than mature forest soil, 6X more than a secondary forest soil, and 7X more than a grassland soil. Given the thousands of miles of degraded streams in the West, beaver activity can create new carbon sequestration opportunities within 5 years, speed of development varying as a function of existing stream condition.
* Rather than attempting to manage forests to adapt to climate change primarily by targeting future timber yield from older mature trees, the USFS needs to weigh benefits and losses, and prioritize all ecosystem services of each targeted treatment area. There should also be quantitative metrics that indicate what the percent wildfire reduction will be, how long it could take to realize benefits, and what the economic and environmental costs will be to achieve and maintain the action goals.
* The DEIS (page 2-7) states [ldquo]Alternative B provides new and modified plan direction that helps sustain forest benefits (ecosystem services) that are important to people

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23 MacCracken, James G., and Allen D. Lebovitz. "Selection of in-stream wood structures by beaver in the Bear River, southwest Washington." Northwestern Naturalist 86.2 (2005): 49-58.

24 Brazier, Richard E., et al. "Beaver: Nature's ecosystem engineers." Wiley Interdisciplinary Reviews: Water 8.1 (2021): e1494.

25 Jordan, Chris E., and Emily Fairfax. "Beaver: The North American freshwater climate action plan." Wiley Interdisciplinary Reviews: Water 9.4 (2022): e1592.

26 Fairfax, Emily, and Andrew Whittle. "Smokey the Beaver: beaver-dammed riparian corridors stay green during wildfire throughout the western United States." Ecological Applications 30.8 (2020): e02225.

27 Weirich III, Joseph John, "Beaver moderated fire resistance in the North Cascades and potential for climate change adaptation" (2021). EWU Masters Thesis Collection. 660.

https://dc.ewu.edu/theses/660

28 Burgher, J., Hoza, J., Piovia-Scott, J. 2023. American beaver (Castor canadensis) and freshwater climate resiliency in Washington State. Prepared for the Washington Department of Fish and Wildlife.

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and communities.[rdquo] The FEIS needs to describe a plan in case forest benefits are not sustainable as a result of climate change and increased logging.

* The NWFPA should clarify how the USFS will evaluate forest areas that are not sustainable for timber production due to natural conditions (slope, soils, site class) and also to climate change. The USFS needs to discuss alternative plans for areas determined to not be sustainable.
* To adapt to climate change, forest habitats and forest soils need to be able to regenerate, and key aspects of regeneration include snags for habitat and woody debris to restore carbon to soils. The best way to regenerate snags and woody debris is to leave enough areas unlogged.
Need #3: Improving conservation and recruitment of mature and old-growth forest conditions, ensuring adequate habitat for species dependent upon mature and old-growth ecosystems and supporting regional biodiversity.
The original NWFP was adopted due to the growing concern that aggressive logging of mature and old-growth forests since World War II was not sustainable and that the USFS was failing to conserve habitat to sustain viable populations of native fish, birds, and wildlife. As a result, numerous species associated with old-growth, closed-canopy forests became listed under the Endangered Species Act (ESA) and many more were identified as sensitive [ldquo]survey and manage[rdquo] species. A central focus of the existing NWFP plan was to stave off extinctions by protecting and restoring habitat for these species. The stated intent of the NWFPA is to continue this balance of ensuring strong protection for these species and habitats while also allowing for sustainable timber harvest.

Unfortunately, the USFS[rsquo]s proposal in Alternatives B and D to increase the age limit of trees available for harvest from 80 to 120 years in moist forests and from 80 to 150 years in dry forests will result in massive logging operations that will have dramatic and deleterious impacts on ESA-listed species and on many other sensitive species. In general, opening up the canopy will change microclimate, shift predator dynamics and cause other impacts that will lead already-imperiled species to decline even more rapidly, increasing the chance of extinction both locally and regionally. The bottom line is that there is a current shortage of mature and old-growth forests and many closed-canopy species remain threatened, so all remaining mature and old-growth habitat still needs to be conserved.

It should be underscored that post-disturbance [ldquo]salvage[rdquo] timber harvest in both dry and moist forest types impedes forest progression towards increasingly biodiverse mature and old-growth conditions.29,30 Removing the standing and downed legacy structure immediately reduces avian and arboreal vertebrate use, while diminishing future snag

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29 Lindenmayer DB, Noss RF. Salvage logging, ecosystem processes, and biodiversity conservation. Conserv Biol. 2006 Aug;20(4):949-58. doi: 10.1111/j.1523-1739.2006.00497.x. PMID: 16922212.

30Thorn, S., B[auml]ssler, C., et al (2018). Impacts of salvage logging on biodiversity: a meta-analysis. The Journal of applied ecology, 55(1), 279[ndash]289. https://doi.org/10.1111/1365-2664.12945

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and wood recruitment.31,32 Post-disturbance logging disturbs soil, mycorrhiza, and early seral plant recovery, disrupts foraging and pollination services and decreases native tree regeneration. Salvage operations also increase road redevelopment and use, thereby increasing soil disturbance and serve as vectors for invasive species introduction and spread, while compromising aquatic habitat conditions and recovery.33 For these reasons, the USFS needs to conduct an analysis that recognizes salvage logging[rsquo]s impacts to future forest development and to provide alternatives with limited and/or no salvage logging.

Below we provide species-specific forest management recommendations that would improve the survival chances of endangered and sensitive closed-canopy forest species based on the scientific literature and expert opinion. We also include specific information on how the DEIS conflicts with existing regulations including the ESA as well as relevant Recovery Plans. Finally we provide species-specific recommendations on management of these species to better meet the goals of Need #3

1. Northern Spotted Owls are forest specialists that have evolved to survive in mature and old growth forests. Despite more than two decades of listing under the Endangered Species Act, Northern Spotted Owl populations remain deeply imperiled. Spotted owls have been completely pushed out of British Columbia and continue to decline at a rate of up to 9 percent annually across their entire range34. Raising the threshold for logging from 80 to 120 years, as proposed, would destroy or degrade significant tracts of high quality Northern Spotted Owl nesting habitat. Proposed thinning to reduce fire risk in moist forests is not only scientifically flawed and ineffective (see above) but it would also increase the likelihood of spotted owl extinction. Proposed logging, thinning, and associated road construction would fragment spotted owl nesting, foraging, and dispersal habitat and accelerate competition from Barred Owls35 which are known to follow humans and, as habitat generalists, rapidly colonize open forest landscapes. Indeed, mature, old-growth, closed canopy, complex structured forest provides the highest quality spotted owl nesting habitat and has been shown to help buffer spotted

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31 Puig-Giron[egrave]s, Roger & Brotons, Llu[iacute]s & Pons, Pere & Franch, Marc. (2023). Examining the temporal effects of wildfires on forest birds: Should I stay or should I go?. Forest Ecology and Management. 549. 121439. 10.1016/j.foreco.2023.121439.

32 Carr, Natasha & Hejl, S.J. & Hutto, Richard & Saab, V.A. & Melcher, C.P. &

McFadzen, Mary. (2002). Effects of fire and post-fire salvage logging on avian communities in conifer-dominated forests of the western United States. Studies in Avian Biology. 25. 49-64.

33 Beschta, Robert & Frissell, Christopher & Gresswell, Robert & Hauer, Frederick & Karr, James & Minshall, G. & Perry, David & Rhodes, Jonathan. (1995). WILDFIRE AND SALVAGE LOGGING Recommendations for Ecologically Sound Post-Fire Salvage Management and Other Post-Fire Treatments On Federal Lands in the West. Report, Pacific Rivers Council.

34 Franklin, A.B. K.M. Dugger, D.B. Lesmeister, R.J. Davis, J.D. Wiens, G.C. White, J.D. Nichols, J.E. Hines, C.B. Yackulic, C.J. Schwarz, S.H. Ackers, L.S. Andrews, L.L. Bailey, R. Bown, J. Burgher, K.P. Burnham, P.C. Carlson, T. Chestnut, M.M. Conner, K.E. Dilione, E.D. Forsman, E.M. Glenn, S.A. Gremel, K.A. Hamm, D.R. Herter, J.M. Higley, R.B. Horn, J.M. Jenkins, W.L. Kendall, D.W. Lamphear, C. McCafferty, T.L. McDonald, J.A. Reid, J.T. Rockweit, D.C. Simon, S.G. Sovern, J.K. Swingle, H. Wise. 2021. Range-wide declines of northern spotted owl populations in the Pacific Northwest: A meta-analysis. Biological Conservation Volume 259: 109-168. ISSN 0006-3207, https://doi.org/10.1016/j.biocon.2021.109168.

35 Long, L.L. and J.D. Wolfe. 2019. Review of the effects of barred owls on spotted owls. Journal of Wildlife Management 83(6): 1281-1296.

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owl populations from the impacts of Barred Owls36. Weins et al (2014)37 similarly provides evidence that Northern Spotted Owls and Barred Owls are more likely to co-exist when suitable mature and old-growth habitat is more abundant, so any loss of suitable mature and old growth forest habitat increases the extinction risks for spotted owls.

Over the past 30 years, older forests used by Northern Spotted Owls have often functioned as fire refugia during large wildfires,38 and evidence suggests that mixed- and high-severity wildfires have actually shown an overall benefit for Northern Spotted Owl foraging habitat39,40.

Based on the body of science, including information provided above, the USFS should prioritize retention of such high quality old-growth, mature, complex structure habitat in conformance with the DEIS Need #3. However, Alternative B and Alternative D instead directly disregard habitat needs of the Northern Spotted Owl. These alternatives also conflict with the Recovery Goal and Recovery Objectives (in particular Objectives no. 2 and no. 3) of the U.S. Fish and Wildlife Service (USFWS) Revised Recovery Plan for the Northern Spotted Owl41. Specifically, timber harvest recommendations in the NWFPA DEIS contradict Recovery Criterion no. 3 (Continued Maintenance and Recruitment of Spotted Owl Habitat) as well as conserving older stands that have occupied or high-value spotted owl habitat as described in Recovery Actions nos. 10 and 32.

1. Marbled Murrelet - The Washington, Oregon, and California Marbled Murrelet distinct population segment was listed as threatened under the ESA in 1992 largely because of loss and degradation of mature and old-growth nesting habitat owing directly to timber harvest. The species[rsquo] population numbers continued on a downward trend following listing, including a decline of nearly 30% between 2000 and 201042. While recent monitoring results indicate population numbers may have stabilized around a lower baseline, they have shown no signs of recovery43. The primary causes of decline for this species appear to be poor breeding success caused by loss of suitable nesting

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36 Dugger, K. M., E. D. Forsman, A. B. Franklin, R. J. Davis, G. C. White, C. J. Schwarz, K. P. Burnham, J. D. Nichols, J. E. Hines, C. B. Yackulic, et al. 2016. The effects of habitat, climate, and barred owls on long-term

demography of northern spotted owls. Condor 118:57[ndash]116.

37 Weins, J.D., Anthony R.G. and E.D. Forsman. 2014. Competitive interactions and resource partitioning between northern spotted owls and barred owls in western Oregon. Wildlife Monographs. https://doi.org/10.1002/wmon.100938 Lesmeister, D.B., R.J. Davis, S.G. Sovern, and Z. Yang. 2021. Older forests used by northern spotted owls functioned as fire refugia during large wildfires, 1987-2017. USFS report available on-line: https://www.fs.usda.gov/rm/pubs_journals/2021/rmrs_2021_lesmeister_d001.pdf

39 Lee, D. E. 2018. Spotted Owls and forest fire: a systematic review and meta-analysis of the evidence. Ecosphere 9(7).

40 Hanson, Chad & Bond, Monica & Lee, Derek. (2018). Effects of post-fire logging on California spotted owl occupancy. Nature Conservation. 24. 93-105.

41 U.S. Fish and Wildlife Service. 2011. Revised Recovery Plan for the Northern Spotted Owl (Strix occidentalis caurina). U.S. Fish and Wildlife Service, Portland, Oregon. xvi + 258 pp

42 Miller, Sherri L.; Raphael, Martin G.; Falxa, Gary A.; Strong, Craig; Baldwin, Jim; Bloxton, Thomas; Galleher, Beth M.; Lance, Monique; Lynch, Deanna; Pearson, Scott F.; Ralph, C. John; Young, Richard D. 2012. Recent population decline of the marbled murrelet in the Pacific Northwest. The Condor. 114(4): 771-781.

43 McIver, William R.; Pearson, Scott F.; Strong, Craig; Lance, Monique M.; Baldwin, Jim; Lynch, Deanna; Raphael, Martin G.; Young, Richard D.; Johnson, Nels. 2021. Status and trend of marbled murrelet populations in the Northwest Forest Plan area, 2000 to 2018. Gen. Tech. Rep. PNW-GTR-996. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station. 37 p.

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habitat44 as well as warming ocean conditions on their at-sea foraging grounds45. Beyond federal ESA listing, the Marbled Murrelet is also listed as endangered under the State Endangered Species Acts for California (listed in 1992), Washington (uplisted from threatened in 2016), and Oregon (uplisted from threatened in 2021). The recent state listings in Oregon and Washington were in response to continually declining populations and continued concerns about habitat loss and degradation. The murrelet is also a [ldquo]strategy species[rdquo] in Oregon[rsquo]s Conservation Strategy.

Raising the threshold for logging from 80 to 120 years in moist forests (as proposed in Alternatives B and D) would destroy or degrade significant tracts of high quality Marbled Murrelet nesting habitat. Proposed thinning to reduce fire risk in moist forests is not only ineffective and scientifically flawed (see above), but it will accelerate fracturing of nesting habitat as well as create greater openness in the canopy thus increasing damaging edge effects. Road building needed to carry out these projects will also open up more human access to critical habitat, thus bringing increased risks of human-caused wildfire and corvid predation, another key risk to this species caused by habitat fragmentation.

The vast majority of Marbled Murrelet nests occur in older-aged stands that are located in the forests of Northwest[rsquo]s Coast Range. Relatively few murrelets nest in trees / stands younger than 80 years old46,47 . Twenty-five of 37 nests (~68%) in Oregon were found in 80-165 year old trees48. Thinning in suitable murrelet nesting habitat in excess of more than 70% of trees harvested can open up stands to corvid penetration (pers comm. Marbled Murrelet expert) leading to higher nest predation rates49.

The DEIS does not adequately describe how climate change impacts to murrelets have been factored into management strategies to minimize impacts in existing and potential suitable murrelet nesting habitat. Hotter

drier conditions are projected to affect the distribution and abundance of epiphytes that murrelets depend on for nesting50.

Old-growth and older-aged contiguous forests, with their complex and multi-layered canopies, are known to buffer the effects of climate change, where they can maintain

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44 Raphael, M. G., G. A. Falxa, D. Lynch, S. K. Nelson, S. F. Pearson, A. J. Shirk, and R. D. Young. 2016. Status and trend of nesting habitat for the Marbled Murrelet under the Northwest Forest Plan. Pages 116 37-94 in Northwest Forest Plan [ndash] the first 20 years (1994-2013): status and trend of Marbled Murrelet populations and nesting habitat, General Technical Report PNW-GTR-933 (G. A. Falxa and M. G. Raphael, Tech. Coords.). U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station, Portland, Oregon.

45 Betts MG, Northrup JM, Guerrero JAB, et al. Squeezed by a habitat split: Warm ocean conditions and old-forest loss interact to reduce long-term occupancy of a threatened seabird. Conservation Letters. 2020;13:e12745. https://doi.org/10.1111/conl.12745

46 McShane, C., T. Hamer, H. Carter, G. Swartzman, V. Friesen, D. Ainley, R. Tressler, K. Nelson, A. Burger, L. Spear,

T. Mohagen, R. Martin, L. Henkel, K. Prindle, C. Strong, and J. Keany. 2004. Evaluation report for the 5-year status review of the marbled murrelet in Washington, Oregon, and California. Unpublished report. EDAW, Inc. Seattle, Washington. Prepared for the U.S. Fish and Wildlife Service, Region 1. Portland, Oregon.

47 Nelson, S.K. 2020. Marbled Murrelet (Brachyramphus marmoratus), version 1.0. In Birds of the World (A. F. Poole and F. B. Gill, Editors). Cornell Lab of Ornithology, Ithaca, NY, USA.

48 Nelson, S. K. and A. K. Wilson. 2002. Marbled Murrelet habitat characteristics on state lands in western Oregon. Final Rep., OR Coop. Fish and Wildlife Research Unit, Oregon State Univ., Dept. Fisheries and Wildlife, Corvallis. 153 pp.

49 USFWS. 2009. Marbled Murrelet (Brachyramphus marmoratus): 5-year review. U.S. Fish and Wildlife Service, Washington Fish and Wildlife Office, Lacey, Washington.

50 van Rooyen, J.C., J.M. Malt, and D.B. Lank. 2011. Relating microclimate to epiphyte availability: Edge effects on nesting habitat availability for the Marbled Murrelet. Northwest Science 85: 549[ndash]561. https://doi.org/10.3955/046.085.0405

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cooler summer temperatures (by as much as 2.5[deg]C) compared to plantations and younger forests51,52. Providing large blocks of contiguous older forest habitat will likely help buffer murrelets against many of the predicted and negative landscape changes.

In conclusion, the increased logging and thinning in moist forests as proposed in Alternatives B and D clearly would conflict with Need #3 and create conditions that would accelerate the extinction of the Marbled Murrelet, which would therefore conflict with the goal of the listing of this species as Threatened under the Federal Endangered Species Act. It would also conflict with the goals of state listings of the Marbled Murrelet as Endangered under each state's respective Endangered Species Act designations.

Finally, conditions created by increased logging proposed in Alternatives B and D would conflict with the USFWS MAMU Recovery Plan. Specifically, Section II: Recovery (pg.

138-139, 142) includes recommendations that could not be achieved under the proposed DEIS Alternatives B and D:

* 3.1.1 Maintain/protect occupied nesting habitat and minimize loss of unoccupied but suitable nesting habitat.
* 3.1.1.2 Maintain potential and suitable habitat in larger contiguous blocks while maintaining current north/south and east/west distribution of nesting habitat.
* 3.2.1 Increase the amount and quality of suitable nesting habitat.
* 3.2.1.1 Decrease fragmentation by increasing the size of suitable
* stands to provide a larger area of interior forest conditions.

To prepare the FEIS, the USFS should incorporate findings from the recently published [ldquo]Terrestrial Habitat Management Recommendations for Marbled Murrelets[rdquo]53to inform how best to manage in stands in historic and currently suitable nesting habitat for this species. This guide specifically recommends [ldquo]protect all mature suitable nesting habitat, maintain and enhance forested areas adjacent to [murrelet] habitat, maintain and enhance large blocks of contiguous forest cover, minimize the impact of disturbances near habitat, and promote connectivity of interior forests[rdquo]. Currently these recommendations do not appear to have been incorporated into the NWFPA and logging treatments described in the action alternatives.

1. Red Tree Vole - The conservation status of the red tree vole is considered to be near threatened with a decreasing population. The North Oregon Coast dusky tree vole subspecies is a candidate species for listing under the federal Endangered Species Act. These animals play important roles in old growth forest ecosystems in part because they are some of the most important prey items for the federally threatened Northern Spotted Owl.

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51 Frey, S.J.K., A.S. Hadley, S.L. Johnson, M. Schulze, J.A. Jones, and M.G. Betts. 2016. Spatial models reveal the microclimatic buffering capacity of old-growth forests. Science Advances 2: e1501392. https://doi.org/10.1126/sciadv.1501392

52 Betts, M.G., B. Phalan, S.J.K. Frey, S.J.K., J.S. Rousseau, and Z. Yang. 2017. Old-growth forests buffer climate-sensitive bird populations from warming. Diversity and Distributions 24: 439-447. https://doi.org/10.1111/ddi.12688

53 Pacific Seabird Group. 2024. Terrestrial habitat management recommendations for Marbled Murrelets. Pacific Seabird Group Technical Publication Number 7. 38p. Available at https://pacificseabirdgroup.org/psg-publications/technical-publications/

Red tree voles are largely dependent on dense canopy old-growth/mature habitat54,55 for all phases of their life cycle, relying on interconnected tree canopies56 for foraging, dispersal, and concealment from predators. They rarely come down to the ground and will not cross open areas57. Large trees that are crucial for red tree vole nesting and survival. As such, timber harvest can significantly impact red tree voles. By altering their habitat, thinning increases the vole[rsquo]s vulnerability to predation and reduces the availability of nesting substrate58. Linnell et al (2013) determined that red tree vole habitat declined by 18% between 1994 and 2022, and that

habitat change was the highest (at 65%) in coastal regions where timber harvest, rather than wildfire, was the

prevalent disturbance59. The red tree vole is also adversely impacted by habitat loss and fragmentation. Due to this species[rsquo] avoidance of edges, activities such as logging road construction that cause habitat fragmentation likely make stands unsuitable for voles60. Timber harvest and resulting fragmentation can remove or modify the canopy structure, creating gaps that reduce connectivity and hinder vole movement. Changes in microclimate associated with logging and thinning potentially make forest habitats less suitable for voles for nesting and other essential activities. Lack of available nesting sites due to displacement from logging can lead to increased mortality and reduced reproductive success61.

In conclusion, the Proposed Alternative B and Alternative D clearly would conflict with Need #3 and create conditions that would accelerate the extinction of the red tree vole, a species in consideration for listing under the Endangered Species Act, as well as an important prey species for the Northern Spotted Owl. Within the red tree vole range, the USFS should refrain from harvesting in stands older than 80 years old and minimize thinning activities to retain closed canopy and connected habitats for the red tree vole.

1. Coastal (Humboldt) Marten - this species is listed as threatened under the federal Endangered Species Act and is also listed under California[rsquo]s state ESA. Coastal Marten have been extirpated from 95% of their historic range62 with fewer than 500 individuals thought to remain. Coastal Martens are sensitive to habitat fragmentation or loss of

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54Dunk, J.R.; Hawley, J.J (2009). Red-tree [sic] vole habitat suitability modeling: implications for conservation and management. Forest Ecology and Management, 258: 626[ndash]634.

55 Gillesberg, A. M.; Carey, A. B (1991). Arboreal Nests of Phenacomys longicaudus in Oregon. Journal of Mammalogy, 72(4): 784[ndash]787. https://doi.org/10.2307/1381843

56 Carey, A.B (1991). The biology of arboreal rodents in Douglas-fir forests. Gen. Tech. Rep. PNW-276. Portland, OR:

U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station.

57 Swingle, James & Forsman, E.D.. 2010. Survival, Mortality, and Predators of Red Tree Voles (Arborimus longicaudus). Northwest Science. 84. 255-265.

58 Wilson, Todd M.; Forsman, Eric D (2013). Thinning Effects on Spotted Owl Prey and Other Forest-dwelling Small Mammals. In Density Management in the 21st Century: Proceedings of the Density Management Workshop.

Corvallis, OR: U.S. Department of Agriculture, Pacific Northwest Research Station.

59 Linnell, Mark A.; Lesmeister, Damon B.; Yang, Zhiqiang; Davis, Raymond J (2013). Timber harvest and wildfires drive long-term habitat dynamics for an arboreal rodent. Biological Conservation, 279. https://doi.org/10.1016/j.biocon.2022.109779.

60 Johnston, A.N.; Moskal, L.M (2017). High-Resolution Habitat Modeling With Airborne LiDAR for Red Tree Voles.

The Journal of Wildlife Management, 81(1), 58[ndash]72. https://www.jstor.org/stable/26606958.

61 Huff, R. 2016. High-priority site management recommendations for the red tree vole, version 1.0. Portland, OR.

U.S. Department of Agriculture, Forest Service Regions 5 and 6, and U.S. Department of the Interior, Bureau of Land Management, Oregon/Washington. 45 p.

62 Gamblin, H.E.L., K. K.M. Slauson, and M. Szykman Gunther. 2025. Habitat Use and Distribution of a Recently Discovered Population of Humboldt Martens. Northwest Science 97(4), 274-289. https://doi.org/10.3955/046.097.0404

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high-quality landscape. In particular, clearcut harvesting will reduce population viability [ge]40 years if >25 to 30 percent of the forest is composed of regenerating stands63. The use of thinning to reduce fuel density can also make the maintenance or regeneration of a shrub layer challenging. Shrub and dense canopy cover64 are key features this species depends on, as well as the availability of denning and resting structures (large-diameter trees, snags and logs). Coastal martens dispersal is also impeded in regenerating (clearcut) landscapes, with martens moving shorter distances and suffering higher mortality rates51.

Some of the planned forest management activities in Alternative B and D threaten distinctive habitat features and important life history requirements of Coastal Marten and would thereby increase negative impacts to this federally threatened species. The USFS should refrain from recommending harvest in stands older than 80 years old and should minimize thinning activities to retain closed canopy, habitat connectivity and retention of large downed woody debris within the range of the Coastal Marten.

1. Humboldt[rsquo]s and northern flying squirrel - These flying squirrels are [ldquo]keystone[rdquo] species that disseminate the spores of ectomycorrhizal fungi symbiotic with pine trees and are preyed upon by a variety of vertebrate predators. Substantial research has shown that these squirrels tend to be most abundant in naturally regenerated forests >100 years old (old growth and younger mixed-age forest with legacies from old growth), whereas abundance in second-growth forests is highly variable and often quite low"65. Flying squirrels are also a main prey item of the threatened Northern Spotted Owl66. Alternative B and D would negatively impact the survival of flying squirrels.

Thinning and prescribed burning in ponderosa pine and dry mixed conifer forests puts the flying squirrel at risk by reducing forest canopy, woody debris, and the diversity or biomass of understory plants, truffles, and lichens67,68. Moreover, this species is largely dependent on closed canopy cover69 so it is susceptible to negative impacts from thinning, which can result in loss of suitable nesting sites, especially tree cavities, that are already a limiting factor for this species48. Truffles, underground fruiting bodies of mycorrhizae that have beneficial relationships with trees, are a primary food of the flying squirrels, which spread their spores throughout the forest. Truffles are dependent on large trees, downed woody debris, shrub understories so the loss of these habitat

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63 Slauson, Keith M.; Schmidt, Gregory A.; Zielinski, William J.; Detrich, Phillip J.; Callas, Richard L.; Thrailkill, James; Devlin-Craig, Brenda (2019). A Conservation Assessment and Strategy for the Humboldt Marten in California and Oregon. Albany, CA: U.S. Department of Agriculture, Forest Service, Pacific Southwest Research Station. doi:10.2737/PSW-GTR-260.

64 Moriarty, Katie M., Joel Thompson, Matthew Delheimer, Brent R. Barry, Mark Linnell, Taal Levi, Keith Hamm,

et al (2021). Predicted Distribution of a Rare and Understudied Forest Carnivore: Humboldt Marten (Martes Caurina Humboldtensis). PeerJ, 9: e11670. doi:10.7717/peerj.11670.

65 Carey, Andrew. (2002). Ecology of northern flying squirrels: implications for ecosystem management in the Pacific Northwest, USA. International Theriological Congress. 45-61.

66 Holloway, Gillian L.; Winston P. Smith (2011). A Meta-analysis of Forest Age and Structure Effects on Northern Flying Squirrel Densities. The Journal of Wildlife Management, 75(3): 668[ndash]74. doi:10.1002/jwmg.77.

67 Lehmkuhl, John F., Keith D. Kistler, James S. Begley, and John Boulanger (2006). Demography Of Northern Flying Squirrels Informs Ecosystem Management Of Western Interior Forests. Ecological Applications, 16(2): 584[ndash]600. doi:10.1890/1051-0761(2006)016[0584:DONFSI]2.0.CO;2.

68 Gomez, Douglas M., Robert G. Anthony, and John P. Hayes (2005). Influence of Thinning of Douglas-Fir Forests on Population Parameters and Diet of Northern Flying Squirrels. The Journal of Wildlife Management, 69(4): 1670[ndash]82.

69 Holloway, Gillian L.; Winston P. Smith (2011). A Meta-analysis of Forest Age and Structure Effects on Northern Flying Squirrel Densities. The Journal of Wildlife Management, 75(3): 668[ndash]74. doi:10.1002/jwmg.77.

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features also threaten the survival of this species47 and could have broader implications for trees associated with truffles.

In conclusion, the Proposed Alternative B and D clearly would conflict with Need #3 and create conditions that would negatively impact flying squirrels. Within the range of this species, USFS should refrain from recommending timber harvest in stands older than 80 years old and minimize thinning activities to retain closed canopy and connected habitats and retain large downed woody debris.

1. Great Gray Owl - is listed as endangered under the California ESA and a Strategy Species in the Oregon Conservation Strategy70 because it is considered sensitive and is a rare inhabitant of central Oregon forests. This species prefers older and mature forests that have high canopy closure and that are located near open stands and meadows for foraging71,72. Fortunately, evidence suggests that this species can be resilient to wildfires73.

The Oregon Department of Fish and Wildlife considers the owls special habitat needs to be late-successional forests and large-diameter snags or large-branch structures for nesting and grassy openings for foraging. It[rsquo]s important to note that Great Gray Owls have specific requirements for their fledglings, which cannot fly for 1-2 weeks after they fall from the nest. Leaning snags and understory cover are essential for their protection from predators during this time. Yet, these latter two elements are typically removed or modified during fuel management treatments and therefore would put owl fledglings at high risk for survival. Great Gray Owls are known to require high snag density and canopy cover of at least 80% around nest sites74. The dense canopy protects the nest from predation by raptors, ravens, and other owls. Reductions in large mature trees between 80 and 150 years old and reduction in canopy cover density will significantly reduce the availability and quality of nesting habitat.

Given the known habitat element needs of Great Gray Owls, if forest management activities such as logging, thinning, brush mowing, prescribed burning, pile burning, understory clearing, and limbing, are conducted in the

forest habitats occupied by this species, it would very likely place these owls at higher risk. The disturbance and compaction created by logging and road-building could also have negative impacts, as could the drying of wet and moist meadows resulting from opening of stands. The Oregon Department of Fish and Wildlife has identified two data gaps in need of more information to improve conservation efforts: 1) assessment of the value of harvested forest clearings used as foraging habitat, and 2) evaluation of the effects of rodent control. It is important to better understand these factors and the potential cumulative

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70 Oregon Conservation Strategy. 2016. Oregon Department of Fish and Wildlife, Salem, Oregon.

71 Duncan, James R (1997). Great gray owls (strix nebulosa nebulosa) and forest management in North America: A review and recommendations. Journal of Raptor Research, 31(2): 160-166.

72 Bryan, T.,; Forsman, E. D (1987). Distribution, Abundance, and Habitat of Great Gray Owls in South Central

Oregon. The Murrelet, 68(2), 45[ndash]49. https://doi.org/10.2307/3535691.

73 Siegel, R. B., Eyes, S. A., Tingley, M. W., Wu, J. X., Stock, S. L., Medley, J. R., Kalinowski, R. S., Casas, A.,

Lima-Baumbach, M., & Rich, A. C. (2019). Short-term resilience of Great Gray Owls to a megafire in California, USA.

The Condor, 121(1), 1-13. https://www.jstor.org/stable/10.2307/26824991

74 Wu, J. X.; Siegel, R. B.; Loffland, H.L.; Tingley, M. W.; Stock, S. L.; Roberts, K.N.; Keane, J. J.; Medley, J. R.; Bridgman, R.; Stermer, C (2015). Diversity of Great Gray Owl Nest Sites and Nesting Habitats in California. The Journal of Wildlife Management, 79(6): 937[ndash]947. http://www.jstor.org/stable/24763899.

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effects of proposed forest management activities to Great Gray Owls before these activities are undertaken.

In conclusion, Alternatives B and D clearly would conflict with Need #3 by creating conditions that would negatively impact the Great Gray Owl nesting habitat. Within the range of this species, USFS should refrain from recommending harvest in stands older than 80 years old and should minimize thinning activities to retain closed canopy for this species in the NWFP area.

vii) Pinyon Jay

Pinyon Jays are currently experiencing population declines across their range, the steepest declines of any bird in North America75 and are currently a candidate species for listing under the Endangered Species Act (ESA).76 However, the Pinyon Jay is understudied so crucial life history information, especially in Central Oregon where they are associated with Ponderosa Pine and Juniper forests rather than Pinyon Pine forests, is simply not available. Because virtually nothing is understood about these birds[rsquo] life history in Central Oregon, it is not currently possible to evaluate the impacts of logging and fuel reduction/restoration treatments on this bird within the NWFP area. We recommend that the USFS take into account the highly uncertain status of Pinyon Jays when recommending changes in forest management activities in habitat areas presently mapped by USFWS and local avian research entities. We urge the USFS to withhold changes in known Pinyon Jay habitat areas or to include adaptive management recommendations in the FEIS.

viii) Native pollinator species

Many bird species and wildlife rely on insects (including pollinators) as essential food sources. Many insects utilize the understory plants of forest canopy, rotting wood, and the forest trees. To remove ladder fuels the

USFS has generally relied on mowing, cutting, and removal of understory plants, often using herbicides as an additional tool. Logging and removal of dead wood contributes to a reduction in the numbers of insects available as food. The combined long- and short-term environmental effects of all these activities on the decline in availability of insects as food sources and as pollinators that help maintain the seed bank and diversity of plants is not well documented or understood, although we do know that pollinators are declining and that some bird species are declining from lack on insects as food sources.

We recommend the USFS restrict ladder fuel removal to buffers in high risk wildland urban interface areas. Elsewhere, where these activities have already been conducted, research and monitoring projects should be initiated to develop better ecosystem-level understanding of the interdependence of forest elements, insect abundances, and especially considering the role of understory pollinators on long- and short-term forest health and biodiversity.

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75 Hostetler, J.A., Sauer, J.R., Hines, J.E., Ziolkowski Jr., D.J., and Lutmerding, M. 2025. The North American Breeding Bird Survey, Analysis Results 1966 - 2023. U.S. Geological Survey data release, https://doi.org/10.5066/P1F2X4WH

76 https://ecos.fws.gov/ecp/species/9420

We are concerned that many pollinator species would be negatively impacted by treatments proposed in the DEIS Alternatives B and D. For example, Johnson's hairstreak is an old-growth obligate butterfly so increased logging proposed in Alternatives B and D would no doubt harm its survival. Most other native pollinators do prefer early seral habitats, but this provides no justification for increased logging because there is already an abundance of logged-over and burned early seral areas across the landscape - and more importantly, pollinators need flowers, which don't necessarily thrive in the openings created by logging.

In the FEIS, the USFS should include recommendations to control noxious weeds and promote native plants in already-existing logged-over and burned early seral stage areas within the NWFP management area and also in any areas that will be converted to early seral stages by forest management activities in the future.
Needs #3: recommendations
* Habitat emphasis needs to be on retaining remaining old-growth and mature forest - not creating more early seral habitat. The DEIS calls for [ldquo]diversifying[rdquo] the habitat conservation focus beyond old growth forests by actively creating early seral vegetation. However, early seral vegetation is not at a deficit across the landscape. In Chapter 3 of the Science Synthesis (page 169), the USFS says this about creating early-seral vegetation habitats: [ldquo]A larger problem is how to determine how much of this vegetation should be created and how to schedule and distribute it in landscapes where wildfires could appear in any year and create thousands of acres of this vegetation type in a few days[rdquo]. There is no problem to solve here. We do not need to create more early seral habitats because we know that forests are already prone to natural disturbances. Wildfire will ensure that this habitat is continuously created, as stated four pages later (page 173): [ldquo]wildfires will continue to create this vegetation type.[rdquo] The truly limited habitat in the NWFP area[ndash]the legacy of massive amounts of unsustainable past logging[ndash] is mature and old-growth forest.
* Post-disturbance treatments, such as salvage logging, must be directed towards ecosystem recovery. According to Beschta, et al. 2004, [ldquo]the following postfire activities are not likely to be consistent with ecosystem restoration: seeding non-native species, livestock grazing, installation of instream structures, ground-based logging and soil disruption, removal of large trees, road and landing construction, and logging of ecologically sensitive areas including roadless areas, riparian areas, and areas with moderate to severe burns."77 We urge the USFS to minimize forest management activities that will conflict with ecosystem recovery.

* The USFS should plan all fuel reduction treatments to allow for a sufficient period to protect fledglings during their most vulnerable time, when susceptible to high rates of predation the first few weeks out of the nest78. All wildfire risk reduction and conservation planning must therefore incorporate the timing not only of birds[rsquo] breeding requirements but also of their post-fledging requirements.

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77 Beschta, R., J. Rhodes, J. Kauffman, R. Gresswell, Robert, G. Minshall, G., J. Karr, D. Perry, F. Hauer, and C. Frissell. 2004. Postfire Management on Forested Public Lands of the Western United States. Conservation Biology.

18. 957 - 967. 10.1111/j.1523-1739.2004.00495.x.

78 Andrew C. Vitz, Amanda D. Rodewald, Influence of Condition and Habitat use on Survival of Post-Fledging Songbirds, The Condor, Volume 113, Issue 2, 1 May 2011, Pages 400[ndash]411, https://doi.org/10.1525/cond.2011.100023

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* Ths USFS should require yearly monitoring for success at improving resilience and climate adaptation as an integral component to all projects. Technical Review and Advisory Committees composed of independent, qualified scientists should develop wildlife monitoring protocols and periodically review such efforts to advise the USFS on the need to adapt, modify, or stop treatments when deemed necessary.
* All relevant species of concern listed in state conservation plans within the NWFP planning area (e.g. Oregon Conservation Strategy) as well as current USFS target species79 should be considered in the NWFPA FEIS.
Need #4: Incorporating Indigenous Knowledge into planning, project design, and implementation to achieve forest management goals and meet the agency[rsquo]s general trust responsibilities.
During the development of the original NWFP, the USFS failed to meaningfully engage Tribes to consider insights from Indigenous knowledge, values and perspectives. We are heartened that the Federal Advisory Committee (FAC) process made a transparent and diligent effort to rectify this deficiency from the original NWFP, and that aspects of the DEIS reflect meaningful commitments to respect Tribal sovereignty, honor treaty rights, fulfill trust responsibilities, and facilitate co-stewardship. It should be recognized that there is nothing in the original NWFP that precludes the USFS from acting on recommendations that came out of the FAC process and that are currently incorporated into the DEIS.
Need #4: Recommendations
The USFS need to hold true to their commitments to meaningfully engage with Tribes moving forward. To that end, we recommend that the USFS:

* Advance all of the Tribal inclusion components presented in each of the action alternatives in the DEIS into the Final EIS. Tribal inclusion components should be moved forward independently and not tied to any of the alternatives (in particular Alternatives B and D that do not meet USFS Needs #1-3 as described and justified throughout this letter).
* Provide a more comprehensive analysis that reflects the breadth and importance of the proposed plan components to Indigenous communities and that more accurately discloses the impacts of the proposed amendment[rsquo]s alternatives on Tribes (by analyzing impacts on air, water, wildlife, and by ensuring fair working conditions).
* Incorporate into the FEIS the groundbreaking work of the FAC and other Tribal engagement that centers Indigenous Knowledge and collaboration with Tribes in forest management policies, programs, and practices in perpetuity.

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79 Lehmkuhl, J.F., Raphael, M.G., Holthausen, R.S., Hickenbottom, J.R., Naney, R.H., Shelly, J.S., 1997. Historical and current status of terrestrial species and the effects of proposed alternatives. In: Quigley, T., Lee, K., Arbelbide, S. (Eds.), Evaluation of EIS Alternatives by the Science Integration Team, Volume II. US Forest Service General Technical Report PNW-GTR-406. Portland, Oregon, pp. 537[ndash]730.

Need #5: Providing a predictable supply of timber and non-timber products and other economic opportunities to support the long-term sustainability of communities located proximate to NFS land and economically connected to forest resources.

While the USFS identified the need to provide a more predictable supply of timber and non-timber products and other economic opportunities, the DEIS does not provide sufficient guidance to ensure that the goal of increasing the supply of timber does not conflict with economic opportunities well-known to provide higher economic values, such as outdoor recreation, clean water, and fisheries. To provide better guidance, there needs to be a stronger analysis of tradeoffs between the impacts of increased timber production on other sectors of the economy and of the opportunity costs of prioritizing increased production of timber over, say, the development of a sustainable mountain bike trail. The analysis needs to take a modern look at the highest and best use of our federal forest lands.

Over the last thirty years, economics of timber have changed markedly, with mills consolidating, automating, and reconfiguring for smaller, younger trees. Economists have documented that misleading price signals can lead to inefficient pricing of timber, encouraging waste, ecological damage, and loss of uses with higher economic values.80 Owing to automation and pricing issues, the DEIS presumption that more federal timber on the market will simply lead to more jobs and economic growth, as may have been the case in the past, is not necessarily accurate. Introducing logs from Forest Service lands may well reduce prices and replace logs from other lands, with the net effect of little to no increase in timber-related employment. For this reason, the DEIS may exaggerate both the number of jobs that would result from the proposed increase in timber supply from federal forest lands and also the economic benefit to communities.81

Meanwhile, the outdoor recreation industry has grown in economic value, providing more jobs, more people interacting with public lands, and more tourism dollars in local communities. In 2022 alone, an estimated 19 million people visited National Forests in the Pacific Northwest, according to the National Visitor Use Monitoring Summary.82 A 2018 study found that National Forest Visitors spent $740 million in communities near to

U.S. Forest Service lands in Oregon and Washington, and in 2018, the Outdoor Industry Association reported that outdoor recreation generated more than $3 billion in state and local tax revenue in the Northwest, making

outdoor recreation one of the primary economic drivers in the Pacific Northwest.83 In 2021, outdoor recreation in Oregon alone supported $15.6 billion in spending and 224,000 jobs.84

In terms of total jobs supported, according to the NWFPA analysis of 2021 data for the 92 county study area, recreation visitation was the largest contributor to the regional

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80 Ernie Niemi, Deficiencies in the Socioeconomic Elements of the Draft Environmental Impact Statement (DEIS) for the Northwest Forest Plan Amendment (NWFPA), pp 3-4.

81 Niemi, pp.6-8

82https://www.fs.usda.gov/sites/default/files/2022-National-Visitor-Use-Monitoring-Summary-Report.pdf83https://www.nwpb.org/2018/04/02/northwest-national-parks-earn-millions-every-year-and-have-for-decades/

84 Mojica, J., Cousins, K., Madsen, T., 2021. Economic Analysis of Outdoor Recreation in Oregon. Earth Economics. Tacoma, WA.

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economy, supporting an estimated 12,551 jobs, followed by agency operations (7,070 jobs), with timber products coming in last (5,091 jobs).85

However, despite the clearly higher economic values of outdoor recreation, the NWFPA does not consider the effects its proposed increased logging will have on outdoor recreation opportunities in the region. Timber harvest usually requires large area closures during and following implementation that disrupts recreation access and activities for extended periods. Timber activities can result in closure of trails, degradation of scenery values and other recreational experiences, disruption of wildlife habitat, degradation of water quality and of fishing and wildlife viewing opportunities.

While the NWFPA asserts that aquatic habitats will not be impacted, in forests with high stream densities, steep slopes and high fishery values, it will be difficult to increase timber harvest without having impacts on other values.

Moreover, while there are many economic benefits that are gained simply by leaving landscapes intact, including recreation, fishing, and water quality, these are not considered in the economic analysis. For example, National Forests have safeguarded clean drinking water for municipalities throughout the Pacific Northwest.86 Mature and old-growth forests in particular have served to increase water availability and stabilize stream flows. During increasingly dry summers, streams in mature and old-growth forests sustain their flows while streams in younger plantation-like forests do not87.

Increased logging in our national forests would likely lead to increases in road construction[ndash] and concomitant increases in sedimentation and runoff that would degrade municipal water supplies, resulting in higher water treatment costs.

In addition, intact mature and old-growth forests have served to increase water availability year-round, to maintain cool temperatures, and to stabilize stream structure and food webs for salmonids.88 Increased timber production would reduce the forest canopy cover, increasing water temperatures and risks to the survival of juvenile salmonids. Salmon and steelhead are key to maintaining the health of the region[rsquo]s recreational

fishing economy.

For these reasons, the USFS needs to include an assessment of the Ecological Services provided by recreation, wildlife, clean water, fisheries, mushroom and greenery foraging, and other opportunities that would be impacted by increased logging described in the DEIS alternatives. USFS must analyze these economic benefits in the Final EIS.

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85 U.S. Forest Service, Northwest Forest Plan Amendment, 2024, p. 3-109

86 Alex Baumhardt, [ldquo]Nearly 90% of the West depends on national forests, grasslands for drinking water,[rdquo] Oregon Capital Chronicle, 11/9/25

[https://oregoncapitalchronicle.com/briefs/nearly-90-of-west-depends-on-national-forests-grasslands-for-drinking-wate r/]

87Segura, C.; Bladon, K.D.; Hatten, J.A.; Jones, J.A.; Hale, V.C.; Ice, G.G. 2020. Long-term effects of forest harvesting on summer low flow deficits in the Coast Range of Oregon. Journal of Hydrology. 585: 124749. doi:https://doi.org/10.1016/j.jhydrol.2020.124749

88 David Olson, et al., [ldquo]Climate Change Refugia for Biodiversity in the Klamath-Siskiyou Ecoregion,[rdquo] Natural Areas Journal, 31 (2012)(1): 65-74.

Need #5: Recommendations

* USFS must include an analysis of Ecological Services in their Socioeconomic assessment.
* USFS must evaluate impacts of increased timber production on other high-value sectors of the economy, such as outdoor recreation, and analyze tradeoffs.
* USFS must provide more specific guidance to ensure that increased timber production does not impact other high value economic sectors.
* USFS must evaluate impacts on water quality, fisheries, and municipal drinking water sources and provide more specific guidance to ensure that increased timber production does not impact water quality, fisheries, and municipal water supplies.
* The substantive Provisions of the 2012 Planning Rule that are referred to in the DEIS (pgs. 1-6 to 1-7, all bullets) should be prioritized in the Final NWFP or at least in the different Alternatives since they seem to be guiding principles. In the DEIS emphasis appears to be on the second to last bullet 36 CFR 219.11(b) [ndash] [ldquo]timber harvest for purposes of timber production[rdquo].
* USFS should refrain from employing Categorical Exemptions (CE[rsquo]s) and Good Neighbor Authority deals as they provide too many loopholes to skirt NEPA and ESA regulations.

Impacts of Road network:

We are concerned that the road construction that would be needed to carry out the logging and thinning activities in Alternatives B and D would cause both direct and cumulative impacts to ecosystems reducing ecosystem resilience. Known negative impacts related to logging road development include:

* Impacts to stream stability and flows: changes in channel width, depth, gradient, pool-riffle sequence, and sediment supply due to increased runoff, reduced evapotranspiration, changes in rate and timing of snowmelt, increased flood frequency.
* Impacts to Water quality: sediment generated from roads, inboard ditches, changes in channel dimensions, and pollutants from logging roads.
* Impacts to slope stability: increase in landsliding and erosion on steep hillsides due to 1) Loss of root strength,

2) Loss of lateral support from road cuts, and 3) Increased saturation of hillslopes already prone to landsliding due to decreased evapotranspiration and increased rates of snowmelt in opened-up canopy.
* Impacts to aquatic and terrestrial wildlife habitat: disturbance and increased human access, altered ecosystem age structure, species diversity, predation associated with roads and open canopy, and deterioration of riparian width caused by bank erosion from increased road runoff.
* Impacts to soil productivity: due to mechanical disturbance that breaks down soil structure and mycorrhizal associations, reduction in abundance of nitrogen and accumulation of organic litter, loss of nutrients and seed bank from frequent repetitive prescribed burning, and potential influences on growing conditions associated with herbicide/pesticide use.
* Impacts to riparian vegetation and floodplain: loss of riparian vegetation caused by channel bed incision that reduces ground water available to near bank vegetation, and bank erosion that reduces floodplain width.

Road impacts recommendations:
* The FEIS should include a cumulative analysis of road impacts rather than deferring robust analysis due to the purported site-specific nature of site access.
* The FEIS should address impacts of increased road density on all the following parameters: noise pollution, wildlife vehicle hits, sediment changes, hydrology changes, water table changes, human-caused wildfire frequency, wildlife disturbance and predation, forest loss and fragmentation, increase costs and staffing needs for maintenance and repairs, changes in downstream channel stability, carbon sequestration and future timber yield and productivity.
* The FEIS alternatives should strive for no net gain of logging road networks.
Conclusion
In summary, we cannot support any of the proposed alternatives as currently envisioned and we are concerned that they do not support the project needs. Moreover, we reject the framing of the current alternatives, which unnecessarily pits aims of public safety, Tribal inclusion, and economic vitality against those of conservation. As the USFS develops its FEIS we urge the agency to propose an alternative that builds on the goals of the initial NWFP by continuing to focus on conservation of the unique remaining

old-growth forests of the Pacific Northwest and the wildlife that depends upon them, while making adjustments to account for public safety in the Wildland Urban Interface zones, for greater Tribal inclusion, for greater climate and fire resilience, and for greater economic vitality compatible with conservation. Specifically, we urge the USFS in its FEIS to:

* Retain the current definition of stands [le] 80 year old as [ldquo]mature[rdquo] and [ldquo]old-growth[rdquo] in both moist and dry areas to protect late-successional forest conditions in

Late-Seral Reserves (LSRs) as well as in Matrix Lands in order to meet Needs #1-3

* Restrict major fire management activities to within the fire danger or [ldquo]ignition zone[rdquo] near at-risk communities and other human infrastructure. None of the alternatives should include forest-wide fire management zones. In east-side dry forests it may be amenable to use fuel treatments (understory thinning, prescribed burns) to mitigate the impacts of a century of fire suppression and restore forests[rsquo] ecological functionality, but there is no such need to do this in moist west-side forests.
* Recognize that some forests, such as the highly biodiverse forests of the Klamath Province and Siskiyou Mountains in southwestern Oregon and northeastern California, do not fall readily into the moist-dry land characterization and should not be treated the same as east side dry forests.
* Maintain natural processes with nature-based, self-maintenance by allowing wildfires to burn in areas that present low risk to people and infrastructure and that do not provide for critical ecosystem services. These areas should be zoned for a [ldquo]Let It Burn[rdquo] policy (such as used by the US National Park Service).
* Include Climate Smart goals and a Natural Climate Solutions strategy to maximize gains in carbon storage and

sequestration while minimizing losses. The USFS should include a more robust assessment of the gains/losses in the amount of carbon sequestered for each alternative.
* Provide guidance that post-disturbance treatments, such as salvage logging, must be directed towards ecosystem recovery.

* Retain remaining blocks of well connected old-growth and mature forests to provide for critical habitat for a wide range of species that depend on closed canopy and old growth forest conditions. This is the only way to protect and ideally reverse declines of ESA listed species and other sensitive species that depend on late-successional forests.
* Advance all of the Tribal inclusion components presented in each of the DEIS alternatives [ndash]as well as additional objectives (see recommendations in Need #4 section above) [ndash]independently of all the alternatives.
* Include a full analysis of Ecological Services benefits as part of the socioeconomic assessment in the FEIS.
* Include an evaluation of impacts of increased timber production on other high-value sectors of the economy, such as outdoor recreation, and analyze tradeoffs in the FEIS.
* Strive for no net gain in logging road networks.

The Pacific Northwest forests continue to recover from more than a century of intensive logging and road-building activities and so we strongly urge the USFS to use the NWFPA process to set the stage for continuing restoration that will lead to more resilient forests that will benefit our region far into the future.

Thank you for considering these comments. Sincerely,

ATTACHMENT-LETTER TEXT: OAC_NWFP_EIS_amend_comment_letter_Mar_2025_FINAL.pdf; this is the same content that is coded in text box; it was originally included as an attachment[rdquo]