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

Re: Northwest Forest Plan Amendment Draft Environmental Impact Statement

Dear Regional Foresters Buchanan and Eberlien,

Please accept the following comments on the Northwest Forest Plan Amendment (NWFP) Draft Environmental Impact Statement (DEIS) from the undersigned groups, representing [thousands] of advocates who wish to see public forests in the Northwest thrive for generations to come.

For 30 years, the Northwest Forest Plan (NWFP) has guided management of 17 national forests stretching from western Washington and Oregon south to northwestern California, and until 2016, governed the management of Bureau of Land Management (BLM) lands as well. While the original impetus for the plan was to curb the impacts of

destructive logging on the northern spotted owl, the plan created standards that protected and accounted for a host of values provided by these landscapes, including habitat for a host of imperiled and unique species, watersheds that supplied communities, recreation, carbon storage and climate benefits, and commercial timber volume. This plan created stable jobs throughout the Pacific Northwest and supported many rural communities that would have otherwise vanished under the volatile boom and bust dynamics of the private timber industry.

The NWFP necessitated hiring landscape architects to account for the visual impacts logging would have on scenic corridors; arborists responsible for topping trees to restore nesting habitats, wildlife surveyors, biologists, silviculturists, fire scientists, burn crews, economists, recreation specialists, and fisheries experts. The plan has spawned and sustained numerous different fields of scientific research. The plan involved such sprawling complexity because the areas that it governs are vast and diverse and the values these landscapes serve are similarly complex.

But despite its lofty goals and far reach, the plan had serious shortcomings. Most notably was the U.S. Forest Service's exclusion of Tribal Nations in the development of the plan and failure to incorporate Indigenous Knowledge and stewardship practices. Regarding this point, we refer the agency to our previous letter which recommends the agency adopt the full suite of Tribal Inclusion measures recommended by the Federal Advisory Committee and included in any of the alternatives analyzed in the DEIS.

The NWFP also permitted the logging of old-growth forests, a practice which now has clearly lost any prior social or ecological license. These older forest areas are prized by local Tribes and recreationists and not only provide essential habitat for imperiled species and safeguard our region's water sources, but also mitigate severe climate and fire effects. The scientific research that was conducted by the Forest Service throughout the life of the NWFP ultimately concluded that the logging of old growth no longer holds any scientific value.

Additionally, the NWFP is three decades old. It does not account for climate change, associated ecological changes and changing fire patterns, issues that have emerged as essential to sound forest management in the region for the safety and sustainability of our communities. Current Forest Service timber sale projects analyze each of these issues under existing NEPA documents, but these issues warrant relevant standards and guidelines based on the best available science to properly guide forest management.

In amending the NWFP, the Forest Service should honor the first principles that undergirded the 1994 Plan—scientifically sound, ecologically credible, and legally responsible—and avoid controversies that threaten gridlock in the region. The agency must also take this opportunity to correct the foundational flaw of Tribal exclusion in the original NWFP, and make meaningful commitments to respect Tribal sovereignty, honor treaty rights, fulfill trust responsibilities, and facilitate co-stewardship.

A. Protect Complex Early-Seral Forests

Fire is a natural feature of western forests, however, climate change and mismanagement of federal forests have resulted in increased fire activity. In the event of fire, it is important to ensure that post-fire activities do not disrupt natural successional processes that produce the biological legacies necessary to regenerate older forests over time.¹ The NWFP “gave vague and potentially conflicting guidance on protecting old trees and mature and old-growth forests during salvage.”² All action alternatives rightly limit post-fire logging in moist forest reserves, to varying degrees, yet leave open the opportunity for post-fire logging in dry forest reserves. While fires may produce fuel loading concerns in dry forest stands, the nature of commercial post-fire logging typically results in worsened fire conditions by removing large-diameter snags, which are the type likely to persist on the landscape for the longest period of time, while leaving significant residual fine fuels and jackpots of logging slash.³ Post-fire logging is also associated with plantation creation and other interventions that work to undermine fire-resilient forests. Many species require the ephemeral environments produced by high-severity fire, including transitional, early-successional species.⁴ Artificial regeneration often requires release of competing vegetation, impacting the value of post-fire ecosystems.

Post-fire timber sales have also been a particular source of litigation, as the Forest Service has attempted to expand logging in late successional reserves (LSRs), Riparian Reserves, northern spotted owl Critical Habitat, and other ecologically sensitive areas. As one law review article notes, “As wildfire continues to affect old-growth forests within the range of the northern spotted owl, if the government continues to convince courts not to enjoin salvage sales on the unproven ground salvage logging helps prevent future wildfires, the integrity and viability of the [Northwest Forest Plans]’s [Late Successional Reserve] network will be undermined.”⁵

Regardless of land classification, our organizations urge the Forest Service to impose further restrictions on commercial post-fire logging to ensure that large fire-killed trees

¹ Donato, Daniel C., John L. Campbell, and Jerry F. Franklin. "Multiple successional pathways and precocity in forest development: can some forests be born complex?." *Journal of Vegetation Science* 23.3 (2012): 576-584;

Swanson, M.E. et al. 2011. The forgotten stage of forest succession: early-successional ecosystems on forested sites. *Frontiers in Ecology and Environment* 9:117-125 doi:10.1890/090157.

² Johnson, K. Norman, et al. *The Making of the Northwest Forest Plan: The Wild Science of Saving Old Growth Ecosystems*. Oregon State University Press, 2023.

³ Lindenmayer, David & Burton, Philip & Franklin, Jerry. (2008). *Salvage Logging and Its Ecological Consequences*;

Karr, J., J. Rhodes, J. Minshall, et al.. 2004. The Effects of Postfire Salvage Logging on Aquatic Ecosystems in the American West, *BioScience*, Volume 54, Issue 11, November 2004, Pages 1029–1033, [https://doi.org/10.1641/0006-3568\(2004\)054%5B1029:TEOPSL%5D2.0.CO;2](https://doi.org/10.1641/0006-3568(2004)054%5B1029:TEOPSL%5D2.0.CO;2);

Thorn, S., C. Bassler, R. Brandl, et al. 2018. Impacts of salvage logging on biodiversity: A meta- analysis. *Journal of Applied Ecology* 55:279-289. <https://doi.org/10.1111/1365-2664.12945>;

Beschta, R, Frissell, R. Gresswell, R. Hauer, J. Karr, G. Minshall, D. Perry, J. Rhodes. 1995. Wildfire and salvage logging. Recommendations for Ecologically Sound Post-Fire Salvage Management and Other Post-Fire Treatments on Federal Lands in the West. White paper.

⁴ Swanson et al. 2011.

⁵ Blumm, Michael C., Susan Jane M. Brown, and Chelsea Stewart-Fusek. "THE WORLD'S LARGEST ECOSYSTEM MANAGEMENT PLAN." *Environmental Law* 52.2 (2022): 151-216.

and large live trees are preserved on the landscape to help create more complex early-seral ecosystems. In wet forests, salvage logging should be wholly forbidden except for issues of public safety, such as hazard trees along important roads, and even in these circumstances, logging should be limited to those management activities actually responsive to safety issues and those instances should be well-documented. A number of post-fire, roadside hazard tree logging projects have been rejected by federal courts because they were commercial volume projects masquerading as safety projects.⁶ In dry forests, salvage logging should prohibit the removal of large-diameter snags and prohibit the consideration of potential revenue in planning decisions. The Forest Service should also meaningfully consider the impacts of post-fire logging on fire-dependent species, like black-backed woodpeckers, that utilize the ephemeral habitats produced by high-severity wildfires, and extend meaningful protection to complex early seral forests. Lastly, we urge the Forest Service to favor natural regeneration and eschew artificial regeneration, which contributes to over-dense “reforestation” and disregards important transitional habitat types. To the extent that reforestation is necessary, it should emphasize a variety of species, including non-commercial species and hardwoods.⁷

B. Unplanned Wildland Fire as a Management Opportunity

Our organizations recognize that wildland fire is an important management tool to improve the resilience of our forests. In particular, we support prescribed and cultural burns as a useful management tool. It will be difficult for the Forest Service to expand the pace and scope of these treatments to meaningfully address the need. To address our historic and ongoing fire deficit, we believe that we need to reduce the suppression of unplanned wildland fire, where safe and appropriate. We urge the Forest Service to increase the number of acres to be treated with wildland fire.

We cannot get out of the fire deficit through controlled burning.⁸ In order to allow for unplanned ignition to play its historic beneficial role in western forests, particularly dry fire-prone areas, it is imperative to clearly establish where fires will be allowed to play their natural role. It is also imperative to establish reasonable expectations for fuel treatments near communities. Strategic fire zones, similar to those contemplated in Alternative D, offer a way to allow for landscape level planning that prioritizes fuel treatments where they will have the most benefit—near communities—and are sized such that they are capable of being maintained.

C. Address Fuel Loading Conditions in Reserves Through Processes that Provide Accountability and Success

Our organizations recognize that improving wildfire resiliency and resistance is an

⁶ See *EPIC v. Carlson*, 968 F.3d 985 (9th Cir. 2020).

⁷ Donato, D. C., et al. "Post-wildfire logging hinders regeneration and increases fire risk." *Science* 311.5759 (2006): 352-352.

⁸ See *generally* Vaillant, N.M. and Reinhardt, E.D., 2017. An evaluation of the Forest Service Hazardous Fuels Treatment Program—Are we treating enough to promote resiliency or reduce hazard? *Journal of Forestry*, 115(4), pp.300-308;

important objective, however we do not believe that the Plan materially interferes with this objective. Critically, the plan's standards and guidelines *already recognize* that dry forests may require more management than moist forests. As the Forest Service's own recent Science Synthesis for the plan explains, "In most cases, including the [Plan] standards and guidelines, biodiversity reserves *permit and encourage* restoration activities that further the species and ecosystem goals of the reserved area," and the plan "indicates that restoration activities within reserves [are] needed for both moist and dry forests."⁹ Accordingly, the standards and guidelines provide direction for each forest type—in dry forests, for example, "Given the increased risk of fire ... due to lower moisture conditions and the rapid accumulation of fuels in the aftermath of insect outbreaks and drought, additional management activities are allowed in [LSRs]," such as "risk management activities" that may reduce the probability of major stand-replacing events.¹⁰ And while the plan states that treatments should "not generally" harm currently suitable owl habitat or other late-successional conditions, it also recognizes that management of older stands, as well as additional measures that go beyond the standards and guidelines, may be appropriate in areas where risk levels are particularly high.¹¹

The current framework likewise provides the appropriate language for managing reserves going forward, particularly in the face of climate change and increased wildfire. As noted above, the plan does not call for lack of management—to the contrary, the standards and guidelines "encourage the use of silvicultural practices" (i.e., vegetation management and prescribed burning) to not only accelerate the attainment of late-successional characteristics, but also "to reduce the risk to [LSRs] from severe impacts resulting from large-scale disturbances and unacceptable loss of habitat."¹² Indeed, LSRs were created not only to increase old forest features, but also "to maintain natural ecosystem processes."¹³ And again, the plan recognizes that this means different things in different ecoregions and, accordingly, provides appropriate flexibility for successful management of both moist and dry forests.

Rather than cast away a reserve framework that has, to this point, accomplished its goals of old forest attainment and ecosystem resilience, decisionmakers should enact the Plan as written by updating management assessments to reflect current and future conditions. It is imperative that the Forest Service retain dry forest LSRs and govern those LSRs using clear and objective standards and guidelines. Doing so would alleviate uncertainty by informing decisionmakers as to current and future conditions and would result in increased landscape resilience to disturbance regimes, particularly in light of climate change.

D. Address Varying Impacts from Fire Suppression

⁹ Spies et al., Synthesis of science to inform land management within the Northwest Forest Plan area (2018), available at <https://doi.org/10.2737/PNW-GTR-966> 154 (emphasis added).

¹⁰ NWFP Standards and Guidelines, C-12.

¹¹ NWFP Standards and Guidelines, C-13.

¹² NWFP Standards and Guidelines, B-1.

¹³ NWFP Standards and Guidelines, B-1.

The alternatives vary in the amount and degree of allowed unplanned ignition, therefore the alternatives inherently differ in the amount of fire suppression anticipated to control unplanned ignitions. The DEIS must examine the varying impacts from anticipated fire suppression activities. We urge the Forest Service to assess the impacts of wildland fire suppression, including air quality, water quality, future fire behavior, wildlife habitat and other impacts.¹⁴ Additionally, we recommend the Forest Service consider the impact of fire suppression, including smoke inhalation and fire retardant use, on wildland firefighters and other vulnerable communities.

E. Moist LSR Objectives

Every action alternative includes a major change to the underlying purpose and need of the Late-Successional Reserves: “maintain or restore habitat for other species that depend upon younger stands.” This conflicts with the original purpose of LSR: “to protect and enhance conditions of late-successional and old-growth forest ecosystems, which serve as habitat for late-successional and old-growth related species including the northern spotted owl.” These two goals are in fact fundamentally at odds with one another. The Forest Service states that its proposed amendment will “retain and augment” the original objectives for LSRs, but this is impossible. This proposed change, which again is part of every proposed action alternative, would permit the Forest Service to manage every acre of LSR to create “younger forest.”

This begs the unanswered question of what logging prescriptions the agency will employ to restore younger forest. The BLM has used this younger forest purpose and need to justify the widespread clearcutting or regeneration harvest of its Harvest Land Base or “matrix” land allocation under the 2016 RMP. If this is what the Forest Service contemplates can happen under its proposed amendment, it needs to fully analyze the permissible extent of its changes. The NWFP DEIS states only that this allowance for management for younger stands “would be guided by local vegetation and regional conditions.”¹⁵ This is incredibly vague and unhelpful and certainly not sufficient under NEPA.

Elsewhere the DEIS concludes that the management of the LSR would improve and maintain Late-Successional Old-Growth (LSOG) habitat and “contribute to the recovery of federally listed species such as northern spotted owl, marbled murrelet, and the coastal DPS of Pacific marten,”¹⁶ but this is not a valid assumption or conclusion if the Forest Service permits itself to convert LSR forests into younger forest through logging (i.e., removing all the trees and replanting). “Restoring younger forest” necessitates a logging prescription that will remove the existing stand and reset the stand’s age. Such logging prescriptions are designed to maximize volume and will obviously and severely undermine the recovery of the federally listed species named above.

¹⁴ See generally Kreider, M.R., Higuera, P.E., Parks, S.A., Rice, W.L., White, N. and Larson, A.J., 2024. Fire suppression makes wildfires more severe and accentuates impacts of climate change and fuel accumulation. *Nature communications*, 15(1), p.2412.

¹⁵ DEIS at 3-36.

¹⁶ DEIS at 3-77.

This fundamental contradiction in the Forest Service's proposed amendment is not fairly discussed or disclosed. This is an enormous exception in the objectives in the LSR that is irreconcilable even with the mere name of the land allocation, "*Late-Successional Reserves*." The Forest Service needed to analyze Action Alternatives that did not include this change in order to properly analyze its effect and needed to properly analyze the scope of this change in the DEIS, which vaguely glazes over the import of this change.

F. Dry LSR Objectives

Every action alternative adds volume targets to dry LSR to contribute to economic stability.¹⁷ Adding economic purposes to the LSR is unnecessary to achieve Wildfire Resistance and Resilience desired conditions on the landscape and alternatives should have been analyzed that considered new approaches to "reducing damages and enhancing benefits from wildland fire," without adding this commercial driver to the LSR. We are concerned that adding timber volume economic purposes to LSR eliminates NFMA's multi-use mandate and renders all of the other values and issues in the NWFP subservient to these volume goals. This is a violation of NFMA.

G. All Lands Approach

With the proposed amendment, the agency claims it is taking "an all-lands risk-based approach in planning and decision making that is responsive to the latest fire and social sciences, including indigenous knowledge, and is adaptable to rapidly changing conditions, including climate change [and will] coordinate wildfire management with relevant State agencies and adjacent Federal agencies and Tribes."¹⁸ However, this "all-lands approach" omits the most vital and culpable player: private industrial timber. The plantations that dominate private timber lands across the NWFP planning area are the elephant in the room when discussing wildfire resistance. These plantations are tinderboxes that unnaturally exacerbate wildfire severity and rate of spread and pose the greatest threat to our communities and community assets. An all-lands approach needs to include coordination with private timber owners. Alternatives should have been analyzed that include coordination with private timber.

Also relevant to the Forest Service's "all-lands approach," as well as its more general duty to cooperate with other agencies throughout this amendment process, is that the California Department of Fish and Wildlife, California Department of Forestry and Fire Protection, Washington Department of Fish and Wildlife, Oregon Department of Fish and Wildlife, Washington Department of Ecology, and Oregon Department of Ecology were not included as either Cooperating or Participating agencies. The California Water Quality Control Board also needs to be included as a Participating agency. The exclusion of these agencies makes it impossible for the Forest Service to adequately analyze the impacts the amendment would have on the region's numerous natural resources and undermine the ability of the Forest Service to successfully implement the amendment.

¹⁷ See DEIS at A2-18.

¹⁸ DEIS at A2-19.

H. Ecological Forestry

The Forest Service never provides any quantified guidance in the DEIS on the logging prescription described as “ecological forestry.” Again, this prescription is included “in all action alternatives, [and] establishes an objective to increase restoration treatments using ecological forestry methods for forest management while also conserving and protecting older trees and achieving desired conditions for LUAs.”¹⁹ Given that the Forest Service expanded the desired conditions of LSR to include young and old forest, this description of ecological forestry is meaningless. BLM logging prescriptions implementing “ecological forestry” methods can retain as little as 5% of existing forest. Absent any quantified definition of what “ecological forestry” includes, it is impossible for the Forest Service or the FWS or NMFS or the public to accurately understand what this amendment is contemplating. Quantification of these prescriptions is necessary to analyze effects, necessary to complete consultation, and necessary to inform the public. This is the principal new tool the agency is proposing to use. It needs to be defined and quantified.

Further, we know the agency quantified to an extent the amount of timber volume the proposed action alternatives would produce from Table 3-27, but no detail is provided on the prescriptions themselves or how the agency arrived at these figures. The alternatives the Forest Service are analyzing need to contemplate a range of prescriptions across the landscapes and compare the effects of these changes in this DEIS. BLM did so in its RMP FEIS; it is feasible and necessary to quantify and understand the proposed changes.

I. Connectivity

The original NWFP designed the LSR to provide a habitat connectivity function for a host of species: “[m]aintain and restore spatial and temporal connectivity within and between watersheds.”²⁰ The Forest Service has not analyzed its changes in LUA objectives and management on connectivity. The agency assumes in the DEIS that “[m]oist forest stands on Matrix LUAs under all alternatives also provide function as connectivity between LSRs and LSOG-dependent species as well as organisms associated with younger forests.”²¹ But this assumption is inappropriate given the proposed changes in ages of forests to be logged, the logging allowed in these forests, and allowing these areas to be managed as younger forests. There is simply no way for the agency to analyze and account for spatial and temporal connectivity absent providing the prescription detail requested above, and mapping out the application of these prescriptions across the landscape. The Forest Service claims it is “retaining” the connectivity purposes of the LSR. If this is the case, a connectivity analysis that accounts for “spatial and temporal connectivity” needs to occur. Such an analysis inherently cannot be a vague discussion of overall percentages, which is how it is

¹⁹ DEIS at 3-146.

²⁰ DEIS at B-3.

²¹ DEIS at 3-27.

addressed in the DEIS.²² Not only have there been massive changes to the underlying baseline data concerning the connectivity function of LSR, but the Forest Service is layering management changes on top of this shifting baseline. The FAC specifically requested that this factor be addressed.²³

J. Provide for Beaver Reintroduction and Recovery

We applaud the Forest Service's commitment to restoring beaver habitat and to work with Tribal Nations to foster the reintroduction of beavers where appropriate. Beavers are a keystone species capable of producing complex aquatic ecosystems vital to the restoration of the Pacific Northwest's salmon fisheries and aquatic ecosystems. Beavers help to recharge groundwater, moderate fire behavior and create fire refugia, improve water quality, and recharge and connect floodplains. The economic benefit of ecosystem services provided by beavers has been estimated in the billions. Across the Plan-area, however, beavers are either missing from their historic range or are vulnerable to being taken by trappers. We encourage the Forest Service to adopt clearer and more specific goals for the restoration of beavers across their historic range.

K. Mandating Acreage Targets

Every action alternative mandates acreage for treatments in all Dry Forests and Moist Matrix forests.²⁴ This is a novel change in approach to forest management from the NWFP. Mandating acreage targets removes agency discretion on what areas can and cannot/should not be logged and carries with it a host of environmental consequences in and of itself. Again, given this proposed change, it should be weighed against other alternatives that do not mandate these acreage targets across the landscape because compliance with these targets will lead to conflicts with other NWFP standards being retained. Thus, the only way for the decision-maker to appropriately assess the effects of these proposed changes across differing alternatives is to have action alternatives that include these targets, and those that do not. It is not clear from the DEIS why acreage targets are included in every action alternative, and we believe this approach is very problematic and will lead to adverse environmental effects not considered in the DEIS.

The BLM similarly adopted this approach for its 2.6 million acres in the region and has been having difficulty meeting the targets it set for a number of reasons. Pursuit of these targets has forced the BLM to develop enormous projects developed under Environmental Assessments (EA) to keep with timing requirements. The scope of these EAs has precluded site-specific review of compliance with plan standards that necessitate site-specific review. This has been the case for soils, Bureau Sensitive Species, unique habitats, road construction, and invasive species.²⁵ The timing and

²² See DEIS at 3-23.

²³ DEIS at 1-8.

²⁴ See DEIS at A2-11.

²⁵ See *Cascadia Wildlands v. Adcock*, No. 6:22-cv-01344-MK, 2024 U.S. Dist. LEXIS 206308 (D. Or. Apr. 10, 2024) (Kasubhai, Mag. J.).

aggressive acreage requirements under the RMP has led to legal gridlock because the BLM is riding roughshod over its NEPA requirements. This approach has simply proven unworkable.

The NWFP amendments propose to adopt this failed approach on a much more massive scale when compared to BLM. The amendments also plan to retain a massive suite of plan components that will entirely hinge on site-specific analysis. This is simply not feasible. For example, when the Forest Service proposes one of these large projects, it is going to necessitate enormous amounts of new road construction or reconstruction, which can financially render many logging units non-feasible. Given the set acreage targets, any areas rendered financially non-feasible will have to be replaced acre for acre. This will bring the pressure to log a certain amount of acres into direct conflict with any of number of reasons the Forest Service might defer harvest in specific locations or has deferred harvest over the years, like slope stability concerns, imperiled species effects, recreation effects, viewshed impacts, invasive weed infestations and spread risk, etc. The proposed amendments insert an inherent inconsistency into the NWFP which will break it. This is wildly irresponsible, and the Forest Service should be aware of this problem because of the BLM's recent experience.

Further, BLM has reduced its staff in local years and it's unclear to what extent the federal efforts to downsize the government have impacted local capacity and staffing, but even before this process, local BLM districts admitted to having significant difficulty complying with survey requirements for Bureau Sensitive Species, monitoring requirements, and meeting basic planning needs. The Forest Service needs to consider the staffing needs and capacity issues associated with mandating these enormous acreage targets. Just identifying Project Design Features or other types of mitigation that relies on site-specific analysis and review is going to necessitate an enormous amount of staff time on the ground. We know that spotted owl monitoring has ceased for 2025 because of the hiring freeze.²⁶ We cannot imagine a situation in which the Forest Service is actually in a place to roll out these amendments effectively.

L. Road Construction

One of the relevant environmental and economic issues unexplored in the DEIS is the road construction, maintenance, and usage that will be required to implement the proposed changes. The Forest Service acknowledges that the proposed amendments will require road construction and that corresponding environmental effects will result, but dismisses them from consideration:

It is possible that the forest road networks could be affected by project/treatment-specific actions authorized by the proposed amendment. Potential effects to this resource may include the creation of new roads for

²⁶ See, e.g., Oregon Public Broadcasting, *Federal hiring freeze, firings hindering Oregon endangered owl monitoring, protection*, <https://www.opb.org/article/2025/02/26/federal-hiring-freeze-firings-hindering-oregon-endangered-owl-monitoring-protection/>. Accessed March 10, 2025.

logging, impacts to existing roads due to management activities, or construction or alteration of forest roads due to forest thinning or prescribed burns. However, the scope, extent, and location of these effects cannot be determined at this time, and a project/treatment specific evaluation would be required for impacts to individual roads or road networks.²⁷

The claim that the scope, extent, and location of these effects cannot be determined at this time is simply untrue. The Forest Service generated the acres available and, in its view, required for harvest using satellite mapping of forest stand ages. The Forest Service mapping also includes existing roads and roads in need of renovation. While implementation of site-specific timber sales may require construction of a limited amount of spur roads to facilitate actual harvest, the Forest Service can readily determine how much road construction/reconstruction will generally be required to facilitate this required harvest. Additionally, the Forest Service has stream and river mapping layers, and thus would also be able to determine how many new waterway crossings would be required across specific types of fish-bearing streams. Because this satellite data exists, and the Forest Service is relying upon this data to justify the amendments, it needs to apply and analyze the data for roads.²⁸

These roads will have aquatic impacts as discussed below, but the proposed increase in commercial logging and entry into areas that have previously been prohibited from harvest, will necessitate extensive amounts of road construction and reconstruction which has immediate economic costs and longer-term maintenance costs that need to be incorporated into the overall decision to proceed with any mandated increase in timber logging volume. If it costs more to get into areas, especially moist forest remote areas with little or no fire concerns, than the Forest Service can expect to generate volume wise, the agency should remove this acreage from its mandated totals.

Again, because the Forest Service is mandating acreage targets, the agency will not be allowed to defer logging certain areas because of the feasibility of road construction/reconstruction. Thus, subsequent site-specific evaluation will not really matter because the proposed standards will require the logging regardless. This is a fundamental problem with this proposal and requires more thorough analysis up front, specifically a spatial and temporal analysis of the road construction needed to implement its alternatives.

BLM has run into similar problems, desperately trying to find replacement volume for areas it modeled as eligible and required for harvest, but the agency is unable to economically or for other reasons access these areas. If actual analysis of these issues occurred up front, the agency could readily assess the areas feasible for access and harvest and then adjust the expectations for logging acreage accordingly. Prior to the NWFP, many areas were spitefully logged and roaded by the Forest Service to preclude roadless designations or compromise critical habitat designations, and returning to

²⁷ DEIS at 1-12.

²⁸ See, e.g., *Kern v. Bureau of Land Mgmt.*, 284 F.3d 1062, 1072 (9th Cir. 2002) (“If it is reasonably possible to analyze the environmental consequences” of a particular type of action at a particular stage, “the agency is required to perform that analysis.”).

these remote areas is likely unnecessary or not feasible. Weighing of road construction costs (both environmental and economic) is required to implement the Forest Service's logging targets and is necessary to make an informed decision under the DEIS.

Additionally, there are a host of restrictions in the NWFP on road construction, standards to minimize new construction, and prohibitions on net new construction in certain areas. The amendments propose to retain all these applicable requirements. This includes but is not limited to: B-33 (roads in LSR required to "avoid late-successional habitat"); B-46 (numerous mandatory standards pertaining to road construction in riparian reserves; road construction in riparian reserves to be minimized); B-46 (roads required to meet ACS objectives at the watershed scale); B-47 ("Provide and maintain fish passage at all road crossings of existing and potential fish-bearing streams."); B-47 ("Develop and implement a Road Management Plan or a Transportation Management Plan that will meet the Aquatic Conservation Strategy objectives"); B-38 ("Reduce existing system and nonsystem road mileage."); B-14 ("If funding is insufficient to implement reductions, there will be no net increase in the amount of roads in Key Watersheds."). The Forest Service's proposed mandated harvest needs to be reconciled with these other applicable provisions, otherwise the amendments will create irreconcilable conflicts in the plan. Again, the Forest Service has the data to conduct this analysis, it just is refusing to do so, which violates controlling Ninth Circuit precedent for NEPA compliance.

M. Aquatic, Hydrologic, and Soils Impacts

Concerning aquatic and hydrologic impacts, the Forest Service states that the DEIS will retain the Aquatic Conservation Strategy and riparian protections in the NWFP, and concedes there will be negative effects from the action alternatives: "Increased short-term impacts to riparian and aquatic systems, but impacts will be substantially alleviated by RR objectives and ACS components (all retained and applicable)."²⁹ However, as elaborated upon above, the Forest Service has not analyzed how it will comply with these standards in light of simultaneously mandating harvest of areas that will necessitate extensive impacts to riparian areas, especially road construction and reconstruction. Analysis of these impacts on ACS objectives, including water quality, sedimentation, flows, and hydrology needs to occur now to ensure these standards are reconcilable.³⁰ The agency's decision to "dismiss[] [water resource impacts] from further analysis" and to rely on site-specific analyses is ecologically unacceptable and legally indefensible. These aquatic effects also necessitate consultation with NMFS, FWS, and state water quality control agencies.³¹

²⁹ DEIS at 3-67.

³⁰ See DEIS at B-46, B-52, B-53-54; B-55.

³¹ It appears the only place the Forest Service addresses water quality impacts is in its discussion of prescribed burning, which the agency states "could lead to increased fines and nutrients within the water column, alter the riparian canopy in a manner that could lead to increased solar energy and higher water temperatures, or affect water quantity through the removal of riparian vegetation." DEIS at 3-72. This appears to be one of the very few, if not sole, places in the entire DEIS that discusses adverse impacts to water quality, water temperature, or

Dismissing the alternatives' effects on water quality due to the continued existence of the ACS also ignores the fact that the ACS itself permits logging in riparian reserves under certain circumstances, thus these reserves are not inherently protected at baseline. Indeed, logging projects that are purportedly for the purpose of "fuels reduction" are commonly approved in riparian reserves. Further, the ACS does not identify any set "no cut" buffers within the riparian reserves. Buffer widths vary greatly from project to project and are often inconsistent among similar locations with similar resource concerns. Narrow "no cut" buffers have in some projects resulted in unintended tree blowdown, delivery of sediment to stream channels due to erosion from upslope and upstream logged areas and roads, great reductions in habitat for riparian dependent species, detrimental increases in water temperatures, and detrimental impacts to natural hydrologic cycles via upslope and upstream timber harvest.

The DEIS also contains no discussion of the alternatives' impacts on soils in the NWFP area. Vegetation management projects that include harvest, yarding, and road building will clearly have the potential to affect soils. Salvage logging—which is permitted to different degrees across all alternatives—also has significant, deleterious impacts on soils, yet these impacts are not discussed or compared across alternatives. High-severity fire can also affect soils, and the alternatives that will increase the risk of high-severity wildfire by logging large, fire-resilient trees must be analyzed with regard to these impacts.

In addition, extensive timber harvest, yarding, and new roads will result in decreases in canopy cover, snowpack retention, evapotranspiration, and soil cohesion. In addition, soil temperatures and erosion will increase with increased logging, as will the risk of slope failures in some locations. None of these issues are discussed in the DEIS, as there is no meaningful discussion whatsoever of hydrology or soils. Extensive timber harvesting will also result in extended periods of low summer baseflows in some project areas, negatively affecting aquatic species. Similarly, low flows will increase the magnitude, frequency, and durations of storm flows in some locations which can degrade stream habitat and adversely affect aquatic and riparian dependent species. These issues must be discussed in the EIS or its appendices

Further, the Federal Watershed Analyses underlying the NWFP are now decades-old and should be updated as part of this amendment process. If on-the-ground conditions have so significantly changed since 1994, and are expected to continue to change such that this amendment to the NWFP is needed to reflect and adapt to those changes, then clearly there is a critical need to update these analyses to understand baseline conditions. Forests within the NWFP area have updated few, if any, Watershed Analyses, nor does it appear they plan to update these analyses as required by the

water quantity. The substantial increase in *logging* across the NWFP area will have significant adverse impacts to watersheds, yet this is not discussed.

NWFP.³² The DEIS states that Watershed Analyses will be updated, but there is nothing to support that claim, especially given that current staffing and funding is greatly reduced from what it was in the 1990s and will further drop dramatically in 2025 and beyond. The Watershed Analyses simply must be revised before large-scale vegetation management decisions are permitted to occur.

N. Invasives

We know the Forest Service has mapping of acres overrun by invasive species. Invasive species are significant problems for our forests, as they can prevent the development of late-successional characteristics in reserves and are usually highly flammable. Efforts to log native, never-before-logged areas to accelerate the development of late-successional characteristics or to abate fire hazards run the risk of introducing invasive species, which completely compromise both of these objectives. On BLM-managed public lands, agency staff have seen acres infected with invasive Himalayan blackberry increase 10 times following harvest. The infestation was so extreme that agency staff had to chainsaw 4 by 4-foot holes in the blackberry to replant trees following harvest.

Problems with invasives can be mitigated or avoided if the agency avoids harvest in areas infected with invasives or ensures that the quarries being used for road construction are not overrun. The BLM and Forest Service both have mapping of areas that have been overrun by invasives and could predict where harvest would unnecessarily spread these weeds. Again, harvest along infected routes could be avoided by subsequent site-specific analysis and timber sale planning, but that would necessitate the Forest Service having the discretion to forgo harvest in areas that it is aware will lead to a problem. The mandated acreage harvest levels will preclude this approach. As such, this invasive weed analysis needs to occur up front to inform the acreage figures. We would recommend the agency adopt standards that allow it to defer harvest if the logging would spread invasive weeds and conduct such analysis at the site-specific level for individual projects.

O. Climate and Carbon Storage

The DEIS fails to include a viable carbon accounting of the effects of increased logging on forest carbon. A proper life cycle analysis, which includes all carbon emissions related to increased logging and production of forest products, is required. Without such analysis, the document fails to provide a meaningful opportunity for decisionmakers to understand the consequences of the plan. The proposed alternative, by increasing logging, would likely result in net emissions in excess of those from disturbances, such as fire. This analysis is required to make an informed decision.

P. Stand and Tree Age

³² U.S. Forest Service, Watershed Analyses Documents.
https://www.fs.usda.gov/detail/siuslaw/landmanagement/planning/?cid=fsbdev7_007247#:~:text=What%20are%20Watershed%20Analyses%3F,Aquatic%20Conservation%20Strategy%20%2D%20ACS%20.

The Forest Service is proposing drastic changes to logging of older stands and trees in both LSR and matrix land use allocations, redefining what is considered mature and old-growth forest and mandating additional harvest operations within those stands, yet has failed to provide sufficient justification for doing so.

The amendment increases the limit for commercial logging in moist LSR stands from 80 years old to 120 years old.³³ Logging and road building in stands older than 120 years could occur to “reduce fire risk to communities.”³⁴ In moist matrix, the proposed amendment adds a requirement to log “young stands (established after 1905).”³⁵ Individual trees established prior to 1905 would be protected, barring exceptions including operational purposes. In dry forests, logging is mandated in all stands (LSR and matrix), with protections for individual trees older than 150 years old, but with exceptions including wildfire risk and infrastructure.³⁶

How often are large, structurally complex trees felled for operational purposes? How often are new logging roads and spurs constructed through patches of old-growth, or will they be if there is an ambitious timber target attached? We are concerned that these exceptions will swallow the rule in practice and find the agency’s analysis insufficient. We are also highly concerned about the Forest Service’s logging allowances related to fire risk. Logging and road building creates conditions that increase fire risk for decades following implementation. Further, recent investigative journalism from Columbia Insight explained how the Forest Service has used the threat of wildfire and authorities that streamline environmental review to boost logging to meet timber targets set by DC.³⁷ It is entirely unacceptable for the Forest Service to exploit real concerns about community wildfire risk to meet timber targets, including the self-imposed targets proposed in the NWFP amendment.

In moist matrix, old-growth protections are created for “timber harvest for stands established prior to 1825 with limited exceptions.”³⁸ Exceptions include “tribal co-stewardship and cultural use or to reduce wildfire risk to communities and infrastructure.”³⁹ No mapping is provided of stands established prior to 1825, nor distinction made for stand management history. The Forest Service has not provided any justification for choosing the proposed establishment dates beyond the agency’s stated need “to bolster timber production”⁴⁰ and the fact that time has passed since the original NWFP went into effect.⁴¹

³³ DEIS at 2-14.

³⁴ Id.

³⁵ DEIS at 2-17.

³⁶ DEIS at 2-18.

³⁷ Nathan Gilles, “EXCLUSIVE: The Forest Service is using the threat of wildfires to meet timber targets,” Columbia Insight, February 6, 2025, <https://columbiainsight.org/exclusive-the-forest-service-is-using-the-threat-of-wildfires-to-meet-timber-targets/>; Nathan Gilles, “A fuel break project near Mount Hood could remove old-growth, critics say,” Columbia Insight, February 13, 2025, <https://columbiainsight.org/a-mount-hood-forest-fuel-break-project-could-remove-old-growth-trees/>.

³⁸ Id.

³⁹ Id.

⁴⁰ Id.

⁴¹ DEIS at 2-16 (“Changes authorization for forest management activities in stands less than 80 years old to 120 years old to account for 30 years of time passage since the 1994 NWFP decision.”).

Our groups are concerned that the agency's proposed method to 'protect' older forests in the matrix land use allocation is based on stand origin date as opposed to stand age. While older stands would be protected in the matrix, these protections are only temporary until they burn and reestablish. This will effectively result in a rolling brown out, eventually eliminating all of the protections of older matrix stands. The impacts of this approach must be fully analyzed and disclosed. These older forest areas should be permanently protected from logging and road building, not just for the time being.

Q. Economics

The Forest Service did not meaningfully analyze the socioeconomic impacts on recreation, fishing, water quality, and climate change. Recreation is one of the primary economic drivers in federal forests and an important component of the 2012 Planning Rule.⁴² Yet, the Forest Service failed to analyze the impacts that increased logging will have on the recreation industry.⁴³ Forest Service lands are also critical for healthy salmon populations, intact watersheds, and climate resilience. The Forest Service's DEIS' analysis, however, focused primarily on economic impacts from increased timber production and failed to conduct a similar analysis on the economic impacts to fishing, water quality, and climate change resilience for each of the action alternatives. The Forest Service did not acknowledge or analyze whether and to what extent increased timber production could have adverse impacts on these other economic drivers, potentially creating more economic harm than benefit for communities in the Pacific Northwest. The Forest Service must meaningfully analyze the impacts the proposed action alternatives will have on these important facets of the region's economy to comply with NEPA and the National Forest Management Act's 2012 Planning Rule.⁴⁴

Additionally, the Forest Service ignored the increased automation trend in the timber industry that has been going on for decades. Instead, the Forest Service assumed that increased logging will lead to an increase in jobs.⁴⁵ The Forest Service made this blanket assumption despite evidence from community case studies where community members attributed the decline in timber related jobs to increased mill and logging automation.⁴⁶ The Forest Service failed to address the studies and the impact automation will have on its job estimates. Stated another way, the Forest Service cannot rationally rely on historic timber job numbers for future job estimates when the industry has automated many of the jobs historically created by timber extraction. The Forest Service must account for the evolution in industry and explain how these changes affect the economic analysis under each action alternative.

Nor has the Forest Service shown, through the best available science and evidence, that increased timber production will satisfy the stated need of providing a predictable supply of timber and non-timber products and other economic opportunities to support

⁴² See DEIS at 3-135, Table 3-24; 36 C.F.R. § 219.1(c).

⁴³ DEIS at 3-152.

⁴⁴ 36 C.F.R. § 219.8(b).

⁴⁵ DEIS at 3-148, Table 3-27.

⁴⁶ DEIS at 3-138.

the long-term sustainability of communities located proximate to national forest lands and economically connected to forest resources.⁴⁷ As noted, the Forest Service's economic analysis focuses almost exclusively on timber production and does not address other economic opportunities or analyze what will provide "long-term sustainability" to area communities. This omission is particularly notable in light of the Forest Service's multiple use mandate.

R. Federal Agency Employees

Section 3.8.1.6 must be revised to reflect the recent and likely near-term additional cuts in the Forest Service's permanent, term, and seasonal workforce. This information is critical not only to any discussion of socioeconomic impacts, but to the overall ability of the agency to implement any of the alternatives. Much of what the DEIS states the Forest Service will do (e.g., monitor, plan and design projects appropriately, carry out meaningful tribal engagement, implement the NWFP while complying with other applicable laws, revise watershed analyses, etc.) will not be able to be completed with the skeletal workforce that will remain. The Forest Service was already understaffed before the recent firings, and the agency's further reduced capacity—and its impacts on the implementation of the NWFP at baseline and any amendment to it—must be described in the DEIS.

S. Baseline

Our organizations are concerned that the Forest Service's analysis is based, in part, on flawed baseline data. NEPA requires that the agency provide the data on which it bases its environmental analysis.⁴⁸

The baseline for much of the amendment comes from the 2018 Synthesis of Science to Inform Land Management Within the Northwest Forest Plan Area ("Science Synthesis") and 2020 Bioregional Assessment of Northwest Forests ("Bioregional Assessment"). Both documents fail to provide current data on important issues and thus fail to provide adequate baseline data.

For instance, in discussing fire ecology, the DEIS presents fire deficit data from the Bioregional Assessment that shows drastic fire deficits in certain fire-prone forests, like the Shasta-Trinity National Forest, which the DEIS notes has had a fire deficit of 136,835 acres in the previous decade. Since the Bioregional Assessment, there have been significant unplanned wildfires, such the 2020 August Complex, which has burned 140,000 acres in the Shasta-Trinity alone. Indeed, the DEIS references large, high-severity wildfires within the NWFP in recent years in multiple sections as a main reason for amending the plan.⁴⁹ Our organizations are concerned that decisionmakers will rely on faulty baseline data which fails to take into account fire seasons from 2018 to present, which would exclude significant acreage already burned, and presents a far more stark "need" for potential amendments.

⁴⁷ DEIS-1-5.

⁴⁸ See *Northern Plains Resource v. Surface Transp. Bd.*, 668 F. 3d 1067, 1083 (9th Cir. 2011); *The Lands Council v. McNair*, 537 F. 3d 981, 994 (9th Cir. 2008).

⁴⁹ DEIS at ES-1, 1-3, 3-42.

T. Legal Compliance

All proposed amendments to the NWFP propose to remove this requirement:

All activities must comply with existing laws such as Endangered Species Act, National Environmental Policy Act, National Forest Management Act, Forest Land Policy and Management Act, Federal Advisory Committee Act, National Historic Preservation Act, Clean Water Act, Clean Air Act, and treaty rights. Management and regulatory agencies should work together to determine ways to expedite management while ensuring compliance, to improve cooperation through planning and on-the-ground consultation, and to avoid confrontation.

Why are these applicable legal requirements being proposed for removal in every action alternative? This is never addressed or explained in the DEIS. Regardless of what the Plan says, these laws govern the Forest Service's actions.

U. Wildlife

The Forest Service does not analyze wildlife effects in the DEIS. It simply provides a chart listing all 776 Sensitive Species within the NWFP area and indicates whether there may be effects or not without providing any support or justification for the effects determination. This is unhelpful to inform any ultimate decision. Management of sensitive species "must not result in a loss of species viability or create significant trends toward federal listing" and in many cases this will necessitate deferring or dropping harvest.⁵⁰ As example, management of red tree voles requires buffering known nest sites with a 10-acre no harvest buffer. This includes a prohibition on thinning because red tree voles rely upon canopy connectivity to disperse. The Forest Service argues that "the proposed amendment would lead to management actions on some forests that would generally maintain, preserve, and restore old-growth forests," but admits that this will certainly not always be the case.⁵¹ Its analysis then just conclusively lists the species it determines may be negatively affected without any substantive justification or analysis. This is insufficient under NEPA, and we are concerned that the amendment's mandated harvest levels do not allow for flexibility to defer or drop harvest necessary to protect habitat for these numerous sensitive species which will be affected. The Forest Service either needs to build in exceptions to its required harvest to mitigate or eliminate negative effects to sensitive species. The agency must reconcile this inconsistency. Either way, the full range of impacts to wildlife must be analyzed.

Additionally, the Forest Service table excludes a number of species that should have been included, the red tree vole being one prime example. This is arbitrary. The table also provides no determination or analysis for ESA listed species. This is plainly

⁵⁰ DEIS at C-7 (citing Forest Service Manual 2600 Wildlife, Fish, and Sensitive Plant Habitat Management, Chapter 2670 – Threatened, Endangered, and Sensitive Plants and Animals (U.S. Forest Service 2005)).

⁵¹ DEIS at C-9.

insufficient. Our comments also highlight some individual species where the amendments raise significant concerns about negative effects.

1. Northern Spotted Owl

The historical range of the Northern Spotted Owl (NSO) extended from southwest British Columbia down through the Cascade Mountains, coastal ranges, and intervening forested lands in Washington, Oregon, and California, as far south as Marin County, California. The current range is smaller, as the NSO is functionally extirpated or uncommon in certain areas, including southwestern Washington and British Columbia due to logging activities eliminating, reducing, and fragmenting suitable habitat. The major reduction in historical range is largely the result of timber harvest activities that eliminated, reduced, or fragmented NSO habitat.⁵²

In June of 1990, USFWS listed the NSO as “threatened” under the Endangered Species Act (ESA) due to concerns over widespread habitat loss, habitat modification, and lack of protective regulatory mechanisms.⁵³ Critical habitat for the NSO was first designated in 1992 and was last revised in 2021.⁵⁴

Because of ongoing and increasing threats including habitat loss from logging and wildfires and the invasion of the barred owl, in 2020 USFWS determined that “uplisting” the NSO from threatened to “endangered” was warranted, although precluded by higher priority listing decisions.⁵⁵

USFWS determined that the current rate of decline in NSO populations raised concerns about the long-term persistence of the NSO throughout the Pacific Northwest: the stressors acting on the NSO and its habitat, particularly range wide competition from the nonnative barred owl and high-severity wildfire were of such imminent, intensity, and magnitude to indicate that the NSO was in danger of extinction throughout all of its range.⁵⁶

Since the mid-1990s, range wide data from 11 long-term demographic study areas (DSAs) have been used to evaluate trends in NSO populations. In the most recent meta-analysis, 26 years of survey and capture-recapture data from the demographic

⁵² Thomas J W, Raphael M G, Anthony R G, Forsman E D, Gunderson A G, Holthausen R S, Marcot B G, Reeves G H, Sedell J R, Sous D M, 1993, “Viability assessments and management considerations for species associated with late-successional and old-growth forests of the Pacific Northwest,” US Department of Agriculture Forest Service, Portland, OR; USFWS. 2011. Revised Recovery Plan for the Northern Spotted Owl, *Strix occidentalis caurina*. U.S. Fish and Wildlife Service, Portland, Oregon. 277 pp. Available online: <https://www.fws.gov/oregonfwo/species/Data/NorthernSpottedOwl/Recovery/Library/Documents/RevisedNSORecPlan2011.pdf>.

⁵³ Determination of Threatened Status for the Northern Spotted Owl, 55 Fed. Reg. 26,114 (June 26, 1990) (codified at 50 C.F.R. § 17.11(h)).

⁵⁴ Endangered and Threatened Wildlife and Plants; Revised Designation of Critical Habitat for the Northern Spotted Owl, 86 Fed. Reg. 62,606 (December 10, 2021) (codified at 50 C.F.R. § 17.05).

⁵⁵ USFWS. Endangered and Threatened Wildlife and Plants; 12-Month Finding for the Northern Spotted Owl, 85 Fed. Reg. 81,144 (Dec. 15, 2020).

⁵⁶ *Id.* at 81,146.

study areas (including data through 2018) was used to analyze demographic traits, rates of population change, and occupancy parameters for NSO territories. The most recent estimated annual rate of decline of -5.3% indicates that the NSO's extinction rate has significantly increased since the 1990 listing.⁵⁷

Populations in the DSAs have declined from 32% to over 80% since the mid-1990s. These declines correspond to reduced apparent survival, declining recruitment, increased territorial extinction, decreased territorial colonization, reduced fecundity, and reduced occupancy. Declines are most extreme in areas that have experienced long-term barred owl invasion, such that populations are weakest and have experienced the most decline at the northern end of NSO's range (the species is extinct in British Columbia and has experienced an 80% population decline in Washington) and the least decline at the southern edge of the species' range, which has experienced the most recent barred owl invasion.⁵⁸ When considering long-term conservation strategy for the species, this pattern of decline is important, as the populations at the southern edge of the species' range are likely to serve as future source populations for recovery.⁵⁹

Several recent scientific and peer-reviewed papers have warned that if these trends continue, the NSO will become extirpated throughout large portions of its range in the next decade.⁶⁰ In fact, the species may already be in an "extinction vortex," in which a species' decline to only a few individuals can lead to demographic stochasticity, inbreeding, and disrupted behaviors, resulting in a rapid progression to extinction in just a few years.⁶¹

⁵⁷ 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, and H. Wise. 2021. Range-wide declines of northern spotted owl populations in the Pacific Northwest: a meta-analysis. *Biological Conservation* 259:109168;

Dugger, K. et al. 2016. The effects of habitat, climate, and Barred Owls on long-term demography of Northern Spotted Owls. *The Condor*. 118:57-116.

⁵⁸ Franklin et al. 2021.

⁵⁹ Schumaker, N.H., Brookes, A., Dunk, J.R., Woodbridge, B., Heinrichs, J.A., Lawler, J.J., Carroll, C. and LaPlante, D., 2014. Mapping sources, sinks, and connectivity using a simulation model of northern spotted owls. *Landscape Ecology*, 29, pp.579-592;

Dunk, J.R., Woodbridge, B., Schumaker, N., Glenn, E.M., White, B., LaPlante, D.W., Anthony, R.G., Davis, R.J., Halupka, K., Henson, P. and Marcot, B.G., 2019. Conservation planning for species recovery under the Endangered Species Act: A case study with the Northern Spotted Owl. *PloS one*, 14(1), p.e0210643.

⁶⁰ Franklin et al. 2021; Dugger et al. 2016.

⁶¹ Rockweit et al. 2022. Range-wide sources of variation in reproductive rates of northern spotted owls. *Ecological Applications*, 2023: 33:e2726;

Franklin et al. 2021;

Yackulic, C.B., L.L. Bailey, K.M. Dugger, R.J. Davis, A.B. Franklin, E.D. Forsman, S.H. Ackers, L.S. Andrews, L.L. Diller, S.A. Gremel, K.A. Hamm, D.R. Herter, J.M. Higley, R.B. Horn, C. McCafferty, J.A. Reid, J.T. Rockweit, and S.G. Sovern. 2019. The past and future roles of competition and habitat in the range-wide occupancy dynamics of northern spotted owls. *Ecological Applications* 29:e01861.

The Service has determined that the only way to arrest the precipitous decline of the NSO and to have a high probability of preventing extinction is to both manage the barred owl threat and conserve adequate amounts of high-quality habitat distributed across the range in a pattern that provides acceptable levels of connectivity as well as protection from stochastic events.⁶² In support of the 2021 NSO critical habitat rule, the Service prepared and issued a Species Status Report. The principal finding was that the current rate of decline raises concerns about the long-term persistence of the NSO throughout the Pacific Northwest.⁶³

In a recent Biological Opinion for the South Fork Sacramento Project on the Shasta-Trinity National Forest which authorized “take” of NSOs, USFWS estimated that there are 3000 or fewer individual NSOs remaining across the species’ entire range.⁶⁴ The Service acknowledged that this may be an overestimation. Reportedly, USFWS discontinued regular monitoring of NSOs in the DSAs, removing the primary source of data for demographic monitoring of NSOs across the range.

What the NWFP Amendment Says About Northern Spotted Owls

The Forest Service’s preferred alternative proposes to open up hundreds of thousands of acres of NSO habitat to increased logging, and more specifically, to allow logging of previously protected old trees that serve as critically important habitat for NSOs.

There is no analysis of effects to NSOs in the DEIS itself. There are fairly robust (although now outdated) discussions about NSOs in the background documents for the revision, including the Synthesis of Science (2018) and the Bioregional Assessment (2020).

The Synthesis of Science (hereinafter, “SS”) highlighted the precarious state of NSO populations across the range, including the following key facts:

- Steady declines in NSO populations have been identified in every study that has assessed rangewide populations since standardized monitoring efforts began in 1985.⁶⁵
- Suitable nesting and roosting habitat for spotted owls has declined and continues to decline.⁶⁶

⁶² Endangered and Threatened Wildlife and Plants; Revised Designation of Critical Habitat for the Northern Spotted Owl, 86 Fed. Reg. 62,606.

⁶³ USFWS 2020.

⁶⁴ USFWS. 2023. Biological Opinion and Conclusion of Formal and Informal Consultation for the South Fork Sacramento Safety and Forest Restoration Project, Shasta-Trinity National Forest, California. Yreka, California.

⁶⁵ Spies et al., Synthesis of science to inform land management within the Northwest Forest Plan area (2018), available at <https://doi.org/10.2737/PNW-GTR-966> (hereinafter, “SS”) at 246.

⁶⁶ SS at 279.

- Without additional intervention, the long-term persistence of NSOs in the NWFP area is questionable.⁶⁷
- As barred owls continue to increase in numbers, the most effective conservation of NSOs will include protections for old forest and ameliorating the negative effects of barred owls.⁶⁸
- Conserving sites that are currently occupied by NSOs as well as sites that are known to have been historically occupied is important.⁶⁹
- Suitable habitat is described as Forest stands older than 125 years of age, except in the California redwoods, where younger stands are used. Average tree diameters are usually above 20 inches (50 cm) d.b.h., with the presence of at least a few large trees exceeding 30 inches (75 cm) d.b.h. Canopy cover is usually greater than 60 percent, and the stand has multiple canopy layers. SS at 252.
- Timber harvest activities, including thinning of dense plantations, reduce the abundance of northern flying squirrels and red tree voles for several decades, contributing to a reduction in use by spotted owls (Carey 2000, Dunk and Hawley 2009, Gomez and Anthony 1998, Manning et al. 2012, Price et al. 2015, Waters and Zabel 1995, Wilson and Forsman 2013).⁷⁰
- Recent research on disturbance effects on spotted owls indicates that disturbances such as mixed-severity fires that generate heterogeneity at landscape and stand scales are not necessarily adverse, provided that adequate nesting and roosting structural conditions remain after the disturbance (Clark et al. 2013, Comfort et al. 2016).⁷¹
- An important difference between timber harvest and wildfire is the removal of trees and ground disturbance in a timber harvest. For most wildfires, there is limited physical soil disturbance (although fire can have substantial impacts on soil chemistry and organic matter composition), and patches of live trees, snags, and logs remain in situ, which contributes to enhanced biodiversity, future quality of complex forest, and forest succession (Swanson et al. 2011).⁷²
- Clark et al. (2013) found that local spotted owl site extinction probability was higher for sites with more combined area of past timber harvest, high-severity fire, and salvage logging. They also found evidence that

⁶⁷ SS at 262, 279.

⁶⁸ SS at 59, 280.

⁶⁹ SS at 59.

⁷⁰ SS at 264.

⁷¹ SS at 264.

⁷² SS at 266-267.

colonization and occupancy rates were higher for sites with older forest burned at low severity (Clark et al. 2013).⁷³

- Coupling wildfire and salvage logging results in a high probability that a site becomes unoccupied after the first year postfire, especially if the core area burns at high severity and is subsequently logged (Bond 2016, Ganey et al. 2011, Lee et al. 2013).⁷⁴
- Landscape managers implementing forest restoration treatments in drier, mixed- and low-severity fire regime forests face substantial challenges in balancing the tradeoffs between known short-term forest cover impacts on spotted owls from restoration and fuel reduction treatments versus potential benefits of reducing losses of forests with larger trees from high-severity, large-scale wildfire (Hessburg et al. 2015, 2016; Lehmkuhl et al. 2015; Stine et al. 2014).⁷⁵
- Climate change will affect spotted owl populations through changes in weather, forest cover, disturbance processes, prey availability, and other ecological interactions. Population growth of spotted owls appears to be positively associated with wetter than normal conditions during the growing season (May–October), which likely increases prey populations and thus availability (Glenn et al. 2010). Population growth and reproduction were also negatively associated with cold, wet winters (pre-nesting) and the number of hot summer days (July–August) (Diller et al. 2012, Glenn et al. 2011b). Annual survival was more closely related to regional climate conditions (Southern Oscillation Index [SOI] and Pacific Decadal Oscillation [PDO]), whereas recruitment was often associated with local weather. Projected future climate conditions have the potential to negatively affect annual survival, recruitment, and, consequently, population growth rates for spotted owls (Glenn et al. 2010). Climatic factors affecting vegetation and prey abundance likely have a greater effect on reproduction and population growth than direct effects of weather on nestlings or adult spotted owls (Glenn et al. 2011a, 2011b).⁷⁶
- Increased rates of hybridization with barred owls may further compromise the genetic integrity of the spotted owl population (Funk et al. 2010, Gutiérrez et al. 2007). Genetic studies have reinforced other studies that showed spotted owl population declines. Specifically, genetic evidence indicates a loss of genetic variation and increased potential for inbreeding depression in small populations. This suggests a vulnerability of spotted owls to extinction (Funk et al. 2010). Hybridization with barred owls is another potential threat to spotted owl persistence, especially as the

⁷³ SS at 268.

⁷⁴ SS at 268.

⁷⁵ SS at 269.

⁷⁶ SS at 270.

spotted owl becomes increasingly rare and the invading species becomes more abundant (Gutiérrez et al. 2007, Haig et al. 2004).⁷⁷

- The authors noted uncertainty around populations and noted that they were unable, after only two decades, to use stable or increasing populations (i.e., improved conservation status) of spotted owls as the success criterion for the NWFP. However, if the success criterion is forests capable of supporting interconnected populations of spotted owls in the absence of barred owls, then the implementation of the framework, standards, and guidelines of the NWFP has put federal lands on a trajectory for success, despite recent losses of suitable forest cover to wildfire.⁷⁸
- In the Pacific Northwest, forest succession from early-seral to climax forest is a slow process, which is in part the reasoning for the NWFP to be a 100-year plan intended to span several human generations (USDA and USDI 1994). Further, conservation and management of spotted owls rests critically on continued implementation of the protections afforded by the NWFP and the Endangered Species Act (Noon and Blakesley 2006). It also rests on improving our understanding of how to minimize impacts of barred owls, and on fine-tuning our ability to retain needed forest structure while also increasing resiliency of forests through strategic management.⁷⁹

Since the Synthesis of Science came out, new information and relevant studies have been published about NSOs and their demographics. The following are key points from recent publications.

- The most recent meta-analysis of NSO population and habitat data was conducted in 2020 (published in 2021) and includes data through 2018. (Franklin et al., 2021, pp. 2–3). In the analysis, 26 years of survey and capture-recapture data from long-term demographic study areas (“DSAs”) across the range were used to analyze demographic traits, rates of population change, and occupancy parameters for NSO territories. The analysis found declines in all demographic parameters across all study areas. Id. at 12, 13, 18. The most recent overall annual rate of decline (5.3 percent) indicates the NSO’s extinction risk has significantly increased since the time of listing. Id. at 13. The populations in the DSAs have declined from 32 percent to over 80 percent since the early- to mid-1990s. Within the DSAs, data shows annual declines of 6–9% on 6 study areas and 2–5% annually on 5 other study areas. These have resulted in measurements of reduced apparent survival, declining recruitment, increased territorial extinction, decreased territorial colonization, reduced fecundity, and reduced occupancy. See generally id.; see also Dugger et al., 2016. If these rates continue, the NSO will likely decline to extirpation

⁷⁷ SS at 271.

⁷⁸ SS at 277.

⁷⁹ SS at 283.

in the northern portion of its range in the near future where population declines have been greatest (over 60 percent). Franklin et al., 2021.

- NSO populations in Washington and the Oregon Coast Ranges have a greater than 50 percent probability of extirpation. Franklin et. al. 2021. As USFWS stated in the Uplisting Notice: “[T]he stressors acting on the subspecies and its habitat, particularly rangewide competition from the nonnative barred owl and high-severity wildfire, are of such imminence, intensity, and magnitude to indicate that the northern spotted owl is now in danger of extinction throughout all of its range.” 85 Fed. Reg. at 81,144.
- As Rockweit et al. 2022 summarized, as vertebrate populations decline to only a few individuals an extinction vortex can occur in which positive feedbacks occur among environmental and demographic stochasticity, inbreeding, and disrupted behaviors (Gilpin & Soul., 1986), resulting in rapid progression to extinction in just a few years (Fagan & Holmes, 2006). Rockweit refers to several recent papers that have documented factors characteristic of an extinction vortex in NSO populations, including small population size (Franklin et al., 2021), increased rates of inbreeding (Miller et al., 2018), and destabilized dispersal dynamics (Jenkins et al., 2021). If these trends continue, it is conceivable the northern spotted owl will become extirpated throughout large portions of its range in the next decade. Similar results and conclusions were reported in a recent range-wide meta-analysis on the long-term population trends of northern spotted owls which found dramatic, long-term declines in northern spotted owl site occupancy, apparent survival, and realized population change (Franklin et al., 2021; Rockweit et al., 2022).⁸⁰
- The current trend in NSO site pair occupancy, (Rockweit et al., 2022), combined with declining rates of overall site occupancy, apparent survival, and population change, Franklin et al., 2021, suggest that, without intervention, the long-term persistence of NSO populations is unlikely.⁸¹
- When combined with ongoing stressors such as effects of barred owls and habitat loss due to logging, the effects of large-scale, high-severity fires will likely contribute to relatively higher prolonged site extinction probabilities for NSO, reducing the likelihood NSO can persist on the landscape and challenging the species’ recovery. (Rockweit et al., 2017, Jones et al., 2016). The authors of the meta-analysis emphasized the importance of protecting existing habitat to maintain areas available for spotted owl re-colonization. Franklin et al., 2021 at 18.
- That said, Rockweit et al., 2024 confirms that disturbances such as mixed-severity fires that generate heterogeneity at landscape and stand scales are not necessarily adverse, provided that adequate nesting and

⁸⁰ Rockweit et al. 2022.

⁸¹ See, e.g., Yackulic et al. 2019.

roosting structural conditions remain after the disturbance. Nuance is needed when approaching the effect of wildfire and post-fire conditions in the context of NSO populations and habitat.⁸²

- Based on recent NSO Biological Opinions, the US Fish and Wildlife Service does not appear to know or acknowledge the true state of NSO populations either rangewide or in the physiographic provinces. Estimated populations were modeled twelve years ago during the 2012 critical habitat designation. This modeling effort projected a “steady state” rangewide population size of roughly 3,000 female NSOs. (Dunk et al., 2012). This steady-state population estimate was not meant to be a measure of actual population size but rather an estimate of landscape capacity, given the amount of suitable habitat (modeled based on 2006 satellite imagery) and competition with barred owls at that time. Id. Steady-state population estimates varied regionally from low in the north, especially the northwest (e.g., far fewer than 100 female spotted owls in the North Coast Olympics and West Cascades North modeling regions), to high in parts of southern Oregon and northern California (e.g., between around 400 and 750 females each in the Inner California Coast, Klamath East, Klamath West, Redwood Coast, and West Cascades South modeling regions). Id.

In sum, the best available science indicates that a massive change to protections for NSO habitat such as the proposed NWFP Amendment is likely to appreciably reduce the likelihood of survival and recovery of NSOs. The NSO population may be, and likely is, already in “jeopardy,” but the Amendment is likely to deepen that jeopardy. Further, because the agencies have stopped doing regular monitoring of the NSO populations in the density study areas and have no replacement plan, there will be continued uncertainty about the actual status of populations, making mitigation difficult or impossible.

The NWFP Amendment’s Effect on Owls and Disclosure of Information in the DEIS

As mentioned, there is a complete failure to disclose, either generally or specifically, in the DEIS the effects of the preferred alternative (or any of the alternatives) on NSO populations or habitat. Nor has any biological assessment been made available for public review.⁸³ But it is undeniable that making changes such as those contemplated by the Amendment process will have dire consequences to NSOs and their habitat and ability to thrive and recover.

⁸² Rockweit et al. 2024. Changing fire regimes and nuanced impacts on a critically imperiled species. *Biological Conservation*. 296: 110701.

⁸³ We note that the DEIS purports to rely on a forthcoming Biological Assessment, which is unavailable for review. To the extent that the DEIS relies upon a document that is unavailable for review, the agency has frustrated the purpose of NEPA and has violated the law.

Notably, the Forest Service did not specifically identify effects to the NSO or its habitat as a “significant issue” related to the proposed amendment under 40 C.F.R. 1501.2.⁸⁴ The agency did identify “Biological Resources” as a significant issue, but within the section of the DEIS focusing on this issue, there is exactly one paragraph of discussion about the NSO.⁸⁵ Nonetheless, that single paragraph comes straight to the point: “Despite the increase in nesting/roosting and dispersal habitat, current NWFP effectiveness monitoring indicates that northern spotted owl populations continue to decline in all 1 study areas and potentially face extirpation.”⁸⁶

And yet, the Forest Service proposes an amendment that will subject the NSO to further habitat loss and removal of the largest, oldest trees, and permitting salvage in reserves, with substantial timber targets that will instigate a need within the agency to “get out the cut” rapidly.

Removal of trees up to 120 years old in moist stands and LSRs; dry forest logging on trees up to 150 years old; using a date to determine whether a tree can be cut, instead of an age; large acreage targets for logging in multiple land use allocations. All of these changes will result in an unanalyzed but undoubtedly significant effect on NSOs and their habitat.

We raise a particular concern: the areas most at risk for increased logging and anthropogenic habitat modification are the same dry forests that currently serve as the species’ stronghold because they have experienced the most recent barred owl invasion and are contemplated to act as a future source population for species recovery.⁸⁷ While we acknowledge and appreciate the role that high-severity fire has impacted NSO habitat in the region, we further note to the spotted owl, it doesn’t matter whether the impact is from logging or fire, the effect is the same. Large fires that impact nesting/roosting habitat are a concern for the species. However, habitat removal to prevent those same fires results in the same impact. Manning et al. (2012) suggests that logging similar to that proposed by Alternative B would degrade more habitat than would be impacted by fire.⁸⁸ Furthermore, impacts to northern spotted owls from forest management are avoidable; fires are relatively unpredictable, and the efficacy of fuels treatments drop in time and are influenced by weather. The “megafires” of recent years are largely weather-driven events where pre-fire fuel conditions have very minimal impact on fire severity. Thus, we question the probability that fuels reduction treatments could, on the whole, have a net positive effect on future potential habitat, as the DEIS attempts to argue. While our organizations support moving forest conditions to a more fire-resilient state, that management objective must be tempered by protections for northern spotted owl populations. Habitat loss compounded by barred owl invasion is likely to jeopardize the continued existence of the species.

⁸⁴ DEIS at 1-10.

⁸⁵ DEIS 3-74.

⁸⁶ DEIS at 3-75.

⁸⁷ Schumaker et al, 2014; Dunk et al., 2019.

⁸⁸ Manning, T, Hagar, JC, & McComb, BC (2012) Thinning of young Douglas-fir forests decreases density of northern flying squirrels in the Oregon Cascades. *Forest Ecology and Management*, 264, 15124.

We further note that post-fire logging, which is controlled differently by alternatives, exacerbates the impacts to NSO caused by fire.⁸⁹ The impact of post-fire logging on spotted owls must be disclosed and discussed in the Service's environmental impact statement.

As described above, NSOs are likely already in jeopardy—that is, they will not survive as a species, let alone recover, without major changes that ensure populations can recover and have sufficient habitat. Neither the Forest Service nor USFWS know how many NSO are left but the current best available science recognizes the likelihood of extinction or widespread extirpation across the range in the immediate future. The main thrust of the 2011 Recovery Plan for NSOs, as well as the follow-up monitoring documents,⁹⁰ is that both habitat and barred owl control are required to ensure the survival and recovery of NSOs. The proposed amendment to the NWFP will gut the habitat component (which has already been gutted on the BLM side)—the result will jeopardize the species and its recovery and set it on a sure pathway to permanent extinction.

2. Marbled Murrelet

The significant logging and road building increases proposed amendment will impact marbled murrelets and their habitat, and the agency must fully consider and disclose the extent of those impacts. We are attaching to these comments two recent expert reports prepared for litigation concerning the take of marbled murrelets from timber harvest in Oregon. The reports address an area which the Forest Service concludes in the Science Synthesis is ambiguous: “we found no studies documenting the response of murrelets to silvicultural activities designed to accelerate expression of mature forest conditions, and this remains an area in which much further research is needed.”⁹¹ Determinations about effects of commercial thinning and its associated activities on marbled murrelets can readily be derived from the existing scientific literature. It is worth highlighting that the Ninth Circuit found, following review of murrelet expert testimony and reports, that a timber sale that removed roughly 50% of the existing mature forest in occupied murrelet habitat would result in the “take” of murrelets for purposes of the Endangered Species Act.⁹²

The former lead of the NWFP murrelet monitoring program, Dr. Gary A. Falxa, determined in the context of recent murrelet litigation that logging in an occupied stand,

⁸⁹ Bond, M.L., Chi, T.Y., Bradley, C.M. and DellaSala, D.A., 2022. Forest management, barred owls, and wildfire in northern spotted owl territories. *Forests*, 13(10), p.1730; Hanson, C.T., Lee, D.E. and Bond, M.L., 2021. Disentangling post-fire logging and high-severity fire effects for spotted owls. *Birds*, 2(2), pp.147-157; Hanson, C.T. and Chi, T.Y., 2021. Impacts of postfire management are unjustified in spotted owl habitat. *Frontiers in Ecology and Evolution*, 9, p.596282; Chi, T.Y., 2024. First Record of the Northern Spotted Owl Nesting in Forest Burned at the Highest Level of Severity. *Western Birds*, 55(4); Lindenmayer, D., Zylstra, P., Hanson, C.T., Six, D. and DellaSala, D.A., 2025. When Active Management of high conservation value forests may erode biodiversity and damage ecosystems. *Biological Conservation*, 305, p.111071.

⁹⁰ USFWS, 2011; Dugger et al. 2016; Franklin et al. 2021.

⁹¹ SS at 333.

⁹² *Marbled Murrelet v. Babbitt*, 83 F.3d 1060 (9th Cir. 1996).

even if that logging does not directly remove a potential nest tree, will lead to “significant disruptions to normal murrelet breeding and nesting behaviors.” Dr. Falxa explained that if “a forest survey shows likely murrelet nesting at a location within lands governed by the Plan, then all contiguous existing [habitat] within a 0.5-mi (2,640 ft) radius is protected.” Murrelet habitat includes young stands with residual large legacy trees that provide nesting structure for murrelets.⁹³ This means that the Forest Service should not be conducting forest thinning treatments in stands with residual legacy trees that survived centuries old fires. These types of forest stands are common across the NWFP area, and frequently, Forest Service aging of these stands omits the presence of this legacy structure. However, prior extensive timber planning by the Forest Service has revealed to the agency where large concentrations of this legacy murrelet nesting structure exist. These areas should be acknowledged in the DEIS, and potentially omitted from harvest consideration if the Forest Service aims to eliminate murrelet take, which is required by the NWFP:

The PSG Protocol recommends classification of the entire survey area as “occupied” when one or more sites within the survey area is determined to be “occupied”. This recommendation was, and remains, based on the best available science and the rationale that the forest area used by breeding murrelets may extend beyond a nest tree: The PSG Protocol (p. 22) states: “Occupied sites include nest sites, but an occupied site also can be used for purposes other than nesting that are essential for the complete life history of the bird”, and (p. 2): “the places where birds engage in courtship or other breeding- related activities might not be in the exact same area or stand as a nest, but these areas are just as important as nesting sites for the birds’ life history.” For example, while much murrelet courtship activity occurs at sea, copulations occur both at sea and in trees (Nelson 1997, p. 13). Also, murrelet pairs and individuals visit suitable habitat and prospect for nest sites, landing on and flying near tree limbs, between in early spring and midsummer (Nelson 1997, p. 15, ODFW 2018, Nelson and Hamer 1995a, Nelson and Wilson 2002). As explained by ODFW (2018, p. 13): “Solitary nests are likely grouped within suitable habitat, and birds are commonly seen interacting socially in flight over nesting areas (Nelson and Hamer 1995a). Like other alcids that nest solitarily or in small groups (e.g., Kittlitz’s Murrelet, Pigeon Guillemot, *Cepphus columba*), Marbled Murrelets actively engage in flights, chases, displays, and vocalizations over nesting habitat (Nelson 1997).”

Birds also visit nesting areas during winter and may select nest sites during this time (Naslund 1993). “Reasons for visitation to inland sites during the non-breeding season are poorly understood, but birds may be maintaining pair bonds, examining future nesting areas, or engaging in other social activities (Carter and Sealy 1986, Naslund 1993).” (ODFW 2018, p. 8).

The importance of forest habitat at a scale beyond the immediate nest tree is also recognized the federal Northwest Forest Plan. Since 1994, the Northwest

⁹³ See BLM RMP FEIS (“the best available science indicates that it is important for murrelet conservation and reproductive success to protect from logging areas with an abundance of potential nest trees and platforms”).

Forest Plan has governed forest management on about 17 million acres of federal forest lands within the murrelet range from northern Washington to San Francisco Bay, California (Falxa and Raphael 2016, Tables 2-5 and 2-6). This plan recognized the importance of suitable habitat beyond a nest tree, thus if a forest survey shows likely murrelet nesting at a location within lands governed by the Plan, then all contiguous existing within a 0.5-mi (2,640 ft) radius is protected, as is any recruitment habitat (defined as stands that could become nesting habitat within 25 years) within that same area (Raphael et al. in press).

The importance of entire stands of suitable habitat to breeding murrelets is supported by murrelet biology. As described earlier, while murrelets exhibit site fidelity at the spatial scale of a forest stand, they may not exhibit site fidelity at the scale of a tree or single nest platform (ODFW, p. 13; Burger et al. 2009). In addition, as new murrelets enter the breeding population they must find suitable nest trees and platforms not already in use. Finally, we are unable to know which potential platforms will be selected by and be successful for nesting murrelets.

Thus, in my opinion, the best available science indicates that it is important for murrelet conservation and reproductive success to protect from logging areas with an abundance of potential nest trees and platforms, and particularly in areas used by breeding murrelets, including those areas classified as "occupied" under the PSG Protocol. To do otherwise may harm murrelets, and likely so in "occupied" survey areas, by significant disruptions to normal murrelet breeding and nesting behaviors.

Expert Report of Dr. Gary A. Falxa, the former FWS lead for the NW Forest Plan Marbled Murrelet Effectiveness Monitoring Program.

Additionally, the Forest Service and BLM has previously assumed that forest thinning activities do not result in hard edges and thus are not as bad for murrelets as regeneration harvest. We do not believe this assumption is supported by the best available science. Studies have documented that commercial thinning directly within an occupied stand is going to fragment that habitat and have negative reproductive consequences. The Science Synthesis hints at this, but does not fully flesh this concept out, instead concluding that thinning is warranted:

Restoration of old-forest/murrelet nesting habitat in reserves may be accelerated by active management toward that end. Active management actions could include thinning in plantations to accelerate growth of potential nest trees and development of nesting platforms, but care will be needed to prevent simultaneously increasing numbers of nest predators attracted to more diverse understory conditions. Moreover, such management should also be careful to not increase the suitability of older forests to harbor barred owls (*Strix varia*), which may prey on murrelets and also reduce forest suitability for northern spotted owls (see chapter 4). Development and implementation of forest management practices that protect (short term) and develop (long term, e.g., over many decades) suitable murrelet nesting habitat on NWFP lands within the murrelet

range would be beneficial in recovering murrelet populations (see chapter 3 for examples of restoration treatments).⁹⁴

The DEIS needs to fully disclose and consider that commercial thinning does not result in “soft edges.”⁹⁵ The Science Synthesis in places appears to conflate natural gaps with edges created by logging. In doing so the Synthesis suggests that both may be beneficial to murrelets. It also appears to suggest that marbled murrelets may even have a preference for edges created through logging. We are not aware of any sound science that indicates that gaps created by logging represent a beneficial feature for marbled murrelets. In fact, studies examining “hard” edges (recent logging edges) found that hard edges tend to produce detrimental effects whereas “soft” edges (regenerating forest) or “natural” (e.g. riparian) edges appear to have lessened or minimal edge effects.⁹⁶ This misconception needs to be clearly disposed of in the DEIS and should strongly inform whether or not these proposed ecological forestry thinning prescriptions should be located in areas where there are concentrations of murrelet nesting structure.

Further, it should be acknowledged that commercial thinning operations create hard edges throughout the logged area. Any road, yarding corridor, landing, or opening created as a part of the logging prescription is going to create a hard edge in that forest stand, and this dramatically increases murrelet nest predation risks.⁹⁷

Additionally, the Forest Service is proposing to retain NWFP direction that commercial thinning should be prohibited in occupied stands, which per NWFP direction include habitat within a half mile. We support this. However, the NWFP definition of suitable habitat should be expanded to include forest of any age or structure surrounding sufficient concentrations of murrelet nesting structure, to reflect the most recent best available science as the BLM appropriately did in 2016.⁹⁸

V. Increased Logging Would Decrease In-Forest Carbon Storage

The DEIS fails to include a viable carbon accounting of the effects of increased logging on forest carbon.⁹⁹ A proper life cycle analysis, which includes all carbon emissions related to increased logging and production of forest products, is required. Without such analysis, the document fails to provide a meaningful opportunity for

⁹⁴ SS at 337.

⁹⁵ See SS at 321 (soft edges are regenerating forests between 21 and 140 years of age).

⁹⁶ Bradley, R. W. 2002. Breeding ecology of radio-marked Marbled Murrelets (*Brachyramphus marmoratus*) in Desolation Sound, British Columbia. M.Sc. Thesis, Simon Fraser University, Burnaby, British Columbia;

Malt, J. and D. Lank. 2007. Temporal dynamics of edge effects on nest predation risk for the Marbled Murrelet. *Biological Conservation* 140: 160–173;

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: 549-56.

⁹⁷ SS at 323 (“Predator disturbance 2.5 times more likely at hard edges than in forest interior.”).

⁹⁸ See BLM RMP Murrelet Management Directions.

⁹⁹ See DEIS at 3-92 (“The current scientific understanding of these factors makes it infeasible to develop reliable, quantified estimates of the potential long-term changes in greenhouse gas emissions or carbon sequestration that may result from different types of treatments in different types of landscapes across the NWFP area over time.”)

decisionmakers to understand the consequences of the plan. The proposed alternative, by increasing logging, would likely result in net emissions in excess of those from disturbances, such as fire.¹⁰⁰

W. Preserve Adaptive Management Areas

Draft amendments, across all alternatives, would functionally eliminate Adaptive Management Areas (AMAs) by removing specific management provisions for this land use classification and instead treat AMAs as matrix lands. This is a loss for the original vision of AMAs under the 1994 Plan, which sought to use these areas as laboratories to test the Plan's assumptions and new silvicultural methods. While the effectiveness of AMAs has been stymied by budget cuts, the underlying idea of AMAs is worth continued pursuit.

X. The Proposed Amendment Violates the National Forest Management Act and Other Federal Laws

Our organizations are concerned that amendments, as conceived in the DEIS, may violate the National Forest Management Act ("NFMA"), 16 U.S.C. § 1600 et seq., and other federal laws. Of principal concern is adherence to the "diversity" mandate of NFMA. NFMA directs the Forest to "provide for diversity of plant and animal communities based on the suitability and capability of the specific land area in order to meet overall multiple use objectives." 16 U.S.C. § 1604(g)(3)(B). The 2012 Planning Rule, in turn, implements this diversity mandate through 36 C.F.R. 219.9.

The 2012 Planning Rule generally provides for diversity through planning for ecosystem integrity. However, where ecosystem plan components are insufficient to ensure a viable population of a species of conservation concern across the plan area, the Forest Service is required to adopt additional species-specific plan components to ensure species viability.

As outlined above, we believe that Alternatives B and D are insufficient to protect the northern spotted owl. As Judge Dwyer of the Western District Court previously noted of the 1994 Plan, habitat protections for the spotted owl appeared to be the bare minimum necessary to ensure compliance with NFMA. Although the plan was legal as written, "[w]hether the plan and its implementation will remain legal will depend on future events and conditions."

Y. Trump Timber Executive Order

On March 1, Donald Trump signed an executive order entitled "[Immediate Expansion of American Timber Production](#)," calling on federal land managers to "fully exploit our domestic timber supply," and instructing agencies to bypass existing federal laws and regulations that protect statelike forests, rural communities, clean water, imperiled

¹⁰⁰ See Comments on the Northwest Forest Plan Amendment Draft Environmental Impact Statement submitted by Wild Heritage (February 20, 2025).

species, recreation, and the climate.¹⁰¹ This directive wrongly seeks to elevate timber production above all other forest uses and values. This would lead to disastrous outcomes for public forests and our groups adamantly oppose its implementation in the Northwest Forest Plan area.

In conclusion, we need a strong forest plan that ensures robust Tribal inclusion, advances ecologically-sound forest management for biodiversity, wildfire resilience, and climate stability, and supports the needs of current and future generations. There are positive steps outlined in the proposed amendments related to robust Tribal inclusion and beneficial fire use. There are also shortcomings in the proposed amendments that would place remaining mature and old-growth public forests at risk and hinder recovery of imperiled fish and wildlife species and their habitat. Please address the deficiencies of the proposed amendments and environmental analysis as presented in the DEIS.

Find pdf copies of sources cited in this letter in [this Google folder](#). Please contact grace@cascwild.org if you have any issues accessing the folder and its contents. We have copies of the cited materials and can provide them to the Forest Service directly if needed.

Sincerely,

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¹⁰¹ Executive Order, "Immediate Expansion of American Timber Production," March 1, 2025, available at <https://www.whitehouse.gov/presidential-actions/2025/03/immediate-expansion-of-american-timber-production/>.

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