February 2, 2024

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

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

RE: Notice of Intent to initiate scoping period to amend the Northwest Forest Plan

Dear Ms. Buchanan:

The Wilderness Society (TWS) appreciates the opportunity to provide scoping comments on the Forest Service's notice of intent (NOI) to prepare an Environmental Impact Statement (EIS) to evaluate the effects of amending the Northwest Forest Plan (NWFP or Plan).[1] We support the Forest Service's goal to enhance the NWFP by modernizing its management direction in the face of a changing climate and further commend the agency's efforts to create a collaborative and inclusive planning process. We offer the following comments to inform the forthcoming draft environmental impact statement (DEIS).

Background:

The NWFP is among the most innovative achievements in federal forest policy, and its impact on communities and ecosystems of the Pacific Northwest should not be understated. Following years of divisive conflict between environmental groups and the timber industry, the NWFP attempted to strike a balance between the protection of "watersheds and the most ecologically valuable old-growth forests, [to] ensure sufficient federal habitat for the spotted owl..." and other threatened species, while also delivering "a timber harvest level of over one billion board feet per year, and help[ing] displaced woodworkers shift to other livelihoods."[2] Crafted under a similarly compressed timeline to the Forest Service's (USFS) currently proposed amendment, the bulk of the work to create the 1994 Plan occurred over a mere 60-day period.[3]

[1] 88 FR 87393 "Region 5 and Region 6; California, Oregon, and Washington; Forest Plan Amendment for Planning and Management of Northwest Forests Within the Range of the Northern Spotted Owl." 12/18/23

[2] Johnson, N. Franklin, J. Reeves, G. "The Making of the Northwest Forest Plan." Pg.336. 2023. Oregon State Press.
[3] Blumm, Michael C. and Brown, Susan Jane and Stewart-Fusek, Chelsea, The World's Largest Ecosystem Management Plan: The Northwest Forest Plan After a Quarter-Century (August 25, 2021). Environmental Law, Vol. 52, No. 2, 2022, Available at SSRN: https://ssrn.com/abstract=3911432 or http://dx.doi.org/10.2139/ssrn.3911432

Widely praised for its scientific and ecosystem-based approach toward forest management, the NWFP effectively protected most of the region's remaining old-growth forests and riparian habitat from excessive use while also striving to support local and regional economies dependent on the federal timber supply. To achieve this, the NWFP amended forest management plans for 19 national forests administered by the USFS covering 19.4 million acres in Washington, Oregon, and Northern California, along with 7 Bureau of Land Management (BLM) districts covering 2.7 million acres in Western Oregon and Northern California. As the first large-scale ecosystem management plan in the United States, it also challenged the paradigm of what good forest management looks like, ushering in new ideas about how forests contribute to the public welfare and setting a bold example for forest conservation and management worldwide.

Need for Change:

Notwithstanding the many successes of the NWFP, much has been learned over the 30 years following the Plan's implementation, and the "twenty-first century provides a greatly altered set of challenges and societal priorities for federal forestlands" including their role in combatting the climate crisis.[4] While the NWFP was successful in reserving much of the ecologically valuable old growth forest across the range of the northern spotted owl (NSO), the emergence of more frequent and severe wildfires has reduced critical late successional habitat and, in certain cases, resulted in the abandonment or delayed recolonization of NSO nesting sites.[5] Further compounding the issue, competition from the non-native and invasive Barred Owl "is a primary cause of the rapid and ongoing decline of northern spotted owl populations" and significantly complicates their recovery.[6]

Implementation of the NWFP also struggled to deliver on the projected timber harvest level outlined in the Plan, contributing to job losses in rural communities. The Forest Service has estimated that "Thirty thousand direct timber industry jobs were lost between 1990 and 2000 in the Plan area (compared to Plan expectations of 25,000 jobs lost)".[7] While the actual socioeconomic impact of the NWFP was undoubtedly caused by a summation of factors, such as the industry's decision to invest in labor-saving technologies, there is no doubt that the significant reduction in federal timber supply negatively impacted many rural communities. Unfortunately, most of the programs laid out in the Northwest Economic Adjustment Initiative

[4] Johnson et al. "The Making of the Northwest Forest Plan." 2023.
[5] Gaines & Pritchard (Clark et al. 2013, Jones et al 2021, Lesminster et al. 2019,2021) pg. 6
[6] U.S. Fish and Wildlife Service. "Implementation of the Proposed Barred Owl Management Strategy in Washington, Oregon, California." Draft Environmental Impact Statement for the Barred Owl Management Strategy. 2023.
[7] Charnley et al., Rural Communities and Economies. Vol. 3 of Northwest Forest Plan- the first 10 years (1994-2003): Socioeconomic Monitoring Results. General Technical Report PNW-GTR-649. Pacific Northwest Research Station. 2006.

were short-lived and did little to help displaced workers and families.[8] Considerable work must be done to assist communities, especially rural and largely isolated communities dependent on the federal timber supply, to adapt and prosper into the future.

While no single factor in the USFS' NOI rises above another, we are particularly supportive of the need to strengthen the capacity of Northwest forests to adapt to the ongoing effects of climate change and to incorporate indigenous knowledge into the entire forest management process, thereby fulfilling the agency's general trust responsibilities to the more than 80 Tribal governments and Indigenous communities across the NWFP region. Neither of these topic areas was given reasonable consideration in the development of the 1994 Plan; yet, attending to both is critical to the future health and resilience of forests across the planning area.

Despite this history, we believe the USFS is capable of effectively addressing changing ecological and social conditions across the planning area by adopting a climate-smart forestry amendment that elevates the best available western and Indigenous science to inform the Plan. We further explore each of the five interrelated topic areas outlined in the need for change below.

Tribal Engagement:

More than 80 federally recognized tribes and unrecognized Indigenous communities have tribal lands or ancestral territory within the NWFP region.[9] These tribes have stewarded the area for time immemorial and possess deep cultural and ancestral ties to the land. Tribal nations are recognized as sovereign governments, and many possess treaty rights which protect their continued traditional uses of land ceded to the federal government, like hunting, fishing, and gathering of first foods. These treaty obligations are of immense priority as it is the federal government's responsibility to consult with tribal nations in decision making and "to the fullest extent possible" protect tribal treaty rights.[10]

Despite this, and the numerous additional laws which protect Indigenous rights to access ancestral or culturally significant sites, conduct ceremonial or traditional practices, and collect culturally significant flora and fauna within federal forests, the USFS and BLM failed to meaningfully consult with tribes during the creation of the NWFP. Consequently, the NWFP contains virtually no standards, guidelines, or other plan components pertaining to Indigenous use and stewardship of federal lands.

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[8] Charnley et al. "The Northwest Forest Plan as a Model for Ecosystem Management: A Social Perspective." Conservation Biology 20, no 2 (2006): 330-340. Finding that states and localities failed to distribute the funds equitably and furthermore many communities lacked the resources and infrastructure to apply for federal economic support. Much of the $1.2 billion in federal assistance was applied toward projects to develop an economically sustainable future rather than to direct assistance for displaced workers and families. See also "The Making of the Northwest Forest Plan" p.262.

[9] Vinyeta, K.; Lynn, K. 2015. Strengthening the federal tribal relationship: a report on monitoring consultation under the Northwest Forest Plan. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Region. 74 p.

[10] Klamath Tribes v. United States of America. No. 96-381-HA, October 2, 1996. (D. Or. 1996)

We appreciate, however, the emphasis the USFS has placed on incorporating Indigenous communities and knowledge into the Plan's Amendment and are encouraged by the agency's expressed commitment to correct past shortcomings. We urge the agency to capitalize on the opportunity before them, bringing together western and Indigenous knowledge, and paying close attention to the procedural responsibility to listen and learn from tribes regarding how best to uphold the federal government's trust responsibility and protect treaty resources. As noted in the Joint Secretarial order 3403, "trust and treaty obligations are an integral part of each Department's responsibilities in managing Federal Lands."[11]

Recent commitments to tribal co-stewardship, or co-management, of federal lands present unique opportunities for the USFS to work with Indigenous communities in designing management priorities and direction for federal lands.[12] In their 2020 paper, *Bridges to a New Era,* Monte Mills & Martin Nie define core principles of co-management to include:

1. "Recognition of tribes as sovereign governments,
2. Incorporation of the federal government's trust responsibilities to tribes,
3. Legitimation structures for tribal involvement,
4. Meaningful integration of tribes early and often in the decision-making process,
5. Recognition and incorporation of tribal expertise, and
6. Dispute resolution mechanisms"[13]

These core principles can and should be incorporated into the Amendment's planning process. Doing so will ensure that tribal values and perspectives are accurately reflected in the forthcoming DEIS and furthermore that meaningful government-to-government consultation occurs throughout the planning process. Robust tribal inclusion in the Amendment process may yield fruitful new management strategies for the agencies working in the Pacific Northwest. For example, tribes should play a leading role in the reintroduction of cultural burning on the landscape and in future huckleberry management. Tribal priorities and partnership or co-management opportunities like these should be reflected in the final Plan Amendment.[14]

Climate Change Adaptation and Mitigation:

Climate change impacts in the Pacific Northwest have created an urgent need for transformational adaptation to ensure the well-being of ecosystem and community health into the future. Annual average air temperatures in the region have risen 2-2.5 degrees Fahrenheit

[11] Secretarial Order No. 3403. "Joint Secretarial Order on Fulfilling the Trust Responsibility to Indian Tribes in the Stewardship of Federal Lands and Waters." Nov. 15, 2021.
[12] Secretarial Order No. 3403 stating that, "Tribal consultation and collaboration must be implemented as components of, or in addition to, Federal land management priorities and direction…"
[13] Monte Mills & Martin Nie, "Bridges to a New Era; A Report on the Past, Present, and Potential Future of Tribal Co-Management on Federal Public Lands", pg. 3, (Missoula, MT: Margery Hunter Brown Indian Law Clinic/Bolle Center for People and Forests, University of Montana, 2020).
[14] Tulalip Tribes, 2023. Uplands Strategic Plan: Taking care of the uplands for our future generations. Tulalip Treaty Rights and Government Affairs. L. Nelson, Editor, Tulalip, WA.

over the past century with the annual number of extremely hot days and warm nights well above the long-term average over the past decade.[15] Under a higher emission scenario, future warming in the region is expected to increase by 10 degrees Fahrenheit relative to average temperatures between 1950-1999.[16] Warming is expected to occur over all seasons with more precipitation falling as rain rather than snow, decreasing the winter snowpack, and more extreme heat resulting in more frequent drought.[17] Given these changes, a considerable increase in wildfire frequency and intensity is predicted on the heels of "decreasing fuel moisture, vapor pressure and relative humidity."[18] Wildfire is already having considerable impacts on habitat for NSO and other threatened species.

The fifth National Climate Assessment, released in 2023, found that, "Extreme heat, flooding, wildfires and other climate hazards threaten human health, sense of place, ecosystems, infrastructure, and industries in the Northwest...with Tribes and other frontline communities facing disproportionate risks. [However,] Adaptation actions that prioritize social equity and utilize local and Indigenous knowledge can support regional resilience."[19]

While the NWFP put forward a solid foundation in conservation and management across the range, it was grounded in the assumption that the climate would remain relatively stable and did not explicitly address climate change when it was crafted.[20] A considerable body of new climate science, alongside experience implementing the NWFP, demonstrates the need for proactive and broad-scale climate adaptation and further warns of the grave risks of inaction.[21] It is imperative that the Amendment address this systemic threat.

In fact, a key purpose of the 2012 Planning Rule was to "emphasize restoration of natural resources to make National Forest System (NFS) lands *more resilient to climate change*, protect water resources, and improve forest health (emphasis added)."[22] Ecosystem resilience refers to

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[15] USGCRP, 2023: "Fifth National Climate Assessment." Crimmins, A.R., C.W. Avery, D.R. Easterling, K.E. Kunkel, B.C. Stewart, and T.K. Maycock, Eds. U.S. Global Change Research Program, Washington, DC, USA. https://doi.org/10.7930/NCA5.2023

[16] Fifth National Climate Assessment. 2023.

[17] May, Christine & Luce, Charles & Casola, Joseph & Chang, Michael & Cuhaciyan, Jennifer & Dalton, Meghan & Lowe, Scott & Morishima, Gary & Mote, Philip & Petersen, Alexander & Roesch-Mcnally, Gabrielle & York, Emily. (2018). "Northwest". In Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment, Volume II. 10.7930/NCA4.2018.CH24

[18] Westerling, A.L.R., 2016. "Increasing western US forest wildfire activity: sensitivity to changes in the timing of spring." Phil. Trans. R. Sco. B 371, 20150178 https://royalsocietypublishing.org/doi/10.1098/rstb.2015.0178

[19] Fifth National Climate Assessment. 2023.

[20] Thomas A Spies, Jonathan W Long, Susan Charnley, Paul F Hessburg, Bruce G Marcot, Gordon H Reeves, Damon B Lesmeister, Matthew J Reilly, Lee K Cerveny, Peter A Stine, Martin G Raphael. "Twenty-five years of the Northwest Forest Plan: what have we learned?" *Front Ecol Environ* 2019; 17(9): 511–520, doi:10.1002/fee.2101

[21] William L. Gaines, Paul F. Hessburg, Gregory H. Aplet, Paul Henson, Susan J. Prichard, Derek J. Churchill, Gavin M. Jones, Daniel J. Isaak, Carly Vynne. "Climate change and forest management on federal lands in the Pacific Northwest, USA: Managing for dynamic landscapes"*, Forest Ecology and Management.* Volume 504, 2022, 119794, ISSN 0378-1127, https://doi.org/10.1016/j.foreco.2021.119794.

[22] Federal Register (FR). 2012. National Forest System Land Management Planning. 77(68): 21162-21276.

a system's ability to recover following a disturbance.[23] Given the impacts climate change will have and is already having on our forested ecosystems across the range of the spotted owl, the USFS must emphasize climate adaptation measures in this Amendment. Many regional and tribal adaptation plans already exist, and we encourage the USFS to partner with tribes and local governments to uplift the good work already done. The USDA's Climate Hub hosts many of these climate adaptation plans and will prove to be a good source of knowledge for this work.[24]

Spies et al. (2010) offered the following adaptive actions for all forests within the NWFP:

1. "Increase landscape area devoted to critical NSO habitats and resilient ecosystem types,
2. Maintain existing older forests,
3. Use regional planning to coordinate changes across management units and jurisdictions,
4. Revise land management goals and objectives to be consistent with dynamic processes and rapid warming under climate change, and
5. Incorporate uncertainty into planning and make adapting to climate change a long-term, iterative process."[25]

Such an approach to forest management mirrors the intent of Climate-Smart Forestry, an "emerging branch of sustainable forest management that aims to manage forests in response to climate change."[26] Climate-Smart Forestry rests on three main pillars:

1. "Increasing the mitigation potential via carbon sequestration of forests,
2. Adapting forests to climate change, and
3. Ensuring the sustainable provision of ecosystem services."[27]

In their 2020 paper, "*What is Climate Smart Forestry?"* Bowditch et al. offer the following definitions to answer the question posed in the publications title:

> *Climate-Smart Forestry* is adaptive forest management and governance to protect and enhance the potential of forests to both adapt to and mitigate climate change. The aim

[23] Hessburg et al. 2019. Climate, environment, and disturbance history govern resilience of western North American forests. Frontiers in Ecology and Evolution. 7:239

[24] USDA. "Climate Change Adaptation Planning Documents of the Northwest" Climate Hub. Visited on Jan. 24, 2024, at https://www.climatehubs.usda.gov/hubs/northwest/topic/climate-change-adaptation-planning-documents-northwest.

[25] Spies, Thomas A.; Giesen, Thomas W.; Swanson, Frederick J.; Franklin, Jerry F.; Lach, Denise; Johnson, K. Norman. 2010. Climate change adaptation strategies for federal forests of the Pacific Northwest, USA: ecological, policy, and socio-economic perspectives. Landscape Ecology. 25(8): 1185-1199.

[26] Euan Bowditch, Giovanni Santopuoli, Franz Binder, Miren del Río, Nicola La Porta, Tatiana Kluvankova, Jerzy Lesinski, Renzo Motta, Maciej Pach, Pietro Panzacchi, Hans Pretzsch, Christian Temperli, Giustino Tonon, Melanie Smith, Violeta Velikova, Andrew Weatherall, Roberto Tognetti. "What is Climate-Smart Forestry? A definition from a multinational collaborative process focused on mountain regions of Europe." Ecosystem Services. Volume 43. 2020. 101113. ISSN 2212-0416. https://doi.org/10.1016/j.ecoser.2020.101113.

[27] Bowditch et al. 2020.

is to sustain ecosystem integrity and functions and ensure the continuous delivery of ecosystem services.

Adaptation maintains or improves the ability of forests to grow under current and projected climatic conditions and increase their resistance and resilience. Adaptive capacity to climate change and disturbance regimes is enhanced by promoting genetic, compositional, structural, and functional diversity at both stand (patch) and landscape scales.

Mitigation of climate change by forests is a combination of carbon sequestration by trees and carbon storage by forest ecosystems (including savannas and woodlands), especially soils.

Ecological Integrity is the quality or condition of an ecosystem when its dominant ecological characteristics (composition, structure, function, connectivity, and species composition and diversity) occur within the range of variation.[28]

Considering the 2012 Planning Rule's emphasis on making forests more resilient to climate change, as well as the value placed on ecological integrity, we encourage the USFS to adopt Climate-Smart Forestry as a means to achieve the goals identified in the NOI.[29]

The NWFP region has an outsized role to play in mitigating the worst impacts of climate change by storing immense amounts of carbon in mature and old forests.[30] Responding to Secretary Memorandum 1077-044, USFS released their Climate Risk Viewer in 2022 "to assess climate change vulnerabilities to carbon uptake and storage and identify current management direction related to carbon."[31] While forests in the U.S. "remove the equivalent of about 12 percent of annual U.S. fossil fuel emissions," it was found that carbon distribution is not equivalent across forests.[32] National hotspots for forest carbon density can be seen throughout the NWFP area and are particularly abundant along the Cascade crest, the Oregon coast and in Washington's Olympic Peninsula. Of particular importance are mature and old forests which store the bulk of forest carbon, making them a strong ally in mitigating the worst effects of climate change. These carbon reserves must be retained, enhanced, and incorporated into the Amendment's vision as a natural climate solution.[33]

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[28] Bowditch et al. 2020.

[29] 2012 Planning Rule. FSH 1909.12. Defining ecological Integrity to mean "the quality or condition of an ecosystem when its dominant ecological characteristics (composition, structure, function, connectivity, and species composition and diversity) occur within the range of variation."

[30] Buotte, P. C., B. E. Law, W. J. Ripple, and L. T. Berner. 2020. "Carbon sequestration and biodiversity co-benefits of preserving forests in the western United States." *Ecological Applications* 30(2): e02039. 10.1002/eap.2039

[31] USDA. Secretarial Order 1077-044 "Climate Resilience and Carbon Stewardship of America's National Forests and Grasslands" Jun. 23, 2022.

[32] USDA. "Forest Service Climate Risk Viewer" Visited on Jan 30. 2024 at https://storymaps.arcgis.com/stories/8cc70035bb844645800ce3f0fb8300f9

[33] Executive Order 14072. "Strengthening the Nation's Forests, Communities and Local Economies." April 22, 2022.

Carbon stewardship can be achieved in western moist forests by protecting existing mature and old forests and applying silvicultural practices to accelerate the development of large tree structure in younger forests.[34] In drier forests, such as those east of the Cascade crest where fire exclusion has resulted in high vulnerability to stand replacing wildfire events, restoration treatments should be used to reduce tree density and enhance carbon sequestration as the forest shifts to larger and older trees.[35] The Wilderness Society is already doing some of this work through our efforts with the Darrington Forest Collaborative and the North Central Washington Forest Collaborative. Much can be learned from the work of local forest collaboratives, and we encourage the USFS to look to these efforts for partnership and innovation while drafting the DEIS.

Lastly, we urge the USFS to consider including beaver restoration as an especially effective natural climate change adaptation strategy for aquatic ecosystems. For example, a recent study of beaver restoration in the Skykomish River watershed in the western Washington Cascades found that average summer water temperatures were 2.3°C (4.1° F) cooler in streams below beaver dams.[36] Several Forest Service climate vulnerability assessments and adaptation strategies have identified beaver reintroduction as an effective way to help slow water movement and increase water retention and groundwater recharge, benefiting wetland, riparian, and open-water habitats for many wildlife and plant species.[37] In addition, the Forest Service has promoted beaver restoration as an effective tool to improve wetlands and help combat wildfires, stating "Beavers serve as a beacon of hope to help fight our wildfire crisis."[38] Beaver restoration programs have been successfully conducted by several tribes and national forests in the NWFP region during the past decade, including the Tulalip Tribes and Baker-Snoqualmie National Forest in western Washington, and the Yakama Nation, Colville Confederated Tribes, and Okanogan-Wenatchee National Forest in north-central Washington.[39]

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[34] McKinley DC, Ryan MG, Birdsey RA, Giardina CP, Harmon ME, Heath LS, Houghton RA, Jackson RB, Morrison JF, Murray BC, Patakl DE, Skog KE. "A synthesis of current knowledge on forests and carbon storage in the United States." Ecol Appl. 2011 Sep;21(6):1902-24. doi: 10.1890/10-0697.1. PMID: 21939033.

[35] Hessburg, Paul F.; Charnley, Susan; Wendel, Kendra L.; White, Eric M.; Singleton, Peter H.; Peterson, David W.; Halofsky, Jessica E.; Gray, Andrew N.; Spies, Thomas A.; Flitcroft, Rebecca L.; White, Rachel. 2020. **"**The 1994 Eastside Screens large-tree harvest limit: review of science relevant to forest planning 25 years later." Gen. Tech. Rep. PNW-GTR-990. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station. 114 p.

[36] Dittbrenner et al. 2022. "Relocated beaver can increase water storage and decrease stream temperature in headwater streams." 13 Ecosphere:7 https://doi.org/10.1002/ecs2.4168

[37] Halofsky, Jessica E.; Peterson, David L.; Ho, Joanne J.; Little, Natalie, J.; Joyce, Linda A., editors. 2018. 18 "Climate change vulnerability and adaptation in the Intermountain Region." Gen. Tech. Rep. RMRS-GTR-19. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research 20 Station. p. 339

[38] USDA. 2023. "Firefighting Beavers" Available at: Firefighting beavers | US Forest Service (usda.gov)

[39] Tulalip Tribes Bever Program available at: https://nr.tulaliptribes.com/Programs/Wildlife/Beaver; See also USDA "Working with Beavers to Restore Watersheds." Available at: https://www.fs.usda.gov/features/working-beavers-restore-watersheds.

Wildfire Resistance and Resilience:

Climate change and forest densification after a century of fire exclusion are associated with larger and more frequent high severity wildfires that are impacting the NWFP region. “Summer wildfire seasons are getting longer, and large wind-driven fire events are becoming more common...."[40] So called “mega-fires” are having immense effects on old forest dependent species and threatening communities adjacent to the federal forest estate. The USDA’s recently released *Wildfire Crisis Strategy* emphasizes this point, stating that, “The risk has reached *crisis proportions in the West*, calling for decisive action to protect people and communities and improve forest health and resilience [emphasis added].”[41] Climate driven drought and extreme heat are predicted to only compound wildfire risk in the Pacific Northwest, motivating calls for the USFS to address the threat in the NWFP Amendment.

The NWFP aptly recognized variance in disturbance ecology between dry and moist forest zones, as conserving each requires very different approaches. Dry, mixed conifer forests characteristic of the eastern Cascades historically experienced frequent fires that burned at low to moderate intensities and killed smaller trees while preserving larger ones. A combination of past forest management and climate change has altered “fire behavior in dry forests, significantly increasing fire severity and difficulty of control.”[42] Climate-smart forestry in mature and old dry forests entails fuel reduction through forest thinning followed by prescribed burning to reduce crown fire propagation potential and understory fuels. Properly designed treatments have been demonstrated to be effective at reducing wildfire severity and total burned area, while improving forest resilience to climate change.[43] Continued restoration work is direly needed in the dry eastern forests of the NWFP, especially where older trees are concentrated.

However, even with unprecedented investment in fire suppression and management across dry forests in the NWFP area, efforts to make our forests more resilient to climate driven wildfire are hindered by the USFS’s current “hands-off” management approach in the late successional reserve (LSR) network. The static nature of these reserves in dynamic disturbance –driven dry forests and a shifting climate frustrates adaptive management approaches and limits flexibility for active restoration work such as prescribed burning, and small tree thinning. We propose that the Amendment address this concern and consider standards and guidelines that strongly encourage fuel treatments and ecological forest restoration within older dry forests of the LSR

[40] William L. Gaines, Paul F. Hessburg, Gregory H Aplet, Paul Henson, Susan J. Prichard, Derek J. Churchill, Gavin M. Jones, Daniel J. Isaak, Carly Vynne. “Climate change and forest management on federal lands in the Pacific Northwest, USA: Managing for dynamic landscapes.” Forest Ecology and Management. Volume 504. 2022. 119794. ISSN 0378-1127. https://doi.org/10.1016/j.foreco.2021.119794

[41] USDA. “Wildfire Crisis Strategy.” 2022.

[42] Johnson et al. “The Making of the Northwest Forest Plan.” 2023. p 331.

[43] Alan A. Ager, Ana M.G. Barros, Rachel Houtman, Rob Seli, Michelle A. Day. “Modelling the effect of accelerated forest management on long-term wildfire activity.” Ecological Modelling, Volume 421, 2020, 108962, ISSN 0304-3800, https://doi.org/10.1016/j.ecolmodel.2020.108962.

network. While we agree that LSRs are foundational to conserving biological diversity, recent research has suggested the alteration of their design, management, and placement to meet the goals of the NWFP.[44]

For moist forests, however, the Amendment should consider changing management direction for mature and old growth forests with a focus on maintaining and restoring ecological integrity. Fires in moist, western Cascade forests are far more infrequent, yet are historically ones of high severity and driven by eastern winds. While previously rare (occurring every 200-400 years), climate change will make these fires more common, prompting questions regarding the future range of variability, impacts to ecological integrity and how to sustain moist forests.[45] The firestorms of 2020 in Oregon and northern California offer a stark view of what's to come. While fire suppression in moist forests has not fundamentally altered the character of these landscapes, nor the severity with which they burn, additional consideration must be given to protecting rural communities from future extreme events.[46] How much wildfires impact communities can be controlled by creating buffer zones in the Wildland Urban Interface (WUI) as well as quickly and forcefully controlling ignitions.[47]

It is important to note that fire is a natural disturbance process that plays an essential role in crafting the structure, function, and ecosystem integrity of Northwest forests. Tribes have understood this for millennia and harnessed fire as a primary tool to actively manage ecosystems, stimulate the production of first foods, and clear vegetation to create transit routes and habitat for animals, among other things. We encourage the agency to work with Tribal governments and consider how cultural burning can be incorporated into the Amendment.

Old Growth Conservation:

Central to the debate leading up to the NWFP was how to conserve the remaining ancient forests of the Pacific Northwest. Following a century of logging and land conversion in the Northwest, old forests were significantly diminished by the early 90's, and their continued loss threatened the viability of associated species such as the NSO and marbled murrelet. The NWFP defined mature forests to be roughly 80 years of age or older, and old growth to be 200+ years old. This framework set thresholds for assessing and defining ecologically significant old growth and late successional ecosystems and led to the concept of late-successional old-growth forests

[44] Spies et al. "Twenty-five years of the Northwest Forest Plan: what have we learned?" 2019.
[45] Abatzoglou, J. T., Rupp, D. E., O'Neill, L. W., & Sadegh, M. (2021). "Compound extremes drive the western Oregon wildfires of September 2020." *Geophysical Research Letters*, 48, e2021GL092520. https://doi.org/10.1029/2021GL092520
[46] Halofsky, J. S., D. C. Donato, J. F. Franklin, J. E. Halofsky, D. L. Peterson, and B. J. Harvey. 2018. "The nature of the beast: examining climate adaptation options in forests with stand-replacing fire regimes." *Ecosphere* 9(3):e02140. 10.1002/ecs2.2140
[47] Johnson et al. 2023. "The Making of the Northwest Forest Plan."

(LS/OG).[48] More than simply recognizing the age classes of trees, the concept acknowledges the important structural and functional characteristics of these distinct and older forests as well.

The land use allocation Late-Successional Reserves (LSR) is the principal means by which the NWFP conserved ancient forests and preserved core habitat for threatened and endangered species. Still, the NWFP only set aside roughly 36% of the total 8.5 million acres of late-successional forests in LSRs and placed another 40,000 acres into Managed Late-Successional Areas (MLSA).[49] LSRs and MLSAs are only partially protected from logging and allow for some thinning treatments and salvage logging under narrow circumstances.[50] Much has been learned about these ecologically significant and carbon dense forests over the past 30 years, and new federal forest policy places a premium on their protection.

Executive Order 14072 *Strengthening the Nation's Forests, Communities, and Local Economies,* issued by President Biden in 2022, declared a national policy "to conserve America's mature and old-growth forests on Federal Lands."[51] The Executive Order goes on to instruct the Secretaries of the Interior and Agriculture to jointly identify, define and complete an inventory of mature and old-growth (MOG) forests, identify threats to their future health, and to "institutionalize climate-smart management and conservation strategies…" to address said threats on federal forests.[52]

In their 2023 book, *The Making of the Northwest Forest Plan*, Johnson, Franklin and Reeves state clearly "It is time to cease the logging of older, unmanaged Moist Forests on national forests – both [in] mature and old growth."[53] Emphasizing the point further, they state, "Unmanaged (generally unharvested) mature Moist Forests that have largely developed through natural processes should be reserved."[54] We encourage the Agency to consider such a policy in the Amendment and shift future timber harvest in moist forests to those areas which have previously been harvested, such as plantations established over the past 100 years. Conservation of older dry forests, however, requires some level of active management, such as the restoration thinning outlined in the wildfire section of this comment, and a priority placed on retaining and protecting older trees across the landscape.

Additional review of the mature and old-growth age classifications and management direction for moist and dry forests is warranted. Should the agency pursue this, the DEIS must consider the environmental and economic impacts of shifting LSOG management direction and

[48] Johnson et al. 2023.
[49] Northwest Forest Plan.1994. Final EIS, p.3&4-41
[50] Anderson, Michael. 1994. "Citizen Guide to the Northwest Forest Plan." The Wilderness Society.
[51] E.O. 14072
[52] E.O. 14072
[53] Johnson et al. 2023. "The Making of the Northwest Forest Plan." p 364
[54] Johnson et al. 2023. p 362.

remember that it is the policy of this administration to conserve and restore these forest assets[55].

Rural Communities and Workforce:

As noted, the NWFP greatly impacted rural communities across the planning area. Following the precipitous decline in federal timber harvests, communities struggled as jobs in the wood products sector disappeared. The change affected the USFS as well. An 80-90% decrease in timber harvest within the NWFP region was "accompanied by a 35% reduction in national forest budgets" and a decline in the agency's workforce in Washington and Oregon by 60% between 1993 and 2012.[56] Well-intentioned social programs meant to assist these communities to adapt and transition were short lived and of limited impact.

The 2012 planning rule requires forest plan components to include standards or guidelines "to guide the plan area's contribution to social and economic sustainability..." and consider variables such as the area impacted, opportunities for sustainable recreation and access to public lands, and multiple uses that "contribute to local regional, and national economies in a sustainable manner...."[57] Amending the NWFP offers a great opportunity to honor the agency's commitment to consider the social and economic well-being of local communities and must be taken seriously.

Ironically, the industry whose impact led to the decline in biodiversity and loss of vast ancient forests across the Pacific Northwest is now needed to restore those same forests in the face of climate change. Much forest restoration work is needed across the NWFP area, not only to make our forests more resilient to wildfire, but also to generate more structurally complex habitat that steers regenerating forests more quickly toward old-growth characteristics. "Forest restoration requires not only workers who know how to remove unwanted vegetation and promote desired vegetation, but also mills that can process the removed trees and generate economic value to offset the cost of restoration."[58] The agency may consider how they can structure federal restoration contracts in such a way that makes them accessible to businesses in local communities and creates a consistent flow of work that will attract long-term investment.

The Amendment should also consider how the agency can assist local communities to diversify their economic portfolio by supporting other uses dependent on federal lands such as outdoor recreation. This could be accomplished by considering how recreation infrastructure, such as trailheads, parking lots, bridges, and trail networks, can be incorporated into other forest planning objectives. A recently published 2023 report by Jamie Ervin of the Outdoor Alliance,

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[55] Federal Register. 12/20/23. "Land Management Plan Direction for Old-Growth Forest Conditions Across the National Forest System."
[56] Spies et al. 2019. "Twenty-five years of the Northwest Forest Plan: what have we learned?"
[57] 36 CFR 219.8 (b)
[58] Spies et al. "Twenty-five years of the Northwest Forest Plan: what have we learned?" 2019.

Wildfire and Outdoor Recreation in the West, proposes that recreation should be incorporated into wildfire planning. The report offers examples like "designing projects to enhance scenic resources in popular recreation areas, exploring where trail networks can also serve as holding lines for prescribed burns, implementing thinning projects to enhance backcountry ski terrain, and more."[59] The report outlines additional opportunities to enhance outdoor recreation such as post-fire restoration of recreation sites and collaboration with the recreation community during the forest planning process.

Finally, a common issue across western mountain towns and rural communities is that of limited affordable housing.[60] We are aware that this challenge affects the agency's own employees in these communities and while it may be outside the scope of this Amendment, we encourage the planning team to offer recommendations to the appropriate decisionmakers that address this critical problem. As an example from The Wilderness Society's work in Darrington, WA, home to a Hampton Lumber Company mill, many workers in the community must commute from neighboring towns up to an hour away due in part to the limited housing stock. Local USFS employees similarly struggle to find housing opportunities, prompting concern about retaining highly qualified workers in the region. The challenge was recently addressed in the White River National Forest in Colorado through a public-private partnership that resulted in a lease of USFS lands for the development of workforce housing.[61] This project may serve as a blueprint for housing challenges in ranger districts across the NWFP region and warrants further consideration on how it may be incorporated into the plan Amendment.

Conclusion:

When President Clinton announced the organization of the FEMAT following the 1993 forest conference, he stated one particularly important principle to guide the crafting of the NWFP: "Our efforts must be, in so far as we are wise enough to know it, scientifically sound, ecologically credible and legally responsible."[62] We are much wiser today than we were 30 years ago and are armed with new scientific understandings and practical experience that can help modernize the NWFP to meet the needs of the 21st century. Yet much is still to be learned, especially from tribal partners, regarding issues like how to manage culturally important species, like beaver, that will help ecosystems adapt to a changing climate.

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[59] Ervin, Jamie. 2023. Wildfire and Outdoor Recreation in the West: How Recreationists Can Support a Fire-Resilient Future. Policy Report. Outdoor Alliance, Washington, DC.

[60] Bowlin, Nick. "Mountain towns are trying all sorts of solutions to the housing crisis." 2023. High Country News. Available at: https://www.hcn.org/articles/housing-mountain-towns-are-trying-all-sorts-of-solutions-to-the-housing-crisis.

[61] Tann, Robert. "How a first-of-its-kind housing deal between US Forest Service and Summit County officials came 'down to the wire'" 2023. Summit Daily. Available at: https://www.summitdaily.com/news/how-a-first-of-its-kind-housing-deal-between-us-forest-service-and-summit-county-officials-came-down-to-the-wire.

[62] Johnson et al. "The Making of the Northwest Forest Plan." p 338.

We appreciate the opportunity to provide comments on this important process and welcome further opportunity to work with you as you develop a climate-smart amendment to the Northwest Forest Plan.

Respectfully,

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