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Comments: Ms. Jacqueline Buchanan, Regional Forester Pacific Northwest Region

USDA Forest Service

1220 SW 3rd Avenue, Ste. G015 Portland, OR. 97204

RE: Comments on Amendments to the Northwest Forest Plan and Draft Environmental Impact Statement

Dear Ms Buchanan:

March 17, 2025

My name is []. I am a Master of Studies in Law student at Lewis & Clark Law School in Portland, Oregon. Thank you for the opportunity to provide comments on the United States Forest Service's proposed amendments to the Northwest Forest Plan and the supporting Draft Environmental Impact Statement.

Introduction and Overview

The Northwest Forest Plan (NWFP) needs to be updated to properly address climate issues and implement the best available science, it is also important that the NWFP is realistic and sets achievable standards. The presidential administration and Chief of Forest Service have changed since the Draft Environmental Impact Statement (DEIS) was prepared. In turn, the priorities and goals of the Department of Agriculture and Forest Service will change as well. Many of the draft's goals relating to climate change and endangered species habitat protection will be viewed as unimportant or even antithetical. To protect the overarching priorities and goals of the current NWFP amendment, the chosen alternative must align with the priorities of the new administration while sufficiently satisfying the intended purpose of amending the NWFP.

As seen by Executive Orders 14223 and 14225, the Trump administration's primary goal for the Forest Service is to increase timber production [ldquo]to ensure reliable, secure, and resilient domestic supply chains of timber[rdquo].¹ The Trump administration's secondary goal is to reduce procedural requirements as much as possible to increase efficiency and maximize timber output. The Trump administration justifies their instruction to increase timber production by pointing to timber's essential role within the economy, construction, energy production, and wildfire risk reduction. Similarly, the Trump administration claims that [ldquo]heavy-handed federal policies have[hellip]impeded the creation of jobs and prosperity, contributed to wildfire disasters, degraded fish and wildlife habitats, increased the cost of construction and energy, and threatened our economic security.[rdquo]² The amendment must emphasize how the NWFP will ensure a consistent and reliable timber supply by harvesting timber in a sustainable manner and reducing the risk of

1 Executive Order 14223: Immediate Expansion of American Timber Production, Section 1

timber loss due to wildfires. Additionally, the amendment should affirm the efficiency and effectiveness of procedural requirements through flexibility in site-specific treatment plans. Efficiency has also become a practical necessity due to the Trump administration's ongoing layoffs of Forest Service personnel and inevitable budget cuts. The chosen alternative should promote resource efficiency, set achievable goals, and set standards that guarantee compliance.

In addressing the issues of tribal inclusion, forest stewardship, fire resistance and resilience, biological resources, climate change, air quality, and sustainability of regional communities the amendment should do the following. The amendment should implement tribal co-management and employ local contractors to the greatest extent practical. The amendment should instruct forest management to protect old growth trees to the greatest extent possible and differentiate treatment of dry and moist forests. In dry forests, the amendment should implement thinning followed by prescribed fire where appropriate as the main form of wildfire mitigation. If salvage logging is to occur, post-disturbance stands should be treated manually and given the greatest amount of time allowable between disturbance and treatment. The amendment should emphasize the sale of timber harvest from thinning and salvage logging to meet the Trump administration's priority for increased timber production. In moist forests, the amendment should utilize natural processes and passive management to protect endangered species habitat by minimizing old growth mortality. Lastly, the amendment should highlight the long term economic and social benefits of prioritizing ecological health and restoration.

Incorporation of Indigenous Knowledge and Increased Tribal Inclusion

As acknowledged in the DEIS, the chosen alternative must fulfill the obligations of the Forest Service [Idquo]under the United States Constitution, Treaty Rights, Treaty Reserved Rights, law, regulation, and policy.[rdquo]3 However, the most-chosen alternative must do more than simply meet the requirements of the law. The DEIS, the Joint Secretarial Order on Fulfilling the Trust Responsibility to Indian Tribes in the Stewardship of Federal Lands and Waters, and USDA Regulation 1350-002 recognize that it is the Forest Service's duty to [Idquo]provide an opportunity for Tribes to participate in policy development to the greatest extent practicable and permitted by law.[rdquo]4 All of the alternatives presented in the DEIS fulfill the obligations of the law and are practical, as they would not be considered otherwise. However, since each alternative provides varying degrees of participation, consultation, and co-management only one alternative provides participation to the greatest extent practicable. Alternative B best fulfills the obligations and duties of the Forest Service. Alternative B [Idquo]provides more concrete direction[rdquo] through [Idquo]measurable and time-specific directives, whereas the goals under Alternatives C and D are more general in scope[rdquo].5 When determining which alternative best aligns with the goals of the Trump administration, it would be easy to assume that Alternative C would be more favored as it provides the smallest amount of required consultation and planning. However, Alternative B best

3 DEIS. Page 3-2

4 USDA Regulation 1350-002. Joint Secretarial Order on Fulfilling the Trust Responsibility to Indian Tribes in the Stewardship of Federal Lands and Waters. DEIS. Page 1-9

5 DEIS. Page 3-12

aligns with the priorities of the Trump administration as it guarantees more active management and eases the Trump administrative and resource burden of the Forest Service. Through the Tribal Forest Protection Act and the Indian Self-Determination and Education Assistance Act, tribes can enter into contracts with the Forest Service to carry out and manage demonstration projects.⁶ Increasing co-management projects would relieve strain on Forest service personnel, increase resource efficiency, and improve ecological health. According to testimony given to the 113th Congressional House Natural Resources Subcommittee on Public Lands and Environmental Regulation, [Idquo]numerous tribes have been more effective at using their limited resources to better protect forest health, prevent catastrophic wildfires and create jobs.[rdquo]⁷ In fact, section 2(a) of Executive Order 14225 which instructs the Forest Service [Idquo]to facilitate increased timber production and sound forest management[rdquo] specifically lists the Good Neighbor Authority under the Tribal Forest Protection Act as an example.⁸ Alternative B could be improved by implementing plan directions of Alternative D relating to post-disturbance management in dry forests. Alternative D incorporates additional tribal plan components to restore protected and culturally significant plants that require disturbance rather than avoidance.⁹ The increase of post-disturbance management, as suggested by Alternative D, in dry forests would further promote Alternative B[rsquo]s objectives relating to biodiversity and inclusion of tribal knowledge.

Sustained Multiple Use and Forest Stewardship

Within the topic of forest stewardship are three main interests: wildfire resiliency, timber production, and species habitat preservation. The chosen alternative should sustainably support all three interests. The forest service does not have to provide for each interest on every acre, but the National Forest Management Act (NFMA), the (Multiple Use and Sustained Yield Act (MUSYA), and the Federal Land Policy and Management Act (FLPMA) require that national forests be managed [Idquo]without permanent impairment of the productivity of the land and the quality of the environment with consideration being given to the relative values of the resources and not necessarily to the combination of uses that will give the greatest economic return or the greatest unit output.[rdquo]¹⁰ Moreover, national forests must [Idquo]meet the present and future needs of the American people[rdquo] with [Idquo]achievement and maintenance in perpetuity[rdquo].¹¹ Although the Trump administration has instructed the forest service to prioritize timber production through Executive Orders 14223 and 14225, the forest service can only do so to the extent that it does not jeopardize the long-term sustainability of other uses and interests. Similarly, the best way [Idquo]to ensure reliable, secure, and resilient domestic supply chains of timber[rdquo] is to sustainably harvest

6 Tribal Consultation on Self-Determination in Forestry

7 Subcommittee as cited in Washburn, Kevin K., Facilitating Tribal Co-Management of Federal Public Lands (October 27, 2021). 2022 Wis. L. Rev. 263-328 (2022), U Iowa Legal Studies Research Paper No. 2021-45

8 Executive Order 14225: Addressing The Threat To National Security from Imports of Timber, Lumber, Section 2(a)

9 DEIS. Page 2-9

10 43 USC 1702(c)

11 43 USC 1702(c) and 16 USC 531(b)

timber and prioritize ecosystem health.¹² If maximizing short-term profit was all that mattered, clearcutting would be the most viable option. However, history and science have shown that clear cutting is unsustainable, degrades water quality, causes soil erosion, and increases risk of wildfire with [ldquo]moderate-low relative fire resistance and high fire hazard.[rdquo]¹³ To maximize the long-term benefits of timber production, harvest operations need to adapt to ecological conditions. Therefore, in deciding which alternative best fulfills the desires of the Trump administration while meeting obligations under the law, the answer varies depending on the ecosystem. In dry forests, the best alternative is Alternative D. Alternative D provides maximum active management that will satisfy the Trump administration[rsquo]s desire for timber production while aiding in restoration of natural conditions and the reduction of wildfire risk. In moist forests, Alternative C is the best option. The natural conditions of moist forests, the effects of climate change, and the presence of endangered species make active management adverse to ecological health and unacceptable under NFMA, MUSYA, and FLPMA.

Management of Dry Forests

In dry forests, Alternative D is the best alternative as it provides greater flexibility for site-specific management and the restoration of natural conditions. The application of alternative D would require conditions to avoid jeopardizing its effectiveness.

First, the harvest of old growth trees should be prohibited from all management sites as these trees increase wildfire resiliency. In the past it was assumed that biomass was directly linked to wildfire risk and heat intensity, but now we know that is not true. Key adaptations of old growth such as [ldquo]bark thickness, shedding lower branches, increasing height, and developing more open crowns[hellip]make it difficult for fire to ignite tree boles or climb into flammable canopies.[rdquo]¹⁴ According to a report from the Oregon Forest Resources, between 2017 and 2021 Oregon harvested approximately 3.8 billion board feet of timber. Comparatively, they estimate that 5.3 billion board feet of timber burned in the 2020 Labor Day fires, with an estimated loss of

3.47 billion dollars.¹⁵ Thus, one of the best ways to stabilize timber production is to prevent wildfire by protecting old growth trees.

Second, where timber harvesting does occur, the process should aim to mimic natural conditions and be immediately followed by prescribed burning. The increased severity of wildfires can be attributed to increased forest density from decades of fire suppression and drought conditions exacerbated by climate change.¹⁶ Historically, dry forests had frequent low-intensity wildfires. The low impact of the fires was due to the fire frequency, the

¹² Executive Order 14223: Immediate Expansion of American Timber Production, Section 1

¹³Last Chance Forest Management Project Environmental Assessment, DOI-BLM-ORWA-M070-2022-0007-EA. Page 57

¹⁴ Comments on Draft Environmental Impact Statement for Amendments to Land Management Plans to Address Old-Growth Forests Across the National Forest System

¹⁵Oregon Forest Facts 2023-24 Edition. Page 4 and 12

16 Hagmann et al. 2021. Evidence for widespread changes in the structure, composition, and fire regimes of westernNorth American forests. *Ecological Applications*. 31(8): 24-. Page 23

composition of fire-adapted vegetation, and forest structure.¹⁷ In turn, reverting dry forests back to their natural state will help mitigate fire-intensity and impact. Timber harvests should mimic the timing and natural tree mortality rates of historic wildfires and target tree species that are not fire and drought tolerant like douglas-fir, western larch, and sugar pine.¹⁸ Thinning should also reduce the canopy layering, connectivity of surface fuels, and fuel ladders to limit crown-fire potential.¹⁹ Soon after thinning, timber harvest sites should be treated with prescribed fire. On its own, thinning reduces [ldquo]canopy fuels but contributes to higher surface fuel loads[rdquo] which can lead to [ldquo]high-intensity surface fires and elevated levels of associated tree mortality.[rdquo]²⁰ However, thinning and burning is not appropriate for every forest type. Reducing canopy bulk density can [ldquo]increase the risk of fire by increasing sunlight exposure to the forest floor, drying surface fuels, promoting understory growth, and increasing wind speeds that leave residual trees vulnerable to wind throw.[rdquo]²¹ Moreover, in forest types [ldquo]such as subalpine, subboreal, and boreal forests, low crown base heights, thin bark, and heavy duff and litter loads make trees vulnerable to fire at any intensity.[rdquo]²²

Third, whether it is post-fire or pre-fire, treatment should be based on site-specific conditions such as forest composition, stage of succession, geographical features (streams, slope, soil type, etc.), seasonal and climate conditions, wildlife habitat, and any other relevant factors. In the context of post-disturbance salvage logging, operations need to consider the amount of time since the disturbance, the type of equipment that will be used, and site-specific geographical features. Salvage logging can have short-term impacts on water quality and soil erosion.²³ The most pronounced and longer lasting impacts of salvaging occur when logging disrupts the forest floor (e.g., run over by logging equipment, skid trails, log landings) resulting in soil scarification and damage to secondary growth.²⁴ However, increasing the time between a natural disturbance

17 Prichard et al. 2021. Adapting western North American forests to climate change and wildfires: 10 commonquestions. *Ecological Applications*. 31(8): 28-58.

18 Hagmann et al. 2021. Evidence for widespread changes in the structure, composition, and fire regimes of westernNorth American forests. *Ecological Applications*. 31(8): 24-. Page 3

19 Hessburg et al. Wildfire and climate change adaptation of western North American forests: a case for intentionalmanagement. *Ecological Applications*. 31(8): 54-71. Page 6

20 Prichard et al. 2021. Adapting western North American forests to climate change and wildfires: 10 commonquestions. *Ecological Applications*. 31(8): 28-58. Page 10

21 Zald, H. S., and C. J. Dunn. 2018. Severe fire weather and intensive forest management increase fire severity in a multiownership landscape. *Ecological Applications* 28:1068[ndash]1080 as cited in Adapting western North Americanforests to climate change and wildfires: 10 common questions. Page 11

22 Prichard et al. 2021. Adapting western North American forests to climate change and wildfires: 10 commonquestions. *Ecological Applications*. 31(8): 28-58. Page 11

23 Leverkus et al. 2020. Salvage logging effects on regulating ecosystem services and fuel loads. *Frontiers in Ecology and the Environment*, 18(7), 391-400. Nemens et al. 2019. Environmental effects of postfire logging: an updated literature review and annotated bibliography. Gen. Tech. Rep. PNW-GTR-975. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station. 35 p. Royo et al. 2016. Evaluating the ecological impacts of salvage logging: can natural and anthropogenic disturbances promote coexistence?

Ecology. 97(6): 1566-1582.

24 Royo et al. 2016. Evaluating the ecological impacts of salvage logging: can natural and anthropogenic disturbances promote coexistence? *Ecology*. 97(6): 1566-1582. Page 1574

and logging, reduces the negative effect of salvage logging.²⁵ In turn, [Idquo]operations can substantially reduce soil disturbance and subsequent mortality of understory vegetation[rdquo] by altering the [Idquo]type of equipment used and timing[rdquo].²⁶ Impact on forest recovery can be further limited through [Idquo]carefully planned, partial salvaging (e.g., limiting soil disturbance, leaving residual trees)[rdquo].²⁷ Salvage logging should be prioritized in stands [Idquo]judged to be most susceptible to future wildfires while retaining dead wood in more ecologically sensitive places, such as riparian areas.[rdquo]²⁸ As with every aspect of forestry, the risk of wildfire must also be considered when determining if, and to what extent, salvage logging will occur. Salvage logging can reduce the long-term risk of wildfire by reducing the gradual accumulation of coarse surface fuels, live biomass, and the amount of litter and duff compared to untreated areas. However, salvage logging can also enhance fire hazard in the short term.²⁹ The risk of wildfire can be mitigated in post-salvage sites by implementing fuel reduction treatments such as removing fuel ladders and reducing connectivity of surface fuels.³⁰

Management of Moist Forests

For moist forests, Alternative C is best as it provides the most amount of old growth and endangered species protection. Protection of old growth is vital for the continued survival of the Northern Spotted Owl and Marbled Murrelet. One study concluded that the Northern Spotted Owl population is declining by 2[ndash]9% annually.³¹ Another study found that the Marbled Murrelet population has declined nearly 30% between 2000 and 2010.³² Active management in moist forest would cause more harm than good as it would increase predation of Marbled Murrelets and the risk of wildfire. Female Marbled Murrelets lay only a single egg per nest season.³³ With a nesting failure rate of 72%, each reproductive failure pushes the Marbled Murrelet closer to extinction.³⁴ For the Marbled Murrelet, 43% of nest failure was caused by predation. Studies have shown that habitat fragmentation, stand size, and canopy closure all affect predation rates. Successful nests are located significantly farther from edges (average 166.3 m) while nests that

25 Leverkus et al. 2020. Salvage logging effects on regulating ecosystem services and fuel loads. *Frontiers in Ecology and the Environment*, 18(7), 391-400.

26 Nemens et al. 2019. Environmental effects of postfire logging: an updated literature review and annotated bibliography. Gen. Tech. Rep. PNW-GTR-975. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station. 35 p. Page 12

27 Royo et al. 2016. Evaluating the ecological impacts of salvage logging: can natural and anthropogenic disturbances promote coexistence? *Ecology*. 97(6): 1566-1582. Page 1578

28 Leverkus et al. 2020. Salvage logging effects on regulating ecosystem services and fuel loads. *Frontiers in Ecology and the Environment*, 18(7), 391-400.

29 Ibid.

30 Ibid.

31 Franklin et al. 2021. Range-wide declines of northern spotted owl populations in the Pacific Northwest: A meta-analysis. *Biological Conservation*. 259(suppl): 109168-.

32 Miller et al. 2012. Recent population decline of the marbled murrelet in the Pacific Northwest. *The Condor*. 114(4): 771-781. Page 93

33 Nelson et al. 1995. Chapter 8: Nest Success and the Effects of Predation on Marbled Murrelets. In: Ralph, C et al. 1995. *Ecology and conservation of the Marbled Murrelet*. Gen. Tech. Rep. PSW-GTR-152. Albany, CA: Pacific Southwest Research Station, Forest Service, U.S. Department of Agriculture; p. 89-98. Page 93

34 Ibid. Page 89

failed due to predation were much closer to the edge (average 27.4 m).³⁵ Timber production near or in Marbled Murrelet habitat would significantly decrease the likelihood of reproductive success and recovery. Wildfires present a significant threat to old growth trees, Northern Spotted Owls, and Marbled Murrelets. Thinning and prescribed burning in moist forests however, would only make it worse. Active management in dry forests is the best means of lowering wildfire risk and protecting old growth. Active management in moist forests increases wildfire risk and old growth mortality. Moist forests need to be managed differently than dry forests due to their natural conditions and the effects of climate change. In historic dry forests, vegetation was comparatively less dense and fire resistant. Fires that occurred there were frequent but of low intensity and severity. In historic moist forests, vegetation was dense and not fire resistant. Fire occurred infrequently but with high intensity and a severity that resulted in stand replacement.³⁶ While the density of the moist forests has remained the same, climate change has increased seasonal temperatures, drought occurrence, and rate of insect infestations. These effects create drier conditions, increase the amount of dead material, and exacerbate the likelihood of high intensity wildfire. High intensity stand-replacing wildfire is a natural process in moist forests. The effects of climate change and the dire circumstances of endangered species however, make stand-replacing wildfires a liability rather than asset. The increased dryness of moist forests means that high intensity wildfires spread faster and farther than before. The wildfires kill more old growth than they would have historically. In moist forests, [ldquo]existing intact old-growth[hellip]have undergone limited changes as a result of >100 years of fire exclusion and suppression; active management to restore conditions within such stands is not only unnecessary, but could adversely affect them.[rdquo]³⁷ For dry forests, the solution to reducing high intensity wildfire is to thin and burn. However, due to the effects of climate change and the natural fire susceptibility of composite tree species (western redcedar, grand fir, and bigleaf maple), burning regardless of thinning would result in high intensity fire. In natural conditions of moist forests [ldquo]vegetation tends to grow so fast that burning to reduce fuels is not effective or practical in many cases.[rdquo]³⁸ Thinning alone is also not an option as it has proven to increase the risk of wildfire without burning. Recent studies have shown that wildfires spread quicker and burn hotter in thinned areas of forest compared to the surrounding untreated moist forest.³⁹ While passive management may seem counterproductive when compared to active management in dry forests, active management in moist forests is simply not worth the risk. Given the dire circumstances of the Northern Spotted Owl and Marbled Murrelet and their reliance on old growth, it is imperative to protect as many old growth trees as possible by suppressing stand-replacing wildfires.

35 Ibid.

36 Applying Restoration Principles on the BLM O&C Forests in Southwest Oregon. Page 3. DEIS. Page 3-18

37 Reeves et al. 2016. An initial evaluation of potential options for managing riparian reserves of the Aquatic Conservation Strategy of the Northwest Forest Plan. Gen. Tech. Rep. PNW-GTR-937. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station. 97 p. Page 7

38 Adlam, Christopher. 2023. The Ecological Effects of Fire. OSU Extension Service

39 Baker et al. 2022. Cumulative Tree Mortality from Commercial Thinning and a Large Wildfire in the Sierra Nevada, California Land 11, no. 7: 995. Prichard et al. 2021. Adapting western North American forests to climate change and wildfires: 10 common questions. Ecological Applications. 31(8): 28-58. Page 10

Wildlife Consideration and Pre-disturbance Surveys

Regardless of activity, the amendment should give sufficient consideration to the potential long-term, short-term, and cumulative impacts on wildlife across all spatial and temporal scales. As Alternative D suggests, more land in dry forests and around regional communities should be available for management, but each action should consider and mitigate wildlife impact. Although active management in dry forests is beneficial long-term, the short-term impacts on ecological regional communities can have significant effects on threatened, endangered, or sensitive species. As established in *Pacific Coast Federation v. NMFS* (9th Cir. 2001), it is arbitrary and capricious to assume that short-term or localized impacts cannot significantly affect the survival of a species. For example, degrading a particular creek, even in the short-term, can result in the total extinction of a subspecies or population.⁴⁰ For endangered, threatened, or sensitive species, even a low level impact can reduce the likelihood of survival and recovery.⁴¹ When a species is under threat of extinction, the success of each generation is vitally important.

Additionally, the amendment should not allow pre-disturbance survey exemptions for active management surrounding regional communities. Although the amount of land available for treatment should align with what is outlined in Alternative D, ecological impacts must be considered and mitigated. The DEIS acknowledges certain activities that would be exempted could impact certain species. Red tree voles would be affected by activities [Id]resulting in loss of interconnected canopies or prolonged periods of smoke[Id].⁴² Salamanders could be affected by petrochemicals from drip torches and the operation of heavy equipment which could diminish suitable habitat.⁴³ While a single exemption may not have significant impacts on the species, the cumulative impact of multiple exemptions would. Active management to protect regional communities is important, but its effects on wildlife should be evaluated and mitigated.

Sustained Community Health and Economy

The best way to improve and protect regional communities is to prioritize wildfire risk reduction, manual thinning, and ecological restoration projects. Reducing wildfire risk protects regional communities from physical harm by limiting the threat of fire and smoke inhalation. In dry forests, Alternative D provides the best means of reducing wildfire risk through thinning and prescribed burning. Although prescribed burning will increase risk of smoke inhalation in the short-term, it will greatly reduce the risk in the long-term. Moreover, reducing the risk of wildfire will result in less salvage logging which is more dangerous for workers than regular timber harvest.⁴⁴ In salvage logging, workers face increased health risks from ash and smoke

40Pac. Coast Fed'n of Fishermen's Ass'n, Inc. v. Nat'l Marine Fisheries Serv., 265 F.3d 1028 (9th Cir. 2001)

41 Ibid.

42 DEIS. Page 3-83

43 DEIS. Page 3-83 and Page 3-84

44 Bilici, Ebru; Akay, Abdullah E. 2015 Risks Factors Associated with Post-Fire Salvage Logging Operations. Bursa Technical University, Faculty of Forestry

inhalation as well as environmental risks from unstable terrain and dead standing trees. In moist forests, Alternative C provides the best protection to regional communities as it reduces the physical threat of fire. Prescribed burning under section B or D would only increase the risk of fire. Reducing wildfire risk also protects regional communities from economic harm by preventing loss of timber and access to recreational areas. As stated in the DEIS, recreation provides the greatest source of jobs and revenue for regional communities. While active management in dry forests will temporarily reduce recreation access, it will prevent longer or permanent closures. Timber harvesting should incorporate manual thinning instead of mechanical thinning to the greatest extent feasible. Manual thinning would improve local economies and improve ecological health by employing a greater number of people and limiting damage to the surrounding environment. In contrast with mechanical cutting, studies have shown that manual operations cause little residual damage, create no soil disturbance and could be matched to any desired trail spacing.⁴⁵ Although manual operation has its limitations, it was found to be ⁴⁶more cost-effective and ecologically-sensitive⁴⁶. Increasing the use of manual thinning aligns with the purpose of Executive Order 14225 to increase jobs, prosperity, and economic security. Likewise, the amendment should increase opportunities for ecological restoration projects to the greatest extent feasible. Restoration projects, such as riparian and burn scar native revegetation, will reduce soil erosion and prevent flooding.⁴⁷ Restoration projects, such as invasive vegetation removal, can reduce wildfire risk and improve ecological health.⁴⁸ Restoration projects can also improve local economic health. As stated in the DEIS, ⁴⁹every \$1 million invested in ecosystem restoration supported between 13 and 32 job-years and from \$2.2 million to \$3.4 million in total economic output.⁴⁹ In light of the Trump administration's goal for efficiency and workforce reduction, increased federal funding or hiring is unlikely. The amendment should utilize local contractors, tribal communities, and nonprofit organizations. The use of local contractors will directly benefit local economies and build a greater sense of ownership, investment, and connection between the workers and the land. This means that workers will take a greater sense of pride and responsibility in their work. The use of tribal communities will provide the ecological benefit of tribal knowledge and social benefit of restoring cultural practices and strengthening community relationships. Lastly, the use of nonprofit organizations, such as the Student Conservation Association, will reduce Forest Service expenses and build foundational knowledge for future environmental leaders.

Summary

For the incorporation of tribal inclusion, the amendment should follow planning directions in Alternative B with additional provisions from Alternative D. For management of

45 Rumber, Robert; Klepac, John. 2002. Mechanized or hand operations: which is less expensive for small timber?. Small Diameter Timber: Resource Management, Manufacturing, and Markets, Spokane, Washington.

46 Ibid. Page 189

47 Zhang et al. 2024. Revegetation re-carbonizes soil: Patterns, mechanisms, and challenges. Fundamental Research.

48 Wildland Fire. National Invasive Species Information Center

49 Cullinane Thomas, C. et al. 2016. Estimating the Economic Impacts of Ecosystem Restoration—Methods and Case Studies: U.S. Geological Survey Open-File Report 2016—1016 as cited in DEIS. Page 3-150

dry forests, the amendment should utilize strategies outlined in Alternative D but give flexibility in site-specific treatment plans to adapt to environmental conditions and features. For management of moist forests, the amendment should follow Alternative C. For wildlife consideration, the amendment should require analysis of long-term, short-term, and cumulative impacts on wildlife, allow active management around communities as outlined in Alternative D, but not grant pre-disturbance survey exemptions. For the sustainability of regional communities, the amendment should reduce wildfire risk, substitute mechanical thinning for manual thinning, and increase restoration projects to the greatest extent possible. Regardless of which alternative(s) are incorporated, the Northwest Forest Plan amendment should emphasize that the best way to meet the Trump administration's desire for increased timber production and efficiency is to prioritize ecological health.

ATTACHMENT-LETTER TEXT: Northwest Forest Plan Amendment Comment.pdf; this is the same content that is coded in text box; it was originally included as an attachment