HAMPTON LUMBER MILLS
WASHINGTON, INC
DARRINGTON - DIVISION

P.O. Box 487
Darrington, WA 98241
Telephone
360.436.2947 Fax 360.436.2977

January 31, 2024

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

RE: Forest Service Notice of Intent to Amend the Northwest Forest Plan

Dear Ms. Buchanan,

On behalf of Hampton Lumber, thank you for the opportunity to comment on the Notice of Intent to Amend the Northwest Forest Plan (NWFP). Hampton Lumber is a fourth-generation, family-owned company with deep ties to many rural communities in Washington and Oregon, where our manufacturing facilities are located. We believe that ensuring a vibrant future for our federal forests, the wood products sector, and the communities where we live and work requires dialogue, understanding, and trust among a wide array of diverse stakeholders. We collaborate with National Forest land managers, conservation and community partners, Tribes, state, local and federal land managers and others to strike a balance between ecological restoration, wildlife habitat preservation, catastrophic wildfire risk reduction, community protection, and consistent, reliable timber production and volume.

We directly employ over 1,700 people in Oregon and Washington, most of whom reside in rural, underserved areas. The Gifford Pinchot, Mount Baker Snoqualmie, Okanogan-Wenatchee, Colville, and the Siuslaw National Forests are important sources of raw materials for our Washington sawmills in Darrington, Randle, and Morton, and Oregon sawmills in Willamina and Tillamook. **Each year, these five mills generate over $66.9 million in wages and benefits and $87.3 million in payments to local logging, trucking and road construction businesses.** The family-wage, year-round employment we provide, along with the indirect employment our operations enable, benefits schools, other local businesses and the communities in which we operate.

100 percent of a log is used when processed in one of our sawmills. What doesn't become lumber is used for pulp and paper, particle board, landscaping and agricultural materials, and biofuel. In addition to producing dimensional lumber and studs, our mill in Darrington, WA (Snohomish County) includes a cogeneration system that burns mill residual wood fiber (biomass) instead of fossil fuels to generate steam for drying lumber. This steam is also

converted to electricity by a turbine and generator and sold to the local utility as renewable energy. Further decline in raw material outputs from the Forest Service Pacific Northwest Region's (Region) timber sale program would threaten the viability of surrounding sawmills and severely strain the well-being and social fabric of nearby rural communities.

Background
Since the early 1990s, timber harvest volume on federal forestland in the Pacific Northwest has decreased by more than 90 percent. While federal forests make up nearly half of all forestland in Washington and Oregon, they currently account for only 10 percent of wood supply in the region. Although Washington State (WA) Federal land holdings represent 5.7 million acres, around one fifth qualifies as working forest (available for harvest)[1]. As a result of this decrease, many mills shuttered and the communities they supported declined. In the past few decades, federal forests have also become increasingly susceptible to disease and megafires, which ravage the landscape, threatening life, livelihoods, and critical habitat.

Purpose
Hampton Lumber supports many of the purposes of the NWFP Amendment including to establish new or modify existing plan components; to better enable the agency to meet the original intent of the NWFP; to provide a sustainable supply of timber and non-timber forest products; and to incorporate new information relevant to the NWFP. However, we support management actions (commercial harvest) within mature and old-growth ecosystems and habitat for the Northern spotted owl (NSO) and other species; and commercial harvest needed to restore riparian areas and waters.

New Information: Based on the most recent monitoring findings by the NWFP Interagency Regional Monitoring Program, barred owls are a primary factor that negatively affects NSO demographic traits and population trends. Other factors such as habitat loss resulting from wildfire, and insects and disease have also contributed and concern about the impacts of climate change is also increasing. **However, we oppose language that states "logging" as a cause of continued habitat loss, as this is a misleading over-simplification that could be harmful to ongoing forest restoration efforts. We ask that the language be updated to reflect more accurately, that historic, large-scale harvests on National Forests were part of the overall cause, not logging itself, which is an important restoration tool that has the support of a diverse array of stakeholders who participate in Federal Forest Collaboratives.**

We also have concerns over the suggestion that forest treatments should focus on "ecologically appropriate timber management, such as thinning", as all of the tools available should be considered and analyzed to contribute to development of new habitat, among other needs. For instance, regeneration harvest should be analyzed as a tool, as well as "commercial" thinning (in addition to non-commercial treatments) to achieve the Amendment's stated purpose, need for change, and other restoration needs.

In November 2023, the US Fish and Wildlife Service (USFWS) published a draft *Barred Owl Management* Strategy and Draft Environmental Impact Statement that addresses the threat of the non-native and invasive barred owls to NSO and California spotted owls. Removal of barred

[1] Mason, Bruce & Girard, Inc. 2022. Contribution of Working Forests to the Washington State Economy: 2021. Prepared for Washington Forest Protection Association (WFPA). https://data.workingforests.org/doc/WFPA_Industry_Econ_Impacts_2021_b.pdf

owls has "a strong, positive effect on survival of spotted owls, which arrested long-term population declines of spotted owls. The results demonstrate that the long-term persistence of spotted owls will depend heavily on reducing the negative impacts of barred owls while simultaneously addressing other threats, such as habitat loss."[2] While landscape habitat components reduced the effect of barred owls on rates of decline, they did not reverse the negative trend. Research indicates "that northern spotted owl populations potentially face extirpation if the negative effects of barred owls are not ameliorated while maintaining northern spotted owl habitat across their range."[3]

In reviewing alternate future outcomes for spotted and barred owl populations and associated evidence, Gutiérrez (2004) concluded that the future for northern spotted owls is bleak. Comparatively, barred owls are larger (Gutiérrez 2007); behaviorally and competitively dominant (Van Lanen et al. 2011); negatively affect the survival, productivity, recruitment, and population viability of spotted owls (Dugger et al. 2016, Mangan 2018); increase spotted owl extinction rates (Dugger et al. 2016); and display demographic superiority to spotted owls (Wiens et al. 2014).

The rapid expansion of barred owls across the Pacific Northwest and, more recently, through the Sierra Nevada has motivated conservationists, researchers, and managers to assemble the local and regional management plans necessary to mitigate the harmful effects of barred owls on spotted owls. With the start of an experimental 5-year plan to lethally remove barred owls from demographic study areas (Diller et al. 2014, 2016; Wiens et al. 2017, Wiens et al., 2018), there is evidence that removals can increase population growth of spotted owls in at least some areas.

Evidence also suggests that quality habitat may buffer spotted owls from the negative influences of barred owls (Dugger et al. 2016) and that spotted owls may have slight differences in use of forests and terrain, such as denser understory and steeper terrains, to carve out refugia (Jenkins et al. 2019). Thus, strategic removals coupled with management prescriptions that promote quality spotted owl habitat may represent the 2-pronged strategy necessary to save the species, or at least slow population decline until new alternatives can be identified."[4]

Need for Change

We also support the preliminary need to change focused on the five interrelated topic areas and offer our comments below.

1. Improving fire resistance and resilience across the NWFP planning area;

2. Strengthening the capacity of NWFP ecosystems to adapt to the ongoing effects of climate change;

3. Improving conservation and recruitment of mature and old-growth forest conditions, ensuring adequate habitat for species dependent upon mature and old growth ecosystems and supporting regional biodiversity [through commercial and non-commercial harvest];

[2] https://www.fws.gov/sites/default/files/documents/WiensEtAl2021.pdf
[3] https://www.sciencedirect.com/science/article/pii/S0006320721002202
[4] Wiens D.J. 2021. Invader Removal Triggers Competitive Release in a Threatened Avian Predator. University of California, Santa Cruz, CA. July 19, 2021. 118 (31) e2102859118. https://doi.org/10.1073/pnas.2102859118

4. Incorporating Indigenous knowledge into planning, project design, and implementation to achieve forest management goals and meet the agency's general trust responsibilities; and

5. Providing a predictable supply of timber and non-timber products, and other economic opportunities to support the long-term sustainability of communities located proximate to National Forest System lands and economically connected to forest resources.

1.Fire Resistance and Resilience

We support accelerated treatment to meet the wildfire crisis strategy and changing climate, and urge you to incorporate actions that will amplify landscape scale restoration at a pace commensurate with the immediate and urgent need. Considering the most significant threat to NWFP area forests of all seral stages (including mature and old growth) is catastrophic wildfire, insects, and disease, **any amendments made to the NWFP designed to improve the "sustainability" of mature and old growth forests should be focused on proactively addressing the risk for loss of these ecosystems to catastrophic wildfire through strategic, targeted, accelerated active forest management to reduce fuel loads.**

Active management strategies must include all tools available such as thinning, timber harvests, fuel breaks, maintained and safe transportation routes for firefighters, prescribe burning, improvements in the detection of wildfire starts, and aggressive suppression tactics near and in at-risk landscapes – just to name a few. A NWFP amendment should directly authorize and encourage the use of these tools and make their implementation easier, safer, and faster to match the scale of the wildfire and forest health crisis on National Forest System (NFS) lands. We appreciated several of the Region's districts making quick use of the Western Firesheds Emergency Action Declaration (EAD) under the Bipartisan Infrastructure Law.

We urge you to fully analyze fuels breaks (regardless of land allocation or stand age) to reduce the risk of catastrophic wildfire on adjacent communities, valued assets, or resources such as NSO habitat; provide for safe ingress and egress, and as wildfire suppression anchor points. Fuels breaks modify forest structures to reduce surface and ladder fuels in order to slow fire movement, reduce the potential for crown fire initiation, protect habitats, and decrease uncontrollable firefighting conditions. In general, the objective would be to raise the canopy base height and reduce canopy closure.

We want to amplify our whole-hearted support for protecting human life, above other concerns, especially considering the wake of numerous avertible tragedies across the planning area due to lack of management, historic fire suppression, and changing climate creating overly dense, crowded stands exacerbating insects and disease and exponentially increasing catastrophic wildfire risk. Each of these critical goals will require active management (meaning commercial timber harvest) across all land allocations, to meet habitat of restoration and wildfire risk-reduction objectives. We know that doing so will provide multiple benefits including forest health, community safety through solid ingress and egress, and wildfire response opportunities.

A large portion of the planning area is defined by the Washington Department of Natural Resources (DNR) as a "priority landscape" due to its "very high to extreme fire risk," representing some of the highest risk areas in the nation. Approximately 65 million acres of National Forest System Lands are at high or very high risk of catastrophic wildfires (USFS 2012).[5] Additionally, anticipated warming over the next 20-40 years is projected to shift climate conditions into a much drier state pushing currently moist forest towards dry forest conditions and shifting some low elevation areas from forest to shrub-steppe.[6] The need for treatment is backed by active fire history and difficulty controlling fire; the high amount of wildland urban interface (WUI) and abundance of structures; high insect and disease susceptibility and drought vulnerability, poorly or unmaintained roads leading to no safe ingress and egress, coupled with the current forest structure conditions compared to historic range of variability; and, shifting climate trends.

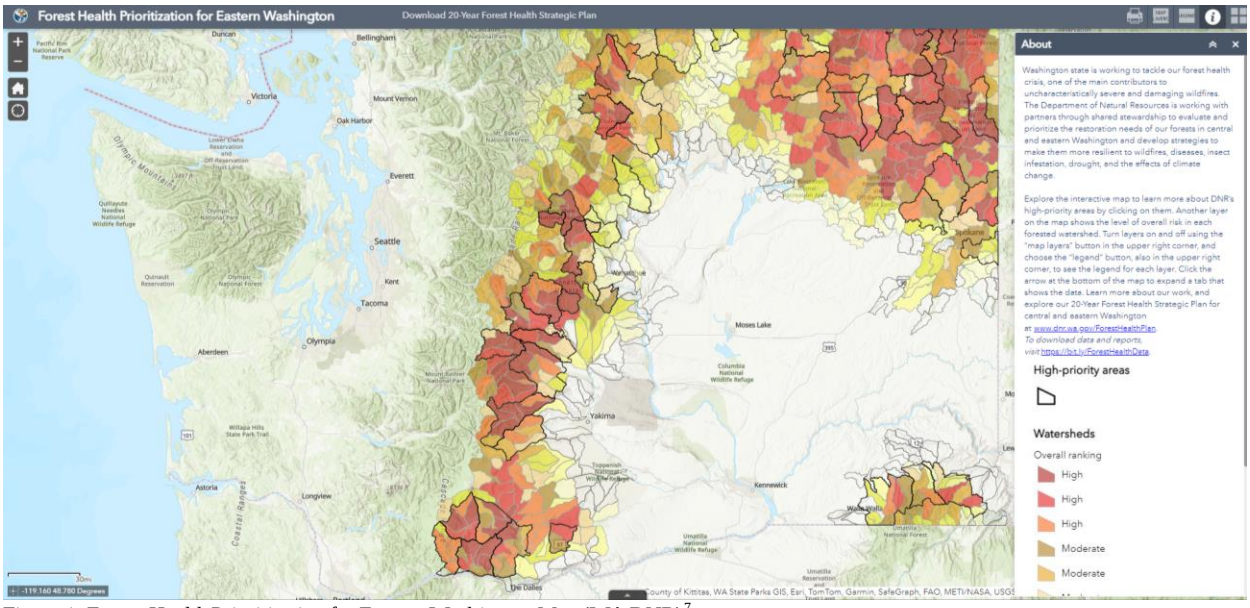


Figure 1. Forest Health Prioritization for Eastern Washington Map (WA DNR)[7]

Active management (including commercial harvest and fuel breaks) to reduce wildfire risks and severity is also important in Westside forests. The latest research from Oregon State University[8] shows that Westside fire was historically far more frequent than previously believed. Westside fires are burning hotter and more severe, intensifying and are projected to increase significantly with warmer temperatures, along with less moisture and increasing drought-like conditions over time.

Johnston et. al (2023) describe one of the first annually resolved reconstructions of historical (1500–1900 CE) fire occurrence in coast Douglas-fir dominated forests of the west slope of the Cascade Range in western Oregon:

[5] https://www.fs.usda.gov/sites/default/files/media/types/publication/field_pdf/increasing-pace-restoration-job-creation-2012.pdf
[6] https://foresthealthtracker.dnr.wa.gov/PriorityLandscape/Detail/7524
[7] https://wadnr.maps.arcgis.com/apps/webappviewer/index.html?id=51777b1ac0344b24bbb6621d3f633bdb
[8] Johnston, J., Schmidt, M., Merschel, A., Downing, W., Coughlan, M., and Lewis, D,. 2023. Exceptional Variability in Historical Fire Regimes across a Western Cascades Landscape, Oregon, USA. Ecosphere 14(12): e4735. https://doi.org/10.1002/ecs2.4735

> "Mean fire return intervals (MFRIs) across 16 sites within our study area ranged from 6 to 165 years. Variability in MFRIs was strongly associated with average maximum summer vapor pressure deficit. Fire occurred infrequently in Douglas-fir forest stands seral to mountain hemlock or silver fir, but fire frequency was much shorter than predicted by theory in other forest types. MFRIs within Douglas-fir stands seral to western hemlock or grand fir ranged from 19 to 45 years, and MFRIs in stands seral to Douglas-fir ranged from 6 to 11 years. There was little synchrony in fire occurrence or tree establishment across 16 sites separated by 4 km. The lack of synchrony in fire suggests that large, wind-driven fire events that are often considered to be characteristic of coast Douglas-fir forests were not an important driver of succession in our study area during the last ~400–500 years. Climate was more arid than normal during fire years in most forest types, but historical fire in stands seral to Douglas-fir was strongly associated with antecedent moisture and less strongly associated with drought.
>
> We interpret the extraordinary tempo of fire we observed in stands seral to Douglas-fir and the unique climate pattern associated with fire in these stands to be indicative of Indigenous fire stewardship. This study provides evidence of far more frequent historical fire in coast Douglas-fir forests than assumed by managers or scientists—including some of the most frequent fire return intervals documented in the Pacific Northwest.
>
> We recommend additional research across the western Cascades to create a comprehensive account of historical fire in highly productive forests with significant cultural, economic, and ecological importance" (p.1).

In a 2022 *Memo to Land Managers, Partners and Stakeholders on The Role of Fuel Breaks in Landscape-Scale Restoration and Community Protection in Eastern Washington*[9], WA DNR proposes fuel breaks and landscape treatments as complementary approaches that serve different landscape goals. Combining these approaches at the appropriate scale and location "will significantly increase our capacity to protect communities and firefighters while improving forest health across all lands" (p.1). Hersey and Barros (WA DNR 2022) also describe Potential Control Lines (PCLs) and Potential Operational Delineations (PODs), as "features that provide a benefit to fire operations, stating:

> On the landscape, PCLs correspond to roads, water bodies, fire scars and other landscape features that provide safe and potentially effective control lines due to their strategic locations and lack of fuel…PCLs can also be identified through the Potential Operational Delineation (POD) process as part of pre-suppression planning efforts during the off-season. PODs are systems that divide the landscape into manageable units to constrain the spread and size of fires or allow safe fire use, depending on pre-defined management goals (Caggiano 2019). They consist of a network of PCLs identified by firefighters using a combination of

[9] Hersey, C., and Barros, A. 2022. *The role of shaded fuel breaks in support of Washington's 20-Year Forest Health Strategic Plan: Eastern Washington: Memo to Land Managers, Partners and Stakeholders on The Role of Fuel Breaks in Landscape-Scale Restoration and Community Protection in Eastern Washington.* Washington Department of Natural Resources, Forest Resilience Division. https://www.dnr.wa.gov/sites/default/files/publications/rp_fuel_break_memo_hersey_barros_2022_final_wa_dnr.pdf

> analytics, local knowledge of past fire behavior and landscape conditions (Dunn et al. 2020, Thompson et al. 2020).
>
> DNR uses PODs to prioritize landscape treatment needs [and] are used to align forest health and fire operation goals by creating a spatial template to prioritize locations where landscape treatments and fuel breaks can be combined to improve POD and PCL conditions (Fig. 3-see p.5). PCLs and PODs are prioritized and combined to highlight opportunities for treatments that provide a dual benefit of forest health and wildfire response opportunities (p.2).

Hersey and Barros (2022) describe combining PCLs and shaded fuel breaks in high-risk areas "to harden the line, connect portions of a PCL and improve its safety and effectiveness for fire operations" stating that "in conifer forests, a common approach is to implement a shaded fuel break along the PCL where a combination of canopy and surface fuel reduction occurs within a variable distance of each side of the PCL. The primary purpose of a shaded fuel break along a PCL is to create a safer, more accessible area for fire operations and reduce fire exposure in high-risk areas. While thinning and prescribed burning to reduce fuel continuity and remove ladder fuels may increase forest resilience along that narrow treated area, in landscapes that have extensive forest health restoration needs, fuel breaks alone are not adequate to increase forest resiliency and reduce risk to values at scale" (p.3).

Hampton Lumber strongly supports using PCLs and fuel breaks of a minimum of 300 feet in width to further reduce risk and provide increased fire fighter safety, increased defensible space to nonfederal lands, at-risk communities, NSO habitat.

2.Strengthening the capacity of NWFP ecosystems to adapt to climate change

We ask that the Amendment analyze forest regeneration harvest to meet the need for having a mosaic of habitats continuing to exist across the landscape. In shifting climates, trading LSR for matrix and vice versa may be necessary to ensure a truly varied and resilient forest condition across the Region's forests. In addition, we request that you analyze creating larger gaps (i.e., over 40 acres), along with heavy thinning, to create a varying mosaic of successional stages (i.e., early successional gaps) and habitat types appropriate for site conditions long term.

3.Improving Recruitment of Mature and Old-Growth Forest Conditions, Ensuring Adequate Habitat for Upon Old Growth Dependent Species

Hampton Lumber supports healthy and productive forests of all seral stages, including early seral and mid seral. Yet the proposed amendment focuses exclusively on two specific seral stages that, based on monitoring reports and routine assessments, seem to be stable or increasing. In fact, the April 2023 *Old-Growth and Mature Forest: Definition, Identification, and Initial Inventory on BLM and Forest Service Lands* report concludes: 1) combined old-growth and mature forests cover the majority of Forest Service and Bureau of Land Management (BLM) forest lands; 2) old-growth and mature forests are generally widely distributed geographically and across LUAs,

with old-growth covering 18% and mature forest covering 45% of forested Forest Service and BLM lands[10].

Additionally, the July 2020 Bioregional Assessment and its 2021 supplement, concluded that old-growth forest is generally considered stable on federal lands and has increased slightly since 1993, providing the abundance, diversity, connectivity, and availability needed to support ecosystem functions and specific old-growth-dependent species[11] categorized the "conservation of dense, multi-layered, old growth forests" under the heading "What is Working Well." [12] The most recent, the 25-year NWFP monitoring report published in 2022 assessed the status of old-growth forests from 1994-2018 also concluded that "trends in older forest are stable to slightly increasing. These levels are due to losses of older forests in dry ecosystems due to wildfire balanced by gains in older forests in moist ecosystems." [13]

In addition to these sources documenting positive trends for both mature and old growth forest, the current NWFP has an entire LUA solely dedicated to the "enhancement and protection of late-successional and old-growth forest ecosystems" called Late Successional Reserves (LSRs). It should also be noted that the vast network of riparian reserves is generally managed in alignment with LSR objectives. **Regenerating stands within the late successional reserves (LSR) and replanting with wide, dynamic spacing (including clumps and gaps) should be analyzed to develop large diameter trees, with large, wolfy, inconsistent limb structure.** This would include regeneration harvest with legacy features to create and improve late successional habitat, with consideration of the appropriate structure not currently existing or able to develop in overly dense homogenous plantation stand conditions. Much of the planning area has developed through successional stages in dense, competitive, plantation-like growing conditions, and therefore lacks the ability to produce trees with old growth habitat characteristics. Active management will be required in many of the LSR stands to bring them into a condition that is favorable to NSO.

Since current stands will not succeed in supporting all life cycle requirements of the NSO without treatments to improve growing tree structure and spacing, we support thinning in stands over 80 years to promote, protect, and maintain late successional habitat, while increasing resistance and resilience to insects, disease and wildfire, and increase habitat viability as many of the stands developed in tightly spaced, overly dense plantations.

We request that the Amendment analyze reducing tree densities and shifting forest stand structure, species composition, and landscape pattern to reduce insects and disease risks and damage. We ask that the NWFP Amendment include the opportunity to manage Late Successional Reserves (LSR) and Riparian Reserves to reduce the threat of severe or catastrophic wildfire, while also allowing silviculture treatments to enhance or accelerate the development of large, mature and old trees. Plantations within riparian areas would benefit from thinning in order to move the remaining stems toward contributions of coarse wood routing. Along with the benefits of having larger diameter trees on the site, larger trees could

[10] U.S. Department of Agriculture, Forest Service, *Bioregional Assessment of Northwest Forests* (2020).
[11] U.S. Department of Agriculture, Forest Service, *Bioregional Assessment of Northwest Forests* (2020).
[12] U.S. Department of Agriculture, Forest Service, *Supplemental Report to the Bioregional Assessment of Northwest Forests* (2021).
[13] Davis, Raymond J. et al., *Northwest Forest Plan—The First 25 Years (1994–2018): Status and Trends of Late-Successional and Old-Growth Forests* (2022). Pacific Northwest Research Station, General Technical Report PNW-GTR-1004.

lead to not only coarse wood recruitment but to streambank stability with increased root mass. Additionally, much of the Region needs to implement vegetation treatments to develop additional NSO habitat in the most sustainable landscape locations, with changing climate and wildfire risk, coupled with barred owl competition in mind. **The Amendment must make it possible to harvest trees over 80 years in age to accomplish these actions without requiring a project-specific NWFP amendment.**

We also support broad landscape-level treatments designed to move current conditions closer to reference conditions and thus increase landscape resilience to disturbances. Treatments would be more aggressive outside of high-quality habitat and Activity Centers and may temporarily remove nesting, roosting, and foraging (NRF) habitats to reduce the risk to other habitats. Habitat with NSO activity in the past 15 years and contain the greatest amount of sustainable NRF) should be prioritized for retention.

It is important to note that "mature" language in the NOI is being added under what we believe to be preservationist mentality and much more conservative than needed. Applying hard definitions of "mature" trees will lead to potentially significant impacts and exacerbate those to underserved, overburdened, impoverished, rural forest-proximate and dependent communities, late successional associated wildlife habitat and overall forest and riparian resistance and resilience. Any language regarding "old growth" in the NWFP amendment will have to tier to land management plan direction for old-growth forest conditions across the NFS.

5.Predictable Supply of Timber and Opportunities to Support the Long-Term Sustainability of Communities Located Proximate to National Forest System Lands and Economically Connected to Forest Resources

We request you conduct detailed socioeconomic analysis to determine the context and intensity of alternatives on the stability of local and regional economies, and how it contributes invaluable forest product resources to the economy, on a predictable and long-term basis. This would be focused on commercial timber products that forest-dependent communities in the NWFP area rely upon, and cannot replace with another industry (e.g., biochar of pre-commercial materials only, or recreation-focused economies). We have first-hand experienced and witnessed the significant impact of milling infrastructure closing due to unpredictable and diminished timber volume from the NWFP area. Once a mill closes it does not come back, and school, grocery store, post office, etcetera closures follow.

Socioeconomic analyses in NWFP area National Environmental Policy Act (NEPA) analyses are severely lacking, we urge our Forest Service partners to hire an economist to perform an in-depth analysis, far beyond that of the monitoring that has occurred in previous years. Additionally, we ask that Region Forests publish how they have met targets, (i.e., share the wins), show the impacts (both beneficial and adverse) on communities over time, not just at the 5-year monitoring interval—each of the NWFP area forests need accountability measures in place to offer, sell, and even exceed the target timber volume assigned annually. This would also include accountability measures for districts that fall below harvest targets; we urge you to do a regular review of factors that led to delay/shortfalls and the socioeconomic and environmental impacts of those

deviations related to the goal of providing a predictable supply. Without this information it will be impossible to accurately assess the impact of the proposed action and any alternatives.

Socioeconomic metrics to consider would include local job creation, impacts to milling infrastructure and continued operability, and future restoration funding through stewardship contracting and Good Neighbor Authority (GNA). Approximately 33-40 direct, indirect and indirect jobs are created for every mmbf of timber harvested in Washington and results in approximately $1-2 million in wages for every mmbf harvested.[14]

We suggest your analysis of direct, indirect, and induced impacts of timber production, including logging and hauling activities. Forest product industry partnership to identify and assist in analyzing these metrics would be gladly offered during effects analysis.

NWFP area forests offer significant economic support to rural economies in the form of forest-related jobs and incomes. WA DNR (2022) data suggests that "78 cents of every dollar spent on forest health supports income for a Washington resident". In Eastern Washington alone, WA DNR data shows that forest health treatments (across all land ownerships) would support an annual average of 1,518 (low) to 2,572 (high) total jobs (direct, indirect, and induced) over the next 20 years (2022).

Not only do they offer economic opportunity, but "healthy forests contribute a range of benefits from wildfire resilience to improved air, water, and soil quality, biodiversity, and cultural value" (WA DNR 2022, p.ES). "Restoring forest health will require a mix of forest harvesting, noncommercial thinning, site preparation, and controlled burning with many acres needing multiple treatments" states WA DNR (2022) across NWFP area forests.

We concur with the section of the USFS 2012 publication regarding the *Importance of Forest Restoration and Management on Our National Forests for Jobs* which states "an additional benefit of this restoration work is job creation…the benefits of maintaining a robust forest industry flows not only to local communities. The Forest Service relies on local forest contractors and mills to provide the workforce to undertake a variety of restoration activities (p.5). Our ability to support the communities in which we operate, and to source our Oregon and Washington sawmills is increasingly dependent on the availability of raw material from the Region's timber sale program. The family-wage employment we provide along with the indirect employment provided by the presence of our manufacturing facilities benefits schools, businesses, and the overall economic wellbeing of the greater region.

WA DNR's 2022[15] *Economic Impacts of Investing in Climate Resilience through Ecosystem Restoration in Washington State* "study analyzed the economic impacts of low- and high-level implementations of DNR's 20-Year Forest Health Strategic Plan for Eastern Washington. The Strategic Plan's goal is to conduct 1.25 million acres of forest treatments in eastern Washington by 2037 across all land ownerships. Implementing forest health treatments across National Forest

[14] https://data.workingforests.org/doc/WFPA%20Economic%20Contribution%20Study%202014%20Forest2Market%2020161130.pdf and referenced in "Unveiling the Economic Impacts of the Timber Industry," January 23, 2024. Found at: Unveiling the Economic Contributions of the Timber Industry - LANDTHINK

[15] https://www.dnr.wa.gov/publications/em_climateresilience_economic_impact_jan22.pdf

System lands in the NWFP area would provide significant support to logging and forestry services sectors, their suppliers, and communities.

Now, more than ever, the stability and growth of the forest sector and workforce are needed to help the Forest Service address its forest health and wildfire crises impacting more than 60 million acres on the NFS. The dramatic declines in NFS timber supply as a result of the NWFP contributed to the loss of forest sector infrastructure and related supply chains, family-wage jobs, and critical revenues that support public services such as education, roads, law enforcement, mental health, search and rescue, and public safety.

Examples of impacts to Okanogan-Wenatchee National Forest: Some forests within the NWFP area have lost milling infrastructure altogether, including the Okanogan-Wenatchee National Forest (OWNF). The OWNF has opportunity to sustain existing milling infrastructure by producing economically viable sales, to meet the NWFP intended needs, and deliver on the USFS Chief's National Wildfire Crisis Strategy.

Additionally, the OWNF currently must do project-level amendments to the NWFP (such as those for treatments needed to protect human life or wildfire habitat), because current science is different than NWFP direction. Due to this, and other process hold ups, such as lengthy ESA consultation timeframes, the OWNF experiences a consistent pattern of large-scale fires occurring ahead of project decisions in their high-priority project landscapes, requiring the Forest to redo their NEPA analysis. Yet, an accelerated need for restoration treatments is crucial to move OWNF present day stand structure towards the Historic Range of Variability (HRV), and one that will support the future changing climate. This need is substantiated by widespread habitat degradation, insect and disease outbreaks, as well as uncharacteristic, increasingly-catastrophic, and deadly wildfire, across forests in the west[16].

Data sources that can be used to inform socioeconomic analysis should include those we've referenced above in addition to the Headwaters Economics' National Forest Socioeconomic Indicators Tool found at: https://headwaterseconomics.org/tools/forest-indicators/

Common to All Five Topic Areas

Addressing Environmental Justice Concerns: **Hampton Lumber encourages our Forest Service partners to take a hard look at the significant disparate impacts to rural underserved, overburdened, low-income forest-dependent communities within the NWFP area as part of the amendment.** Executive Order (E.O.) 12898 directs federal agencies to *identify* and *address* the disproportionately high and adverse human health or environmental effects of their actions on minority and low-income populations, to the greatest extent practicable and permitted by law. April 2023's *Executive Order on Revitalizing Our Nation's Commitment to Environmental Justice for All* which states: "Restoring and protecting a healthy environment is a matter of justice and a fundamental duty that the Federal Government must uphold on behalf of all people…It is also necessary to prioritize building an equitable, inclusive, and sustainable

[16] Haugo, et. al. 2015. *A new approach to evaluate forest structure restoration needs across Oregon and Washington, USA*. Forest Ecology and Management, Volume 335, Pages 37-50. ISSN 0378-1127. https://doi.org/10.1016/j.foreco.2014.09.014.

economy that offers economic opportunities, workforce training, and high-quality and well-paying jobs…to ensure "underserved and overburdened communities" of which many of the rural communities we live, operate work, and play in qualify as "do not face additional disproportionate burdens." In updating the NWFP, the agency has a responsibility to these forest proximate communities to contribute to their social and economic sustainability (36 CFR 219.8(b)).

The NWFP has significantly impacted rural forest-dependent low-income, underserved and overburdened communities. Forest-proximate and dependent economies have floundered with significant job and business loss, decreased services, population loss and increasingly high poverty rates. In fact, money intended to help rural communities with the assumed socioeconomic impacts of the NWFP never arrived. This is exemplified by programs, such as Secure Rural Schools, in which money intended to help schools is distributed based on student enrollment. Thus, when approved, the money goes to Everett's urban-centered schools, with Darrington only receiving $900, or $2 per student annually[17] (a mere 0.5% of the funds)[18].

Other notable impacts from the NWFP on the Darrington community include a 75% reduction of local Forest Service staff (with positions being moved to urban centers and loss of associated revenue and sense of place as staff no longer live, eat, shop, play and socialize in the community). The median household income for Darrington was half that of Snohomish County as a whole (in 2022- and currently the poorest Snohomish County community)[19], and Darrington is just one of the hundreds of rural forest dependent communities impacted in this manner.

Riparian Reserves: **Large (over 25-100 foot) no harvest buffers within Riparian Reserves would be bad for fish, bad for forests, bad for people, are not based on the most current science, and are inconsistent with most recent buffers on individual forests.**

We ask that the NWFP Amendment include the opportunity to manage both Late Successional Reserves (LSR) and Riparian Reserves to reduce the threat of severe or catastrophic wildfire, while also allowing silviculture treatments for restoring forest health and resilience. Plantations within riparian areas would benefit from thinning in order to move the remaining stems toward contributions of coarse wood routing. Along with the benefits of having larger diameter trees on the site, larger trees could lead to not only coarse wood recruitment but to streambank stability with increased root mass[20]. Additionally, much of the Region needs to implement vegetation treatments to develop additional NSO habitat in the most sustainable landscape locations, with changing climate and wildfire risk, coupled with barred owl competition in mind. The Amendment must make it possible to harvest trees over 80 years in age to accomplish these actions without requiring a project-specific NWFP amendment.

[17] Darrington School District enrollment in the 2017-2018 school year was 439 students - 317 at the elementary school and 122 at the high school.
[18] https://ospi.k12.wa.us/sites/default/files/2022-12/fedfor_srs_updated_1718.pdf
[19] Median household income for Darrington was $21,700 in 1990 and $49,000 in 2022, compared to $36,800 in 1990 and $101,500 in 2022 for Snohomish County as a whole.
[20] See Science Synthesis section below for summary of riparian no harvest buffers science as quoted in the North Fork Stillaguamish EA MBS *Response to Comments* (p.14-18) found at https://www.fs.usda.gov/project/?project=61659

The 2018 Synthesis of science to inform land management within the NWFP area supports an update to the NWFP based on best available science. We provide literature below and in Appendix A as a means to incorporate the most up-to-date science, and drive appropriate stream no harvest buffers, and to attain Aquatic Conservation Strategy (ACS) objectives. The intent of the Riparian Reserves land allocation is for these lands to be managed for the attainment of the ACS objectives in the long term (S&G, B-10). Effects on the ASC objectives from project specific actions are measured not only at the stand scale but at the watershed or landscape level. Some of these effects include minimizing impacts to stream flows, maintaining coarse woody debris in headwater and higher order riparian streams, limiting bank erosion, and maintaining shade and microclimate (S&G, B-9). Additionally, impacts to terrestrial animals and plants that utilize riparian areas as dispersal corridors should be improved or maintained (S&G, B-13).

The ACS describes the need for treatments that meet the objectives of multiple habitat types and **we seek to incorporate Riparian Reserve inner and outer zone definitions into the NWFP Amendment that allow commercial treatments to meet habitat and wildfire risk reduction needs. If the Forest Service wants to improve fire resiliency at the necessary scope and scale, it must ensure that such improvements can and will be made across riparian reserves.**

A 2011 study on the effects of fire exclusion on southwest Oregon forests concluded that:

- Fire exclusion has altered the structure, composition, and successional trajectory of riparian forests in fire-prone landscapes.
- Fire exclusion has been associated with increases in tree density and recruitment of shade-tolerate species that may replace large diameter, more decay-resistant Douglas-fir trees[21].

Most notably, this study concluded that "the current hands-off management regime for riparian forests under the NWFP will have ecologically undesirable consequences." **The Forest Service must remove existing NWFP obstacles that will prolong this management regime and develop new direction.**

First, the amendment should propose dropping the second site-potential tree height on fish-bearing streams. The literature cited above from the Science Synthesis supports such a change as new research indicates that "microclimatic changes in temperature and relative humidity seldom extend farther than one site-potential tree-height."

Second, the amendment should consider reducing the buffer width on small, non-fish bearing intermittent streams. Currently, any waterway that shows scour and deposition is subject to a full site potential tree height buffer. For a stream that is two inches wide and only flows water for one month a year, a buffer in excess of 150 feet is extreme and does not provide measurable incremental protection. In regard to stream temperature, for streams that only run water during a couple winter months, stream shade should not be a concern. In regard to sedimentation, buffers much smaller than a full site potential tree should be sufficient. A 2006 study concluded that "vegetated buffers that are greater than 33 feet in width have been shown to

[21] Messier, Michael S., Shatford, Jeff P.A., and Hibbs, David E. 2011. Fire Exclusion effects on riparian forest dynamics in southwestern Oregon. *Forest Ecology and Management*. 264 (2012) 60-71.

be effective at trapping and storing sediment." [22] And in regard to wood recruitment, the Forest Service should be aware that under no circumstances are 100% of the trees removed in any portion of riparian buffers, providing ample in-stream wood.

Third, the amendment should modify current standards applicable to riparian reserves that discourage active management, particularly timber harvest. It is well documented that timber harvest is often a critical tool for reducing density and improving fire resiliency in overstocked forests. Current standards in the NWFP should be modified from their current structure of discouraging timber harvest toward encouraging active management, including timber harvest.

Standard TM-1 reads: "Prohibit timber harvest, including firewood cutting, in riparian reserves, except as described below." This Standard establishes an overarching prohibition that must be overcome to implement timber harvest. In other words, managers who wish to treat riparian reserves for forest health or fire resiliency face an uphill battle to prove that such treatments are warranted. This immediately discourages many managers from attempting to design the treatments they deem necessary.

This standard should be removed and replaced with a standard that encourages active management for forest health and fire resiliency through all forms of treatment, including timber harvest.

We support American Resource Council's (AFRC's) proposed guideline to replace the existing standard:

> Utilization of all forms of vegetation management, including timber harvest, is encouraged in riparian reserves to attain ACS objectives, including improving resilience to wildfire. Such treatments should be focused on forests of all ages and origins if necessary to achieve desired end results.

Effects of Riparian No Harvest Buffers Over 25-100 Feet: No harvest buffers over Regionwide commonly used 25-100 foot widths would represent a significant increase that: (1) would remove an important source of funding (stewardship sale retained receipts) that are regularly applied to address road-related fish and aquatic resource impacts; (2) would significantly impact the operability of forest health treatments that are needed to achieve Aquatic Conservation Strategy goals in many Riparian Reserves; (3) would have significant economic impacts on rural communities; (4) are not substantiated by robust scientific literature compared to previous agency consultation agreements; and, (5) are too dramatic of an increase to be applied broadly across multiple National Forests because it will reduce the ability to adapt management to site-specific conditions.

Historic plantation-style harvest practices, fire suppression and lack of management have left many riparian areas (2,627,500 acres over the NWFP planning area) in a structurally simple state. Sound science shows that thinning in riparian areas actually accelerates the stand's trajectory to produce large conifers and has minimal effect on stream temperature with

[22] Rashin, E., C. Clishe, A. Loch and J. Bell. 2006. Effectiveness of timber harvest practices for controlling sediment related water quality impacts. *Journal of the American Water Resources Association*. Paper No. 01162

reasonable buffers. Removal of suppressed trees has an insignificant short-term effect on down wood, and ultimately a positive effect on long-term creation of large down woody debris and large instream wood, which is what provides the real benefit to aquatic habitat.
This is supported by multiple recent studies that measured no harvest buffer distances within thinning treatments needed to reduce impacts from harvesting on stream temperature, macroinvertebrates, aquatic organisms, coarse wood, and microclimate summarized below:

- Groom et al. 2018, Sweeney and Newbold 2014; Riparian Effect Thinning No-Cut Distance; Stream Temperature Fish Bearing (0.3C-0C) 25-50 feet, Headwater Stream Vertebrates and Habitats; 50 feet
- Olson and Burton 2014; Coarse Wood (7% Decline- No Decline)
- Benda et al. 2016, Spies et al. 2013; 33 feet – Tree Height
- Anderson et al. 2007; Microclimate 50 feet

A no harvest buffer of 50 feet adjacent to thinned units on perennial fish bearing streams would likely result in no effect to fish in the short-term and would likely result in very little decline of large wood to the stream over the long-term (especially if combined with downed wood creation activities). Shorter no harvest buffer distances of up to 25 feet could be utilized where stream temperature impacts are not as critical.

Larger no harvest buffers limit ability of the stands to respond to thinning treatments, which greatly impacts the response period after thinning. Thinning stands less than 50 years old has a greater benefit for improving structural development because these stands are most able to respond to thinning with increased diameter growth, canopy elongation, and multi-species establishment (Spies et al. 2013).

Matrix Land Use Allocation (LUA): The NWFP does not define any objective for the Matrix LUA. In place of an objective, the NWFP states the following under the Matrix LUA:

> *Most timber harvest and other silvicultural activities would be conducted in that portion of the matrix with suitable forest lands, according to standards and guidelines. (NWFP Standards & Guidelines, p. C-39)*

We concur with AFRC that this statement is not an "objective" and has failed to provide clarity to Forest Service managers on what to do and how to actively manage within the Matrix LUA.

The Matrix LUA also lacks any clear standards and guidelines that direct land managers and decision makers to conduct timber harvest and how to conduct it. Ultimately, this absence of clear objectives and standards and guidelines that encourage timber harvest has led Forest Service land managers to interpret sustained-yield timber harvest as an optional objective. The practical impact of this lack of clarity, predictability, and certainty is the failure to achieve modest Probable Sale Quantity that supply and support forest products infrastructure, workforce, and forest dependent communities. **We support AFRC's proposed amendments to address these two deficiencies by clarifying objectives and clarifying standards and guidelines.**

We also propose:

1) Deleting the first sentence under the "Description" heading in the NWFP for the Matrix LUA;

2) Replacing *"Most timber harvest and other silvicultural activities would be conducted in that portion of the matrix with suitable forest lands, according to standards and guidelines."* With*:*

"The objective of the Matrix LUA is to provide a regular and predictable supply of timber products under a management paradigm that aligns with the principles of long-term sustained yield to attain the annual Probable Sale Quantity (PSQ), support the forest products infrastructure, and provide revenues for public services."

3) Adding a standard or guideline that requires/recommends vegetation management actions designed for sustainable timber management; in addition to adding the following standards & guidelines:

- *The primary purpose of silvicultural treatments is to provide a sustainable supply of timber.*

- *To attain this sustainable supply, managers should utilize a combination of intermediate thinning, uneven-aged management, and variable retention harvests to attain Matrix LUA objectives, including the attainment of PSQs.*

- *Variable retention harvests should be the default silvicultural treatment in "moist forests" when a stand in the Matrix LUA reaches culmination of mean annual increment (CMAI) or when managers determine the need to create early seral forest habitat in younger forests.*

- *Uneven-aged management, with group selections, should be the default silvicultural treatment in "dry forests" when a stand in the Matrix LUA reaches CMAI or when managers determine the need to create early seral forest habitat.*

- *Intermediate thinning treatments should be utilized to:*
  - *Improve growth and vigor of the residual stand.*
  - *Create heterogeneity within the residual stand.*
  - *Reduce the likelihood of loss due to fire, insects, and disease.*
  - *Modify the species composition of residual stand.*

- *Variable retention harvests and uneven aged treatments should be utilized to:*
  - *Ensure a sustainable supply of timber on the Matrix LUA.*
  - *Support the local forest products sector.*
  - *Support county governments and public services.*
  - *Reinitiate a healthy and diverse early seral stand.*

Regeneration Harvest: **Where the need for treatment supports larger gaps, we ask you to consider analyzing regeneration harvest that will help maintain the stability of local and regional economies, and contribute valuable resources to the national economy, on a predictable and long-term basis, as intended in the current NWFP.** These focused harvests, which can maximize timber volume, also sustain the health and economic well-being of people. This added purpose of the Amendment is especially important to promote a forest workforce, with a focus on timber and other economic opportunities in order to maintain or improve existing milling infrastructure required to meet the need for change.

Additionally, we support and ask you to analyze opportunities to create complex early seral habitat, which is characterized by greater retention of snags, large trees and downed logs and takes longer to develop into a young forest stage and other successional stages than plantation forestry models using replanting, clearing and treatment. **We ask you to analyze regeneration harvest and regeneration harvest with legacy features, along with heavy thinning, skips and gaps to create landscape-scale appropriate complex early seral habitat, which we understand is currently underrepresented on the landscape. Regeneration harvest is also a tool that should be analyzed to create a mosaic of biodiversity across all land allocations, as appropriate to meet the purpose and need for change.**

Diameter Limits: **We urge you not to include diameter limits in any amendment.** In our experience the use of diameter limits (e.g., Eastside screens) is extremely limiting to meet desired conditions, historic range of variability, and future conditions and we are glad that the NWFP does not include such limits. **Hampton supports commercial treatment across land allocations that support cutting a larger diameter at breast height (DBH), where doing so would have long term benefits of reduced wildfire risk, habitat improvement, stand structure restoration, and overall increased watershed health and resilience.** We believe doing so far outweighs the short-term effects of harvesting some select larger trees.

However, it is important to note that DBH is not an indicator of age, and age is not an indicator of DBH. It is common to see in high elevation, rocky, poor site class stands of timber where growth is suppressed and 200+ year-old trees will only have a DBH of 10 to 12 inches. Conversely, in low elevation high site class stands with ample precipitation, it is not uncommon to see 50-year-old trees achieve a DBH of 32 inches or even larger. Hence, this is where we need to further refine any definition of "mature and old growth", ensuring reasonable exceptions to cut any age class if treatment need warrants doing so (without a project-level amendment), and not restrict land managers with DBH limits in the NWFP amendment.

Condition-Based Management: **Hampton Lumber supports our Forest Service partners in updating their approach to restoration using a condition-based management (CBM) approach, as determined through lessons learned experience, applying the latest science, and following appropriate guidance, rules, and regulations. We ask you to analyze all tools to implement treatments in a quick and efficient manner to meet the need for change at the appropriate accelerated pace and at the scale of the problem.** CBM aims to collect "the right data at the right time for the right activity to meet the land management decision", as described in the USFS's CBM FAQs[23]. This is done by examining, "known or expected environmental conditions and a range of possible management activities…using mid-scale and site-specific data…Then, once a decision is documented and prior to implementation, current site conditions are confirmed in specific locations and the appropriate management activities are assigned". We recognize that while there may be a time savings during the NEPA analysis phase, Districts will still have to do all required survey work prior to implementation.

Communities: We agree that NWFP development and implementation has had significant socioeconomic, cultural, workforce, and financial impacts on communities. We concur that the NWFP has not achieved its timber production goals, which were its primary criteria for supporting economies and community wellbeing (e.g., livelihoods and subsistence practices).

[23] https://www.fs.usda.gov/sites/default/files/2022-04/%27CBM_FAQs_24JAN22%27%20of%20%27AR-%20Project%20Development%27.pdf

We disagree with the stated intent of the NWFP Amendment to "promote adaptability of communities, the forest workforce, and the Forest Service to future changes with a focus on timber and non-timber products and other economic opportunities" insomuch as it does not focus on maintaining or improving existing milling infrastructure which is requisite for meeting the stated purpose and need for change, especially in light of increased severity of wildfires, changing climate, and a growing need and demand for sustainable harvested wood products regionally and globally.

Hampton and the industry have adapted, mills across the planning area retooled to process a smaller log, or they went out of business. Those mills left standing have stood the test of time, adapting as required by the NWFP. **We ask that you carefully and thoughtfully consider the important contributions Regional manufacturing facilities, along with the forest industry professionals that will be supporting and performing the treatments on the ground, make to the local and Region economies and culture.**

Dr. Elaine Oneil, Executive Director of Washington Farm Forestry Association, recognizes our human connection to forests and the importance of community connection to surrounding forests stating:

> "We are a part of a global system - of weather, of climate, of commerce, of human need for forests and their products. We are also a part of a local system of economy and ecology where human needs for forest products and the forest's need for human ingenuity are reflected in our focus on forest health, sustainability, and innovation. There are many reasons for optimism and few reasons for despair. Our forests are remarkable, resilient, and fully capable of providing for human needs at all scales, and in all ways. When we remember that people are also a part of this system, and not apart from it, durable solutions will emerge – for the climate, the community and the forests."[24]

Fostered by a land ethic that ensures "our forests remain productive and healthy, with the co-benefit of producing wood, carbon sequestration, clean air and water, fish and wildlife habitat, and providing that connection to nature that is so necessary for us to thrive" says Oneil.

Federally collected forest inventory data (Figure 2) show that the amount of wood grown, and therefore carbon sequestered has remained relatively stable over the past 70 years. Despite assertions to the contrary, we are not depleting our forests where we are keeping them as forests. We are however losing forests to agriculture, development, insects, wildfire and pests. Conversion occurs near communities where land values for other uses exceed those for keeping forests as forests. And wildfire and pests are killing National Forests System Lands at an alarming rate (Figure 3).

[24] Oneil, E. 2023. Whatcom County Farm Forestry Association Presentation: Climate Carbon and Our Forests. Washington Farm Forestry Association. Presentation on November 2023 with data from U.S. Forest Service Forest Inventory and Analysis: https://www.fs.usda.gov/research/inventory/FIA The Consortium for Research on Renewable Industrial Materials: www.corrim.org and others.

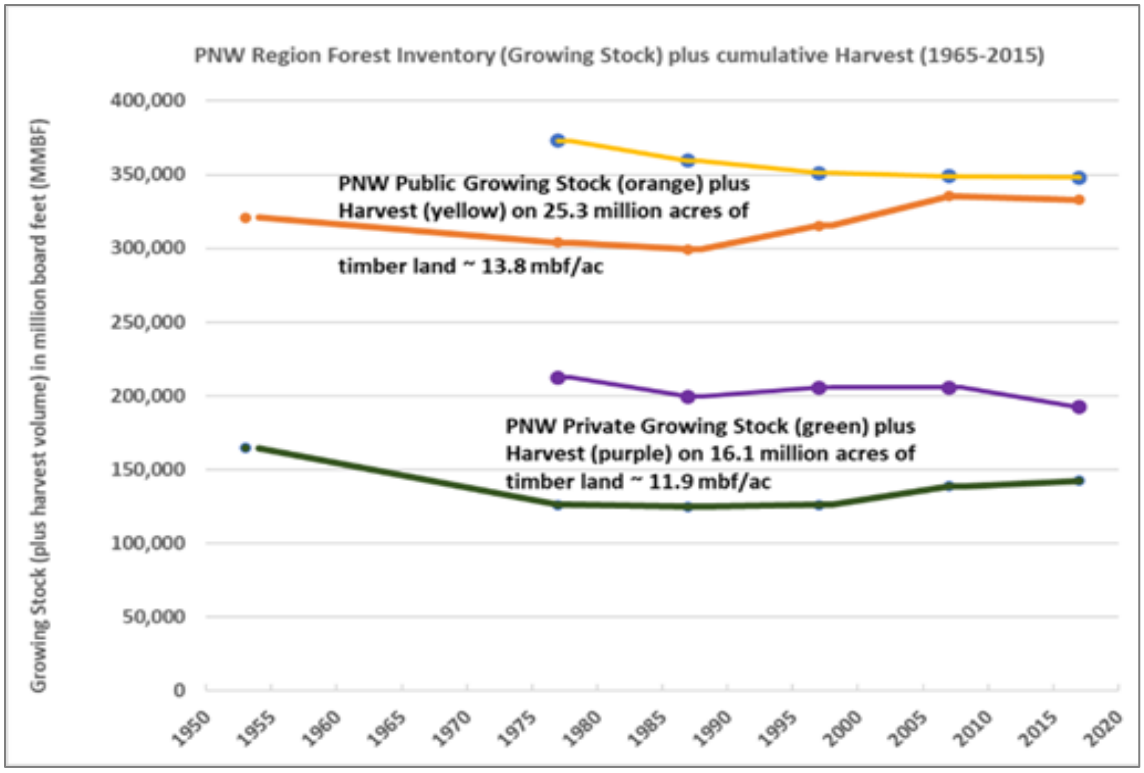


Figure 2. PNW Region Forest Inventory Plus Cumulative Harvest (1965-2015) (via Oneil 2023)

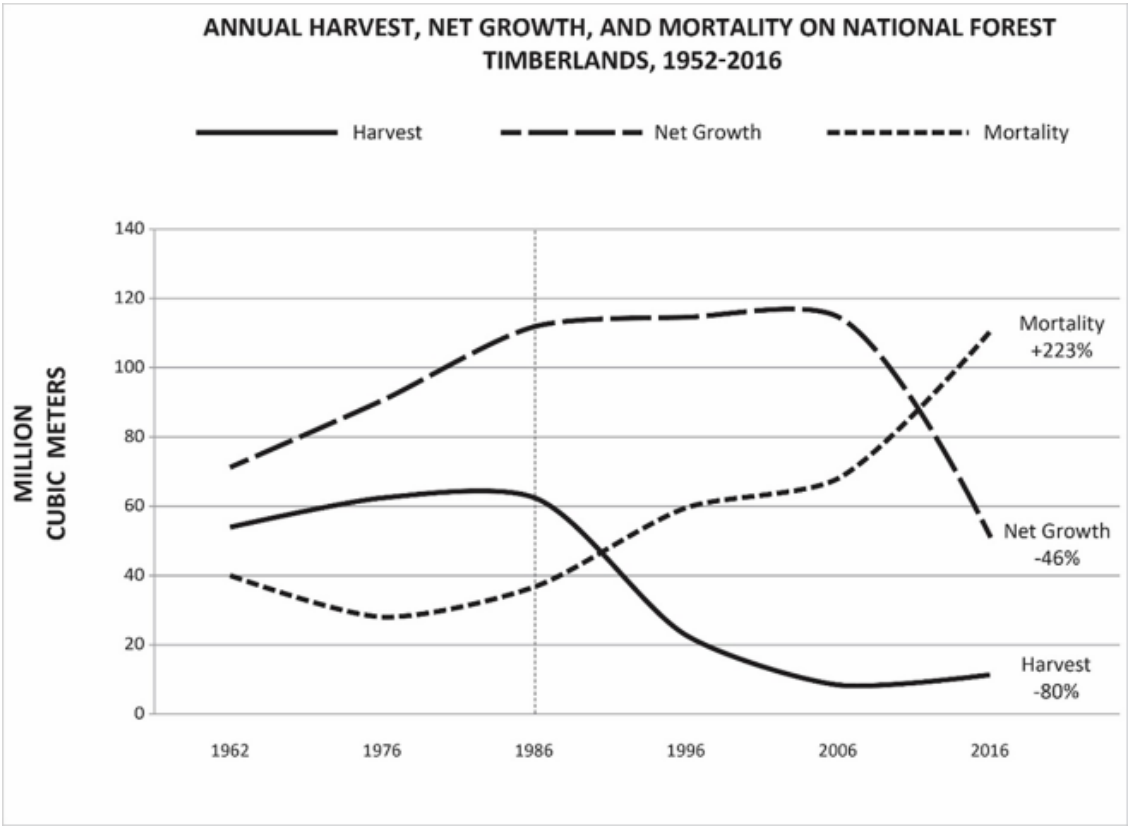


Figure 3. Mortality Trends on National Forests (Lippke et al 2021 via Oneil 2023)

Collaboration: National Forest Collaboratives are community-driven groups of diverse interests (environmental organizations, Forest Service staff, elected officials, community members and forest products industry representatives) who study, support, and monitor restoration projects on federal forestland. Those who join collaboratives do so hoping to help the Forest Service move past the gridlock and reduce fuel loads and health and safety risks associated with wildfire, restore complex forest habitat, and provide much needed timber for wood fiber products. Most National Forests in the west have a Collaborative—some have two. As such, nearly 6 years ago, we hired a dedicated Collaborative Forestry Manager to help collaboratives understand the needs and realities of the forest products industry, and help facilitate more feasible timber sales that will support Regional sawmills and help pay for additional restoration work.

As an actively engaged member of Collaboratives and the communities in which we live, play, and operate, we work tirelessly to support the long-term sustainability of communities located near National Forest System lands and those that are culturally and economically connected to forest resources. Hampton Lumber's collaborative efforts in the Region include active engagement in the Darrington Collaborative, Pinchot Partners, South Gifford Pinchot Collaborative, Tapash Collaborative and Little Naches Working Group, North Central Washington Forest Health Collaborative, and the Oregon Central Coast Forest Collaborative.

Hampton Lumber recognizes the importance of community-led collaborations and benefits of working together to find common sense solutions to forest management issues. We value being a part of the conversation and collaborative process, working together to ensure the health and vitality of rural communities, and lending our knowledge and expertise to help achieve success on federal forests.

Industry-Region Partnership: **We concur with the January 2023 Wildfire Crisis update which states: "healthy forests depend on a healthy forest products industry"** [25]**. We request that NWFP area forests expand their partnerships with mills, loggers, and other industry stakeholders, as committed to in the Wildfire Crisis Strategy.** By working together "to pick up the pace and scale of our fuels and forest health treatments across the chosen landscapes, we [as partners together] will support local economies, protect communities, and improve the health and resilience of forests" (USFS 2023, p.2).

Proposed Action

Hampton Lumber fully supports actions to improve and increase collaborative relationships; industry-Region partnerships; economic feasibility and return on timber harvests that can be used for additional future restoration (through stewardship and GNA timber sales); production of reliable timber volume; maintenance and continuous improvement of existing milling infrastructure; recruitment and retention of forest product-related jobs (lumber milling, forestry, logging and trucking); increasing access to forests in the NWFP area, as well as ingress and egress for communities, recreationalists, active management, administrative use, and fire suppression.

[25] USFS 2023. WILDFIRE CRISIS: Landscape Investments. Expanding Efforts to Deliver on the Wildfire Crisis Strategy. FS-1187f | January 2023. Available at: https://www.fs.usda.gov/sites/default/files/fs_media/fs_document/WCS-Second-Landscapes.pdf

Consistent with the Forest Service February 2012 publication *Increasing the Pace of Restoration and Job Creation on Our National Forests* we support:

- Expanding collaborative landscape partnerships;
- Improving the efficiency of the planning process for restoration projects under NEPA;
- Implementing the Forest Service bark beetle strategy;
- Expanding stewardship contracting;
- Improving the implementation and the efficiency of timber and stewardship contacts; and
- Expanding [existing] markets for forest products from our national forests

These initiatives together work to increase the pace and scale of restoration and improve both the ecological health of our forests and the economic health of forest-dependent communities, which Hampton Lumber wholly supports. Coupled with a focus on maintaining and improving existing milling infrastructure, these efforts can help communities work collaboratively toward healthier forests and watersheds, safer communities and more vibrant local economies (USFS 2012)[26].

Thank you for your thoughtful consideration,

Anjolene Ngari
Collaborative Forestry Manager
anjoleneprice@hamptonlumber.com
M. 360-322-0578

[26] https://www.fs.usda.gov/sites/default/files/media/types/publication/field_pdf/increasing-pace-restoration-job-creation-2012.pdf

Appendix A

No Harvest Stream Buffer References

Anderson, P.D., Larson, D.J., Chan, S.S. 2007. Riparian Buffer and Density Management Influences on Microclimate of Young Headwater Forests of Western Oregon. Forest Science. 53(2) 254-269

Benda, L.E., Litschert, S.E., Reeves, G. et al. 2016. Thinning and in-stream wood recruitment in riparian second growth forests in coastal Oregon and the use of buffers and tree tipping as mitigation. J. For. Res. 27: 821.

Brown, G.W., and J.R. Brazier. 1972. Controlling Thermal Pollution in small streams. US Environmental Protection Agency Report EPA R272-083. Prepared for Office of Research and Monitoring, US Environmental Protection Agency, Washington, DC, USA

Groom, J.D., Madsen, L.J., Jones, J.E., et al. 2018. Informing changes to riparian forestry rules with a Bayesian hierarchical model. Forest Ecology and Management. 419-420(2018) 17-30

Olson, D.H., Burton, J.I. 2014. Near-Term effects of repeated-thinning with riparian buffers on headwater stream vertebrates and habitats in Oregon, USA. Forests 2014. 5, 2703-2729

Spies, T.; Pollock, M; Reeves, G.; et al. 2013. Effects of riparian thinning on wood recruitment a scientific synthesis. Science Review Team Wood Recruitment Subgroup. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Region. 46p. On file with: Pacific Northwest Research Station, 3200 SW Jefferson Way, Corvallis, OR 97331

Sweeney, B.W., Newbold, J.D. 2014. Streamside forest buffer width needed to protect stream water quality, habitat, and organisms: a literature review. Journal of the American Water Resources Association. 2014. 50 (3), 560-584

Buffer Width and Wood Recruitment

Reeves, G., D. Olson, S. Wondzell, P. Bisson, S. Gordon, S. Miller, J. Long, and M. Furniss. 2018. The Aquatic Conservation Strategy of the Northwest Forest Plan—A Review of the Relevant Science After 23 Years. Chapter 7 in Spies, T.A.; Stine, P.A.; Gravenmier, R.; Long, J.W.; Reilly, M.J., (tech. cords). 2018. *Synthesis of science to inform land management within the Northwest Forest Plan area*. Gen. Tech. Rep. PNW-GTR-966. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station. 1020 pages; 3 volumes.

Key points of the Reeves paper include:

- There are potential treatment options available to move away from fixed-width riparian buffers toward riparian management that considers the variability in ecological context within the stream network and specifies management depending on ecological importance and risk.

- The scientific basis for delineation of interim riparian reserves in the Northwest Forest Plan (NWFP) was derived from two sets of curves showing the relationship between various ecological functions provided by riparian zones and distance from the channel (figs. 7-7 and 7-8). These curves were developed by FEMAT scientists based on the

scientific literature that was available at the time, and on professional judgment when sources of information were incomplete.

- The original relationships (FEMAT 1993) that were incorporated into the NWFP suggest that *most ecological functions could be maintained by reserves equal to or less than the distance of one site-potential tree-height.* The functions include beneficial effects of root strength for bank stability, litterfall, shading to moderate water temperatures, and delivery of coarse wood to streams (fig. 7-7A).

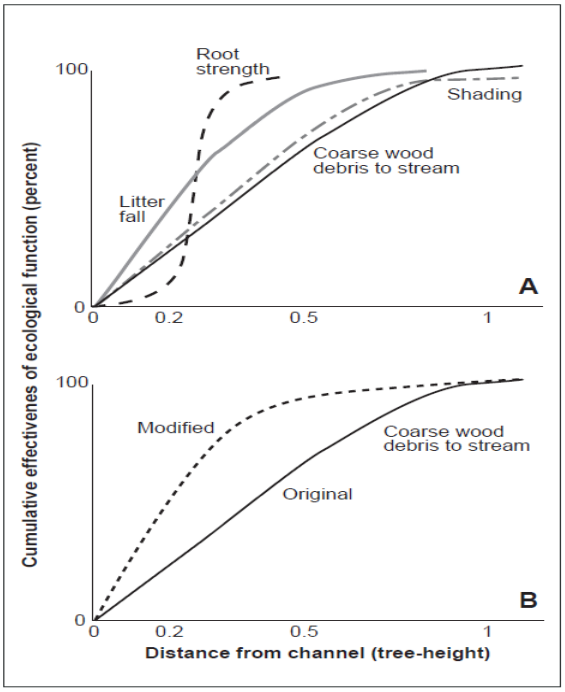


Figure 7-7—(A) Relation of distance from stream channel to cumulative effectiveness of riparian ecological functions (FEMAT 1993: V-27); (B) modified effectiveness curve for wood delivery to streams as a function of distance from the stream channel. The original curve was changed based on scientific literature developed since the original curve was portrayed in FEMAT (1993). Source: Spies et al. 2013.

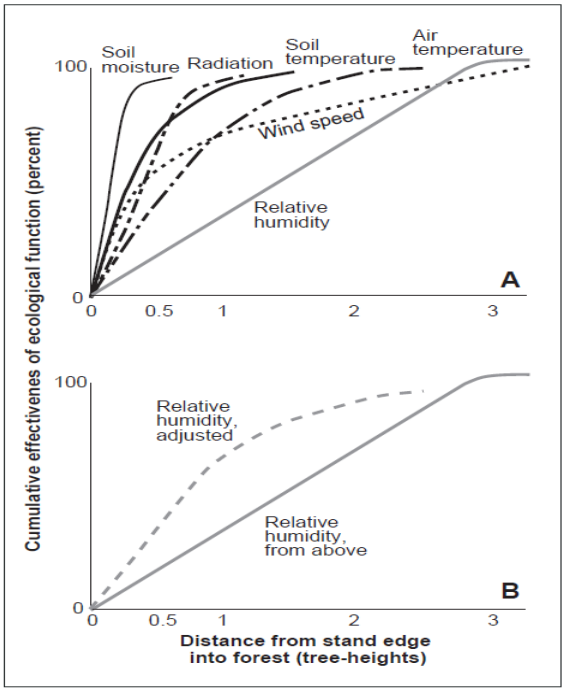


Figure 7-8—(A) Relation of distance from stream channel to cumulative effectiveness of ecological factors influencing microclimate in riparian ecosystems (FEMAT 1993: V-27); (B) modified effectiveness curve for relative humidity as a function of distance from the stream channel. The curve was changed based on scientific literature developed since the original curve was portrayed in FEMAT (1993). Source: Reeves et al. 2016a.

- Recent studies of wood recruitment suggest that changes in some of the ecological function curves may be supported. According to the graph of the relationship between the cumulative effectiveness of an ecological process and the distance for wood recruitment from the immediately adjacent riparian area in fish-bearing streams, developed in FEMAT (1993), about 60 percent of wood recruitment from the immediate riparian area along fish-bearing streams occurs within one-half of a tree-height (fig. 7-7A).

- More recent studies on the sources of wood found about 95 percent of the total instream wood inputs from the adjacent riparian area along fish-bearing streams came from distances of 82 to 148 ft (25 to 45 m) from the stream, representing a distance of 0.6 to 0.7 of a site-potential tree-height for this area (fig. 7-7B).

- The shape of this curve differs from the FEMAT curve (fig. 7-7A), which showed that 95 percent of the wood-recruitment function of the same streams occurs within a distance equal to about 0.95 of the height of a site-potential tree.

- A one tree-height buffer on fish-bearing streams would reduce most potential effects on microclimate and water temperature in near-stream environments from timber harvest in areas on the edge of the riparian reserve, particularly when some trees are retained in the harvest unit.

Riparian Reserve Gaps
Warren, Dana R., Keeton, William S., Bechtold, Heather A., Rosi-Marshall, Emma J. 2013. Comparing streambed light availability and canopy cover in streams with old-growth versus early-mature riparian forests in western Oregon. Aquatic Sciences 75:547-558.

Key points of the Warren paper include:

- Canopy gaps were particularly important in creating variable light within and between reaches.

- Reaches with complex old growth riparian forests had frequent canopy gaps which led to greater stream light availability compared to adjacent reaches with simpler second-growth riparian forests.

Literature cited in Mount Baker Snoqualmie Response to Comments (p.14-18) on the North Fork Stillaguamish Draft Environmental Assessment https://www.fs.usda.gov/project/?project=61659:

- In Alternative 2, Condition 2 would utilize *100-foot* larger buffers along Deer Creek and the Upper North Fork Stillaguamish River, given they are fish-bearing. If alternative 2 is implemented and Condition based 2 is applied along the Deer Creek and Upper North Fork Stillaguamish River, there are likely to be no effects on stream temperature and would meet the standards of the DOE. Alternative 3 also meets the stream temperature recommendations for perennial and fish bearing streams with no-cut buffers of 100 to 150 feet, respectively.

- Several studies quoted in the Washington DOE Stillaguamish River Watershed Temperature for TMDL study in March of 2004 are discussed. These studies of forest streams report that most of the potential shade comes from the riparian area within about *75 feet (23 m)* of the channel (CH2MHill, 2000; Castelle and Johnson, 2000, Beschta et al, 1987, Brazier and Brown 1973, Corbett and Lynch 1985, Broderson, 1973).

- The intent of no-cut buffers is to protect all vegetation adjacent to streams to retain sufficient shade to prevent direct overhead solar heating of the stream.

- The literature is in consensus that a *100 foot no-cut buffer would result in no detectable changes to stream temperature following vegetation reduction harvests* (Wilkerson et al. 2006).

- In regards to sediment, many researchers have found that the majority of sediment removal occurs within the first 15 to 30 feet, but that buffers of 30 to 100 feet will remove sediments more consistently (Dillaha et al., 1988, 1989; Magette et al., 1989; Schoonover et al., 2006, Sheldon et al., 2005). This is the minimum width of the no-cut buffers being proposed for this project for all fish bearing streams, with 50 feet for nonfish-bearing streams possible in Alternative 2.

- The effectiveness of buffers to remove sediment decreases as slopes increase and as sediment loads increase (Wenger, 1999; Sheldon et al., 2005).

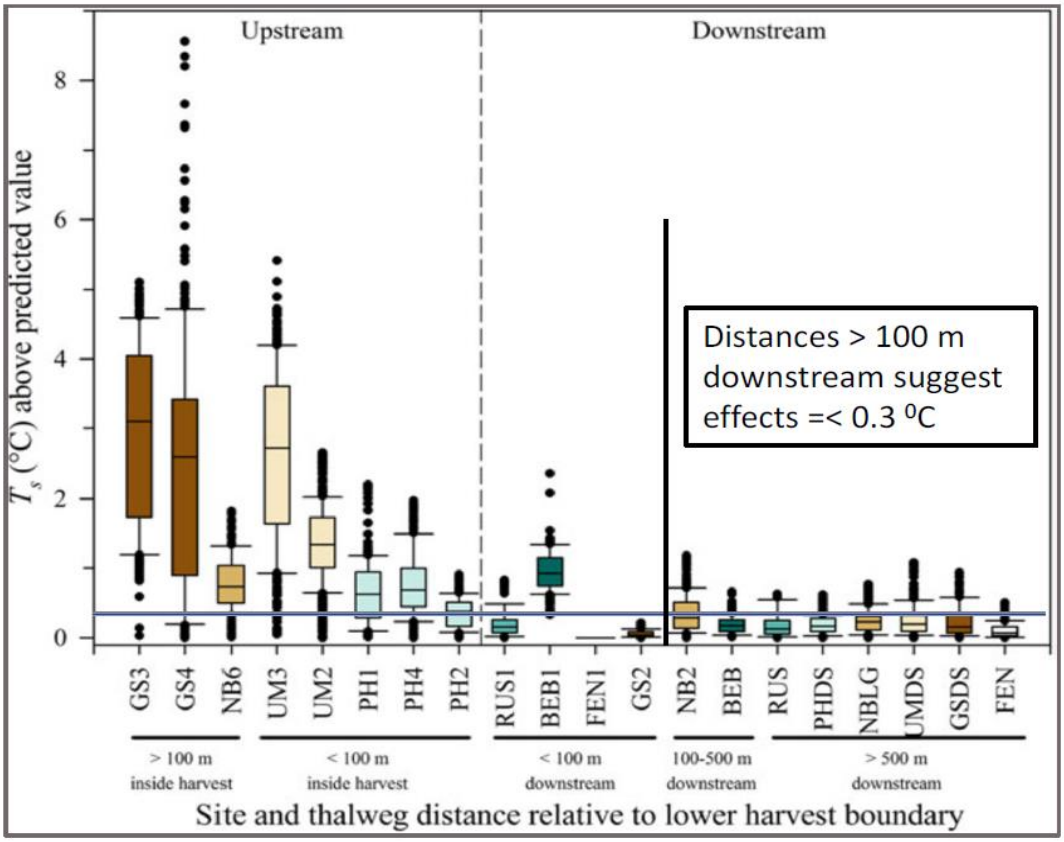
- From their review of the literature, Sheldon et al. (2005) concluded that coarser sediments are likely removed effectively in the first 16 to 66 feet of a buffer, while removal of finer particles may require buffers of 66 feet or larger.

Stream Temperature

Janisch, Jack E, Wondzell, Steven M., Ehinger, William J. 2012. Headwater stream temperature: Interpreting response after logging, with and without riparian buffers, Washington, USA. *Forest Ecology and Management*, 270, 302-313.

Key points of the Janisch paper include:

- The amount of canopy cover retained in the riparian buffer was not a strong explanatory variable to stream temperature.
- Very small headwater streams may be fundamentally different than many larger streams because factors other than shade from the overstory tree canopy (such as physical channel characteristics, assumed contributions to fish population performance, and location within drainage networks) can have sufficient influence on stream temperature.



Anderson P.D., Larson D.J., Chan, S.S. 2007 Riparian Buffer and Density Management Influences on Microclimate of Young Headwater Forests of Western Oregon. *Forest Science,* 53(2):254-269.

Key points of the Anderson paper include:

- With no harvest buffers of 15 meters (49 feet), maximum air temperature above stream centers was less than one-degree Celsius greater than for unthinned stands.

Bladon, K.D., C. Segura., N.A. Cook, S. Bywater-Reyes, and M. Reiter. 2018. A multi catchment analysis of headwater and downstream temperature effects from contemporary forest harvesting. *Hydrological Processes* 32: 293–304.

Key points of the Bladon paper include:

- There was no evidence for downstream warming related to upstream harvesting activity
- Distances greater than 100 m downstream of a harvest unit, temperature impacts are less than 0.3 degrees C.

Riparian Reserve Gaps

Warren, Dana R., Keeton, William S., Bechtold, Heather A., Rosi-Marshall, Emma J. 2013. Comparing streambed light availability and canopy cover in streams with old-growth versus early-mature riparian forests in western Oregon. *Aquatic Sciences* 75:547-558.

Key points of the Warren paper include:

- Canopy gaps were particularly important in creating variable light within and between reaches.
- Reaches with complex old growth riparian forests had frequent canopy gaps which led to greater stream light availability compared to adjacent reaches with simpler second-growth riparian forests.

Sedimentation

Rashin, E., C. Clishe, A. Loch and J. Bell. 2006. Effectiveness of timber harvest practices for controlling sediment related water quality impacts. *Journal of the American Water Resources Association*. Paper No. 01162

Key points of the Rashin paper include:

- Vegetated buffers that are greater than 33 feet in width have been shown to be effective at trapping and storing sediment

Messier, Michael S., Shatford, Jeff P.A., and Hibbs, David E. 2011. Fire Exclusion effects on riparian forest dynamics in southwestern Oregon. *Forest Ecology and Management*. 264 (2012) 60-71.

Key points of the Messier paper include:

- Fire exclusion has altered the structure, composition, and successional trajectory of riparian forests in fire-prone landscapes.
- Fire exclusion has been associated with increase in tree density and recruitment of shade-tolerate species that may replace large diameter, more decay-resistant Douglas-fir trees.
- A hands-off management regime for these riparian forests will have ecologically undesirable consequences.