Data Submitted (UTC 11): 3/2/2025 5:00:00 AM
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Comments: Please see the attached comment for the NW Forest Plan Amendment DEIS.

Thank you, Luke Ruediger, Applegate Siskiyou Alliance and Klamath Forest Alliance

February 27, 2025
RE: Northwest Forest Plan Amendment Draft Environmental Impact Statement (DEIS) Public Comment
Introduction:

Please accept these detailed comments in addition to our previous submission to the North West Forest Plan (NWFP) NOI (attached as Appendix A). We are submitting two ?les including 1) this letter with substantive comments, research, and information and expertise built over decades both implementing forest, riparian and native plant restoration projects and supporting conservation in the Klamath-Siskiyou bioregion, at the southern end of the NWFP area; and 2) and Appendix A with our previous comments on the NWFP NOI. We are re-submitting our previous comment because we do not believe the NWFP DEIS adequately addresses the concerns we raised and because the NWFP DEIS does not incorporate the best available science. The comments below add additional insight, science and perspectives that must be incorporated into any NWFP Amendment.

Our organizations and our advocacy date back to well before the NWFP. Organizers in the Applegate Valley and future founders of both Applegate Siskiyou Alliance and Klamath Forest Alliance were among the ?rst to challenge old-growth logging projects in the Paci?c Northwest. They were also among the ?rst promoting science-based management and a rural restoration- based economy in formerly [ldquo]timber dependent communities.[rdquo] Founding members of our organizations were integral to the development of the NWFP and we are still committed to both its core principals and to strengthening its mandates.

Our rural communities have invested decades into protecting biological integrity and diversity, and building collaborative capacity (through the Applegate AMA on the Rogue River Siskiyou National Forest and partnership opportunities in the Klamath National Forest). In these capacities we have been promoting innovative, idiosyncratic forms of management, increased habitat protections on federal lands, and a less extractive, more sustainable rural economy based on natural values, recreation, habitat restoration, organic farming, vineyards, and small rural businesses that make these communities more thriving and livable.

Thousands and thousands of hours, and millions of dollars have been invested by non-pro?t organizations and individuals in our area to support responsible land management, increased habitat protections and a robust public involvement process on public lands. We are concerned that both the current trajectory of federal land management planning and the NWFP Amendment fail to support the objectives identi?ed above.

The Adaptive Management Area (AMA) concept was partially conceived in the Applegate Valley by residents who became founding members of Applegate Siskiyou Alliance. Our community has consistently been at the head of these changes and have invested in the guidance and approach of the NWFP. We have been partners

with the agency as they transitioned from a very extractive model to a more ecosystem-based management model, and we have also seen these same agencies veer o? course in recent years. We believe the NWFP Amendment should be a process that recommits to ecosystem science, biodiversity, the recovery of threatened species, and the recruitment of late successional habitats. Unfortunately, we do not believe the NWFP DEIS proposals meet the mark.

Applegate Siskiyou Alliance has been working in various forms in the Applegate Valley for decades and is a strong voice for conservation and local communities in the Siskiyou Mountains. We advocate for conservation and public involvement in federal land management planning.

We document local biodiversity in the Siskiyou Mountains with citizen science, build and maintain hiking trails, implement community-based habitat restoration projects, promote the protection of wildland habitats and defend against inappropriate logging, o?-roading or mining projects on federal lands.

Klamath Forest Alliance (KFA) started in 1989, concerned that the mature and old-growth forests, clean waterways, remaining ?sheries, wildland habitats, and wildlife populations were dwindling. In the western Klamath Mountains and especially in the remote Mid-Klamath River watershed, the majority of the landscape is National Forest land, and therefore the majority of the damaging environmental e?ects leading to these losses were associated with federal timber management and road construction. KFA has worked for decades to protect and defend some of the most wild, remote, and intact wildlands habitats on the West Coast with the highest levels of biodiversity, and important habitat for threatened and endangered species.

Members of KFA and some of the founding members of Applegate Siskiyou Alliance were present in Portland, Oregon at President Clinton[rsquo]s Forest Summit and participated in the creation of the NWFP. Our members have also been pivotal in supporting, maintaining, and monitoring public lands for compliance with the NWFP for the past 30 years.

We have invested our organizations capacity to the cause of ecosystem management on federal lands and we have seen positive results. In our lifetimes, we have seen ecosystems rejuvenated through the NWFP approach, we have seen communities adjust and, in many cases, invest in restoration or more sustainable, less extractive industries and economies including outdoor recreation, and we have seen opportunities for improvement of the NWFP and its framework. During those decades, we have seen success (mostly associated with habitat protection), along with some failures (mostly associated with inappropriate ?re suppression activities, logging operations, and post-?re logging operations).

Many in our communities and many of our members lived through the Timber Wars of the 1990[rsquo]s and came out on the other side better than before. We believe the approach taken in the NWFP Amendment is a massive step backwards and will preclude us from achieving the goals so clearly stated in the original NWFP (which was intended as a 100 year plan). The NWFP could be amended and improved upon, but this would require additional habitat protections to aid and assist in the restoration and recovery of mature and old-growth forest ecosystems which de?ne the Paci?c Northwest, and sustain so many of our communities, watersheds, and wildlife habitats.

Please do not take us backwards! The Paci?c Northwest, our communities and our public lands should be more than a resource colony for the timber industry. If any of our climate, wildlife, conservation, ?sheries, quality of life, and/or long-term economic goals are to be achieved, we must stay true to the course, maintain all habitat protections and build o? them in the NWFP Amendment. The currently proposed NWFP Amendment would undermine the values we have been working for decades to protect, and upon implementation would be used to increase timber production at the expense of virtually everything else on these federal lands.

Under the current NWFP Amendment proposal, the agency is abandoning many of the conservation strategies of the original NWFP and instead prioritizing increased timber production that will both increase ?re risks and further imperil the threatened Northern spotted owl, the Humboldt marten, the Paci?c ?sher, and anadromous ?sheries throughout the Paci?c Northwest.

The logging proposed, especially in LSR forest and dry forests would degrade, remove, and/or simplify some of the last mature and old-growth forests remaining in the Paci?c Northwest. The decisions made in the NWFP Amendment will literally determine the survival of species, and whether or not, mature and old-growth forest will remain on this landscape. Based on our years of experience on the ground and the provisions identi?ed in the NWFP Amendment these species and these forests are unlikely to survive another three decades without increased conservation measures.

Today these mature and old-growth forests remain on federal land not because logging has become benevolent, restorative or less damaging, but instead because logging has been severely limited on the landscape by the NWFP. These old forests are iconic symbols of the Paci?c Northwest and de?ne the character of our region. They are also climate refugia, ?re refugia, habitat for threatened and endangered species, cold water refugia for aquatic species, and some of the world[rsquo]s most important natural carbon sinks.

In the last thirty years, we have seen a transition on our public lands from being managed almost solely for timber production and resource extraction to multiple conservation and public values. Wildlife habitats have improved, habitat connectivity has improved, watersheds have begun to recover and the recruitment or restoration of mature and old forest habitat has only just now begun. Only 30 years into a 100-year plan, the bene?ts of reduced commercial timber production, reduced road construction, and increased habitat protection are evident across the landscape. What many of these forests now need is increased protection from logging, time to mature and build complexity, and in some cases, the reintroduction of natural process through RX ?re or managed wild?re.

Before the NWFP, the agency was liquidating its mature and old-growth forests at a wildly unsustainable pace and converting those carbon-rich, ?re resilient and drought resistant old forests into plantation stands that burn at elevated levels of severity (Bradley. 2016., Zald.2018., Lesmeister. 2019., and Lesmeister. 2021), reduce watershed base ?ows important for native ?sheries (Perry and Jones. 2016.), and have led to widespread mature and old forest losses throughout the Paci?c Northwest and the NWFP area. The NWFP pulled us out of this boom and bust cycle on public lands that converted old forest habitats and all their bene?ts into two by fours, board footage, and pro?ts for the timber industry. While enriching the industry, the agency was impoverishing the region both biologically and economically.

The changes to forest management implemented under the NWFP were not a choice, but a necessity for paci?c salmon, for spotted owls, for red tree voles, and other species requiring old forest habitat, clean water, and biological legacies. It was also a necessity for many communities who could not continue logging at their historic pace and desperately needed to make the change to a more diversi?ed, resilient economy, utilizing our National Forests as draws to the region and attractions bringing visitors and small businesses to often remote or rural locations. This approach keeps workers and businesses operating by bringing visitors and non-extractive business to the area. It supports both a healthy environment and high quality of life that we can cherish, take pride in, and utilize to support community health. In the rural portions of the Klamath-Siskiyou Mountains where we operate, public lands provide popular hiking trails, camping areas and scenic drives, clean, reliable water for local farms, ranches and vineyards, swimming and ?shing in our local rivers, white water rafting, mountain biking

trails, opportunities for environmental education, and stewardship opportunities restoring habitats through proactive, but non-industrial styles of habitat restoration.

In many cases, our rural economies have changed and will be impacted by increased timber production on public lands which undermines the areas charm, scenic beauty, recreational opportunities, and quality of life. Those communities open to the changes of the NWFP adjusted to the new reality, and invested in economies that represent more diverse, sustainable interests. The NWFP Amendment will impact this new rural economy, and degrade the very values that keep people in these regions and bring new businesses, residents and visitors.

We are blessed in America to have beautiful public lands and were forward thinking when we enacted the NWFP. The NWFP brought us out of the timber wars and into a period focused on science based, ecosystem management and conservation biology as the framework for our land management planning, analysis and approval process. The NWFP infused modern values, conservation, science, some sense of humility, and as sense responsibility to future generations into federal management, where it had not previously existed. It also brought the concept of ecosystem management into federal land management planning, and the NWFP Amendment would abandon this approach for something far more damaging and industrial.

Our organizations know ?rst-hand that without the protective measures of the original NWFP nearly all mature, late successional, primary, old-growth and complex forests would be eliminated from the landscape by Forest Service and BLM timber sales. We also know ?rst-hand that many Ranger Stations and National Forests will immediately increase timber production in mature and old growth forests (especially in dry forest types) if these the NWFP Amendment is approved as currently proposed. This will welcome us back into a new period of timber wars, only the stakes in regard to the climate, biodiversity, and habitat resilience will be much higher.

The following comments build o? of and incorporate our previous NWFP NOI comments both by reference and as two separate submissions to this comment period.

1) Portions of the NWFP Amendment we do support

We support some portions of the NWFP Amendment while viewing its approach to management as biased and fundamentally ?awed. Despite the over-arching problems with current agency analysis, the inappropriate conclusions the agency draws, and the many proposals with which we and the best available science disagree, the plan does include some provisions we can support (with some quali?cations), including;

1A) Provisions to end the logging of old-growth trees in Matrix Lands

We support any provision that restricts the logging of mature, late successional and old-growth forests and trees. We also speci?cally support the proposal to end the logging of old-growth trees in Matrix lands. Yet, as identi?ed in this and other comments this is not enough. We are concerned by provisions that would increase the age of stands available for logging in the LSR network. This includes the proposal to increase the age of stands proposed for logging from 80 to 120 years in moist stands and proposals to allow the logging of trees up to 150 years in dry forest habitats.

Logging trees of this size and in stands of this age would come at the expense of many other resources including old forest habitats, old forest recruitment, and the recovery of the Northern spotted owl. Instead, we propose that across the board, protections for trees and stands over 80 years old be maintained. This would and should include both matrix and reserve lands, and would far better achieve the objectives of the NWFP and of LSR forest, while supporting ?re resilience, and non-timber related economic values. Limiting logging of old- growth trees is important, but maintaining old stands is equally important in maintaining carbon storage, cool, moist habitats, ?re refugia, climate refugia, and clean water. Removing all but the largest trees as often proposed by the Forest Service is damaging to natural resources.

Additionally, many communities now survive on non-timber related economic values, nearly all of which would be

impacted by increased timber production, the logging of older stands and the logging of older trees. For example, despite being virtually the only economic factor considered in the agency[rsquo]s biased DEIS analysis timber and timber manufacturing accounts for only 3% of the jobs in Oregon.

We support the maintenance or protection of stands and trees over 80 years old in LSR and Matrix lands in all forest types. This will protect mature and old-growth stands for both social and biological purposes. We also support a full prohibition on logging old growth trees in both LSR and Matrix lands. The retention of mature stands and old trees will help to restore and recruit old forests, maintain spotted owl habitats, restore watersheds degraded by clearcut logging, support the new rural economy, and contribute positively to ?re resilience. The current proposal to expand logging in older stands and log older trees than the original NWFP is counterproductive and inconsistent with the best available science.

1B) Provisions relating to tribal inclusion

We support provisions for more tribal inclusion and stronger commitments to tribal consultation. We also believe both an increase in meaningful tribal inclusion and co- management is completely possible, while strengthening environmental protections/regulations and more e?ectively protecting mature and old-growth trees and stands.

We also support e?orts to ensure access to ?rst foods, cultural resources and ceremonial sites on federal lands and believe many of these resources can be e?ectively managed while protecting other biological values, mature and old-growth trees, and maintaining the NWFP[rsquo]s current emphasis on habitat protection, biodiversity and old forest recruitment.

We also support cultural burning in many locations and circumstances on public lands and again, we believe the science demonstrates that cultural burning can bene?t the environment, cultural resources, and tribal values, but does not require commercial logging as an initial treatment in preparation for these burns. Science identi?ed in this article demonstrates that in most cases such pre-treatments are not necessary if burn windows are chosen wisely and ignitions are managed responsibly. In fact, tactical ignitions are implemented during many wild?res at the height of ?re season each year in backburning operations, and often with positive mixed severity ?re e?ects. Therefore, it can certainly also be done under less challenging conditions in a prescribed burning or cultural burning context and during the shoulder season when cooler, more moist conditions can moderate burn intensity.

Cultural burning in our region can be used to achieve cultural objectives and secure cultural items from the landscape, yet it can also be integrated into community wild?re protection needs and as one of the tools used to address the ongoing ?re de?cit in the forests of the West. Although we support many cultural burns for cultural purposes, we also believe they can be e?ectively integrated into broader community protection strategies and be used with other strategies or techniques to restore more natural ?re regimes and more ?re safe communities.

Cultural burning, prescribed ?re and managed wild?re could combine in the Klamath-Siskiyou Region to begin restoring and balancing ?re regimes, but the DEIS appears to instead prescribe increased industrialized backcountry ?re suppression and logging treatments. This represents colonial forest management and the status quo, rather than more culturally informed management. The DEIS can and should both increase tribal inclusion and increase conservation outcomes such as robust old forest protections.

Our organizations have supported, and members of our organizations have helped implement prescribed ?res without pretreatment on Karuk Tribal lands outside Orleans, California, and with tribal partners in the Klamath and Salmon River watersheds. In fact, the Karuk Tribe, Yurok Tribe, and the Cultural Fire Management Council in Weitchpec, California have been implementing prescribed ?res on tribal lands and on private lands in the area without previous pretreatment or with minimal pretreatment for decades, and these ?res have been implemented with good a?ects.

We support the Forest Service working with tribal entities to expand tribal inclusion in the federal land management planning and implementation process, and we believe in most cases, these cultural management activities will not con?ict with habitat protections either currently in place in the NWFP or those we propose in our comments. Respecting tribal sovereignty and environmental conservation goals can be achieved by managing for natural values such as ?sh, native plants or ?rst foods, medicine plants, basketry material, and other cultural items or uses, while also sustaining scenic and wildland quality habitats on all federal lands including mature and old-growth forest protections. By their nature, traditional management practices are non- industrial and can be implemented without any form of commercial timber extraction or industrial land management approach.

Given the signi?cant landscape scale de?cit in both ?re and old forests, we propose a strategy that both protects old forest and implements RX ?res and cultural burning, while utilizing natural ignitions where possible for reasons bene?t. Cultural burning is part of the equation, but will likely require managed wild?re to scale up to historic or somewhat historic levels on the landscape.

2) The NWFP Amendment Fails to incorporate the best available science

The agency has provided no legitimate scienti?c reason to abandon its obligation to properly steward our public lands and maintain our last mature and old-growth forests. Especially since its own science has shown the NWFP has been successful in reaching the majority of its important conservation objectives. If anything, the environmental regulations could be

tightened to re?ect the new climate reality, to store more carbon and to help recover important species such as the spotted owl and the iconic salmon of the Paci?c Northwest.

Originally based on rigorous science (FEMAT), conservation biology, and the retention and restoration of complex forest ecosystems, the currently NWFP Amendment is a major step back in the region[rsquo]s conservation strategy. Instead of a strong scienti?c focus, it relied on a multi- stakeholder process and Federal Advisory Committee (FAC) heavily skewed towards industry and stakeholder groups, not diverse sciences.

The multi-stakeholder approach and the Federal Advisory Committee failed to demonstrate the expertise or even interest in adequately addressing many of the most important issues in Paci?c Northwest forests including carbon dynamics, northern spotted owls, aquatics or ?sheries, and biodiversity. Instead, ?re was used to push a logging agenda that will harm these resources and undermine the biological bene?ts provided by the original NWFP.

The bene?ts and success of the original NWFP are very clear and are largely associated with limitations within the plan placed on agency discretion and restrictions on commercial logging.

Yet the justi?cation for this amendment is clearly operating from a false and misleading narrative that is not backed by the agency[rsquo]s own science. According to the agency[rsquo]s own analysis, the Northwest Forest Plan (NWFP) is working as intended, (Davis etal. 2015, Davis etal. 2022, Dunham etal 2023) yet the agency is painting the opposite picture.

It appears that this amendment is intended to eliminate the necessary limits on agency discretion and loosen restrictions on commercial logging (particularly in reserve networks), with the supposed goal of creating forests more resilient to climate change and wild?re e?ects. Yet, our comments demonstrate that the agency is having the opposite e?ect with its timber sale program. The science simply does not support the agency[rsquo]s position and if changes are needed, they are needed to increase conservation and habitat protection on federal lands.

Although we support the proposal to protect old forests and trees in matrix lands, we also believe it is necessary to provide more protection for mature and old growth stands in LSR forests, especially in forests characterized by

the Forest Service as [ldquo]dry[rdquo] forest types. In these forests, proposals to increase the age of trees available for removal and reduce both canopy cover and stand complexity through commercial logging euphemistically referred to as [ldquo]resiliency[rdquo] work, [ldquo]climate smart forestry,[rdquo] or [ldquo]stewardship[rdquo] are completely disingenuous and will only compound the problems we face with our climate, the resiliency of our forests, the quality of habitat and water quality. The NWFP Amendment as currently proposed, is being used to increase timber production at the expense of ?re resilience, threatened and endangered species, watersheds, scenic values, recreational experiences, and wildland landscapes.

3) The over generalization of dry and moist forests is simplistic and inaccurate in the Klamath-Siskiyou Mountains

The two simpli?ed designations of [ldquo]moist[rdquo] and [ldquo]dry[rdquo] forests are inappropriate especially on the scale proposed including millions of acres across three states in the Paci?c Northwest, with dramatically di?erent environmental conditions, climatic regimes, and plant communities.

Certainly, across the forests of the NWFP more than two habitats exist and should be managed for, but the NWFP Amendment oversimpli?es and overgeneralizes this incredible diversity into [ldquo]moist[rdquo] and [ldquo]dry.[rdquo]

By inappropriately lumping all forests into either a [ldquo]moist[rdquo] or [ldquo]dry[rdquo] designation the nuance of the vast NWFP region is lost and management activities will not re?ect the region[rsquo]s incredible diversity and jumbled plant communities. On a functional level, NWFP Amendment, as currently proposed will have enormously damaging impacts on regional biodiversity by ignoring the variety of structural conditions, species compositions, and mosaic of plant communities existing on the landscape.

In all regions, despite their characterization as [ldquo]moist[rdquo] or [ldquo]dry,[rdquo] a gradient of habitats will exist depending on elevation, access to surface or subsurface water, slope position, exposure, soil conditions, and larger landscape patterns such as rain shadows, moist pockets, and climate variability within a regional or watershed scale. In the diversi?ed and transitional habitats of Klamath-Siskiyou Mountains in SW Oregon and NW California, the mountains are also very steep and highly dissected, leading to extreme topographical relief, abundant microclimate conditions, and high levels of both species and habitat diversity.

Many of the forests in the Klamath-Siskiyou Mountains do not ?t into the coarse designation of [ldquo]dry[rdquo] or [ldquo]moist[rdquo] and we regularly see habitats that approach or exceed 50- 100[rdquo] of annual rainfall characterized as [ldquo]dry[rdquo] forest in agency documents and management plans. These forests contain species like Douglas ?r, Port Orford cedar, tanoak and other coastal species that require abundant moisture, but are routinely mischaracterized as dry forest to facilitate industrial scale, old forest logging under a [ldquo]dry[rdquo] forest narrative.

In many locations, the delineation of plant communities is more useful than arbitrary [ldquo]dry and [ldquo]moist[rdquo] designation. Plant communities can and should be used in characterizing forests based on moisture gradients, but the level of ?ne-grained detail necessary to identify and map these habitats is far more complex than analyzed in the DEIS.

In the Klamath-Siskiyou Mountains, we have signi?cant moist forests in canyon bottoms, along Riparian Areas, near wetlands, seeps and springs, on north facing slopes, some east facing slopes, at mid and high elevational gradients, and mixed up in nearly every watershed in the region. Yet, these forests and the plant communities

they support are very di?erent than the moist forests of the Coast Range or the western slope of the Cascade Mountains to the north.

The area also supports dry forest habitats that although relatively arid when compared to the region[rsquo]s more moist and productive forest habitats, are still far more productive than the pine forests of the interior West or the Southwest (where subsequently the restoration thinning approach was developed). More speci?cally, these forests are very di?erent than the pine forests and dry mixed conifer forests east of the Cascade Crest in the NWFP area. Yet, they would bene?t from a diameter limit similar to the [ldquo]eastside screens[rdquo] capping large tree removal at 21[rdquo].

Many of the [ldquo]dry[rdquo] pine or interior Douglas ?r habitats in the West are far more arid than the forests of the Klamath-Siskiyou Mountains, which contain a broad moisture gradient attributed to elevation, slope position, and proximity to the Paci?c Coast. The forests in this region are mixed conifer forests with an abundant hardwood and montane chaparral component. They area also among the most diverse conifer forests in the world and should be treated with their own unique management plan, not lumped in with the western Cascades or the eastside as they appear to be in the DEIS.

Currently, the DEIS fails to adequately consider the unique ecology of these highly diversi?ed forests, their interaction with ?re, their levels of productivity, their adaptations to wild?re and their regenerative response which is far di?erent than many [ldquo]dry[rdquo] forest types. By inappropriately applying a high frequency, low severity ?re regime and [ldquo]dry[rdquo] forest characterization to many Klamath-Siskiyou forests in the DEIS, the NWFP fails to consider the actual environmental conditions throughout the Klamath-Siskiyou Mountains or the NWFP area.

The NWFP Amendment also lumps these forests in with habitats with which they are vastly di?erent and in so doing will lead to damaging and inappropriate management actions. The forests of the Klamath-Siskiyou Mountains support vastly di?erent plant communities than found to the north or to the east, and a mixed severity ?re regime heavily in?uenced by weather, terrain, habitat productivity, and the underlying geology, rather than fuel loading or forest density. They also have a much higher potential from shrub response following canopy removal than dry forests east of the Cascades or in the interior West.

Comparing these drier, much more simple conifer forests to the mixed conifer forests in the Klamath-Siskiyou Mountains, in the DEIS is misleading. The mixed conifer forest of the Klamath Siskiyou with heavy hardwood components are very di?erent than the other dry forest types in the NWFP area, including the dry Ponderosa pine, Douglas ?r, white ?r, or lodgepole pine forests of the eastern Cascades. They have di?erent stand development patterns, di?erent natural histories, di?erent biological adaptations to ?re, di?erent regenerative responses following disturbance, di?erent stand development patterns, and dramatically di?erent structural conditions.

Finally, the ?ne-grained mosaic of the Klamath-Siskiyou Mountains demonstrates the futility of characterizing so many forests in such varied geographical contexts under a dry or moist forest designation. In many places the Klamath-Siskiyou Mountains are neither dry (like true eastside or southwest forests) or moist like coastal forests or the forests on the west slope of the Cascade Mountains in Oregon and Washington. Yet, the area also hosts truly moist and truly dry habitats and a gradient in between, making the current NWFP approach inappropriate and damaging to the unique values of Klamath-Siskiyou mixed conifer forests. These are among the most complex and diverse conifer forests on the continent and among the most diverse in the world. Treating them as either dry or moist with corresponding oversimpli?ed prescriptions will damage these habitats and the areas unique transitional biodiversity.

The dry/moist designation or paradigm, and the wide variety of plant communities and forest types in this region demonstrates that the Klamath Siskiyou Mountains require their own designation, as Klamath Mountains mixed conifer forests with gradients of moist and dry. Their management requires detailed site-speci?c analysis utilizing plant community mapping and a variety of other weather, terrain, soil and microclimate related considerations including to forest types and historic ?re regimes. The Klamath-Siskiyou forests do not ?t in the broad and rather inaccurate box created by the DEIS in the NWFP Amendment and need their own management directives and stand designations based on the extreme moisture gradients, biodiversity, and terrain in the region.

For example, currently project level planning in the Klamath-Siskiyou Mountains including the Rogue River-Siskiyou, Klamath, Shasta-Trinity, Six Rivers, and Mendocino National Forest uses the [ldquo]moist[rdquo] and [ldquo]dry[rdquo] designation during the planning of timber sales. Yet, this coarse analysis often encourages inappropriate logging prescriptions that do not meet the needs of the stands in question or the objectives of the project. This is because they are either overly aggressive or inappropriately applied. All too often we see area land managers propose treatments using these dry/moist designations and all too often we ?nd plant communities in our region that do not ?t well within the dry forest paradigm or prescription protocol.

When asked what the agency will implement in these complex forest habitats, agency specialists often shrug their shoulders, acknowledge that they do not know, did not tailor the treatment to the sites speci?c ecology, and will likely just lump the habitat into one of the only two de?nitions they utilize [ldquo]dry[rdquo] or [ldquo]moist.[rdquo] This is leading to signi?cant unanalyzed and unintended impacts including type conversions, noxious weed spread, poor vegetative responses, increased ?re risks and a loss of habitat resilience. We see this often on projects throughout the Klamath-Siskiyou Mountains where habitats, natural vegetation and ?re regimes are all mixed up on the landscape and interact on a much more detailed level then current agency analysis in the DEIS.

The moist-dry designation in the NWFP Amendment is far too coarse to be useful or even remotely accurate and leads to misapplied ecological baselines and poor outcomes on the ground. We believe this approach should be replaced by one tailored to site speci?c conditions using plant communities to de?ne a potential range of environmental conditions.

4) Dry Forest Treatments will impact mature and old-growth forests not restore them

The dry forest treatments proposed in the DEIS will not be restorative, especially in in mature, old-growth and late successional forest where extensive canopy reduction, group selection logging and large tree removal will degrade structural conditions, habitat complexity and microclimate conditions that support higher levels of ?re resilience and higher quality northern spotted owl habitat. (Lesmeister.2019., Lesmeister. 2021). The proposal to allow logging in any stand age and to log trees up to 150 years old to create more open structural conditions is currently being implemented on Medford District BLM lands in SW Oregon with disastrous results.

The Medford District BLM is currently implementing a Resource Management Plan that allows logging in stands of any age, removing trees up to 36'' DBH and 156 years of age in so-called ''dry'' forest habitats in SW Oregon and promotes open seral stages. The resulting timber sales have been extremely damaging and highly controversial, litigation has also been frequent and often successful due to the inclusion of older forests and the removal of old trees in virtually every timber sale since the 2016 Resource Management Plan was approved.

We are seeing extensive collateral impacts associated with this logging and the subsequent decline spiral it has triggered. Our organizations have monitored dozens of timber sale and have found these prescriptions to increase ?re risk by damaging microclimate, creating well ventilated, drier stands, and increasing understory shrub growth. The evidence for these impacts was identi?ed in our comments to the NWFP NOI and was subsequently ignored, along with signi?cant science that supports our conclusions. The DEIS fails to consider actual impacts and outcome from the logging proposed and thus does not adequately inform decision makers or

support a Decision Record.

5) Old forests and trees should be better protected in the NWFP Amendment
The current proposal to increase the age of stands and trees available for logging in the NWFP area is inappropriate and must be reconsidered. The previous protections for stands over 80 years of age in the original NWFP should be strengthened by implementing them in both Matrix and Reserve lands to protect, preserve, recruit, maintain and support late successional forest habitat development and all existing mature, old-growth or late successional stands.

The 80 year age was based on science provided by the FEMAT team that remains viable and pertinent to this day. The agency has provided no compelling biological reason to abandon this designation. In most forests, 80 years is when stands begin demonstrating decadence and heterogeneity sufficient to support late successional characteristics. This does not mean 80 year old stands are old growth, but instead that 80 year old stands have begun growing large trees, natural processes have begun recruiting large snags and downed wood, canopy gaps from wind, fire, insects, drought stress or other natural mortality agents have begun breaking up canopies and creating a more diverse, patch age class distribution.

Although late successional forests in different locations display different structural conditions, age is important in growing large legacy structures and in developing the decadence, structural variability, and biodiversity of late successional forest habitats. It is not clear age can be replaced in this process, since many of an old forests important attributes are developed overtime and require large structures that only develop over decades to centuries.

Logging too much mature forest today, will undoubtedly impact future old forest recruitment and lead to deficits at various time scales that are detrimental to watershed health, to fisheries, to our global climate, to carbon storage, and to threatened species like the Northern spotted owl.

Currently the NWFP Amendment allows heavy logging in moist forests up to 120 years old, using "ecological forestry" techniques that often look, feel and operate like staggered clearcuts. This will not achieve the goals of the NWFP, will not develop old forest for the future, preserve the old forest we have today, or recover threatened species habitat. We provided ample science and monitoring data in our previous comments to demonstrate the impacts of the current, less aggressive logging programs being implemented on National Forest lands in our region. The increased logging proposed in the NWFP Amendment will only increase those impacts exponentially.

Additionally, logging stands of any age and trees up to 150 years old is damaging to dry forests and will overtime eliminate late successional forest habitats on most Forest Service lands including Reserve lands like LSR forest. We have seen LSR logging become far more aggressive in recent years. We have also seen increases in barred owls significantly impact NSO populations, and increases in wildfire activity that alter habitat conditions. In the last 10-15 years, the last relatively intact spotted owl populations in the Klamath Mountains that were long thought to provide a core population from which NSO could eventually disperse and expand are both being heavily logged on Forest Service land (with extensive "take" permits provided by USFWS), and experiencing steep NSO declines.

Logging off these dry forests as proposed in the NWFP Amendment including all stand ages and trees up to 150 years old could be the nail in the coffin for the NSO, and could be the final blow that creates "jeopardy" and an extinction spiral for the NSO. We have provided extensive science and monitoring data that supports these concerns in our previous comments and that information was ignored by the agency when developing the DEIS.

The proposal to increase logging in moist forest into stands up to 120 years old and the proposal to log virtually anywhere in dry forest removing trees up to 150 years of age is arbitrary, capricious and incredibly damaging to

the environment. No credible science supports these standards because they were developed purely to increase timber production and get the cut out for the benefit of private industry. The public and the land will not benefit from these provisions, fire resilience will be negatively impacted, wildlife will be damaged, watersheds will be damaged, recreational opportunities and scenic viewsheds will be degraded, and carbon release will be enormous, threatening the global climate and removing local climate refugia.

According to Clint Emerson, a Forest Service ecologist working on the drafting the NWFP Amendment these age limits identified are not based on solid science, but are instead a compromise to appease the timber industry and address fire concerns. (https://www.ijpr.org/environment-energy-and-transportation/2025-01-30/environmentalists-push-for-stronger-old-growth-protections-in-northwest-forest-plan) We could not agree more and believe a more scientific definition of mature forest should be utilized to identify age classes or trees off limits to commercial logging. The science developed for the original NWFP remains valid and nothing in the DEIS suggests it isn't. 80 years was identified acknowledge the considerable maturity of these forest and their potential to transition into more late successional habitats through stand maturity and the structural complexity created through interactions with natural processes and mortality agents.

All stands and trees over 80 years old should be protected in Matrix and Reserve land use allocations. Canopy gaps, large tree removal, severe canopy reduction, and other logging effects are unnecessary and damaging to the development of late successional characteristics.
6) A diameter cap similar to the Eastside Screens should be implemented in the Klamath- Siskiyou bioregion.
In our comments for the NWFP NOI we recommended an end to timber quotas on federal lands and an end to commercial logging. We stand behind that proposal as the most effective solution to protect old forests and restore habitat conditions including more characteristic levels of mature and old forest. Yet, the agency has ignored these important recommendations in the DEIS and is instead proposing to increase timber harvest despite significant damaging effects.

If commercial timber sales are to be considered on federal lands in the NWFP area, we believe they must include reasonable diameter limits, rather than age limits which are difficult to implement, often highly inaccurate to implement, and often lead to increased large tree removal, including old growth trees. Regularly tree age is determined by marking crews via physical characteristics rather than boring trees and getting exact ages for individual trees. Thus, it is a highly subjective guessing game to determine tree age, while diameter can be far more easily checked and verified for each tree by agency staff, and by the public creating transparency, and accountability in a way that age limits will simply never produce.

For example, in the Secret Timber Sale recently proposed this past summer and withdrawn by the Rogue River-Siskiyou National Forest after monitoring by Klamath Forest Alliance found many large, old growth trees proposed for logging. The agency had utilized physical characteristics to mark trees, claiming to be retaining all trees over 120 years of age. Yet, on closer inspection the agency verified that Klamath Forest Alliance was indeed correct and many trees over 120 years of age were marked for removal including trees up to 50" diameter and over 300 years old. This demonstrates how age limits are implemented and abused. We believe trees this age are routinely logged in BLM and Forest Service timber sales in our area utilizing age limits in the 120-150 age class like the NWFP Amendment proposes. This shows that having no diameter limit encourages logging larger trees and that age limits can be abused to include many, many large diameter, old growth trees in proposed timber sale marks.

Please include the following information pertaining to the old forest logging proposed in the Secret Timber Sale by reference into this comment.

https://siskiyoucrest.com/2024/08/23/the-secret-is-out-old-growth-logging-on-the-secret-timber-sale-and-in-the-briggs-creek-watershed/

https://vimeo.com/1002072282

Although different than the dry forests east of the Cascade Mountains, a similar diameter cap is necessary to support late successional characteristics, fire resilience and habitat. The 21" diameter cap known as the "Eastside Screen" in eastern Oregon is applicable to the Klamath- Siskiyou region. These forests contain both dry and moist forest plant associations. In some cases the Klamath-Siskiyou forests support very dry pine and oak associations, while other locations (often characterized as "dry") are similar to temperate coastal forests with high precipitation, seasonal fog, and species such as Port Orford cedar, Douglas fir, vine maple, grand fir, even western hemlock and in some locations western red cedar.

The maintenance of late successional habitats in this region requires the preservation of large diameter trees over 21" diameter. The DEIS did not include a diameter limit for tree removal, but in the Klamath-Siskiyou Mountains a 21" diameter limit would protect virtually all old growth trees and is much easier to both implement and monitor than an age limit. An age limit requires significant tree boring and time-consuming field verification, while diameter limits can be far more efficient to implement and if implemented correctly can effectively protect virtually all old-growth trees. Additionally, if stand data shows trees are attaining significant age at smaller diameter (which is not likely throughout most of the range), a smaller site specific diameter limit could apply.

Given the current deficit in old forest habitat, leaving some younger trees that have quickly reached large diameter is beneficial, because scientific research in SW Oregon shows that these trees that grew to large diameter, when relatively young are the most likely to become old- growth trees in the future. (Sensenig.2013). Additionally, the 21" diameter limit would retain nearly all trees that can readily recruit into trees or stands with late successional or old-growth characteristics. This process is important for old forest recruitment, which is a key objective of the NWFP.

Finally, it is unlikely that trees over 80, or 120 year, or even 150 years would be removed with a 21" diameter limit, making this the most effective way of protecting current old-growth trees and recruiting them for the future. The cautionary principal is necessary to maintain old-growth forests which have been so heavily depleted through logging in much of the NWFP area (Berner. 2017) and the cautionary principal would require retaining all trees that could be old- growth, using a 21" diameter limit that can be easily implemented, monitored, and verified.

Diameter limits protect habitats and encourage transparency and accountability, by being easily verifiable by both the public and agency employees. Nothing replaces age when it comes to old forest development, but retaining all trees over 21" diameter would retain, maintain and recruit old forest habitat most effectively.
7) Gap creation is outside the range of variability and unnecessary in conifer stands as the current environmental conditions often contains sufficient open habitat to support biodiversity. Heterogenity and gap creation are functions of natural processes that operate independent of the agency's arbitrary gap creation proposals.
The NWFP DEIS proposes group selection logging in dry forest habitats. This form of clearcut or regeneration logging often creates "openings" up to 4 acres in size, across up to 30% of a given stand. These four acre "group selection openings" and the regeneration harvest allowed in moist forests under 120 years old are functionally clearcuts, with all the inherent problems for wildlife, for slope stability, for watershed values, for fire risks, and for the development of even- age growth without sufficient biological legacies. These proposals would create canopy gaps that are beyond the range of variability for most forest types in the NWFP area. Additionally, more than enough oak woodland, chaparral, and hardwood habitat can be found all around the Klamath-Siskiyou Mountains in rocky, unproductive areas, in shrink swell clays, on shallow bedrock, and in recent or historic fire footprints. At the same time, closed and interior forest habitat is increasingly uncommon in the area.

One paper relying on research conducted in the Southern Cascades of northern California documented a maximum gaps size of 0.75 acres. This research also demonstrates that gaps were generally 0.02 to 0.6 acres in size and comprised less than 30% of a given stand (Pawlikowski. 2019). In this study gaps were identified as

contiguous areas with less than 33% canopy. While group selection logging could create openings with less canopy cover and on a much larger scale.

Other studies conducted in the Sierra Nevada demonstrate that gap sizes were between 0.12 and 1 acre in size and canopy cover averaged 45% (DOI. 2020. P. A-97). Taylor (1998) examined aerial photos taken in northwestern Siskiyou County in 1944. According to this study mean gap size was 1.25 acres, while median gap size was 1.75 acres and accounted for 26% of the area (DOI. 2020. P. A-97). Finally, stand reconstructions by Metlan (2013) identified gap sizes as 0.1 and 0.3 acres, while the agency often proposes "opening" on a much larger scale.

No local research supports the creation of either 2 or 4 acre openings as proposed in so many local projects and in the NWFP Amendment area. Likewise recent analysis by the Medford District BLM in the Bear Grub Timber Sale demonstrates that "gap sizes from reference conditions reflective of low to mixed severity fire regimes were less than 2 acres and generally less than 1 acre" (DOI. 2020 P. A-97). The proposal to create gaps up to 4 acres in size and across up to 30% of a given timber sale unit is routine in SW Oregon and NW California but is arbitrary and capricious based on the literature. It is not supported by the best available science, does not reflect reference conditions as defined and is not consistent with the objectives of the NWFP.

Gap creation and group selection logging will not restore structural conditions and instead will increase fuel loading and degrade forest habitat. All gap creation should be discontinued and group selection logging withdrawn from the authorizations in the NWFP Amendment. Small clearcuts are still clearcuts, and they expand over time as the agency returns to "planning areas" to "treat" landscapes.

Natural processes such as bark beetle outbreaks and wildfires are creating and will continue to create gaps independently of logging operations on federal lands. In fact, after recent climate triggered beetle mortality events in SW Oregon gap size, tree density, and tree cover are all either within the range of variability or exceed the range of variability for these metrics in many dry forest types. The agency has provided no evidence to suggest that naturally created openings are not sufficient and additional gap creation is needed. We suspect that pattern is evident across the Pacific Northwest where wildfire and beetle mortality has been more pronounced in recent decades. Although still within the range of variability in many regions, natural processes accelerated by climate change are creating significant gaps and are reducing overall stand density across the NWFP area. Logging to create these structural conditions is not needed and the DEIS analysis claiming that gaps must be created and trees must be commercially thinned is extremely suspect and unscientific.

Unnatural, novel gap creation created through "group selection" logging is neither desirable or beneficial and should be canceled and are not appropriate in the NWFP area.

Naturally created openings are also very different than staggered clearcuts or regeneration harvest units because they retain biological legacies, contain far less soil disturbance and more intact plant communities creating complex early seral habitats. Group selection and regeneration harvest instead creates simplified early seral habitat devoid of biological legacies and slow to recover habitat complexity due to the long periods of time require to generate large diameter trees, snags and downed wood. Scientific studies have also shown that the natural recovery of disturbance created canopy gaps will encourage more regeneration and less fire risk than those salvage logged to reduce stand density and capture economic value. (Donato, 2008, Strittholt, 2004, Duncan, 2002, Donato 2006, Thompson 2007, Lindemayer 2008). Instead of the standing snags creating future fire risks, it is the structure of regenerating vegetation along with density and composition of fuel loading that develops following the disturbance that increases fire risks (Donato. 2006).

Post fire logging and artificial planting on the other hand have been shown to increase fire risks in the regenerating forests by creating more explosive fuelbeds and more even-aged vegetation (Donato. 2006). Conifer establishment has been shown to be adequate in these naturally regenerating openings and even in

large fire areas in the Klamath-Siskiyou Mountains and artificial planting is not need to "restore" or maintain ecological function (Donato. 2006., Donato. 2009., Shattford. 2007)

At the same time, soil damage and noxious weed spread, the loss of snags for habitat and downed wood recruitment, damage to surviving vegetation, and damage to the natural recovery process by planting dense, even-aged stands of plantation-like conifer species are all impacts that can be avoided by maintaining the existing canopy gaps and/or complex, early seral vegetation that is created by fire, insects, disease and drought, not salvage logging them. This will maintain the areas biological values, biodiversity, habitat connectivity and support a more natural, diverse recovery process. The point is that clearcut "gaps" (simplified early seral) function very differently than naturally created canopy "gaps" (complex early seral) produced through natural processes/selection. Healthy gap creation is supported by managing for, or with natural processes and refraining from damaging forms of green tree and post disturbance logging, both of which are encouraged in the NWFP DEIS.

The benefits of natural recovery are immense, while the impacts of post-disturbance and green tree gap creation logging are damaging to natural resources and values in the NWFP area. If episodic gap creation events associated with fire, beetles, disease, windthrow, or drought and the vegetation they generate were retained and protected from commercial post-disturbance logging, historic structural elements associated with canopy gaps would continue to be restored, precluding any perceived need to create canopy gaps through silvicultural interventions (e.g. commercial logging). Gap creation through commercial logging is entirely unnecessary and post-disturbance logging that disrupts natural gap creation is damaging, irresponsible and inappropriate.
8) Reference condition targets identified in the DEIS do not reflect the best available science surrounding reference ecosystems in the Klamath-Siskiyou Mountains.
As described above the scientific literature does not support agency treatments in regard to canopy structure and gaps sizes. The DEIS provided no evidence beyond simple assumptions to demonstrate that forests were historically more open and had large canopy gaps. Additionally, the assumption that frequent, low severity fire favored more open canopied and patchy late successional forest are unfounded, and cannot be scientifically verified with the best available science. In fact, this comment shows these assumptions are inconsistent with the available scientific record and the restoration of fire on the landscape for the last few decades.

Likewise, following the proposed treatments, forested stands will still be deficient in late successional characteristics, large trees, large snags and large downed wood. This is because too many habitat elements are proposed for removal through canopy reduction, large tree removal and group selection or regeneration logging. Although the mean diameter may increase in some stands after treatments, this is largely a statistical trick because by leaving only a few scattered large trees, it appears that the relatively abundance of large trees has been increased. Yet, forest cover, forest complexity, and a deficiency in large trees, snags and downed wood is created through logging off significant canopy cover, including dominant trees, co-dominant trees, and mid seral trees less than 150 or 120 years old. In the long- term, these logging practices will lead to a lack of old tree, snag and downed wood recruitment and the diminishment of late successional characteristics. Stand age will still be uncharacteristically reduced throughout the NWFP area due to historic and current logging practices and structural conditions will not reflect historic patterns in terms of structure, gap size, or successional stage distribution.

By definition, restoring older successional stages take time, growing large trees currently targeted for logging takes long periods of time to replace, and both snag and downed wood are difficult to maintain if recruitment is diminished. Converting stands to younger seral stages, with less canopy cover, more early seral vegetation, and to more open conditions does not restore more historic, mature, late successional and old forest conditions. Most mature conifer forests containing Douglas fir, white fir, and in some situations Ponderosa pine are adapted to closed canopy conditions when old or mature. Simply reducing stem density, large tree density and/or canopy cover does not constitute "restoration" and cannot be reasonably declared beneficial.

The logging proposed in the DEIS will not create characteristic vegetative conditions, but will instead favor novel, unprecedented conditions leading to biological impacts and biodiversity declines. Numerous recent historic vegetation studies in the Rogue, Applegate and Illinois River watersheds of SW Oregon have demonstrated that open, savannah form vegetation was not particularly abundant and more closed habitats dominated large swaths of the landscape (Duren et al. 2012, Hosten et al. 2006, Hosten et al. 2007, Hickman 2009, Hickman 2011, DiPaolo et al. 2015). Historic photographs and landscape descriptions in the area also demonstrate that a wide variety of vegetative conditions existed in the historic landscape and patterns of mixed severity fire were characteristic for the region.

Recent research into NSO habitat and its interaction with wildfire in SW Oregon also demonstrates that ""The extent of these forest types [open, park-like forest] was often overrepresented in historical records due to the ease of traveling through them and the opportunities for pleasing photographs (Van Pelt 2008). In truth, these open, park-like forest conditions don not represent many forests in western North America (Odion et al. 2014)." (Lesmeister. 2019)

South facing slopes in the Klamath-Siskiyou Mountains often contained a mosaic of chaparral, oak woodland, patches of oak savannah adjacent to arid grassland, and stringers of dry mixed conifer forest, dominated by Douglas fir and pine. At higher elevations true fir forests can be found with more productive forest conditions, higher annual precipitation (mostly as snow), and more abundant closed canopy structural characteristics.

Northern slopes and benches with deep soils were often heavily forested with stands of mature, late successional and old-growth forest. Gaps were relatively rare and canopy closure was the norm in most forested environments. Western faces are hot, dry and often similar to south facing slopes, while eastern slopes contain a mixture of plant communities dictated by fire, soils, and solar exposure. Slope position was also important, with a lower slope position more likely to maintain dense, closed Slope exposure and slope position also played key roles in dictating vegetative patterns with those areas that are higher on the slope being more likely to either support chaparral or more open forest conditions (Taylor. 1998). Taylor also found that south and west facing slopes support more solar exposure, dryer soils and more open vegetation types including grasslands, oak woodlands, chaparral, open forests and regenerating forests. These areas tend to support a larger percentage of high severity fire effects when wildfires burn and more early seral vegetation.

In many cases logging operations are focused on more productive north and east facing slopes, or forests found in the high country where annual snow loads create more lush forest types and larger volumes per acre. These habitats historically supported more closed stands of mature or old-growth forests with a mixed severity fire mosaic, and non-forest plant communities creating heterogeneity. These fire regimes likely included a significant low and moderate severity burn mosaic, but overall mixed severity effects, a mixture of seral stages and abundant late successional vegetation communities where soils and site conditions are conducive. (Taylor. 1998). This mosaic consisted of significant dense closed forest stands, with patches of relatively open forest, chaparral and high severity burn patches concentrated on south and west facing slopes, but distributed throughout the landscape based on wildfire coinciding with wind or extreme weather events or drought cycles that increased tree stress and beetle events.

The supposedly vast and mythical open forests of southwestern Oregon and northwestern California assumed in NWFP planning process and DEIS have little scientific basis or historical precedent and have largely been romanticized to encourage commercial logging. Although present on the landscape, these open forests have been found by most scientific studies to be the exception, rather than the rule. (Duren et al. 2012, Hosten et al. 2006, Hosten et al. 2007, Hickman 2009, Hickman 2011, DiPaolo et al. 2015). The DEIS fails to provide any credible evidence that the stand conditions following proposed logging operations would be anything but novel, uncharacteristic and arbitrarily defined to promote timber production and the removal of large overstory trees under the guise of restoration. Historic conditions appear to have been far more closed and far more diverse than assumed in the DEIS, undermining much of the agency's management strategy.

The proposal to create 2-4 acre gaps has no historical precedent and the canopy cover targets are far lower than most historical evidence suggests. Converting the existing forests to open pine forest is historically inaccurate and contemporarily irresponsible given the current climate and biodiversity crisis. Commercial logging is not needed to restore natural conditions and would lead to both the development of novel conditions and environmental impacts inconsistent with the preservation of biodiversity, habitat connectivity, and ecological integrity.

Throughout the NWFP area, the largest, most pervasive impact to forests has been commercial logging which has altered forest structure and skewed age class distribution towards younger, less complex stand conditions. Allowing forests to mature and allowing late successional characteristics associated with snags, downed wood and other forms of decadence to develop would more effectively restore late successional forest conditions on the stand and landscape scale. Unfortunately, many of the forests in the NWFP area are relatively young and simply need time to start restoring more characteristic mature and old forest habitats.

Additionally, better management of natural wildfire ignitions, allowing some fires to burn under prescribed conditions would maintain fuel loading, augment forest succession, support a more natural fire regime, create a fine grained mosaic with complex early seral openings, and maintain important biological legacies. Non-commercial fuel reduction could also be utilized, but should be prioritized around communities at risk, not in remote or backcountry locations. Once again, commercial logging is neither desirable or necessary to restore more diverse, sustainable and characteristic forest conditions, while other, less intrusive and less impactful means are both more effective and available.

Thinning to the extent proposed in the DEIS will log off many of the biological legacies and desired structural conditions such as snag, coarse wood and large tree recruitment, canopy cover, and maintaining uncharacteristically low density forests with far less large tree cover than would naturally occur. Reference conditions simply do not support the treatments proposed, demonstrating that the DEIS will not meet its own biological objectives or restoring forest habitats to more historic conditions and is not consistent with the development of mature and old forest habitats in the NWFP area.
9) RX Fire and Managed Wild?re does not require logging treatments
The agency often claims that logging and extensive tree removal is a prerequisite for the implementation of prescribed ?re or cultural burning, but neither the science, physical realities on the ground, or historic implementation of prescribed ?re supports this conclusion.

To start, every ?re season ?re?ghting crews are lighting backburns in untreated fuels and in unlogged stands, often with relatively positive e?ects (if lit under favorable conditions and with a backing alignment). If this can be done during ?re season, it can most certainly be done during the shoulder season when prescribed ?res and cultural burning is often implemented. We also regularly see summer wild?res burning in relatively extreme ?re weather conditions back down slopes, burn slowly in Riparian Areas, and in rocky habitats. Favorable conditions are common denominator between lower ?re e?ects during active portions of the ?re season. This includes overcast conditions, smoke inversions, and high relative humidity. Implementing ignitions under the correct burn window is essential to achieving the desire results in both treated and untreated habitats as well as in the shoulder season or during ?re season. The results on the ground are more about picking appropriate burn windows than implementing manual treatments before a burn.

The Karuk Tribe for example has worked to demonstrate that prescribed ?re can be used as an initial entry treatment even in heavily ?re suppressed and degraded habitats. The tribe has implemented fall burns on forest land above Orleans, California that was acquired by the tribe and is being restored with ?re. The land was logged by the previous owners and prescribed ?re treatments have been used to create a mosaic of mixed severity ?re

on this landscape.

Additionally, we have seen numerous prescribed ?res implemented in untreated habitats during fall and spring burn windows, and with good e?ects. These have included relatively small burns through TREX programs on the Klamath River, and larger burns on Rogue River-Siskiyou National Forest land in relatively low elevation mixed conifer, mixed hardwood, oak woodland and chaparral habitats. We have also seen the Klamath and Six Rivers National Forest implement prescribed ?res and cultural burns in previously untreated stands of forest, mixed hardwood stands and oak woodlands.

Furthermore, signi?cant science demonstrates that untreated habitats including relatively dense, even-aged forest and mixed woodland habitats can be treated with prescribed ?re as an initial entry treatment. For example, the John Muir Project has created the following fact sheet demonstrating that land managers can and do implement prescribed ?re without previous tree removal. Please include all the scien;?c informa;on and references from this factsheet into this comment by reference and utilize this information to create management guidelines.

hCps://johnmuirproject.org/wp-content/uploads/2024/12/JMP-fact-sheet-Fire-Alone-29Nov24-

1.pdf

Fire as a natural process either from cultural ignitions, prescribed ?re, and/or managed wild?re will be more quickly restored or implemented at appropriate scales if it is decoupled from

manual and commercial thinning opera;ons. Minimal, narrow manual treatments may be needed between 10' to 100' from a ?reline, yet onen using roads, trails, rock outcrops, serpen;ne areas, rivers, streams wetlands, or other natural barriers to ?re spread very liCle manual pretreatment is needed. This approach will more readily restore ?re to the landscape and can more readily be maintained with periodic burning at di?erent frequencies depending on site condi;ons, ?re regimes, plant communi;es and other aspects. Focusing on manual thinning ?rst and ?re restora;on second as the agency proposes is crea;ng unnecessary collateral impacts, slowing down the process, genera;ng controversy, and crea;ng barriers to ?re restora;on or implementa;on. It is also driving up costs, because manual thinning is far more expensive and far less e?ec;ve at reducing fuels, modera;ng ?re severity or ?re spread.
10) Large portions of the Klamath-Siskiyou Mountains are too remote, rugged, and inaccessible for prescribed ?re treatments. Managed wild?re must be combined with prescribed ?re to restore mixed severity ?re regimes.

While supporting RX and cultural ?re, we are also aware that without managed wild?re in the picture an active or even relatively close to historic ?re regime is not possible. Large portions of the Klamath-Siskiyou Mountains are too remote, rugged, and inaccessible for prescribed ?re treatments. This is a physical reality and requires consideration on the landscape scale.

Discussions with Forest Service ?re sta? on the Rogue River-Siskiyou and Klamath National Forests have repeatedly demonstrated that the agency simply cannot ignite prescribed burns due to the steep, inaccessible terrain in large portions of the Siskiyou Mountains. The same realities preclude prescribed ?re use on much of the western half of the Klamath and Shasta- Trinity National Forest, as well as most of the Six Rivers National Forest were terrain is extreme and accessibility is limited.

The steep, remote, inaccessible land in the Klamath-Siskiyou Mountains is generally sparsely populated, di?cult for initial attack suppression crews, and likely to continue burning relatively regularly due to dry summers with relatively high lightning occurrence, and receptive vegetation. These areas are best maintained with managed wild?re and indirect ?re suppression tactics that allow signi?cant acreage to burn in rugged backcountry habitats.

Most realistic ?re managers, ?re ecologist, forest ecologist and restoration ecologist agree that the vast, often remote wildlands of the West require some level of managed wild?re to maintain ?re adapted habitat conditions, and in these areas, relatively recent ?re footprints will moderate future ?re intensity and spread. The need for managed wild?re should be more openly identi?ed as part of the solution and should be explicitly identi?ed in the NWFP in backcountry areas. This will require utilizing the shoulder season in the fall to restore ?re to hundreds of thousands of backcountry acres.

It will also take the reform of current ?re suppression policies to allow more ?exibility in management, rather than full suppression on nearly every ?re. It will also require less emphasis on limiting acres burned and more emphasis on using natural, prescribed and cultural ignitions to restore ?re regimes and ?re adapted habitats.
11) Incorporate the findings of our recent report "Medford District BLM Fire/Fuel Analysis for Timber Sales Authorized under the 2016 Resource Management Plan" into the analysis of fire effects and group selection logging by reference.
In our report titled "Medford District BLM Fire/Fuel Analysis for Timber Sales Authorized under the 2016 Resource Management Plan for Southwestern Oregon" we reviewed Environmental Analysis for recent timber sales implemented under the 2016 RMP on the Medford District BLM. The analysis included the Clean Slate Timber Sale, the Griffin Halfmoon Timber Sale, the Poor Windy Timber Sale and the Bear Grub Timber Sale. Previous analysis for the Clean Slate, Griffin Halfmoon, and Poor Windy projects identified group selection logging and the heavy canopy removal it creates, along with the artificial reforestation as the major mechanisms by which fuel loading is increased and fire resistance is reduced through management activity.

In their post-logging transition, stands affected by these logging activities sustain fuel type transitions from a forest type to a brush fuel type, regardless of artificial planting efforts. According to previous BLM analysis "Brush fuel types are more volatile and are susceptible to high rates of fire caused mortality. Stands could exhibit higher flame lengths, rates of spread and fire intensity. Fires started within these stands could be difficult to initially attack and control." (DOI. 2018a P. 192). This analysis demonstrates that this fuel dynamic is a product of group selection logging, large tree and canopy removal that opens up stands, and encourages both fine fuel development and dense, young, woody regeneration. The group selection logging and canopy loss proposed in the NWFP Amendment would have similar outcomes and impacts.

The microclimate alterations and the transition from mature fire-resistant forest to dense, early seral vegetation is associated with the "openings" created by group selection harvest. Although the planting of conifers in these stands certainly contributes to the increase in fire risks, it is also the dense, even-aged growth of woody shrubs, hardwood trees and young conifers that regenerate after canopy removal or "gap creation" that drive this process. These conditions combined with logging slash, increased fine woody fuel beds, increased fine herbaceous fuel beds, and hotter, drier, windy environments all contribute to the increase in fire risks.

Group selection logging is inextricably linked to either artificial planting or young forest stocking levels that constitute fire risks. It is the process of converting mature or late successional forest into open forest or into dense, young regeneration that is responsible for the increase in fire risks. To say otherwise is arbitrary and capricious.

Please incorporate the following document by reference into this public comment. Including the findings, validated by BLM analysis that group selection logging will increase fuel loading and that increased fuel loading is inconsistent with the analysis in the NWFP DEIS which claims more open forest types will sustain reduced fire risks. The current analysis in the DEIS is arbitrary, capricious and fails to take a "hard look" at the impact of commercial logging and group selection logging activities on fire risks.

Ruediger, Luke. 2020. "Medford District BLM Fire/Fuel Analysis for Timber Sales Authorized under the 2016 Resource Management Plan for Southwestern Oregon" Klamath Forest Alliance and Applegate Neighborhood Network. 2019

https://www.dropbox.com/s/50u8m52bk41ih3p/BLM Fire%3AFuel Analysis for recent sales.pdf?dl=0

12) The NWFP Amendment should eliminate post-?re or post disturbance logging outside legiBmate hazard tree felling in Matrix and Reserve lands.
The DEIS claims that the scien;?c literature is undecided on the value of post-?re logging. This is categorically untrue, as substan;al impacts have been associated with post-?re logging. The impacts of this form of management are onen extreme and include impacts to water quality, slope stability, damage to post-?re regenera;on, losses of biological legacies, and increased future ?re risks. The wide variety and the severity of impacts associated with post ?re logging demonstrates why post ?re logging should be prohibited on federal lands.

Below are a few reasons post ?re logging should be prohibited throughout Matrix and Reserve lands.

12A) Post Fire logging has no biological benefits, degrades habitat complexity reduces old forest recruitment, hinders a natural vegetative recovery, and increases fire risks
The LSR network and the NWFP was designated to manage for habitat complexity, connectivity and late-successional habitats. These goals can be attained by retaining old-growth characteristics and biological legacies in both green forests and snag forest habitats affected by high severity fire. The habitat complexity associated with these biological legacies should be prioritized for retention in all forest habitats on public lands. The standing snags left after wildfire will become the foundation of complex early and mid-seral habitat, putting the fire- killed forests on a trajectory towards complex, late successional habitat characteristics. Without these biological legacies, the structural components of complex, late successional habitat will take hundreds of years longer to reproduce.

The proposal to continue implementing post-fire logging and artificial reforestation will set back late successional habitat, preclude a diverse natural pattern of regeneration in the post fire environment, and eliminate both structural complexity and biological legacies across vast acreages. These actions will significantly impact LSR values and are inconsistent with LSR management directives. They are also inconsistent with the maintenance of complex forest habitat in any and all land use allocations.

The management goals of designated LSR forest are identified regionally in the KNF Forest Plan, "The objective of LSR's is to protect and enhance conditions of late- successional and "old growth" forest ecosystems, which serve as habitat for late- successional and "old growth" related species including the northern spotted owl. These reserves are designed to maintain a functional, interacting, late-successional and "old growth" forest ecosystem (USDA, 1994, 4- 83)." It is our contention that post-fire logging within these areas is counterproductive and fails to meet the goals to "protect and enhance conditions of late-successional and old growth forest ecosystems."

Post-fire logging provides no ecological benefit and includes significant impact to late- seral habitat conditions. In the Seiad Watershed Analysis on the Klamath National Forest page 5-25 the agency states, "Late-successional forest in the LSR within the Seiad Creek drainage (within the analysis area) has been heavily impacted by fire and salvage logging."(UDSA, 1999b, 5-22) This same area burned again at high severity in the 2017 Abney Fire in almost exactly the same footprint as the previous salvage project conducted after fires 30 years earlier.

According to the KNF Forest Wide LSR Assessment post-fire or "salvage" logging should only take place if the effect of logging on LSR values provide long-term benefits to late-successional habitats. The 1999 Forest Wide LSR Assessment states " Salvage should have a long term positive effect on late-successional habitat and should not diminish suitability [for northern spotted owl] now or in the future...Management following a stand-replacing event should be designed to accelerate or not impede the development of late-successional

characteristics. (USDA, 1999 p 4-22)." The Forest Wide LSR Assessment was created to inform LSR management on the KNF, but the information applies more broadly. Throughout the document plantation stands and post-fire logging are identified as significant impacts and fire risks to LSR values and post-fire logging creates these conditions wherever implemented.

Likewise, the foundation of Northern Spotted Owl (NSO) habitat is complexity. Structural complexity is often associated with decadence (e.g standing snags and downed wood) and natural disturbance such as wildfire. Post fire logging would eliminate these foundational structures and disrupt the natural process that creates the heterogeneity and structural complexity indicative of quality NSO and LSR habitat.

The KNF Forest Plan also directs silvicultural risk reduction activities in LSR forest to focus on younger stands, (USDA, 1994 p. 4-86, MA5-28), which is supported by localized research in SW Oregon showing the best way to restore or recruit old forest is to manage young forests and plantation stands for future old forest recruitment (Sensenig. 2013). The NWFP fails to sufficient protect old forests and sufficiently encourage the management of young, previously logged forests for old forest development. Additionally, post fire logging is nearly always implemented in older stands and the removes centuries old trees or snags. The KNF Forest Plan recommends that "the scale of salvage and other treatments should not generally result in degeneration of currently suitable owl habitat or other late-successional conditions. (USDA, 1994 4-86, MA 5- 28). Yet routinely, the Klamath National Forest takes NSO habitat in post fire logging such as the Westside Project which authorized 103 NSO take permits (See our initial NWFP NOI comment for additional information on NSO take in the Klamath-Siskiyou Region).

If the agency intends to implement post fire logging in LSR forest they must identify how salvage activities that remove late-seral characteristics will benefit late successional habitats or encourage their development. The assertions must also be validated by relevant science and thoroughly analyzed in an EIS. Current analysis in the DEIS is misleading, insufficient, and fails to take a hard look at the science surrounding forest regeneration, forest complexity, and future fire severity.

The agency must also produce evidence to support their illegitimate claims of a scientific stalemate. A significant body of science contradicts this position. This body of science although widely known, was largely ignored in the DEIS analysis. The current position in the DEIS is not scientifically based and is instead ideologically and economically driven. It is thus inappropriate in LSR forest, where logging for strictly economic purposes is forbidden.

The Standards and Guidelines for LSR Forest identified in the KNF Forest Plan also discourage the removal of green trees within LSRs, stating that "Surviving trees will provide a significant residual of larger trees in the developing stand. In addition, defects caused by fire in residual trees may accelerate development of structural characteristics suitable for associated species. Also, those damaged trees that eventually die will provide additional snags. Consequently, all standing live trees should be retained" during post- fire logging operations. Retaining "all standing trees" is functionally very different than logging green trees the agency suspects may die within five years (as it does regularly in post fire logging projects). The LSR guidelines specifically acknowledge the benefit of green trees that may die at a later date and recommends that they be retained throughout the LSR. This advice is regularly ignored during the implementation of post fire logging operations and it applies to all land use allocations because the NWFP aims to support habitat complexity and reduce fire risks in all designations.

The KNF Forest Wide LSR Assessment and the LSR Standards and Guidelines prioritizes snag retention stating, "Following stand replacing disturbance, management should focus on retaining snags that are likely to persist until late successional conditions have developed and the new stand is again producing large snags" (USDA, 1999, p 4-22 & USDA, 1994 4-87). Post fire logging will not satisfy this requirement because the only snags capable of bridging the divide and persisting on the landscape until a new stand emerges are the big, old snags most likely to be targeted in post-fire logging operations.

The Standards and Guidelines also include the recommendation to retain Coarse Woody Debris stating "Following a stand-replacing disturbance, management should retain adequate CWD quantities in the new stand so that in the future it will still contain amounts similar to naturally regenerated stands. The analysis that determines the amount of CWD to leave must account for the full period of time before the new stand begins to contribute CWD." (USDA, 1994 4-87). The agency must demonstrate they are following these minimum Standards and Guidelines for LSR management in the NWFP.

In their influential paper "Restoration of Federal Forests in the Pacific Northwest" professors Norm Johnson and Jerry Franklin state "Conflicts often exist between economic and ecological objectives as timber salvage is generally about recovering economic values rather than enhancing ecological recovery." They also list three recommendations under "General Post Disturbance Guidance," these recommendations include: "1) Do no significant additional ecological damage to the biota and functional capabilities of the post disturbance ecosystem, with particular consideration of soil and aquatic resources. 2) Consider the merit of potential activities in the context of the primary management objectives for the site. For example, salvage would appear to be inappropriate in areas that have been allocated primarily to maintenance of native biodiversity and functions and natural forest ecosystems (including old growth) and 3) Give full consideration to the ecological roles played by biological legacies from the post disturbance ecosystem including their importance and duration." (Franklin and Johnson. 2009). Professor Jerry Franklin was particularly influential in the creation of the LSR network and the NWFP. Jerry Franklin also views post-fire logging as inconsistent with "primary management objectives of LSR forest."

Johnson and Franklin also provide recommendations in a book recently published on the subject (Lindenmeyer etal., 2008), which recommends "using pre-disturbance management goals as a starting point in determining appropriate actions." Clearly the scope, scale and intensity of logging proposed in most post-fire logging projects (which are implemented as clearcuts) would be inconsistent with pre-disturbance management goals or Standards and Guidelines in the area's LSR forest and northern spotted owl habitat. Likewise, the NWFP Amendment states that old forests (over 120 years) and old trees (over 150 years) should be retained in all land use allocations. We believe these standards should be strengthened, but they do demonstrate that maintaining some level of late successional habitat or habitat complexity is required on all NWFP lands. This should include higher severity burn patches in post-fire landscapes where biological legacies and habitat can be difficult to restore once removed through salvage logging and can take hundreds of years to restore within affected stands.

In public comments provided during the Biscuit Fire Recovery DEIS and the Westside Fire Recovery Project, Jerry Franklin stated: "Salvage logging of large snags and down boles does not contribute to recovery of late successional forest habitat; in fact, the only activity more antithetical to the recovery process would be the removal of surviving green trees from burned sites. Large snags and logs of decay resistant species, such as Douglas fir and cedars, are critical as early and late successional wildlife habitat as well as for sustaining key ecological processes associated with nutrient, hydrological, and energy cycles." (Franklin. 2004). Yet, logging both large diameter snags and living, green trees is routine in post fire logging projects.

Scientists and agency management plans agree that post-fire logging and replanting is generally inconsistent with the development of late successional habitat and biodiversity. There is also general consensus that the process and mosaic of fire is very important in maintaining and encouraging late successional forest habitat, biodiversity, forest resiliency, and heterogeneity. Fire of mixed severity has been one of the most dramatic influences on vegetative diversity in the Pacific Northwest and Klamath-Siskiyou Mountains for thousands of years. The Klamath Siskiyou area in particular, is renowned for its diversity of habitat, structure, and species. The mixed-severity fire regime has long shaped the face of these rugged mountains, and their forests have adapted and evolved with a fire regime of low, moderate, and high-severity fire effects.

Although the agency often claims in project level analysis that post fire logging and artificial reforestation will

accelerate the development of late successional forest habitats. Post fire logging often proposes to remove nearly all remnants of late-successional habitat from affected stands. This includes logging large diameter snags and trees that are not easily replaced. By removing large diameter snags, the development of late-successional characteristic will be heavily impeded, starving the affected stands of habitat complexity for hundreds of years. The decadence including large diameter snags and downed wood found in snag forest habitats is the foundation for future late successional characteristics and is usually removed in post fire logging projects.

Artificial reforestation in post fire logging units will also disrupt natural forest recovery, replacing complex early seral habitats with simplified, plantation-like stands; void of biological legacies. These habitats will be significantly set back by post-fire logging and the additional biological inputs will take hundreds of years to replace, while impacting habitat quality and connectivity for long periods of time.

The DEIS fails to credibly demonstrate how the proposed activities will benefit LSR values and/or the development of late-successional characteristics, habitat complexity, or fire resilience in Matrix lands.
12B) The DEIS failed to adequately disclose and analyze the impact of post-fire logging and artificial reforestation on forest succession/ recovery/ productivity
Contrary to typical agency analysis surrounding post fire logging and forest regeneration, forests in the Klamath Mountains are regenerating abundantly after wildfires even in large high severity fire patches with abundant shrub competition. (Shattford. 2007).

To alter forest succession through post-logging and tree planting is not only unnecessary but also potentially detrimental to the forest's development and regeneration. In a widely respected article on fire management authors recommended the following approach: First and "most critically" they recommend to "forego those activities that either cause additional damage, or prevent the establishment of native species, ecosystem processes, or plant succession. The avoidance of degradation is far easier than trying to rehabilitate degraded lands." (Beschta, 2004). Instead, they advocate for the restoration of fire suppression impacts to facilitate natural recovery, including the mitigation/ restoration of fire lines, helispots, road work to reduce sedimentation, replacement of culverts, spike camps, etc.

Other authors and scientists tend to agree that no scientific study to date has substantiated claims that post-fire logging and tree planting promotes a resilient natural recovery of forest associations. On the contrary, post-fire logging tends to degrade soil, vegetation, and aquatic resources and decrease biodiversity, creating simplified plantation stands, not patchy and fire adapted native ecosystems. It does not facilitate forest development or reduce fuels.

In fact, post-fire logging hinders natural regeneration in many ways. It negatively effects nutrient replenishment by damaging, compacting, and eroding soil resources during falling and yarding operations. Post-fire logging can also cause "onsite impacts to early successional native plant species...where species are nitrogen fixers, (salvage) can significantly affect a major pathway of nutrient replenishment." (Beschta, 2004)

Perhaps the most obvious impact of post-fire logging is the removal of large standing snags. These snags and the large downed wood they provide have been identified as "keystone structures" providing habitat, building soil, recycling nutrition, holding moisture, stabilizing soils, harboring regeneration, providing microclimate, and protecting against temperature and climate extremes. (Perry 1997) "Large dead wood is one of the most obvious structural legacies of a natural disturbance, and a major reason why clearcuts are not the ecological equivalent of natural disturbance." (Perry 1997) Post-fire logging will degrade this natural process and the rich post-fire landscape. Post- fire logging on the other hand, is the ecological equivalent of a clearcut and creates essentially the same structural condition, through the same management activities. By removing existing dead standing vegetation and replanting with commercial conifer species, post fire logging creates plantation stands with even-aged regeneration and virtually no habitat complexity.

In a very informative study following the 1987 Galice Fire in the Siskiyou National Forest, Michael Amaranthus found "tremendous quantities of water stored in class II and class III logs. Even after 77 days without rain and an intense wildfire," the researchers literally wrung water out of downed logs which had 25 times more moisture on a weight basis than did soil samples. 157% for class II and 199% for class III logs compared to 6% stored in the soil. The researcher suggests that this moisture after a fire event "may help pioneering plants become established where soil moisture is low," as it is through much of the project area. They continue by stating that the "wood component becomes critical when the dry sites are also low in nutrients" as is much of the project area.

They identified the increased presence of feeder roots, ectomycorhizae associates essential to most woody plants, increased nitrogen availability due to ectomycorhizae associates, and increased availability of moisture in downed logs. The "wood component provides not only essential soil moisture, and nutrients, but also the means of utilizing them." In this context downed woody debris is essential for "seedling growth after clearcutting and intense fire on droughty sites" and "a requisite for maintaining long term forest growth." The author explains that "in the Klamath Mountains conifer seedling performance can depend on the ability of the soil to retain moisture and support nitrogen fixing and ectomycorhizal organisms. Removal of large amounts of organic material may result in difficult reforestation of these thin, droughty, and infertile sites." (Amaranthus, 1990)

The loss of large downed wood can be especially critical in the context of a stand replacing disturbance because "the pulse of large wood after the stand replacing disturbance is all the large wood that the recovering ecosystem is going to get for many decades or even a century...some of the deadwood legacy from the stand replacing disturbance will persist and fulfill important functional roles in the recovering forest from many decades and in the case of the largest and most decay resistant material for well over a century." (Franklin. 2009).

Obviously, post-fire logging, through the removal of the snag patches and especially the removal of large diameter snags is detrimental to forest diversity, succession, and recovery and should be avoided, especially in LSR forest, complex old stands and landscapes adapted to mixed or high severity fire.

Likewise, areas supporting natural succession and natural fire regeneration are important and increasingly rare habitat types contributing significantly to regional biodiversity. This is especially true because "Relatively few large areas have been allowed to recover without major intervention after fire, limiting availability of "control" areas in ecological research. This is a particularly acute need in low elevation ponderosa pine forests" (Beschta, 2004, P.9).

Professor Jerry Franklin seems to agree stating in his comment on the Biscuit Fire salvage project that "naturally disturbed habitat that is undergoing slow natural reforestation[mdash]without salvage or planting[mdash]is the rarest of the forest habitat conditions in the Pacific Northwest. Yet it is increasingly evident from research such as at Mount St. Helens, that such large slowly reforesting disturbed areas are important as hot spots for regional biodiversity." (Franklin. 2004).

The best available science demonstrates that post fire logging is detrimental to forest regeneration and natural recovery after wildfire events.
12C) The EA failed to adequately disclose and analyze the impact of post-fire logging and replanting on fuel loading and future fire severity.
Fuel and fire risk analysis in the DEIS did not incorporate the best available science regarding even-aged forest structure and its creating via post fire logging. Monitoring data from the Klamath-Siskiyou Mountains has demonstrated a correlation between increased fire severity and plantation-like stands. This finding was evident on the KNF portions of the Abney Fire where post-fire logging units implemented following the 1987 fires created plantation-like stands that burned at high severity 30 years again in 2017. This pattern is evident throughout the Klamath National Forest and the Rogue River Siskiyou National where we have monitored large scale post fire logging projects and it is also evident throughout the scientific literature.

Many studies have also shown post-fire logging and reforestation (e.g. planting) is associated with increased fire severity and fuel loading. The DEIS failed to adequately incorporate, consider or disclose a growing body of science regarding fire and fuel risks in plantation-like stands and following post-fire logging operations. The structural conditions encouraged by post-fire logging and artificial reforestation strongly resemble plantation structure and fuel loading.

Numerous studies have shown that the density and configuration of regenerating vegetation has more influence on future fire severity than any other factor, including downed, fire-killed trees. A significant body of science exists to demonstrate that plantations are highly flammable and management actions proposed in the post fire logging projects will create very similar structural conditions.

Although the DEIS failed to demonstrate how the artificial reforestation required after post fire logging differs from even-aged, plantation management, the agency has instead drawn conclusions contrary to the best available science regarding the outcome of these actions. The proposed actions will certainly increase future fire severity and the relevant science supports these claims.

A literature review of twenty-one separate scientific papers found a link between post-fire logging and replanting treatments and increased fire and fuel risks (J.D. McIver and L. Starr. 2000). Other researchers found, "there is no scientific evidence that supports the claims that post fire salvage and replanting of conifers reduces the intensity or severity of subsequent fires. On the contrary, post fire salvage logging has been shown to actually increase future fire risks because of the buildup of fine combustible fuels in the short term." (Strittholt, 2004, P. 6)

A study of post fire logging in Oregon found salvage without slash treatment increased fine fuels by 3-13 tons per hectare (Duncan, 2002). This is highly significant because most post fire logging projects will not dispose of logging slash in a timely manner, if at all, following logging operations.

For example, the KNF currently has a backlog of slash removal from post fire logging projects implemented in the past 10-15 years. In the Westside Project (implemented in 2016), funds generated from logging receipts were intended to pay for slash removal. Yet, selling salvaged timber for literally pennies per thousand as the KNF did during the Westside Project (and often does after large fires), has provided virtually no funding for slash removal and much of this work has not been implemented, drastically increasing fuel hazards in the area. In the Westside Project, the logs were removed and the rest will perhaps, happen at some undisclosed date in the future, but only with further public investment. The same is true for the 2014 Salmon Salvage Poject, the 2017 Gap Fire Salvage, the 2018 Seiad Horse Salvage Project, the 2021 Slater Fire Salvage Project and others. The goal of post fire logging is often to "get the cut out", not to reduce activity slash in a timely manner. This alone creates a significant increase in fire risks by generating a timber slash and brush fuel profile.

The DEIS failed to disclose or analyze the true extent of activity slash that will be created by post-fire logging projects or the duration it will persist on the landscape. The agency must analyze fire hazards associated with logging treatments based the following metric: How many tons of logging slash will be produced in each post-fire logging unit? Additionally, the agency should analyze the actual timeframe under which the slash removal will be conducted. Will it be 10 years to never, as it often is on the Klamath National Forest before the post fire logging slash is removed? How will this effect community fire safety, predicted flame lengths and fire severity? Finally, how does this compare to stands that are not subjected to post-fire logging and the subsequent pulse of highly flammable tops, limbs, and relatively fine woody fuels associated with salvage logging.

In a study conducted in the Biscuit Fire area researchers found the following key findings: 1) Salvage logging does not reduce reburn potential 2) Severe re-burn is driven by the structure of young vegetation and regeneration not by residual woody material from previous fire (Donato, 2008). The researcher stated that " if the management objective is to reduce the risk of high severity reburn, post fire management of deadwood may need

to focus on non-merchantable material, which makes up a large portion of residual deadwood and is the most available fuel." The in the Klamath-Siskiyou Mountain post fire logging is usually focused on logging trees 18" and larger. These large trees are fuels that do not significantly contribute to the spread or intensity of a fire.

[Figure showing fire severity and plantation stand maps - SEE PDF]

The map on the left shows fire severity in the Abney Fire south of Copper Butte. The large red mass depicts high severity fire. The map on the right shows the density of plantation stands south of Copper Butte before the Abney Fire. High severity fire shows a strong correlation with plantation stands. For reference notice the L-shaped parcel of private land near the center of the maps

It is clear to most all fire scientists and firefighting personnel that "heavy logging slash" Fuel Model 13, is the most problematic fuel, with the highest potential fire line intensity. Yet, treating this slash in the post-fire landscape has become increasingly difficult due to the sheer number of acres involved on National Forest lands and the massive financial loss to the agency from the massive post fire logging projects often proposed.

It has also been shown that treating post fire logging slash can affect plant succession and thus forest regeneration. (Strittholt, 2004 P. 19) Likewise, treating logging slash in recently burned areas can increase erosion. (Strittholt, 2004 P. 26) The creation of slash should simply be avoided by choosing a non-salvage alternatives and allowing nature regeneration and a slower accumulation of downed woody fuel.

After a wildfire, naturally recovering forests slowly build fine fuels allowing for various levels of decomposition and a diversity of wood structures and sizes. Most trees slowly lose fine fuels, such as small diameter branches and needles before falling to the forest floor and becoming "fuel." When post-fire logging occurs a "pulse input of surface fuels resulting from salvage logging...may increase susceptibility to severe reburns in the early stages of forest development." (Thompson, 2007). Many studies have shown a correlation between increased fuel loads, post-fire logging and replanting (Donato 2006, Thompson 2007, Lindemayer 2008).

Similar conclusions were found in research conducted during the 1987 Silver Fire in the SNF. This study showed that[mdash]the same structure created by post-fire logging and replanting[mdash]were much more likely to burn with intensity. 65% of "managed" stands experienced high severity impacts while only 25% of unmanaged stands were similarly impacted. (Perry. 1994, 1995, USDA. 1994) At the 2016 Gap Fire After Action Review on the Klamath National Forest, Terry Silverstro for the Fruit Growers Supply Company stated that 58% of plantation stands 1- 10 years old were lost due to fire, 79% of plantations between 11-20 years old were lost, 33% of plantations between 21-30 years old and 31% of plantations over 30 years old were lost. These plantation stands were affected with high severity fire at much higher percentages than the remaining portions of the fire.

One researcher stated that once unmanaged stands were mixed with a patchwork of plantation stands "the potential exists for a self-reinforcing cycle of catastrophic fires." (Perry, 1995 b) An unpublished study of the Biscuit Fire found that areas salvage logged after the 1987 Silver Fire burned with twice as much high severity fire than in unsalvaged stands (Harma, 2003 P.82).

In a separate review of the Silver Fire salvage, researchers found areas salvage logged burned 16%-61% higher during the Biscuit Fire than in unsalvaged areas. He concluded that "the hypotheses that salvage logging followed by planting reduces burn severity is not supported by the data." He found this to be true even in stands that were salvage logged and broadcast burned; this is due to the vegetative diversity and small gaps found in naturally recovering forests (Thompson, 2007). A similar conclusion was found by Donato (2006) who determined

that residual dead wood does not influence reburn potential as significantly as does the structure of regenerating forest. Thus, even salvage logging with slash disposal disturbs natural recovery, creating dense plantation stands where fuel connectivity and fire severities are unnaturally high.

In the KNF, research into the 1987 fires showed that "plantations were uniformly destroyed with few exceptions...the vast majority suffered complete mortality." (USDA FS, 1994) This quote is taken from the FEIS of the KNF LRMP, created to inform and define management direction for the KNF. Yet in preceding years post fire logging was implemented across thousands of acres and across the landscape, including LSR forest with significant impacts to the post-fire environment.

Examination of the spatial pattern created by the 1987 KNF fires showed that tree plantations had twice as much crown fire as unmanaged stands. (Odion 2004) To further support these findings, analysis of the 1994 Dillion Fire on the KNF found plantations burned with more severity than unlogged stands. Plantations also created conditions that encouraged adjacent unlogged stands to burn with high severity and possibly encourage fire spread into areas that may not have otherwise burned (Key, 2000). Other authors agree that "reforestation goals should avoid establishing dense, uncharacteristic, "fully stocked" forests, thereby perpetuating the potential for uncharacteristic fire." (Franklin and , 2009 P.68) Weatherspoon and Skinner came to similar conclusions in their study of the 1987 Hayfork Fires (Weatherspoon and Skinner, 1996).

These scientific studies were conducted in ecosystems within the NWFP area and most prominently in the Klamath-Siskiyou Mountains of SW Oregon and NW California. Their combined findings prove that post-fire logging generally leads to increased fire and fuel risks, creating higher fire severity in future fire events. Post-fire logging tends to increase fine fuels through the creation of activity slash, by altering forest succession, and hindering natural recovery. Tree planting creates simplified plantation stands with excessive fuel loads and fuel connectivity. The practice encourages high severity fire effects. To claim post-fire logging will reduce future fuel risks and wildfire severity in the project area is unsubstantiated, unfounded, and contrary to the best available science.

The EIS must disclose that post fire logging and artificial reforestation will increase fire risks whenever and wherever implemented including Matrix and Reserve designations.
13) Commercial logging is a more imminent threat to NSO in the LSR than wild?re risks.
According to the DEIS an overarching goal of the NWFP Amendment is to reduce fuels and fire risks, yet commercial logging as proposed in the NWFP DEIS is a more significant risk to the functionality of late successional forests, the NSO and future fire risks.

First, the forested area within the current range of the NSO that is currently affected by severe fire is proportionally small (Rhodes and Baker 2008, Hanson et al 2009, Odion et al 2014). Odion et al 2014 found that a severe fire rotation would take 362 years to move across the landscape in the Klamath Siskiyou Mountains. This research calculated the future amount of NSO habitat that may be maintained with these rates of high severity fire and ongoing forest growth with and without commercial thinning. Over 40 years, habitat loss from thinning would exceed losses to wildfire by reducing dense, late successional forest between 3.4 and 6 times more under a logging scenario than under a fire only scenerio. This is because many acres logged will not intersect wildfires in the window of time that treatments may have actually reduced fuel loading. It is also because climate and terrain are driving fire severity much more directly and dramatically than fuel loading (Odion. 2014).

This research supports a clear and compelling conclusion that short term impacts from logging operations are certain to occur, while the long-term benefits identified by the agency in project level planning documents and in the NWFP Amendment DEIS are simply not attainable, or at best rarely attainable. The false narrative and false analysis of long-term benefit is heavily influencing management activities on federal land and is also unrealistic from both a statistical and practical standpoint. The sort of logging proposed in the DEIS will only increase habitat loss for the NSO.

Additionally, Lesmeister 2019 found that the odds that nesting/roosting habitat would burn at low severity was 2-3 times higher than the odds it would burn at moderate to high severity.

This research conducted on Medford District BLM land found that "thinned forests have more open conditions, which are associated with higher temperatures, lower relative humidity, higher windspeeds and increasing fire intensity." (Lesmeister 2019). This same research conducted by Oregon State University, Colorado State University and USFS researchers found that the fire modeling used in most federal projects is not accurate "when the inputs rate older forests with higher relative fire behavior" as is routinely done on Medford District BLM lands. The same outcomes was found in a review of modeling systems often used by the US Forest Service to determine fire risks. (Cruz. 2010)

Lesmeister 2019 and other studies demonstrate that " these older forests in mixed conifer forest environments are less susceptible to high severity fire than other successional stages, even under high fire weather conditions with short return intervals < 15 years." Therefore, the logging proposed will only increase fire risks by reducing canopy cover.

Finally, research has shown that spotted owls use burned forests and even prefer burned forests for foraging. Thus, the NSO can benefit from even high severity fire. (Bond. Etal. 2002., Bond et al 2009, Jones et al 2020, & Lee 2018). Spotted owls have evolved and are adapted with high severity fire, they have not evolved with or adapted to industrial logging. Occupancy data in the Sierra Nevada for California spotted owls shows that mixed severity fire patterns are not adversely affecting spotted owl habitat (Roberts et al 2011, Lee et al. 2012). Research into the northern spotted owl has also shown that the impact of fire on NSO populations is far less than often assumed by the BLM (Rockweit.2024.)

Logging does not mimic fire impacts on NSO habitat (Meiman et al 2003) and often downgrades, removes or eliminates suitable NSO habitat through adverse mechanical alterations. Yet, post-fire habitats impacted by low, moderate and even high severity fire can provide suitable foraging habitat if not subjected to post-fire logging (Bond et al 2009, Bond et al 2016, Comfort et al 2016, Jones et al 2020).

Additionally, recent research demonstrates that timber harvest is by far the largest contributor to tree mortality in the West, with timber harvest in Oregon and Washington being the single largest source in all 11 states. In fact, in Oregon and Washington logging is responsible for 80% of tree mortality, while natural processes including insects and fire account for only 20% combined. (Berner.2017) Other papers have shown that cumulative mortality following timber harvest and wildfire, is higher in thinned stand than in stands subject to only wildfire (Hanson 2022, Baker. 2022).

The information above is provided to demonstrate that commercial logging to which NSO's are not adapted creates a far more imminent threat to NSO populations in the planning area and in the local LSR than wildfire.
14) Maintain and invigorate the Adaptive Management Area (AMA) network.
Our organizations have worked for decades in the Applegate River watershed in one of the most active and significant Adaptive Management Areas in the AMA network. Our communities have invested heavily in the concepted and have strived to participate fully in the public process encouraged under AMA designations.

Yet, like the agency's commitment to ecosystem management, biodiversity and old forest development, we have seen the agency pull back from its commitments to the community in the Applegate AMA. We believe the NWFP Amendment provides an opportunity to recommit to the AMA concept and the communities within the AMA network. It is also an opportunity to strengthen implementation by developing strong standards and guidelines that dictate AMA process and management.

We believe all significant public land projects proposed in an AMA should be at a minimum scoped for public

comment and involvement. If sufficient interest is expressed an open, public process should be created to engage the public regarding their concerns or ideas surrounding a project and its implementation. The goal should remain to create a stronger, more scientifically sounds, more socially responsible, more innovative, more regionally appropriate and more accountable system of public land management planning and implementation. This should include public involvement early, often and throughout the process. It should also apply to projects implemented with Categorical Exclusions, Environmental Assessments, and Environmental Impacts Statements and any project with significant impacts to the natural or human environment.

We envision using the AMA's to demonstrate how public involvement processes can build trust, understanding, and collaborative capacity in federal land management projects by creating non-controversial projects that benefit the environment and incorporate public concerns. By focusing on public support project approval will be streamlined by not generating controversy, the analysis will be simplified by having less impact, and the potential legal challenges will be massively reduced. The challenge to the agency is to produce relatively non-controversial projects, that are supported by the public and will not get bogged down by the process. Legal projects prevail in court, if the agency is upset about legal challenges that is best addressed by following the law and being inclusive of public concerns. There is no need to eliminate portions of the NEPA process, but rather to manage in a way that is consistent with it and does not trigger the sorts of public opposition that bog projects down, lead to mistrust and generate litigation.

The controversial nature of timber sales that include the types of old forest logging proposed in the NWFP Amendment will be challenged in court, will be opposed by local communities, and will require more extensive NEPA process, than smaller scale projects, implemented from communities outward, rather than in backcountry habitats, and without the damaging old forest logging currently almost always included in federal land timber sales.

The AMA requires additional public input and involvement, while focusing on more localized and ecologically based forms of management. These goals can be best achieved by removing AMA's from the Matrix designation and putting them into the Reserve network. AMA's should not be part of a timber harvest land base, but instead treated as conservation, science and community led management strategies tailored to the biological needs of a given area. They should be their own land use allocation that incorporate conservation based land use allocations such as LSR, Riparian Reserves, and others, but timber based Matrix management is not consistent with AMA values. Instead the AMA is a place to merge conservation and community values, into an idiosyncratic, innovative, localized management strategy backed by public support and free from the controversy surrounding Matrix timber management. The matrix label has historically overridden AMA designation, making the AMA less workable and less community and conservation oriented. The whole idea is to create localized management approaches and the Matrix designation is imposed from above without adequate site specific considerations and without clear conservation or community benefits.

Historically AMA Guides were created that had no teeth and held no sway. They were not legally binding management plans, but rather recommendations. We suggest a new approach that creates AMA Management Plans outlining the goals, objectives and public involvement requirements of the area and codifying them through the approval of an AMA Management Plan. This plan should outline the conservation, community, and management goals of an area and approve the most socially and biologically appropriate alternative. The plan itself should be implemented through a robust public process and should outline minimum levels of public involvement appropriate for the area, and these processes must be more extensive than on normal National Forest lands.

Instead of being managed for timber production on Matrix lands and NSO habitat/old forest on LSR lands, we suggest an approach that takes all AMA acreage out of the harvest landbase, out of the Matrix designation and in a more robust AMA framework which encourages LSR type values focused on old forest recruitment, forest complexity, biodiversity, carbon storage, climate refugia, and habitat connectivity. We also suggest that these

areas be required to maintain fire adapted habitats through the use of prescribed fire, cultural burning and managed wildfire where appropriate, but we also believe the agency must identify and protect fire and climate refugia from fuel reduction, canopy reduction, large tree removal, or prescribed fire projects where they might impact unique plant communities, such as relictual conifer species in the Klamath-Siskiyou Mountains. These include the southern-most stands of Pacific silver fir, amd Alaska yellow cedar, endemic Brewer's spruce, and high elevation snow forests such as red fir, mountain hemlock, noble fir and some white fir stands in montane sites or cool, moist microclimates.

The AMA was intended to be an innovative, experimental land use designation, creating opportunities for significant public involvement. We believe AMA designated areas should be used to model new forms of conservation management consistent with the framework identified above. We also believe all projects in these areas should include a rigorous public involvement process, which we believe will make projects less controversial, more environmentally beneficial, more inclusive, more socially responsible, more innovative, and more inclusive of the broader public.

The AMA's should be overarching designation in terms of public involvement, and managed consistent with the objectives of other land use allocations including LSR, Riparian Reserve, Botanical Areas, where they occur on the landscape. Currently designated Matrix lands within AMA habitats should be managed more like LSR forest with standards and guidelines that protect, maintain, and restore old forest habitats, biodiversity, and biological integrity through community collaboration, science, conservation and fire management.

Thank you for the opportunity to comment,

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