

#### To: Siuslaw National Forest Planning Team

September 6th, 2024

### RE: Comments on North Fork Smith River Restoration Project (NF Smith Project)

### From: Doug Pollock, founder, Friends of OSU Old Growth (<u>www.friendsofosuoldgrowth.org</u>)

#### Dear Siuslaw Planning Team,

My frame of reference for commenting on your "North Fork Smith River Restoration Project" was influenced by visiting some Siuslaw restoration projects in the Corvallis Watershed earlier this year. The "Griff DxP" and "Frank Thin" projects were part of the Marys Landscape Management Plan (LMP), a decade-long project which thinned approx. 2,000 acres (including ~1,300 acres on the Siuslaw portion of the watershed). Griff DxP was completed earlier this year, while the Frank Thin was completed a few years ago. Like this current project, the Corvallis Watershed thinning projects were portrayed by the planning document in positive terms ("Road decommissioning, Forest vegetation improvements, Noxious weed treatments, Road improvements...Watershed improvements").

Despite what the Marys LMP promised, the reality on the ground was appalling. In the Griff DxP unit, roughly 60-70% of the trees were removed in a relatively uniform thinning across the steep landscape. The cutting was conducted right up to the edge of established old-growth reserves, without any buffers (violating basic ecological principles). In several areas, the stumps of previous thinning operations showed that timber production had clearly taken precedence over restoration. Many of the largest trees had been cut through repeated thinning. In addition, the roads and landing areas were an absolute mess. Deep ruts channeled muddy effluent into the headwaters of Griffith Creek (a primary tributary of the Corvallis watershed). The watershed has suffered from increasing turbidity levels over the past decade. It is reasonable to suspect the heavy thinning conducted throughout the Siuslaw NF portion is partly to blame for the decade-long decline in water quality.

In the Frank Thin, nearly all of the trees had been removed on several steep slopes. One wonders how this was intended to recreate anything other than a clearcut. If this is how your forest managers operate in a sensitive drinking watershed, one can only imagine what goes on in remote sections of the Coast Range. I've included some photos of the Griff DxP and Frank Thin areas in the Appendix for reference.

From an ecological perspective, these recent projects in the Corvallis Watershed are abysmal. The heavy thinning removed a substantial amount of the biomass, depriving the forest of nutrients while causing enormous amounts of climate-warming emissions. The cutting right up to old-growth reserves increased the ecological divide between managed and unmanaged stands. I cannot imagine how anyone with a solid understanding of forest ecology would claim that such wholesale thinning accelerates the formation of late-successional reserve (LSR) conditions. In both units, the removal of a majority of the forest canopy and vegetation has opened the forest up to sunlight and wind which will have a severe drying effect while increasing predation of imperiled species for many decades to come. The damage to the roads has caused substantial turbidity in the streams providing Corvallis' drinking water supply. In short, it was a complete disconnect from the stated restoration goals.

The team leader for the Marys LMP (Frank Davis) described the project in a 2023 opinion piece ("The Corvallis Municipal Watershed, a partnership success"):

"The goal of the thinning was to move Douglas fir plantations toward old forest habitat for northern spotted owls, marbled murrelets and other old-forest-dependent species."

That sounds remarkably similar to this current project.

I've described the absolute disconnect in these recent restoration projects because the best predictor of future behavior is what was done in the past. Given the similarities in scope and management, one would naturally expect your current project to result in similar outcomes to those of the Marys LMP.

The (302-page) planning document for this project has laudable goals. The stated purpose of this project is to:

"accelerate the development of late-successional forests; restore resilience and ecological integrity to the aquatic resources; and to provide resulting goods and services from these activities, which would be supported by an environmentally sustainable road system."

The planning team has clearly embraced the ecological talk. Who could argue with "accelerating the development of late-successional (old-growth) forests", or "restoring resilience and ecological integrity"? And how could anyone question an "environmentally sustainable road system" (whatever the heck that is)?

On the surface, your plan appears to be full of plausible ecological justifications and analyses. But a deeper assessment of the language and technical details reveals some glaring flaws and distinct biases. Ironically, the plan begins by describing the history of mismanagement without assigning any blame or accountability:

"Fragmentation occurred in the North Fork Smith project area because of historic clearcutting roughly 35 to 70 years ago. These cutting units were spread across the watershed. **The result was that large patches of trees decreased dramatically, fragmenting the landscape.**" [emphasis added]

To refer to the *widespread liquidation* of old-growth forests by stating, "*large patches of trees decreased dramatically, fragmenting the landscape*", is akin to describing the decimation of the bison while ignoring the role that white settlers played in deliberately exterminating them. It would be like saying, "*The bison just decreased dramatically, leaving the plains empty!*" Such language is entirely deceptive and disingenuous. The trees didn't magically "decrease dramatically" all on their own! The language of this description stubbornly resists laying blame where it squarely belongs: on the shoulders of generations of national forest managers who colluded to destroy our natural heritage (that they now profess they know how to restore).

This accountability is vital if your agency is to have any public credibility. You must approach your work with exceptional humility, always mindful of the long history of collusion with your timber-industry collaborators. For generations, federal forest managers squandered our precious natural resources, logging and fragmenting millions of acres of ancient forests that can never be restored. They viewed old-growth forests as "decadent" and a waste of valuable timber. They paid for the roads (at public expense) that allowed timber companies to cut trees for a small fraction of the market value. They fought tooth and nail to ignore their own scientists when the experts discovered the importance of intact old-growth ecosystems to threatened and endangered species. Timber production was prioritized over all other uses of these public lands, and that undercurrent of extraction continues today. And now we're supposed to believe it when these same agencies tell us they need to *cut* trees to *restore* the older forests? Given this dark history, the public is rightfully skeptical of the motives and agendas of our federal forest managers.

There are so many disconnects in your planning document, it's difficult to know where to begin. I will attempt to address some of the key disconnects that caught my eye below:

The claim that you will create, "an environmentally sustainable road system" is absolutely preposterous – and speaks of great arrogance on your part. ALL roads have adverse impacts (even decommissioned ones). There is nothing "environmentally sustainable" about a road system! Roads are an enormous interruption and impact to

the landscape. Adverse impacts include the huge amount of embodied energy (in the rock, rock-hauling, grading, and maintenance required to keep the roads functional), the sediment and erosion that impact streams, and the many sources of pollutants (from tire and brake pad debris, to the many toxic fluids and lubricants, to the emissions associated with the burning of fossil fuels). Roads are also substantial vectors for invasive species and human access, which have adverse impacts to wildlife and significantly increases fire risk. Even roads that were decommissioned decades ago contribute to turbidity in watersheds (see photos in the Appendix, showing active erosion from a road in the Siuslaw that was decommissioned long ago).

There is no convincing evidence to support the unfounded claims that any of the proposed "management activities" (which are largely focused on timber harvests) would accelerate late-successional (LSR) conditions. In the three decades since the Northwest Forest Plan was implemented, there has simply not been enough time to demonstrate the scientific validity and feasibility of what you are proposing to do (despite many claims to the contrary by industry-indoctrinated "experts" from our timber-funded university). The old-growth forests that were liquidated took millennia to develop. It is exceptionally arrogant for modern foresters to claim (after a few decades of tinkering) that they now understand how best to recreate the complex conditions of the ecosystems that were destroyed by the very institutions they work for.

Where is the objective, peer-reviewed research that backs up your restoration claims? There's certainly no shortage of "experts" who will adamantly insist they know how to accelerate LSR conditions. But predicting future conditions of complex ecosystems in a rapidly changing climate is, by its very nature, a very "squishy" and uncertain endeavor. Given the enormous impact of accelerating climate change, wildfires, and severe weather events (like the extreme temperatures of recent "heat dome" events), any predictions of future forest conditions are little more than conjecture. Also, as one of your earlier reviewers (Doug Heiken) noted, there's plenty of contrary research calling into question the fundamental premise that extensive thinning can accelerate LSR conditions. From a conservation perspective, your reliance on heavy thinning to (attempt to) recreate LSR seems like a thinly-veiled effort to further monetize these long-abused public forests.

Thinning (over 4,000 acres) of forest will remove large quantities of biomass that would otherwise feed the organisms that contribute to a healthy ecosystem and produce the soil. I did not see any mention of the biodiversity of the soil and how it would almost certainly be adversely impacted by further thinning. Any thinning project that removes substantial amounts of timber from the ecosystem has an adverse impact and cannot be considered ecologically-sound. If you were really trying to restore the ecosystem, you would leave ALL of the biomass from cut trees in the forest.

In 1998, I attended a talk at Oregon State University's College of Forestry by the famous environmentalist, David Brower. He noted that researchers had discovered that a single teaspoon of soil from an old-growth forest had approx. 6,000 species of arthropods. By comparison, a spoonful of soil from a tree plantation was found to contain only about 100 species. Brower chastised the OSU forestry folks for presuming to understand forest ecosystems when they barely knew of the existence of those tiny organisms (which produce the forest soil). Judging by OSU's outdated forestry practices, and what I see in your plan, there's still no recognition of the importance of the microorganisms and the health of the soil.

I failed to find any specific mention of the severe drying impact of your planned thinning operations on the local watersheds and landscape. We already know that timber harvests contribute to roughly 50% lower water volumes during drier months for DECADES after the cutting occurs (Catalina Seguara et al., 2020). We can expect the same type of impacts to the areas you plan to thin. The removal of substantial amounts of biomass will greatly reduce the amount of moisture stored in the forest. This is a major impact that you appear to have overlooked.

Thinning also adversely impacts many related factors, from the "albedo" effect (which increases surface temperatures when the canopy is diminished), to increased air flow, decreased moisture uptake (fog-drip) from the

needles and vegetation, and increased evaporation. This is all established science. Until you are willing to acknowledge the substantial negative impacts of thinning on the forest ecosystem, your plan is fundamentally flawed and incomplete.

The removal of a considerable volume of timber (via thinning) will reduce forest carbon reserves both above and below ground. This will clearly contribute to climate change. Your plan attempts to dismiss these impacts using a number of poor arguments. It states:

"These estimates of disturbance effects on forest carbon losses represent an upper bound because they do not account for continued storage of carbon in harvested wood products, or the effect of forest products substitution for other more highly-GHG-emitting building materials such as brick or metal (CWP, Section 3.2). following thinning harvest, trees left in the stands will continue to grow and sequester carbon in the process. Over time, this can offset the export of carbon from the stands during harvest."

Who did your carbon modeling? Studies by renowned forest carbon experts have shown that only about 19% of the carbon associated with timber harvests ends up in long-term products (Law, Hudiburg, Gerner, Kent, Buotte, and Harmon, 2018). It is meaningless to attempt to justify the GHG emissions associated with thinning by pointing to "highly-GHG-emitting building materials such as brick or metal". You guys clearly don't understand the basic boundary conditions and rules when it comes to carbon modeling. It seems like your arguments were put together by your industry collaborators, rather than objective scientists. These kinds of misleading, unscientific statements reflect very poorly on your agency.

The plan claims the carbon impacts of thinning more than 4,000 acres will be negligible compared to the carbon reserves of the Siuslaw as a whole. That's another meaningless comparison. It's the net loss of forest carbon that is key, not the amount relative to the entire national forest. For comparison, the area you are proposing to thin is almost as large as the entire land area of Newport, Oregon (or half the size of Corvallis). Estimating the number of tons or truckloads of logs removed would be far more relevant to the average citizen. What is the total volume of timber you expect to remove from the forest? This should be clearly stated right up front.

The plan states:

"In a study of mature Douglas-fir dominated forests in western Oregon, Williams and Powers (2019) compared carbon stocks across three management regimes - unmanaged stands; thinned stands and stands that had undergone retention harvest. They found no significant differences in carbon stocks between unmanaged stands and thinned stands, which had generally undergone treatment to 30-40 years before sampling. This lack of difference between unmanaged and thinned stands suggests that, in just a few decades, stands recover carbon removed by thinning."

I have reviewed the study you reference ("Carbon storage implications of active management in mature Pseudotsuga Menziessi forests of western Oregon", by Williams and Powers, 2019). This study does NOT support your claim that there were no significant differences in carbon stocks between unmanaged stands and thinned stands. The study specifically states, "managing stands over extended rotations with **light thinning** may enable the provision of wood products while maintaining relatively high carbon storage in the forest ecosystem" [emphasis added]. Removing up to 60% of the trees would not be considered a "light thinning", so it is disingenuous to state this study supports your assertion regarding carbon stocks. There is plenty of research from established forest carbon experts that contradicts your specious claims. It is absurd to claim that the heavy thinning you are proposing will have no significant difference on carbon stocks.

The plan states:

"the percent canopy cover (% CC) would not go below (less than) 40 % CC at the time of treatment. Appendix B2 shows that some stands may need to be postponed (2nd decade) to be commercially viable." If I understand this statement correctly, you are proposing that up to 60% of the canopy cover will be removed. That's a *substantial* amount of thinning (similar to the photos I've included of the Griff DxP thin). That is far in excess of any justifiable thinning/treatment, especially considering your goal is to accelerate LSR conditions. The second part of your statement (referring to commercial viability) belies your true motive – the eventual monetization of the forest. Why is that your long-term goal, if you're ostensibly trying to create LSR?!

## The plan states:

"Proposed thinning harvest would require supporting actions including but not limited to pile burning, construction of landings, skylines, skid trials, and temporary roads on existing and new templates.

All of these activities come with substantial, adverse environmental impacts. Pile (slash) burning will invariably release enormous amounts of GHG emissions, as well as cancer-causing fine particulate. Slash burning is entirely unnecessary in the relatively most conditions of the Oregon Coast Range. ALL thinning debris should be left dispersed on the forest floor, where it will decay to feed the micro-organisms that produce the soil. There is no practical argument to be made for burning the slash, and plenty of arguments against it (esp. considering you are not planning to do widespread replanting).

The plan states:

"Proposed vegetation thinning in overstocked stands of the NF Smith Project area (and on the Siuslaw National Forest in general) can avoid large GHG emissions pulses and effects to carbon cycling associated with large scale disturbance such as wildfire." [emphasis added]

This argument is unsupported by the science and your own plan. Elsewhere in the plan, you report that catastrophic wildfires in this area of the Coast Range are relatively rare (occurring on a 100-200 year interval) and the wildfire risk is low. Research by Dr. Beverly Law and others has shown that wildfires release a relatively small amount of carbon into the atmosphere, contrary to popular beliefs. Yet, here you are trying to use thinning as an excuse to *"avoid large GHG emissions...associated with...wildfire."* - while choosing to deliberately downplay the carbon emissions associated with thinning (e.g. by stating they are small in comparison to the carbon sequestration of the Siuslaw as a whole, by falsely implying that the GHG emissions are offset by avoiding alternative building materials, etc.). This kind of blatant hypocrisy has no place in a planning document for a national forest! It displays an obvious agenda and bias on the part of your planning team.

The plan states:

"Thinning of stands creates wider spacing and leaves the biggest trees in the near term. Post-thin enhancement underplanting (western redcedar, bigleaf maple, and pacific yew ) in gaps, operational areas, and portions of thinned areas < 70 trees per acre (TPA) increases diversity in the medium (10–30 years) to long term (greater than 30 years), which is an important climate adaptation strategy...In general, larger more vigorous trees with wider spacing can be more resistant to low-severity fire disturbance. These tactics help promote stand resistance to the effects of climate change and disturbance in plantations."

This assessment seems decidedly rosy and unrealistic. You describe, *"leaving the biggest trees in the near term"*, when most of these stands are presumably of even age (so none of the trees are substantially bigger than the others). The underplanting you refer to *"in gaps, operational areas, and portions of thinned areas"* would take a considerable amount of work and expense to plant and tend (for many years) if it is to survive and have a meaningful impact on the landscape. The plan states, *"In general, larger more vigorous trees with wider spacing can be more resistant to low-severity fire disturbance"*, as if your (severe) thinning will somehow magically create this alternative reality. The plan states, *"These tactics help promote stand resistance to the effects of climate change and disturbance in plantations."* Which "tactics" are you referring to and where is the specific, peer-reviewed research that supports this hypothesis? This entire section seems fanciful at best. You're going to

severely thin a dense, even-aged plantation, plant three species of trees here and there, and the resulting forest will magically develop into a structurally-diverse forest with big trees (until you decide to go back and cut many of those big trees in 20 years' time). Have the authors of this section actually stewarded a forest over decades to understand what it takes to create the promised diversity? It sure doesn't seem like it.

The plan states:

"While thinning in younger plantations offers an opportunity to promoting structural diversity and species diversity, which helps promote stand resistance to the effects of climate change and disturbance in plantations, limitations on thinning in stands over 80-years old in Late Successional Reserves creates challenges. More broadly, the Siuslaw National Forest may need to anticipate forests being less productive into the future."

Here you present an entirely positive (and unrealistic) characterization of the supposed benefits of thinning in younger plantations compared to the LSRs which "create challenges" because they are off limits to your active management (cutting). Again, your underlying agenda and bias is crystal clear. You seem to be saying:

"Hey, if only we could go in and manage those LSRs like we do in the young plantations, we could minimize the impacts of climate change! Instead, you better be prepared for the Siuslaw to be less productive in the future (because of those darn LSRs)."

Again, these kinds of biased statements are entirely inappropriate for a national forest planning document.

The plan states:

"The NF Smith Restoration project area is currently experiencing stress partly due to above-average temperatures, increased evapotranspiration, reduced precipitation during the growing season, and uncertainty associated with coastal fog band width and levels."

and:

"Projections indicate that late-successional reserve forests in the NF Smith Project area, and on the Siuslaw National Forest in general, will experience climate change stressors (i.e., increased air temperatures, reduced precipitation in the growing season, increased insect and pathogen activity) putting these resources at risk."

All of these environmental factors will be exacerbated by your planned thinning operations. Thinning will increase temperatures and evapotranspiration, while decreasing precipitation/fog-drip (moisture from the air which collects on on the needles and vegetation). Your planned thinning will contribute to climate change by releasing sequestered forest carbon and drying out the forest. It is inconsistent for your plan to mention these impacts on the one hand, but refuse to acknowledge that your planned management activity will contribute to these problems.

The critical role of fog in forest precipitation is only mentioned in two areas of the plan:

Page 17: "Fog plays a big role in the coastal area of the Siuslaw National Forest, but the NF Smith Project area is not within the fog band (width from the coast). Any potential influence would lessen if fog level and widths decline as predicted."

and:

Page 207: "In contrast low summer stream flows are anticipated to decline across the OCAP CCVA area (including the Siuslaw National Forest and the NF Smith Project area) up to 20 - 28 % from historical conditions by 2080 due to timing, intensity, and amount of incoming precipitation (including potential changes to fog and fog-drip), increased evapotranspiration, and landscape drainage characteristics (limited groundwater storage capacity)."

The first statement seems falsely definitive and dismissive of the effect of fog-drip (and low cloud precipitation) on the project area. In contrast, the second statement acknowledges significant predicted declines in summer stream flows, as well as potential changes to fog, fog-drip and evapotranspiration.

How was the extent of the "fog band" determined in the first case? Page 436 of The Oregon Coast Adaptation Partnership (OCAP CCVA) Climate Change Vulnerability and Adaptation (CCVA) report ("Box 2.1 ---Coastal Low Clouds in the Pacific Northwest") describes a variety of low moisture sources, including low stratiform clouds, stratocumulous, and fog. It states, "...marine air can increase cloud cover and decrease air temperature as far east as the western Cascade Range foothills (Mass et al. 1986)...Coastal clouds and fog are difficult to forecast, leading to their lack of inclusion in climate models...This represents a significant roadblock in predicting the ways low cloudiness will interact with climate change to affect Pacific Northwest environments, where low clouds can (1) regulate land surface temperatures, (2) provide shade and additional moisture for vegetation, (3) improve agricultural water-use efficiency, (4) reduce wildfire potential and (5) maintain streamflows." Given the broad range of marine air flows and the predictive uncertainty in low cloudiness, it makes sense that the impact of fog drip and related precipitation on Coast Range forests is poorly understood.

Fog water deposition is thought to influence plant physiology and ecosystem function of coastal forests (Burgess and Dawson 2004, Limm et al. 2009, Simonin et al. 2009, Williams et al. 2008; Ewing et al. 2009, Weathers et al. 2000). Nutrients and other chemicals have been found to be much more concentrated in fog than rain, with fog delivering a substantial proportion of the ionic load to the forest floor even though it constituted only two percent of the total water delivered via throughfall (precipitation reaching the soil surface by canopy drip) (Ewing et al. 2009). While fog drip may not be a major factor during wet months, it can provide the predominant supply of moisture to coastal forests during dry summer months (T E Dawson, 1998).

Since the collection of fog drip and precipitation depends heavily on the vegetation (including needles of coniferous trees), it stands to reason that extensive thinning (like that proposed in this project) will have a significant adverse impact on moisture collected by the forest. Moreover, this impact can be expected to last for several decades (until the added growth of the forest exceeds the original fog-drip capacity of the original, un-thinned forest). It appears that this plan (and the traditional reliance on extensive thinning projects throughout the Siuslaw NF) ignores the substantial adverse impacts associated with the diminished collection of fog-drip and low precipitation. With climate change expected to diminish water sources, the drying impacts of thinning are clearly contrary to forest health and resilience.

# The plan states:

"As opposed to natural stands, even-aged managed plantations are now very dense and have reached a point in their development that competition for light, nutrients, and water is inhibiting the rate at which they will develop old-growth (or late successional) characteristics and be able to function effectively as habitat for oldgrowth dependent species. The fragmentation and disturbance have impacted habitat for late successional and old-growth related obligate species."

By pointing out that the current (dense, even-aged) stands are "*inhibiting the rate at which they will develop oldgrowth characteristics*", you seem to be implying that your proposed solution (cutting up to 60% of the trees) will somehow solve this problem (that your agency created through its past mismanagement). Unfortunately, the two elements are not logically connected. Comparing this ecologically-devastated landscape to a natural stand is no justification for your proposed thinning. Old-growth ecosystems took millennia to develop, so it is unconvincing for you to assert that you know how to accelerate their restoration (and that it involves cutting up to 60% of the trees).

The plan states:

"These plantations lack biological legacies and compared to natural stands, are expected to take much longer to reach a late-successional condition, with limited compositional and/or structural diversity."

Once again, you are comparing "plantations" to a naturally-generated stand, which is irrelevant to your proposed management activity! The fact that these plantations lack legacies and are expected to take much longer to reach a late-successional condition is a *direct consequence* of your agency's previous management decisions. It is NOT a justification for your proposed activity (thinning)! Your failure to understand this distinction (as evidenced by the numerous sections of text which seem to imply that thinning is the solution to the mismanagement of the past) does not reflect well on your scientific expertise. Again, what specific research can you cite which unequivocally shows that your proposed management activity (thinning up to 60% of the trees) will accelerate LSR conditions?!

## The plan states:

"Proposed terrestrial thinning treatments would target 40, 60, or 80 trees per aces (leave trees per acre) based on underlying plant association average from natural stands in the area (see Terrestrial Preliminary Proposed Actions Map). Stand characteristics would be considered when designing stand treatments"

What does this actually mean? Are you "targeting" (cutting) the 40, 60, or 80 trees per acre (or leaving them)? And what does, "...based on underlying plant association average from natural stands in the area" mean? Also, what does, "stand characteristics would be considered when designing stand treatments" mean? All of this ambiguity makes it sound like you don't know what you're doing and will be just making it up as you go. This comes across as arbitrary and unscientific.

## The plan states:

"Thinning will improve long term resiliency and resistance on over 4,100 acres of forest (OCAP CCVA). Because the Siuslaw National Forest (and Oregon Coast region) may be somewhat buffered from effects of climate change at least when compared to the remainder of the Pacific Northwest region, and actions proposed by the NF Smith Project, and on the Siuslaw National Forest in general, are aligned with recommended adaptation approaches and techniques in the OCAP CCVA. There are not glaring directional changes anticipated that are likely to warrant changes in practices."

Your assertion that "thinning will improve long term resiliency and resistance" is an unsupported hypothesis. How do you define "resilience" and what does "resistance" refer to? How does cutting up to 60% of the trees affect the resilience of the trees you've destroyed? If you're considering the resilience of the resulting stand, how do you factor in the drying of the forest and greatly diminished canopy (which will likely increase predation of imperiled species)? How do you factor in impacts to the adjacent forest ecosystems (which will be subject to the impacts of stronger, drying winds, and diminished water flows)?

Having reviewed the OCAP CCVA document, I don't think it is truthful to state that the extensive thinning you propose aligns with the recommended adaptation approaches and techniques. Removing substantial amounts of biomass and forest carbon, and drying out the forest seems inconsistent with the OCAP CCVA recommendations.

# The plan states:

"Thinning exports a portion of the biomass off forest but allows for increased tree growth and carbon accumulation as trees respond to changes in the relative density index of the stand over time."

The "increased tree growth an carbon accumulation" you refer to seems vague and unsupported. What time frame are you referring to and which model have you used to quantify these impacts? What real-world data do you have to support these claims? Since forest restoration science is a relatively new field, it seems questionable for you to make such broad assertions. Have you run these arguments by forest carbon experts (like Dr's. Law and Harmon)? I suspect they'd laugh at your unsubstantiated claims.

## The plan states:

"Trees may cycle between intermediate stages for centuries (standing dead trees and/or old living trees of low abundance), ultimately impacting the carbon budget at the site scale –decaying dead wood can release carbon while a new stand of tree growth could sequester carbon. Developing structural and biological complexity in managed forest stands is a critical management objective intended to help animal species that depend on late-seral habitat, promotes carbon storage, and may help promote some resilience to wildfire, insect outbreaks, and diseases."

None of this seems especially relevant to your proposed management activity (extensive thinning). You are clearly trying to imply that the thinning you propose will accelerate LSR conditions (without providing any compelling evidence). Statements like this that extol the management objectives seem designed to be a justification for your unsupported treatments. This gives the impression that the plan was written by people who simply do not understand the science of the scientific method.

# The plan states:

"In order to provide an upper bounds, estimate for the amount of carbon that would be removed due to the proposed action, we use the estimate of carbon removed from timber harvest for the baseline time period of 1990-2011 described above. For this time period, harvest reduced forest carbon stocks by 4.08 Mg per hectare of forested area in the Siuslaw National Forest. Given that the forested area for the Siuslaw is estimated to be 240,169 hectares and the estimated amount of harvest for this time period was 9,859 hectares, this amounts to a reduction of 99 Mg per hectare harvested or 40 Mg per acre harvested. There are 4,113 acres of commercial thinning associated with the proposed action, and, as such, an upper bounds estimate for the amount of forest carbon affected is 165,503 Mg, which is around 0.15 percent of total carbon stored by the Siuslaw National Forest. This is an estimate of the amount of forest carbon that would be removed but does not translate directly into carbon emissions since a portion of the carbon removed would be retained in harvested wood products. In addition, this estimate is likely an extreme upper bounds estimate since it is based on a baseline time period (1990-2011) that included several years of more intensive harvests and so the per acre estimates of carbon removed from harvest likely exceed the actual amounts associated with the proposed action, which consists entirely of thinning. Given this low percentage of carbon affected by the project, we conclude that project effects on forest carbon would not be significant."

It is unclear from your description whether you accounted for the carbon sequestered below ground (which is now generally estimated to be more than 50% of the total). It is also unclear which method(s) and model(s) you used to calculate carbon stocks and who did the research. Given the many misleading statements regarding forest carbon in your plan, I question the integrity of your results.

# The plan states:

"Project implementation will result in 8,756 acres of ground disturbance. Approximately 10% of these acres are at moderate to high risk of invasion by non-native plants. Rapid colonizers that already exist in the Project Area such as foxglove are likely to expand into areas of new ground disturbance and decreased canopy. To reduce the threat of invasive plant expansion and establishment, manual, mechanical, and herbicide treatment will be applied to current infestations prior to the start of any project activities. Treatments will reduce the quantity of seed and plant parts that are available as sources of infestation, thus reducing the overall risk..By implementing control actions, following best management practices and project design criteria, it is expected that invasive weeds infestations would be reduced and controlled.."

It is instructive to see the plan acknowledge the "high risk of invasion by non-native plants", but the confidence in treatments seems entirely unjustified. The use of herbicides should be minimized and eliminated where practical. Even with broad scale herbicide applications, it is difficult to control many invasive plants. As an example, the OSU

research forests are filled with false brome. Virtually every single skidder track and logged area is full of it, despite the regular use of herbicides. If our nation's "leader in forestry education" cannot control this invasive plant, what makes you think you can "reduce the overall risk"? The best way to avoid invasives is to leave the forest alone. Forestry activities invariably introduce invasive plants.

The plan states:

"Approximately 50% of the timber harvested (thinning) on Siuslaw National Forest is done under stewardship contracts in which revenues from these sales are used to fund restoration projects that improve habitat, remove invasive species, and restore watershed function. This is an example of using one ecosystem good to enhance the provision of other ecosystem goods and services and benefit local economies."

This is a very misleading characterization. We know from logging revenue in the Corvallis Watershed that the bulk of the money typically goes to the logging companies and related contractors. Over a 10-year period, \$6M in gross logging revenue provided only ~\$1.2M in net revenue to the city. The rest (\$4.8M) went to logging companies and contractors. I would expect the same funding models apply in the Siuslaw.

Rather than citing how much of the logging is done under "stewardship contracts", you should provide the specific financial details related to these operations. My guess is a relatively small amount of the money went to restoration projects. How is this an example of, "using one ecosystem good to enhance the provision of other ecosystem goods and services"? The logging you are referring to has many adverse impacts on the forest ecology. To refer to it as an, "ecosystem good" displays your pro-timber bias.

Regarding slash burning and smoke management, your plan states:

"The Oregon Implementation Plan considers local geography and industry to further define how the provisions of the CAA would be implemented through the Oregon Smoke Management Plan. This plan includes regional monitoring and regulation of pollutants less than 10 and 2.5 micrometers (PM 10 and PM 2.5) in size. The Forest Service is required by law to follow the directions of the State Forester in conducting prescribed burning in order to achieve strict compliance with all aspects of the CAA by working in conjunction with the Oregon Department of Forestry (ODF) to adhere to the Oregon Smoke Management Plan. The prevention of Substantial Deterioration provisions of the CAA requires measures, to preserve, protect, and enhance the air quality for areas designated as "Class 1" airsheds (42 U.S.C. 7475(d)(2)(B). One of the requirements of the act is to minimize smoke intrusions into Smoke Sensitive Receptor Areas (SSRAs) and Class 1 airsheds to avoid adversely affecting air quality.

Under Alternative 2, all prescribed burning of slash would be designed to be consistent with the CAA and the requirements of the Oregon Smoke Management Plan (ODF 2005) and the Department of Environmental Quality's Air Quality and Visibility Protection Plan (DEQ 2003). Effects of fuel treatments are described below:

Newport and North Bend are designated as SSRA which means they are areas designated for the highest level of protection under the smoke management plan, as described and listed in OAR 629-048-0140.

• When prescribed burning is conducted in proximity to, but outside communities or areas designated as smoke sensitive receptor areas, the objective of the smoke management plan is no smoke intrusions into the SSRA. Mitigations when burning would be to monitor transport winds and minimize smoke production when winds are blowing towards SSRA's"

As someone who lives outside the defined "Smoke Sensitive Receptor Areas" (which are generally limited to heavily populated areas), I find your reliance on provisions of the Oregon Smoke Management entirely inadequate. Our rural residential neighborhood has been frequently impacted by smoke from slash burning fires. In many cases, the smoke of smoldering piles (from OSU's research forests) has lingered for weeks or months. This smoke has very

substantial adverse health impacts (e.g. causing asthma and even lung cancer). Yet, because we live outside the SSRAs, there is little we can do about it. The Oregon Department of Forestry won't even share basic information about specific slash burns in our neighborhood (without requiring us to file a public records request).

A number of years ago, the mid-Willamette Valley (including Philomath, Corvallis, and Albany) was suddenly blanketed by a thick cloud of noxious smoke from a slash burn in the Coast Range near Toledo. The wind direction shifted unexpectedly, and the air went from clear to extremely unhealthy in less than an hour. Tens of thousands of Oregonians were heavily impacted by this unplanned smoke event which lasted several hours. Although it is difficult to put a price on this type of smoke incursion, it has considerable adverse impacts on health and quality of life. Thousands of residents likely suffered health impacts, ranging from irritation to serious cases of asthma and pulmonary disease. Some of the impacts of breathing fine particulate (like emphysema and cancer) don't show up for years or decades after the initial exposure. Tens of thousands of people were forced to stay indoors or put themselves at risk.

I mention this incident because the smoke of slash burning fires really cannot be "managed". Contrary to best practices, slash is often burned "green" (wet). The fires can smolder for weeks or months, filling the air with fine particulate and poisonous gases. The folks in charge of the burn management program make their best guess on wind direction based on weather forecasts which can change in a matter of hours. They have no control over slash burns and no ability to control how long they burn (or smolder). There is little or no accountability in the system when things go wrong. Citizens who live outside of the SSRAs have little recourse and are forced to suffer the health consequences and inconveniences of this heavily-polluting practice. You should do everything in your power to avoid burning logging slash. It is unnecessary, releases enormous amounts of CO2, and adversely impacts human health.

# The plan states:

"Through implementation of thoughtful carbon stewardship, the Siuslaw National Forest will continue to serve an important role in taking up and storing carbon, contributing to its holistic approach to land management."

This statement comes across as self-serving propaganda. Thinning thousands of acres of forest does NOT qualify as, "thoughtful carbon stewardship"! The thinning you did under the Marys LMP devastated thousands of acres of the forest, adversely impacting wildlife habitat, forest carbon, forest ecology, and recreational opportunities for many decades to come. This is NOT a "holistic approach to land management"!

The enormous disconnects between the plan's stated goals and the lack of science supporting the broad proposition that extensive thinning can accelerate the creation of late-successional reserves (LSR), without consideration of the many, adverser impacts, gives me a very poor impression of your organization. In addition, my direct experience with recent "restoration-based" thinning in the Corvallis Watershed leads me to conclude you and your managers are attempting to use ecological restoration as a facade to support your active management regime (and continued monetization of these public forests).

Jim Furnish, the supervisor of the Siuslaw National Forest from 1992-1998, was a remarkable leader who had the wisdom and courage to change the trajectory of your organization. Without his leadership, most of the remaining old growth in the Siuslaw would have been destroyed. Unfortunately, your current leaders are squandering public trust and undermining the legacy he left us. I urge you to consider how your organization can regain public trust. It is not by cutting more trees under the guise of ecological stewardship!

Sincerely,

Doug Pollock (founder, Friends of OSU Old Growth – www.friendsofosuoldgrowth.org)

**Appendix:** photos from April 2024 showing "Griff DxP" and "Frank Thin" project areas in the Siuslaw NF portion of the Corvallis Watershed











