Regional Forester
U.S. Forest Service
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Regional Forester:

My comments are based on a 39 year career (Certified Silviculturist R-6) with the Forest Service, 30 of which were on both an east side (Okanogan-Wenatchee) and west side (Willamette) National Forests, implementing the 1994 NWFP.

Subject: Comment on Amendment to modify the 1994 NWFP, Notice of Intent to file and EIS, 12/18/2023.

Natural History

Any attempt to amend the 94 plans must account for fire, the great equalizer. In 1774 Juan Perez explored the Northwest coast of North America. His observations from the Pacific Ocean at night, looking at the coastline, was a giant orange horizon, from north to south. Nearly all of it on fire during his explorations. He named the Pacific Northwest, Tiera Del Fuego, "the coast of fire". Long before the Forest Service or the concept of climate change.

Recent History

Move forward 250 years, in the early 1990s, the NWFP was conceived, it was supposed to be a middle ground solution between forest conservation and preservation. The 94-plan failed to acknowledge a dynamic, diverse, and ever-changing tapestry of forest, created, and molded by fire. Basically, it builds a case, that the deterministic effects of fire, and north/south and east/west environmental gradients don't exist; and that 65-70% of the forest can or should be at late successional structure. A bona fide museum exhibit mentality. Self-thinning clearcuts, accretion of fuels, and fire exclusion, has led to a fuel mosaic that can and does support synergistic, large, and high intensity fires.

Purpose and Need:

The Notice of Intent states the purpose is to: Amend the NWFP, incorporate new information from monitoring, reports, and science. Your proposal appears to seek and make minor changes, with Indigenous Knowledge as a key driver for change. The fact is that new science does not support minor changes, there is a need for "significant" change, hence (EIS). We have experienced a 30-year futile attempt to confine and put a dynamic forest, into a box.

A full revision of the NWFP is needed, to modernize static thinking. Use and implement new science, so that forests can cope with change (Spies, T., Bioregional Assessments 20', 21', and 22').

A landscape ecology approach is needed; the Forest Service has already developed a process to do this. My concern is that the agency will ignore its own science and fail to substantially change the trajectory on these 17 National Forests. Follow the process: 1. (quantify the current vegetation state, 2. (compare to recent history, 3.) adjust for climate condition, 4.) field validate, 5.) model alternatives and effects, 6.) simultaneous problem solve (veg, fire and wildlife indices) , 7.) apply with on the ground treatments, 8.) monitor.

The EMDS (Environmental Management Decision Support) system developed by the Forest Service is ready to use.

The EMDS model is a product of the Wenatchee *Forest Sciences Lab PNW, Hessburg, et.al. 2004. It gets at how much, where, and what treatments are needed, and can rapidly analyzes effects on sensitive species, fire spread, fragmentation, and sustainability. The highest priority landscapes with largest departures in structure X cover can be flagged, unpacked, and get priority treatment/funding and allocation of resources. (Contact the PNW Lab).*

The idea is that each forest/ ranger district would follow a common process, modified for their local ecological and climate conditions and local knowledge of fuels, vegetation patterns and fire history. This EIS needs to describe and evaluate this new process. With broad direction from your proposed EIS, decision making space is turned back to the operational unit.

Fire modeling, vegetation, and fuels is a strength of this EMDS model; Perez would approve!

Static reserves; matrix, LSR, AMAS, MLSAs, all go away; with only core Riparian Reserves remaining. Here is why: management for late successional happens everywhere it is ecologically sustainable, culture of large trees happens everywhere, adaptive management happens everywhere, and culture of fire resilient forest.....happens everywhere. Timber harvest / Rx fire can happen everywhere. The EMDS model uses a statistical departure rating to flag landscape needs. Needs and effects can be yarded up to landscapes, to national forests, or even to the entire region. Alternative treatment scenarios to restore a sustainable mix of stand structures and cover types can be quickly modelled and compared against fire spread, mortality, spatial metrics, and habitat metrics.

In the EIS you are proposing, at least one alternative should dissolve the static reserves system and land allocations, then replace the old science with the new science of applied landscape ecology.

Focusing only on late successional habitat and species is erroneous. For example, open forest is equally important to plan for as late successional forest, because open canopy forest buffers the late successional forest in a fire event! We get open canopy forests with moderate intensity fire and heavy thinning and partial cutting. Landscapes are living organisms. The spatial arrangement of forest structure is very deterministic on how well forests receive fire. All landscapes are different. The 1994 plan does not recognize any such intra stand or landscape relationships.

- Improving fire resistance and resilience across the NWFP planning area,.....

A landscape approach will answer this question, what arrangement of structure and composition are sustainable? With the landscape approach, alternative treatments can be modeled for fire contagion indices (Flammap), mortality, and resilience. The needed treatments are translated onto the ground. The need for mechanical and fuels Rx is likely to be in the hundreds of thousands of acres across NWFP Area.

Has fire contagion ever been evaluated at a landscape scale, to know if we have treated enough acres in high probability areas? Answer is never; the tools are available, why are we not using them? The NWFP **dictates** what is allowed; *it does not culture critical thinking and applied ecology, much less how and where to trat, the intensity of Rx, or any tradeoffs in habitat value.*

Since less federal money is coming, might as well get the biggest bang for the buck! Once landscapes are discovered, reconstruction can begin, following a disciplined systematic approach. Thru time, as big tree and open forest is cultured, fire itself becomes less of a menace and part of the solution. A lot of live green trees with char on the boles. Wildfires in treated areas become a maintenance tool, arrested at an open road. Open forest patches, restored meadows, open ridge tops, heavily thinned stands, shelterwoods, Rx fire treatment areas, wildfire areas, WUI Rx, all buffer the landscape and contribute to lower fire contagion and less crown fire potential. Less crown fire, more ground fire, less mortality.

At any given point in time, 40%-60% of landscape acreage will need to be in open canopy conditions to buffer high intensity fires (Finney et.al. 2006) (Franklin, pers. Comm.). Forest stands do interact. Neighbors are important.

Post wildfire work: salvage, erosion control, and reforestation all need critical review, mis application can and does influence future reburn events, that can delay post fire forest succession for decades.

- Incorporating Indigenous Knowledge into planning, project design, and implementation to achieve forest management goals and meet the agency's general trust responsibilities, and

I have worked on projects with Indigenous Forest managers (Metlakatla, Colville and Yakima Nation tribes) and on a collaborative and under CFLRA. I have worked on Tribal Forest Protection Act stewardship projects (TFPA). *The first peoples* have deep social and economic concerns in managing their lands, they serve tribal shareholders. They are fiscally driven. I have seen how they solved forest health issues and operate to keep mills running and tribal enterprises viable. Income flow. Tribal lands are more utilitarian than federal lands, they support hungry families, heat homes, and pay college tuition. It is no mystery; they have the same aspirations, needs, issues, and concerns as all people. I have yet to see where indigenous forest practices on tribal lands have cultured late successional forest. It has been a challenge to gather support for even the simplest indigenous style projects, (burning for huckleberries on FS lands). The 94 NWFP excluded many Indigenous uses, ex. (cedar bark collection in LSR), and created a major decline in forage quality. The loss of early seral habitat for deer and elk is a decline in subsistence food for all humans. There is broad agreement from all perspectives that clean water, healthy fisheries, large and growing trees, species viability, etc. is needed. Ecology and economy can and do support one another, the tribes follow this theme, the 94 NWFP **does not**.

I cannot understand why this issue is a driver of this EIS for the 17 National Forests? Climate change, fire behavior, ecology, and economy are the drivers.

- Strengthening the capacity of NWFP ecosystems to adapt to the ongoing effects of climate change, ...

Any revision of the 94 plan must get back to the nuts and bolts of managing at the landscape scale. Attention to structure X cover types, habitat types, soils, fire history, drought indices, site quality, aspect and elevation is needed, as to where on the landscape it is environmentally and ecologically possible to maintain old forest structure (Camp, 1997). This is just basic information needed to make good natural resource decisions.

The magnitude of the age class issue in the range of the NWFP is well documented, an abundance of stand initiation (clearcut), have now grown up into oceans of stem exclusion closed canopy. These highly flammable closed canopy stands are accreting fuels, attract insects and disease, and put whole landscapes at risk. A great restoration opportunity, across hundreds of thousands of acres, time to get the heavy thinning and surplus wood to mills. DXD and DXP.

A revised NWFP needs to study and implement treatments that emulate ecological processes so that habitats and successional stages remain dynamic, persistent, and occur at a proximation of historic patch size and distribution, modified by climate change. Historical and structure X cover persisted but flexed in past climate regimes, by default, managing within these thresholds should support the persistence of sensitive and endangered species. In the EIS the new action alternatives do not include a

Survey and Manage module as under the 94 NWFP. Using this approach, they will already been accounted for.

To outpace climate change threats, the pace and scale of forest restoration prescriptions must happen at rates far beyond what the NWFP has produced to date, probably at a factor of 20X. Up to 50-60% of all landscapes will need to be open forest, (Finney, 2006) in 50 years. There will be, at first, an intense period of analysis modelling and planning, then large scale NEPA, then decades of field work, and contracting. Project plans need to happen across entire landscapes or even multiple landscapes. The workforce will need to be a cadre of journey level applied ecologists/silviculturists, with a full suite of implementation tools, and an army of expert implementers.

The 30-year siege puts on the National Forests put us far behind the functionality curve. Many new modern log mills are needed.

Any new plan amendment or revision must ramp up harvest production. Modern technology and harvest equipment must be leveraged. The EIS needs to develop alternatives with enough volume flow, that attract new small and medium size (>30") log mills and establish harvest levels that are predictable and sustainable. This needs to be a significant issue in the 24' EIS. Any new forest plan will fail without buy in from the forest products industry. A forest products company will not invest in infrastructure where there is an unknown supply of wood. Over 80 mills went bankrupt due to reduced log supply since the 1994 NWFP was initiated.

The riparian reserves in the ACS are part of the landscape. If the intent is to keep shade and seed sources and hardwoods growing in these streamside areas, some active management is needed; fire, thinning, girdling, and other cultural activities. A hands-off approach is likely to cause synergistic unintended negative consequences, just like upland forest. This network has been shown to be a conduit of fire spread if left to accrete fuels unabated. Shade, big trees, and seed sources are needed.

A viable transportation network is needed to do this work, roads will need to be kept open and maintained. The 94 Plan, using a biased roads analysis process, closed many roads that will need to be open, for all kinds of management, fire access, even recreation. Gating and level II closures should be the dominant tool. Road decommissioning is a non-starter.

The EIS needs to develop a revised roads analysis process, to use across this tri state region, that is unbiased, objective, and realizes the reality that, in most cases, future access is needed, and that we cannot afford to universally walk away from the National Forests.

Because work is field centric, a workforce more aligned with active contracting needs to be cultured, more training in field ecology and in modern operational forestry is needed.

NEPA analysis will be needed at larger scales, across multiple landscapes and even into sub regions. Bigger acreage decisions, fewer decisions. Less planning, more action on the ground. Fifty years of corrective work is needed.

The EIS needs to design a monitoring system. A review committee should critically review landscape strategies and proposals; once approved, project planning within these strategies shall be exempt from NEPA appeal and only a 30-day consultation period.

Forests are a break-even place to temporarily store carbon, they are not the carbon sinks they are being advertised at, especially in a warming climate. Thinking of these lands as a carbon storage sink is erroneous, they can and will all burn. Silvicultural treatments that emphasize large tree retention is a semi-effective way to temporarily store some carbon, in trees, especially when they survive fire. The ramped-up forest harvesting effect will produce building products that serve to store carbon for 100+ years. The EIS should model carbon storage and CO_2 release in the region for this ramped up era of action. As we all know, wildfires release gigatons of carbon, Rx fire of the proposed scale (200,000 –

300,000ac./yr.), for this region will release half gigatons of carbon, in many pulses. This loss of air quality will be a cost of doing business, if not, nature will do it for us, and not on our terms, in huge lumps and chunks. Some years wildfires will produce months of unhealthy air quality.

Compared to steel and concrete; wood is an environmentally friendly building and construction product. Analyze this benefit in the 24' EIS, how much forest product will you produce and how much CO2 production is displaced as a result? Disclose both the positive/negative impacts created by active forest restoration, be objective.

No Action Alternative

In the NOI, the 94 NWFP is presented as the no action alternative. The 94-NWFP should not be a basis for comparison (no action alternative) in the EIS. This is because the 94 plan took the 17 National Forests in a steep deleterious direction, ecologically and socially. This would lead to erroneously optimistic evaluation of new alternatives in the EIS, because of the low benchmark. The 1994 NWFP effects are so deleterious, that in the 24' EIS, the 1994 NWFP should be shown as an alternative considered but eliminated from detailed study.

This 24' EIS revision should provide logic, rationale, and science as to why landscape scale restoration is needed. A standard process needs to be fully described and vetted, with examples. The EIS should be an education tool that promotes discovery and learning, collaboration, and solves problems simultaneously, and proactively, on the ground.

The landscape analysis can inform NEPA cumulative effects analysis because this is what it is, a cumulative effects analysis. Project level analysis and NEPA decisions should be expedited.

The more onerous heavy lifting is photo interpreting landscapes and field validation of vegetation. Lidar use? After the heavy lifting, restoration alternatives can quickly be gamed out, field validated, and tradeoffs assessed for multiple species, yielding a signed NEPA decision.

• Improving conservation and recruitment of mature and old-growth forest conditions, ensuring adequate habitat for species dependent upon mature and old growth ecosystems and supporting regional biodiversity.....,

It is interesting how this is worded; I would say meeting the above need is based on how a whole landscape is managed and cultured. Pacific Northwest forests are a dynamic and interdependent web of puzzle pieces that change thru time; therefore it is important to understand how all parts of the puzzle (forest mosaic of structure and cover) interact and relate. EMDS process pulls this apart. It's a great question. If late successional forest only occupied 15-40% of a landscape historically, why would we promote 60-80% in late successional (94 NWFP), in a warming climate? Somewhere around 70% of forest in the 94 plan is de facto or existing late successional reserve. Why?

We have not been asking and answering the right questions.

Bigger patches of bigger trees, bigger patches of open forest, less fragmentation.

In the EIS define old growth for the West side using PNW 447 publication, for East side forests use the eastside Ponderosa pine definition, (Youngblood et.al., 2004). The pandering back and forth about what is old-growth and what is not old-growth is highly counterproductive; the forest region is a continuum of different structure types, molded by fire. Stands with dominant 80 or 150 year old trees are NOT old-growth.

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

Commercial thinning of clearcut origin stands is a priority, expedited landscape Rx work is needed, yielding beaucoup timber volume. Please include this as an expedited need and feature common to all alternatives in your EIS.

Approximately 20% of this high priority closed canopy stands have been treated, but the ingrowth curve is now very steep. New equipment and innovative forest engineering is needed to handle this rate of ingrowth and more difficult harvesting terrain that will be coming on line.

Please reach out to the Vaugn Brothers small and medium log mill in in Colville, WA. Follow their business model for sustaining and partnership with Federal Land managers in small log milling. They have blended their business model with the local forest ecology/silvicultural needs and work well with the Forest Service and other public land managers.

Consider Vaugn's A to Z project as a new way of NEPA planning and implementation. Consider collaborative NEPA at the project level. Expedite.

The AMAs did not meet their designed for purposes in the 1994 NWFP. The EIS should analyze for conversion of AMAs to Community Forests where the emphasis is people, education, school participation, teaching, learning, experimental treatment of forestry applications, and applied ecology. Local projects on these lands should be awarded to local contractors and mills; an objective should be to provide some socio-economic advantages to rural communities and businesses that have been so negatively impacted by the 1994 NWFP. These communities have not recovered. People are part of the equation; rural communities need to have more influence in decisions on lands that surround them.

Make money on sales where it fits the ecology/need so that stewardship receipts can be collected and forest re-investment happens.

In the 24' EIS, there needs to be a state of the art, objective, and quantitative assessment of the social and economic impacts of any action alternative. Analyze Timber production and externalities of large-scale Rx fire. An air quality analysis should compare economic impacts of Rx fire and wildfire, including human health and lost seasonal recreation days due to smoke intrusion. Use probabilities, Flammap, and fire history to do this.

- Improving fire resistance and resilience across the NWFP planning area,

I have already addressed this. It will take 50 years to catch up and to begin making a difference in fire resiliency across this region.

- Realities:

More intense use of fire will require relaxation of State and Federal Land air quality regulations (Clean Air Act). Plan on more frequent, shorter duration, periodic degradation of air quality from Rx burning; relaxation of air quality standards and mitigations for large scale Rx fire needs to be a feature common to all action alternatives in the EIS being prepared. Planned RX fire projects could last weeks.

A new plan must honor the intent and purpose of the National Forests under NFMA, the Organic Act, and the Multiple Use Sustained Yield Act.

A larger, highly trained, and motived work force will be needed; more applied ecologists/silviculturists/fire and fuels specialists will be needed. Much of the arduous work can be done with inmate crews.

Replace current top-down dictates (NWFP) with multi-agency monitoring, sharing, and learning on site. Field work and monitoring builds trust. Build a quality monitoring data base.

Retrain the REIC, REO, and USFWS to do the multi-party monitoring. At least 20% of all new projects should be monitored in field. Use a random selection process to select which projects get monitored.

If a landscape ecology approach is adopted, I am confident that the Forest Service can once again, become, the **FOREST** Service.

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References

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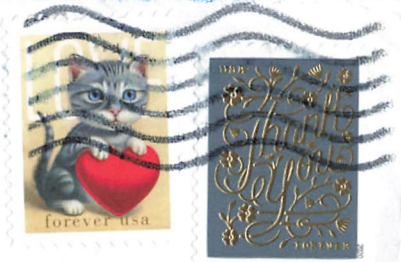

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ATTN: NWFP Revision