January 22, 2024

Hilary Henry
Sweet Home District Planner
Willamette National Forest
4431 Highway 20
Sweet Home, OR 97386

In Reply To: Larison POD Fuels Reduction Project Scoping Notice

Dear Ms. Swanson:

American Forest Resource Council (AFRC) is a regional trade association whose purpose is to advocate for sustained yield timber harvests on public timberlands throughout the West to enhance forest health and resistance to fire, insects, and disease. We do this by promoting active management to attain productive public forests, protect adjoining private forests, and assure community stability. We work to improve federal and state laws, regulations, policies, and decisions regarding access to and management of public forest lands and protection of all forest lands. AFRC represents over 50 forest product businesses and forest landowners throughout the West. Many of our members have their operations in communities adjacent to the Willamette National Forest, and the management on these lands ultimately dictates not only the viability of their businesses, but also the economic health of the communities themselves. The state of Oregon's forest sector employs approximately 61,000 Oregonians, with AFRC's membership directly and indirectly constituting a large percentage of those jobs. Rural communities, such as the ones affected by this project, are particularly sensitive to the forest product sector in that more than 50% of all manufacturing jobs are in wood manufacturing.

We are pleased to see the Sweet Home District list "Provide a sustainable supply of timber products" as a *need* for the Upper Canyon project. We are similarly pleased that the District will accomplish this through vegetation management on lands designated as Adaptive Management and Riparian Reserve LUA. Our members depend on a predictable and economical supply of timber products off Forest Service land to run their businesses and to provide useful wood products to the American public. It is refreshing to see the District pursue active management across numerous land allocations throughout the planning area. The consideration of active management on every acre of appropriate land, regardless of its land allocation, is important to our membership as each year's timber sale program for the Willamette National Forest is a function of the treatment of aggregate forested stands analyzed in individual projects, such as Upper Canyon. Therefore, **we urge you to maintain the consideration of active management**

on the maximum amount of acres proposed in the scoping notice in order to provide as many opportunities post-analysis.

SUSTAINABLE FOREST MANAGEMENT

We are generally pleased to see the District propose treatments in the Upper Canyon project that are more varied than simply thinning. AFRC has expressed concerned in past scoping documents that a strict thinning paradigm is not sustainable and creates a landscape where the Willamette will eventually run out of stands to thin. The only way to mitigate this concern and manage sustainably is to alter treatments in a way that creates openings for early seral habitat and remove a portion of larger trees while permitting smaller trees to grow. In addition to improving stand conditions, implementing a broader range of silvicultural prescriptions will also help you meet your purpose and need of "providing a sustainable supply of timber products".

It's true that commercial timber harvests which take place in AMA's must be carried out to meet "ecological objectives". We believe that this should not, necessarily, disqualify silvicultural activities that reduce stocking well-below thinning levels. In fact, an argument can be made that, in the absence of regeneration harvest since the adoption of the Northwest Forest Plan, there is a dearth of landscape-level early seral habitat across the AMA.

The consideration of active management on every acre of appropriate land, regardless of its land allocation, is important to our membership as each year's timber sale program is a function of the treatment of aggregate forested stands across the landscape. Based on the scoping notice, it appears that the District is proposing treatment, excluding "skips", on roughly 6.4% of the project area. This percentage is typical of many Forest Service vegetation management projects and although AFRC would like to see the agency treat a higher proportion of the landscape, we understand the multiple directives and land management restrictions in place that make doing so difficult. Given the relatively small scale at which this project is proposed to be implemented on, **we urge the District to look for ways to maximize treatment where it is proposed and to avoid deferring units or setting aside portions of units for what is often referred to as "skips"** (please consider the fact that 11,704 acres of the project area will essentially be "skipped"). The scoping notice indicates that 247 acres of skips are proposed, while only 100 acres of gaps and 63 acres of DTRs are proposed. We would like the District to consider striving toward a more even ratio of openings:skips within thinning units. Currently this ratio sits at 2.5:1 in favor of skips. We would like the District to strive toward a more even ratio by either 1.) reducing the level of skips; 2.) increasing the level of openings (gaps and DTRs); or 3.) strategically locate skips where harvest operations may be uneconomical or unfeasible. Skips within the watershed are plentiful, what is not plentiful are openings. If the District truly wants to diversify the proposed stands, then it should focus on creating openings in the forest and minimizing untreated areas within the 822 acres of proposed treatment.

We also urge the District to consider a range of thinning intensities when developing prescriptions to create diversity across the landscape and to provide additional timber products where appropriate. We recommend the District review the following PNW paper if you have not already:

Garman, Steven L.; Cissel, John H.; Mayo, James H. 2003. Accelerating Development of Late-Successional Conditions in Young Managed Douglas-fir Stands: A Simulation Study. Gen. Tech. Rep. PNW-GTR-557. U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station.

This study suggests that heavy thinning promoted rapid development of large boles, vertical diversity, and tree-species diversity, but required artificial creation of dead wood. Treatments that retained more than 40 percent of the overstory delayed attainment of late-successional conditions by 10 to 30 years but resulted in higher levels of most late-successional attributes at the end of a rotation. We would like the Forest Service to consider this study and to weigh these tradeoffs and consider a variety of thinning intensities to achieve desired outcomes.

RIPARIAN RESERVES

We are pleased to see the District include "managing Riparian Reserve to control stocking" as a *need* of this project. When the Central Cascades AMA (CCAMA) was established during the passage of the Northwest Forest Plan, objectives included "intensive research on ecosystem and landscape processes and its application to forest management in experiments and demonstrations at the stand and watershed level; **approaches for integrating forest and stream management objectives** and on implications of natural disturbance regimes" (ROD p. D-12). We believe that this verbiage was intentional and suggests that riparian reserves in the CCAMA are meant to be managed (i.e. thinned) in a similar manner as adjacent upland areas.

Furthermore, the forest health benefits that you expect to attain through upland thinning treatments can also be achieved in riparian areas with similar active management prescriptions. We urge the Forest to strive toward maximizing the acres of riparian reserve treated to meet those objectives. It has been well documented that thinning in dense, uniform forest stands accelerates the stand's trajectory to produce large conifer trees, vertical diversity, and tree-species diversity (Garman, Steven L.; Cissel, John H.; Mayo, James H. 2003.).

The tradeoffs that the Forest will likely be considering through the ensuing environmental analysis will be between achieving these forest health benefits and potentially having adverse impacts to streams. These impacts to streams typically include stream temperature, wood recruitment, and sedimentation associated with active management. We would like the Forest to review the literature cited below and incorporate its findings into your environmental analysis that will shape the level of management permitted to occur in riparian reserves.

Stream temperature

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

Key points of the Janisch paper include:

- The amount of canopy cover retained in the riparian buffer was not a strong explanatory variable to stream temperature.
- Very small headwater streams may be fundamentally different than many larger streams because factors other than shade from the overstory tree canopy can have sufficient influence on stream temperature.

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

Key points of the Anderson paper include:

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

Riparian reserve gaps

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

Key points of the Warren paper include:

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

Wood Recruitment

Burton, Julia I., Olson, Deanna H., and Puettmann, Klaus J. 2016. Effects of riparian buffer width on wood loading in headwater streams after repeated forest thinning. Forest Ecology and Management. 372 (2016) 247-257.

Key points of the Burton paper include:

- Wood volume in early stages of decay was higher in stream reaches with a narrow 6-meter buffer than in stream reaches with larger 15- and 70-meter buffers and in unthinned reference units.
- 82% of sourced wood in early stages of decay originated from within 15 meters of streams.

Benda, L.D. Litschert, S.E., Reeves, G. and R. Pabst. 2015. Thinning and in-stream wood recruitment in riparian second growth forests in coastal Oregon and the use of buffers and tree tipping as mitigation. Journal of Forestry Research.

Key points of the Benda paper include:

- 10-meter no-cut buffers maintained 93% of the in-stream wood in comparison to no treatment.

Sedimentation

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

Key points of the Rashin paper include:

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

Collectively, we believe that this literature suggests that there exists a declining rate of returns for "protective" measures such as no-cut buffers beyond 30-40 feet. Resource values such as thermal regulation and coarse wood recruitment begin to diminish in scale as no-cut buffers become much larger. We believe that the benefits in forest health achieved through density management will greatly outweigh the potential minor tradeoffs in stream temperature and wood recruitment, based on this scientific literature. We urge the District to establish no-cut buffers along streams no larger than 40 feet and maximize forest health outcomes beyond this buffer.

Having spent a considerable amount of time visiting Forest Service timber sale projects, we are aware that the stream layers incorporated into much of the Forest's planning documents often do not reflect the actual location of real streams in the woods. We ask that the Forest take a close look in the field to determine whether mapped streams are accurate.

NSO CRITICAL HABITAT

We understand that portions of the project area are overlaid by the critical habitat layer (CHU) for the northern spotted owl. This CHU designation does not preclude vegetation management treatments that have adverse impacts to NSOs and/or their habitat, and in fact encourages land managers to consider implementation of forest management practices recommended by the Revised Recovery Plan (USDI FWS 2011) to restore ecological process where they have been disrupted or suppressed. Application of ecological forestry management practices (including regeneration harvest) within critical habitat can reduce the potential for adverse impacts associated with commercial timber harvest when such harvest is planned within or adjacent to critical habitat.

The Final Critical Habitat Rule recognizes the need and the appropriateness of such treatments throughout the document:

- **We recognize that ecological restoration is not the management goal on all NWFP land use allocations (e.g. matrix) within designated critical habitat, and we provide a discussion of options land managers could consider to tailor traditional forest management activities on these lands to be consistent with conservation of current and future NSO habitat (pg. 27).**
- **On Matrix lands under the NWFP where land managers have a range of management goals, the Service anticipates that not all forest management projects in critical habitat will be focused on the development or conservation of northern spotted owl habitat (pg. 283).**
- **Targeted variable-retention harvest could be considered where the conservation of complex early seral forest habitat is a management goal (pg. 284).**

As the second bullet point suggests, is important to note that the CHU is not defacto LSR. Nor does the CHU suggest that the entire unit be maintained in some level of spotted owl habitat. These are important distinctions to make and may drive the silvicultural prescriptions on the Upper Canyon stands.

In addition to the effects to NSO habitat, this project may also have short-term effects to the NSO (based on the presence of actual owls) due to the assumption that any type of forest

management activity, including those that maintain habitat types, will have a negative impact on owls and their prey. This assumption is typically based on a few scientific pieces of literature published over the past decade. We would like the District to consider a study conducted by NCASI when assessing treatment areas and their potential affects to owls:

> Larry L. Irwin, Dennis F. Rock, Suzanne C. Rock, Craig Loehle, Paul Van Deusen. 2015. Forest ecosystem restoration: Initial response of spotted owls to partial harvesting.

Among other findings, this study concluded that partial-harvest forestry, primarily commercial thinning, has the potential to improve foraging habitats for spotted owls.

ECONOMICS AND OPERATIONS

The timber products provided by the Forest Service are crucial to the health of our membership. Without the raw material sold by the Forest Service these mills would be unable to produce the amount of wood products that the citizens of this country demand. Without this material our members would also be unable to run their mills at capacities that keep their employees working, which is crucial to the health of the communities that they operate in. These benefits can only be realized if the Forest Service sells their timber products through sales that are economically viable. This viability is tied to both the volume and type of timber products sold and the manner in which these products are permitted to be delivered from the forest to the mills. There are many ways to design a timber sale that allows a purchaser the ability to deliver logs to their mill in an efficient manner while also adhering to the necessary practices that are designed to protect the environmental resources present on Forest Service forestland.

The primary issues affecting the ability of our members to feasibly deliver logs to their mills are firm operating restrictions. As stated above, we understand that the Forest Service must take necessary precautions to protect their resources; however, we believe that in many cases there are conditions that exist on the ground that are not in step with many of the restrictions described in Forest Service EA's and contracts (i.e. dry conditions during wet season, wet conditions during dry season). **We would like the Forest Service to shift their methods for protecting resources from that of firm prescriptive restrictions to one that focuses on descriptive end-results**; in other words, describe what you would like the end result to be rather than prescribing how to get there. There are a variety of operators that work in the Sweet Home market area with a variety of skills and equipment. Developing an EA and contract that firmly describes how any given unit shall be logged may inherently limit the abilities of certain operators. For example, restricting certain types of ground-based equipment rather than describing what condition the soils should be at the end of the contract period unnecessarily limits the ability of certain operators to complete a sale in an appropriate manner with the proper and cautious use of their equipment. **To address this issue we would like to see flexibility in the EA and contract to allow a variety of equipment to the sale areas.** We feel that there are several ways to properly harvest any piece of ground, and certain restrictive language can limit some potential operators. Allowing the use of processors and fellerbunchers throughout these units can greatly increase its economic viability, and in some cases decrease disturbance by decreasing the amount of cable corridors, reduce damage to the residual stand and provide a more even distribution of woody debris following harvest.

We are pleased to see the District include allowance for contractors to utilize local rock pits in the planning area. A major factor contributing to timber sale economic viability is rock source for required and/or optional road work. Costs associated with hauling rock long distances have been escalating in recent years and often represents a significant cost in timber sale implementation for our members. In fact, this spike in cost has recently been identified by several purchasers as a primary contributor to sales going no-bid. The inclusion of local rock will almost certainly make sales from the Upper Canyon project more attractive to local bidders.

Constructing forest roads is essential if active management is desired, and we are glad that the Forest Service is proposing the roads that are needed to access and treat as much as the project area as possible in an economically feasible way. Proper road design and layout should pose little to no negative impacts on water quality or slope stability. **Consistent and steady operation time throughout the year is important for our members not only to supply a steady source of timber for their mills, but also to keep their employees working.** These two values are intangible and hard to quantify as dollar figures in a graph or table, but they are important factors to consider. The ability to yard and haul timber in the winter months will often make the difference between a sale selling and not, and we hope that the District is working to accommodate this.

ROAD DECOMMISSIONING

Your scoping notice indicates that the forest is proposing to decommission up to 2 miles of existing roads and to close less than 1 mile. within the Upper Canyon project. **When determining whether a road should be decommissioned, AFRC recommends that the Forest limit their road selection to roads that are no longer needed for resource management and are at risk of failure or are contributing sediment to streams, consistent with valid existing rights.** The land base covered in the project area is to be managed for a variety of forest management objectives. Removal of adequate access to these lands would compromise the agency's ability to achieve these objectives.

CARBON SEQUESTRATION

If the Forest Service identifies carbon sequestration and impacts to climate change as a key issue on this project, we would like you to consider some of the literature cited and outlined below:

Gray, A. N., T. R. Whittier, and M. E. Harmon. 2016. Carbon stocks and accumulation rates in Pacific Northwest forests: role of stand age, plant community, and productivity. Ecosphere 7(1):e01224.10.1002/ecs2.1224

Key points of the Gray paper include:

- Although large trees accumulated C at a faster rate than small trees on an individual basis, their contribution to C accumulation rates was smaller on an area basis, and their importance relative to small trees declined in older stands compared to younger stands.
- Old-growth and large trees are important C stocks, but they play a minor role in additional C accumulation.

For those stands proposed for treatment, please consider that in the absence of commercial thinning, the forest where this proposed action would take place would thin naturally from mortality-inducing natural disturbances and other processes resulting in dead trees that would decay over time, emitting carbon to the atmosphere. Conversely, the wood and fiber removed from the forest in this proposed action would be transferred to the wood products sector for a variety of uses, each of which has different effects on carbon (Skog et al. 2014). Carbon can be stored in wood products for a variable length of time, depending on the commodity produced. It can also be burned to produce heat or electrical energy or converted to liquid transportation fuels and chemicals that would otherwise come from fossil fuels. In addition, a substitution effect occurs when wood products are used in place of other products that emit more GHGs in manufacturing, such as concrete and steel (Gustavasson et al. 2006, Lippke et al. 2011, and McKinley et al. 2011). In fact, removing carbon from forests for human use can result in a lower net contribution of GHGs to the atmosphere than if the forest were not managed (McKinley et al. 2011, Bergman et al. 2014, and Skog et al. 2014). The IPCC recognizes wood and fiber as a renewable resource that can provide lasting climate-related mitigation benefits that can increase over time with active management (IPCC 2000). Furthermore, by reducing stand density, the proposed action may also reduce the risk of more severe disturbances, such as insect and disease outbreak and severe wildfires, which may result in lower forest carbon stocks and greater GHG emissions.

Gustavsson, L., Madlener, R., Hoen, H.-F., Jungmeier, G., Karjalainen, T., KlÖhn, S., … Spelter, H. (2006). The Role of Wood Material for Greenhouse Gas Mitigation. Mitigation and Adaptation Strategies for Global Change, 11(5–6), 1097–1127.

Lippke, B., Oneil, E., Harrison, R., Skog, K., Gustavsson, L., Sathre, R. 2011 Life cycle impacts of forest management and wood utilization on carbon mitigation: knowns and unknowns, Carbon Management, 2:3, 303-333.

McKinley, D.C., Ryan, M.G., Birdsey, R.A., Giardina, C.P., Harmon, M.E., Heath, L.S., Houghton, R.A., Jackson, R.B., Morrison, J.F., Murray, B.C., Pataki, D.E., Skog, K.E. 2011. A synthesis of current knowledge on forests and carbon storage in the United States. Ecological Applications. 21(6): 1902-1924.

Skog, K.E., McKinley, D.C., Birdsey, R.A., Hines, S.J., Woodall, C.W., Reinhardt, E.D., Vose, J.M. 2014. Chapter 7: Managing Carbon. In: Climate Change and United States Forests, Advances in Global Change Research 57 2014; pp. 151-182.

AFRC is happy to be involved in the planning, Environmental Assessment, and decision-making process for the Upper Canyon Project. Should you have any questions regarding the above comments, please contact me any time at 541-521-9143 or cbingaman@amforest.org.

Sincerely,

Corey Bingaman

Western Oregon Field Coordinator
American Forest Resource Council