November 10, 2022

Michele Holman, District Ranger
Siuslaw National Forest
Central Coast Ranger District
1130 Forestry Land, P.O. Box 400
Waldport, OR 97394-0400

In Reply To: North Fork Smith pre-scoping

Dear Ms. Holman:

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 Central Coast Ranger District, 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.

AFRC is pleased to see the Central Coast Ranger District proposing vegetation management on LSR, Riparian Reserve, and Matrix lands that will likely provide useful timber products to our membership. 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, and we thank the Siuslaw for continuing to provide this supply year after year.

AFRC reviewed the pre-scoping documents posted online and visited portions of the project area proposed for treatment. We would like to address several components of the future project development based on those reviews.

Purpose & Need

AFRC would like the Siuslaw to develop objectives in the purpose & need statement that reflect the land allocations being treated. While development of late-seral forest habitat is an appropriate objective for lands designated as Late-Successional Reserve (LSR), lands designated as Matrix should have different objectives. In particular, the objective of sustained-yield timber supply and the provision of timber products should be included in the North Fork Smith purpose & need statement.

Furthermore, it's important to note that the Northwest Forest Plan (NWFP) did not replace the Siuslaw LRMP but rather amended it. Chapter 4 of the LRMP outlines 28 Forest Management Goals. One of these goals defines the "role that management of Forest resources plays in economies and lifestyles of local communities. Produce resource outputs to help support economic structures of local communities and counties." AFRC does not believe that the NWFP amendment eliminated this Management Goal. We believe that socioeconomic benefits should be incorporated as an underlying objective on every land allocation (Matrix, LSR, Riparian) defined by the NWFP.

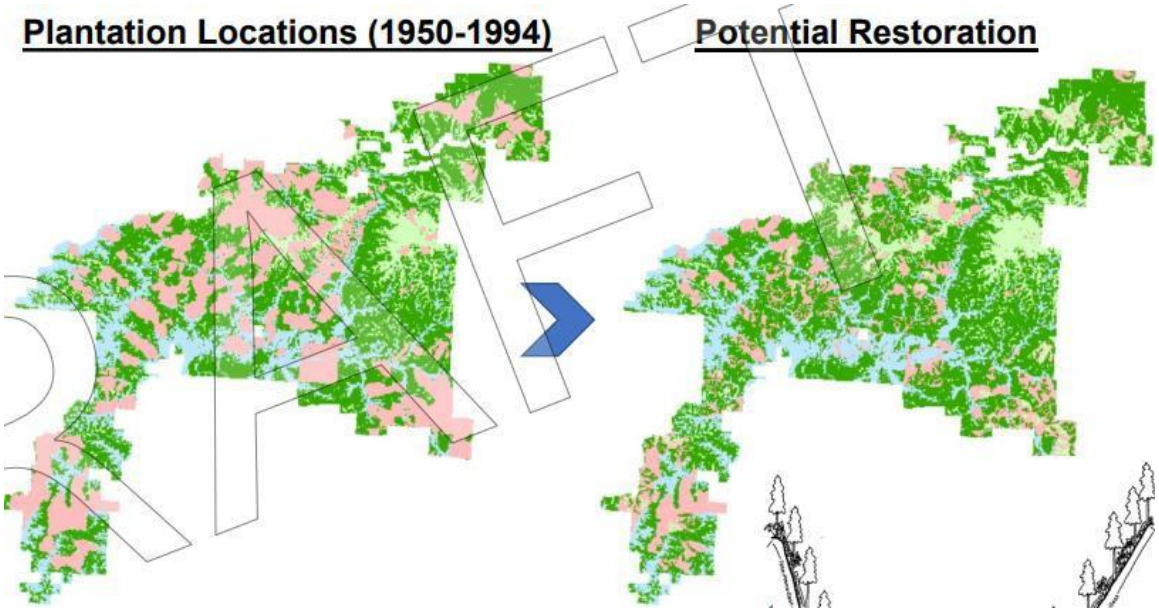
Treatments

We imagine that the silvicultural treatments proposed on this project will be generally similar to those proposed on recent Siuslaw National Forest projects, which is to say, thinning from below. In addition to this thinning regime, we would like the Forest to consider additional treatments where feasible based on your Forest Plan land allocations, forest type, and terrain. During our field review of the project area, we visited portions of Matrix land outside of riparian reserves, specifically in the southeast corner of the project area and along the 4811 road. While extremely limited, there are opportunities to implement regeneration harvest or group selection to create early seral habitat in the Matrix allocation. Please consider and explore these opportunities and, as stated above, develop a purpose & need statement that would enable you to prescribe treatments beyond thinning from below. We understand that there are many other

variables and management plan directions in addition to the LSR and riparian reserve guidelines that could make sustainable timber management challenging on Matrix lands, but we would nevertheless like to see the Forest Service make a focused effort on locating acres (regardless of how few acres) in this project area where more intensive harvesting (regeneration, larger gap cuts, etc.) can occur.

Treatment Area

Copied below is an image from the silviculture report posted on the project website. It appears, based on these images, that significant portions of potential treatment units (shown in pink) have already been excluded from "potential restoration" areas proposed for treatment. We imagine much of these exclusions are stands in need of thinning treatments, but for multiple reasons will not receive those treatments. **We would like the Forest Service to measure and document those areas as "treatment deferrals" in the ensuing Environmental Assessment (EA).** We anticipate that there will be future discussions/requests for "skips" within final treatment units. It is important to acknowledge the high level of skips *already deferred* from treatment when assessing the need for more.



Wild & Scenic River

We are aware that river/stream segments in the North Fork Smith project area are identified as potential candidates for inclusion in the Wild & Scenic River system. Those segments include portions of the North Fork Smith, West Branch North Fork Smith, and tributaries. Current proposals for those inclusions include "buffer" areas much wider than existing river segments in that system, and therefore if implemented, would likely overlap prosed treatment units. Although active forest management is permitted and encouraged within those buffer areas, acknowledgement of the potential designation in the ensuing EA is likely necessary to permit such treatments. Please consider this potential land designation change as you develop your EA and consider how that designation could be assessed and analyzed to permit treatment of the units proposed.

Edges

The topic of "edge effect" has become a predominant issue with certain stakeholders on previous projects including Deadwood and Indian Creek. This issue is generally related to the concern of the impact of "hard edges" on 1.) marbled murrelet nest predation, and 2.) interior forest habitat. AFRC has commented extensively on this topic in the past and provided scientific literature to support our current position. The Wildlife presentation posted on the project website addresses edge several times. Page 8 of that presentation states that "hard" edges (e.g., clearcuts and roads) may increase likelihood of nest predation." Page 20 of that presentation includes the treatment consideration to "avoid "hard" edges for thinning treatments in stands directly adjacent to MAMU nesting structures to prevent nest predation by corvids and raptors." It seems that the Forest Service is acknowledging that a.) hard edges may increase predation, and b.) hard edges are characterized by clearcuts and roads. Yet later in that presentation it is implied that thinning treatments may need special considerations to avoid "hard" edges even though thinning treatments do not create hard edges. We have conducted a thorough literature review on this topic and believe that thinning treatments do not cause an edge effect likely to adversely affect marbled murrelet nesting. That review is summarized below:

Raphael, M.G.; Evans-Mack, D.; Marzluff, J.M.; Luginbuhl, J.M. 2002. Effects of forest fragmentation on populations of the marbled murrelet. Studies in Avian Biology

- This paper refers to edge often. It defines edge as "clearcuts, roads, and rivers." The authors limit their definition of a "clearcut" to stands aged 1-15 years old.

Nelson, Hamer. USDA Forest Service Gen. Tech. Rep. PSW-152. 1995. Nest Success and the Effects of Predation on Marbled Murrelets.

- Here the authors define edge once as "unnatural openings, including but not limited to, roads and clearcuts."

Van Rooyan, Malt, Lank. Northwest Science, Vol. 85, No. 4, 2011 Relating Microclimate to Epiphyte Availability: Edge Effects on Nesting Habitat Availability for the Marbled Murrelet

- This paper got into a bit more depth on edge. The authors state that "dense canopy of regenerating forest at soft edges buffers the negative impacts of altered microclimate at forest edges."
- They go on to define "regenerating forests" as forests between age of 11-30 years old and that such buffers may act as a "buffer."
- Finally, they state that adverse impacts from edge are reduced as clearcuts "regenerate" and define this timeline as 20-30 years old.

Malt, Lank. Biological Conservation 140 (2007) 160-173. Temporal Dynamics of Edge Effects on Nest Predation Risk for the Marbled Murrelet.

- The authors define "hard edges" as "recent" clearcuts and "soft edges" as "regenerating forests."
- The paper notes that "as replanted forests regenerate, predation risk at these edges appears to decrease back towards, or even below interior levels.

Malt, Lank. Ecological Applications, 19(5), 2009, pp. 1274–1287. Marbled Murrelet nest predation risk in managed forest landscapes: dynamic fragmentation effects at multiple scales.

- This study suggests that regenerating forest 20–40 years old will provide relative safety from avian predators at both patch and landscape scales.

The MAMU Recovery Plan discusses edge but doesn't clearly define what edge is. It does define "abrupt edge" as "clearcuts or fields." The Plan "hypothesizes" that "logging activities increase the susceptibility of marbled murrelet nest to predation, because of increased edge and fragmentation created by clearcut harvest and selective harvest."

Furthermore, the structure and layout of typical Siuslaw National Forest thinning projects provides a "no-thin" buffer by nature of the riparian reserve system. The Introduction presentation for North Fork Smith indicates that over 83% of the project area is designated as riparian reserve. Although most riparian reserves are included in thinning treatments, each segment also includes a 'no-thin" buffer adjacent to the water segment. Since nearly every unit is surrounded by streams, those no thin buffers essentially provide a ring around each treatment unit, separating the thinned portions from adjacent stands.

Please consider these scientific findings and treatment layout designs when assessing the needs, and tradeoffs, for establishing additional no-thin areas.

Riparian Reserves

It has been well documented that thinning in riparian areas accelerates the stand's trajectory to produce large conifer trees and has minimal effect on stream temperature with adequate buffers. Removal of suppressed trees has an insignificant short-term affect on down wood, and ultimately a positive effect on long-term creation of large down woody debris and large in stream wood, which is what provides the real benefit to wildlife and stream health. We encourage the Forest Service to focus their riparian reserve treatments on a variety of native habitats. The ACS describes the need for treatments that meet the need of multiple habitat types and we encourage the Central Coast District to look for ways to incorporate treatments that meet those needs. Utilization of gap cuts to promote early seral habitat in the reserves, treatments to diversify all areas of the reserve, and prescriptions that account for the full range of objectives that the ACS mandates should be considered.

The tradeoffs that the Forest Service 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 Service 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 Forest Service to establish no-cut buffers along streams no larger than 40 feet and maximize forest health outcomes beyond this buffer.

Carbon

We would like to encourage the District to consider several documents related to carbon sequestration related to forest management.

McCauley, Lisa A., Robles, Marcos D., Wooley, Travis, Marshall, Robert M., Kretchun, Alec, Gori, David F. 2019. Large-scale forest restoration stabilizes carbon under climate change in Southwest United States. *Ecological Applications*, 0(0), 2019, e01979.

Key points of the McCauley paper include:

- Modeling scenarios showed early decreases in ecosystem carbon due to initial thinning/prescribed fire treatments, but total ecosystem carbon increased by 9–18% when compared to no harvest by the end of the simulation.
- This modeled scenario of increased carbon storage equated to the removal of carbon emissions from 55,000 to 110,000 passenger vehicles per year until the end of the century.
- Results demonstrated that large-scale forest restoration can increase the potential for carbon storage and stability and those benefits could increase as the pace of restoration accelerates.

We believe that this study supports the notion that timber harvest and fuels reduction practices collectively increase the overall carbon sequestration capability of any given acre of forest land and, in the long term, generate net benefits toward climate change mitigation.

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.

We believe that this study supports the notion that, if the role of forests in the fight against climate change is to reduce global greenhouse gasses through maximizing the sequestration of carbon from atmospheric CO2, then increasing the acreage of young, fast growing small trees is the most prudent management approach.

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.

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.

Operations

It is becoming increasingly difficult for purchasers to execute timber sale and stewardship contracts in a timely manner due to extensive operating restrictions. Among those restrictions are those imposed by threatened and endangered wildlife species, wet weather, and fire precautions. Those wildlife restrictions are generally imposed in relation to the marbled murrelet and northern spotted owl. In the past, the Forest Service would generally assume murrelet occupancy based on stand age or structure. Those stands may have murrelet nesting components, or they may not. Oftentimes those components were not verified due to the time necessary to conduct field reviews.

During the Forest Service presentation of the project on November 9th, it was implied that those field verifications would be conducted on portions of the project area to determine the presence of nesting structure. These efforts are appreciated by AFRC as they could reduce the degree of operating restrictions related to murrelet nesting where nesting structure is not present.

The effectiveness of harvesting and yarding low volume per acre on steep slopes is a significant obstacle to implementation. The terrain on the North Fork Smith project area fits this description. Tethered-assist logging is becoming a more economical, safe, and available method of yarding on steep slopes throughout the region. The weight displacement provided by tethering allows tracked equipment to operate on steep ground with limited soil displacement or compaction. Standard psi levels for that tracked equipment are transferred to the tethering uphill. The Siuslaw has permitted this equipment to be used on Forest Service thinning stands on steep slopes in the past and we urge you to consider doing so on this project where appropriate to mitigate implementation obstacles.

Green, P. Q., Chung, W., Leshchinsky, B., Belart, F., Sessions, J., Fitzgerald, S. A., Wimer, J. A., Cushing, T., Garland, J. J. (2019). Insight into the productivity, cost and soil impacts of cable-assisted harvester-forwarder thinning in western Oregon. *For. Sci.* 66(1):82–96

Key Points of the Green paper include:

- The use of cable assistance can reduce track coverage and reduce shear displacement, and thus likely lessen potential soil impact caused by forestry machines.

Roads

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 Central Coast District is working to accommodate this.

An intact road system is critical to the management of Forest Service land, particularly for the provision of timber products. Without an adequate road system, the Forest Service will be unable to offer and sell timber products to the local industry in an economical manner. Any road decommissioning proposed will likely represent a ***permanent*** removal of these roads and likely the deferral of management of those forest stands that they provide access to. The land base covered in the North Fork Smith project area are to be managed for a variety of forest management objectives. Removal of adequate access to these lands compromises the agency's ability to achieve these objectives and is very concerning to us.

Recommendations provided in the Road Investment Strategy (RIS) will likely be a starting point for the District to consider road infrastructure needs. The RIS directs the agency to analyze roads for decommissioning where *"the resource risk from these roads potentially outweighs the access value and the road is very unlikely to be needed for administrative use in the future."* The Strategy also directs the agency to analyze roads for closure where *"the resource risk from these roads potentially outweighs the access value, but the road may be needed for administrative use in the future."*

We would like the District to carefully consider the follow three factors when making a decision to decommission any road in the project area:

1. Determination of any potential resource risk related to a road segment
2. Determination of the access value provided by a road segment

3. Determination of whether the resource risk outweighs the access value (for timber management and other resource needs).

We believe that only those road segments where resource risk outweighs access value should be considered for decommissioning.

AFRC is happy to be involved in the planning, environmental assessment (EA), and decision-making process for the North Fork Smith EA. Should you have any questions regarding the above comments, please contact me at 541-525-6113 or ageissler@amforest.org.

Sincerely,

Andy Geissler
Federal Timber Program Director
American Forest Resource Council