Via: https://www.fs.usda.gov/project/?project=61651

December 1, 2023

Scott McFarland, District Ranger
Paulina Ranger District
3160 NE 3rd Street
Prineville, OR 97754

Dear Mr. McFarland:

On behalf of the American Forest Resource Council (AFRC) and its members, thank you for the opportunity to provide comments on the North Fork Crooked River Forest Resilience Project (North Fork) Environmental Assessment (EA). The North Fork Project is located on the Paulina Ranger District of the Ochoco National Forest, approximately 31 miles east of Prineville, Oregon and 9 miles north of Paulina, Oregon. The project area encompasses approximately 36,430 acres and proposes a variety of resource treatments on 37,577 acres and encompasses the Lower North Fork Crooked River and Paulina Creek watersheds. including 7,282 acres of commercial thinning that will produce merchantable timber for AFRC members and contribute to the local economy. This area is very important and popular for the residents of the area and AFRC members.

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 Ochoco 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. Rural communities, such as the ones affected by the Project, are particularly sensitive to the forest product sector because more than 50 percent of all manufacturing jobs are in wood manufacturing.

Purpose & Need

AFRC supports the Project's purpose and need and suggests that there is also a "need" to provide wood products and restoration work to the local and regional economy. The Forest Plan calls for "providing the production of quality wood products in a manner consistent with other resource objectives, environmental constraints, and economic efficiency." AFRC 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.

A 2022 report from Research and Markets concluded that "the North America wood products market is forecasted to grow at a compound annual rate of 6.75 percent, over the period of 2022-2026. Factors contributing to this growth include a growing population, escalating new residential construction, surging demand for wooden furniture in offices and rising inclination of population towards home repair and remodeling."[1] A 2012 report prepared for the Forest Stewardship Council predicted that the annual demand for timber products will quadruple by 2050.[2] Technical reports from both 2010[3] and 2012[4] completed for the Forest Service determined, among other things, that:

- The forest products sector helps sustain the social, economic, and ecological benefits of forestry in the U.S.
- Product revenues sustain economic benefits that include jobs and income.
- Ecological and social benefits can be supported by timber revenue to landowners that help keep land in forests and by forest treatments that can help maintain ecological functions.
- Wood products fulfill fundamental needs per capita and have remained competitive with alternate means of meeting those needs.
- U.S. lumber production and demand is expected to increase through 2040.

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[1] Research and Markets, *North America Wood Products Market (Softwood Lumber, Oriented Strand Board & Plywood): Insights & Forecast with Potential Impact of COVID-19 (2022-2026).* Available at: https://www.researchandmarkets.com/reports/5359547/north-america-wood-products-market-softwood?utm_source=CI&utm_medium=PressRelease&utm_code=q33f4t&utm_campaign=1569323+-+North+America+Wood+Products+Market+2021-2025+-+Accelerating+Preference+for+Engineered+Wood+%2f+Upsurge+in+Housing+Starts+%2f+Upswing+in+Manufacturing+%2f+Mounting+Adoption+for+Biomass+Energy+Production&utm_exec=chdo54prd

[2] Indufor. 2012. Strategic Review on the Future of Forest Plantations. Report prepared for the Forest Stewardship Council. Helsinki.

[3] Ince, P.J.; Kramp, A.D.; Skog, K.E.; Spelter, H.N.; Wear, D.N. 2011. U.S. forest products module: a technical document supporting the Forest Service 2010 RPA assessment. *Res. Pap. FPL-RP-662*. Madison, WI: U.S. Department of Agriculture, Forest Service, Forest Products Laboratory. 61 p.

[4] Skog, Kenneth E.; McKeever, David B.; Ince, Peter J.; Howard, James L.; Spelter, Henry N.; Schuler, Albert T. 2012. Status and Trends for the U.S. Forest Products Sector: A Technical Document Supporting the Forest Service 2010 RPA Assessment. *General Technical Report FPL-GTR-207*. Madison, WI: U.S. Department of Agriculture, Forest Service, Forest Products Laboratory. 35 p.

A major focus of the North Fork Project, as outlined in the purpose and need, is to "Increase Resilience to Insects, Disease, Fire, and Drought". AFRC suggests that the Forest reviews and considers the discussion in "Connecting Climate Change and Paleoclimate in the Pacific Northwest" by Christal Johnson of the Forest Service's Blue Mountains Ecology Program. This document discusses the implications of reference conditions in forest restoration and management that are often based on the pre-fire suppression era from approximately 1800 to 1910. This time period took place during the end of the Little Ice Age and was substantially cooler than the present climate. This significant temperature difference implies that some of the vegetation remaining on the landscape from that era, which are older mature trees, may be adapted to cooler and wetter climate conditions. Among the strategies proposed by Johnson on are (page 3):

- Use thinning, prescribed fire, and managed wildfire to reduce density and promote conditions that are resistant to drought and fire.
- Facilitate species shifts towards more suitable environments. This may mean increasing habitat connectivity, or even facilitating migrations for species that are losing habitat more quickly than they can relocate.
- Consider future climate in all planting decisions. This may mean allowing conversion to non-forested states at hot and dry sites or altering planting densities and species compositions to be suitable for hotter and dryer conditions.

Alternatives

AFRC appreciates the alternatives drafted to address key issues and we solidly support Alternative 2, which will treat the most acres with commercial harvest and provide the most effective density reduction. Removal of grand fir and Douglas-fir up to 29.9 inches diameter at breast height (dbh) is critical to reduce stocking levels to appropriate densities in some stands. In stands where grand fir has encroached, removal of these trees is essential to eliminate the seed source. We urge the District to pursue harvest and removal of those trees in a manner that is consistent with current Standards and Guidelines.

Grand fir insect and disease problems are briefly mentioned in the EA; however, a presentation given by a Forest Service entomologist at an AFRC meeting with the Ochoco and Deschutes National Forests on March 31, 2023, described the "firmageddon die-off" occurring in the central Oregon. This entomologist indicated that the problem is large, widespread, and especially problematic on the Ochoco National Forest. The major contributors to grand fir mortality are the fir engraver beetle (*Scolytus ventralis*) and heterobasidion root disease. Although both agents are naturally occurring in these forest types, their effect on trees has been exacerbated by decades-long droughts and abnormally warm summers that continue to impact the region. While it is not clear if density reduction mitigates the potential for this type of mortality in grand fir, it is clear that once there are visual cues it is generally too late for density

management. AFRC requests that the Forest Service thin and treat these landscapes aggressively because it is unlikely that maintenance will take place once initial treatments in the North Fork Project area are complete.

The primary issues affecting the ability of AFRC members to feasibly deliver logs to their mills are firm operating restrictions. As stated above, AFRC understands that the Forest Service must take necessary precautions to protect forest resources; however, in many cases there are conditions that exist on the ground that re not in step with many of the restrictions described in Forest Service EA's and are contradictory—such as dry conditions during the wet season, and wet conditions during the dry season. AFRC 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 Ochoco National Forest's 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, AFRC would like to see flexibility in the EA and contract to allow a variety of equipment to the sale areas. There are several ways to properly harvest any piece of ground, and restrictive language can limit some potential operators. Though some of the project area is planned for cable harvest, there are opportunities to use certain ground equipment such as fellerbunchers and processors in the units to make cable yarding more efficient. 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.

A joint field trip with AFRC and the Ochoco Forest Restoration Collaborative to the North Fork planning area was held on June 22, 2022. A variety of good discussions took place, including information by industry regarding the long haul distances to any existing milling facility from the North Fork area. A previous project in this area was commercially viable ***only*** because lumber markets were very robust at the time. It will be important for the Forest Service to work closely with industry partners when developing contracts and appraising costs and values on the Nork Fork project.

Forest restoration to mitigate uncharacteristic wildfire events and promote resilience through management treatments such as those prescribed for the North Fork Project is dependent on the retention of local logging and milling infrastructure. Due to the limited local milling

infrastructure and the long-haul distances from this area, contract pricing of product removal structure is critical. Commercial treatments, followed by non-commercial treatments are planned for 4,207 acres. An additional 6,866 acres are planned for non-commercial treatments followed by burning. The timber value from commercial treatments, if any, will not fully pay for the implementation of the non-commercial treatments. Packaging of these non commercial treatments with commercial treatments will drastically compromise the economic viability of any sale generated from the North Fork project. AFRC would like to remind the District that the National Office formally lowered the minimum rate for low value material on ***all species*** to $0.25/CC AFRC believes that the term "low value" identified in this letter applies to any species of any quality whose value is drastically reduced due to any combination of high costs necessary to deliver that product to a manufacturing facility; this includes, but is not limited to, expensive yarding systems, requirements to remove non-commercial material, long haul distances, and excessive operating restrictions. At this time, outlets for sawmill residuals, let alone any type of whole log chipping from woods operations, are virtually nonexistent within a feasible hauling distance of the North Fork Project. This will require working with purchasers and operators to meet Forest Service on the ground objectives without unrealistic expectations for nonmerchantable material removal.

Riparian Habitat Conservation Area Management

AFRC fully supports treatments in Riparian Habitat Conservation Areas (RHCAs) and encourages the Forest to be aggressive in the number of stream miles treated. RHCAs are the most productive areas on the landscape and change rapidly over time. The next entry may be too late given the extreme fire seasons that this area has experienced over the last decade. AFRC would like the District to consider the document cited below, which is specific to riparian management in dry forest landscapes. This paper emphasizes the need to actively manage these riparian areas to meet the stated objectives described in the scoping notice for the Project.

Messier, Michael S., Shatford, Jeff P.A., and Hibbs, David E. 2011. Fire Exclusion effects on riparian forest dynamics in southwestern Oregon. *Forest Ecology and Management*. 264 (2012) 60-71.

Key points of the Messier paper include:

- Fire exclusion has altered the structure, composition, and successional trajectory of riparian forests in fire-prone landscapes.
- Fire exclusion has been associated with increase in tree density and recruitment of shade-tolerate species that may replace large diameter, more decay-resistant Douglas-fir trees.
- A hands-off management regime for these riparian forests will have ecologically undesirable consequences.

Road Decommissioning

North Fork Project planning documents indicate that 9.39 miles of Level 1 road will be decommissioned. However, an intact road system is critical to the management of Forest Service

land, particularly for the provision of timber harvest. 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. The road decommissioning proposed in the North Fork Project scoping notice and EA likely represents a ***permanent*** removal of these roads and likely the deferral of management of those forest stands to which they provide access. The land base covered in the North Fork Project area is 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.

Recommendations provided in the Travel Analysis Report will likely be a starting point for the District to consider road infrastructure needs. The Report directs the agency to analyze roads for decommissioning based on assessing the tradeoffs between benefits and risks of retaining each road segment.

The District should carefully consider the following 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).

Only those road segments where resource risk outweighs access value should be considered for decommissioning.

<u>Carbon Literature</u>

AFRC would like to encourage the Paulina District to consider several documents related to carbon sequestration related to forest management. Please consider the points below from a technical report by the Climate Change Vulnerability Assessment and Adaptation Project (SWOAP) in Southwest Oregon.

- Wood harvested from the forest, especially timber used for durable structures, can be reservoirs of long-term carbon storage (Bergman et al. 2014).
- Forests and their products embody a closed-loop system in which emissions associated with harvests and product use are eventually recovered as forests regrow.
- Although products may be retired in solid waste disposal sites, they decompose quite slowly, causing carbon to continue to be stored for many decades.

Products derived from the harvest of timber from national forests reduce carbon emissions by substituting for more energy-intensive materials including concrete, steel, and plastics.

There is scientific support for the practice of regular harvests at an age where tree growth begins to slow, storage of that tree carbon in long-lasting wood products, and proactive reforestation. A failure to do so would hamper that acre's ability to maximize carbon sequestration through the replacement of slow growing large trees with fast growing small trees and the storage of those large trees in long-lasting wood products. Not storing that carbon in wood products also poses the risk of losing the carbon in standing trees from high intensity wildfire, which is becoming increasingly prevalent on public lands in western states. A 2022 study estimated that wildfires in California in 2020 emitted 127 million metric tons of carbon into the atmosphere, making the greenhouse gas emissions from wildfires the second most important source in the state, after transportation.[5] For context, the Forest Service recently disclosed that the agency only "commercially harvests one tenth of one percent of acres within the National Forest System each year. Harvests designed to improve stand health and resilience by reducing forest density or removing trees damaged by insect or disease make up 86 percent of those acres. The remainder are final regeneration harvests that are designed to be followed by reforestation."[6] There is extraordinary opportunity to increase the practice of sustainable forest management on federal lands as an effective tool to sequester carbon.

Harvesting trees and transferring the stored carbon to wood products allows a land manager to "stack" the sequestration potential of that land. For example, assume an objective to maximize carbon sequestration on 100 acres over a 150-year period starting at year zero. Without active management and timber harvest, those trees would grow to 150 years and represent the only carbon sequestered on those 100 acres at the end of the 150-year cycle (assuming they don't burn in a wildfire). Alternatively, the trees could be harvested on a 50-year rotation and stored in wood products. After 150 years, there would be carbon stored in an existing 50-year-old stand, plus carbon stored in wood products from an additional two 50-year-old stands previously harvested. Figure 8.7, below, from the IPCC (2007) illustrates the concept of stacking[7]. **Please consider adopting this graph into the North Fork Project analysis.**

[5] Jerrett, Michael, et al., Up in smoke: California's greenhouse gas reductions could be wiped out by 2020 wildfires. Environmental Pollution, Volume 310, 2022, 119888, ISSN 0269-7491, available at, https://doi.org/10.1016/j.envpol.2022.119888.

[6] 88 Fed. Reg. 24,497 (April 21, 2023).

[7] McKinley, Duncan C., et al., A synthesis of current knowledge on forests and carbon storage in the United States, Ecological Applications, 21(6), pp. 1902–1924 (2011)

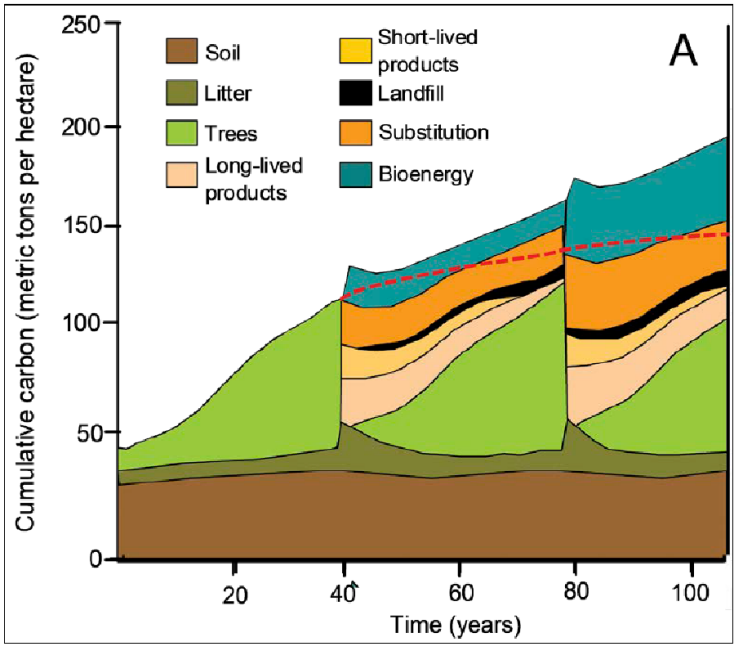

Figure 8.7—Carbon balance from a hypothetical forest management project in which the forest is harvested roughly every 40 years from land that started with low forest carbon stocks. This figure accounts for forest regrowth and carbon stored in wood products in use and landfills as well as the prevented release of fossil fuel carbon (also counted as stored carbon) via product substitution and biomass energy. It illustrates how forests can continue to accrue carbon over time with forest management. Figure is from McKinley et al. (2011) and adapted from IPCC (2007).

This graph encapsulates the forest management paradigm that would be most effective at maximizing carbon sequestration on a per-acre basis by "stacking" storage in wood products and regrowth of newly planted trees. A 2013 study from the Journal of Sustainable Forestry summarized these concepts well: "More CO2 can be sequestered synergistically in the products or wood energy and landscape together than in the unharvested landscape. Harvesting sustainably at an optimum stand age will sequester more carbon in the combined products, wood energy, and forest than harvesting sustainably at other ages."[8]

AFRC encourages the Paulina District to consider several additional 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 to 18 percent 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.

[8] Oliver, Chadwick Dearing, et al., Carbon, Fossil Fuel, and Biodiversity Mitigation With Wood and Forests, Journal of Sustainable Forestry, 33:3, 248-275 (2014), DOI: 10.1080/10549811.2013.839386.

- 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 carbon at a faster rate than small trees on an individual basis, their contribution to carbon 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 carbon stocks, but they play a minor role in additional carbon 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 CO_2, then increasing the acreage of young, fast growing small trees is the most prudent management approach.

U.S. Department of Agriculture, Forest Service. 2023. Future of America's Forest and Rangelands: Forest Service 2020 Resources Planning Act Assessment. *Gen. Tech. Rep. WO-102*. Washington, DC. 348 p. https://doi.org/10.2737/WO-GTR-102.

To further support the concepts validated by Gray et al., the U.S. Department of Agriculture recently published a Technical Report on the future of the U.S.'s forests and rangelands.

Key points of the Technical Report include:

- The projected decrease in young forests and increase in older forests will result in overall decreases in growth rates and carbon sequestration.
- The amount of carbon sequestered by forests is projected to decline between 2020 and 2070 under all scenarios, with the forest ecosystem projected to be a net source of carbon in 2070.
- Without active management, significant disturbance, and land use change, forests approach a steady state in terms of carbon stock change over time.

- Annual carbon sequestration is projected to decrease, indicating carbon saturation of U.S. forests, due in part to forest aging and senescence.

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.

Fire Risk

AFRC believes that a significant factor contributing to increased fire activity in the region is the decreasing road access to our federal lands. This factor is often overshadowed by both climate change and fuels accumulation when the topic of wildfire is discussed in public forums. However, we believe that a deteriorating road infrastructure has also significantly contributed to recent spikes in wildfires. This deterioration has been a result of both reduced funding for road maintenance and the federal agency's subsequent direction to reduce their overall road networks to align with this reduced funding. The outcome is a forested landscape that is increasingly inaccessible to fire suppression agencies due to road decommissioning and/or road abandonment. This inaccessibility complicates and delays the ability of firefighters to quickly and directly attack nascent fires. On the other hand, an intact and well-maintained road system would facilitate a scenario where firefighters can rapidly access fires and initiate direct attack in a more safe and effective manner.

If the Forest Service proposes to decommission, abandon, or obliterate road segments from the North Fork Project planning area, the analysis should consider potential adverse impacts to fire suppression efforts due to the reduced access caused by the reduction in the road network. This road network reduction would decrease access to wildland areas and hamper opportunities for firefighters to quickly respond to and suppress wildfires. On the other hand, additional and improved roads will enable firefighters to have quicker and safer access to suppress any fires that are ignited.

In summary, the North Fork Project is a much needed project and AFRC supports Alternative 2. Thank you for the opportunity to provide comments on the North Fork Project EA.

Please feel free to contact me directly if I can assist with determining the economic feasibility of silviculture treatments and logging system requirements.

Sincerely,

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