April 9, 2025

Travis Sanchez, Post-Fire Recovery Manager
Plumas National Forest
39696 Highway 70
Quincy, CA 95971

In Reply To: Tributaries Forest Recovery EA

Dear Mr. Sanchez:

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 Mt. Hough and Beckwourth Ranger Districts, and the management on these lands ultimately dictates not only the viability of their businesses, but also the economic health of the communities themselves.

Purpose & Need-

AFRC is pleased to see the Mt. Hough and Beckwourth Ranger Districts proposing vegetation management 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. This supply is important for present day needs but also important for needs in the future. This future need for timber products hinges on the types of treatments implemented by the Forest Service today.

Of particular importance is how those treatments affect the long-term sustainability of the timber resources on Forest Service managed land. The Dixie and Walker Fires had a

profound impact on the forest conditions in the project area. These impacts could be seen across the state of California in the footprints of numerous large-scale wildfires. How these damaged lands, now largely devoid of forest cover, are recovered is vitally important to the long-term persistence of AFRC members in the region. There is a need to manage post-fire fuels and reestablish forest cover within these large high-severity burn patches to prevent forest loss on the landscape. Also of vital importance is how the remaining acres of green forest cover within those fire footprints is managed. These areas are included in the "primary treatment" units in the Tributaries Forest Recovery EA (EA) and the management of them to maintain healthy forest conditions that are resistant to future wildfire impacts is critical. The purpose and need's focus on burned area recovery and density reduction in remaining green forest stands provides a solid foundation for meaningful vegetation treatments.

We support and are encouraged by the Plumas National Forest's (PNF) use of forest plan amendments to meet project objectives. Forest conditions have drastically been altered since the publication of the forest plan in 1988 and amended with the 2004 SNFA.

Ultimately, we urge the Plumas to fully implement the proposed action as described in the EA. We believe that optimal attainment of the purpose and need is realized by implementing treatments and activities that address each project's component to the maximum extent possible. For example, attainment of the purpose of restore, improve, and maintain forest resource conditions is better achieved by applying density management treatments to 500 acres of forest land as opposed to 400 acres of forest land. Treating 400 acres meets the purpose and need—but not to the same level that treating 500 acres would.

Communities-

The emphasis in the "Need for Action" of the proposed action on page 7 of the EA to *"Both fire-killed and live vegetation can contribute to hazardous fuel accumulations. Reducing stand densities to historic levels minimizes competition for water and nutrients, while improving water infiltration and forest health."* is both appropriate and urgent to protect our communities. Please include a table illustrating the timing and prioritization of maintenance activities to maintain reduced fuel loads in the Wildland Urban Interface (WUI).

Silviculture-

We are encouraged by the PNF using the relative stand density index (rSDI) metric to develop the silvicultural prescriptions for the Project. Recent research in the Sierra Nevada has compared historic stand conditions with current stand conditions as described on page 17 of the EA: *"Stands will be managed to attain a rSDI of 14-36% (considered ranges of "free growth" and "partial competition", North et al. 2022), depending on stand type and site condition. This range is based on interquartile ranges for historic Sierra Nevada forests in North et al. (2022) and historic structural descriptions of true fir stands in Pitcher (1987). The expected outcomes are stands with 30-100 trees per acre in Sierran mixed conifer (SMC)*

and eastside pine (EPN) stands and a mosaic of cut and leave areas created in true fir stands." Using the metric of relative stand density index instead of basal area and canopy cover to meet forest health and resiliency goals will better meet Project objectives.

Shaded Fuelbreak-

Inclusion of a 15-mile (701 acre) shaded fuelbreak being proposed along Grizzly Ridge is critical for the safety of the community of Quincy and coincides with existing fire control lines established during the Dixie Fire. We believe the fuelbreak will help to safely and effectively fight against a future wildfire. We support the following treatments (EA pg. 21) and the rationale for inclusion in the Tributaries Forest Recovery Project:

- *Fuelbreak treatments located in high severity fire areas with over 80% mortality would involve site preparation, planting, and maintenance using techniques described for Reforestation, above. Replanting will occur at a reduced rate of 50-100 TPA to keep densities low and pruning may occur 7-10 years after planting to raise canopy base height.*
- *In areas with 30-80% mortality of standing basal area, dead trees will be felled, piled, and burned/chipped. Target density post-treatment will be 40-80 TPA.*
- *In low severity burn areas with less than 30% mortality, target tree densities would be thinned using techniques described in Commercial Thin to reduce the stand to a rSDI of 14-18%, which is the lower end of the interquartile range described in North et al. (2022). According to modeling performed by Keyes & O'Hara (2002), rSDI must be below 38% for a ponderosa pine stand to serve as a fuel break. These targets are well below that threshold*.

Prescribed Fire-

We support the use of prescribed fire under the right conditions. It is most beneficial, and oftentimes only feasible, following mechanical treatment. Bringing fire into dense forest stands with abundant fuel loading should only be considered following mechanical removal of those fuels when possible. Standalone mechanical treatments often reduce the fuel loading to a sufficient level where prescribed fire may not be needed. Too often we have seen completed timber sales damaged by prescribed fire causing high tree mortality.

A sole entry of prescribed fire within a few years after a mechanical treatment is not a plan for long-term maintenance of fuels on the landscape. We encourage the development of a long-term maintenance plan and strategy as part of this NEPA process to provide a streamlined process for implementation of the necessary fuels treatments 10, 20, and 30 plus years after the initial project completion. This sort of long-term planning will significantly aid in the maintenance of the fuel conditions and provide a longer-term benefit to the initial investment costs. Please include a table and map illustrating the timing, location, and prioritization of prescribed fire and mechanical activities within the EA area.

Reforestation-

The public invests a significant amount of resources into post-fire reforestation efforts. These costs are attributable to site preparation, planting, and ongoing maintenance to ensure reasonable stocking is achieved. We are supportive of using herbicide as a tool to promote forest restoration and to manage invasive plant species. We appreciate and support the thorough analysis contained in Appendix F, *Non-timber Vegetation Management Decision Matrix* pg. 254 of the EA and Appendix G, *Herbicides* pg. 258 of the EA.

Herbicide use is evaluated in the EA as a key management strategy to control invasive plant species and facilitate the restoration of native ecosystems. The EA details how targeted application of herbicides is employed to minimize the spread of non-native species that threaten ecological balance and biodiversity. By focusing on specific areas where invasive plants are most prevalent, the use of herbicides aims to reduce competition with native vegetation and promote healthier, more resilient habitats. The EA also addresses the potential risks associated with herbicide use, including impacts on non-target plants and wildlife, and outlines mitigation measures to minimize these effects, ensuring that herbicide application is conducted in a controlled and environmentally responsible manner.

Operations-

AFRC is pleased to see that the PNF is prescribing the use of new technology and equipment allowing for beneficial treatment of steep slope areas affected by the Dixie and Walker Fires. On page 110 of the EA, it states: *"Silvicultural treatments are proposed on 39,843 acres, 62% of which would occur on highly erosive soils or slopes greater than 35%. This acreage comprises 15% of the total project area".* In woods demonstrations over the last 30 years have shown the ability of ground-based equipment to effectively operate on slopes over 35% with little or no detrimental ground disturbance or significant erosion. California State Law allows for ground-based harvesting on slopes up to 65% where the erosion potential is low to moderate. Advances have been made with modern equipment to minimize ground disturbance and compaction and should be allowed to perform unencumbered by standards put in place 37 years ago in the PNF Forest Plan. These ground-based operations would allow the majority of the >35% slope acres to be economically treated than otherwise would be. Thereby increasing the pace and scale of restoration activities.

We are pleased to see the use of tethered-assist equipment proposed in areas of the Project that are >50% slope and in areas that are not suitable for traditional ground-based equipment. Tethered-assist harvesting and vegetation management has shown to be a productive tool that offers a wide array of options on steep slopes while also improving worker safety in the woods. Tethered-assist can be used in place of traditional skyline, high-lead, and other cable yarding methods to meet the objectives of this Project.

Carbon/Climate-

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.

Please see the graph below from the IPCC (2007) that captures the ability of forests to "stack" carbon sequestration and storage through continual harvests. **Please consider adopting this graph into the Tributaries Forest Recovery Project analysis.**

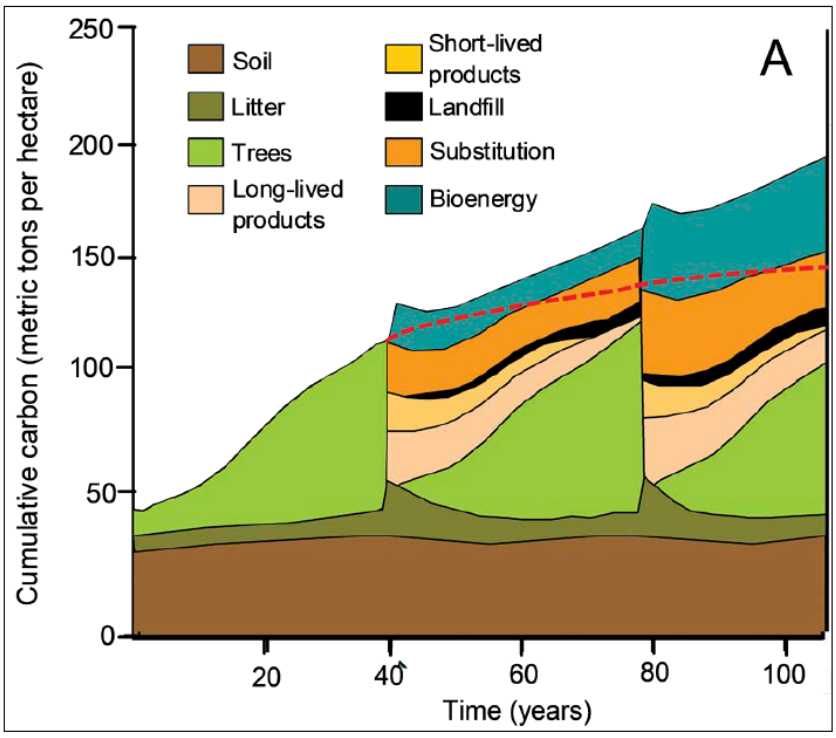

Figure 8.7—Carbon balance from a hypothetical forest management project in which the forest is harvested roughly every 40 years from land that started with low forest carbon stocks. This figure accounts for forest regrowth and carbon stored in wood products in use and landfills as well as the prevented 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).

We believe that 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.

We would like to encourage the Mt. Hough and Beckwourth Districts 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.

We support the objectives of the Tributaries Forest Recovery Project focusing on post-fire recovery and forest restoration following the 2019 Walker Fire and 2021 Dixie Fire. The

project aims to improve forest health, reduce fuel loads, and enhance habitat resilience across 163,248 acres on the Plumas National Forest. The proposed silvicultural treatments aim to enhance forest resilience, meet economic objectives, and support biodiversity. By employing a combination of thinning, fuel-breaks, prescribed burns, and reforestation, the plan seeks to balance ecological health with resource management. Ongoing monitoring will help refine these strategies over time, ensuring sustainable forest stewardship.

AFRC is happy to be involved in the planning, environmental assessment (EA), and decision-making process for the Tributaries Forest Recovery EA. Should you have any questions regarding the above comments, please contact me at 530-360-2809 or jblaufuss@amforest.org.

Sincerely,

Jake Blaufuss
Northern California Field Coordinator
Quincy, CA
American Forest Resource Council
www.amforest.org