VIA Link: https://www.fs.usda.gov/project/?project=64247

October 16, 2023

Okanogan-Wenatchee National Forest
Wenatchee River Ranger District
c/o Justin Gelb
600 Sherboume St.
Leavenworth, WA 98826

Dear Justin:

On behalf of the American Forest Resource Council (AFRC) and its members, thank you for the opportunity to comment on the Chumstick to Lower Peshastin (LP) Project.

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. Many of our members have their operations in communities within and adjacent to the Okanogan-Wenatchee National Forest and management on these lands ultimately dictates not only the viability of their businesses, but also the economic health of the communities themselves.

The Chumstick to LP Project area is approximately 115,316 acres and is located in the vicinity of Leavenworth, Peshastin, and Cashmere in Chelan County, Washington. The planning area is evenly divided between public and private ownership, with 51% being USFS land and fire risk is high to extreme across the northern portion and in the southwest corner of the planning area due to high fuel loads and burn probability. The northern portion represents some of the highest fire risk in eastern Washington. A landscape evaluation was completed by the Washington DNR, and they recommended treating 43-63% of forested acres to increase resilience and reduce fire risk to communities using a combination of mechanical, prescribed fire, and managed wildfire treatments.

AFRC staff and members visited the northern portion of the Chumstick to LP project during the summer of 2022. Our group saw firsthand the extreme fire danger from dense forest stands and how the WUI was intermingled with the Forest Service lands. The picture on the left shows hazardous fire conditions caused by unnaturally dense forest conditions. The picture on the right shows the proximity of homes to those Forest Service lands.

AFRC supports the Purposes of the Project outlined in the scoping document which are:

- reduce elevated risks of wildfire to communities within the wildland urban interface, while increasing opportunities for effective fire suppression across the project area.
- Restore forest structure and composition to more sustainable conditions.
- Reduce the risk of large-scale habitat loss from severe wildfires.

While we strongly support the Project and the Purposes outlined, we offer the following comments which we think will strengthen and support the Project moving forward.

1. AFRC believes there should be a fourth Purpose of the Project which is presented in the landscape evaluation and that is to "Enhance rural economic development". Many of the high treatment priority areas have road access and are capable of producing significant timber volume. Although warming trends and high burn probability will necessitate managing for lower densities and fuel loads, long-term timber production will likely be possible in much of the USFS and industrial ownerships.

   AFRC believes that the Forest Service should take pride in the fact that they provide a crucial renewable resource to the public that they serve. We understand that every treatment proposed on this Project will likely be designed to meet numerous objectives, but having one of the objectives be to contribute to the local economy is a key provision of this Project and should be a key part of every project the Forest develops.

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 future needs. 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. AFRC has voiced our concerns many times regarding the long-term sustainability of the timber supply on Forest Service land and how the current management paradigm is affecting this supply. Treating the land to remove overstocked trees helps to provide a sustainable supply of timber products. Studies have shown that for each million board feet harvested in Washington State an estimated 12-15 jobs are created. These economic facts would suggest that the Forest should treat the maximum number of acres outlined in the Landscape Assessment which was 63% of the landscape (53,000 acres).

Furthermore, much of the Chumstick to LP landscape is located on lands that are designated as Matrix by the Northwest Forest Plan especially in the central part of the Project area. AFRC would like to remind the Forest that a primary objective of the Matrix lands is to provide raw materials to local communities, and we suggest treating as many Matrix acres by mechanical means as possible to meet this objective.

In addition, portions of both the north and south ends of the Project area are designated as Late Successional Reserve (LSR). Fuels reduction and forest health treatment priorities are highest and most needed in the northern portion and western edge of the Project. AFRC strongly supports active management to reduce hazardous fuels and mitigate the risk of wildfire across stands of all ages in the LSR. .

2. AFRC is pleased to see the Chumstick to LP project was authorized to use the Western Firesheds Emergency Action Declaration (Bipartisan Infrastructure Law, Section 40807) on September 5, 2023. Under this emergency authority the Chumstick to LP Project Environmental Assessment (EA) will be developed to consider only a proposed action and no action alternative in detail, and the EA and draft decision will not be subject to pre-decisional administrative review.

   Additionally, AFRC would like to see the District accurately describe the impacts of the No Action Alternative over the potential 10 years of the Project. Your data shows that much of the project area is dominated by dense older stands in need of thinning treatments. Past stand replacement fires in recent years or commercial harvesting have created even-aged stands with uniform structures that are also in need of thinning. Finally, stands in some of the higher elevations have not experienced disturbance since the early 1900s and are mature with mixed species. Fire exclusion combined with natural vegetation development and past management has resulted in changes to the vegetative patterns on the landscape. Additionally, there have been several large fires in the past decade in the Project area that have destroyed thousands of acres and the same could

occur in this landscape. The Forest Service should consider these impacts among possible outcomes of the no action alternative.

3. Fuels treatments are needed to break up large patches of dense forest to reduce the likelihood of severe crown fire and to facilitate protection of private property along Highway 2 and Chumstick Highway. AFRC supports implementation of the fuel breaks that have been identified within the project area. These fuel breaks are strategically placed along areas that are predefined and located in a manner that reduces the resistance to control from fires. The intent of these fuel breaks would be to reduce the risk of catastrophic wildfire to an adjacent at-risk community, valued assets, or resources. The size of each fuel break can vary, but in general would be between 100' to 1000' feet in width and linear in arrangement as described, however, AFRC believes the wider fuel breaks should be implemented to secure solid containment fire lines. Trees in these fuel breaks should be thinned to a low basal area of 40 sq. ft. acre.

4. The document outlines that the WUI will be the primary focus, but areas outside the WUI will also be treated to prevent wildfire from reaching the WUI. These treatments aim to restore the structure and composition of the landscape, reduce stand density and ladder fuels, which is in line with projected past and future reference conditions. In these treatment areas, AFRC suggests thinning to a basal area of 40 sq.ft. per acre. This accomplishes the objective of reducing fuels, enhancing tree vigor, and providing raw material for the local wood products industry.

5. AFRC supports the use of condition-based management in this Project. Condition-based management is defined as a system of management practices based on implementation of specific design elements from a broader proposed action, where the design elements vary according to a range of on-the-ground conditions to meet intended outcomes. This will give the land managers flexibility during implementation and allow them to treat the most current conditions. Condition based NEPA has been used with success on other OK-Wen projects.

6. As the Forest looks deeper into the economics of the Project and analyzes logging systems, AFRC would like to remind the Forest that 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. This is especially true with the Chumstick to LP Project. 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 Okanogan-Wenatchee National Forest market area with a variety of skills and equipment. Developing an EA contract that firmly prescribes 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 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. Though some of the proposal area may be planned for cable harvest, there may be opportunities to use certain ground equipment such as fellerbunchers and processors in the units to make cable yarding more efficient. While we appreciate the language mentioning ground skidding may take place on slopes over 35% if approved, we would like the Forest to allow ground-based equipment to operate on slopes up to 45% or steeper. AFRC knows that studies regarding ground skidding on steeper slopes have been evaluated and the results have been positive. Allowing the use of processors and fellerbunchers throughout these units can 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.

Tethered-assist equipment is also becoming a more viable, safe, and available option for felling and yarding on steep slopes. This equipment has been shown to contribute little additional ground disturbance when compared to traditional cable systems. Limited availability of high lead systems in certain market areas is making the treatment of steep slopes questionable. Inclusion of tethered-assist systems will increase the likelihood that those areas can be treated to attain the project objectives.

Finally, AFRC would like the Forest to examine the days that operations and haul are shut down due to hunting seasons and other outdoor recreation. The logging community has limited operating time at best, and further reductions such as these only makes surviving in the logging business that much more difficult.

7. AFRC also supports using Designation by Prescription (DxP) to implement prescribed treatments in the harvests units to reduce sale preparation time and costs. The Okanogan-Wenatchee has been one of the leading Forests in utilizing DxP and most projects on the Forest are now successfully utilizing this tool.

8. The Project does not include road system changes including closing roads or creating new forest system roads. Road maintenance may need to occur on many of the roads within the project area. These activities include cleaning culverts, ditches, drains, and grading road surfaces and reestablishing rolling dips or other drainage features of the roadbeds on haul routes within the project area.

AFRC supports the plan to prioritize terrestrial treatments to expedite the fuels reduction, but the District should also explain what aquatic work is desired and how it will be financed. Several members of the North Central Washington Forest Health Collaborative including the Yakama Tribe have raised this concern after reviewing the initial scoping information. AFRC suggests that revenue generated from timber value could be used for aquatic restoration activities at a later time. AFRC also suggests that certain road improvements, such as improperly placed culverts or blockages on potential spawning streams, be addressed through timber sale or stewardship contracts.

9. Dense, multistory forests on moist sites exceed or are at the upper end of desired ranges across the planning area, and these forests occur in large, aggregated patches. This includes areas found in the riparian areas. 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 effect 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. 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.

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 earlymature riparian forests in western Oregon. *Aquatic Sciences* 75:547558.

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.

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.

The links to the studies mentioned above are listed below for reference.

Janisch paper on stream temps:
https://www.sciencedirect.com/science/article/abs/pii/S037811271100782

Dana Warren paper on light into the stream beds:
https://www.researchgate.net/publication/311850456_Long-term_effects_of_riparian_forest_harvest_on_light_in_Pacific_Northwest_USA_streams

Julie Burton Paper on headwater widths and wood recruitment:
https://www.semanticscholar.org/paper/Effects-of-riparian-buffer-widthonwoodloading-in-Burton-Olson/13c41421e2b6bf5eca847c4fb557235f3411127f

Edward Rashin article on Effectiveness of timber harvest practices for controlling sediment related water quality impacts:
https://onlinelibrary.wiley.com/doi/abs/10.1111/j.1752-1688.2006.tb05303.x

10. The Landscape Analysis adequately outlines the need to increase resilience and prepare for climate change. The document states "*By mid-century, the majority of the planning area is projected to have moisture stress levels that are currently associated with dry forest or shrub-steppe."*

    AFRC encourages the Forest to conduct a detailed analysis on the Project's impacts to climate change, carbon sequestration, and greenhouse gas emissions. Interim CEQ regulations pertaining to the analysis of this resource have recently been updated and the Forest Service must conduct its analysis on this Project accordingly. Specifically, those regulations require that greenhouse gas emissions be analyzed for all federal actions. Those regulations also encourage federal agencies to consider the context of short-term emissions as a result of actions that will improve long term sequestration and storage. We strongly believe that the minor, short-term emissions associated with timber harvest and other associated treatments are dwarfed by the long-term benefits associated with such treatments.

    We urge the District to clearly outline how the proposed treatments, while possibly emitting carbon in the near term, would ultimately benefit climate change mitigation goals by 1.) reducing the likelihood of carbon emissions through wildfire; 2.) increasing the rate of carbon sequestration by reducing competition to residual trees; and 3.) storing carbon in long lasting wood products that would otherwise be at risk of loss through wildfire. Carbon loss through high intensity wildfire has become a leading cause of our national forests transitioning from carbon sinks to carbon sources. Active management to reduce such a transition would not only reduce carbon loss but accelerate carbon sequestration. And ultimately, any timber products harvested to further these two objectives has been shown to have long lasting carbon storage potential.

    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 (GHG) emissions from wildfires the second most important source in the state, after transportation. For context, the U.S. 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 are designed to improve stand health and resilience by reducing forest density or removing trees damaged by insects or disease that make up 86 percent of those acres. The remainder are final regeneration harvests that are designed to be followed by reforestation." There is an 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. The figure below from the IPCC (2007) illustrates the concept of stacking. **Please consider adopting this graph into the Chumstick to LP project analysis.**

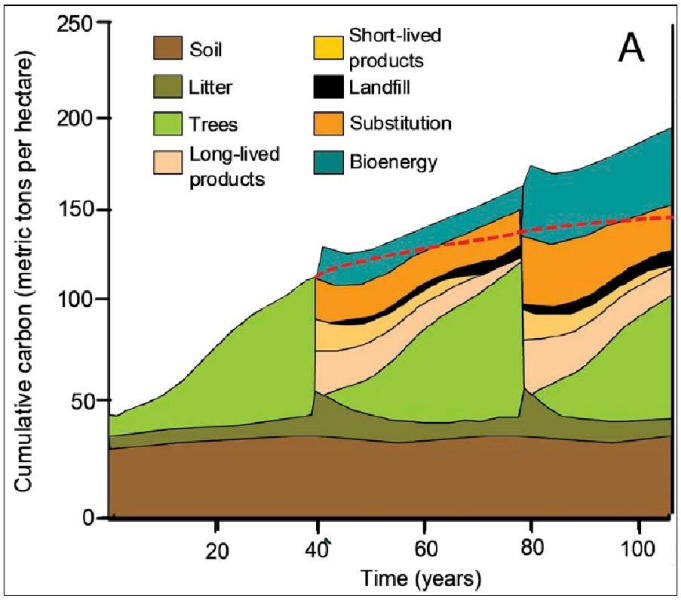

Figure 8.7—Carbon balance from a hypothetical forest management project in which the forest is harvested roughly every 40 years from land that started with low forest carbon stocks. This figure accounts for forest regrowth and carbon stored in wood products in use and landfills as well as the prevented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

We would like to encourage the Wenatchee 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 9–18% 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.

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 USDA recently published a Technical Report on the future of America's forests and rangelands.

Key points of the 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 C 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.

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.

In addition to this study, a recent report by the Forest Service titled: USDA: Forests Converting to Carbon Emitters finds American forests may convert from being carbon absorbers to significant carbon emitters. Researchers say the shift is due to the increasing destruction from natural disasters and the aging of forests, which is reducing their carbon absorbing capabilities.

Our forests currently absorb 11 percent of U.S carbon emissions, or 150 million metric tons of carbon a year, equivalent to the combined emissions from 40 coal power plants. However, starting in 2025, their ability to hold carbon may start plummeting and could emit up to 100 million metric tons of carbon a year as their emissions from decaying trees exceed their carbon absorption.

Below are additional links that show the value of managing the Forest for the benefit of carbon and sequestration of wood into forest products that AFRC believes you should incorporate into your planning document.

- Carbon Sequestration in Wood and Paper Products
  Kenneth E. Skog, USDA Forest Service, Forest Products laboratory
  Sequestration of carbon in harvested wood products for the United States (usda.gov)

- An Assessment of Carbon Pools, Storage, and wood Projects Market Substitution Using Life-cycle Analysis Results
  John Perez Garcis, Bruce Lippke
  840-Article Text-840-1-10-20141206.pdf

- Investments in Fuel Removals to Avoid Forest Fires Result in Substantial Benefits
  C. Larry Mason, Bruce R. Lippke, et. al
  Investments in Fuel Removals to Avoid Forest Fires Result in Substantial Benefits | Journal of Forestry | Oxford Academic (oup.com)

- Using Wood Products to Reduce Greenhouse Gases
  Jim Wilson, Corrim Inc.
  Using Wood Products to Reduce Global Warming (corrim.org)

- To Manage or not to Manage: The Role of Silviculture in Sequestering Carbon in the Specter of Climate Change
  Jianwei Zhang*, Robert F. Powers, and Carl N. Skinner
  Integrated management of carbon sequestration and biomass utilization opportunities in a changing climate: Proceedings of the 2009 National Silviculture Workshop; 2009 June 15-18; Boise, ID (usda.gov)

- Managing Forests because Carbon Matters: Integrating Energy, Products, and Land Management Policy
  Robert W. Malmsheimer, James L. Bowyer et. al.
  Managing forests because carbon matters: integrating energy, products, and land management policy | US Forest Service Research and Development (usda.gov)

- Carbon, Fossil Fuel, and Biodiversity Mitigation With Wood and Forests
  Chadwick Oliver, Brice R. Lippke et.al.
  Full article: Carbon, Fossil Fuel, and Biodiversity Mitigation With Wood and Forests (tandfonline.com)

- Science Supporting Harvested Wood Products as a Carbon Negative Technology.
  Dr. Arijit Sinha, et. al.
  CORRIM-scientists-letter-all-recipients-Dec-9-2020.pdf (healthyforests.org)

Thank you for the opportunity to provide scoping comments for the Chumstick to LP Project. We look forward to the Project moving forward quickly.

Sincerely,

Tom Partin
AFRC Consultant

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