VIA Link: http://www.fs.usda.gov/project/?project=64354

October 13, 2023

Sam Martin, District Ranger
Three Rivers Ranger District
12858 US Highway 2
Troy, Montana 59935

Dear Sam:

On behalf of the American Forest Resource Council (AFRC) and its members, thank you for the opportunity to provide scoping comments on the Trojan Defense 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 Kootenai 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 Trojan Defense Project area is located west and southwest of Troy, Montana. The area of analysis is a mixed ownership of, and intermingled within, rural areas of Forest Service, private timber lands, and residential homes and businesses outside of the Troy city limits. The project area is located within the Wildfire Crisis Strategy – Kootenai Complex and the Lincoln County Wildland Urban Interface (WUI) which was designated to treat hazardous fuels surrounding the community of Troy. Therefore, this project will be designed as part of ongoing cross-boundary efforts to connect past, present, and future activities to reduce and mitigate wildfire threats to the Troy community.

The area around Troy has seen several potentially destructive wildfires in the past few years that could have been much more severe. Steps need to be taken quickly to reduce fuel in the WUI

and protect the area in and around Troy. The County has recognized the severity of the situation by including Troy in the Kootenai Complex and Lincoln County WUI. The project area is entirely within the 2023 Lincoln County Community Wildfire Protection Plan WUI and the Kootenai Complex.

Current forest conditions indicate a need for expedited treatment to mitigate the risk of catastrophic wildfire in this area. Those conditions include: 1) Lack of recent fire resulting in a species composition shift and increased stand densities which has led to stressed trees and unhealthy stand conditions, also causing increased surface, ladder, and crown fuels. Insects and diseases like Douglas-fir beetle, fir engraver, and root disease are capitalizing on the stressed stands and are causing widespread mortality, and 2) The town of Troy and surrounding communities are situated at the northwest end of the Callahan Creek drainage. In the event of a wildfire, present hazardous fuel conditions and lack of access to areas like McConnell Mountain would make engaging in active fire suppression tactics difficult and dangerous. In the event of no wildfire, the need still exists to manage stands for health and resiliency to stressors that are amplified by climate change.

With these current conditions, AFRC supports the Project. AFRC previously submitted written comments during your public outreach which started in July of this year. We submitted several suggestions on how we believed the Project could be improved. In your scoping letter you addressed and commented on several of the points we made, and we appreciate the District reviewing and considering our suggestions.

From the public outreach response, the District has developed a more focused Purpose and Need for the Project which includes:

- Reduce Hazardous Fuels in the Project Area.
- Manage stands to increase forest health and resilience.

While AFRC supports the Purpose and Need for the Trojan Defense Project we would like the District to consider these additional comments which we think will both support and improve the Project going forward.

1. In addition to the fuels reduction work that will be accomplished, AFRC wants to highlight the importance of supporting the health of the forest products industry to ensure its ability to help implement these Projects. Harvesting these acres is very important for providing the raw materials that the sawmills in Montana need to operate.

   The summary of proposed actions chart below shows acres to be treated commercially.

Table 1. Summary of Proposed Actions

Non-Harvest Fuels Treatments	Approximate Acres
Slash, prune, pile, burn	377
Precommercial Thinning	114
Natural Fuels burning[2] with selective slashing	307
Total Non-harvest treatments	**798**
Harvest Fuels Treatments	
Intermediate Harvest followed by excavator piling and burning	78
Intermediate Harvest followed by under burning[1]	616
Regeneration Harvest followed by excavator piling, burning, and planting	150
Regeneration Harvest followed by under burning and planting	81
Total Harvest Treatments	**925**
Total Fuels Treatment	**1,723**

[1] Under burning is a prescribed burn under a forest canopy where fire is applied generally to most of an area within well

AFRC is pleased to see that the District is planning timber harvest on 925 acres. The timber products provided by the Forest Service are crucial to the health of our membership. Without the raw material sold by the Forest Service these mills would be unable to produce the amount of wood products that the citizens of this country demand. Specifically, studies in Montana have shown that 12-15 direct and indirect jobs are created for every one million board feet of timber harvested. Without this material, our members would also be unable to run their mills at capacities that keep their employees working, which is crucial to the health of the communities that they operate in. These benefits can only be realized if the Forest Service sells their timber products through sales that are economically viable. This viability is tied to both the volume and type of timber products sold and the way these products are permitted to be delivered from the forest to the mills.

Additionally, Montana's forest products industry is one of the largest components of manufacturing in the state and employs roughly 7,000 workers earning about $300 million annually. Much of the industry is centered in western Montana, and this Project is crucial to the infrastructure located in and around the Kootenai National Forest.

Further, 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. 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 importance is how those treatments affect the long-term sustainability of the timber resources on Forest Service managed land. Not managing the maximum number of acres today will impact the ability to produce the timber needed in the future.

2. The current heavy fuels in the area, the amount of WUI, and the lack of access into portions of the project area support the need for immediate treatment of this landscape.

AFRC strongly supports the District's plan to apply for an emergency action determination through section 40807 of the Bipartisan Infrastructure Law. For an environmental assessment (EA), this emergency action requires only a proposed action and no action alternative. The proposed action will be designed to treat and reduce fuels within the project area by shifting species composition, size class, and stand densities towards Forest Plan desired conditions. AFRC believes the faster this Project can be implemented, the better it will be for the Forest and for the surrounding community.

3. Since the District is only planning on analyzing an Action and No Action Alternative, AFRC would like to see the District accurately describe the impacts of the No Action Alternative. Your data shows that in general, wildfires have increased in size, duration, and severity over the past 20 years. Wildfire risk has also increased due to accumulating fuels, a warming climate, and expanding development in the wildland-urban interface. The risk has reached crisis proportions in the West, calling for decisive action to reduce risk to communities as well as improve forest health and resilience to future wildfire events. Further, increased tree density and tree succession has resulted in a higher susceptibility to insects, disease, and drought as trees compete for sunlight, water, and nutrients. Past and on-going tree mortality is evident, which subsequently has resulted in an increase of hazardous fuels and higher risk of wildfire.

   All of these factors point to an imminent catastrophic wildfire impacting the area, much like the West Fork fire in 2017 and the South Yaak Fire in 2021 on the Kootenai. This likelihood of fire needs to be clearly explained as a potential outcome of not acting.

   Below is a picture of the South Yaak fire and the devastation caused. Thankfully it was not near the WUI and damage to private property was minimal.

   The impacts from recent fires and the aftermath need to be clearly stated and what the Trojan Defense Project area faces if Action isn't taken.

4. AFRC supports the District's plan to manage old growth areas. Some proposed fuels treatments will occur in old growth and recruitment potential old growth stands. Prescribed burning, and in some instances, tree harvesting would occur in the warm dry and warm moist old growth and recruitment potential old growth stands. The treatment designs include retaining the large old trees, decreasing the number of smaller trees and reintroducing fire into those stands. All harvest treatments in old growth would be intermediate treatments. Treatments in the drier forest types would allow the ability to improve resiliency, resulting in stands more able to withstand bark beetle mortality and stand-replacing fire.

5. AFRC also supports the District creating openings larger than 40 acres. The Proposed Action designates five units proposed for regeneration harvest that would create two forest openings larger than 40 acres. These larger openings are needed for forest health treatments. Forest Service Manual (FSM) 2471.1 allows for this size limit to be exceeded with Regional Forester approval and 60-day public notice. AFRC would like to go on record for this support.

6. We would like the District to recognize that one of the primary issues affecting the ability of our members to feasibly treat the land and deliver logs to their mills is 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 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 Kootenai market area with a variety of skills and equipment. Developing contracts that firmly describe 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 Final Analysis and contracts 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 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 feller-bunchers 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. Please prepare your NEPA analysis documents in a manner that will facilitate flexibility in the use of various types of equipment. AFRC believes that with some of the lighter

touch logging methods as mentioned above, the impacts could even be less than those analyzed.

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 supports the use of shaded fuel breaks. As pointed out in the scoping document, the entire project area is in the WUI which includes hundreds of private homes along St. Regis haul road (Garrison loop), Callahan Creek, Iron Creek, Iron Grouse, Lake Creek, and Copper Creek. Reducing hazardous fuels near and adjacent to public open roads is important because those roads serve as emergency egress routes for evacuating people and ingress for emergency personnel and equipment when wildfires or other emergencies occur. AFRC would suggest conducting fuel breaks of at least 300 ft. on both sides of these roads and reducing the basal area down to 40 sq.ft/acre.

8. In the public input section of the scoping document, there were a number of questions regarding atmospheric carbon dioxide, carbon sequestration and other carbon related subjects. In all of your responses, you mentioned "*Climate Change will be considered in the analysis."* AFRC believes that you should include some discussion explaining the impacts that various treatments could have regarding the carbon cycle, global warming, CO2 sequestration, and those impacts to other resources.

   AFRC strongly recommends that you take this opportunity to outline the positive results that treating these stands would have on carbon and climate change. By reducing wildfire threats, removing dead, and dying trees, and improving the growth and vigor of residual trees, the project will radically improve carbon sequestration in the long-term.

   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.

Our comments below should help inform this analysis.

AFRC would like the Forest to bolster your information by conducting a detailed analysis on the Project's impacts to climate change and carbon sequestration. Our comments below should help inform this analysis.

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 Trojan Defense project analysis.**

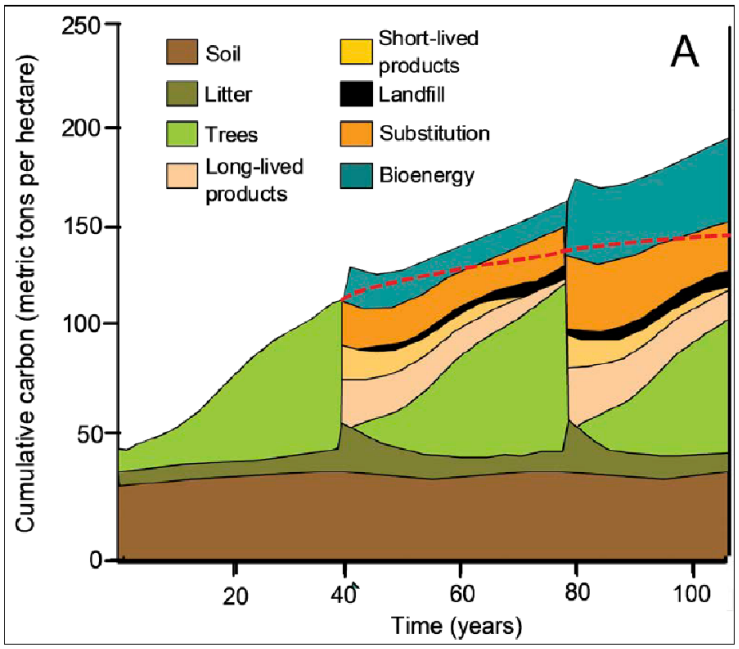

Figure 8.7—Carbon balance from a hypothetical forest management project in which the forest is harvested roughly every 40 years from land that started with low forest carbon stocks. This figure accounts for forest regrowth and carbon stored in wood products in use and landfills as well as the prevented 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 Kootenai National Forest 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 several links that show the value of managing the Forest for the benefit of carbon and sequestration of wood into forest products.

- 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 on the Trojan Defense Project. We look forward to it being implemented soon.

Sincerely,

Tom Partin
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