



July 17, 2025

Cameron Mitchell  
Deputy District Ranger  
Middle Fork District  
Willamette National Forest  
46375 Highway 58  
Westfir, OR 97492

**In Reply To:** Dead Mountain Project Scoping Letter

Dear Mr. Mitchell:

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 Willamette 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. The state of Oregon's forest sector employs approximately 61,000 Oregonians, with AFRC's membership directly and indirectly constituting a large percentage of those jobs. Rural communities, such as the ones affected by this project, are particularly sensitive to the forest product sector in that more than 50% of all manufacturing jobs are in wood manufacturing.

AFRC is pleased to see the Middle Fork Ranger District (MFRD) proposing vegetation management on lands designated as Matrix and Riparian Reserve Land Use Allocations 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. **We are also glad to see that the MFRD has recognized the importance of the sustainable supply of timber off Forest Service land by including the provision of that supply in the Purpose & Need for the Dead Mountain Project.**

AFRC believes that the provision of useful raw material off National Forest Service land is an integral component of the agency's multiple-use mission. In recent years, many Forest Service Districts have opted to omit the provision of useful raw material from the purpose & need statements of vegetation management projects. AFRC has warned against this practice as it marginalizes the appropriateness of this provision to the agency's mission. Most all Forest Service vegetation management projects achieve an array of positive outcomes. One of these positive outcomes is a sustainable supply of wood products, and we thank the MFRD for recognizing this in the Dead Mountain Project.

## AGENCY DEFERENCE

On May 29, 2025, a decision was issued from the U.S. Supreme Court in the *Seven County Infrastructure Coalition et al. v. Eagle County, Colorado et al.*, a case involving the interpretation of the National Environmental Policy Act (NEPA). In an 8-0 decision, with Justice Gorsuch recusing himself, the Court ruled to limit the environmental effects agencies must consider when assessing a proposed project. This decision provides a major course correction on the court's role in reviewing NEPA cases and highlights the delay tactics from project opponents and impermissible judicial overreach when reviewing NEPA claims.

We ask that the MFRD consider several components of this landmark decision as you conduct the NEPA analysis for the Dead Mountain Project. The following excerpts were pulled verbatim from the decision and should inform the scope and extent of the ensuing analysis.

*The role of a court in reviewing the sufficiency of an agency's consideration of environmental factors is a limited one. The bedrock principle of judicial review in NEPA cases can be stated in a word: Deference.*

*The agency is better equipped to assess what facts are relevant to the agency's own decision than a court is. As a result, agencies determine whether and to what extent to prepare an EIS based on the usefulness of any new potential information to the decision-making process.*

*So long as the EIS addresses environmental effects from the project at issue, courts should defer to agencies' decisions about where to draw the line—including (i) how far to go in considering indirect environmental effects from the project at hand and (ii) whether to analyze environmental effects from other projects separate in time or place from the project at hand. On those kinds of questions, as this Court has often said, agencies possess discretion and must have broad latitude to draw a 'manageable line.'*

We urge the MFRD to review the Supreme Court decision in its entirety. However, the excerpts highlighted above capture the essence of that decision as it applies to project analysis:

1. Courts should apply deference to agency expertise in project NEPA analysis, particularly regarding the scope of the analysis.
2. This deference specifically applies to the extent of analysis on:

- a. Indirect effects of the proposed action
- b. Cumulative effects from separate projects and actions

## **EXECUTIVE ORDER ON THE IMMEDIATE EXPANSION OF AMERICAN TIMBER PRODUCTION**

On March 1, 2025, President Trump signed into law an executive order titled “Immediate Expansion of U.S. Timber Production” which explicitly directs the U.S. Forest Service and Bureau of Land Management to take *decisive actions* to increase timber supplies and reduce regulatory barriers. The intent of this EO is abundantly clear: domestic lumber production is critical to supply our local demand for wood products – and federal timberlands hold the greatest potential for unlocking local capacity in wood products manufacturing. In other words, the Forest Service must look for opportunities to increase their capacity to offer timber volume to local manufacturers, while following the guidelines of their land management plans.

### **SUSTAINABLE FOREST MANAGEMENT**

With the above discussion in mind, we would like the MFRD to consider active management on every acre of appropriate land, regardless of its land allocation. For instance, based on your scoping notice, it appears that the MFRD is proposing treatment, excluding “skips”, on roughly 35% of the 1,750-acre project area. This percentage is typical of many Forest Service vegetation management projects and although AFRC would like to see the agency treat a higher proportion of the landscape, we understand the multiple directives and land management restrictions in place that make doing so difficult. Given the relatively small scale at which this project is proposed to be implemented on, **we urge the MFRD to look for ways to maximize treatment where it is proposed and to avoid deferring units or setting aside portions of units for what is often referred to as “skips”** (please consider the fact that roughly 4,500 acres of the project area will essentially be “skipped”).

Skips within the watershed are plentiful, what is not plentiful are openings. If the District wants to diversify the proposed stands, then it should focus on creating openings in the forest and minimizing untreated areas within the proposed treatment area. To ensure that the Dead Mountain Project follows the Secretary’s direction and the President’s Executive Order, **we urge the MFRD to: 1.) reduce the level of skips; 2.) increase the level of openings (gaps and DTRs); and 3.) strategically locate skips where harvest operations may be uneconomical or unfeasible.**

We also urge the MFRD to consider a range of thinning intensities when developing prescriptions to create resilience across the landscape and to provide additional timber products where appropriate. In past restoration projects, federal land managers have tended to set a target crown spacing or basal area, metrics which are generally irrelevant when describing a forest’s resilience. As a result, such restoration projects create stands where trees are still in competition with each other and still susceptible to disturbance. Forest restoration projects with the intent of

improving “resilience” should consider the stand condition from a period when the forest was naturally resilient, prior to the age of fire exclusion.

Considering this, AFRC recommends that the MFRD set a target stand density index (SDI), which is a more reliable measure of a stand’s resilience. Please review the literature cited below and incorporate its findings into your analysis that will shape the level of management proposed in the Dead Mountain Project:

**North, Malcolm P.; Tompkins, Ryan E.; Bernal, Alexis A.; Collins, Brandon M.; Stephens, Scott L.; York, Robert A. 2022. Operational resilience in western US frequent-fire forests. Forest Ecology and Management. 507: 120004. <https://doi.org/10.1016/j.foreco.2021.120004>.**

Key points of the North paper include:

- Historical relative SDI values suggest that treatments for restoring forest resilience may need to be much more intensive than the current focus on fuels reduction.
- In the past, frequent-fire forests had mean relative SDIs that were much lower than the threshold associated with the onset of competition and the vast majority of stands had densities below the level of full site occupancy.
- Historic forest conditions, produced by an active fire regime suggest historic stand densities were so low that vigorous tree growth from lack of competition may have been the essential characteristic of their ecological resilience.
- Treatments for restoring forest resilience may need to be much more intensive than current forest management practices.

The underlying findings of the paper show that, prior to the age of fire exclusion, the natural resilience of stands depended on stocking that was well-below the Forest Service’s typical target for restoration projects. Although the study area for this paper is the Central/Southern Sierra Nevada Mountain range, the findings are generally focused on frequent-fire landscapes, which describes the Dead Mountain Project area well.

## **NSO CRITICAL HABITAT**

We understand that a small portion of the project area is overlaid by the critical habitat layer (CHU) for the northern spotted owl. This CHU designation does not preclude vegetation management treatments that have adverse impacts to NSOs and/or their habitat, and in fact encourages land managers to consider implementation of forest management practices recommended by the Revised Recovery Plan (USDI FWS 2011) to restore ecological processes where they have been disrupted or suppressed. Application of ecological forestry management practices (including regeneration harvest) within critical habitat can reduce the potential for adverse impacts associated with commercial timber harvest when such harvest is planned within or adjacent to critical habitat.

The Final Critical Habitat Rule recognizes the need and the appropriateness of such treatments throughout the document:

- **We recognize that ecological restoration is not the management goal on all NWFP land use allocations (e.g. matrix) within designated critical habitat, and we provide a discussion of options land managers could consider to tailor traditional forest management activities on these lands to be consistent with conservation of current and future NSO habitat (pg. 27).**
- **On Matrix lands under the NWFP where land managers have a range of management goals, the Service anticipates that not all forest management projects in critical habitat will be focused on the development or conservation of northern spotted owl habitat (pg. 283).**
- **Targeted variable-retention harvest could be considered where the conservation of complex early seral forest habitat is a management goal (pg. 284).**

As the second bullet point suggests, it is important to note that the CHU is not de facto LSR. Nor does the CHU suggest that the entire unit be maintained in some level of spotted owl habitat. These are important distinctions to make and may drive the silvicultural prescriptions on the Dead Mountain stands.

In addition to the effects to NSO habitat, this project may also have short-term effects to the NSO (based on the presence of actual owls) due to the assumption that any type of forest management activity, including those that maintain habitat types, will have a negative impact on owls and their prey. This assumption is typically based on a few scientific pieces of literature published over the past decade. We would like the MFRD to consider a study conducted by NCASI when assessing treatment areas and their potential effects to owls:

Larry L. Irwin, Dennis F. Rock, Suzanne C. Rock, Craig Loehle, Paul Van Deusen. 2015. Forest ecosystem restoration: Initial response of spotted owls to partial harvesting.

Among other findings, this study concluded that partial-harvest forestry, primarily commercial thinning, has the potential to improve foraging habitats for spotted owls.

## **RIPARIAN RESERVES**

We are pleased to see the MFRD incorporate commercial thinning in some Riparian Reserves within the Dead Mountain Project. Often, stands proposed for thinning treatment in the uplands have the same undesired forest conditions (overly dense and uniform stands) in riparian areas. The forest health benefits that you expect to attain through upland thinning treatments can also be achieved in riparian areas with similar active management prescriptions. It has been well documented that thinning in dense, uniform forest stands accelerates the stand's trajectory to

produce large conifer trees, vertical diversity, and tree-species diversity (Garman, Steven L.; Cissel, John H.; Mayo, James H. 2003.). Allowing some commercial harvest will not only produce usable forest products, but it will also promote greater resiliency in the Riparian Reserves.

The tradeoffs that the Forest 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 to review the literature cited below and incorporate its findings into your environmental analysis that will shape the level of management permitted to occur in riparian reserves.

#### *Stream temperature*

Janisch, Jack E, Wondzell, Steven M., Ehinger, William J. 2012. Headwater stream temperature: Interpreting response after logging, with and without riparian buffers, Washington, USA. *Forest Ecology and Management*, 270, 302-313.

Key points of the Janisch paper include:

- The amount of canopy cover retained in the riparian buffer was not a strong explanatory variable to stream temperature.
- Very small headwater streams may be fundamentally different than many larger streams because factors other than shade from the overstory tree canopy can have sufficient influence on stream temperature.

Anderson P.D., Larson D.J., Chan, S.S. 2007 Riparian Buffer and Density Management Influences on Microclimate of Young Headwater Forests of Western Oregon. *Forest Science*, 53(2):254-269.

Key points of the Anderson paper include:

- With no-harvest buffers of 15 meters (49 feet), maximum air temperature above stream centers was less than one-degree Celsius greater than for unthinned stands.

#### *Riparian reserve gaps*

Warren, Dana R., Keeton, William S., Bechtold, Heather A., Rosi-Marshall, Emma J. 2013. Comparing streambed light availability and canopy cover in streams with old-growth versus early-mature riparian forests in western Oregon. *Aquatic Sciences* 75:547-558.

Key points of the Warren paper include:

- Canopy gaps were particularly important in creating variable light within and between reaches.

- Reaches with complex old growth riparian forests had frequent canopy gaps which led to greater stream light availability compared to adjacent reaches with simpler second-growth riparian forests.

### *Wood Recruitment*

Burton, Julia I., Olson, Deanna H., and Puettmann, Klaus J. 2016. Effects of riparian buffer width on wood loading in headwater streams after repeated forest thinning. *Forest Ecology and Management*. 372 (2016) 247-257.

Key points of the Burton paper include:

- Wood volume in early stages of decay was higher in stream reaches with a narrow 6-meter buffer than in stream reaches with larger 15- and 70-meter buffers and in unthinned reference units.
- 82% of sourced wood in early stages of decay originated from within 15 meters of streams.

Benda, L.D. Litschert, S.E., Reeves, G. and R. Pabst. 2015. Thinning and in-stream wood recruitment in riparian second growth forests in coastal Oregon and the use of buffers and tree tipping as mitigation. *Journal of Forestry Research*.

Key points of the Benda paper include:

- 10-meter no-cut buffers maintained 93% of the in-stream wood in comparison to no treatment.

### *Sedimentation*

Rashin, E., C. Clishe, A. Loch and J. Bell. 2006. Effectiveness of timber harvest practices for controlling sediment related water quality impacts. *Journal of the American Water Resources Association*. Paper No. 01162

Key points of the Rashin paper include:

- Vegetated buffers that are greater than 33 feet in width have been shown to be effective at trapping and storing sediment.

Collectively, we believe that this literature suggests that there exists a declining rate of returns for “protective” measures such as no-cut buffers beyond 30-40 feet. Resource values such as thermal regulation and coarse wood recruitment begin to diminish in scale as no-cut buffers become much larger. We believe that the benefits in forest health achieved through density management will greatly outweigh the potential minor tradeoffs in stream temperature and wood recruitment, based on this scientific literature. **We urge the Forest to establish no-cut buffers along streams no larger than 40 feet and maximize forest health outcomes beyond this buffer.**

Having spent a considerable amount of time visiting Forest Service timber sale projects, we are aware that the stream layers incorporated into much of the Forest’s planning documents

often do not reflect the actual location of real streams in the woods. We ask that the Forest take a close look in the field to determine whether mapped streams are accurate.

## FUEL BREAKS

We are pleased to see the MFRD include roadside hazard treatment as a purpose and need for the Dead Mountain project. Apart from relying on the Forest to provide usable forest products, many of our members are also adjacent landowners to the Willamette National Forest and are similarly concerned with the Forest's ability to maintain contingency lines along their own roadways during wildfires. This concern compounds when private roads are used to carry out firing operations to attack fires burning on National Forest lands. Public roadways that are properly maintained as fuel breaks are essential for the Forest to protect their land based, the land base of their neighbors, and the populated communities adjacent to Forest Service lands.

Often the Forest will impose unnecessary upper diameter limits when performing fuel reduction work which limits treatment to understory ladder fuel only. This practice ignores the tendency of fires to spread horizontally where crown connectivity is high. If these roadways are going to be truly "strategic", the Forest should prioritize prescriptions that treat both vertical and horizontal fuels, regardless of tree size. To this end, **we recommend that the Forest utilize the 2020 NRCS Conservation Practice Specification for Fuel Breaks in Forestland which specifies for roadside hazard treatments:**

Apply roadside fuel breaks [*sic*] along county roads or private roads at an effective minimum width of 2 ½ times the height of the average codominant tree or brush species vegetation or a **minimum of 200 feet**. Add 10 feet to the width for every 10 percent increase in slope (e.g., for a 50% slope 200 ft + 50 ft = 250 feet total width), on level ground. Ideally, roadside fuel break widths are installed evenly on each side of the road." (Pg. 5)

Reduce or modify the existing fuel load (live vegetation and debris) to diminish the risk and/or rate of the spread of fire crossing the strip or block of land. **Vegetation treatments shall focus on treating/removing fuels in all vegetative layers including tree crowns, understory trees and brush, and dead and down surface fuels or live ground cover. Focus on substantial vegetative removal and debris clean-up.** (Pg. 5)

## ROAD DECOMMISSIONING

Your scoping notice indicates that the forest is proposing to decommission up to 4 miles of existing roads within the Dead Mountain Project. **When determining whether a road should be decommissioned, AFRC recommends that the Forest limit their road selection to roads that are no longer needed for resource management and are at risk of failure or are**

**contributing sediment to streams, consistent with valid existing rights.** The land base covered in the project area is to be managed for a variety of forest management objectives. Removal of adequate access to these lands would compromise the agency's ability to achieve these objectives.

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 Dead Mountain planning area we would like to see the analysis consider potential adverse impacts to fire suppression efforts due to the reduced access caused by the reduction in the road network. We believe that this road network reduction would decrease access to wildland areas and hamper opportunities for firefighters to quickly respond and suppress fires. On the other hand, additional and improved roads will enable firefighters quicker and safer access to suppress any fires that are ignited.

## **QUARRY DEVELOPMENT**

We are pleased to see the RD incorporate rock source development for existing quarries within the Dead Mountain Planning Area. Maintaining a nearby rock source will help the economic viability of future timber sales resulting from the project. Similarly, we are also pleased to see the RD list mitigations necessary to reduce or eliminate weed spread as a result of hauling and applying rock. AFRC membership is aligned with the Forest Service's goal of minimizing the spread of noxious weeds resulting from harvest activities on federal land. It is in the best interest of the agency and contractors to make sure that forestry operations do not contribute to this growing issue on federal lands.

## **ECONOMICS AND OPERATIONS**

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. 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 manner in which these products are permitted to be delivered from the forest to the mills. 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.

**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 Tiller 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 we would like to see flexibility in the EA and 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. 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.

## **TETHERED ASSIST LOGGING**

With this in mind, we urge the MFRD to include within the Dead Mountain EA a discussion on the use of Tethered-assist logging for sales which result from this analysis. The effectiveness of harvesting and yarding low volume per acre on steep slopes is a significant obstacle to implementation. TA logging is becoming a more economical, safe, and available method of yarding on steep slopes throughout the region. The weight displacement provided by tethering allows tracked equipment to operate on steep ground with limited soil displacement or compaction. Standard psi levels for that tracked equipment are transferred to the tethering uphill. Several Forests in Region 6 have approved thinning stands on slopes up to 70% using TA. **We urge the MFRD to consider allowing this equipment to be used where appropriate in the Dead Mountain Project EA to mitigate implementation obstacles.** Also, we urge the MFRD to consider the following research when determining suitability of TA for timber sales resulting from this analysis:

Green, P. Q., Chung, W., Leshchinsky, B., Belart, F., Sessions, J., Fitzgerald, S. A., Wimer, J. A., Cushing, T., Garland, J. J. (2019). Insight into the productivity, cost and soil impacts of cable-assisted harvester-forwarder thinning in western Oregon. *For. Sci.* 66(1):82–9

Key Point of the Green paper include:

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

Garland, J., F. Belart, R. Crawford, W. Chung, T. Cushing, S. Fitzgerald, P. Green, et al. 2019. Safety in steep slope logging operations. *J. Agromedicine* 24(2):138–145.

Key Point of the Garland paper include:

- Use of new tethered-assist technology reduces exposure to hazards and reduces workers exposed to the most dangerous work in logging—felling and working on cable operations on steep slopes.

## **WET SEASON OPERATION**

The primary issue affecting the ability of our members to feasibly 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 EA's and contracts (i.e. dry conditions during wet season, wet conditions during dry season). **Consistent and steady operation time throughout the year is important for our members not only to supply a steady source of timber for their mills, but also to keep their employees working.** These two values are intangible and hard to quantify as dollar figures in a graph or table, but they are important factors to consider.

Constructing forest roads is essential if active management is desired, and we are glad that the Forest Service is proposing the roads that are needed to access and treat as much as the project area as possible in an economically feasible way. Proper road design and layout should pose little to no negative impacts on water quality or slope stability. The ability to haul timber in the winter months will often make the difference between a sale selling and not. **We urge the MFRD to include allowance for wet season haul for roads which are adequately designed for wet weather use.**

Similarly, it is critical that the Forest Service retain some flexibility in this EA to allow for ground-based operations to continue during the wet season in situations where soil moisture is low, or where remediations can be made to reduce or eliminate impacts of ground-based operations on soil resources. **We urge the MFRD to include allowance in the Dead Mountain EA PDFs for ground-based operations to continue during the wet season where conditions are favorable.**

Your scoping notice estimates that 27% of the commercial treatments will be implemented using helicopter yarding. As the District is surely aware, helicopter yarding is extremely expensive. This method of yarding should be used as a last resort when conventional yarding systems are infeasible. **Please take a hard look at accessing these acres with temporary roads to facilitate conventional yarding systems before resorting to helicopter.**

## CARBON SEQUESTRATION

If the MFRD identifies carbon sequestration and impacts to climate change as a key issue on this project, we would like you to consider some of the literature cited and outlined below:

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.

For those stands proposed for treatment, please consider that 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 (Gustavsson 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.

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., O'Neil, 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.

AFRC is happy to be involved in the planning, Environmental Assessment, and decision-making process for the Dead Mountain Project. Should you have any questions regarding the above comments, please contact me any time at 541-521-9143 or [cbingaman@amforest.org](mailto:cbingaman@amforest.org).

Sincerely,

A handwritten signature in blue ink, appearing to read "C. Bingaman".

Corey Bingaman  
Western Oregon Field Coordinator  
American Forest Resource Council