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To: Secretary of Agriculture, Tom Vilsak; Secretary of Interior, Debra Haaland

From: David Nickell

Please accept these as my personal comments on the "Draft Environmental Impact Statement" and "Definition, Identification, and Initial Inventory" documents prepared by the U.S. Forest Service and Bureau of Land Management in response to Executive Order 14072. Include by reference comments provided by Heartwood and the John Muir Project.

I have hiked and backpacked in national forests in Kentucky, Tennessee, Arkansas, Missouri, Illinois, Ohio, West Virginia, Virginia, New York, Pennsylvania, Colorado, New Mexico, Arizona, Idaho, Montana, Washington, and California. I hope to visit those I have not yet gotten to. The fate of MOG forests matters deeply to me personally, and to humanity in this ongoing climate crisis.

Executive Order 14072 has a clearly defined purpose, and it should be noted that it is titled an "order," not a directive or suggestion. The goal is, for the sake of addressing climate change, to identify and inventory all mature and old-growth (MOG) forests in the United States. Note that the E.O. specifies mature AND old-growth, not either, or. This E.O. was in the recognition that MOG forests play a major role in sequestering and storing carbon which will be vital in our on-going efforts to address the dramatic impacts of climate change. The clear directive is to not only identify and inventory mature AND old-growth, but to amend every Forest Plan in the U.S. to both make these forests more resilient into the future, and to recruit more old-growth over time. Climate change will continue for many decades, maybe even centuries. Increasing the amount of the best carbon sequestration method we have available is essential. The preparation of the DEIS and the subsequent comment period must be in full compliance with NEPA regulations.

The DEIS does not meet the demands of the E.O. Instead, the documents redefine and reinterpret the E.O. in a manner that clearly violates both the letter and intent of that E.O. This is unacceptable and clearly illustrates a bad faith relation to the public and to the President. The DEIS and Definition and Inventory do not meet NEPA requirements, as will be shown below.

Beginning with the Definition and Threats documents (April 2024 and June 2024), the analysis provided is completely inadequate for acknowledging, much less inventorying, the diversity of ecological zones and widely variant forest types, especially for those in the east. The U.S. basically has two evolutionarily divergent forests, one in the west and one in the east. Each contains its own complex mosaic of unique forest types, especially in the east. It is unacceptable that the eastern forests were not even analyzed due to the Forest Service having inadequate inventory data.

What would count as MOG in one forest type would vary dramatically from others, thus complicating the job of identifying and inventorying. Bristlecone pine, for example, can be very old yet relatively small at high elevations, so size will not serve as a generic criterion. Shortleaf pines, among other species, are relatively short-lived, so the forest may be very old, but the trees are not, so age of the trees cannot serve as a generic criterion. The forest structures will vary depending on region, past glaciation, geography, aspect, soil type, and climate. This

implies that to adequately inventory MOG forests across the nation we must look for complexity of species composition as an indication of the age of a forest, not just the individual trees (Leverett, 1996; Pelton, 1996). Both the DEIS and the Inventory focus on trees but ignore the forest.

This raises a distinction that will be central in these comments. Silvicultural science is very different from ecological science. As a Forest Service Area Supervisor recently said in a public meeting, "Logging is in the DNA of the Forest Service; it's what we do." This is consistent with the origins of the Forest Service within the Department of Agriculture. Its employees are trained and educated with one mission: produce a sustainable yield of board feet from the nation's ravaged forests. This was a progressive goal when the Forest Service was established, and even when the Weeks Act was passed in 1911. However, it does not and cannot meet the goals of Executive Order 1407 to manage the forests as a natural solution to the climate change crisis. A different approach must direct the MOG goals. To be in compliance with NEPA regulations, a full range of alternatives must be provided for public comment. By not, in good faith, applying the principles of ecological science to the goal of finding natural solutions to the problem of climate change that MOG forests can offer, the public was not provided a full range of alternatives.

Rather than the goal of producing as much money from tall and straight trees as possible, the focus must be on the ecological health of the MOG forest system: How can it be retained and allowed to do its job as naturally as possible? How can old-growth acreage be expanded to meet the growing crisis? This much larger, and critical, goal cannot be handled as a normal project proposal on an individual forest unit with the goal of meeting cut prescriptions. Limiting alternatives to the goal of continued logging of the very MOG forests the E.O. intends to be preserved and expanded is unacceptable.

The Definition and Threats document does not give clear guidance on how to distinguish between mature and old-growth forests, nor does it provide guidance on how to move mature forests into their natural seral development. There is much research on this, (Davis, 1993; Mladenoff and Forrester, 1996; McGee, 1996) by ecological scientists, and it should have been utilized. There are also many good efforts at identifying and inventorying old-growth in the east, which were not utilized.

The extreme variation in forest types in the east makes this a complex task, and there is growing literature on how to do it, and what is left to be done (Braun, 1950; Barton and Keeton, 2018) The E.O. does not say to produce an inventory and definitions of MOG, unless it is complicated. The document produced in response to that E.O. grossly oversimplifies this task, especially for the eastern forests where it is admitted that no analysis was done because of a lack of data. Data does exist, and is growing, but it comes from ecological science, not silvicultural science. To do its job, the Forest Service should have reached beyond its own ranks and relied on appropriate outside scientific expertise, as NEPA requires. The Forest Service is in a unique position to contribute to this effort, if it were willing to shift focus.

The documents state, numerous times, that no "change in management direction" should be anticipated. This is an explicit refusal to meet the demands of the E.O. The documents provided in the Inventory and DEIS admit that, prior to the 1990s, Forest Service logging was a major factor in the loss of MOG forests. This was somewhat curtailed, as was admitted, due to public pressure and litigation. Given that the DEIS preferred alternative would dramatically increase logging in the MOG forests, the Forest Service is likely to, again, become a major stressor on the small bits of MOG forests remaining in the east[hellip]barring renewed public pressure and litigation, which is likely given the provided range of alternatives. Changing to an ecological approach to management of the MOG forests would be a major change in management direction for the Forest Service and is what is required to meet the objectives of the E.O. of allowing MOG forests to provide a natural solution to climate change. Not considering that as an alternative, nor utilizing the available science, in the DEIS is a clear violation of NEPA requirements. Given the recent overturning of the Chevron ruling, this should become a major issue going forward.

The preferred alternative clearly does not meet the requirements of the E.O. and will eventually result in the loss of the last remnants of old-growth in the east through a combination of increased logging of the surrounding mature forests and increasing natural disturbances in old-growth stands (which are mostly very small in the east) that will come with climate change. If there is no plan to allow mature forests to develop into old-growth, those stands that are disrupted due to natural disturbances, and subjected to increased logging, will not be allowed to recruit to old-growth status. Old-growth stands will be lost, but not replaced.

The documents provided for public comment, which purport to be in response to the E.O., fail to meet the basic requirements of NEPA by not providing a full range of alternatives for the public to comment on. The basic difference between the alternatives that are provided is the terminology used to describe increased logging and burning. A full range of alternatives must be produced. The agencies must do their job!

As for the DEIS document, it does NOT use the best or most current science, as required by NEPA. Silvicultural science and ecological science have very different objectives and purposes. The Forest Service may be proficient in silviculture. The use of terms such as "decadent" and "over mature" and "wolf tree" apply when the purpose of the management is to produce a maximum yield of board feet as efficiently as possible, but they have no place in an ecological approach to forest management. In fact, the presence of fully mature trees, with at least some reaching their maximum age, many misshapen and broken trees, downed woody debris and standing snags, is part of the definition of a MOG forest ecosystem. (Battaglia and Conner, 2018; Mladenoff and Forrester, 2018) The harvesting of a tree having reached marketable size is NOT an appropriate definition of maturity for the goals set forth in the E.O. In fact, many ecologists use the species diversity in the canopy, below the canopy, on the ground, and under the ground, as the best identification of old-growth. That diversity is not just in the tree species, or even their size variation (which is a requirement), but diversity of birds, insects, animals, fungi, lichens, mosses, etc., each of which contributes to the functioning ecosystem. Moss and lichens developing on the trunks of standing trees and fallen trees, provide habitat for a suite of insects and mycorrhiza that only exist in very old forests. (White, et al, 2018; Pelton, 1996; DellaSalla, et al, 2022) These very conditions that make the MOG forest habitat resilient reduce the market value of the trees. These conditions should be encouraged, not prevented as outlined in the preferred alternative. Silviculture is baked into the fiber of the Forest Service and therefore input from ecological scientists should have been sought.

Complex features that only exist in old-growth forests are not removed by a natural event like wind throws that can remove much of the canopy. In fact, often the understory remains intact. The trees in the understory can be very old, yet their growth has been slow, with nutritional requirements being enhanced by the connecting fungi underground. Those fungal connections, of increasing diversity, are a major part of what makes the forest soil "old." (McGee, 2018; White, et al, 2018; Lynch, 1996; Davis, et al, 1998) The disturbance event that opened the canopy releases those understory trees by creating natural gaps in the canopy. Those understory trees can now grow to eventually form a new canopy. The mosses, fungal networks, lichens, bird and animal species, the decomposers in the fallen and rotting logs, all remain, thus preserving the old-growth characteristics, even though the canopy trees may be damaged. The seed bank is also in place, and with the naturally created openings and the mineral soils exposed by the pit and mound topography, can germinate readily. The down and decaying stems even provide refugia for a wide range of species, including seedlings (McGee, 2018).

The Forest Service is notorious for changing terminology while keeping the same practices to make their management practices less offensive to the public, especially to those that do not venture into those forests to see for themselves. It is very common now to describe the purpose of a proposed timber sale as "restoration." The goal, it would seem, is to return the forests to a condition that supposedly existed at some point in the past.

But what conditions and from what time period? Restoration of what? What is the baseline that we should be returning to? This raises an important question: with climate change producing major impacts to our ecosystems that we cannot adequately predict, should we be planning for the forests of the past? Or the forests of the future? Climate change has always produced major restructuring of our forests. At the end of the last glacial period all

vegetation was removed from major portions of the continent, forcing a complete restart. Within an estimated 1000-year period those areas were recovered in forests, (Trombulak, 1996) with no intervention by humans and definitely no "management" by the Forest Service. The forest operates on a different time frame than humans. Nature knows how to adapt; it is what it does best. We must not try to capture some historic forest type in amber and work to prevent it from changing. As the old saying goes: Nature always bats last. Humility is a virtue in dealing with nature. Not interfering with these natural processes actually works best, as modern science tells us (DellaSala, et al, 2022; Hilderbrand, et al, 2005; Chapman and McEwan, 2018; Kreton, et al, 2018; Leverett, 1996; Selva, 1996; Trombulak, 1996; Keeton and Barton, 1996).

We do not fully understand the ecosystem, though ecological science is making strides. We know changes are happening, but we cannot adequately predict what changes or to what extent. It is thus fool hearted to try to manipulate the entire natural system with crude tools like logging and prescribed fire. The best strategy is to promote as much biological diversity as possible (and not just the trees!) to allow for as great a range of adaptations as possible. Active, but light, management would be appropriate to facilitate the full ecosystem's natural adaptations. What that management should be will vary forest by forest, and should be guided by ecological science, not silviculture. The proposed alternatives in the DEIS are a one-size-fits-all approach, attempting to apply strategies from the western forests to the eastern forests. Utilizing ecological science and what inventories of MOG in the east do exist, done by independent, not agency, researchers would have avoided this.

Certain species will be more resilient to the coming changes, and they should be allowed to flourish. Certain combinations of species will be more beneficial to the continued health of the forests, but we cannot predict which combinations in which places. What we should not do, which is what the preferred alternative would do, is try to preserve the forest types we have preferred in the past, especially when those preferences were usually based on commercial value.

The documents also attempt to justify logging in the old-growth remnants based on carbon storage. The claim was made that old trees store more carbon than younger trees, but younger trees absorb carbon faster. Thus, removing the old trees allows the younger trees to grow faster, which would absorb more net carbon. This is just wrong. Modern science tells us that trees not only store more carbon as they age, but that the rate of carbon absorption actually increases. (DellaSala, et al, 2022; NASA, 2022; Stephenson, et al, 2014) The prejudice against older trees is clearly based on the silvicultural principle of the age at which the rate of increase in DBH slows, thus indicating the tree has reached marketable maturity and should be removed to continue the economic gains (Lynch, 1996; DellaSala, et al, 2022). Failure to use the best science is a violation of the most basic requirements of NEPA regs. Again, this is a failure to transition from a silviculture approach to an ecological approach, and does not meet the requirements of the E.O.

It is claimed that the carbon remains sequestered if the tree is harvested and converted into wood products and lost if it is allowed to remain in the forest. This is also just not supported by science (DellaSala, et al, 2022; Fanous and Moomaw, 2018). Carbon is put into the atmosphere by the mere act of cutting and removing the trees, while only minimal amounts remain sequestered in the products produced from that wood (Nunery and Keeton, 2010). Only a small fraction of the timber harvested is converted into durable furniture, and the hardwood forests of the east are not turned into dimensional lumber for construction. Most of the timber recently harvested in the Shawnee forest was converted into livestock bedding. When a tree falls and is left to decompose on the forest floor, little of the stored carbon is lost. A downed log does not decompose on its own. That happens due to the action of fungi, and a host of other decomposers, which move the captured carbon into the ground where it is stored long term and becomes available as nutrients for seedlings and the herbaceous layer of vegetation (Prescott, 2024). What is lost to the atmosphere is released very slowly, over decades or even centuries.

Also, when trees are allowed to age naturally they will eventually succumb to senescence, or wind will topple them, by which pit and mound topography is created. This is an essential feature of a mature forest (Fahey,

2018; Davis, 1996). It creates micro habitats producing a greater variety of species diversity. The pits help retain moisture in the forest. The decaying logs form biological refugia for numerous species, including new seedlings from the extant seedbank. Logging does not produce the essential pit and mound topography but destroys what is there as heavy equipment operates to compact the loose forest soil and diminishes species diversity, above and below ground.

The inventory and analysis document describes most of the eastern forest as oak/hickory. This, also, is just not true. E. Lucy Braun's (1950) seminal work classifying the forest types in the east is still considered the essential work in eastern forest ecology. It was updated by Jim Dyer (2006), but is still regarded as the authoritative source on eastern forests. The oak/hickory forest is located on the western edge of the eastern forest, in the Ozark region. The forests to the east, with the exception of the pine savannahs along the coasts, are mostly varieties of mesophytic and mixed mesophytic. As the analysis admits, the oak/hickory forests are more open and drier and will become even dryer as climate change continues. This will make them far more prone to wildfire. The only time mesophytic forests are mentioned in the document (as if the Appalachian, Adirondack, Allegheny, Mississippian Plateau, etc., forests don't exist!!) is to discuss the ongoing mesophication of the eastern forests as a problem that needs to be solved by logging and burning to convert them to oak/hickory. This is an inexcusable management direction.

The mesophytic forests are becoming more moist as they develop full canopies, pit and mound topography, and deepening layers of duff and decomposing woody debris. This makes them cooler and far more resistant to fire. The eastern forests seldom burn, and when they do the fires are relatively small and less intense. The rate of fire return on any particular mesophytic forest is very long. (D'Amato, et al, 2018; Selva, 1996; Runkle, 1996; Matlack, 2013) The exceptions are those portions that have been logged in order to "open them up." The temperatures are increasing rapidly in the west, but the region with the most mesophytic forests has escaped the worst of this warming (Barnes, et al, 2004). Also, the diversity of tree species in the eastern forests absorbs more carbon than the western forests, or even the oak-hickory forest. Thus, rather than mesophication being the threat the analysis claims it is, mesophication is the solution we should be promoting. Once again, the best science was not used. The preferred alternative seems to clearly be based on the higher commercial value of oaks and hickories. This is, again, the application of silviculture assumptions when ecological science should have been used, and a failure to use the best science available.

So, to summarize so far, the eastern mesophytic forests are more biologically diverse, which gives them more pathways to adapt to a changing climate (ecological filtering). They temper the warming effects of climate change for the entire region. They are becoming more moist due to their enhanced growth, which is an indication of their efficiency at carbon absorption, which increases as they age and grow larger. They are far less prone to wildfires of any significant scale. This is the region (roughly Regions 8 and 9) that the Forest Service has so little information on that it did not bother to do an analysis of the MOG in the east. This is the portion of the continent in which the Forest Service did not even acknowledge the existence of the most prominent forest type (mesophytic), and, instead of treating it as the best tool for a natural solution for climate mitigation, proposes to convert it to a more open and thus much dryer, more fire prone forest with less species diversity. This is beyond not using the best available science. This is beyond using common sense!

Ecological stability and resilience requires biological diversity, and not just of the trees. MOG forests have more of that than a "production" forest. Natural disturbances enhance structural diversity of the forest, which is a benefit for enhanced species diversity. The old-growth characteristics can be retained even when a particular stand of trees is reverted to an earlier seral stage by natural disturbance. (White and White, 1996; Dunwiddie et al, 1996; Frelich and Reich, 1996; Keeton, et al, 2018) The forest remains old, even if the majority of the trees are not. The "desired condition" of most Forest Service projects is to reduce species diversity by removing less commercially valuable trees, thus reducing overall species diversity. Old-growth consists of misshapen and broken trees, which produce more habitat options for the diverse species. Logging removes these. "Best practices" in forest plans stipulate how many snags per acre are to be left, but this is an artificial standard and

inadequate for natural MOG conditions.

There are no protections for MOG forests or pathways to expand them in the alternatives that are provided, just ways to increase extractive management. The option of declaring MOG forests as inappropriate for timber harvest was not provided in the alternatives. The range of alternatives provided is woefully inadequate. Tweaking terminology is not the same as providing alternatives! One obvious administrative tool would be to designate MOG forests as Natural Research Areas, which would be appropriate considering their vital role in our changing climate, and our need to better understand the ecology and natural processes of these small remnants as climate change progresses. This should have been an alternative for consideration by the public.

There is no pathway provided, or even discussed, in the alternatives to recruit more old-growth forests by allowing the surrounding mature forests to move through their successional stages. This progression will be directed more by the changing climate than by any management tool the Forest Service can offer. Every old-growth stand should be surrounded by a protected buffer zone of mature forest. This not only provides protection from wind and even fire events, but also provides a pathway to recruit more old-growth over time. It would allow the invaluable pit and mound topography, age, size and structural diversity to gradually extend into the mature buffer zone. It would dramatically increase the refugia for the full range of species. It would also meet the direction of Section 4 of the E.O. to provide "natural solutions" to the climate crisis. There is nothing natural about logging, especially selective logging which would select which species humans would prefer for economic reasons, vs. what nature would select.

Without the buffer zone of mature forests, especially in the east where the old-growth stands tend to be small and widely dispersed, a single disturbance, be it wind or fire, could result in the loss of an entire stand of rare old-growth. (Tyrrell, 1996; Zahner, 1996) The "preferred alternative" will result in the loss of old-growth over time. It is the Forest Service/timber industry's obsession with early successional forests (straight, high dollar trees) that has produced what is now euphemistically called "habitat restoration." It is this practice that removed all but the last remnants of old-growth in the east and continues to leave them at risk. It is no accident that these rare remnants from the primeval forests, or older second growth forests are, almost entirely, either inaccessible or non-marketable. Others are in the form of "cryptic old-growth" where the trees are on high ridges, infertile soils, or for other reasons have remained of small size, while actually being very old. Mary Byrd Davis, and others, (Davis and Davis, 1996) have produced a substantial inventory of these remnant stands in the east and provided guidance on how to locate more. By not utilizing these studies the DEIS does not use the best available science, as required by NEPA.

Natural disturbances are stochastic, and thus unpredictable, even though we can statistically model their effects after the fact. It is well known that natural disturbances produce MOG structure, including canopy openings, woody debris on the forest floor, standing snags, and a variation in seral stages across the forest. All this increases habitat and thus species diversity (not just trees). Even aged stands can be established by natural disturbances, but they will self-thin over time and reestablish stand diversity as the forest ages and the more resilient species (which will change as climate changes) reproduce. This is the means by which a forest ecosystem is a complex and shifting mosaic across the entire forest. MOG is not uniform in age or size or suite of species, and definitely not static. MOG forest conditions are ephemeral, and this must be taken into account. The DEIS does not do this.

The common thread in all of the alternatives (which happen to amplify existing Forest Service management trends) is to artificially replicate these natural disturbances by logging and burning. This, it is claimed, will provide a short cut to MOG forest. This does not take into account that the natural disturbances will not only continue but will increase with climate change. The attempt to artificially produce disturbances, no matter how much it placates human hubris, will not prevent the increase of natural disturbances. The result will be to increase the disruption of natural processes and make the ecological conditions worse. Again, we should plan for the future forest, not the past forest. A clear guiding principle should be to do no harm. Protect, but do not make the

situation worse.

There is no recognition at all of the incredible variability of forest types in Regions 8 and 9. Instead, a one size fits all approach, which is the model currently driving Forest Service decisions, is proposed. No wonder no modification of current planning direction is proposed! Instead, there should be a moratorium on all logging, especially in the east, until a legitimate inventory and analysis can be provided. Then, adequate planning, forest by forest, can begin. This should have been included in a full range of alternatives, but it was not. This violates both the E.O. and NEPA.

All mature AND old-growth should be protected to the USGS GAP 1 and 2 standards. This was addressed in NASA's response to the E.O., (NASA, 2022) but not addressed at all in the documents the public was provided in response to the E.O., nor was the directive to meet the 30x30 goals. In order to do this, redesignation of MOG forests as Natural Research Areas would go a long way.

Stand size qualifications would have to be considered, and these would be very different in the east than in the west. Smaller stands should be acknowledged and provided with mature buffer zones, and connectivity between these larger forest landscapes should be a goal when possible. The old-growth should be allowed to naturally extend into the buffer zones. Time is an unavoidable variable in this, but that should not be considered a disqualifying factor for expansion of old-growth. The preferred alternative is based on a rather arrogant assumption that the Forest Service can impose shortcuts on natural processes. These attempts have been on-going for some time and there is no evidence of any success.

This approach to providing a pathway for the expansion of old-growth would improve stream health, water quality, insect diversity, bird and animal diversity, mycorrhizal diversity, lichen diversity, increases in mosses, etc. All these are much greater in old-growth forest as compared to a managed forest. (Davis, et al, 1996; DellaSala, et al, 2022) Logging reduces all of these. The need to preserve as much diversity as possible in preparation for an unpredictably changing climate should make this a priority, but it was not included as an alternative. It's not just the trees. Not seeing the forest for the trees is an old clich[eacute], but it accurately describes Forest Service directives.

A most revealing element in the threat analysis document is the claim that one of biggest challenges facing the Forest Service is the lack of sawmills. In a recent salvage sale in Land Between the Lakes National Recreation Area, huge piles of logs remained piled on the landings for months. The reason: the local market was saturated to the point that the loggers could not sell them for a profit, and they were waiting for the glut to pass through the local economy and demand for the timber to return. The problem was not a lack of mill capacity, but a lack of demand.

The impact this had on private landowners with woodlots should be taken into account. Should a federal agency harm the local private economy by trying to make money for itself? Of course, the taxpayers lose money on every timber sale, even if the agency benefits. Not considering the impact on private woodlot owners is irresponsible. Given that over 90% of domestically produced forest products come from private lands (USDA Forest Service), this is a major factor. Reducing the harvest from publicly owned forests would not significantly reduce the lumber supply, but would enhance the value of privately owned forests, thus stimulating local economies, as directed by the E.O.

The narrow range of alternatives include the proposal to offset this lack of sawmills by encouraging an increase in biomass wood pellet production. There was no alternative which disallowed this, which is a violation of NEPA. This does prove, despite claims to the contrary, that the Forest Service is driven by money. It would be cheaper to allow the forests to recover on their own than for the Forest Service to log them. Nature works for free, though it doesn't always follow our economic priorities.

Wood pellet production should be excluded from any consideration, which would have been an alternative if NEPA had been followed. This also indicates another failure to use the best science. It is now well known that biofuels, including wood pellets, produce more harmful pollutants, including carbon, than burning coal. (Fanous and Moomaw, 2018) This is hardly a solution to climate change. It is also well documented that preserving the carbon in wood products is a false solution. But, leaving windthrown logs and burned forest trees on the ground allows fungi and other decomposers to move the carbon into the soil, where it is stored long term and becomes nutrients and refugia for species recovery. Even charred trees still retain most of their stored carbon. (NASA, 2022; Hanson, 2021) The decomposing logs hold moisture, making the forest more resistant to fire while promoting growth. Throughout the threat analysis and DEIS it is recognized that downed woody debris is a defining feature of MOG forests and is necessary for increasing species diversity and resilience. But that same downed woody debris is also described as "fuel load" and used as a justification for salvage logging and burning. Fuel load conditions are very different in the west than in the east. This inconsistency is not random, it merely indicates the preferred management direction away from nuanced ecology and towards silviculture. This is counter to the fact that wildfires are more frequent and of higher severity when the forest has been thinned and prescribe fire used. (Hanson, 2021; DellaSala, et al, 2022)

The Wildland Urban Interface (WUI) is rightly listed as a threat that needs to be addressed. There is a token mention of the distinction between the threat in the west and the east, but this should have been more thoroughly addressed. It should also be acknowledged that the worst fires happen in areas that have been thinned and subjected to salvage logging. Rather than continuing to throw millions of taxpayer dollars into methods that clearly have not produced the desired results, that money should be invested in hardening structures in the WUI to make them more resistant to fire. Dollar for dollar, this is a much more effective approach and more likely to yield the desired results (FEMA, 2022). It also removes the excuse for logging and burning in the backcountry. It is also beneficial to the communities, especially as compared to the social and economic harm done by pellet mills. This was not included among the alternatives for the public to consider, in violation of NEPA.

Based on the above observations, it is my conclusion that:

1) There should be a moratorium on all logging projects, many of which are clearly targeting MOG forests at this moment, until a proper inventory and analysis for the eastern forests can be completed.

2) The DEIS should be withdrawn and a new one prepared based on input from ecological scientists independent of the Forest Service.

3) A full range of alternatives should be provided to the public, based on ecological science and the goal of allowing MOG forests to most effectively provide a natural solution to climate change.

The existing DEIS is a failure and must be withdrawn until it can be done properly, and a full range of alternatives provided for public comment.

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ATTACHMENT: MOG Comments.docx - this is the same content that is coded in text box; it was also included as an attachment