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Comments: Re: Request for information (RFI) on Federal Old-Growth and Mature Forests EO 14072

Thank you for taking the next steps to advance President Biden's Executive Order on Strengthening the Nation's Forests, Communities, and Local Economies. As you know, protecting our remaining mature and old-growth forests and trees on federal lands represents one of the simplest and most cost-effective climate policies the U.S. can deploy at scale. Time is running short: the climate and biodiversity crises are worsening exponentially. It is critical that you fulfill the President's directive to provide lasting protections for these forests.

#### Climate change trends

As a forest ecologist trained in climate science and fire science, I have held a growing concern for the climate and environmental crisis we are facing as a nation and a planet. During my graduate school years, 1990-1996, atmospheric science had already established the reality of trends towards high atmospheric carbon, global warming, a growing deficiency in the stratospheric ozone layer, worldwide acid rain, life-threatening atmospheric pollution, and more. We had already recognized positive feedback loops that had the potential to steadily accelerate this change. 1991, 1992 and 1993 were each the warmest year on record to date. 30 years later, we are seeing the dramatic effects of climate change on all life.

Many members of the public have been misled to believe that extreme winter cold and extreme floods are counterexamples to climate change trends. However, all climate models developed in the 90s and since have predicted greater extremes of weather in all directions, including as well as an overall trend toward a warmer and drier global climate.

If global change was not recognized as an emergency in the 90s, it is imperative that we recognize the greater emergency now.

#### Need for forest conservation

It was also known, in the 90s and before, that one of the best hopes for mitigating the growing global changes in climate and atmospheric chemistry, was conservation of forests and other mature ecosystems. Afforestation (tree planting) on currently non-forested lands does have the potential to sequester more carbon as young trees grow, but meanwhile, the largest stores of carbon are in the tissues of large trees, including dead and downed trees found in mature and old-growth forests.

We must immediately stop allowing these mature forests to be cut for the short-sighted goal of cheap lumber. Rural economies that include timber also rely on forests for drinking water, clean air and the tourist dollars stemming from recreational values. Protecting mature forests and trees today will provide the foundation to recover old-growth ecosystems which have largely been lost to logging across the landscape.

President Biden's Earth Day Executive Order rightly recognized the critical role mature and old-growth forests play as a climate solution, and the urgent need to confront the threats forests face. If continued logging of these trees is allowed, the very values that let them play a vital role will be eliminated. Losing more of our mature & old-growth trees and forests to logging will only make the climate crisis worse: Scientific research indicates that logging of federal forests is a major source of carbon dioxide emissions to the atmosphere that is at least comparable to, and probably greater than, levels associated with wildfires.

These older forests and big trees collectively contain the bulk of the carbon already stored in federal forests and they continue to sequester carbon at high rates far into the future. They also provide, across forest types, vital habitat and biodiversity benefits, and important sources of drinking water for communities.

The threat of logging to mature and old-growth federal forests is urgent, and it is entirely within agencies' power to address this threat.

#### Wildfire mitigation

A recent USDA Secretarial Memorandum stated that "A primary threat to old-growth stands on national forests is no longer timber harvesting, but rather catastrophic wildfire and other disturbances resulting from the combination of climate change and past fire exclusion." This statement represents an alarming and inaccurate assessment of threats to mature and old-growth forests.

I regularly review the project proposals released by Forest Service Region 6, and have personally surveyed hundreds of acres of project areas of Mt. Hood, Santiam, and Malheur National Forests. I have noted that the projects are often called "restoration" or "fuels reduction" rather than simply "timber sales". The narrative of "fuels reduction" is incorrect.

It is well established in the fire science literature that mature and old growth forests are more fire-resistant than recently logged forests. Stands of mature trees treated via variable-density thinning are, in the short term, sunnier, dryer and thus more fire-prone than the same stands prior to treatment. Post-treatment soils are compacted and exposed, leading to drying of duff layers. Slash and brush piles are extremely fire prone. Several years post-thinning, these stands typically grow up in dense thickets of seedlings and brush, both of which burn much more readily than a mature tree, living or dead. Fire mapping of the Riverside Fire, which burned the Clackamas Ranger District of Mt. Hood National Forest, showed clearly that recently-logged stands burned with statistically greater intensity than stands that had not been logged in recent history.

It is also common sense for anyone who has ever started a fire; a handful of twigs burns much more readily than a log. So it is alarming to read project proposals that target mature and old-growth trees, and state desired outcomes in terms of biomass, implying incorrectly that a ten-ton living Douglas-fir that has already survived many fires, is a greater fire hazard than a two pound pile of dry brush.

#### Definitions and criteria.

For the purpose of protecting these climate-critical trees and forests from logging, "mature" should be defined as 80 years and older. By setting logging limits using this definition, federal agencies will establish a safety net that assures minimum protection of the ecological and carbon benefits these older forest elements provide for future generations.

The rule can be readily structured to support ecologically appropriate risk reduction of uncharacteristic wildfire, such as hand-thinning of small trees and brush, and removal of ladder fuels where needed.

These protections must extend to all mature stands as well as those defined as old growth. Mature forests have much of the character of old growth that both sequesters carbon and also imparts fire resistance: deep, spongy forest duff and downed logs that hold moisture and foster the growth of young trees and diverse understory species; snags that provide habitat and food for wildlife such as black bears and Northern spotted owl; trees that resist fire with thick bark and moisture-rich tissues; and other old-growth characteristics.

Furthermore, it is critical that the definition of old growth forest refrain from using language such as "pristine" that may suggest that those forests had not previously been subject to human management. Most if not all of the

lands currently managed by USDA and Interior have been managed by indigenous people for tens of millennia, prior to European colonization. Defining old growth as "pristine" or "wilderness" would exclude all of those lands from federal protection, and more importantly erases the history of indigenous sovereignty.

#### Survey data and the scientific record

Lands managed by USDA and Interior have already been extensively surveyed by federal staff, university-affiliated researchers, and the nonprofit sector. Where the age of a stand is unknown, the best available on-the-ground data collected from these sources should be used to define the maturity and old-growth character. (Remote sensing data should also be used where applicable.) Furthermore, stands that have not been surveyed should be protected until those data are collected. Due to the funding limitations of USDA and Interior staff, data may not always be available from agency work. Therefore, these assessments must make use of data from the nonprofit sector and citizen scientist volunteers.

In Oregon, abundant survey data have been collected and evaluations made by volunteers working with and trained by Bark, Cascadia Wildlands, Blue Mountains Biodiversity Project, Northwest Ecosystem Survey Team, and other organizations. These data have proved invaluable to the mitigation of ecosystem damage by commercial logging in our public lands. I have surveyed hundreds of acres of proposed timber sales in collaboration with three of these organizations, and have frequently found the character of stands I surveyed to be dramatically different from that postulated by the scoping letters for these projects. In some cases the scoping letter identified a stand as a young plantation, but I observed on the ground that the stand was a mature or old growth forest. This demonstrates the importance of the on-the-ground survey for stand character assessment.

#### Urgency of action

As one of the largest drivers of climate change worldwide, the US government must step forward to limit our contribution to atmospheric carbon levels. This is an opportunity for the US to be a leader in climate protection, rather than climate damage. These protections must be made through binding regulations that will endure in future administrations, much as the Clinton-era Roadless Rule has done. Time is of the essence. Our forests are disappearing faster than ever, and the positive feedback loop of warming to fire to logging to more warming is accelerating the process.

Public engagement and environmental review are essential investments of time for the rule-making process. Therefore it is critical for federal agencies to initiate that process as soon as possible.

In summary, I urge USDA and US Department of Interior to immediately initiate a rulemaking based on a definition of mature forests and trees as 80 years and older, and to end logging of all forests and trees meeting this definition.

Sincerely,

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