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Comments on Request for information (RFI) on Federal Old-growth and Mature Forests EO 14072  
Submitted by Catherine Thomasson, MD, Chair- Environmental Caucus of the Democratic Party of Oregon.

Comment summary:

- \* Support for a national Rulemaking to create a definition of Mature and Old Growth forests that begins with a simple definition for trees 80 or more years of age.
- \* Develop a rulemaking to prohibit clearcutting and other significant logging in areas of Mature and Old Growth forests for immediate reduction in carbon emissions.
- \* Incorporate rulemaking and adherence of Executive Order 14072 to relevant to US commitments to international climate agreements and forest pledges.

While the Executive Order 14072 asks to identify forests at risk, inventories have already been developed by private researchers using high-resolution mapping along with Forest Inventory Analysis (FIA). The definition of Mature and Old Growth Areas can be simplified overall to an 80-year age with additional factors of emerging old growth characteristics added for specific forests.

There should be a national rulemaking proposed alongside the inventory to fully protect all federal Mature and Old Growth forests (MOG). The federal MOG inventory needs to fully recognize widespread logging as both the major cause of the severe lack of old-growth forests and the ongoing depletion of old-growth forest. Acknowledgment of the impact of logging is completely missing from the EO and the subsequent Secretarial memo. The loss of old-growth forests and large trees, in turn, is contributing to the global and biodiversity crises that the president called out in his Executive Order.

We request that you set the reference standard for mature forests/trees to those over 80 years nationwide. Forests at this age begin to exhibit a subset of old growth characteristics necessary to begin the recovery of depleted old-growth forests. The focus on protecting mature forests at this general age when old growth features emerge, results in the best protection of current carbon stocks, the rebuilding of biodiversity, and improved quality and quantity of drinking water sources.

The following are key issues noted in the RFI and the main reasons why Mature and Old Growth protections from logging are urgently needed.

1. Neither Biden's EO 14072 nor USDA's memo acknowledges that logging is the greatest and primary source of loss of Mature and Old Growth areas which is the greatest loss of carbon stores. Logging decreases carbon stores not only from loss of ongoing sequestration from trees, but with clearcutting, loss of soils (which hold 40-50% of carbon in a forest), burning of slash which is over 50% of the mature tree, loss of biomass from milling, and other carbon emissions from logging and milling activities.

2. Request that Mature and Old Growth and large trees be protected from any logging especially clear-cut logging, immediately and not wait for inventories to be completed as protecting MOG from logging is the single best climate solution supported by IPCC's Special Report on Land 2019.

3. We request that the Biden administration make a statement prior to the COP27 on how the MOG inventory process and a national rulemaking process to protect Mature and Old Growth from logging is a natural climate solution that will also achieve 30% protection by 2030 (Exec. Order 14008). We request that the Mature and Old Growth assessment and national rulemaking build on UNFCCC (2019) with the US Department of Agriculture and Department of the Interior promoting enforceable actions that directly addresses the accelerating climate and biodiversity crises contributed by logging and related land uses.

4. Protecting the large mature and old growth areas is a much bigger priority especially compared to any ongoing storage of carbon in longer-lived wood products, hence net sequestration is not a concept that should be used for evaluation. The percentage (often <10%) of carbon in wood products compared to the vast quantity lost from logging large trees is less likely to remain long term compared to standing timber in a forest. Large trees also continue to sequester carbon for centuries. What matters most in a climate emergency is avoiding gross emissions, not net sequestration (Mackey et al. 2013, Law et al. 2018, Moomaw et al. 2019).

5. Less than 12% of all Mature and Old Growth have strict protections which is much less than the 30 x 30 target.

6. Implement a climate smart strategy that allows mature forests and large trees to continue to grow naturally. This must exclude any form of logging including thinning, fuels reduction and post disturbance logging that should be recognized as degrading Mature and Old Growth areas.

7. We request referencing of the policies to international forest-climate policies and how this current process will contribute to them such as protecting carbon sinks and reservoirs in the Paris Climate Agreement-Article 5.1 and Article 21 of the Glasgow Climate Pact.

8. Emphasis is needed to recognize that clearcutting increases loss from fire especially catastrophic fire due to loss of canopy, drying of understory and exponential growth of exposed understory. In addition, drying and rapid decay of downed wood results in more carbon release into the atmosphere rather than into soils.

9. The entire Mature and Old Growth assessment should be undertaken with an explicit needs statement regarding its protection as the most effective natural climate solution and that logging, especially clearcutting, is the greatest threat to not only carbon storage but loss of biodiversity and water quality and quantity. These results are even more important as the climate crisis worsens drought and ecosystem biodiversity. Older, larger trees and their mycorrhizae are the most important for water balance and soil water storage and retention. They are best able to limit water loss during drought and provide more canopy cover to avoid rapid snowmelt and understory and soil drying. Younger trees, especially those less than 10-20-year-old, take up much more water for growth with less carbon sequestration overall and reduce summer stream flows which is a hardship for downstream communities and ecosystems. Yet another reason to avoid clearcutting. (Perry and Jones 2016, Crampe et al. 2021). Mature and old growth forests also increase in-stream woody debris, improving habitat and lowering stream speed. They also improve zones of fog drip in select forest types adding to prolonged higher levels of summer stream flows.

Developing a definition for primary criterion for protection

e.g. How can a definition reflect changes based on disturbance and variation in forest type and composition, climate site productivity and geographic region and be durable over time?

There is much literature to support a primary criterion of 80-year-old trees as the starting point for protection. Additional features of old growth are beginning to emerge in stands of this age including standing dead and downed trees, increased mycorrhizae-supported root systems, canopy and understory complexity and large storage of carbon. Specifics will vary by forest type but in general are the same for all forests. Setting this 80-year standard will maximize the carbon stores in the forests identified which is the primary goal for addressing climate

change. After 80 years the rate of carbon uptake and storage increase dramatically. (Mildrexler et al. 2021, Law et al. 2022). In addition, forests greater than 80 years become more fire resistant due to loss of lower branches, reducing crown fires, and thicker bark.

The Tongass and Chugach national forests hold the largest old-growth and mature trees and from a climate standpoint for storage and ongoing sequestration therefore should be specifically protected. However, all areas of the country have Mature and old growth patches that are already inventoried and other forests have been evaluated in private research inventories published and soon to be published. Over 80% of the carbon in a forest is emitted to the atmosphere and winds up in a landfill within a century of logging (Hudiburg et al. 2019)

Beginning with a definition that references 80-year-old trees as mature is a baseline that can be easily mapped with high-resolution mapping and from Forest Inventory Analysis plots. This strategy is simpler and more difficult to overturn with changing administrations. The definition should be applied to both Executive Orders 14008 Forest and natural lands protections of 30% by 2030 and Executive Order 14072, Creating the Groundwork for Protecting at-risk Mature and Old Growth forests for policy stability.

Other protections and recommendations

Developing protections of Mature and Old Growth's post-disturbance will protect their future status and biodiversity in the face of climatic stressors. Land use disturbances including roads, logging, post-fire logging, mining and grazing are cumulative threats and should be avoided completely in these areas.

This will increase the focus on retaining and enhancing carbon storage which in turn reduces the impacts of climate threats of wildfire, loss of biodiversity and provides more recreational opportunities and water protections.

In some former plantation areas where thinning may be called for, targeting only small trees should be the rule and not any remaining larger, fire-resistant trees. Restoration of the 21-inch diameter rule in eastern Oregon and Washington should also be reflected in this rule as they have the highest carbon stores and are needed to restore old growth characteristics. Clearcutting was never the rule in dryer eastside forests and should not be undertaken under any rule nor in the short-term.

Restore natural characteristics and protections also should include removing some roads, upgrading culverts, re-introducing beavers or other ecosystem architects, removing livestock grazing especially from streams and wetlands, and increasing landscape connectivity and floodplain protections.

Halt all biofuel projects from national forests as they are a major driver of logging and overall forest conversion and carbon loss and cannot compete with other means of energy production.

Largescale and landscape fuels reduction is extremely harmful to carbon stores and degrades forests with increasing wildfire severity scores. Focus fuel reduction efforts in the wild-urban interface or critical watersheds while maintain canopy coverage. In a larger scale effort logging of the largest trees are often undertaken to finance the projects.

Thank you for the opportunity to comment on Federal Old-growth and Mature Forests EO 14072.

Respectfully submitted,  
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