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Comments: I enthusiastically applaud the Biden Administration's actions to conserve old growth forests through the proposed land management plan implemented by the USDA Forest Service.

The United States must summon the political will to protect and strengthen the health of our nation's old-growth forests. Old-growth forests are extremely important because they provide many valuable functions that benefit Nature and humans alike. They act as carbon sinks, trapping excess CO₂ in the ground that would otherwise accumulate in our atmosphere, exacerbating climate change. Nutrients available in old-growth forests provide fertility to the soil, while the density of plants and trees create microclimates that produce invaluable habitat for many wildlife species that are jeopardized by the calamitous effects of climate change. Old-growth forests ultimately protect and nurture biodiversity.

According to the National Commission on Science for Sustainable Forestry, Old-growth forests "play an important role in global climate change by absorbing atmospheric carbon dioxide and sequestering, or storing, carbon. Older forests contain large quantities of organic matter in living and dead trees, other vegetation, and soils and are thus larger reservoirs of sequestered carbon than younger forests. This is an ecological service that is a special attribute of older forests. *

Older forests improve soil quality. As they decay, fallen trees slowly release nutrients that continually enrich soils, allowing them to support more diverse ecological communities. Some large, dead trees fall into streams, creating pools and cascades that provide favorable habitats for many aquatic plant and animal species. These logs also release nutrients into the water, help keep the stream water clean by capturing debris, and reduce the impacts of floods. Water that runs off from older forests is of high quality and is valuable for wildlife and human consumption." *

Rapidly rising temperatures brought about by climate change are threatening the survival of thousands of wildlife species, ultimately weakening ecosystems and diminishing the biota on earth. Old-growth forests create microclimates which help these endangered species to survive. "When compared to second-growth plantation forests, old-growth forests with their denser and more complex biomass and higher canopies have been found to provide cooler microclimates,"#

In one study done in Oregon, USA, the difference between temperatures taken from comparable first growth and second growth sites was as much as 2.5 degrees C. Old-growth forests then become an important refuge site for a multitude of species which are particularly sensitive to rises in temperature and allow them the time to adapt. #

It is imperative that the U.S. federal government commit to ensuring the robust stewardship of our nation's old-growth forests. Now and indefinitely. Please follow through with the Forest Service proposal to amend all

management plans for units of the National Forest System with the intent to foster the long-term resilience of old-growth forest conditions and their contributions to ecological integrity across the National Forest System.

I leave you with this quote :

"Older forests are an important part of the 'evo-lutionary anvil' upon which biodiversity is hammered out by natural selection. If we drive species to extinction through our artificial, often unwitting human-imposed selection processes, we will be harming the biological potential of the land far more than by the removal of individual species. We will be striking a devastating blow to the well-spring of our biological and social future." *

ATTACHMENT: pub4524.pdf * From BEYOND OLD GROWTH : Older Forests in a Changing World. A Synthesis of findings from five regional workshops, -Sponsored by the National Commission on Science for Sustainable Forestry

ATTACHMENT: 10311_2021_Article_1372.pdf # From : National Library of Medicine article : Old Growth Forests and Large Old Trees As Critical Organisms Connecting Ecosystems and Human Health. A review.

Frey SJK, Hadley AS, Johnson SL, et al. Spatial models reveal the microclimatic buffering capacity of old-growth forests. Sci Adv. 2016 doi: 10.1126/sciadv.1501392. [PMC free article] [PubMed] [CrossRef] [Google Scholar]

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