To: Eric Werwa, Deputy Assistant Secretary, DOI
Eve Barnett, Policy and Intergovernmental Affairs Analyst, DOI

Cc: Randy Moore, Forest Service Chief, USFS
Meryl Harrell, Deputy Under Secretary for Natural Resources and Environment, USFS
Chris French, Deputy Chief for National Forest Systems, USFS
Tracy Stone Manning, Director, BLM
Laura Daniel-Davis, Principal Deputy Assistant Secretary, BLM
Nada Culver, Deputy Director, Policy and Programs, BLM
Stephenne Harding, Senior Director for Lands, CEQ
Radha Adhar, Director of Legislative Affairs, CEQ

Re: American Conservation and Stewardship Atlas, Docket DOI-2021-0016
Date: March 7th, 2022

Dear Mr. Werwa and Ms. Barnett,

The undersigned organizations respectfully request that the Department of the Interior and Department of Agriculture safeguard mature and old-growth trees and forests across federal lands. To this end, our organizations are calling on the Administration to promulgate a strong and durable rule to protect mature and old-growth trees and forests from logging across federal public lands administered by the Bureau of Land Management and the Forest Service as a cornerstone of US climate policy. We also underscore the importance of linking national policy to international climate commitments that "emphasizes the importance of protecting, conserving and restoring nature and ecosystems."[1] A rulemaking to secure these forest protections would advance the goals of the 30x30 initiative and take a profound step toward addressing the most important environmental challenges of our time. Along with identifying areas that are already permanently protected, the conservation and stewardship Atlas should include information highlighting the urgent importance of conserving mature and old-growth trees and forests from logging and prioritizing the recovery of old-growth forests that have been lost on federal lands.

As outlined below, protecting these critical forest elements is a low-cost, scientifically proven, rapidly deployable strategy for both climate change mitigation and adaptation.

Older forests/trees as natural climate solutions — Older trees and forests make essential contributions to mitigating climate change as natural climate solutions.[2] They store vast amounts of carbon accumulated over decades to centuries and are continuously sequestering additional carbon as they grow and age.

The annual rate of carbon sequestration generally increases as trees get older and larger,[3] and older trees in general store a disproportionate amount of a forest's above-ground carbon.[4] Cutting down older trees and forest stands emits a substantial amount of that carbon back into the atmosphere even when storage in wood products is taken into account.[5] Tree planting following logging is not an adequate substitution measure for older forests as it can take at least a century to make up the carbon lost in logging old trees.[6]

In sum, there is no comparison between the carbon value of bigger trees versus much smaller saplings.[7] In the Northeast US, for example, protected forests that have been allowed to age without human disturbance cover just 5 percent of the region's land area but store 30 percent of the total aboveground forest carbon.[8] In temperate rainforests of the Pacific Northwest, older forests can have higher biomass carbon density per acre than both boreal and tropical forests.[9] The majority of the most carbon-dense forests in this region are on federal lands and have benefited from reduced logging levels.[10]

Older forests/trees and climate adaptation — Mature and old-growth trees and forests support adaptation to the impacts of climate change that ecosystems and people across the country are already experiencing. For instance, older forests maintain water balance in forested watersheds,[11] which helps reduce the impacts of flooding and drought.[12] They also produce the highest outputs of ecosystem services like clean drinking water[13] and provide climate refugia for diverse fish and wildlife.[14]

Many tree species also tend to become naturally more resistant to fire as they mature — they develop thick fire-resistant bark, maintain high canopies that help maintain a cool, moist understory, and hold their most flammable biomass high above the ground and out of reach of surface fires.[15] While land management agencies should adhere to the best available science for mitigating the future risk of wildfire to communities, conserving mature and old-growth trees and forests is not in conflict with these objectives.

Older forests/trees and biodiversity benefits - Across all forest types and regions, older trees and forests provide vital habitat for many plants and wildlife, particularly imperiled species. For example, the availability of dead, dying, and downed wood (increasingly removed from forests for biofuels, mass timber, or other uses of so-called "low-grade wood") is critical for the viability of many species, from insectivorous bats that help to keep insect pests in check to pine marten to a wide range of beneficial invertebrates.[16] Many of the nation's most imperiled bird species are adapted to older forests and rely upon complex forest structure for their survival, including snags and large living trees.[17] In general, the biodiversity found in older forests tends to be far higher compared to logged forests across the country.

Older forests/trees and environmental justice benefits: Forests purify the air we breathe, filter the water we drink, and support the salmon and other wildlife that are intrinsic to our nation's identity. Protecting and recovering mature and old growth forests across federal lands in the U.S. offers numerous environmental justice co-benefits that are difficult to quantify, but must also be considered. Access to nature and outdoor recreation, enhanced public health, and cultural practices can all be supported through better forest protections.

A strong and enduring rule that secures the protection of older forests and trees on federal public lands for the benefit of this and future generations would advance the goals of the 30x30 initiative and take a profound step toward addressing the global climate and biodiversity crises. We request that you include this information in the Atlas and in response to President Biden's 30x30 Executive Order.

Sincerely,

Alaska Rainforest Defenders
Alaska Wilderness League
Appalachian Trail Conservancy
Blue Mountains Biodiversity Project
Cascade Forest Conservancy
Cascade-Volcanoes Chapter
Cascadia Climate Action Now
Cascadia Wildlands
Center for Biological Diversity
Central Oregon Bitter Brush Broads Chapter
Central Oregon LandWatch
Coast Range Association
Conservation Northwest
Cottonwood Environmental Law Center
Deer Creek Valley Natural Resources Conservation Association
Dogwood Alliance
Earth Action, Inc.
Earth Law Center
Earthjustice
Environment America
Environmental Action
Environmental Law & Policy Center
Environmental Protection Information Center (EPIC)
Forest Keeper
Forest Web
Friends of Big Ivy
Great Old Broads for Wilderness
Greater Hells Canyon Council
High Country Conservation Advocates
Highlands Nature Sanctuary, dba Arc of Appalachia
I Heart Pisgah
Inland Ocean Coalition
Kentucky Heartwood
Klamath Forest Alliance
Los Padres ForestWatch
Natural Resources Council of Maine
Natural Resources Defense Council
New Jersey Highlands Coalition
No Methanol 360
Old-Growth Forest Network
Olympic Climate Action
Olympic Park Advocates
Oregon Wild
Palouse Great Old Broads
Peoples Voice on Climate
Rocky Mountain Wild
Sierra Club

Soda Mountain Wilderness Council
South Umpqua Rural Community Partnership
Southeast Alaska Conservation Council
Southern Environmental Law Center
Standing Trees
SunrisePDX
The Clinch Coalition
The Fire Restoration Group
Umpqua Watersheds
Washington Wild
Wild Heritage, Project of Earth Island Institute
Wild Orca
WildEarth Guardians
Williams Community Forest Project
Yaak Valley Forest Council
350 Eugene
350 Mass
350 Montana
350 PDX
350 Seattle
350 Washington County

1. Washington Post 2021. The Glasgow climate pact, annotated. https://www.washingtonpost.com/climate-environment/interactive/2021/glasgow-climate-pact-full-text-cop26/
2. Lindenmayer, D.L., et al. 2012. Global decline in large old trees. Science 338: 1305 (2012); DOI:10.1126/science.1231070
3. Stephenson et al 2014. Rate of tree carbon accumulation increases continuously with tree size. Nature. https://www.researchgate.net/publication/259766087_Rate_of_tree_carbon_accumulation_increases_continuously_with_tree_size
4. Mackey et al. 2014. Untangling the confusion around land carbon science and climate change mitigation policy. Nature Climate Change DOI:10.1038/NCLIMATE1804; Mildrexler et al 2020. Large Trees Dominate Carbon Storage in Forests East of the Cascade Crest in the United States Pacific Northwest. Frontiers in Forests and Global Change. https://www.frontiersin.org/articles/10.3389/ffgc.2020.594274/full
5. Hudiburg, T.W. et al. 2019. Meeting GHG reduction targets requires accounting for all forest sector emissions. Environmental Research Letters https://doi.org/10.1088/1748-9326/ab28bb
6. Staver, Carla A., 2020. Written Testimony before U.S. House of Representatives Committee on Natural Resources, Hearing on H.R. 5435 (American Public Lands and Waters Climate Solution Act)
7. Buotte et al. 2019. Carbon sequestration and biodiversity co-benefits of preserving forests in the western United States. Ecological Applications. https://esajournals.onlinelibrary.wiley.com/doi/full/10.1002/eap.2039
8. Lu et al 2013. A Contemporary Carbon Balance for the Northeastern Region of the United States. Environmental Science and Technology. https://harvardforest1.fas.harvard.edu/sites/harvardforest.fas.harvard.edu/files/publications/pdfs/Lu_EnviroSciTech_2014.pdf; Miller et al 2016. National parks in the eastern United States harbor important older forest structure compared with matrix forests. Ecosphere. https://esajournals.onlinelibrary.wiley.com/doi/10.1002/ecs2.1404; Dinerstein et al 2020. A Global Safety Net to reverse biodiversity loss. Science. https://www.science.org/doi/10.1126/sciadv.abb2824; Jung et al, 2020. Areas of global importance for terrestrial biodiversity, carbon, and water. Biology. https://www.biorxiv.org/content/10.1101/2020.04.16.021444v1.full; Keeton et al 2011. Late-Successional Biomass Development in Northern Hardwood-Conifer Forests of the Northeastern United States. Forest science. https://www.researchgate.net/publication/233579700_Late-Successional_Biomass_Development_in_Northern_Hardwood-Conifer_Forests_of_the_Northeastern_United_States
9. Keith et al. 2009. Re-evaluation of forest biomass carbon stocks and lessons from the world's most carbon-dense forests. PNAS. https://www.pnas.org/content/106/28/11635?ijkey=86373bc1bd5ad2e138cf51d21a9ea48495d1cbd0&keytype2=tf_ipsecsha; Law et al 2021. Strategic Forest Reserves can protect biodiversity in the western United States and mitigate climate change. Nature. https://www.nature.com/articles/s43247-021-00326-0
10. Krankina, O., D.A. DellaSala, et al. 2014. High biomass forests of the Pacific Northwest: who manages them and how much is protected? Environmental Management. 54:112-121.

11. Jiang, Y., et al. 2019. Linking tree physiology constraints with predictions of carbon and water fluxes at an old-growth conifer forest. Ecosphere https://doi.org/10.1002/ecs2.2692
12. Nagy, R.C. et al. 2011. Water resources and land use and cover in a humid region: the southeastern United States. J. Environmental Quality https://doi.org/10.2134/jeq2010.0365
13. Furniss et al. 2010. Water, Climate Change, and Forests: Watershed Stewardship for a Changing Climate. USDA. https://www.fs.fed.us/pnw/pubs/pnw_gtr812.pdf; DellaSala, D.A., J.R. Karr, and D.M. Olson. 2011. Roadless areas and clean water. Journal of Soil and Water Conservation 66:78A-84A. doi:10.2489/jswc.66.3.78A
14. Sarah J. K. Frey, Adam S. Hadley, Sherri L. Johnson, Mark Schulze, Julia A. Jones, Matthew G. Betts. 2016. Spatial models reveal the microclimatic buffering capacity of old-growth forests. SCIENCE ADVANCES. 22 APR 2016 : E1501392. http://advances.sciencemag.org/content/advances/2/4/e1501392.full.pdf; Christopher Wolf, David M. Bell, Hankyu Kim, Michael Paul Nelson, Mark Schulze, Matthew G. Betts, Temporal consistency of undercanopy thermal refugia in old-growth forest. Agricultural and Forest Meteorology, Volume 307, 15 Sept 2021, 108520, ISSN 0168-1923, https://doi.org/10.1016/j.agrformet.2021.108520; DellaSala D.A. et al. 2015. Climate Change May Trigger Broad Shifts in North America's Pacific Coastal Rainforests. In: D. A. DellaSala, and M. I. Goldstein (eds.) Reference Module in Earth Systems and Environmental Sciences http://dx.doi.org/10.1016/B978-0-12-409548-9.09367-2; Segura et al. 2020. Long-term effects of forest harvesting on summer low flow deficits in the Coast Range of Oregon. Science Direct. https://www.sciencedirect.com/science/article/abs/pii/S0022169420302092; Perry and Jones 2017. Summer streamflow deficits from regenerating Douglas-fir forest in the Pacific Northwest, USA,. Ecohydrology. https://onlinelibrary.wiley.com/doi/abs/10.1002/eco.1790#eap2039-bib-0065
15. Agee, J. 1993. Fire ecology of Pacific Northwest forests. Island Press: Washington, D.C. Lesmeister et al. 2019. Mixed-severity wildfire and habitat of an old-forest obligate. Ecosphere. https://esajournals.onlinelibrary.wiley.com/doi/pdf/10.1002/ecs2.2696;
16. Thorn et al 2020. The living dead: acknowledging life after tree death to stop forest degradation. Frontiers in Ecology and the Environment. https://esajournals.onlinelibrary.wiley.com/doi/full/10.1002/fee.2252
17. Askins 2015. The Critical Importance of Large Expanses of Continuous Forest for Bird Conservation. Connecticut College. https://digitalcommons.conncoll.edu/cgi/viewcontent.cgi?referer=&httpsredir=1&article=1025&context=biofacpub