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Comments: On behalf of the Washington Department of Natural Resources (WA DNR) under the Commissioner of Public Lands, I am writing in response to your Request for Information on Federal Old-growth and Mature Forests. Washington State has a deep history of science, policy, and stakeholder engagement around old growth and mature forests. Therefore, we appreciate the opportunity to bring our experience and information to this national effort and coordinate with both of your agencies so that any definitions, inventory, and recommended actions build upon and are coordinated with our state's approach. Staff from our agency attended webinars that you hosted this summer on this topic, and this letter builds upon their attendance to inform your response to the Executive Order Strengthening the Nation's Forests, Communities, and Local Economies. This comment letter focuses on responding to the RFI's request "to inform the response to E.O. 14072 Section 2(b) specifically, which calls on the Secretaries of Agriculture and the Interior, within one year, to define, identify, and complete an inventory of old-growth and mature forests on Federal lands, accounting for regional and ecological variations, as appropriate, and making the inventory publicly available." The 2004 Washington State Legislature directed our agency to conduct an inventory of old-growth forests on state lands as defined by a panel of scientists. We convened this independent Old Growth Definition Committee which included three of the foremost forest ecologists with expertise in the characterization of Pacific Northwest old growth [mdash] Dr. Jerry Franklin, Dr. Tom Spies, and Dr. Bob Van Pelt - as well as representation from the Washington Department of Fish and Wildlife and our agency. The committee defined old growth as an ecological condition, not the specific age of a stand. Resulting from the work of this committee and subsequent investments of our agency in identifying, inventorying, and understanding old growth on state lands in our state; we submit the following materials for consideration in this national effort:

- Definition and Inventory of Old Growth Forests on DNR-Managed State Lands. June 2005. Washington State Department of Natural Resources.
- Extent and Distribution of Old Forest Conditions on DNR-Managed State Trust Lands in Eastern Washington. December 2007. Washington Department of Natural Resources.
- The Case for Active Management of Dry Forest Types in Eastern Washington: Perpetuating and Creating Old Forest Structures and Functions. September 2008. Washington State Department of Natural Resources.
- Identifying Mature and Old Forests In Western Washington. June 2007. Robert Van Pelt.
- Identifying Old Trees and Forests In Eastern Washington. September 2008. Robert Van Pelt.

Federal lands in Washington, and across the northwest, have also considered the importance of old growth and mature forests in policy and practice. These include the Eastside Screens (1994), Northwest Forest Plan (1994), Late Successional Reserve Assessments, individual forest plan revisions (completed and initiated), forest level policy including the Okanogan-Wenatchee Forest Restoration Strategy, and the decades of lessons learned through management implementation. Each of these efforts and documentation have sections on old and mature trees that guide management in our state, and there have been science syntheses and reviews on the plans and policies to inform future management. For example, the 2020 general technical report from the Pacific Northwest Research Station entitled The 1994 Eastside Screens large-tree harvest limit: review of science relevant to forest planning 25 years later. We are reminded every year in Washington, that our forests are dynamic and therefore our inventories to inform management must be as well. WA DNR has developed a forest inventory system based on LiDAR, Digital Aerial Photogrammetry (utilizes NAIP imagery), and field plots that provides consistent information on large tree populations every 2 years. Working with USFS and other partners, we have expanded these datasets to federal and private lands. While more accurate than datasets based on satellite alone, our remotely sensed datasets have significant errors of commission and omission in mapping old and mature forests, particularly when definitions include a variety of structural metrics. We have found that tree and stand height can be accurately measured, much more so than diameter or age. Thus, we suggest that height be included in definitions of old and mature trees, with adjustments for forest type and productivity. It is also important to note that any map based on remotely sensed data, no matter how fancy the methods, will have errors of commission and omission and require field work to verify. As our state prepares for resilience and adaptability in the face of climate change, we have developed the 20-Year Forest Health Strategic Plan: Eastern

Washington focused on the drier, fire-prone forests east of the Cascade mountains where we are working across all lands to identify and conserve large and old trees as a critical component of a healthy and resilient forest. We have built tools and analyses to understand where mature and old growth forests are most likely to be sustainable over time. We have developed fine scale datasets of current, and project future, water balance deficit to map areas with lower versus higher moisture stress and thus carrying capacity. We combine these maps with our maps of large trees to identify locations within a landscape that is more likely to sustain closed canopy, large tree forest structure into the future. We also include fire risk in this large tree, closed canopy sustainability index. This index also helps us identify and prioritize for treatment areas where current large tree, dense forest is at higher risk from drought and wildfire. These methods are documented in an appendix to our 2020 report to the Washington State Legislature on RCW 76.06.200 entitled Forest Health Assessment and Treatment Framework Methodology. It is important to our agency, and our state, that definitions for old and mature trees are informed and consider recent science on forest restoration and resilience treatments (Stevens et al. 2021, Hessburg et al 2021). Depending on the definition, many mature trees in fire-dependent forests established after fire exclusion. Retaining them with diameter based restrictions or other simplistic rules can inhibit our ability to fully restore stands to density levels and composition that are drought and fire resistant. Therefore, we are interested in having our scientists and our managers participate in the development and review of definitions with real-world application and operations considerations in mind. Arriving on a nationally relevant, defensible definition of mature and old-growth forests will be extremely challenging. Doing so just for the state of Washington has been a long and involved undertaking, requiring continual refinement and ongoing public dialog. One critical factor to consider is covering the range of forest types that exist: even in a single state, we found that no single old-growth definition could adequately address both wet coastal forests and dry interior forests, thus Washington has two separate approaches for the west and east sides of the state. We appreciate the invitation and opportunity to work with your agencies in the spirit of shared stewardship of our forests, and we look forward to continued outreach and engagement.