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Comments: Mr. Barbour: The National Association of State Foresters (NASF) is pleased to respond to the joint USDA Forest Service-DOI Bureau of Land Management request for information on federal old-growth and mature forests. NASF represents the directors of forestry agencies in all 50 states, U.S. territories, nations in free association with the U.S., and the District of Columbia. These agencies protect and help manage over 500 million acres of forest across the U.S. hand-in-hand with local governments, individuals, and families. They also regularly contribute to the management and protection of federal forest lands. The management of federal forest lands greatly influences the resilience and health of all America's forests and the full range of social, economic, and environmental benefits they provide. Privately owned forests in the U.S. supply public benefits to society as a whole, but because forest threats like wildfire, invasive pests, and climate change know no boundaries, 66% of the nation's forests in private, state, and local ownership are at risk if federal forests are inadequately managed. The following comments explain the interconnectedness of various forest ownerships, forest management policy, and forest health. They also detail the potential impacts of an old-growth and mature forest policy on state forestry agency operations and the effect of public forest management changes on the forest sector as a whole.

**Initial Recommendations** Ensure forthcoming policy(ies) as will be based on the input around definitions apply strictly to federal lands. Executive Order (EO) 14072: Strengthening the Nation's Forests, Communities and Local Economies clearly states that this exercise is to apply to federal lands. Forthcoming products from this effort should make sure to explicitly state that these are the only lands to which any policy or general findings apply. Ensure forthcoming policy(ies) as will be based on the input around definitions do not in any way impede or deter forest management projects that set out to: (1) reduce the risk of catastrophic wildfire and/or (2) mitigate the effects of climate change. The EO describes a tremendous need for wildfire-risk reduction work and climate-smart stewardship in our forests nationwide. Definitions for old-growth and mature forest - and any subsequent or related policies - should support, not hinder, these critical objectives. Well-planned, science-based, and deliberate forest management activities are necessary to meeting the EO's objectives. Ensure forthcoming policy(ies) as will be based on the input around definitions rely on the latest and best science available while openly identifying the limits of science and the values-based influences that drive this effort. Any definition of old growth forest or mature forest will be value-based and inherently biased. Certainly, past efforts to define old growth (and now also "mature") forests have science-based measurable criteria, but any and all definitions, by definition, are human constructs. NASF is concerned the federal government may be tempted to adopt definitions that meet the needs of forest stakeholders and not the forest itself. Any given stand of trees has differences compared to the stand adjacent to it. It's not the same as a forest a state away, and certainly it differs from forests on the opposite coast. Every forest is unique. Its species composition differs, its soils are variable, and the weather and climate vary from locale to locale. Natural disturbances, like wind storms and lightning-started wildfires vary too, and so does forest management - our human way of emulating natural disturbance. Ensure forthcoming policy(ies) as will be based on the input around definitions allow for regional and local adaption. One definition, or two in this case, classifying forest age can't possibly reflect each and every forest's needs or history accurately. State foresters do, however, see utility in attempting to capture more information about forest composition and age on federal lands. Learning more about the nation's forest resources is always in the best interest of our forests, forest managers, and forest stakeholders. NASF recommends that federal forest land management agencies allow for regional and/or localized definitions for these terms as they do now for other terms used by these agencies in existing management plans. There is precedent here: existing forestry terms have been adjusted to reflect specific forestry concerns in certain localities following considerable public comment and scientific review. This approach to localizing federal forestry terms remains viable. What's more, the USDA Forest Service has made efforts in the past to define and manage for old growth; these efforts can and should be incorporated into this effort. To illustrate this point, attached as an appendix are official comments from individual state forestry agencies. There is some commonality among the agencies' comments, but also many differences dictated by local conditions. In summary, NASF recommends that forthcoming

definitions for old-growth forest and mature forest reflect the above tenets and adequately integrate and balance cultural values with traditional ecological knowledge, local expertise, and the latest peer-reviewed forest science. With the above thoughts and the attached appendix in mind, we offer the following comments on your specific questions: What criteria are needed for a universal definition framework that motivates mature and old-growth forest conservation and can be used for planning and adaptive management? Given the stated purpose of this exercise a framework should:- Only include criteria that may be reasonably measured at the appropriate scale- Reference a science-based rationale for recommended criteria- Clearly identify the values-based rationale for recommended criteria- Be general enough to allow for local adaption that can account for the considerable variability found among forests nationwide What are the overarching old growth and mature forest characteristics that belong in a definition framework? Based on our review from various sources, the following criteria - adapted to account for local conditions as much as possible - are referenced most frequently. They are not necessarily applicable in every instance, depending again on species composition, site factors, and other forest stand conditions.- Age- Species composition- Stand structural complexity- Ecological processes and functions- Past disturbance and expected disturbance regimes, both human-induced and natural- Woody debris and other forest floor attributes We note that some criteria also reference tree size, but others deem it problematic because of variations in growth rates for the same species under different conditions. We do not recommend using tree size as a criterion. Referring to a forest as "mature" implies there is a real ecological climax reflecting classic stasis. That is across time, and at an appropriately sized scale, a forest would naturally maintain a patchwork of expected successional stages that leads to a set of forest conditions and processes that remain constant over time. Climate change, the incidence and severity of wildfires, and biogenic influences such as invasive species and poorly regulated populations of native fauna make efforts to define maturity in terms of ecological stasis or climax

inappropriate. Classically, maturity has been defined in terms of declining economic or volume growth and we don't see a reason for that to change. Conceivably, a definition for mature forest could include the concept of an ecological climax that changes over time, but it would be difficult to identify and evaluate that change without extensive long-term monitoring. How can a definition reflect changes based on disturbance and variation in forest type/composition, climate, site productivity and geographic region? A single, universal definition must, by necessity, be general and locally adaptable. Ensuring that the definition meets these requirements will help to avoid unintended consequences created by subsequent policy. For example, if an old-growth definition required the existence of a high level of structural complexity there would probably not be qualifying stands of old-growth longleaf pine. How can a definition be durable but also accommodate and reflect changes in climate and forest composition? A definition can only be durable if it's adaptable. On-the-ground monitoring, the latest scientific peer-reviewed research, and current and local cultural values are all variables that can and should inform adaptations. What, if any, forest characteristics should a definition include? Depending on the observer the character of a forest could be seen from an economic, cultural, spiritual and/or ecological perspective, and may also vary considerably based on forest type or forest biome. Where characteristics are included it is essential that these differences, which are driving the promotion of specific characteristics, be clearly identified and defended. We hope this input is helpful and look forward to the continued dialogue. Sincerely, Attachment: State Responses to Old Growth RFI: Appendix - State Responses to RFI on Federal Old-Growth and Mature Forests Minnesota Department of Natural Resources, Division of Forestry: [https://www.dnr.state.mn.us/forests\\_types/oldgrowth/characteristics.html](https://www.dnr.state.mn.us/forests_types/oldgrowth/characteristics.html)