Data Submitted (UTC 11): 8/29/2022 4:00:00 AM
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Comments: Thank you for taking the next steps to advance President Biden[rsquo]s Executive Order 14072 on Strengthening the Nation's Forests, Communities, and Local Economies. As you know, protecting our remaining mature and old-growth forests and trees on federal lands represents one of the simplest and most cost-effective climate policies the U.S. can implement. But time is running short: the climate and biodiversity crises are growing exponentially worse, and it is critical that you fulfill the President[rsquo]s directive to provide lasting protections for these trees.

The Request for Information (RFI) requests input on five specific questions. The following discussion addresses each of those questions separately.

1) 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?

[bull] Forest complexity. The structural and functional measurements of mature and old-growth forests.

[bull] Average size and age, stratified by tree species and type.

[bull] The potential for carbon sequestration by forest type, including quantification by species composition and evenness.

[bull] Biodiversity values, including species composition, interactions, stream or riverine habitat quality, wildlife use, soil health, and regeneration potential.

[bull] Benefits to humans. What are these forests providing for human health and happiness? Recreational, spiritual, or intrinsic values to humans. Social ideals.

2) What are the overarching old- growth and mature forest characteristics that belong in a definition framework?

Characteristics for a definition framework include size, complexity, and structure.

Size. Defining the size of mature trees must reflect specific characteristics of each vegetative community. For example, western forests have adopted a general standard that trees greater than 21[rdquo] DBH (diameter at breast height) qualify as mature and offer the greatest level of ecological services such as carbon sequestration, supporting biodiversity, maintaining clean water, and providing quality habitat for fisheries and wildlife. However, that size standard will not apply to every forest type across the country. Some forests never reach that diameter, yet include age classes and other characteristics that define mature and old-growth forests.

Complexity. Mature and old-growth forests typically contain a complex association of plant functional groups, species composition, and supporting biota. Recognizing and quantifying the complexity of a system through measurements of biotic structure (e.g. sampling species richness and evenness) aids in development of defining characteristics of mature forests on a regional scale. Again, each Level III ecoregion is unique, and characteristics must be developed that reflect regional variation.

Structure. The structural components (i.e. standing dead, density, and species richness) must be assessed for each major forest type and used in defining characteristics of mature and old-growth forests for each region. Mature forests generally contain a high degree of variation in structural components that reflect past land use

practices and disturbances. The spatial degree of variation can be quantified and used to develop a range of conditions that characterize mature and old-growth forests.

3) How can a definition reflect changes based on disturbance and variation in forest type/composition, climate, site productivity and geographic region?

Quantifying the degree of disturbance and variation on an ecoregional, not necessarily a geographic region, will contribute to a broad understanding of the range of variability within each forest type. However, the Historic Range of Variability (HRV) may no longer be valid with the rapid and profound changes in climatic conditions [ndash] specifically water availability and associated site productivity. New measurements of variability reflecting current conditions need to be based on climate projections and modeling of responses by forest type or dominant overstory species by region. Each definition of mature and old-growth forests must reflect observed and expected changes in disturbance and variation resulting from rapidly changing environmental conditions.

4) How can a definition be durable but also accommodate and reflect changes in climate and forest composition?

Durability can be met through development of definitions based on forest type by region. Changes in forest structure and composition are expected to occur in somewhat predicable ways: largely in elevation or latitude. Unique or novel systems may develop in response to changing climatic conditions, but forest types are generally expected to remain somewhat consistent over time. Definitions for each forest type within a level III ecoregion may still be applicable, but differ spatially as a result of species/community migration. And the emergence of novel systems will facilitate development of new definitions of variability within a forest type that can be used in future modifications of the defining characteristics of mature forests.

5) What, if any, forest characteristics should a definition exclude?

Degree of human disturbance through past management activities. Management practices often affect composition or forest structure through alterations to resource availability, removal of primary or secondary overstory species, elimination of understory vegetation, or changes in soil structure, biotic makeup, or chemistry. But trees still grow and the characteristics of mature and old forests continue to develop. Excluding forests or portions of forests from analysis based on past land use decisions and activities limits the ability of the Departments of Agriculture and Interior to objectively consider all forest types in developing definitions as required under Section 2(b) of EO 14072.

Again, thank you for your work completing the forest inventory and developing criteria for defining mature and old-growth forests across the country. The amazing variability in forest type and structure makes this a challenging project, but is critically important in our efforts to mitigate climate change and create a resilient future for all people and generations. This is good work. We look forward to commenting on future policy development and conservation strategies addressing mature and old-growth forests on Federal land.

Sincerely,