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Comments:

I recognize there is some repetition here as I attempt to answer the questions that were posed in the Request for Information. I hope my information is found useful.

*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?

Criteria I believe are needed are: a generalized age distribution of the forest stand; a reference to what if any direct impacts (disturbance) humans or natural disturbances (e.g., flooding, wildfire, lightning, etc) might have had on the system (if, how often, and to what degree); a description of the annual growth cycle of the dominant trees (e.g., evergreen, deciduous, semi-deciduous); a description of forest debris and litter; a description of the soil characteristics that are associated with the old growth forest.

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

The biome (e.g., boreal, temperate, tropical) and sub-biome (e.g., rainforest, cloud forest, mangrove forest); distribution across a range across a landscape and at ranges of elevation and general soil types; partial list of dominant and subdominant species in the tree, shrub and herbaceous layers; a general range of percentages of the trees and their annual growth cycle (i.e., evergreen, deciduous, semi-deciduous); a description of forest debris and litter; description of age structure of the typical stand; description of natural forest gaps.

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

By incorporating those factors which are determinant of the types of old growth forest, we could account for variations in the old growth forest definition. The definition must include climate/weather (including wind effect storms, rainfall amounts); changes in forest characteristics at different elevations and slopes; generalized soil associations, and species-specific soil associations for certain trees, shrubs, and herbaceous species; and information on the disturbance regime (how often, and to what degree it is disturbed, and by what "actors", e.g., natural or man-induced).

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

The dominant trees and shrubs and grasses of the forest definition for an area should not change unless the occurrence, distribution/range, and/or frequencies of such criteria for species or a suite of species that formerly defined the forest are recognized as changing on a larger landscape such as at a state-wide or region-wide landscape level. By allowing for gradual change due to climate, whether man-made, natural, or more likely a mix of both, it is important to have an adaptable definition for old growth stands of forest.

*What, if any, forest characteristics should a definition exclude?

It should exclude information that may be so specific making it difficult to aggregate forest stands into forest types as might be necessary to develop feasible management and monitoring prescriptions. I would think characteristics such as strict range values on characteristics like percentages of tree dominants or subdominants, stringent ranges on productivity, etc. would not be ideal. In cases where only remnant stands remain, ranges of potential values for characteristics could be provided to guide restoration of old growth forests.

Thank you for the opportunity to provide comments.

Sincerely,

Mitch Sternberg

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