

Data Submitted (UTC 11): 9/19/2024 4:00:00 AM

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Comments: On behalf of the Tennessee Forestry Association (TFA), a non-profit organization representing forestry interests at-large in the state of Tennessee, I submit the following comments on the Draft Environmental Impact Statement (DEIS) of the National Old Growth Amendment (NOGA) as released for comment on June 21, 2024.

We would like to express collective concern with the direction and intent of the this DEIS as outlined below.

In Executive Order 14072, Section 2(b) "the Secretary of Interior[hellip] and Secretary of Agriculture[hellip] shall[hellip] define, identify, and complete an inventory of old-growth and mature forests on Federal lands, accounting for regional and ecological variations".

1. As stated in The Mature and Old-Growth Forests: Definition, Identification, and Initial Inventory on Lands Managed by the Forest Service and Bureau of Land Management report (FS-1215A), which was published in April 2023 with revision in April of 2024, "retaining existing definitions for old-growth allows for consistency with existing land management plans and uses structural characteristics that have been vetted for use by resource managers", "benefit from [established LMP] public review", and follows the recommendation of "public comments from many external and internal sources" (p.20).

a. With this in mind, the Tennessee Forestry Association is concerned that federal mandate and interpretation of old-growth and the newly coined and applied concept of "ecologically mature forests" (FS-1215A; p.21) will supersede state and local interests by codifying definitions and treatment strategies at the national level. Federal directive will make it increasingly difficult to account "for regional and ecological variations" in management (EO 14072, Sec.2b). Despite the verbiage of retaining existing old-growth definitions and application with existing LMPs, "the Secretary of the U.S. Department of Agriculture will first decide how to amend land management plans to institutionalize[hellip] management and conservation strategies" (DEIS - 1.6; p.5 and DEIS - 1.8; p.8). With this statement, it appears this amendment will, in fact, supplant the established LMPs and, in so doing, remove options from the local and state level. This primary concern informs the rest of TFA's position comments that follow.

b. "The current agency old-growth forest definitions" (and mature forests) recognizes "disturbance history" but does little but mention stand dynamics influencing the development of old-growth (FS-1215A; April 2023 version). The revised version of FS-1215A (April 2024), states they are "dynamic systems distinguished by" the current conditions ("old trees and related structural attributes"; p.5).

i. Consideration of disturbance history for the unique forest types is critical in understanding and managing old-growth forest types. What relay floristic succession set stand trajectories to arrive at the current desired conditions?

ii. It also helps dispel the public misperception of a static forest type and the need for management (e.g., prescribed fire or other silvicultural activities).

c. With the minimum criteria set defining old-growth "values of live basal area (ft<sup>2</sup> ac<sup>-1</sup>; of trees =5 in DBH), stand age, dead trees density, and have =6 trees per acre that met a minimum diameter for a given old-growth community type" (FS-1215A; p.50) for Region 8 (including Tennessee) as shown in Table 15, the minimum criteria are overly broad and inclusive in most, if not all, Southern Region old-growth community types. In particular, the Large Tree Diameter minimums do not properly reflect growth rates of trees in these communities, especially those comprising the significant dominant cohort. By way of example, shortleaf pine in the xeric pine and oak-pine forest type has been demonstrated to average 14.5 inches in diameter at 83 years in naturally occurring stands of the Ridge and Valley physiographic region of Tennessee (Cassidy, 2004). FIA data confirms that large trees of most species in Tennessee exceed 20 inches in diameter (DBH) with many 29.0 inches and larger. This far exceeds the minimum Large Tree Diameter minimum codified in the amendment. Further complicating the issue, is the use of one minimum age criteria per forest type but old-growth forests is often comprised of multi-cohort stands as mentioned in FS-1215A (p.30).

(Cassidy, Patrick D. 2004. Dynamics and development of shortleaf pine in East Tennessee. The University of Tennessee, Knoxville.)

d. The DEIS accepting the minimum criteria as mentioned above, fails to acknowledge the well documented structural changes ongoing in the most important tree species groups throughout the Central Hardwood Region due to these aging forests. Luppold and Bumgardner (2018) report an increasing trend of volumetric growth concentrated in trees 17 inches DBH and larger from 1953 to 2012 (with that trend continuing through the present). This amendment does nothing for the long-term sustainability of such important forest types such as the oak-hickory or the pine-oak groups but acknowledge "the lack of large log milling may hinder restoration and other vegetation management activities to improve ecological conditions in or near old-growth forests" (DEIS - S-14)

(Luppold, W.G. and Bumgardner, M.S. 2018. Structural Changes in the Growing Stock of Important Tree Species Groups in the Central Hardwood Region. For. 116(5):405-411)

e. The DEIS - Amendments to LMPs to Address Old Growth Forests preferred alternative (Alternative 2) "prohibits proactive stewardship in old-growth forests for the purpose of timber production (NOGA-FW-STD-03 as described for this alternative)" (p. S-11). It is our position that this standard is overly restrictive of critical silvicultural management tools and will prohibitively impact the Forest Service's ability to proactively manage designated old-growth. Forest Service intention in any proposal that includes commercial operations (thinning, improvement cutting, etc.) will be called into question as a violation of the exclusion of timber production as a "primary purpose of silvicultural treatments in old-growth forests" (Technical Guidance for Standardized Silvicultural Prescriptions for Managing Old Growth Forests - July 2024, Appendix A; p.10). This unfortunate wording:

i. Has the potential to negatively affect revenue and employment in dependent wood product markets and dependent communities

ii. Prevent, or send to litigation, commercial silvicultural management activity that could prevent, maintain and/or restore old-growth forest types from natural succession, stand-replacing fire and weather events, disease, insects, encroachment from native and non-native invasives while offsetting the costs to implement with other means.

The DEIS - Amendments to LMP's to Address Old Growth Forests makes effort to address the impact to wood product markets, DEIS - S-14, yet raises more questions:

i. While acknowledging the concern for the impact on timber, it states "the amendment does not change lands

suitable for timber production[hellip] and does not propose special designation status" but with the aging forests of the eastern and southern hardwoods (see point "c." above), stands that qualify under the criteria set forth in this amendment will be prohibited from proactive management by definition.

ii. It recognizes "regional impacts may occur" but downplays the potential impact this amendment has on the timber industry by pointing to the Allowable Sale Quantity (ASQ) or the Projected Timber Sale Quantity (PTSQ). However, how often is the ASQ or PTSQ currently met in units of Region 8?

iii. The DEIS acknowledges the "steep declines in Forest Service harvest in the 1990s in all U.S. regions other than Alaska" and mentions the "retooling to mill smaller diameter trees and shifting to timber sourced from state and private lands" (DEIS - S-14). But this fails to recognize the long-term impact of uncertainty caused by Forest Service actions that exacerbates multiple other pressures on the wood products industry. "The lack of capacity for large log milling may exacerbate ecological risk identified in the Mature and Old-Growth Forests: Analysis of Threats on Lands Managed by the Forest Service and Bureau of Land Management report" (DEIS - S-14) and mentioned in point c. above.

iv. "Areas of old-growth where tree cutting occurred was only 4.7 percent of the total tree cutting across all Forest Service lands from 2000 to 2020" which is cause for concern as the wood products industry looks to the increased recruitment of "mature" stands to old-growth. (DEIS - S-14)

2. "Mature forests [emphasis added] are delineated ecologically as the stage of forest development immediately before old growth[hellip] exhibit structural characteristics that are lacking in earlier stages of forest development and may contain some[hellip] structural attributes in old-growth forests[hellip] [with] the mature stage of stand development generally begins when a forest stand moves beyond self-thinning, starts to diversify in height and structure, and/or the understory begins to reinitiate" (FS-1215A; p.5-6). Admittedly, "the term "mature forest" as

outlined in E.O. 14072 is a relatively new concept for the Forest Service and BLM" (p.16) and has typically been used to refer to forest stand "economic maturity using the culmination of mean annual increment (CMAI), defined as the age at which merchantable tree volume reaches a peak or plateau in most even-aged stands" (p.21) and is in use LMPs and required to be used as such by the 1976 National Forest Management Act.

a. "The Team interpreted EO direction to inventory mature forest ecologically rather than economically" despite the term "ecological maturity[hellip] not well defined for the many forest types across the United States" (p.22). This is a conflation of concepts that:

i. Is "not objectively defined in terms of explicit forest attributes in the scientific literature" (p.21)

ii. Redefines current and accepted forestry terminology

iii. Supplants terminology in NEPA approved LMPs

iv. Will lead to confusion in the use of "maturity" in compliance with EO 14072 (DEIS - p.7) and when used in the calculation of maximum sustained yield as required by clear Congressional act (1976 NFMA)

b. This definition of mature forests, relying on "the four-stage stand development model" (p.30) is over-simplistic and can be used to apply to stands much younger than what is traditionally recognized as mature. It is best used to describe processes:

i. Following major disturbance

ii. With single or several age classes, and

iii. Stems regenerating during a relatively short period following disturbance

(Barnes, B.V.; Zak, D.R.; Denton, S.R.; Spurr, S.H. 1998. Forest Ecology, 4th Ed. John Wiley & Sons, Inc.; p.455)

Mixed-species stand development patterns common in older hardwood stands in the Eastern United States among others, undergo a complex process of vertical stratification with multiple stratum, often referred to as stratified mixed-species stands. Oliver and Larson (1996) adds some necessary clarification lacking in the DEIS definition of the understory reinitiation stage used to define ecologically mature forests in that,

iv. "the stand would no longer be a single cohort after the forest floor stratum develops, and[hellip] could be interpreted as "relay floristics" [hellip] however, a stand is still considered to have a single cohort until the younger trees from the forest floor grow much larger" (p.158)

v. "time of this understory reinitiation varies from only about 60 years in shade-intolerant southern pines" (Peet and Christensen, 1987; as referenced in Oliver and Larson, p.157) "or can end if the stand is more than 500 years old if the understory is shade-tolerant and vigorous" (p.158).

(Oliver, C.D.; Larson, B.C. 1996. Forest Stand Dynamics. John Wiley & Sons, Inc.

Peet, R.K.; Christensen, N.L. 1987. Competition and tree death. BioScience 37:586-595)

c. A clear and accepted definition of mature forest terminology and the parameters thereof (minimum and concluding ages) has significant implications for "the future retention and recruitment of old-growth forests" (DEIS -1.9; p.8) and their designation.

d. There is concern with the "emphasis on identifying and prioritizing areas to be managed for future old-growth forest, which includes mature forest, is included in Management Approach 1.b and Guideline 3" (DEIS - 2.2.2; p.14) will lead to an over-reach of older forests that effectively removes land otherwise.

3. Finally, in response to the amendment purpose of "contributing to nature-based climate solutions by storing large amounts of carbon and increasing biodiversity, mitigating wildfire risks, enhancing climate resilience, enabling subsistence and cultural uses, providing outdoor recreational opportunities, and promoting sustainable local economic development" (DEIS - S-3), the Tennessee Forestry Association would like to iterate that proactive silvicultural management and a robust forest products industry

a. Stores large amounts of carbon in durable wood products

b. Strengthens local communities and promotes sustainable economic development

c. Mitigates risks associated with wildfires with the removal of forest fuels

d. Sustains healthy, resilient forests capable of resisting diseases, insects, and climatic stresses

e. Provides opportunities for recreation

ATTACHMENT: Tennessee Forestry Association USFS NOGA DEIS comments.pdf- this is the same letter text content that is coded in text box, it was also included as an attachment