

January 17, 2025

John Sinclair
Reviewing Officer
Attn: EPS Objections
Suite 800
USDA Forest Service, Easter Region
626 East Wisconsin Avenue
Milwaukee, WI 53202

Dear John,

Please accept this letter of support and objection pursuant to 35 CFR 218, Subparts A and B related to the Telephone Gap Integrated Resource Project (Telephone Gap IRP) from Audubon Vermont, Vermont Natural Resources Council, and Dr. William Keeton with the University of Vermont.

Audubon Vermont is a state program of the National Audubon Society, a nonprofit organization with a mission of protecting birds and conserving the places birds (and people) need to thrive. Vermont Natural Resources Council is a nonprofit organization working to protect and enhance Vermont's natural environment, biodiversity, sustainable working lands, water quality, and rural character. Dr. Keeton is Professor of Forestry at the University of Vermont where his research foci include forest carbon dynamics, ecologically-based silviculture, and the structure and function of old-growth forests.

Audubon Vermont, Vermont Natural Resources Council, and Dr. Keeton submitted comments to the Forest Service on two specific occasions: March 13, 2023 regarding the Notice of Proposed Action and Opportunity to Comment for the Telephone Gap IRP and on April 8, 2024 related to the Preliminary Environmental Assessment (EA) and Telephone Gap IRP.

In our comments, we covered many diverse topics, but the main thrust was to promote a proposed "Triad" Model for conservation and management of mature, late-mature, and old-growth stands. Our comments specifically focused on the opportunity to demonstrate how management and safeguards for late-successional forests could be integrated into complex, multi-functional forest management planning on a project such as the Telephone Gap IRP.

Such a demonstration would provide guidance and offer the opportunity to down-scale and operationalize directives around old forest conservation and restoration that were under

consideration by the Biden Administration and U.S. Forest Service as part of Executive Order 14702 and the National Old-Growth Amendment (NOGA). The Amendment was recently withdrawn, but based on a letter from the Chief of the Forest Service, it still provides a basis for national forests to continue to operationalize approaches for old-growth conservation and restoration of old forest conditions.¹

Furthermore, our comments were designed to help inform the current debate about how best to restore old forest conditions, demonstrating how active silvicultural approaches can complement passive conservation within integrated public lands management.

To achieve these goals, in our comments, we proposed a three-prolonged strategy - or triad approach - consisting of three allocation categories: 1) fully protected reserve inclusions (sometimes called “forest aging areas”), 2) old forest recruitment stands, and 3) commercially managed mature stands.

- A. Category One: The first category would have little or no silvicultural management, except in rare circumstances where activities like invasive species control and hazard tree removal are needed. In particular circumstances (rare in Vermont), prescribed burning also may be an appropriate management tool for certain fire-dependent natural communities. This category would apply to all stands currently >150 years old within the project area, as well as a subset of those late-mature stands (120 -150 years old) already exhibiting a high degree of structural complexity development.
- B. Category Two: The second category would have the objective of providing the source stands from which old, high biomass, structurally complex forests will recruit over coming decades. Here low intensity silvicultural approaches specifically designed to promote old forest characteristics would be employed. This would be assigned to a significant proportion of stands in the 120 to 150 age range, as well as some in the 80 to 120 age range.
- C. Category Three: The third category would emphasize commercial management objectives and would be applied primarily to stands in the 80 to 120 age range, although some in the 120 to 150 might also be classified in this way. This category might also encompass the various adaptive management approaches proposed for the Green Mountain and Finger Lakes National Forests.

In addition to Category One, we recommended an alternative in which the oldest forests within the proposed treatment areas – specifically those over 120 years old, which as a function of their age are most likely to currently exhibit old forest conditions—would be managed in ways that facilitate old forest characteristics and recruitment, either passively or actively (Zaino et al.

¹ See Letter File Code 1920 from Randy Moore to Deputy Chiefs, Regional Foresters, Station Directors, and Forest Supervisors dated January 7, 2025. “While this letter reflects lessons learned at the national level, decisions on maintaining or restoring old growth forest conditions so they are resilient and persist into the future will be made at the local level, informed by the best available science, public engagement, contributions from cooperating agencies, and consultation with Tribes. The learning shared in this letter will allow you to tailor your actions to local conditions while reflecting national considerations for old-growth conservation.”

2018). The concept that old forest structure in the northern hardwood region can be restored both passively and actively, using a variety of silvicultural methods, is now well established by the science (Keeton et al. 2018).

We also recommended science-based guidance that tree age alone is not necessarily the definitive element by which superior forests for ecological value can be identified. (D'Amato and Cantanzaro 2022). We proposed that stands 80-120 years of age receive treatments that balance commercial management with approaches that facilitate old forest recruitment. In addition, we recommended that any stands greater than 80 years old should be evaluated for existing old forest attributes and strategies in these stands should be compatible with enhancing old forest characteristics, tailored to address stand-specific attributes that are lacking. (Keeton et al. 2018, D'Amato and Cantanzaro 2022).

In our comments we also suggested harvest strategies that could be compatible with enhancing old forest characteristics, forest bird habitat, and carbon storage (Hagenbuch et al. 2011, Keeton 2006, Ford and Keeton 2017, D'Amato and Cantanzaro 2022), such as:

- Single-tree and group selections [0.1 to 0.5-acre openings with retention in larger openings]
- Irregular shelterwood method
- Variable-density thinning
- Crown release of dominant and co-dominant canopy trees
- Downed large woody debris retention and enhancement
- High levels of structural retention after regeneration harvesting
- Retention and recruitment of large diameter (>20" dbh) standing dead trees (snags)

Based on dialogue with the Forest Service, these recommendations were incorporated in Alternatives C and D as part of the Environmental Assessment (EA), and Alternative C was selected in the Draft Decision as the preferred alternative for implementation.

We have a shared interest in implementing the Forest Plan and we greatly appreciate the selection of Alternative C compared to the original project proposal and the preferred Alternative B in the Draft EA. Regarding Alternative C, we are supportive of the creation of young forests at levels that are in keeping with Vermont Conservation Design's targets for the region of approximately 3-5% of the landscape; it is our understanding that Alternative C will result in 3.1% of young forest across project lands.²

We also support the implementation of a triad approach that supports the protection of all old-growth forests through the implementation of forest protection measures and the deferral and removal of old-growth stands from harvest. Our understanding is the Forest Service will protect old-growth stands that meet the following criteria:

² (Final Environmental Assessment. Section 3.2.5 at pp. 53- 54).

- Stands that meet the definition of old-growth in the Forest Plan;
- Stands that meet the State of Vermont’s definition of old forest in accordance with the Design Feature for State-designated old forest; and
- Stands identified during layout of stands proposed for harvest to have more than 12 live trees per acre greater than 20 inches diameter breast height (DBH), more than 16 dead and down trees per acre greater than 20 inches DBH, and more than 8 standing dead trees per acre greater than 20 inches DBH.³

The last bullet was added as mitigation measure for late successional forest based on input from our organizations as a way to add an additional layer of protection for old-growth stands based on field verifiable scientific metrics and research developed specifically for northern hardwood forests in New England and New York (D’Amato and Cantanzaro 2022).

In addition to these old-growth protective measures, we also greatly value the important, precedent setting effort to apply climate-smart ecological silviculture within mature forests on the cusp of developing late-seral conditions. Based on the document *TGAlternativeDevelopmentProcess.pdf*, and subsequent decisions by the Forest Service based on the release of the Region 9 definition for old-growth as part of the Mature and Old Growth (MOG) Inventory, we understand that the following methodology was applied in the development of Alternative C for allocating stands into the three management categories:

Category One:

- Stands that will be deferred from management. These are stands meeting recently promulgated Region 9 MOG definition and/or exist in remote Wildlife and Diverse Backcountry Management Areas, and also found, upon subsequent analysis of their inventory data, to exhibit superior complexity and site productivity relative to the following thresholds:
 - LS Index ≥ 7 , H Index ≥ 70 th percentile, snag biomass ≥ 70 th percentile.
- Additional stands may be reallocated from Category Two to Category One if, during site assessment and layout prior to harvest, any Category Two stands are found to exhibit old-growth characteristics relative to the benchmarks established under Mitigation Measure #4.

Category Two:

- Stands that will receive late seral enhancements treatments. These are stands meeting R9 MOG definition and/or exist in remote Wildlife and Diverse Backcountry Management Areas, and also found, upon subsequent analysis of their inventory data to be on the cusp of exhibiting superior complexity and site productivity based on the following:
 - LS Index ≥ 6 & Site Index ≥ 60 or LS Index ≥ 7 & Site Index ≥ 50 .
- Mitigation Measure #4 will be applied to all Category Two stands during site assessment and layout prior to treatment to ensure that stands exhibiting old growth characteristics

³ Mitigation Measure #4 for Late Successional Forest. Appendix B at p. 1.

are protected; any stands found to meet these criteria will be deferred from management (i.e. re-assigned to Category One).

Category Three:

- Stands that will receive treatments previously proposed. These are stands, including those meeting R9 MOG definition and/or exist in remote Wildlife and Diverse Backcountry Management Areas, that upon subsequent analysis of their inventory data, were found to not meet the superior complexity and site productivity thresholds assigned to Category One and Category Two.

One objection we wish to register is that missing from these measures was our specific recommendation that Category One include all stands > 150 years. This recommendation was proposed in our previous comments,⁴ and also captured within the document *TG Alternative Development Process.pdf* as a means of providing a baseline for protected stands in Category One.

As it currently stands, under Alternative C, and as detailed in the Final EA Appendix Table C-2C, pages C-19 to C-25, 311 treatment acres remain proposed for management in stands with a year of origin greater than 150 years of age. It is our understanding that the determination of age of origin for some or all of these stands may require greater scrutiny, since stand-wide age classification may be based on only a subset of one or two trees within the stand that are actually over 150 years old. The methodology used to determine the age of these stands (i.e., “year of origin”) remains unclear beyond the reference to a footnote in the Final EA which acknowledges that the year of origin may not provide an accurate depiction of actual stand conditions.⁵

We request that the Forest Service clarify its approach to stand age determination, as a clearer understanding of these methods would provide better context for what the “year of origin” truly represents as a qualifying feature of these stands; in the absence of rigorous methods to determine representative stand age, we ask that the Forest Service earnestly explore the development of rigorous sampling methods to enhance the accuracy and reliability of stand age determinations. Furthermore, if it turns out there are stands that are accurately over 150 years in age based on improved field verification, we strongly believe they should be backed out of active management, and added to Category One. A mitigation measure memorializing and explaining this policy should be added to Appendix B.

As another line of defense to protect old-growth stands, we support the implementation of the “fine-filter” mitigation measure you have selected, which involves on-the-ground evaluation of

⁴ For example, see p. 6 of our March 13, 2023 comments and p. 4 of our April 8, 2024 comments.

⁵ See Footnote 9 of the Final Environmental Assessment. Page 41. “Year of origin is determined by coring one or more representative trees per forested stand. It is important to note that often times legacy trees (defined as older trees uncharacteristic of the surrounding stand that survived extensive nineteenth and early twentieth century land clearing or have survived stand-replacing natural disturbances) were chosen to determine stand age which may not provide an accurate depiction of actual stand conditions compared to the majority of trees throughout the stand.”

all Category Two stands during site layout to identify old-growth characteristics, following the criteria outlined by D'Amato and Catanzaro (2022). This approach provides a science-based, regionally relevant definition of functional old-growth forest characteristics to determine additional stands that should be protected from management. However, the sampling protocol and rigor for these evaluations remain unclear. Since the proposed mitigation measures are quantitative, their application requires a corresponding level of quantification in stand assessments to ensure accurate comparison with these benchmarks. Without clearly defined sampling methods, such as field inventory using plot-based sampling, it is uncertain whether these benchmarks will be consistently and rigorously applied. Therefore, we recommend that the Forest Service conduct these evaluations with the same statistical rigor used in their timber inventory process. The Forest Service should describe this process in the Mitigation Measures section of the final decision. Field based assessment prior to treatment or harvest must be explicitly required to ensure effective implementation of the Appendix B Mitigation Measures.

According to NEPA and Council on Environmental Quality guidance, mitigation measures must be identified in the EA and include the means for mitigating adverse environmental impacts.⁶ Mitigation measures must be discussed in sufficient detail to allow a fair evaluation of environmental consequences,⁷ and a mere listing is not enough; there must be explanation about why they are effective.⁸ CEQ Guidance also suggests the EA must include implementation and monitoring measures.⁹

Based on these requirements, we believe the Mitigation Measures and Design Features sections should be enhanced with additional information and details regarding the methodology for identifying prevailing stand age classes and the methodology for implementing the Site Features and Mitigation Measures related to old growth protection. In addition, the final decision should explain the monitoring methods to ensure old-growth stands are protected.

This project includes many important elements to achieve old-growth conservation, and we commend the Forest Service for including these measures. In light of public interest over several issues – particularly the effectiveness and applicability of various old-growth definitions -- we believe a more complete description of the above will help the public understand the steps and methodologies being employed to protect old-growth, which should include the additional measure of not harvesting in field verified stands over 150 years old.

Part of the public dialogue over old-growth definitions hinges whether the Region 9 definition for old-growth as part of the Executive Order inventory is a bright-line definition that must be followed. As stated above, the Executive Order and NOGA process was an important effort to

⁶ 40 C.F.R. §§ 1502.14(e), 1502.16 (11).

⁷ NEPA Law and Litigation. Mandleker, Daniel R. 2013 Edition. Page 726. Thomson Reuters Westlaw. *Citing* Haugrud, Perspectives on NEPA: Let's Bring a Bit of Substance to NEPA -Making Mitigation Mandatory, 30 Entl. L. Rep 10638 (2009); Slotterback, Evaluating the Implementation of Environmental Review Mitigation in Local Planning and Development Processes, 28 Env'tl. Impact Assess. Rev. 546 (2008).

⁸ *Id.* *Citing* League of Wilderness Defenders/Blue Mountain Biodiversity Project v. Forsgren, 309 F.3d 1182 (9th Cir. 2002); Gaule v. Meade, 402 F. Supp. 2d 1078 (D. Alaska 2005).

⁹ *Id.* at 729. *Citing* Appropriate Use of Mitigation and Monitoring and Clarifying the Appropriate Use of Mitigated Findings of No Significant Impact (2011) available at https://ceq.doe.gov/docs/ceq-regulations-and-guidance/Mitigation_and_Monitoring_Guidance_14Jan2011.pdf

conserve old growth and operationalize the restoration of old forest characteristics on national forests. As the Forest Service explains in a companion report on the inventory and identification of definitions as part of the Executive Order process:

The definition and initial inventory effort does not change existing Forest Service and BLM management direction. It is expected that a continual adaptive management process integrating new science, Indigenous Knowledge, continued stakeholder engagement, and social processes will refine old-growth and mature forest working definitions through time.

...

The importance of spatial scaling in ecology and land management is well recognized (Schneider 2001, Turner et al. 1993, and Wiens 1989). Therefore, application of national inventory results at fine spatial extents is not appropriate.¹⁰

With this in mind, while the R9 definition was intended as coarse scale interpolation and estimation of probable mature and old-growth forest abundances not to be used at the fine spatial scale, the definition does never-the-less provide an important assessment tool when combined with field verification. Adequate justification and/or protection measures therefore are needed before proceeding with active management within stands meeting the R9 definition and we believe field verification criteria to protect old-growth should include backing out stands that: 1) are <150 years of age, and 2) have old growth structural characteristics that meet specified Mitigation Measures and Design Features, in addition to our recommendations provided above related to field verification and fine-filter performance. Stands meeting these criteria should be deferred from harvest and included in Category One.

Thank you for the opportunity to submit this letter of support and objection on the Telephone Gap IRP. We commend the Forest Service for implementing many creative and novel approaches to forest management in the project, including the substantial amount of acreage that will be managed using ecological forestry, climate smart practices to promote and accelerate old forest characteristics. These practices can offer an important opportunity to demonstrate to the public how the structural complexity of forest stands can be enhanced through strategic ecological centered forestry. Furthermore, we commend the implementation of the triad approach, which if implemented correctly, will protect old-growth stands through the adherence of standards that go beyond the forest plan policies for protecting old-growth stands, including the deferral of additional identified stands from harvesting that have old forest characteristics. We hope our objection points can lead to greater clarity in implementing a successful, model triad approach.

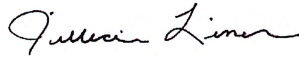
¹⁰ Mature and Old-Growth Forests: Definition, Identification and Initial Inventory on Lands Managed by the Forest Service and Bureau of Land Management in Fulfillment of Section 2(B) of Executive Order No. 14072. FS-1215a. April 2023 (revised).

Sincerely,



Jamey Fidel

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Jillian Liner

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Dr. William Keeton

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