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Comments: Attached please find comments submitted on behalf of Standing Trees.

On behalf of Standing Trees, Earthjustice respectfully submits these comments regarding the Preliminary Environmental Assessment ("EA") for the Telephone Gap Integrated Resource Project ("TGIRP"). As proposed, the project would inflict adverse impacts on forest health, the climate, biodiversity and imperiled species, water quality, scenic and recreational values, and other features. The project also threatens violations of federal law, conflicts with presidential executive orders, and undermines the U.S. Forest Service's ("USFS" or "Forest Service") burgeoning effort to protect and recruit old-growth forests. We strongly urge USFS to withdraw the proposed project.

Telephone Gap would implement logging treatments in approximately 12,000 stand acres of the Green Mountain National Forest ("GMNF"). GMNF is Vermont's only National Forest, encompassing more than 400,000 acres in southwestern and central Vermont. The forest is home to a diversity of wildlife, including imperiled species such as the endangered Indiana bat, pine marten, wood thrush, red-eyed vireo, ovenbird, cerulean warbler, a variety of salamanders, and the northern long-eared bat, which was recently uplisted from threatened to endangered under the Endangered Species Act ("ESA"). Nevertheless, the last several years have seen a rapid increase in area logged in the forest; in only the last eight years, the Forest Service has approved more than 40,000 acres of logging—10% of GMNF.

Standing Trees is a grassroots membership organization that works to protect and restore New England's forests, with a focus on federal and state public lands in Vermont and New Hampshire.

Standing Trees works to ensure New England's public lands are managed using just and equitable policies and practices to support the region's residents and natural ecosystems. This includes managing public lands and waters to maximize carbon storage and protect clean water, clean air, public health, and intact habitat for the region's native biodiversity. Standing Trees has many members who regularly visit and recreate throughout GMNF, including the area impacted by Telephone Gap.

Standing Trees previously submitted detailed comments in response to the notice of proposed action for TGIRP.¹ As USFS has acknowledged, the proposed action in the Preliminary EA contains few changes from the proposal in the scoping notice.² Standing Trees' concerns about the previously proposed action remain applicable to the Preliminary EA, and Standing Trees' scoping comments are incorporated by reference. In light of the considerable harm that TGIRP would inflict, Standing Trees continues to urge the Forest Service to withdraw the proposed action. If the project proceeds, the Forest Service must conduct an environmental impact statement—it cannot legally or scientifically justify a finding that this sprawling and damaging project would have no significant impact. And any project that moves forward must undergo significant modifications to reduce its adverse impacts. The following legal and technical comments provide additional support for these positions.

1 Standing Trees & Center for Biological Diversity, Telephone Gap Integrated Resource Project Scoping Comments (Mar. 13, 2023), attached as Exhibit 1.

2 See Email from Jay Strand, USFS, to Annette Smith, Vermonters for a Clean Environment (Mar. 13, 2024) (denying a request to extend the comment period because the proposed action closely resembled the previously released proposal).

I. Standing Trees Supports the Request by Vermont Indigenous Communities to Extend the Comment Period.

Vermont Indigenous Communities have requested that the Forest Service extend the comment period on the Preliminary EA and that Allies of Indigenous Communities who are commenting on the Preliminary EA include the language of their request. Standing Trees strongly supports this request and is including the language here:

Petition from VT Indigenous Communities and Allies to Extend Public Comment Period on Proposed Telephone Gap Forest Logging Plan

To: U.S. Forest Service, Green Mountain National Forest, Rochester VT, Deb Haaland, US Secretary of the Interior, Senator Bernie Sanders, Senator Peter Welch, Rep Becca Balint

Whereas Vermont's Indigenous People hold unique insights and millennia old knowledge about protecting Mother Earth and our Other Than Human Kin for whom we are moral and legal guardians;

And Whereas the United States supports the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) as of December 16, 2010 with President Obama's declaration;

And Whereas UNDRIP calls for "full, informed and prior consent" from Indigenous Peoples for projects impacting their well-being and cultural integrity:

And Whereas Vermont is the home of four state recognized Abenaki bands, many unenrolled Native people, and numerous federally recognized tribal enrollees whose full, informed and prior consent has not been provided for concerning the impact of a massive 12,000 acre Telephone Gap Forest Logging Plan and how it may impact cultural sites;

And Whereas the Telephone Gap Forest Logging Plan contravenes Vermont's Community Resilience and Biodiversity Protection Act (2023) that announced intentions to increase protected landscapes and habitats thereby enhancing biodiversity:

We, on behalf of Vermont's Indigenous Communities and our Allies, request that the current review and comment process and deadline of April 8, 2024 be extended by 180 days so that the above issues can be addressed.³

3 Vermont Coalition of Indigenous Communities and Allies, Petition From VT Indigenous Communities and Allies to Extend Public Comment Period on Proposed Telephone Gap Forest Logging Plan, <https://acrobat.adobe.com/link/review?uri=urn%3Aaaid%3Ascde%3AUS%3A66addd78-aa74-3e18-ad21-0e78761791d1> (last visited Apr. 5, 2024).

Standing Trees urges the Forest Service to heed this request from Vermont Indigenous Communities.

II. The Forest Service Failed to Take a "Hard Look" at TGIRP's Many Significant Environmental Impacts.

Under the National Environmental Policy Act ("NEPA"), the Forest Service must take a "hard look" at the environmental impacts of its planned action.⁴ Yet many of the impacts of TGIRP have thus far evaded hard look review, and many of USFS's conclusions are based on incomplete information. USFS has thereby fallen short of NEPA's standards, including the White House Council on Environmental Quality's ("CEQ") requirement to ensure the "scientific integrity[]" of the discussions and analyses in environmental documents."⁵

1.

1. USFS has failed to take a hard look at TGIRP's significant impacts on mature and old-growth forests.

The Preliminary EA inadequately addresses impacts on mature and old-growth forests. Mature and old-growth forests are powerhouses of climate mitigation, biodiversity protection, water purity, and a host of other ecosystem attributes. On April 22, 2022, President Biden signed Executive Order 14072, directing USDA to address threats to mature and old-growth forests on National Forest System lands.⁶ On December 20, 2023, national USFS leadership released a proposed national old-growth amendment ("NOGA"), accompanied by a letter from the Deputy Chief requiring that he review any projects that would log in areas that meet regional old-growth definitions.⁷ The proposed action for TGIRP would fall far short of protecting mature and old-growth forests and would instead serve a misguided objective of significantly reducing the extent of these valuable forests across GMNF in favor of the younger forests that would replace them. In so doing, TGIRP discredits national policy as articulated by the White House and USFS leadership and indicates that the Deputy Chief's letter cannot be taken at its word.

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1. TGIRP contradicts national policy regarding mature and old-growth forests.

The federal government has correctly recognized that mature and old-growth forests are scarce, valuable, and in need of protection. President Biden's Executive Order 14072 ("EO") directs:

Restoring and Conserving the Nation's Forests, Including Mature and Old-Growth Forests. My Administration will manage forests on Federal lands, which include many mature and old-growth forests, to promote their continued health and resilience; retain and enhance carbon storage; conserve biodiversity; mitigate the risk of wildfires; enhance climate resilience; enable subsistence and cultural uses; provide outdoor recreational opportunities; and promote sustainable local economic development.⁸

4 Marsh v. Or. Natural Res. Council, 490 U.S. 360, 374 (1989).

5 40 C.F.R. [sect] 1502.23.

6 Executive Order 14072 of April 22, 2022, "Strengthening the Nation's Forests, Communities, and Local Economies," 87 Fed. Reg. 24,851, 24,852 [sect] 2(c)(iii) (Apr. 27, 2022), attached as Exhibit 2.

7 USFS, "Land Management Plan Direction for Old-Growth Forest Conditions Across the National Forest System," 88 Fed. Reg. 88,042 (Dec. 20, 2023); Letter from Christopher French, USFS, to Regional Foresters re "Review of Proposed Projects with Management of Old Growth Forest Conditions" (Dec. 18, 2023) (hereinafter "Deputy Chief's Letter"), attached as Exhibit 3.

8 EO 14072 [sect] 2.

The EO also directs the Secretary of Agriculture to "develop policies, with robust opportunity for public comment, to institutionalize climate-smart management and conservation strategies that address threats to mature and old-growth forests on Federal lands."⁹

In late 2023, the Secretary of Agriculture published a notice of intent for the Forest Service to pursue a national old-growth amendment ("NOGA").¹⁰ The NOGA is framed as responding to EO 14072, which the NOGA describes as recogniz[ing] the distinctive role that Federal forest lands play in sustaining ecological, social, and economic benefits throughout the nation and calls particular attention to the importance of mature and old-growth forests on Federal lands for their role in 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.¹¹

The NOGA also proposes policies, anticipated to be finalized in early 2025, for protecting old-growth forests and expanding old growth through recruitment, which necessarily requires conferring some type of protections on mature forests.

Concurrent with the announcement of the NOGA, the Deputy Chief of the National Forest System issued a letter reserv[ing] to the National Forest System Deputy Chief the decision-making authority over management of old growth forest conditions on National Forest System lands during the amendment process. Effective immediately, any projects proposing vegetation management activities that will occur where old growth forest conditions (based on regional old-growth definitions) exist on National Forest System lands shall be submitted to the National Forest System Deputy Chief for review and approval.¹²

The goal of the Deputy Chief's review is "to ensure the careful evaluation of proposed vegetation management activities occurring in areas where old growth forest conditions exist while the national old growth amendment is developed."¹³

9 Id. [sect] 2(c)(iii).

10 USFS, "Land Management Plan Direction for Old-Growth Forest Conditions Across the National Forest System," 88 Fed. Reg. 88,042 (Dec. 20, 2023).

11 Id. at 88,043.

12 Deputy Chief's Letter.

13 Id.

TGIRP conflicts with the national policies in three important ways. First, TGIRP is unresponsive to the President's Executive Order. Rather than protect mature and old-growth forests, TGIRP makes those forests the focus of logging. Of the project's 8,209 "harvest acres," 7,497 acres (91%) are in stands at least 60 years old, 1,595 acres (19%) are in stands at least 120 years old, and 300 acres (4%) are in stands established more than 150 years ago. While we appreciate that TGIRP would not log in areas formally designated as "old growth" by the forest plan or the state of Vermont, it still includes a huge amount of regionally rare, very old forest as measured in total acreage and as a proportion of the overall harvest.

Second, the logging will likely impede the effectiveness of the NOGA through the massive harvest of mature forests. As explained above, the NOGA calls for protecting and expanding old growth across the National Forest System. The severe paucity of old growth across New England, including (as the Forest Service acknowledges) in GMNF,¹⁴ places an especially high premium on old growth recruitment in the region. There is so little old growth today that the overwhelming majority of future old growth will necessarily be recruited from today's mature age class. Yet the extensive logging of mature forest in TGIRP has a high probability of removing older forests in areas that would be designated for protection under the NOGA. Indeed, the EA shows that, for suitable lands under even-aged management, TGIRP will reduce old forest in the project area across all timescales evaluated, as compared to the no-action alternative.¹⁵

Third, TGIRP is proceeding in a manner that violates the process for review by the Deputy Chief. Regardless of whether the areas being logged meet the state- and forest-specific definitions of old growth, the logging area includes more than 800 acres of forest that meets the regional definition.¹⁶ Thus, pursuant to the Deputy Chief's

December 2023 letter, the project must undergo the Deputy Chief's review. Nevertheless, the Forest Service apparently believes that this project does not require review by the Deputy Chief because (a) the regional definition of old growth is not determinative and (b) other high-level agency officials have allegedly approved the continuation of project analysis.¹⁷ But the Deputy Chief's letter is unambiguous that the need for review depends on the regional definition of old growth. If that requirement is not enforced, then units would always be free to select whichever definition of old growth allows their projects to evade review, significantly undermining the national review process. In addition, a primary benefit of the Deputy Chief's review is to ensure a standard and consistent process for evaluating projects across the National Forest System. That benefit would be lost if projects could instead get signoff from other agency officials, as the Forest Service apparently believes is appropriate here.

Standing Trees is deeply concerned that USFS thwarted public input on this issue by failing to disclose in the Preliminary EA that logging would occur in regionally defined old-growth conditions. USFS did not post maps showing the project's overlap with those conditions until March 27, 2024, more than halfway through the comment period and just 12 days before the comment deadline—and after Standing Trees pressed the Forest Service for this information. Despite withholding significant information that demonstrates USFS's disregard for its own project-review procedures so late in the comment period, USFS denied a renewed request to allow additional time for public comment.¹⁸

14 Preliminary EA 38.

15 Id. EA 44 tbl. 3-4.

16 See USFS, Telephone Gap Project - Proposed Late Successional Forest Enhancement Treatments for Alternatives C and D (Category 2) in Stands Where Region 9 Old Growth Working Definitions 1 Were Used to Help Identify Late Successional Forest Characteristics (posted Mar. 27, 2024); USFS, TGIRP Alternative C Proposed Timber Harvest Activities Including Deferred Harvest Stands (Mar. 25, 2024) (posted Mar. 27, 2024).

17 Email from Christopher Matrick, USFS, to Zack Porter, Standing Trees re Questions re: "Alternative Development Process" document (Mar. 27, 2024).

18 Id.

The impacts of TGIRP on mature and old trees are significant and require an EIS. In addition, TGIRP's contravention of multiple federal policies is significant and requires an EIS. And the failure to disclose significant effects of the project, compounded by a failure to provide time for public input on those significant effects, further compels the preparation of an EIS.

2. Extensive science supports preserving mature and old trees.

The GMNF is a defense against a changing climate and increasing extinction rates. The GMNF contains many of the oldest and most carbon-dense ecosystems in New England, supporting native biodiversity and protecting critical headwaters. Its management should reflect its unique values in the broader landscape, serving the greatest good for the greatest number by maximizing carbon and water storage, water quality, and habitat for species that require old and unfragmented forests.

The 2018 Vermont Conservation Design Natural Community and Habitat Technical Report, jointly produced by the Vermont Departments of Forests, Parks and Recreation and Fish and Wildlife, states:

As a result of the persistent structural and vegetative complexity above ground and the diverse biome belowground and associated complex biotic and abiotic relationships that develop over time, old forests also

protect water quality, and sequester and store carbon, provide opportunities for adaptation of species and community relationships to climate and other environmental changes, and an ecological benchmark against which to measure active management of Vermont's forests.¹⁹

There is a common misconception that young forests are better than old when it comes to removing carbon in the atmosphere.²⁰ In fact, old forests store much more carbon than young forests, and they continue to accumulate carbon over time.²¹ And the rate of carbon sequestration increases as trees age.²²

¹⁹ Zaino et al., Vermont Conservation Design - Natural Community and Habitat Technical Report 15 (2018), (hereinafter "Zaino et al. (2018)"), attached as Exhibit 4.

²⁰ See, e.g., Preliminary EA 60.

²¹ Keith et al., Re-evaluation of Forest Biomass Carbon Stocks and Lessons from the World's Most Carbon-Dense Forests, 106 Proceedings of the National Academies of Sciences 28 (2009), attached as Exhibit 5; Luysaert et al., Old-Growth Forests as Global Carbon Sinks, Nature vol. 455 (Jan. 2008), attached as Exhibit 6; Leverett et al., Older Eastern White Pine Trees and Stands Sequester Carbon for many Decades and Maximize Cumulative Carbon, Frontiers in Forests and Global Change (2021), attached as Exhibit 7.

²² Stephenson et al., Rate of Tree Carbon Accumulation Increases Continuously with Tree Size, Nature (Mar. 2014), attached as Exhibit 8.

Due to current management practices, including logging frequency and intensity, Vermont's forests do not currently sequester and store as much carbon or produce high levels of ecosystem services compared to what they would under passive management, and are still recovering from extensive clearing in the eighteenth and nineteenth centuries. A 2019 paper by Harvard Forest researchers found that:

Among land uses, timber harvesting [has] a larger effect on [aboveground carbon] storage and changes in tree composition than did forest conversion to non-forest uses. Our results demonstrate a large difference between the landscape's potential to store carbon and the landscape's current trajectory.²³

A 2011 paper by UVM Professor William Keeton found that Northeast secondary forests have the potential to increase biological carbon sequestration by a factor of 2.3-4.2.²⁴ The paper notes:

[T]here is a significant potential to increase total carbon storage in the Northeast's northern hardwood-conifer forests. Young to mature secondary forests in the northeastern United States today have aboveground biomass (live and dead) levels of 107 Mg/ha on average (Turner et al. 1995, Birdsey and Lewis 2003). Thus, assuming a maximum potential aboveground biomass range for old-growth of approximately 250-450 Mg/ha, a range consistent with upper thresholds in our data set and the lower threshold observed at Hubbard Brook, our results suggest a potential to increase in situ forest carbon storage by a factor of 2.3-4.2, depending on site-specific variability. This would sequester an additional 72-172 Mg/ha of carbon.²⁵

Forests in temperate zones such as in the Eastern U.S. have a particularly high untapped capacity for carbon storage and sequestration because of high growth and low decay rates, along with exceptionally long periods between stand replacing disturbance events, similar to the moist coastal forests of the Pacific Northwest. Further, because of recent recovery from an extensive history of timber cutting and land conversion for agriculture in the 18th, 19th, and early 20th centuries, median forest age is about 75 years,²⁶ which is only about 25-35% of the lifespan of many of the common tree species in these forests.²⁷ Because of our remarkable forest ecosystems here in Northeastern North America, several global studies have highlighted the unique potential of our temperate deciduous forests to contribute on the global stage to climate stabilization and resilience.²⁸

23 Duveneck & Thompson, Social and Biophysical Determinants of Future Forest Conditions in New England, Effects of a Modern Land-Use Regime, 55 Global Environmental Change 115 (2019), attached as Exhibit 9.

24 Keeton et al., Late-Successional Biomass Development in Northern Hardwood-Conifer Forests of the Northeastern United States, 57(6) Forest Science 489, 502 (2011), attached as Exhibit 10.

25 Id.

26 Moomaw et al., Intact Forests in the United States: Proforestation Mitigates Climate Change and Serves the Greatest Good, Frontiers in Forests and Global Change (June 2019), attached as Exhibit 11.

27 Id.

28 Dinerstein et al., A Global Safety Net to Reverse Biodiversity Loss and Stabilize Earth's Climate, Science Advances (Sept. 2020), attached as Exhibit 12; Jung et al., Areas of Global Importance for Terrestrial Biodiversity, Carbon, and Water, 5 Nature Ecology & Evolution 1499 (2021), attached as Exhibit 13.

Old forests are also the most resilient to changes in the climate, producing the highest outputs of ecosystem services like clean water, and reducing the impacts of droughts and floods.²⁹ These ecosystem services protect downstream communities from flooding, purify drinking water at low cost, and maintain base flows and low temperatures in rivers during hot summers for the benefit of fish and wildlife.

In New England, frequent flooding and nutrient-driven water quality degradation are two of our most costly environmental crises, and both are compounded by climate change. Mature and old forests naturally mitigate against flooding and drought by slowing, sinking, and storing water that would otherwise rapidly flow into our streams, rivers, and lakes.³⁰ Scientists have also shown that old forests are exceptional at removing nutrients like phosphorus that drive harmful algae blooms.³¹

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1. 3. The project's age class goals do not match the latest scientific understanding of the ecology of New England forests.

Today, old forests[mdash]the forests that once dominated the region[mdash]are functionally absent from northern New England.³² Just 0.3% of New England forests are older than 150 years.³³ With the loss of such forests, elk, caribou, wolverine, wolves, and cougars, once common in Vermont, have been entirely eliminated. Pine marten, a species threatened by logging in New England,³⁴ is a State of Vermont endangered species and persists in only two isolated patches of remote, interior forest. Salmon have long since failed to naturally reproduce due to habitat destruction and fragmentation. Interior and old forest birds like wood thrush and Bicknell's Thrush are in decline,³⁵ and a primary driver is logging.³⁶ Forest structural complexity remains well below pre-European settlement levels.³⁷ By nearly any objective measure of health, New England's forests have deteriorated drastically due to the logging of old-growth and mature trees.

According to the definitive paper on disturbance frequency and intensity in New England, "the proportion of the presettlement landscape in seedling-sapling forest habitat (1-15 years old) ranged from 1 to 3% in northern hardwood forests (Fagus-Betula-Acer-Tsuga) of the interior uplands." "The current estimates of 9-25% [seedling-sapling habitat] for the northern New England states are probably several times higher than presettlement levels." Gap size in presettlement Hemlock-Northern Hardwood forests averaged less than .75 acres. Beech was the dominant species among Northern Hardwoods, comprising perhaps 30% of the forest. Stand-replacing events occurred, on average, only every 1,000 to 7,500 years.³⁸

29 Thom et al., The Climate Sensitivity of Carbon, Timber, and Species Richness Covaries with Forest Age in Boreal- Temperate North America, 25 *Global Change Biology* 7:2446-58 (July 2019), attached as Exhibit 14.

30 Underwood & Brynn, Enhancing Flood Resiliency of Vermont State Lands, (2015), (hereinafter "Underwood & Brynn (2015)"), attached as Exhibit 15.

31 Warren et al., Forest Stream Interactions in Eastern Old-Growth Forests, in *Ecology and Recovery of Eastern Old-Growth Forests* (2018) (hereinafter "Warren et al. 2018"), attached as Exhibit 16.

32 Zaino et al. (2018).

33 USFS, Forest Inventory and Analysis Program, Forest Inventory EVALIDator Web-Application Version 1.8.0.01.

34 Evans & Mortelliti, Effects of Forest Disturbance, Snow Depth, and Intraguild Dynamics on American Marten and Fisher Occupancy in Maine, USA, 33 *Ecosphere* e4027 (2022), attached Exhibit 17.

35 Rushing et al., Quantifying Drivers of Population Dynamics for a Migratory Bird Throughout the Annual Cycle, 283 *Proceedings of the Royal Society B* 20152846 (2016), attached as Exhibit 18.

36 Betts et al., Forest Degradation Drives Widespread Avian Habitat and Population Decline, 6 *Nature Ecology & Evolution* 709 (June 2022), attached as Exhibit 19.

37 Ducey et al., Late-Successional and Old-Growth Forests in the Northeastern United States: Structure, Dynamics, and Prospects for Restoration, 4 *Forests* 1055 (2013), attached as Exhibit 20.

38 Lorimer & White, Scale and Frequency of Natural Disturbances in the Northeastern U.S.: Implications for Early Successional Forest Habitats and Regional Age Distributions, 185:1-2 *Forest Ecology & Management* 41, 52 (Nov. 2003) (hereinafter "Lorimer & White (2003)"), attached as Exhibit 21.

The Forest Service's own analysis echoes these themes: "Old growth conditions are also rare on the [GMNF] Timber harvesting since land abandonment in the early 20th century has perpetuated more frequent and larger-sized disturbances than would be typical under natural disturbance regimes (i.e. from insects, disease, wind, ice, floods, or beaver activity)."

Vermont's progress towards forest ecosystem restoration can be measured against several large landscape conservation visions that have gained traction in the past twenty years. In 2006, Wildlands and Woodlands, a program of Harvard Forest and Highstead Foundation, produced a widely supported vision for New England that included a goal for 10% of all regional forestlands to be conserved as wildlands. Fifteen years later, only 3% of Vermont and New England as a whole is in wildlands management, and relatively little progress has been made toward the 10% goal, despite excellent progress towards conserving forests for extraction of wood products.

More recently, based on the rapid decline of wildlife populations⁴⁰ and the rapid degradation of the climate,⁴¹ scientists have suggested that much more aggressive measures must be taken to stave off climate and extinction catastrophes. The 2019 Global Deal for Nature (the inspiration for "30x30") calls for 30% of lands and waters to be permanently protected in GAP 1 and 2 protected areas⁴² by 2030 to maintain and restore biodiversity, with an additional 20% conserved to stabilize the climate.⁴³ This vision was partially endorsed by the Biden Administration in E.O. 14008. To date, the Forest Service, including the GMNF, has not revealed how it intends to implement the portions of EO 14008 focused on 30x30.

Large blocks of intact forest minimize harmful vectors for the spread of invasive species and allow natural disturbances to play out across a sufficiently large landscape to ensure that there is a mix of early and late successional habitats required by the full spectrum of New England's forest-dependent species. Recent studies show that unlogged forests in New England exhibit the greatest structural complexity and tree species diversity.⁴⁴ Although passive management is most often all that is required to restore old forest conditions,⁴⁵ it takes decades to centuries to develop forest complexity, requiring permanent protection from timber harvest if restoration is to be successful.

38 Lorimer & White, Scale and Frequency of Natural Disturbances in the Northeastern U.S.: Implications for Early Successional Forest Habitats and Regional Age Distributions, 185:1-2 Forest Ecology & Management 41, 52 (Nov. 2003) (hereinafter "Lorimer & White (2003)"), attached as Exhibit 21.

39 USFS, Telephone Gap Project Landscape Assessment 11 (July 2021) (hereinafter "TGIRP Landscape Assessment").

40 Ceballos et al., Vertebrates on the Brink as Indicators of Biological Annihilation and the Sixth Mass Extinction, 117:24 Proceedings of the National Academies of Sciences 13596 (2020), attached as Exhibit 22.

41 Climate Change 2021: The Physical Science Basis (Working Group I contribution to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change).

42 Rosa & Malcom, Getting to 30x30: Guidelines for Decision-Makers, Defenders of Wildlife (2020), attached as Exhibit 23. The US Geological Survey maintains the nation's protected area database and has created a "GAP Status Code Assignment" to categorize types of conservation across all land ownerships, public and private.

43 Dinerstein et al., A Global Deal for Nature: Guiding Principles, Milestones, and Targets, 5 Science Advances (Apr. 19, 2019), attached as Exhibit 24.

44 Miller et al., Eastern National Parks Protect Greater Tree Species Diversity than Unprotected Matrix Forests, 414 Forest Ecology & Management 74 (2018), attached as Exhibit 25; Miller et al., National Parks in the Eastern United States Harbor Important Older Forest Structure Compared with Matrix Forests, 7(7) Ecosphere (July 2016), attached as Exhibit 26; Faison et al., Adaptation and Mitigation Capacity of Wildland Forests in the Northeastern United States, 544 Forest Ecology and Management 121145 (2023), attached as Exhibit 27.

45 See Zaino et al. (2018).

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1. 4. The Forest Service's goals for engineering forest age classes are not supported by science.

In the midst of a nationwide focus on protecting and restoring old-growth and mature forests, the Forest Service remarkably seeks to justify TGIRP based on an objective of decreasing mature and old forests in the GMNP and replacing them with younger stands. Yet the USFS inadequately evaluates or justifies this misguided objective in the Preliminary EA.

USFS asserts that "[t]here is a need to increase the amount of the regenerating age class (0 to 9 years old) to meet [habitat management unit] age class objectives on suitable lands."⁴⁶ As an initial matter, as described above, Standing Trees disputes the need for additional regenerating forest, especially when it is achieved through a loss of mature and old forest, which is well below its historical prevalence on the landscape.

In addition to USFS pursuing a dubious objective, it is not presenting the impacts of the project in a straightforward way—and may not have evaluated those effects at all. The GMNF Forest Plan defines regeneration as "[t]he renewal of a tree crop by either natural or artificial means. The term is also used to refer to the young crop itself."⁴⁷ Yet most of the analysis of young forests in the Preliminary EA appears to ignore regeneration through natural means and instead recognize regeneration only when created through even-aged management (clearcut or shelterwood). And the Forest Plan measures progress towards desired future conditions and age class objectives using "stands" of trees that are larger in acreage than how a natural opening or regenerating forest would occur on the landscape.⁴⁸ The Forest Plan acknowledges that "[r]egenerating forest habitats typically occur in small patches" and that patches under 20 acres are generally missed in the inventory.⁴⁹ As a result, the Preliminary EA makes it virtually impossible for the public to understand the project's impacts on forest habitat, and the Forest Service may be ignoring a significant portion of regeneration in GMNF and the project area.

For example, Table 3-4 in the Preliminary EA shows "the age class distribution over the short-term, mid-term, and long-terms for all alternatives."⁵⁰ However, the table does not characterize the entire project area, but only "suitable lands managed with even-aged silvicultural systems."⁵¹ Moreover, the table appears to define age classes exclusively by when an acre of forest last underwent even-aged management. Thus, the table suggests that there is currently no regenerating forest across the 13,780 acres assessed, there will be a significant amount of regenerating forest in seven years, and there will again be no regenerating forest in 50 years (and 100 years). By all accounts, the table seems to project the amount of regenerating forest simply by the number of years since the last even-aged management.

⁴⁶ Preliminary EA 8.

⁴⁷ USFS, GMNF Forest Plan 145 (emphasis added).

⁴⁸ Lorimer & White (2003); Kellett et al., Forest-Clearing to Create Early-Successional Habitats: Questionable Benefits, Significant Costs, *Frontiers in Forests and Global Change* (Jan. 2023), attached as Exhibit 28.

⁴⁹ GMNF Forest Plan EIS ch. 6, 3-66 to -67 (also noting in Table 3.5-7 that the inventory does not include upland openings and most wetlands).

⁵⁰ Preliminary EA 44 tbl. 3-4.

⁵¹ *Id.*

This methodology for identifying and projecting regenerating forest omits the ways that forests have always regenerated naturally, such as trees falling over or weather events that reset a patch of forest. It is highly unlikely that the area assessed would actually contain zero acres of regenerating forest in 100 years in the absence of even-aged management. By effectively defining the regenerating age class as years since even-aged management, Table 3-4 distorts the analysis of how much regenerating forest currently exists and will exist in the future—and whether more needs to be mechanically created.

It is especially baffling that Table 3-4 also omits regenerating forest created through logging methods other than even-aged management, even though elsewhere the Preliminary EA expressly describes group selection as a "regeneration method." The Preliminary EA explains that group selection differs from individual-tree selection in that the area in between groups is unharvested, and the groups where regeneration is established are larger in size Small openings provide micro-environments suitable for the regeneration of shade-tolerant species, and larger openings provide conditions suitable for more shade-intolerant regeneration.⁵²

To be clear, Standing Trees believes, based on extensive scientific literature, that regenerating forest forms naturally in GMNF and that logging to create it is unjustified. But to the extent such logging occurs, certain forms of uneven-aged management can be designed at scales that more closely approximate regeneration through natural processes. There is no logical basis for the Forest Service to exclude the effects of uneven-aged management, including group selection, from its tally of regenerating forest, but that is precisely what the Preliminary EA appears to do.

In order to take the requisite "hard look" at this issue, USFS must consider all regenerating forest, regardless of how it was formed. Likewise, to assess the project alternatives, USFS must project the amount of regenerating forest expected under each alternative, regardless of how it was formed and throughout the entire project area (not only those areas subject to even-aged management). It is not rational to conclude that regeneration will not exist in the absence of a clearcut or shelterwood treatment, nor does such a conclusion respond to the broad definition of "regeneration" in the Forest Plan.⁵³ The information provided thus far does not enable the public to understand the impacts of TGIRP[mdash]and it does not support a finding of no significant impact.

52 Preliminary EA 22 tbl. 2-4.

53 See GMNF Forest Plan 145 (defining "Regeneration" as "The renewal of a tree crop by either natural or artificial means. The term is also used to refer to the young crop itself").

B. USFS has failed to take a hard look at the action's significant climate impacts.

While USFS provided numerous datapoints about the climate impacts of the alternatives, its analysis suffers from serious analytical defects.

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1. Vermont in the context of climate change

The Forest Service's decision whether to proceed with TGIRP and, if so, what form the project should take, must be supported by sound science. Accordingly, the Forest Service must incorporate into its analysis the many recent peer-reviewed studies that investigate climate change mitigation and the intersection of forest ecology and forest carbon. Climate change is driving and exacerbating a range of threats to Vermont, the New England region, and the globe. The 2021 Vermont Climate Assessment notes that

Vermont is becoming warmer (average annual temperature is about 2[deg]F warmer since 1900), and Vermont's winters are becoming warmer more quickly (winter temperatures have warmed 2.5x more quickly than average annual temperature since 1960). Vermont is also becoming wetter (average annual precipitation has increased by 21% or 7.5 inches since 1900).⁵⁴

The Assessment highlights flooding, drought, harmful algal blooms, and impacts to forestry operations among the many consequences of these climatic changes. Although perhaps not a primary driver of the spread of invasive species, ticks, and disease, climate change can amplify these threats.

An emerging global consensus recognizes forest protection as critical to mitigating the impacts of climate change. On November 12, 2021, the U.S. joined 140 other nations in signing a commitment "to halt and reverse forest loss and land degradation by 2030" (emphasis added) at the COP 26 UN Climate Change Conference in Glasgow, Scotland.⁵⁵ Soon afterward, the February 2022 Intergovernmental Panel on Climate Change Report found that "[s]afeguarding biodiversity and ecosystems is fundamental to climate resilient development, in light of

the threats climate change poses to them and their roles in adaptation and mitigation"⁵⁶

On the global scale, forest protection represents approximately half or more of the climate change mitigation needed to hold temperature rise to 1.5 degrees Celsius.⁵⁷ Vermont may be a relatively small state, but its temperate deciduous forests are among the planet's most effective carbon sinks, and in any event global objectives can be attained only through the aggregation of climate-smart strategies applied at many different sites. In the U.S., New England's in-situ carbon storage potential is second only to that of the Pacific Northwest, but carbon storage levels remain artificially low due to timber cutting frequency and intensity. Across the Northeast and Upper Midwest, timber cutting accounts for 86% of annual forest carbon loss. In comparison, only 9% of forest carbon in the same geographic area is lost annually from insect damage, and 3% from conversion to other land uses.⁵⁸ Other recent studies show that among land uses in New England, timber cutting is the leading cause of tree mortality⁵⁹ and has the greatest impact on aboveground carbon storage.⁶⁰ Thus, logging associated with projects such as TGIRP is a material factor impacting regional climate change mitigation.

⁵⁴ Faulkner et al., Vermont Climate Assessment: Executive Summary 1, University of Vermont (2020), attached as Exhibit 29.

⁵⁵ UN Climate Change Conference (COP26), Glasgow Leaders' Declaration on Forests and Land Use (2021), attached as Exhibit 30.

⁵⁶ IPCC, Summary for Policymakers, in Climate Change 2022 Impacts, Adaptations, and Vulnerability 32 (2022), attached as Exhibit 31.

⁵⁷ Erb et al., Unexpectedly Large Impact of Forest Management and Grazing on Global Vegetation Biomass, 553 Nature 73 (2018), attached as Exhibit 32.

⁵⁸ Harris et al., Attribution of Net Carbon Change by Disturbance Type Across Forest Lands of the Conterminous United States, 11:24 Carbon Balance & Management (2016), attached as Exhibit 33.

⁵⁹ Brown et al., Timber Harvest as the Predominant Disturbance Regime in Northeastern U.S. Forests: Effects of Harvest Intensification, 9(3) Ecosphere (Mar. 2018), attached as Exhibit 34.

⁶⁰ Duveneck & Thompson (2019).

2. Arbitrary thresholds of concern

The Forest Service's discussion of the carbon and greenhouse gas ("climate") impacts of TGIRP appears designed to minimize those impacts by comparison to numbers that have no bearing on whether the impacts of TGIRP are acceptable. Early in its discussion of climate impacts, USFS presents a chart describing various "threshold[s] of concern" for assessing impacts.⁶¹ As explained in the Preliminary EA, "Thresholds provide context for an upper level of change before it becomes an unacceptable concern."⁶² Yet the thresholds chosen for climate have no evident connection to the acceptability of impacts.

The Preliminary EA provides the following thresholds:

* "Level of carbon loss results in GMNF to shift from a carbon sink to a carbon source." This threshold reflects a "sky's-the-limit" approach to carbon emissions, as it could be reached only through a catastrophic demolition of forest-wide ecological function resulting from TGIRP. While such an outcome would surely be unacceptable, it cannot represent the minimum threshold for unacceptability. This threshold resembles USFS's attempt, in a different recent logging project, to minimize carbon emissions by comparing them to forest-wide statistics. A federal district court determined that such a comparison did not fulfill the NEPA requirements,⁶³ and USFS has

provided no rationale for why a similar forest-wide comparison is appropriate here.

* "Level of carbon removed exceeds the amount removed if allowable sale quantity harvest is realized." This threshold, too, imposes no meaningful limits on carbon impacts. ASQ represents the maximum volume of timber that can be sold across the entire GMNF in the course of a decade. Using ASQ as a threshold for climate impacts is circular logic[mdash]it means that the only way that the Forest Service can cause unacceptable harm is by logging more than it is allowed to log. There is no indication that the ASQ was established to be a climate safeguard, or any discussion of how climate impacts factored into the determination of the ASQ. There is therefore no basis for the Forest Service to assume that the ASQ represents a threshold for unacceptable climate impacts, and it is arbitrary to do so.

61 Preliminary EA 59-60 tbl. 3-7.

62 Preliminary EA 29.

63 See *Ctr. for Biological Diversity v. U.S. Forest Serv.*, No. CV 22-114-M-DWM, 2023 WL 5310633, at *10 (D. Mont. 2023) ("Under [USFS's] logic, the USFS could always skirt 'hard look' analysis when doing a carbon impacts review by breaking up a project into small pieces and comparing them to huge carbon stocks.").

* "Levels of biogenic and fossil fuel carbon emitted into the atmosphere has a measurable adverse impact." USFS provides no explanation of what this threshold means or how it should be analyzed. Moreover, this threshold directly contradicts the White House Council on Environmental Quality's "National Environmental Policy Act Guidance on Consideration of Greenhouse Gas Emissions and Climate Change," which states:

NEPA requires more than a statement that emissions from a proposed Federal action or its alternatives represent only a small fraction of global or domestic emissions. Such a statement merely notes the nature of the climate change challenge, and is not a useful basis for deciding whether or to what extent to consider climate change effects under NEPA. Moreover, such comparisons and fractions also are not an appropriate method for characterizing the extent of a proposed action's and its alternatives' contributions to climate change because this approach does not reveal anything beyond the nature of the climate change challenge itself[mdash]the fact that diverse individual sources of emissions each make a relatively small addition to global atmospheric [greenhouse gas] concentrations that collectively have a large effect.⁶⁴

In sum, USFS has failed to identify thresholds of concern that enable a rational consideration of whether the climate impacts of TGIRP are acceptable. To the contrary, the thresholds that the Forest Service selected are particularly unsuited to that purpose and fall far short of NEPA's "hard look" requirement.

3. Arbitrary and meaningless comparisons and context

Throughout the Preliminary EA's discussion of climate impacts, USFS presents misleading comparisons that erroneously minimize the effects of its action. For example, Table 3-12 purports to describe how many months are needed for GMNF to recover the carbon lost through TGIRP.⁶⁵ But the chart disregards the additional carbon that the logged areas would have continued accumulating had they been left standing, thereby understating the project's carbon impacts. Claiming that the forest will "recover" that carbon over the course of months ignores the fact that the forest will still be lagging the carbon it would have stored and sequestered in the absence of logging.

Even more perplexing, the Preliminary EA asserts that TGIRP's project-level carbon emissions are smaller than "the uncertainty of carbon stored in key GMNF pools . . . [and] total GMNF ecosystem carbon stocks."⁶⁶ USFS does not explain the significance of these comparisons, but the implication is that project-level emissions are negligible because ecosystem carbon estimates are imprecise. By that logic, the less precisely that total

ecosystem carbon stocks can be measured, the more carbon can be emitted without raising concern. USFS presents no scientific basis for that arbitrary comparison.

64 White House Council on Environmental Quality, "National Environmental Policy Act Guidance on Consideration of Greenhouse Gas Emissions and Climate Change," 88 Fed. Reg. 1196, 1201 (Jan 9, 2023).

65 Preliminary EA 66 tbl. 3-12.

66 Id. 67.

USFS has also failed to justify the timescales that it uses to consider climate impacts. The Preliminary EA acknowledges that TGIRP will result in near-term carbon losses but suggests that such losses will eventually be recovered and, "Over the long term (e.g. 50-100 years), harvesting (including clearcutting) does not typically have negative impacts on total carbon storage."⁶⁷

Standing Trees disputes the premise that clearcutting and other forms of harvest do not have negative carbon impacts over a 50-100 year timeframe. Recent research indicates that, if left unharvested, middle-aged temperate forests in the U.S. could continue accumulating carbon for roughly 200 years.⁶⁸ Forests regenerating from clearcuts will always lag the potential carbon accumulation of the forests they replaced, even over 50-100 years.

But even assuming, for the sake of argument, that post-logging forests may eventually fully achieve the potential carbon storage of their predecessors, the timeline of 50-100 years is not relevant in the context of climate change, which requires urgent emission reductions. A federal court recently reached a similar conclusion in rejecting a USFS carbon analysis:

Ultimately, greenhouse gas reduction must happen quickly and removing carbon from forests in the form of logging, even if the trees are going to grow back, will take decades to centuries to re-sequester. Put more simply, logging causes immediate carbon losses, while re-sequestration happens slowly over time, time that the planet may not have.⁶⁹

CEQ's NEPA Guidance urges that, in line with the urgency of the climate crisis, agencies should use the information provided through the NEPA process to help inform decisions that align with climate change commitments and goals."⁷⁰ The United States' emission-reduction goal under the Paris Agreement is pegged to the year 2030, followed by a goal to achieve a net-zero economy by 2050.⁷¹ In light of the importance of near-term carbon reductions, USFS has not justified its reliance on carbon accounting that extends as much as a century into the future.

4. Failure to consider the social cost of carbon

The Preliminary EA also compares the project's carbon emissions to emissions from residential electric consumption, gasoline-powered vehicles, barrels of oil, and railcars of coal. In making such comparisons, CEQ's Climate Guidance advises, "Such comparisons may be a useful supplement and can, for example, be presented along with monetized damage estimates using [social cost of greenhouse gas] values."⁷² Yet the Preliminary EA contains no mention of the social cost of TGIRP's emissions.

67 Henry & Ontl, Green Mountain National Forest, Telephone Gap Project Biogenic Carbon Estimates Related to Harvest 3 (Jan. 25, 2024), (hereinafter "Henry & Ontl (2024)").

68 Birdsey et al., Middle-Aged Forests in the Eastern U.S. Have Significant Climate Mitigation Potential, 548 Forest Ecology & Management 121373, 9 (2023), attached as Exhibit 35.

69 Ctr. for Biological Diversity, 2023 WL 5310633, at *11.

70 CEQ Guidance, 88 Fed. Reg. at 1204.

71 The White House, President Biden's Actions to Tackle the Climate Crisis, <https://www.whitehouse.gov/climate/> (last visited Mar. 27, 2024).

72 CEQ Guidance 1203.

Assessing the social cost of TGIRP's emissions introduces fundamental questions about why the project is proceeding. USFS estimates that the carbon dioxide emissions from the project will total 183,399 metric tons over 15 years. According to recent estimates from EPA, the mid-range estimate for the social cost of carbon dioxide is \$230/metric ton.⁷³ Multiplying that figure by the 183,399 metric tons of carbon dioxide emissions anticipated from the proposed action,⁷⁴ the social cost of the project's carbon dioxide emissions is \$42,181,770. That cost is likely an underestimate of the project's actual social cost, as it excludes non-climate ecosystem values that the project would impair.

TGIRP's social cost of carbon dwarfs the revenues that it would generate. USFS estimates the present value of the timber sale revenue to be \$2,703,000, or roughly one-sixteenth of the cost to society of emitting the carbon.⁷⁵ (Even that conclusion may be too favorable, considering that the costs to USFS of administering TGIRP are expected to exceed the revenues, resulting in a net loss to the Forest Service.⁷⁶)

USFS must explain why it failed to consider the social cost of carbon, contrary to the recommendation of CEQ. If there is no rational basis for ignoring the metric, then USFS must consider it and explain why TGIRP should proceed despite delivering benefits that fall vastly short of the costs. If the Forest Service decides to proceed, then an EIS is necessary to fully evaluate the drastic discrepancy between the project's exorbitant costs and minimal benefits.

5. Unsupported methods for assessing the fate of carbon in wood products and soil

Compounding the difficulty of assessing TGIRP's carbon impacts, much of the Forest Service's analysis seems to derive from Quantifying Greenhouse Gas Fluxes in Agriculture and Forestry: Methods for Entity-Scale Inventory, which is attributed to "Murray et al. Pending" and does not appear to be available for public review.⁷⁷ As a result, the public cannot analyze USFS's carbon accounting method.

The use of inscrutable carbon accounting methods is especially problematic when the Forest Service relies on assumptions that appear implausible or divergent from other estimates. Such is the case for carbon storage in harvested wood products ("HWP"). For example, USFS asserts that "91% of HWP are still in use or in SWDS [i.e., solid waste disposal sites, or landfills] one decade after harvest, 83% after two decades, and 63% after a century."⁷⁸ But it is impossible

based on the Preliminary EA's discussion to determine how USFS reaches that conclusion or how its conclusion relates to other estimates of long-term carbon storage in HWP. Even the longest-lasting uses of HWP, such as construction, are unlikely to extend beyond 100 years, which significantly exceeds the average lifespan of a building in the United States. It is therefore likely that a large proportion of the 63% of HWP that USFS asserts is in use or in landfills after a century is, in fact, in landfills. As USFS acknowledges, the proportions of HWP from Eastern Region National Forests that are now in use and in landfills are roughly equivalent.⁷⁹ The Forest Service does not justify its apparent assumption that products in use and those in landfills have identical emissions impacts, especially considering the conceded uncertainty about the share of landfill emissions that consist of methane as opposed to carbon dioxide.⁸⁰ The very factor that the Forest Service invokes for slowing

decomposition in landfills—the anaerobic environment—also increases the methane emissions when decomposition occurs. The global warming potential of methane is approximately 28 times that of carbon dioxide over 100 years and 84 times that of carbon dioxide over 20 years.⁸¹ Taking a hard look at climate impacts necessarily requires distinguishing carbon emissions from methane emissions. Failing to make that distinction means that the Forest Service has not fully grappled with the climate impacts.

73 U.S. Env'tl. Prot. Agency, EPA Report on the Social Cost of Greenhouse Gases: Estimates Incorporating Recent Scientific Advances 101 tbl. 4.1.1 (Nov. 2023), attached as Exhibit 36. \$230/metric ton is the mid-range estimate for emissions in 2030 in 2020 dollars. We have used the 2030 estimate because harvest activities under TGIRP may be occurring at that time.

74 Preliminary EA 68 tbl. 3-14.

75 Id. 122 tbl. 3-51.

76 See id.

77 See Henry & Ontl (2024) at 1.

78 Id. at 2.

79 Dugan et al., Forest Carbon Assessment for Green Mountain and Finger Lakes National Forests - Forest Service Eastern Region, Vol. 2, at 14 fig. 4 (Jan. 2024).

80 Id. at 33 (listing "the lack of distinction between methane and CO₂ emissions from landfills" among sources of "[u]ncertainty associated with estimates of carbon in harvested wood products").

81 See European Commission, Methane Emissions, https://energy.ec.europa.eu/topics/oil-gas-and-coal/methane-emissions_en (last visited Mar. 29, 2024).

USFS also does not indicate what percentage of live carbon ends up in long-lived products in the first place. One analysis estimated that, of the carbon stored in a live tree, 46% is lost to logging residue, 22% is lost to mill residue, the equivalent of 17% is emitted in transport, and only around 15% is stored in a product.⁸² Many factors can affect these numbers, which may be different for Telephone Gap. In fact, USFS correctly acknowledges that, "In the eastern U.S., including GMNF, the proportion of long-lived timber products is lower than in other parts of the country which means the turnover time for their carbon storage tends to be shorter."⁸³ But USFS has not provided sufficient information about the percentage of live carbon ultimately stored in HWP, and it has not demonstrated that its conclusions about the longevity of storage in HWP are justified.

In addition to overestimating the amount of carbon stored in wood products, USFS has underestimated the effect of logging on carbon stored in soil.⁸⁴ Contrary to the Forest Service's claims, local studies provide ample evidence that logging significantly reduces soil carbon. For example, a 2014 study from New England that looked specifically at sites in northern New England "found a significant negative relationship between time since forest harvest and the size of mineral soil C pools, which suggested a gradual decline in C pools across the region after harvesting."⁸⁵ At the very least, more analysis is needed to ascertain both short- and long-term impacts of logging on soil carbon. The Forest Service should complete an EIS to fully characterize those impacts.

The significance of the climate impacts from wood products and soil, as well as the unknown degree of impacts, means that USFS must prepare an EIS. More broadly, USFS has not provided a reasoned analysis of any of TGIRP's climate impacts, much less shown them to be insignificant. These impacts are significant and require an EIS.

82 See Ingerson, U.S. Forest Carbon and Climate Change, The Wilderness Society, 11 fig. 8 (2007), attached as Exhibit 37.

83 Preliminary EA 64.

84 Id. 67.

85 Petrenko & Friedland, Mineral Soil Carbon Pool Responses to Forest Clearing in Northeastern Hardwood Forests, 7 GCB Bioenergy 1283, 1283 (2015), attached as Exhibit 38; Lacroix et al., Evidence for Losses from Strongly Bound SOM Pools After Clear Cutting in a Northern Hardwood Forest, Soil Science (2016), attached as Exhibit 39; Buchholz et al., Mineral Soil Carbon Fluxes in Forests and Implications for Carbon Balance Assessments, 6 Global Change Biology: Bioenergy 305 (2014), attached as Exhibit 40.

C. USFS has failed to take a hard look at TGIRP's significant impacts on roadless areas.

The Forest Service acknowledges that approximately 6,511 acres of the Pittenden inventoried roadless area (IRA) are within the project area, and 1,797 acres are proposed for harvest.⁸⁶ The Forest Service's analysis of impacts to roadless areas violates NEPA's "hard look" requirement in three respects: first, USFS disregards three of the four factors influencing the areas' suitability for wilderness designation. Second, USFS does not consider that roadless areas have unique value regardless of whether they are protected under the Roadless Area Conservation Rule ("RACR"). And third, even within its limited scope of analysis, the Preliminary EA does not acknowledge the attributes of the affected roadless area.

Pittenden is a 16,155-acre IRA—the second largest on the GMNF and one of the largest unprotected wildlands in the state of Vermont. The Forest Service argues that, because this IRA was inventoried during the 2006 Forest Plan revision, after the promulgation of the RACR in 2001, it has full discretion to conduct logging activities so long as it does not harvest more than 20% of the IRA using even-aged management, and it may use temporary roads to facilitate timber sales.⁸⁷

The Forest Service has reduced its analysis to whether TGIRP will affect Pittenden's eligibility for consideration in a future Chapter 70 Wilderness inventory and evaluation process. Chapter 70 of the Forest Service Land Management Planning Handbook describes a four-part process that addresses not only an area's minimum eligibility but also an area's suitability for future wilderness designation and management. Steps include: (1) inventory of eligible lands, (2) evaluation of wilderness characteristics, (3) analysis, and (4) recommendation for inclusion in the National Wilderness Preservation System.⁸⁸ USFS has assessed only step 1—whether TGIRP would make Pittenden ineligible for wilderness designation. USFS has failed to assess how the project would affect the likelihood of Pittenden clearing the other three steps to be recommended for, and designated as, wilderness. For example, Chapter 70 asks Forest Service staff to "[e]valuate the degree to which the area generally appears to be affected primarily by the forces of nature, with the imprints of man's work substantially unnoticeable." The Preliminary EA has not addressed this question or other factors that the Forest Service has deemed relevant to a wilderness recommendation.

86 Preliminary EA 112-113.

87 Id. at 113.

88 USFS, "Wilderness, Land Management Planning," Land Management Planning Handbook, Forest Service Handbook 1909.12 ch. 70.62 (2015).

USFS must analyze—and seek to mitigate or avoid—impacts to roadless areas and their unique

attributes regardless of whether those roadless areas are protected by the RACR. The RACR largely prohibits logging and road construction in roadless areas, recognizing that such areas possess special attributes with respect to water, biodiversity, primitive recreation, and other elements regardless of whether an area is ever recommended for wilderness designation by the Forest Service or designated as "Wilderness" by Congress. In the RACR, USFS acknowledged several "values or features that often characterized inventoried roadless areas":

- * "High quality or undisturbed soil, water, and air";
- * "Sources of public drinking water";
- * "Diversity of plant and animal communities";
- * "Habitat for threatened, endangered, proposed, candidate, and sensitive species and for those species dependent on large, undisturbed areas of land";
- * "Primitive, Semi-Primitive Non-Motorized, and Semi-Primitive Motorized classes of dispersed recreation";
- * "Reference landscapes";
- * "Natural appearing landscapes with high scenic quality";
- * "Traditional cultural properties and sacred sites"; and
- * "Other locally identified unique characteristics."⁸⁹

"Forest Plan Revision IRAs" are identical in form and function to RACR IRAs, performing the same invaluable ecosystem services and offering the same benefits for biodiversity. The Forest Service must conduct an EIS of the impacts of TGIRP on the special values that Pittenden harbors as a roadless area, as well as the potential effects on the prospect of future wilderness recommendation and designation.

Additionally, the Preliminary EA fails to consider the value of protecting Pittenden for the roadless-associated values that USFS has previously recognized for this specific area. The Forest Plan recognizes the following attributes of Pittenden:

- * "The headwaters of numerous streams are found in this area";⁹⁰
- * "Due to the size of the area, there are portions that receive very low use, especially in areas without significant trail density";⁹¹
- * "This RA appears natural, with the exceptions of some recent harvest in the Chittenden Brook area, and recent storm damage. Surveys for Non-Native Invasive Species (NNIS) have occurred to the north and south of Chittenden Brook, and no NNIS were found";⁹²
- * "Wilderness designation would benefit those animal species relying upon mature forest habitats (e.g., wood frog, red-backed salamander, ovenbird, scarlet tanager, woodland jumping mouse and fisher); with the passage of time, these designated areas will become a mature and continuous forest"; ⁹³
- * "Generally speaking, larger areas designated as wilderness will provide greater benefit for reclusive species relying on mature forest conditions. This RA is one of the larger areas (>10,000 acres) being evaluated at this time."⁹⁴

⁸⁹ USFS, "Special Areas; Roadless Area Conservation," 66 Fed. Reg. 3244, 3245 (Jan. 12, 2001).

⁹⁰ GMNF 2006 Forest Plan Appendix C 121.

⁹¹ Id. at 122.

⁹² Id. at 123.

⁹³ Id. at 126.

⁹⁴ Id.

The Forest Service must prepare an EIS that carefully examines the effects of TGIRP on the Pittenden IRA. In particular, the EIS must take into account not merely the area's eligibility for evaluation as Wilderness, but also the values that inventoried roadless areas harbor and the specific values that the Forest Plan identified in Pittenden.

The decision to build roads and conduct timber harvests inside of Forest Plan-designated IRAs is a recurring theme for the Forest Service. Although these areas were each inventoried according to the same criteria used to inventory IRAs protected by the RACR, the Forest Service refuses to add these "Forest Plan IRAs" to the official RACR map. This has created a two-class system whereby the Forest Service affords protection to IRAs only if they are recommended for Wilderness designation by Congress. Such a binary evaluation process ensures that IRA character and values will continue to degrade across the landscape, despite their overwhelming value as intact forest landscapes. Instead, the Forest Service should propose to add its Forest Plan IRAs to the Roadless Rule map and conduct a Forest Plan amendment to protect all existing IRAs under Management Areas that will protect their unique qualities. At the very least, USFS should recognize that the impacts on the Pittenden IRA are significant and cannot proceed without an EIS.

D. USFS has failed to take a hard look at TGIRP's significant impacts on water quality.

1. Impacts on surrounding bodies of water

In the Preliminary EA, USFS failed to take a hard look at impacts on water quality in nearby lakes and waterways. The Telephone Gap Project area contains portions of five Hydrologic Unit Code 12 (HUC12) watersheds: the East Creek and Furnace Brook, both of which drain to Lake Champlain via Otter Creek; and the headwaters of the Ottauquechee, Tweed, and Stony Brook- White River Rivers, all of which drain to the Connecticut River.⁹⁵ Most rivers and streams in both the project area and Vermont were heavily impacted by past land uses, including the removal of forest and the manipulation of rivers to transport timber and expand farming.⁹⁶ The project area contains predominantly headwater reaches on NFS lands. As the Forest Service indicated in its Landscape Assessment, "These reaches are benefitting from the age of the forests that surround them. Eighty-five percent of the forest located on NFS lands is 80 years or older. Mature forests provide channel stability, shade, and large wood material."⁹⁷ Despite the Forest Service's own admission of the numerous benefits of leaving these mature trees near headwaters undisturbed, the Forest Service nonetheless proposes that it revert to the very historical land uses and logging practices that seriously damaged these lands in the first place.

⁹⁵ See TGIRP Landscape Assessment 58 (hereinafter "TGIRP Landscape Assessment"); Preliminary EA 81.

⁹⁶ TGIRP Landscape Assessment 58.

⁹⁷ Id.

The Forest Service reported in both its Landscape Assessment and its pre-scoping Wetlands, Soils and Aquatics Virtual Public Meeting held on July 27, 2021, that aquatic habitat, soils and wetlands are in "generally" good condition. The Preliminary EA further described the watershed function as good based on road density and forest cover; found that, "[i]n general, there are no existing water quality concerns within the project area"; and described the condition of wetlands as "good" and the fisheries as "intact."⁹⁸ Upon closer inspection however, and as reported in greater detail in TGIRP Landscape Assessment, serious water quality issues and concerns persist in the proposed project area that will be exacerbated by TGIRP. The unreasonable and unnecessary amount of logging proposed poses serious threats to the project area's stream hydrology, water quality, and in-stream habitat. Accordingly, the Forest Service must thoroughly analyze water quality impacts from its proposed logging as it relates to the phosphorus Total Maximum Daily Load (TMDL) for Lake Champlain, expected increases in stream temperatures, the loss of water retention properties, the ongoing deficit of large woody

debris, and ongoing soil erosion.

The Forest Service must thoroughly analyze water quality impacts from its proposed logging as it relates to compliance with the phosphorus TMDL for Lake Champlain as established by the EPA in June 2016.⁹⁹ The phosphorus TMDL places a cap on the maximum amount of phosphorus that is allowed to enter Lake Champlain without violating Vermont's water quality standards. The TMDL requires about a 5% reduction in phosphorus from forests in the Otter Creek Basin, which includes lands within the Telephone Gap project area.¹⁰⁰ The State of Vermont has issued "Acceptable Management Practices" (AMPs) for logging projects in Vermont to theoretically reduce phosphorus. The Preliminary EA provides only vague statements about the effects of TGIRP on phosphorus levels in Lake Champlain and asserts that compliance with AMPs would be expected to reduce various water quality impacts.¹⁰¹ It states, "Given the negative aquatic resource effects on NFS lands within the project area are expected to be temporary and minimal and would be partially offset by improvement activities such as soil and wetland restoration, the cumulative effects would be undetectable at the Lake Champlain and Connecticut River watershed scales."¹⁰² Such conclusory statements, unsupported by quantitative analysis, suggest that the Forest Service has not taken a hard look at these issues, and it is not clear what "undetectable" means in this context. To properly analyze cumulative effects, the Forest Service must characterize any impact of TGIRP on meeting the Lake Champlain TMDL.

The Forest Service also must thoroughly analyze water quality impacts from its proposed logging as it relates to expected increases in stream temperatures due to climate change. Stream temperature has profound effects on stream ecosystems. Even though the Forest Service considers the stream water temperatures in the project area to be currently suitable for cold water habitat, it also reported in its Landscape Assessment that temperatures in the project area have already occasionally exceeded 70[ordm] Fahrenheit.¹⁰³ Prolonged periods of time where water temperature exceed 70[ordm] Fahrenheit would result in impacts to cold water species in the area, including the brook trout.¹⁰⁴ Ambient air temperatures are expected to increase because of climate change, and an increase in ambient air temperatures would result in an increase in stream water temperatures. Impacts to water quality from climate change would be exacerbated by the extensive logging proposed in TGIRP.¹⁰⁵ But the Preliminary EA makes only glancing reference to water temperature. This impact too must receive further, detailed analysis.

98 Preliminary EA 81-84

99 U.S. Env'tl. Prot. Agency, Phosphorus TMDLs for Vermont Segments of Lake Champlain (2016), attached as Exhibit 41.

100 Id. at 45 tbl. 8.

101 Preliminary EA 85-88, 93.

102 Id. at 88.

103 See TGIRP Landscape Assessment 62.

104 Id.

105 Id.

2. Impacts on water retention and soil erosion

The Forest Service has also failed to thoroughly analyze water quality impacts from its proposed logging as it relates to the loss of water retention properties. The extensive logging proposed by the Forest Service can lead

to changes in the amount of water entering streams as well as the timing of these flows.¹⁰⁶ In forested areas, trees take up water from the soil and release it to the atmosphere through transpiration.¹⁰⁷ Mature forests are especially adept at creating a pit and mound topography that retains water. When trees are logged, less precipitation is taken up by trees and water can move quickly over the land, especially in areas where the soil has been compacted by heavy equipment.¹⁰⁸ During the winter months, snowpacks in logged areas melt more quickly without the shade provided by forests; in the spring, this leads to a higher peak flow occurring during a shorter period of time and can result in flash flooding.¹⁰⁹ The Forest Service must thoroughly analyze how much of the project area's water retention capability will be lost in light of its proposed logging and assess the flood risk of the lands inside and around the project area. But the Preliminary EA provides only conclusory statements about water retention and flood risk.

The Forest Service must also thoroughly analyze water quality impacts from its proposed logging as it relates to the deficit of large woody debris (LWD) in the proposed project area and GMNF as a whole. LWD serves multiple roles in benefitting stream habitat including sediment storage, channel stability, retention of organic material, and habitat structure for fish and aquatic insects.¹¹⁰ As reported by the Forest Service, LWD in the project area and across the GMNF is below the desired amount outlined in the Forest Plan.¹¹¹ TGIRP would exacerbate the low amounts of LWD for generations to come, including through the logging of mature trees. "Low amounts of LWD will remain an issue until there is enough timber along stream channels at an age where senescence leads to recruitment into the channel."¹¹² The Forest Service must thoroughly analyze how its logging of mature trees in the project area will enlarge the pre-existing deficit of LWD, and specifically for how much longer the proposed logging will delay balancing the deficit of LWD in the proposed project area and GMNF as a whole. But the Preliminary EA does not mention LWD in the discussion of water quality.

¹⁰⁶ See Potential Effects of Forestry on Aquatic Ecosystems, Regional Aquatics Monitoring Program, <http://www.ramp-alberta.org/resources/forestry/potential+effects.aspx> (last visited Mar. 9, 2023).

¹⁰⁷ Id.

¹⁰⁸ Id.

¹⁰⁹ Id.

¹¹⁰ See TGIRP Landscape Assessment 62.

¹¹¹ Id.

¹¹² Id.

The Forest Service must also thoroughly analyze water quality impacts from its proposed logging as it relates to ongoing soil erosion in the project area. The inventory of soils on forested lands in TGIRP Landscape Assessment found that, in general, soils within the project area are productive, with fertile organic and topsoil layers.¹¹³ Importantly, the soils show little to no evidence of erosion or compaction, though some erosion and sedimentation are ongoing on some legacy woods roads, which may be by the illegal use of four-wheel-drive-vehicles, snowmobiles, and all-terrain vehicles (ATVs).¹¹⁴ Nonetheless, almost half, 47%, of the approximately 32,745 acres of NFS land within the project area has one or more sensitive soil features, with 26.2% of the NFS land within the project area possessing either severe or very severe off-road erosion hazards.¹¹⁵ Despite the abundance of both sensitive soil types and severe or very severe off-road erosion hazards, the Forest Service proposes management activities to improve soil conditions by erosion stabilization only on "up to" 6.5 miles of existing non-system woods roads through the project area.¹¹⁶ In light of the extensive logging proposed, the Forest Service's erosion stabilization proposal may be completely ineffectual, as the amount of proposed logging threatens to cause more erosion than the Forest Service intends to stabilize. The Forest Service must thoroughly

analyze the extent and amount of erosion that will result from its proposed logging activities as part of its overall environmental analysis.

3. Impacts on flood risk

The Preliminary EA's analysis of flood risk from TGIRP is also deficient. In light of recent, catastrophic flooding in New England—and around the world—the Forest Service should consider how forests can mitigate the catastrophic effects of climate change, including flood events. In particular, old forests are the most resilient to changes in the climate, producing the highest outputs of ecosystem services like clean water, and reducing the impacts of droughts and floods. These ecosystem services protect downstream communities from flooding, purify drinking water at low cost, and maintain base flows and low temperatures in rivers during hot summers for the benefit of fish and wildlife.

In New England, frequent flooding and nutrient-driven water quality degradation are two of the most costly environmental crises, and both are compounded by climate change. Mature and old forests naturally mitigate damage caused by flooding and drought by slowing, sinking, and storing water that would otherwise rapidly flow into streams, rivers, and lakes.¹¹⁷ Scientists have also shown that old forests are exceptional at removing nutrients that drive harmful algae blooms, like phosphorus.¹¹⁸

¹¹³ Id. at 65.

¹¹⁴ Id.

¹¹⁵ Id. at 65, 65-66 tbl. 10.

¹¹⁶ Preliminary EA 19.

¹¹⁷ Underwood & Brynn (2015), 8-10, 13.

¹¹⁸ Warren et al. 2018, at 161.

After Tropical Storm Irene ravaged New England in 2011, Vermont's Department of Forests, Parks, and Recreation commissioned a report entitled "Enhancing Flood Resiliency of Vermont State Lands." According to the report:

There may be a tendency to assume that lands in forest cover are resilient to the effects of flooding simply by virtue of their forested status. However, forest cover does not necessarily equate to forest health and forest flood resilience. Headwater forests of Vermont include a legacy of human modifications that have left certain land areas with a heightened propensity to generate runoff, accelerate soil erosion, and sediment streams. These legacy impacts affect forest lands across the state The quality of [today's] forests is not the same as the pre-Settlement old growth forests. The legacy of early landscape development and a history of channel and floodplain modifications continue to impact water and sediment routing from the land."¹¹⁹

Considering the ongoing threat of flooding in Vermont—including catastrophic flooding just since the release of the scoping notice in early 2023—it is critical that USFS take a hard look and provide a full public explanation of how flood risk informed its project planning and how TGIRP is integrated into regionwide flood planning. The effects of TGIRP on flood risk are likely significant—and are, at the very least, unknown—necessitating the production of an EIS.

E. USFS has failed to take a hard look at TGIRP's significant impacts on the endangered northern long-eared bat.

Since USFS began planning TGIRP, the U.S. Fish & Wildlife Service uplisted the northern long-eared bat ("NLEB") from threatened to endangered status under the Endangered Species Act ("ESA").¹²⁰ The ESA requires each federal agency to "insure" that any agency action "is not likely to jeopardize the continued existence of any endangered species or threatened species."¹²¹ The ESA also requires federal agencies to "utilize their authorities in furtherance of the purposes of [the ESA] by carrying out programs for the conservation of endangered species and threatened species."¹²² With TGIRP, the Forest Service falls short of those requirements in three significant respects, which violates the ESA and the analytical requirements of NEPA.

First, the Preliminary EA does not take a hard look at the impacts of the project on NLEB in or near the project area. USFS acknowledges that NLEB have a "high" likelihood of occurrence in the project area, including the area where management is proposed.¹²³ But the Preliminary EA does not explain how USFS's measures to protect NLEB are adequate. This deficiency results partly from inconsistent statements about the likely prevalence of NLEB in the project area. The Preliminary EA states that "[t]he project area provides ample suitable foraging and roosting habitat for northern long-eared bats" but, in recent surveys, "no specific northern long-eared bats were identified."¹²⁴ Yet the project's Biological Evaluation states, "[A]coustic survey results indicate that NLEB still occur on the GMNF, including sites in the Telephone Gap IRP area."¹²⁵ USFS has not explained this discrepancy or how it will protect the NLEB identified in the acoustic surveys.

¹¹⁹ Underwood & Brynn (2015) 8.

¹²⁰ See U.S. Fish & Wildlife Service, "Endangered and Threatened Wildlife and Plants; Endangered Species Status for Northern Long-Eared Bat," 87 Fed. Reg. 73,488 (Nov. 30, 2022).

¹²¹ 16 U.S.C. [sect] 1536(a)(2).

¹²² Id. [sect] 1536(a)(1).

¹²³ See Preliminary EA 71 tbl. 3-17.

¹²⁴ Id. at 71.

¹²⁵ USFS, Green Mountain National Forest, Telephone Gap Integrated Resource Project, Biological Evaluation (Wildlife) 18 (Oct. 10, 2023).

Moreover, USFS has not explained why the 0.25-mile "buffer" from potential NLEB hibernacula is sufficient. The USFS Bat Conservation Strategy ("BCS") for Regions 8 and 9 provides the following "Rationale for Buffer Size":

In Oklahoma, three northern long-eared bats were tracked to 84 locations in September-October, with 23% of swarming locations within 0.25 miles of the hibernaculum, and an average swarming distance of 0.83 miles (ESI 2018).

In Nova Scotia, six Northern long-eared bats were tracked to 12 locations in September, with 67% of swarming roosts within 1.2 miles of the hibernaculum, and an average swarming distance of 2.2 miles for males and 3.0 miles for females (Lowe 2012).¹²⁶

A 0.25-mile buffer appears to be inadequate based on the vast majority of swarming locations in Oklahoma and measures even more poorly compared to swarming locations in Nova Scotia. If anything, the results from Nova Scotia may be more informative because of the relative proximity of that location to the project area and its similarities in climate, habitat, and landforms. USFS has not justified its use of such a small buffer area.

This shortcoming affects not only NLEB within the project area but also those within a couple of miles whose

swarming sites would likely overlap with the project area. The Preliminary EA does not indicate that USFS has surveyed proximate areas[mdash]regardless of land ownership[mdash]for NLEB. Failure to consider NLEB that have hibernacula outside the project area, but that use the project area as a swarming site, is a significant oversight in USFS's analysis.

Similarly, the Forest Service has not explained how its buffer to avoid harvesting within 25 feet of perennial streams is sufficient to protect NLEB.¹²⁷ The BCS recommends, "Maintain streamside and riparian zones of at least 150 feet around perennial streams and other water bodies to the extent practicable. Within these zones, encourage restoration and maintenance of native ecosystem composition, structure, processes, and connectivity to improve roost and foraging habitat."¹²⁸ Thus, the BCS suggests buffers at least six times the width of those proposed for TGIRP. The Preliminary EA does not explain why such minimal buffer zones around perennial streams will ensure the protection of NLEB.

¹²⁶ USFS, Bat Conservation Strategy for Forest Service-Managed Lands of the Eastern United States 76 (Mar. 4, 2024).

¹²⁷ See Preliminary EA 16.

¹²⁸ USFS, Bat Conservation Strategy 62.

The BCS also advises, "Minimizing the use of pesticides is a good practice that is consistent with the principles of integrated pest management as described in Forest Service Manual 2900."¹²⁹ But USFS has not explained if or how that consideration factored into its decision-making about pesticides proposed for use in TGIRP.

The second way in which the Preliminary EA's assessment of impacts on NLEB falls short arises in the comparison of alternatives. The BCS notes that NLEB "are often detected in mature, cluttered forests and roost in interior forest sites."¹³⁰ But while the four alternatives in the Preliminary EA would have vastly different impacts on mature forests, USFS concludes that among Alternatives B, C, and, D "[t]here is no measurable difference in the effects associated with threatened, endangered, and sensitive wildlife species" and that changes in habitat conditions under Alternative A (the no-action alternative) "would be negligible."¹³¹

USFS's determination appears to be premised on the lack of any measurable effects on imperiled species including the NLEB. As described above, the Forest Service has not justified that assumption. In addition, the Forest Service has an affirmative duty to "carry[] out programs for the conservation of endangered species."¹³² The four alternatives vary significantly in the amount of mature forest expected in the project area in coming years. Beyond avoiding impacts on NLEB, the Forest Service must assess the different impacts of the alternatives on future prospects for NLEB conservation and recovery, including the impacts on the amount of NLEB's preferred habitat (mature forest), in the project area.

The third significant flaw in the Preliminary EA's treatment of NLEB relates to USFS's disregard of young forest habitat created through means other than even-aged management. This defect, which affects many aspects of the Preliminary EA, prevents USFS from rationally evaluating impacts on NLEB.¹³³ USFS must make a reasoned determination about the tradeoffs of creating and decreasing various habitat types. TGIRP would replace much of the habitat most amenable to NLEB with younger forests. But if the Forest Service is not accounting for the regenerating forest already on the landscape[mdash]including on federal, state, and private lands[mdash]then it cannot make a reasoned decision about the need to replace mature forest.

The Forest Service must prepare an EIS to analyze the impacts of TGIRP on the endangered NLEB and to ensure that it is fully complying with the ESA.

F. USFS has failed to take a hard look at TGIRP's significant impacts from hut construction, use, and

maintenance.

The Forest Service has failed to evaluate the impacts of the proposed South Pond hut. The Forest Plan makes no mention of the possibility of or desire for hut construction. There has been no analysis of whether new huts are a reasonable or equitable use of public lands, whether the huts are appropriate in any particular management area on the GMNF, or whether huts are appropriate away from developed frontcountry (car-accessible) recreation areas. A decision to construct a hut also commits the GMNF to a management regime that extends beyond the life of the current Forest Plan (which is already expired) and also beyond the duration of TGIRP. Such a weighty decision requires additional analysis in an EIS since it was never considered in the Forest Plan. Rather than allowing private interests to dictate public land management, Standing Trees urges USFS to use a transparent and collaborative planning process, facilitated by a third party, to determine whether and where a hut system is appropriate.

129 Id. 63.

130 Id. 45.

131 Preliminary EA 73.

132 16 U.S.C. [sect] 1536(a)(1).

133 For example, the Biological Evaluation claims that the project area contains "no stands in the regenerating (0 to 9 years) age class," without accounting for regenerating forest at less than the stand scale. USFS, Biological Evaluation (Wildlife) 3.

The South Pond hut does not meet criteria for Recreation Rental Cabins in FSH 2309.13-2018 13.3. The Forest Service handbook does not consider the construction of new rental cabins, much less the construction of new rental cabins by private parties for private financial benefit, where the cost of a night's stay is little or no different from a standard rental house offered via a private service like Airbnb or VRBO.

Regarding rental cabins, the Forest Service Handbook states:

13.3 - Recreation Rental Cabins

1. Identify opportunities to preserve and maintain historic buildings under the recreation rental cabin program. Preserve the historic character of recreation rental cabins by selecting appropriate furnishings, restoration materials such as paint color, flooring, and landscaping.
2. Complete a recreation rental cabin feasibility plan for the administrative unit or ranger district.
3. Complete an analysis to address demand, needed capital improvements, and long-term maintenance for recreation rental cabins.
4. Select potential recreation rental cabins that will meet the national quality standards (FSH 2309.13, sec. 53.1-53.14).
5. Recreation rental cabins must comply with ABAAS.134

In the case of the South Pond hut, a new structure is proposed for rent via a private organization. Members of this private organization could have preferential benefits for reserving the cabin. The South Pond hut proposes a new cabin on a site where no similar structures exist. No information has been provided as to how hut rental income will be distributed, or what (if any) funds will go to the public as payment for use of public lands. Based on the price of the Chittenden Brook hut, the hut will rent for \$99 to \$155 per night, plus the Vermont Meals and Rooms Tax, which applies to all hotels and other room rentals. 135 USFS has not indicated whether this is a lease and, if so, what the terms are or the fate of the hut when the lease ends or the special use permit is not

renewed.

The significant impacts of hut construction and the long-term impacts of hut use and maintenance, as well as commitment of public resources for this private project, necessitate analysis in an EIS. As explained later in these comments, USFS must also analyze the cumulative impacts of the network of huts planned throughout the region.

134 USFS, FSH 2309.13 Recreation Site Handbook 45-46 (2018).

135 Chittenden Brook Hut, Vt. Huts Ass'n <https://vermonthuts.org/huts/chittenden-brook-hut/> (last visited Apr. 5, 2024).

G. USFS has failed to take a hard look at TGIRP's significant impacts concerning non-native invasive species.

The Forest Service has failed to adequately analyze the impact of TGIRP on invasive species or explain how the project is consistent with USFS's obligation to manage invasive species.¹³⁶ The Forest Service has acknowledged the importance of addressing invasive species on several occasions. For example, the Forest Service National Strategic Framework for Invasive Species Management from August of 2013 (hereinafter "2013 Framework") acknowledges that "[i]nvasive species are among the most significant environmental and economic threats facing our Nation's forest, grassland, and aquatic ecosystems."¹³⁷ The prevalence of this problem, the issuance of President Clinton's Invasive Species Executive Order 13112¹³⁸ and President Obama's Executive Order 13751, Safeguarding the Nation From the Impacts of Invasive Species (hereinafter "EO 13751"),¹³⁹ and a lack of a comprehensive Forest Service approach to invasive species, prompted the Forest Service to develop several documents on how to manage invasive species.

Section 3 of EO 13751 states that

Each Federal agency for which that agency's actions may affect the introduction, establishment, or spread of invasive species shall, to the extent practicable and permitted by law,

1. identify such agency actions;
2. subject to the availability of appropriations, and within administrative, budgetary, and jurisdictional limits, use relevant agency programs and authorities to:
 1. prevent the introduction, establishment, and spread of invasive species;
 2. detect and respond rapidly to eradicate or control populations of invasive species in a manner that is cost-effective and minimizes human, animal, plant, and environmental health risks; . . . and
3. refrain from authorizing, funding, or implementing actions that are likely to cause or promote the introduction, establishment, or spread of invasive species in the United States unless, pursuant to guidelines that it has prescribed, the agency has determined and made public its determination that the benefits of such actions clearly outweigh the potential harm caused by invasive species; and that all feasible and prudent measures to minimize risk of harm will be taken in conjunction with the actions.¹⁴⁰

¹³⁶See USFS, Forest Service National Strategic Framework for Invasive Species Management 6 (2013) (hereinafter "2013 Framework") (stating that "[t]he Forest Service is obligated by law, and regulations such as Executive Order 13112, to respond to invasive species that threaten terrestrial and aquatic resources of the National Forest System and to collaborate with Federal, State, and local partners to address invasive species that can spread from adjacent lands.").

¹³⁷ Id. at 5.

138 Executive Order 13112 of February 3, 1999, "Invasive Species," 64 Fed. Reg. 6183 (Feb. 8, 1999).

139 Executive Order 13751 of December 5, 2016, "Safeguarding the Nation From the Impacts of Invasive Species," 81 Fed. Reg. 88,609 (Dec. 8, 2016). EO 13751 amended EO 13112.

140 Id. at 88610-11.

In addressing its obligations regarding invasive species, the Forest Service developed the manual FSM 2900 - Invasive Species Management in 2011 which "sets forth National Forest System policy, responsibilities, and direction for the prevention, detection, control, and restoration of effects from aquatic and terrestrial invasive species (including vertebrates, invertebrates, plants, and pathogens)." 141 The Forest Service's request for public comment on FSM 2900 explicitly stated that the purpose of this proposed directive was to address several assessments, which had identified that "the National Forest System lacked a comprehensive policy (Forest Service directive) to provide specific direction to the field on the management of a full suite of aquatic and terrestrial invasive species."142 This lack of a "consolidated stand-alone directive" was identified as a "limiting factor" which "highlighted that the invasive species issue was not well understood" by the agency and further illustrates the importance of the Forest Service abiding by its own policy developed to address this issue.143

FSM 2900 states generally that the Forest Service should take actions to prevent and understand the spread of invasive species. Specifically, FSM 2900 advises that "[w]hen applicable, invasive species management actions and standards should be incorporated into resource management plans at the forest level, and in programmatic environmental planning and assessment documents at the regional or national levels."144 The Forest Service should incorporate its management plans into the Telephone Gap Project environmental analysis documents because the Forest Service notes the presence of multiple invasive species within the project area.

The TGIRP Landscape Assessment notes that [t]wenty [non-native invasive plant species], or species groups, represented by a total of 151 infestations are documented to occur in the Telephone Gap project area. The most common are non-native honeysuckles, common reed, Japanese knotweed, and wild chervil. Least common are oriental bittersweet, burning bush, and glossy buckthorn. There were also three species reported that are usually not tracked on the GMNF (bull thistle, Canada thistle, and creeping jenny). Most infestations are along road or trail edges, and wetland edges. Very few are in habitat interiors[hellip]"145

141 USFS, FSM 2900, Invasive Species Management 1 (2011) (hereinafter FSM 2900).

142 USFS, "National Forest System Invasive Species Management Policy," 76 Fed. Reg. 32,135, 32,135 (June 3,

2011).

143 Id.

144 FSM 2900, at 11.

145 TGIRP Landscape Assessment 51 (emphasis added).

The Preliminary EA updates these figures, reducing the number of non-native invasive plant species within the project area to sixteen but increasing the number of infestations to 184.146 The Preliminary EA also notes that "additional unmapped infestations are likely present."147

Road construction and timber cutting threaten to worsen existing infestations and introduce non- native invasive

species to regions of the Telephone Gap project area where they do not currently exist. Disturbance caused by logging and associated roads and trails can trigger rapid invasive plant population expansion due to increased light, forest floor disturbance, soil compaction, reduced drainage, and changes in soil nutrient content and organic matter.¹⁴⁸

The 2013 Framework explains that the species management approach is to (1) prevent, (2) detect, (3) control and manage, and (4) restore and rehabilitate.¹⁴⁹ Further, the 2013 Framework notes that this specific approach is "needed for an effective invasive species program," again illustrating the importance of the Forest Service applying this framework to projects where invasive species are prevalent.¹⁵⁰ Here, the Forest Service should provide more information on the invasive species in the project area, the impact that the project actions will have on exacerbating the issue, how the Forest Service plans to address Sec. 2, subpart 3 of Executive Order 13751,¹⁵¹ and, if the Forest Service plans to move forward with this Project, how it plans to incorporate the invasive species management policy to prevent and control the invasive species in the project area.

The significant increase in infestations in just a couple of years suggests that infestations are increasing rapidly, or that existing infestations are being discovered frequently, or both. While USFS lists several preventive and monitoring measures that it plans to take around invasive species, it has not explained how the additional risk posed by TGIRP is defensible in the face of a major problem that is growing ever more severe. Nor does the Forest Service describe how effective its preventive and monitoring measures are likely to be[mdash]for example, the likelihood that a new infestation discovered through routine monitoring could be successfully eradicated. The information in the Preliminary EA cannot support a finding of no significant impact regarding non-native invasive species. If the Forest Service proceeds with this project, an EIS is required.

The Forest Service has also failed to explain how the project's measures to prevent the introduction of invasive species are adequate. In particular, TGIRP contains the following design feature: "Prior to wheeled or tracked equipment use, the equipment must be cleaned to ensure no plant propagules or mud containing them is moved onto National Forest System land. This does not apply to logging trucks or personal work vehicles used only for log landing access."¹⁵² USFS provides no justification for the exception for logging trucks and personal work vehicles used for log landing access. TGIRP will entail significant new road construction and up to 65 new log landings.¹⁵³ That will significantly expand the area of the forest that is highly vulnerable to the introduction of non-native invasive plants. The Forest Service must evaluate the impact of giving uncleaned vehicles frequent access to these vulnerable areas.

¹⁴⁶ Preliminary EA 53.

¹⁴⁷ Id.

¹⁴⁸ Olson et al., Nonnative Invasive Plants in the Penobscot Experimental Forest in Maine, USA: Influence of Site, Silviculture, and Land Use History, 138 *Journal of the Torrey Botanical Society* 453 (2011), attached as Exhibit 42.

¹⁴⁹ 2013 Framework 7.

¹⁵⁰ Id.

¹⁵¹ EO 13751, 81 Fed. Reg. at 88611 (requiring federal agencies to refrain from implementing actions that are likely to cause or promote the spread of invasive species).

¹⁵² Preliminary EA Appendix A-2.

¹⁵³ See Preliminary EA 18.

H. USFS has failed to take a hard look at the effectiveness of TGIRP's logging restrictions.

Several of the purportedly protective restrictions on logging in TGIRP are too vague to be meaningfully assessed, resulting in needless uncertainty about the impacts of the project. For example, USFS states:

Use of heavy equipment for felling or skidding timber would be limited by the following operating season restrictions:

1. Units identified for winter harvest operations may only occur when soil is sufficiently frozen or snow covered (by at least 12 inches) to prevent rutting, erosion, or compaction, or if conditions are conducive to prevent excessive soil impacts per agreement by Forest timber staff and the soil scientist.
2. Units identified for non-winter harvest operations may only occur if soils are sufficiently dry to minimize rutting and compaction per agreement by Forest timber staff and the soil scientist. This is generally considered to be during the driest part of the summer (typically from mid-July to late September), when soils are dry enough to resist compaction and rutting.¹⁵⁴

For winter harvest operations when the ground is neither frozen nor covered by a foot of snow, the reliance on agreement between timber staff and the soil scientist is extremely ambiguous. There is no indication of what criteria they will use to determine whether conditions are suitable for heavy equipment. Such ambiguity is especially concerning as climate change reduces the number of days with frozen ground or heavy snow cover, creating a risk that winter harvest will increasingly result from discretionary agreements. USFS must explain what impacts it anticipates from logging under these circumstances and provide clear criteria for when such logging will be allowed.

Similarly, climate change is upending assumptions about the driest part of summer. In several recent years, unusual precipitation events have occurred from mid-July through late September. In order to facilitate a meaningful analysis of project impacts, the Forest Service must articulate how it will determine whether soils are "sufficiently dry" to accommodate heavy equipment.

The Forest Service creates another ambiguity by stating, "Vegetation treatments in stands over 2,500 feet in elevation may be considered on a case-by-case basis per agreement by Forest soil staff."¹⁵⁵ The Preliminary EA does not explain the conditions under which this high-altitude logging may be permitted, thwarting any assessment of impacts. Vermont requires a special permit for logging above that altitude on state lands, recognizing the concerns raised by such activities.¹⁵⁶

USFS must prepare an EIS to explain when logging above 2,500 feet may occur, what the impacts of such logging may be, and how such logging compares to what would be allowed under state law. The EIS must also provide more information and analysis about what soil conditions will be deemed suitable for heavy equipment.

¹⁵³ See Preliminary EA 18.

¹⁵⁴ Preliminary EA Appendix A-4.

¹⁵⁵ Id.

¹⁵⁶ 10 V.S.A. ch. 151 [sect][sect] 6001, 6081.

I. USFS has failed to take a hard look at TGIRP's significant impacts from prescribed fire treatments.

The Preliminary EA does not contain adequate analysis of the proposed prescribed fire treatments, including the

impacts of departing significantly from the region's natural fire regime. Although prescribed fire treatment is proposed for 963 acres,¹⁵⁷ the Preliminary EA lacks a wildfire risk analysis, and it generally fails to support a need for prescribed fires. The Preliminary EA asserts the benefits of prescribed fire; however, it fails to include relevant supporting evidence that prescribed fire will benefit these proposed action areas. The Forest Service should document relevant supporting evidence, applicable in Eastern Forests, for its assertions for public review.

The Preliminary EA states:

There is a need to increase oak habitat on sites where some amount of northern red oak currently occupies a part of the forest overstory composition. Existing stands where oak dominates the overstory occurs on approximately 76 acres or less than 1 percent of the project area compared to the HMO objective of 1 to 5 percent. Oak requires frequent disturbance such as fire or cutting to establish seedlings and out-compete other tree regeneration. Without action, these stands will gradually lose their oak component. Silvicultural treatments can replicate the disturbance process to promote oak regeneration and release subsequent growth into the forest canopy. Increasing the occurrence of northern red oak in areas where it is suited would increase resilience of the project area to future climate conditions.¹⁵⁸

Historically (and currently), fire has been rare in New England's forests. As one indication, the GMNF Forest Plan explains that, in wilderness areas, "Components of the natural disturbance regime will include individual tree throw, infrequent large-scale blow down, very infrequent fire, insect damage, and beaver flooding."¹⁵⁹ In contrast, the Preliminary EA proposes that "[p]rescribed fire treatment areas totaling 963 acres would be burned every three years over a 15- year period." That would seem to greatly exceed the frequency of the natural fire regime. While there is a role in some forests for prescribed fire to replicate or reintroduce natural processes, the proposed treatment instead appears to deviate from those processes. USFS has not explained why such intensive, repeated fire treatment is necessary and desirable. The impacts of prescribed fire as proposed in the Preliminary EA are unknown and likely significant, and an EIS is required.

¹⁵⁷ Preliminary EA 97-98.

¹⁵⁸ Id. at 8.

¹⁵⁹ GMNF Forest Plan 49 (emphasis added).

III. USFS Has Failed to Take a Hard Look at TGIRP's Significant Cumulative Impacts.

The Forest Service has left the cumulative impacts of the project largely unassessed. NEPA and CEQ's regulations require the Forest Service to consider cumulative impacts,¹⁶⁰ and a rigorous analysis of such impacts is especially critical for a project with the scope and complexity of TGIRP. A lawful cumulative impacts analysis includes consideration of "the incremental effects of the action when added to the effects of other past, present, and reasonably foreseeable actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions."¹⁶¹ "Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time."¹⁶² A proper consideration of cumulative effects "must be more than perfunctory" and "requires some quantified or detailed information."¹⁶³ "General statements about possible effects and some risk do not constitute a hard look absent a justification regarding why more definitive information could not be provided."¹⁶⁴

Below we describe how USFS has failed to assess cumulative impacts in several areas. This is only a partial list of cumulative impacts that the Forest Service must analyze.¹⁶⁵

A. USFS has failed to take a hard look at TGIRP's significant cumulative impacts on forest habitat.

USFS has failed to consider the cumulative impacts of TGIRP on forest habitat. Most notably, USFS has not considered the cumulative effects of converting significant portions of mature and old forest—which is rare compared to its historical prevalence—to regenerating forest. As noted above, USFS must consider natural methods of regeneration and include regeneration that is smaller-scale than the effects of even-aged harvest. The Preliminary EA ignores regeneration that occurs through any means other than even-aged harvest, unlawfully restricting the analysis of how USFS-recognized regeneration relates to other regenerating forest on the landscape.

In addition, USFS predicts that, without future management activities, the regenerating forests will mature beyond the early age class.¹⁶⁶ Yet USFS also asserts that, within the next 50 years, "[n]o timber harvest or other habitat treatments are planned within the project area besides the Telephone Gap proposal."¹⁶⁷ The statement that no additional treatments are currently planned is not sufficient when USFS is engineering a landscape that will foreseeably require additional treatments within the temporal period considered—whether those treatments involve maintaining the young forest in the project area or replacing it with other young forest elsewhere in GMNF.

¹⁶⁰ See 40 CFR [sect][sect] 1502.16, 1508.1(g)(3).

¹⁶¹ Id. [sect] 1508.1(g)(3).

¹⁶² Id.

¹⁶³ *Killgore v. SpecPro Pro. Servs., LLC*, 51 F.4th 973, 989 (9th Cir. 2022) (citing *Klamath-Siskiyou Wildlands Ctr. v. BLM*, 387 F.3d 989, 993-94 (9th Cir. 2004)).

¹⁶⁴ *Klamath-Siskiyou*, 387 F.3d at 993 (quotations and citations omitted).

¹⁶⁵ For another example, see the earlier discussion of the Lake Champlain TMDL.

¹⁶⁶ Preliminary EA 50; see also id. 44 tbl. 3-4.

¹⁶⁷ Id. at 49.

Alternatively, if USFS intends to allow the regenerating forest created through even-aged management to mature without replacement, then it must explain why such intensive treatment methods justify such a short-lived purported benefit.

With respect to the creation of young forests, the definitive study on disturbance regimes in the Northeastern U.S. suggests that early successional forests historically covered only 1-3% of the Northern Hardwood forest.¹⁶⁸ Early successional habitat in New England is created every day with logging operations on private lands, and it is widespread in locations such as abandoned fields and powerline or pipeline rights-of-way. Cutting down interior mature forests that are well on their way towards achieving the characteristics of old forests is a grave mistake when old forests—historically the dominant forest type across most of northern New England—are functionally absent from the landscape.¹⁶⁹

With very little explanation, USFS attempts to dismiss these concerns:

It was suggested by public comments the premise for creating early successional habitat is flawed because it is based on consideration of manipulated habitat conditions created during post-European disturbance activities and the resulting increase of wildlife populations benefitting from the unnatural abundance of this habitat type (Kellett et.al., 2023). The assumption to preclude the need for early successional habitat is not supported by most

scientific literature (King and Schlossberg 2014, Littlefield and D'Amato 2021, and King et.al. 2023) which conclude forests with a component of regenerating age class support more wildlife diversity on the landscape.¹⁷⁰

But USFS misrepresents the concerns about its plan. The question is not whether early successional habitat has an important role in forest ecology. Rather, the questions are whether there is really a shortage of such habitat across the region; whether and to what degree it is appropriate to conflate the ecological conditions created through timber harvest with those created by natural disturbances; whether USFS is accounting for all such habitat that currently exists, regardless of how it was created; and, to the extent that additional early successional habitat is needed (which Standing Trees disputes), whether the optimal way to create it is by converting mature and old forests in GMNF using logging. USFS has failed to address these questions.

Another concern is that USFS generally limits its NEPA analysis to the project area,¹⁷¹ but that designation is arbitrary in many contexts, including the assessment of cumulative impacts. Many of New England's native fish and wildlife species, including those that are often most imperiled, such as the northern long-eared bat, pine marten, brook trout, Blackburnian and Cerulean warblers, scarlet tanagers, and wood thrush, depend on large, unfragmented landscapes and structurally-complex old forests for suitable habitat.¹⁷² Mature, unfragmented, interior forests are rare in New England overall, making the GMNF an important concentration of such habitat within the state of Vermont and a critical forested landscape in the context of the broader New England-Adirondack region. When this habitat is fragmented or degraded, such as through road construction and logging projects, these species experience increased threats from interactions with humans, predation, changes in microclimates, the spread of invasive species, and other fragmentation and edge effects. USFS must assess cumulative habitat impacts across the region.

¹⁶⁸ Lorimer & White (2003).

¹⁶⁹ Zaino et al. (2018).

¹⁷⁰ Preliminary EA 36-37.

¹⁷¹ Id. at 35.

¹⁷² Zaino et al. (2018); Askins, The Critical Importance of Large Expanses of Continuous Forest for Bird Conservation, Connecticut Audubon Society (2015), attached as Exhibit 43.

B. USFS has failed to take a hard look at TGIRP's significant cumulative impacts on climate.

Rather than evaluate cumulative climate benefits, USFS has unlawfully taken a tunnel-vision approach. The Forest Service's assessment of cumulative carbon impacts is limited to the carbon balance within GMNF. Even without that narrow field of analysis, the assessment falls short by considering only "the area of GMNF where previously approved future planned timber harvests overlap temporally with Telephone Gap project proposed harvest treatments."¹⁷³ A proper assessment would consider the long-term carbon impacts of management in GMNF. It also should not presume the absence of future logging activities—which would significantly break with historical and ongoing practice—unless GMNF affirmatively states that no future logging is anticipated.

Limiting the carbon assessment to the GMNF land area is especially inappropriate because USFS itself is conducting logging activities on national forests across the country. The cumulative impacts analysis must encompass activities even by actors entirely outside of the federal government, but here USFS has excluded the impacts of its own activities. The Forest Service must resolve that defect.

As described above, USFS has also failed to explain how TGIRP relates to the nation's greenhouse gas

reduction goals, including the target under the Paris Agreement to reduce greenhouse gas emissions 50-52% by 2030. National efforts to reduce emissions provide vital context for an analysis of climate impacts. Even though the carbon impacts of any single activity may appear small in a national context, the Forest Service, which has unique ability to help mitigate the climate crisis, should at least assess whether its activities are making national goals easier or harder to achieve.

C. USFS has failed to take a hard look at TGIRP's significant cumulative impacts from hut and trail construction, use, and maintenance.

The Preliminary EA does not address the cumulative impacts of building a network of huts and trails across the region. USFS must address the cumulative impacts of hut construction, use, and maintenance. The GMNF has already approved several Vermont Huts Association huts. The Vermont Huts Association has indicated a clear desire to construct additional huts in a variety of settings across the GMNF to create a system or network.¹⁷⁴ A Vermont Sports article dated November 13, 2020, suggests a Vermont Hut Association vision of "30-45 Vermont Huts."¹⁷⁵

¹⁷³ Preliminary EA 69.

¹⁷⁴ See Vermont Hut and Trail System Wins \$526k Grant, Vt. Sports (Nov. 13, 2020), <https://vtsports.com/vermont-hut-and-trail-system-wins-526k-grant/> (estimating "30-45 Vermont Huts").

¹⁷⁵ Id.

These huts should be reviewed for their cumulative impact in addition to their individual local impacts. There is no question that the entire hut network is reasonably foreseeable for the purpose of NEPA analysis[mdash]USFS described the hut network in its notice of proposed action for TGIRP, USFS is listed as a partner on the homepage of Vermont Huts Association's website, and USFS consulted Vermont Huts Association when developing TGIRP.¹⁷⁶ Yet each hut has thus far been treated as an isolated event, in violation of NEPA. USFS must assess how many of the huts will be built on the GMNF and how the setting, construction, and use of the hut network will impact the environment.

USFS has also failed to consider the cumulative impacts of the Velomont Trail, which USFS describes as "a planned multi-use trail network envisioned to cross Vermont's state, private, and federal lands from Canada to Massachusetts."¹⁷⁷ TGIRP would entail 14.8 miles of new trail construction for the Velomont and adding the Velomont to 13.7 miles of existing roads or trails.¹⁷⁸ The Velomont intends to build a 485-mile "hut-supported trail system" and is closely affiliated with Vermont Huts Association.¹⁷⁹ USFS is also credited with supporting the Velomont and consulted the Velomont Collective when developing TGIRP.¹⁸⁰ It is entirely foreseeable[mdash]and, in fact, explicitly stated[mdash]that the Forest Service's action will be accompanied by extensive trail development stretching across Vermont. USFS's failure to assess the cumulative impacts of the trails, together with the huts that support them, violates NEPA.

D. USFS has failed to take a hard look at TGIRP's significant cumulative socioeconomic impacts.

The Forest Service's discussion of socioeconomic impacts failed to recognize the value of ecosystem services that would be adversely impacted by TGIRP. The socioeconomic analysis must include the impacts to people of losing those attributes, whether those impacts are felt locally or at a broader scale. From climate mitigation to water quality, GMNF provides resources that people rely upon and benefit from. USFS must consider the monetized value of all of the project's impacts[mdash]including the social cost of carbon and all of the other adverse impacts described in these comments[mdash]or explain what other method it is using to assess the socioeconomic impacts. USFS's failure to assess significant cumulative socioeconomic impacts in the Preliminary EA is additional evidence that an EIS is required.

176 USFS, TGIRP Notice of Proposed Action and Opportunity to Comment 15 (2023); Vermont Huts Association, <https://vermonthuts.org/> (last visited Apr. 5, 2024); Preliminary EA 125.

177 See Preliminary EA 99.

178 See id. 27-28 tbl. 2-6.

179 Velomont Trail, The Velomont, <https://velomonttrail.org/> (last visited Apr. 5, 2024) (listing Vermont Huts Association first under the question "Who is the Velomont?").

180 See id. (listing USFS first under the "With special thanks" header); Preliminary EA 125.

E. USFS has failed to take a hard look at TGIRP's significant cumulative total impacts.

USFS's consideration of impacts is siloed in the Preliminary EA, meaning that each category of impact (climate, aquatic, etc.) is considered independently. This is true even in the assessments of cumulative impacts, which occur within individual categories rather than assessing the impacts holistically. Standing Trees believes that the Forest Service inadequately considered the cumulative impacts within each category. But even if those assessments had been adequate, it would still be necessary to evaluate all of the ecosystem-wide impacts together. The Forest Service may assert that the adverse impacts—and even the cumulative adverse impacts—within each category are acceptable. That assertion, however, says nothing about the acceptability of imposing such a wide array of impacts on so many facets of the ecosystem simultaneously.

IV. The Purpose and Need Statement for the Telephone Gap Project Is Legally Deficient and Unsupported by Science.

The purpose and need statement articulated in the Preliminary EA is deficient. The Forest Service proposes to log a total of 11,772 stand acres (8,205 treatment acres) of the GMNF using even-aged, uneven-aged, and two-aged silvicultural methods. While the Forest Service states that the purpose of this proposed logging is to "move the existing condition of NFS lands within the project area toward the desired future conditions for resources provided by the Forest Plan,"¹⁸¹ it never furnishes a clear statement of need for the extensive logging activities it has proposed.

Instead, the Preliminary EA includes a litany of disconnected needs that fail to cohere into any unified project.¹⁸²

¹⁸¹ Preliminary EA 3.

¹⁸² See id. 7-13 (describing the need to "address the substantial imbalance in the existing proportion of northern hardwood, mixedwood, and softwood habitat types compared to the long-term composition objectives for the project area"; "regenerate aspen and birch habitats on suitable lands within the project area"; "increase oak habitat on sites where some amount of northern red oak currently occupies a part of the forest overstory composition"; "increase the amount of the regenerating age class (0 to 9 years old) to meet HMU age class objectives on suitable lands"; "increase the resilience of forests with a diverse mix of habitat composition and age class distribution, bolster their adaptation capacity in response to climate change stressors, and provide a source of renewable wood products and fuels that can displace more carbon-intensive products"; "address ongoing erosion and sedimentation on some non-system roads and trails throughout the project area, including areas where they have captured and altered surface and subsurface water flow patterns"; "restore natural stream and wetland ecological processes at an abandoned dam structure located north of Forest Road 232"; "improve the overall recreation resource within the project area to provide a full range of diverse recreation opportunities"; "provide a sustainable trail system that responds to public demand" (USFS lists nine secondary trail-related

needs not copied here); "obliterate and/or block access to unauthorized trails and access for unauthorized off-road motor vehicle use at dispersed camp sites"; "reduce encroaching vegetation to maintain existing vistas and provide new vistas especially along the Appalachian Trail/Long Trail"; "improve the transportation system within the project area to provide a safe, efficient, and effective Forest transportation system which meets both the needs of the public and the Forest Service"; "provide for free passage of aquatic species along streams within the project area"; "realign a portion of the Townsend Brook Road (Forest Road 394) at approximate mile post 0.75"; "provide sustainable access to existing infrastructure as part of the South Pond acquisition, including the Long Trail, the Rolston Rest Shelter, and a potential hut location near South Pond"; "provide a hut-to-hut trail and camping experience in the State of Vermont among non-profit, private, state, and federal representatives"; and "respond to an application received for a new maple tapping permit on 83 acres south of Blue Ridge Mountain in Mendon (Map 4)".

To comply with NEPA, federal agencies must provide a statement explaining the purpose and need for the proposed action.¹⁸³ It is important that this statement accurately reflects the proposed action's purpose and need because this statement in turn informs the range of alternatives the agency must consider as part of its NEPA analysis.¹⁸⁴ The Forest Service cannot define the purpose and need so narrowly as to eliminate reasonable alternatives from analysis.¹⁸⁵ Doing so would impermissibly reduce an agency's environmental analysis to a "foreordained formality."¹⁸⁶

The Preliminary EA's disjointed amalgamation of stated needs raises serious concerns about both the specific needs listed and USFS's strategy of aggregating disparate needs into a single, massive "integrated resource project." The enumerated needs raise many concerns. For example, the Preliminary EA asserts a need to reduce the proportion of northern hardwood forests while glossing over the fact that, despite their purported relative abundance in the project area, large, unfragmented tracts of mature and old northern hardwood forests are actually regionally rare and generally concentrated on the limited acreage of public forests, especially National Forest lands. Likewise, the Preliminary EA calls for increasing the representation of mixedwood, softwood, aspen, birch, and oak forest habitat types in the project area, even though these forest habitat types are regionally common and generally present on state and private lands and where ecological tendencies would lead to such types. And the stated need to harvest mature forests to create regenerating forests ignores the regional landscape composition and is not supported by science or law. Thus, the asserted purpose of the extensive logging contemplated in the proposed action is inadequately reasoned.

While the Preliminary EA purports that TGIRP advances the objectives of the Forest Plan, that asserted justification overlooks important factors. Disturbingly, the Forest Plan (finalized in 2006 and overdue for revision) contains virtually no mention of climate change. It is essential that USFS now incorporate climate science into its project planning, but it would be more appropriate to do so by amending the Forest Plan in order to address climate change in a scientifically rigorous way. Specifically, to the extent that climate change is incorporated into the need for this (or any other project), it should be rooted in meeting U.S. greenhouse gas reduction commitments, complying with Executive Order 14072, and recruiting old-growth in accordance with the forthcoming National Old Growth Amendment.

Rather than address climate change in a scientifically rigorous fashion, the Preliminary EA inappropriately freelances an approach to this issue that is unjustified and irrational. The Preliminary EA asserts a "need" to "provide a source of renewable wood products and fuels that can displace more carbon-intense products."¹⁸⁷ However, replacing carbon-intense products with forest products is an extremely controversial and risky strategy for climate mitigation. (USFS prudently decided not to count these substitutions as offsets in its carbon accounting.¹⁸⁸) This goal was not mentioned in the Forest Plan, and USFS should not design a project for that purpose. The fact that USFS has done so makes the project "significant"[mdash]as well as disconnected from the scope of analysis of the Forest Plan EIS[mdash]and thus requires USFS to prepare an EIS.

At a higher level, USFS's strategy of combining so many needs into such a sprawling project undermines the

environmental assessment and impairs public participation. In violation of NEPA, USFS has artificially narrowed the scope of alternatives by requiring that any viable project must satisfy so many different needs.¹⁸⁹ The result is to foreordain selection of the agency's proposal (or a close resemblance). And despite the long list of needs, the most fundamental questions remain unanswered: what is the rationale for combining all of these needs into one sprawling project? And what is the rationale for doing so now, when the needs (purportedly) advance a Forest Plan that is long overdue for—and in urgent need of—revision?

183 See 40 CFR [sect] 1501.5(c)(2) (2020); [sect] 1502.13 (2020).

184 See *League of Wilderness Defs.-Blue Mountains Biodiversity Proj. v. U.S. Forest Serv.*, 689 F.3d 1060, 1069 (9th Cir. 2012).

185 *City of Carmel-By-The-Sea v. U.S. Dep't of Transp.*, 123 F.3d 1142, 1155 (9th Cir. 1995); see also *Simmons v.*

U.S. Army Corps of Eng'rs, 120 F.3d 664, 667 (7th Cir. 1997) (finding the range of alternatives the Corps considered to be inadequate because the agency too narrowly defined the project's purpose, emphasizing that the evaluation of alternatives is intended to be an evaluation of alternative means to accomplish the general goal of the action).

186 *Nat'l Parks & Conservation Ass'n v. Bureau of Land Mgmt.*, 606 F.3d 1058, 1070 (9th Cir. 2009) (quoting

Friends of Southeast's Future v. Morrison, 153 F.3d 1059, 1066 (9th Cir. 1998)).

187 Preliminary EA 8.

188 *Id.* 65.

189 See *Nat'l Wildlife Refuge Ass'n v. Rural Util. Serv.*, 580 F. Supp. 3d 588 (W.D. Wis. 2022) ("[W]hen combined with five, other sub-purposes, the overall impact is incredibly specific, resulting in most reasonable alternative being defined out of the EIS.").

V. USFS Has Failed to Consider a Reasonable Range of Alternatives.

NEPA mandates that an EA describe the environmental impacts of both the proposed action and alternatives to the proposed action.¹⁹⁰ CEQ regulations mandate that federal agencies shall "inform decisionmakers and the public of reasonable alternatives that would avoid or minimize adverse impacts or enhance the quality of the human environment."¹⁹¹ It is also incumbent upon federal agencies to "[s]tudy, develop, and describe appropriate alternatives to recommended courses of action in any proposal that involves unresolved conflicts concerning alternative uses of available resources."¹⁹²

A. USFS must seriously consider the no-action alternative.

By its own admission, USFS has failed to consider a no-action alternative. As part of its NEPA analysis, USFS is required to consider a no-action alternative to make a reasoned determination as to whether to pursue the project in any form.¹⁹³

While the Preliminary EA presents "Alternative A: No Action," USFS expressly states that "Alternative A provides a baseline for comparing the environmental effects of the action alternatives since there would be no implementation of any proposed management activities."¹⁹⁴

To be sure, a no-action alternative is informative when comparing the impacts of action alternatives to each other, but it also must be fully considered as an option in its own right. If USFS chooses any of the action alternatives, it must thoroughly explain why the full range of the project's impacts[mdash]compared to the impacts of taking no action[mdash]justify its choice.

Standing Trees strongly maintains that the Forest Service should select the no-action alternative (if it does not simply withdraw the project), which offers by far the greatest benefits and fewest adverse impacts of the alternatives in the Preliminary EA. The benefits of the no-action alternative include climate benefits of retaining older, mature trees; habitat benefits for the endangered northern long-eared bat and other species that rely on mature, old, or interior forests or are sensitive to harvest impacts; avoiding potential detrimental impacts to water quality due to runoff, sedimentation, and potential herbicide contamination; avoiding introduction of invasive species; and avoiding visual and noise impacts, among many others. The no-action alternative does not merely provide a yardstick for measuring the action alternatives. Rather, it is a highly beneficial option, and the Forest Service must[mdash]but has so far failed to[mdash]rationally justify any decision to reject it.

190 40 C.F.R. [sect] 1508.9(b) ("Environmental assessment . . . [s]hall include brief discussions . . . of alternatives as required by section 102(2)(e), [and] of the environmental impacts of the proposed action and alternatives...").

191 40 C.F.R. [sect] 1502.1.

192 Id. [sect] 1501.2(b)(2); see also 42 U.S.C. [sect] 4332(E).

193 See 40 C.F.R. [sect] 1502.2(e) (requiring consideration of alternatives in environmental impacts statements); id. [sect] 1501.5(c)(2) (incorporating the requirement into environmental assessments); id. [sect] 1501.9(e)(2) (requiring consideration of a no-action alternative).

194 Preliminary EA 15.

B. USFS must consider additional alternatives.

The action alternatives included in the Preliminary EA fail to lay out a reasonable range of options. In its scoping comments, Standing Trees furnished a list of alternatives that the Forest Service should consider in its NEPA analysis. The list began by asking USFS to consider avoiding all roadless area impacts and protecting roadless area values by guiding logging and recreational development away from Forest Plan Inventoried Roadless Areas, including areas like Pittenden that are not covered by the Roadless Area Conservation Rule. USFS states that impacts in roadless areas will not exceed thresholds of concern.¹⁹⁵ It is certainly important not to cross the thresholds, but they still allow substantial logging in roadless areas[mdash]as shown by the roughly 1,800 acres of timber cutting treatments contemplated under TGIRP, over half of which is even-age or uneven-age management, with the balance being intermediate methods. Roadless areas are a unique asset of the National Forest System, and USFS must consider an alternative that would not degrade them.

In addition, Standing Trees asked USFS to develop an alternative that would "avoid[] all mature and old forest, as defined in the Forest Plan, to comply with EO 14072 and reduce the risk of harm to species dependent on mature and old forests, including the northern long-eared bat."¹⁹⁶

USFS also must consider an alternative that disaggregates the long list of project "needs" and/or an alternative that includes fewer needs. By combining so many needs into a single project, the Forest Service preemptively foreclosed project alternatives with a more modest environmental impact. It is extremely difficult for the public to suggest alternative designs that would meet the hodgepodge of discrete needs that are bolted together under

TGIRP.

Even if all of the needs included in TGIRP truly advanced the Forest Plan—which, as discussed above, they do not—the Forest Plan does not require that every project address such a multiplicity of needs. On the other hand, NEPA does require that USFS consider reasonable alternatives. By designing a project that inherently forecloses the consideration of reasonable alternatives, USFS has violated NEPA.

The Forest Service must also consider an alternative that would amend the GMNF Forest Plan—or revise the Forest Plan before proceeding with large-scale projects. The current Forest Plan is many years out of date, having been finalized in 2006. The National Forest Management Act requires that USFS update a forest plan "at least every fifteen years."¹⁹⁷ The GMNF Forest Plan was due for an update no later than 2021, two years before scoping for TGIRP began.¹⁹⁸

The GMNF Forest Plan is largely discordant with the needs and priorities that are applicable today. The Forest Plan contains virtually no mention of climate change and does not appreciate GMNF's role in climate mitigation. Nor does it reflect national policies to protect mature and old-growth forests. To the contrary, the Forest Plan specifically targets mature and old forests for logging, creating a built-in bias that conflicts with more recent policies. Those omissions and shortcomings in the Forest Plan do not relieve USFS of its obligations to consider impacts to the climate and mature and old-growth forests under NEPA, but an updated Forest Plan would more firmly establish that climate mitigation and old-growth recruitment are goals that should be affirmatively pursued. It is not defensible for the Forest Service to undertake a massive management project affecting stands totaling nearly 12,000 acres in order to advance the goals of a Forest Plan that is blatantly obsolete. At a minimum, USFS should have considered an alternative to amend the Forest Plan in order to update the forest management direction and address today's most urgent challenges.

¹⁹⁵ Id. 112-14.

¹⁹⁶ Standing Trees Scoping Comments 15. Although the GMNF Forest Plan definition of maturity has an economic component, recent peer-reviewed research shows that economic and ecological maturity can be defined in similar ways. See Birdsey et al., Assessing Carbon Stocks and Accumulation Potential of Mature Forests and Larger Trees in U.S. Federal Lands, *Frontiers in Forests and Global Change* (2023), attached as Exhibit 44; Barnett et al., Classifying, Inventorying, and Mapping Mature and Old-Growth Forests in the United States, *Frontiers in Science and Global Change* (2023), attached as Exhibit 45.

¹⁹⁷ 16 U.S.C. [sect] 1604(f)(5).

¹⁹⁸ See USFS, Telephone Gap Integrated Resource Project, <https://www.fs.usda.gov/project/?project=60192> (last visited Apr. 5, 2024) (indicating a "Scoping Start" date of January 27, 2023).

C. USFS's development of Alternative D is a positive step.

TGIRP should not proceed in any form, but Standing Trees appreciates the Forest Service's efforts to develop Alternative D in response to concerns raised in public comments on the Notice of Proposed Action. USFS developed Alternative C "to address public issues regarding the amount of mature and old forests proposed for harvest."¹⁹⁹ Alternative D builds upon Alternative C "to address public issues regarding the quantity of fossil fuel emissions from timber harvest activities," while retaining Alternative C's lighter footprint in mature and old forests.²⁰⁰

Alternative D is unquestionably the least damaging option among the project alternatives that propose active timber management. Alternative D would entail logging, including non-commercial treatments, on 8,469 stand acres (5,853 treatment acres), compared to 11,772 stand acres (8,205 treatment acres) under Alternative B. That

said, Alternative D would still have an enormous impact on GMNF[mdash]a fact that should not be minimized through comparison to the overwhelming scope of Alternative B. Any project alternative that GMNF selects must be preferable not only to the other project alternatives but also to the no-action alternative. If TGIRP is not withdrawn, or if Alternative A is not selected[mdash]both of which would be preferable[mdash] Standing Trees urges the Forest Service to select Alternative D with refinements to further reduce adverse impacts to mature and old-growth forests; Forest Plan Inventoried Roadless Areas; and threatened, endangered, and interior forest species (along with addressing the many other issues raised in these comments).

199 Preliminary EA 21.

200 Id. at 25.

VI. USFS Must Prepare an Environmental Impact Statement.

Given the multitude of significant effects of TGIRP (many of which USFS has not adequately analyzed), the Forest Service must complete an EIS before proceeding with any version of the project. NEPA requires that federal agencies prepare an EIS for projects that are likely to have significant effects.²⁰¹ In determining whether the effects of the proposed action are likely to be significant, agencies are to consider "[b]oth short- and long-term effects" and "[b]oth beneficial and adverse effects" among other factors.²⁰² In making the significance determination, agencies also must consider connected actions.²⁰³ While the Preliminary EA does not expressly include a finding of no significant impact, the preparation of an EA strongly indicates that USFS is not planning to prepare an EIS and, by extension, does not recognize the significant impacts of the action.

For the reasons stated throughout these comments, Standing Trees believes that TGIRP should be withdrawn. If the Forest Service intends to move forward with the proposed project, it must do so only after preparing an EIS. This is a multi-phase, 10-year proposed action that is significantly affecting the environment, regardless of whether those effects are considered beneficial or detrimental. Indeed, if all the benefits that the Forest Service touts for this project were taken at face value, they would independently require an EIS even before the adverse impacts were factored in. The purported benefits would greatly affect species composition, vegetation age class, erosion and sedimentation, natural stream and wetland ecological processes, the overall recreation resource and trail system, the transportation system, the free passage of aquatic species along streams within the project area, access to existing infrastructure, a hut-to-hut trail and camping experience, and maple tapping, among other things.²⁰⁴ The impacts of this project, with treatment spread across 11,772 stand acres within a 72,253-acre project area, are undeniably significant.

But the purported benefits of the action are only the beginning, since all impacts must be considered in the assessment of significance. The totality of impacts strongly supports a finding of significance. For example:

- * TGIRP conflicts with national policy to conserve mature and old-growth trees and to recruit more old growth.
- * Climate change is repeatedly used as a rationale for components of TGIRP despite not being addressed in the Forest Plan or accompanying EIS.
- * USFS has adopted a new goal of using the forest to replace carbon-intense products, which is not mentioned in the Forest Plan.
- * The Preliminary EA does not explain how TGIRP is consistent with national commitments to achieve near-term greenhouse gas emission reductions.

USFS cannot perform a mere EA on the basis that it performed an EIS when developing the GMNF Forest Plan. The Forest Plan detailed management activities, goals, and objectives to be pursued incrementally over a 10- to 15-year period from 2006. Now, 18 years later, the Forest Service proposes to pursue many of those activities, goals, and objectives[mdash]as well as some goals not mentioned in the Forest Plan[mdash]simultaneously through intensive management, initiating a project that is expected to last up to 10 years. There is no rational

argument that the EIS from 2006 countenanced intensive timber harvest through 2034. TGIRP is outside the ambit of any EIS that the Forest Service previously conducted.

For the reasons stated in these comments, Standing Trees urges the Forest Service to withdraw TGIRP or select the no-action alternative. If the Forest Service proceeds with the project, it must prepare an EIS. If the Forest Service ultimately does not withdraw the project or select the no- action alternative, it should work from Alternative D and take additional measures to reduce adverse impacts.

201 42 U.S.C. [sect] 4336(b)(1); 40 CFR [sect] 1501.3(a)(3).

202 Id. [sect] 1501.3(b)(2).

203 See id. [sect] 1501.3(b).

204 See Preliminary EA 7-13.