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c/o Justin Preisendorfer, Winter Sports Team Leader
White Mountain National Forest
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Submitted electronically to: SM.whitemountain.comments@usda.gov.

Re: Comments from Standing Trees, RESTORE: The North Woods, and the Center for Biological Diversity regarding scoping for the Waterville Valley Resort Environmental Impact Statement #67459

Dear Supervisor Ibarguen and Mr Preisendorfer:

Standing Trees, RESTORE: The North Woods, and the Center for Biological Diversity respectfully submit these comments regarding the U.S. Forest Service's (Forest Service) scoping for the Waterville Valley Resort (WVR) Environmental Impact Statement #67459 (EIS).

Standing Trees is a grassroots membership organization that works to protect and restore New England's forests, with a focus on state and federal public lands in New Hampshire and Vermont. 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 the White Mountain National Forest ("WMNF"), including the area impacted by this EIS.

The mission of Massachusetts-based RESTORE: The North Woods is to create new national parks, save natural forests, and protect endangered wildlife. RESTORE is a non-profit membership organization founded in 1992 by veteran conservationists and grassroots activists. We are grassroots based, using advocacy, public education, and citizen activism to address the root causes of our ecological crisis — not just the symptoms.

The Center for Biological Diversity is a national, non-profit environmental organization dedicated to the preservation, protection, and restoration of biodiversity, native species, and ecosystems. The Center is headquartered in Tucson, Arizona, with offices in numerous other states, and in Mexico. The Center uses science, policy, and law to advocate for the conservation and recovery of species on the brink of extinction and the habitats they need to survive. The Center has and continues to actively advocate for increased protections for species and their habitats in New Hampshire, and for the protection of old growth and mature forests across the National Forest System.

These comments fully incorporate by reference (with all exhibits included) Standing Trees' comments for scoping (submitted October 6, 2023) and for the Draft Environmental Assessment and Preliminary Finding of No Significant Impact (submitted May 14, 2025) for the Lost River Integrated Resource Project #63401, Pemigewasset Ranger District, White Mountain National Forest.

Introduction

The White Mountain National Forest (WMNF) is a national treasure, home to a concentration of unique natural communities and mature and old-growth forests that are uncommon across New England, and to threatened and endangered species that depend on these intact ecosystems. The WMNF's older, interior forests also play a critical role in combating the climate crisis by sequestering and storing vast quantities of carbon, by reducing the impacts of droughts and floods, by keeping streams and rivers cold for native aquatic life, and lowering summer temperatures for nearby communities.

In total, New Hampshire is home to 19 downhill ski resorts.¹ The WMNF permits four downhill ski resorts, including Waterville Valley.

The Forest Service has acknowledged the significance of the Waterville Valley Ski Resort's proposed expansion by initiating an Environmental Impact Statement. Because of these unavoidable significant impacts, our organizations would have preferred to see the resort's expansion request rejected by the Forest Service. Notably, we question the Forest Service's decision to "accept"² the WVR Master Development Plan (MDP), which apparently proposes major changes to the footprint of the resort, although this material has not been provided in the project documents to date. By accepting the MDP, did the Forest Service make any commitments to the resort that bias the agency towards an outcome in this EIS process? Was there any public review and comment on the agency's acceptance of the MDP?

Furthermore, we are deeply concerned that this project is moving forward at the twenty-year mark for the WMNF Forest Plan, with no revision date in sight. We question whether there is any way that this expansion can be adequately considered in light of the deficiencies of this outdated management plan.

Despite these significant concerns and reservations, we concur that an EIS is the appropriate tool to review this expansion proposal if it is to move forward.

As described in detail below, the Forest Service must, among other tasks:

- Analyze an adequate range of alternatives;

¹ NH Department of Business and Economic Affairs, Division of Travel and Tourism Development. (n.d.). *Winter in NH*. Visit NH. Visited June 16, 2025, from <https://www.visitnh.gov/seasonal-trips/winter>

² WVR EIS Story Map at <https://storymaps.arcgis.com/stories/c2440910a1924df5b112568dfbc7ed99#ref-n-sXUI26>

- Consider the latest science, including data pointing to the declining viability and sustainability of New England's ski industry;
- Take a hard look at the many significant impacts that will be caused by any amount of expansion, including but not limited to: 1) habitat for state and federal threatened and endangered species, as well as Regional Forester Sensitive Species; 2) current and future ecosystem services provided by areas that will be impacted; 3) flood and drought impacts to downstream communities.

White Mountain National Forest Ski Area Expansion: A Cautionary History

The proposed expansion of Waterville Valley Resort is not the first such project for the White Mountain National Forest. In November 1986, Loon Mountain Recreation Corporation (LMRC) applied to the Forest Service for an amendment to its permit to allow a 960-acre expansion of Loon Mountain Ski Area (LMSA) onto WMNF land on South Mountain. This proposal was first unveiled in 1986. However, the expansion was not approved until 1998 — 12 years later — because of a highly flawed and controversial Forest Service planning process.

In its scoping for the Waterville Valley Resort proposed expansion, the Forest Service would be well advised to avoid repeating the seriously flawed process it used to develop the LMSA Final Environmental Impact Statement (LMSA EIS) for the proposed Loon Mountain expansion. This resulted in multiple amendments and corrections in planning documents, administrative appeals, legal challenges, and finally direct involvement by the new ski resort owners to reach a settlement that corrected the most serious defects in the original plan.

- *Failure to Adequately Identify and Assess Reasonable Alternatives.* The Forest Service prepared a number of review documents that were deemed inadequate or improperly prepared. Among other deficiencies, the 1st District Court of Appeals found that the U.S. Forest Service had violated federal laws by not exploring a reasonable range of alternatives to the planned expansion. This includes failure to examine a viable non-expansion alternative.
- *Lack of Public Involvement.* The Forest Service originally developed five different alternatives for expanding LMSA, but the agency created a new, dramatically different expansion alternative and refused to allow the public to comment on this new alternative. The court determined that the Forest Service had failed to adequately involve the public in the planning process.
- *Failure to Protect Water Quality.* The Forest Service preferred alternative would have allowed water withdrawals for snowmaking that could have caused severe impacts on the water quality and ecological health of pristine Loon Pond and the municipal water supply of the Town of Lincoln. The district court found that this was a violation of the law. In their settlement, the owners of LMSA agreed to build snowmaking ponds and then stop all water withdrawals from Loon Pond.

Other deficiencies in the Forest Service analysis of the LMSA expansion that were raised in planning comments by concerned citizens included:

- *Inadequate Purpose and Need.* The “Purpose and Need” in the LMSA EIS uncritically accepted the premise of the applicant that a need for additional alpine skiing existed, without any substantiating evidence.
- *Failure to Adequately Analyze Cumulative Impacts.* The White Mountain Land and Resource Management Plan Final Environmental Impact Statement (Forest Plan EIS) failed to adequately describe the cumulative impacts of allowing expansion of existing downhill skiing areas on the WMNF. The cursory overview that was provided did not substitute for a comprehensive forest-wide analysis of cumulative as well as site specific environmental impacts.
- *Lack of Consideration for Sensitive Wildlife and Their Habitats.* The Forest Service failed to conduct any wildlife surveys in the proposed LMSA expansion area or existing permit area, despite concerns from the New Hampshire Natural Heritage Inventory regarding the possible presence of endangered species.
- *Failure to Consider the Impacts of Climate Change.* Even in the 1990s, the Forest Service had stated its commitment to addressing global climate change and research had been underway for several years on the implications of global climate change for ski area planning and viability. Nevertheless, the LMSA EIS completely ignored this issue. This includes the potential impacts of climate change on ski season length, snowfall, water availability, and habitat changes.
- *Failure to Assess Financial Viability and Potential Reclamation Costs.* The LMSA EIS did not demonstrate the financial ability of LMSA to carry out the proposed project, especially in light of the current economic climate. This includes the possible costs and impacts of reclamation work that would be required if LMSA were to close during the proposed 40-year permit period. A number of ski areas on national forest lands have failed financially and been liquidated, with the Forest Service (i.e., U.S. taxpayers) having to pay the cost of decommissioning buildings and other infrastructure, restoring forests, and addressing watershed integrity. The importance of this concern is elevated by the potential of climate change to result in unanticipated and dramatic changes in business viability.
- *Questionable skier demand information and projections.* Although downhill skiing demand was flat nationwide and in New Hampshire, the Forest Service accepted LMRC’s claim that it could increase skier “demand” through advertisement and marketing. Again, the potential impacts of climate change were completely ignored.
- *Failure to Adequately Describe the Affected Environment.* The LMSA EIS failed to comply with the spirit and letter of the law in its description of the affected environment. There

was no description of the functioning of the complete ecosystem that would be affected and little or no description of even relatively discrete ecosystems within the LMSA, such as ponds, rivers and streams, and wetlands.

- *Failure to Address Air Quality.* The Forest Service failed to conduct any monitoring activities to define the current status of air quality in the area of LMSA. Therefore, there was no baseline information available to draw a conclusion about the existing air quality relative to “normal” air quality.
- *Failure to Address Noise.* The Forest Service failed to monitor the noise created by various existing sources. Specifically, the LMSA EIS failed to describe the level of noise from vehicular traffic in the area of LMSA and snowmaking equipment at LMSA.
- *Failure to Address Water Resources, Water Quality, or Sewage Treatment.* The FEIS was virtually devoid of any description of the local hydrology including groundwater, streams, and wetlands. Indeed, the near-total dearth of actual hydrologic data renders the analysis of the direct and indirect hydrologic impacts not only inadequate, but misleading.
- *Failure to Adequately Discuss Plant Communities.* The FEIS failed to discuss the extent or location of plant communities in the vicinity of LMSA or to adequately describe the proliferation of non-native species used to stabilize areas affected by past clearing and construction.
- *Failure to Consider Cultural Resources.* The LMSA EIS completely ignored the potential effects of expansion of the LMSA on Native American activities sites and interests. There was no discussion of the ethnobotany of the area, the ethnozoology of the area, frequency of use, social activities, economic activities, and religious activities which occurred in the area, travel routes through the area, myths and tales about the area, and the significance of these aspects of the region today.
- *Lack of Information on Electrical Power.* The LMSA EIS failed to adequately discuss electrical power requirements for the proposed LMSA expansion.
- *Failure to Assess Environmental Consequences.* The LMSA EIS failed to provide an adequate discussion of direct and indirect effects on values such as geology and soils, air quality, noise, water resources, wetlands and seeps, snowmaking, vegetation, wildlife, recreation, socioeconomics, electric power, transportation and parking, and reclamation costs.

In summary, the consideration by the Forest Service of the proposed expansion of Loon Mountain Ski Area (LMSA) is a cautionary story of inadequate research, superficial analysis, lack of public involvement, and disregard for important issues which have become even more vital in the last several decades. This poorly conducted planning process led to more than a decade of wasted time and resources by the Forest Service, nonprofit organizations, concerned citizens, and the owners of LMSA.

The Forest Service should avoid repeating these mistakes in its consideration of the proposal for expansion of the Waterville Valley Resort. The scoping period now underway is an opportunity to make a full and balanced assessment of this new proposal.

The WMNF Must Revise the 2005 Forest Plan

According to the National Forest Management Act, Forest Plans are supposed to be revised at least every 15 years. The current Forest Plan, which dates to 2005, fails to account for climate change and related issues. In fact, the 2005 Forest Plan EIS states that “given the uncertainties associated with climate change and resulting changes to local ecology, potential effects of the four alternatives are based on continuation of climatic conditions that are not dramatically different from current.”³ With a statement like this, the public is left to wonder how the Forest Service can adequately consider a decision as significant - and as dependent on climate-related variables - as a ski resort expansion.

Piecemeal Forest Plan amendments under the framework of the outdated 2005 Forest Plan will compound and exacerbate management problems related to changes in the climate and other factors. Rather than amending the Forest Plan in a haphazard manner, as proposed in this project, the Forest Service should first complete a Forest Plan revision to ensure that the latest scientific knowledge is incorporated into planning and management.

Purpose and Need

As described in the the Notice of Intent for this project in the Federal Register (Vol. 90, No. 94, 5/16/25), “The purpose of, and need for, Forest Service action is to respond to an application submitted by WVR under the National Forest Ski Area Permit Act of 1986 and Ski Area Recreational Opportunity Act of 2011 to expand their permit boundary and to implement projects from their Forest Service-accepted MDP.”⁴

“The responsible official will use the forthcoming EIS to inform the decision regarding whether to approve all of, or specific components of, the Resort’s proposal, the selection of a preferred alternative, and what specific measures are needed to reduce or avoid impacts on Forest Service lands.”⁵

The Forest Service states that “The Resort’s (the proponent) objective for the proposed action is to connect the Resort and the Town of Waterville Valley amenities and increase the availability of terrain and services at the Resort.”⁶

³ 2005 WMNF Forest Plan EIS at 3-93.

⁴ WRV EIS Scoping Newsletter at 3

⁵ Ibid

⁶ Ibid

Because the Forest Service has not provided the public with the WVR 2020 MDP or the “application and project proposal [that] were accepted by the WMNF on November 2, 2023,”⁷ the public has no way of knowing the range of plans and requests contained in the MDP and the “application and project proposal,” and/or whether the Forest Service has already initially rejected or modified any of what has been requested by WVR. Without this information, the public cannot assess how the Proposed Action relates to other components of the MDP or project proposal, and it cannot comprehend what may be proposed by WVR for Forest Service consideration at a later date. For example, does the MDP detail additional expansion plans beyond what is depicted in the Proposed Action? If the resort is attempting to expand its footprint in smaller, piecemeal fashion, rather than seeking approval for a much larger expansion that is already under consideration by WVR, whether or not this information is known by the Forest Service, then the EIS must consider these foreseeable impacts and assess the expansion in its entirety.

Furthermore, the Purpose and Need and the Resort’s “objective” are sufficiently vague that they could be met with substantially fewer proposed changes than those detailed in the Proposed Action. The alternatives analysis, which is discussed in greater detail below, must reflect these broad goals so that they are not narrowly constrained by WVR’s specific wish-list in its 2020 MDP and its 2023 project proposal. For example, improving access, terrain, and services could all be accomplished within the existing resort footprint, with a fraction of the impacts of the Proposed Action.

The Economic Objectives that Underpin the Purpose and Need are Not Substantiated

The Waterville Valley Resort (“the Resort”) Environmental Impact Statement Webpage and StoryMap describe the objectives for expanding the Resort’s operations as follows:

In order for the Resort to remain competitive in the ski and mountain resort industry, the Resort believes it is essential to respond to growing guest expectations, including quality of on-mountain amenities, convenient ski area access, and varied ski terrain appropriate for all ability levels, which cannot be accomplished with the Resort’s existing amenities and infrastructure. While the Resort’s annual skier visitation is well below its peak in the early 1990’s, national skier visits have increased by approximately 30% within the same time period.

With the continued rise in guest expectations, the Resort believes that it’s [sic] market share will further decline due to the deficiencies in the resort access, terrain diversity, and guest services space. The lack of guest service space, coupled with the lack of existing terrain, and inefficient

⁷ WVR EIS Story Map at this link
<https://storymaps.arcgis.com/stories/c2440910a1924df5b112568dfbc7ed99#ref-n-sXUI26>.

access to and from the resort, supports the objective to provide an improved guest experience through the development of the proposed action.^{8,9}

The Resort goes on to list four “additional objectives” for the project, including a non-vehicular transportation link between the Town of Waterville Valley and the Resort, improved “diversity” and quantity of terrain, improved lift and terrain access, and additional on-mountain amenities. None of these objectives are presented in sufficient detail for the Forest Service or the public to assess whether the proposed action would reasonably meet these objectives, or to propose alternatives that might better meet these objectives. The public and the Forest Service need substantially more information than is supplied so far in order to adequately understand the Resort’s objective, weigh the validity of this objective, and explore opportunities for less-impactful alternatives.

Specifically, the public needs substantive answers to the following questions:

- How much has visitation dropped since its peak in the early 1990s? Has this been accompanied by any drop in revenue?
- How does the Resort’s change in visitation compare to other resorts in the region, particularly to other resorts of a similar size and/or location?
- For ski resorts where there has been an increase in visitation since the 1990s, what other factors may have contributed to those increases aside from factors such as access, terrain, and services, which appear to be the focal areas of WVR’s application? For example, are ski resorts experiencing increased visitation located near fast-growing metropolitan areas like Reno, Denver or Salt Lake City?
- Is there increased local or regional demand for downhill skiing that supports the need for this proposed action? How is demand forecast to change in the future?
- How common and severe is road or parking lot congestion related to the Resort? Has congestion improved in recent decades if, as the Resort suggests, visitation has declined? How does vehicle congestion at the Resort compare to other other resorts in the region?
- What evidence exists that any drop in visitation would be addressed by any of the objectives listed by the Resort? The resort provides no evidence for this save references to non-specific national surveys and a remark that “the Resort’s guest surveys indicate that nearly 10% of guests prefer gladed terrain, but reviews regularly cite limited terrain diversity at the Resort.” Online reviews are not a reliable or representative source of information about guest preferences, and, particularly in the absence of other evidence, should not be taken as justification for a large-scale, permanent development. In fact, according to the Resort’s website, Waterville Valley recently ranked as the “#1 Ski Resort in the East” and “6th Best Ski Resort in North America” according to Condé Nast Traveler, while Ski Magazine ranked Waterville at number 8 among the top 25 ski resorts

⁸ Waterville Valley Resort Environmental Impact Statement.
<https://www.waterville.com/waterville-valley-resort-eis-2025>

⁹ Waterville Valley Resort Environmental Impact Statement Public Scoping StoryMap.
<https://storymaps.arcgis.com/stories/c2440910a1924df5b112568dfbc7ed99>

in the East.¹⁰ This provides a much different picture of the appeal of the Resort and suggests that a lack of ski terrain or on-mountain amenities may not be an important reason for any drop in visitation or loss of market share.

- Has the Resort considered other reasons behind the drop in visitation or loss of market share that are unrelated to the proposed action? Specifically, is climate change — which has already increased minimum winter temperatures have 0.16 °C/decade over the last hundred years, with commensurate reductions in snowpack duration and an increased proportion of winter precipitation falling as rain¹¹ — driving skiers to seek snowier destinations? Is there a lack of lodging in the area for overnight guests? Is there a difference in affordability between the Resort and comparable destinations? Are consolidation trends across the ski industry (e.g. the proliferation of multi-resort passes like Epic or Ikon and the purchase of many resorts by investor-owned corporations like Vail) impacting visitation at Waterville Valley, which is independently owned?
- Who will benefit from any economic gains that come from the proposed action? What portion of the possible economic benefits will flow to local residents and workers compared to Resort owners, investors and absentee owners of nearby property? Is it the highest public good to put additional public land toward a private commercial venture like the Resort, especially in an industry that is predicted to face severe economic challenges from climate change?

On top of these questions, the Forest Service and the public need a detailed understanding of the cost of the proposed action and the projected timeline for the Resort to recoup these costs. This question is essential for understanding the viability of any proposed profit-driven action on the National Forest, but is made more urgent by the intensifying negative impacts of climate change on the New England ski industry (see below).

The EIS Must Thoroughly Analyze Impacts of Climate Change on the Viability of the Proposed Action

A robust, growing body of evidence suggests that New England ski resorts like Waterville Valley will face serious challenges to their economic viability because of climate change in the coming decades. Despite this, none of the materials provided in the scoping process discuss “climate change,” “global warming,” “global heating,” or provide other references to the rapid, unprecedented human-caused heating of our planet and concomitant climate instability. There is only a single note in the EIS StoryMap that “changes in temperature and precipitation have the potential to impact the operation of the proposed projects at the Resort.”¹² This lack of

¹⁰“Waterville Valley Resort 2022 Accolades”

<https://www.waterville.com/blog/waterville-valley-resort-voted-1-ski-resort-in-the-east-by-cond-nast-traveler>

¹¹ Burakowski, Elizabeth; Contosta, Alix; Grogan, Danielle; Nelson, Sarah; Garlick, Sarah; and Casson, Nora, “Future of Winter in Northeastern North America: Climate Indicators Portray Warming and Snow Loss that will Impact Ecosystems and Communities” (2022). *Northeastern Naturalist*. 1394.

https://scholars.unh.edu/faculty_pubs/1394

¹² Waterville Valley Resort Environmental Impact Statement Public Scoping StoryMap.

<https://storymaps.arcgis.com/stories/c2440910a1924df5b112568dfbc7ed99>

discussion needs to be addressed in subsequent analysis. There must be thorough consideration of climate change's impacts on the economic viability of the proposed actions, as well as how increasing climate change could compound the environmental impacts of the project.

New England ski resorts have already faced increasingly difficult conditions due to climate change. Across New Hampshire, average annual winter minimum temperatures have increased by 3.3°C from 1971-2020, with, for example, the Northern White Mountain town of Berlin, NH, seeing the number of days with minimum temperatures below freezing decrease by 9 days.¹³ There has also been an increase in winter rain and ice events, which, even when they do not melt all the accumulated snow, result in icy conditions that aren't favorable for skiing. Past years with warm temperatures and lost snowfall have cost NH ski resorts 17% of their visitation and nearly \$55 million in revenue compared to higher-snowfall years.¹⁴

In the coming decades, the climate impacts to New England ski resorts are expected to get much worse, making it difficult for resorts to stay in operation, let alone recoup the costs of a large investment like the Resort proposes. Climate scientists estimate that, by the end of the century, there will be a 50% decrease in natural snowfall across New England, coupled with warmer temperatures and more winter rain which will make the snow that does fall less likely to persist.¹⁵ This makes artificial snowmaking increasingly important for the Resort's continued operation, raising questions about increased water use for snowmaking (see "Water Resources" section below) and highlighting the limits of technical adaptation. Even with advances in snowmaking technology efficiency and the ability to make snow at warmer temperatures, only 29 of the 171 ski areas in Québec and the northeastern US are projected to remain viable (i.e., >100-day season length and open for Christmas–New Year holiday) by the end of the century under a higher-emissions scenario.¹⁶ With a 2°C rise in temperature, Waterville Valley Resort is projected to lose 20% of its possible snowmaking days by the end of the century, while with a 4°C rise, the Resort would lose 48.5% of snowmaking days.¹⁷ Importantly, researchers noted back in 2019 that "a low emission future, where current national pledges to Paris Climate Agreement are achieved, is crucial to preserve the Eastern North America ski tourism marketplace."¹⁸ Since then, the US and other major polluters have abandoned the Paris Agreement, global greenhouse gas emissions have risen to record levels, and there has been a

¹³ Stampone, M., C. Wale and E. Burakowski (2022) New Hampshire Climate Assessment 2021. University of New Hampshire Report. <https://scholars.unh.edu/sustainability/71/>

¹⁴ Burakowski, E., & Magnusson, M. (2012). Climate Impacts on the Winter Tourism Economy in the United States. Natural Resources Defense Council. <https://www.nrdc.org/sites/default/files/climate-impacts-winter-tourism-report.pdf>

¹⁵ Lapoint, Hayley. "As climate changes, most ski areas may not be able to survive." (2022). <https://www.wmur.com/article/climate-change-ski-areas-new-hampshire/39455866>

¹⁶ Scott, D., R. Steiger, N. Knowles, and Y. Fang. 2019. Regional ski tourism risk to climate change: An inter-comparison of Eastern Canada and US Northeast markets. *Journal of Sustainable Tourism* 28(4):568–586. <https://doi.org/10.1080/09669582.2019.1684932>.

¹⁷ Lapoint, Hayley. "As climate changes, most ski areas may not be able to survive." (2022). <https://www.wmur.com/article/climate-change-ski-areas-new-hampshire/39455866>

¹⁸ Scott, D., et al., 2019.

surge in investment in new fossil fuel extraction projects, suggesting that there is little chance a low-emissions scenario conducive to the continued viability of the Resort is still possible.

The impacts of climate change to the 200 acres of gladed terrain in the proposed action may be particularly severe. This terrain will not be served by snowmaking, and because of the uneven, natural surface of gladed terrain, it likely needs a greater base depth to be open to skiing than traditional terrain. The EIS should specifically consider whether permanently thinning 200 acres of forest to make gladed terrain is a reasonable action when climate change will undercut the usefulness of this area as future ski terrain.

The EIS Must Analyze Impacts to Ecosystem Services, Recreation, Carbon Emissions, and Scenery

The economic value of the Waterville Valley area comes not only from skiing or other commercial resort development. This area also supports substantial economic value from the ecosystem services of intact, naturally rewilding forests and dispersed, low-impact recreation. Given that the objectives behind the Resort's application are purely economic (a putative lack of services and appealing terrain for guests, etc.), it is incumbent on the Forest Service to also analyze any economic values that might be lost by the proposed action.

Intact, naturally-developing forests like those in the area within the proposed action provide exceptional, globally important ecosystem service values.¹⁹ These values include enhanced climate change mitigation and resilience, biodiversity, hydrologic function, and buffering of extreme weather events relative to any disturbed or developed condition. These intact forests are rare both globally and regionally and deserve the highest possible protection — as one article authored by over two dozen ecosystem services experts noted, “retaining the integrity of intact forest ecosystems should be a central component of proactive global and national environmental strategies.”²⁰ The EIS must quantify the economic value of the ecosystem services provided by the area under consideration in the proposed action, and how much of these ecosystem services would be lost as a result of the proposed action. This analysis must also consider the natural increase in carbon accumulation, water retention capacity, habitat complexity, and other ecosystem service values that would result if the area in the proposed action were allowed to continue to develop without disturbance.

In addition to ecosystem services, Waterville Valley supports thriving dispersed recreation and scenic beauty that may be impacted by the proposed action. People come to Waterville Valley during all seasons to hunt, ski, hike, fish, and view wildlife in the intact forest and high mountains that surround Waterville Valley on almost every side. In particular, Waterville Valley is celebrated for fishing, hiking, and non-commercial skiing. It is home to one of the oldest hiking trail networks in the country and provides an excellent starting point to such destinations as the

¹⁹ Watson, James EM, et al. "The exceptional value of intact forest ecosystems." *Nature ecology & evolution* 2.4 (2018).

²⁰ *Id.*, at p. 599

Greeley Ponds Scenic Area, the Sandwich Range Wilderness, and a number of 4,000-foot peaks. The Mad River is considered an excellent trout stream and hosts a number of fishing outfitters who guide clients on its waters.²¹ In winter, Waterville Valley is an excellent non-commercial backcountry ski destination, granting access to well-known destinations Greeley Ponds or Livermore Pass.²²

The EIS must analyze how the proposed action would impact these values, including by answering the following questions:

- Would increased runoff, sedimentation, or water temperatures from the proposed action impact habitat for native species and the quality of fishing in the Mad River?
- Would increased visitation to the area — which is an explicit objective of the Resort — degrade the experience for dispersed recreation?
- Would an increase in the Resort's footprint harm the densely-forested and undisturbed appearance of the area that draws people to Waterville Valley?
- How would the proposed action impact Forest Plan Scenic Integrity Objectives²³?
- What would be the carbon emissions associated with the project, including forest carbon losses and foreseeable increases in emissions from the resort's proposed infrastructure (ski lifts, lodges, etc)?

The EIS Must Thoroughly Develop a Range of Less-Impactful Alternatives, including a No-Action Alternative

An integral part of any EIS is the thorough development of a range of alternatives for the public and the Forest Service to consider. Previous resort expansion projects, including at nearby Loon Mountain Ski Area in the WMNF, demonstrate just how important this alternatives analysis is to a robust and legally-valid public process. In addition to providing substantive responses to the questions and issues raised elsewhere in this comment to inform the development of alternatives, the Forest Service must offer alternatives that include the following (in no particular order):

- A viable no-action alternative that analyzes and quantifies the enhanced ecosystem services, dispersed recreation, scenic, and other benefits that would come from forgoing the proposed action.
- A low-greenhouse-gas alternative that, to the extent possible, reduces the climate change impact of the proposed action. This includes considering the greenhouse gas implications of construction, forest clearing, soil disturbance, increased vehicle miles, increased energy use (including for new ski lifts), and other changes.

²¹ Foley, Mark. "Fly Fishing New Hampshire: Mad River. (2014). <https://www.firstcastflyfishing.com/2014/11/fly-fishing-new-hampshire-mad-river.html>; Mad River, New Hampshire Fishing Report. <https://www.whackingfatties.com/fly-fishing-report/new-hampshire/mad-river>; New Hampshire Rivers Guide Service. <https://nhriversguide.com>

²² Livermore Trail. <https://www.powderproject.com/trail/7000845/livermore-trail>

²³ WMNF Forest Plan at 1-16, 2-26–27, 3-6–7

- An alternative that entirely excludes the areas described as “Pockets of isolated mature tree stands in the area, consisting of two separate three-acre areas”²⁴ so that these stands would no longer fall within MA 7.1 or 9.2 after completion of Forest Plan amendments.
- Low- and high-emissions climate scenarios (e.g. 2°C and 4-5°C rises in global temperature) and the implications of these scenarios on the environmental impact of the proposed action.
- Consideration of the economic uncertainty facing the Resort. Specifically, alternatives should consider the probability of declining or flat demand for ski expansions like the proposed action, as well as the likelihood and timeline of resort closure due to climate change. What happens to the proposed action if the resort closes prematurely? Who will cover the costs of remediating and restoring the area?
- An alternative that does not expand the SUP or developed footprint of the Resort. This alternative could consider creating new trails or gladed terrain within the existing footprint of the resort, upgrading or expanding existing lifts and shuttle services, and/or adding to existing base and summit developments rather than the proposed expansion. Among many other benefits, such an alternative would likely relieve the Forest Service of the need to remove protections for Canada Lynx.
- An alternative that includes an amendment to the WVR Special Use Permit boundary so that it matches and protects the Waterville Inventoried Roadless Area (#2271) boundary and any other Roadless Area Conservation Rule or Forest Plan Revision Inventoried Roadless Area boundaries.
- An alternative that balances any Resort expansion with commensurate increases in protection of intact forests elsewhere in the WMNF. Specifically, the EIS should consider an alternative that rescinds the decision for the similarly-sized Tarleton Integrated Resource Project and designates that area of intact, mature forest as the Lake Tarleton-Webster Slide Scenic Area or similar, as was requested by the Lake Tarleton Coalition on multiple occasions during the development of that project in meetings with the Forest Service and in comment letters.²⁵

The EIS Must Thoroughly Analyze Impacts to Water Resources

The proposed action is likely to have significant impacts to water quality and quantity, and the project EIS should thoroughly analyze these impacts, as well as explore alternatives that result in less impact to water resources. The Waterville Valley area is prized as a recreation and scenic destination in part because of its abundant, high quality water resources. The Mad River drains the Resort and surrounding area, and is a national wild-and-scenic eligible river. It is celebrated as a high-quality fishing stream for Brook, Rainbow and Brown trout, though one that already suffers from low flows and high water temperatures in the summer.²⁶

²⁴ WVR EIS Story Map at this link:

<https://storymaps.arcgis.com/stories/c2440910a1924df5b112568dfbc7ed99#ref-n-jyvsJR>

²⁵ See the Standing Trees and Lake Tarleton Coalition comment on the Tarleton IRP Drat EA, dated May 11, 2022.

²⁶ Foley, Mark. “Fly Fishing New Hampshire: Mad River. (2014).

<https://www.firstcastflyfishing.com/2014/11/fly-fishing-new-hampshire-mad-river.html>

The proposed action includes forest clearing and bulldozing to create 32 acres of new “traditional” ski trails and space for a village-summit gondola, thinning 200 acres of forest to create gladed terrain, constructing a new parking lot, summit restaurant, and mid-station development, and building 700 ft of new road to access the parking lot. A robust body of evidence suggests that these activities will have a substantial impact on downstream water quality (e.g. sedimentation and nutrient loading) and water quantity (e.g. peak runoff and total runoff). Research consistently demonstrates the effects of forest clearing on runoff, with studies as early as 1970 showing that runoff increased as much as 300% after heavy rains in a small (38-acre) White Mountain watershed cleared of trees compared to a forested control.²⁷ A paired study of two New England mountain watersheds, one undeveloped and one partially developed by a ski resort, found that annual surface water yield (i.e. runoff) was 18 to 36% higher in the developed basin, and sediment yield was 2.5 times higher in the developed basin. Additionally, export of sulfur, nitrogen, chloride and other nutrients was higher in the developed watershed.²⁸ Likewise, the permanent thinning of 200 acres will increase runoff and nutrient loss across this large area — the process of cutting and removing trees from an area, as one recent study pointed out, changes “virtually all aspects of a forest’s water and sediment budget” — all the more so when this cutting happens on a steep mountain slope and is permanently maintained in an artificially thinned state.²⁹ The estimated 9 acres of impervious surfaces created by the new buildings, road and parking lot would have an even more direct impact on runoff and water quality. The EIS needs to provide site-specific analysis of the type and magnitude of water resource impacts that are likely from the proposed action. Additionally, the Forest Service should assess the current water quality of ponds, streams, wetlands, and other water resources that may be affected by the Project to establish a baseline for subsequent monitoring and analysis, and include this information in the EIS.

The Forest Service should also be sure to analyze the impacts of the proposed action to water resources in the context of increased and increasingly extreme precipitation expected with climate change. The most extreme precipitation events noted historically in the Northeast by researchers like Hornbeck et al. (1970) — identified as being the most pronounced driver of increased runoff from cleared mountain watersheds — are becoming much more common due to climate change. Extreme precipitation was 53% higher from 1996 to 2014 than from 1901 to 1995, while total precipitation in the Northeast also increased during this timeframe.³⁰ Likewise,

²⁷ Hornbeck et al., 1970. Streamflow Changes after Forest Clearing in New England. *Water Resources Research*, Vol. 6, No. 4.

²⁸ Wemple et al (2007). Hydrology and water quality in two mountain basins of the northeastern US: assessing baseline conditions and effects of ski area development. *Hydrological Processes: An International Journal*, 21(12), 1639-1650.

²⁹ Safeeq et al., Disentangling Effects of Forest Harvest on Long-Term Hydrologic and Sediment Dynamics, Western Cascades, Oregon, *J. Hydrology* 580 (2020)

³⁰ Huang, H., Winter, J. M., Osterberg, E. C., Horton, R. M., & Beckage, B. (2017). Total and extreme precipitation changes over the northeastern United States. *Journal of hydrometeorology*, 18(6), 1783-1798.

very extreme events (>150 mm/day) may be six times more likely by 2100 than in the early 21st century.³¹

Finally, the Forest Service must thoroughly analyze the impacts of expanded snowmaking on water resources. The proposed action includes about 137 hydrants to expand snowmaking onto 32 acres of new terrain. While the EIS scoping newsletter notes that “the proposed snowmaking would be an extension of the existing infrastructure and sufficient water is expected to be available within currently permitted withdrawal limits to supply snow to these trails,” the Forest Service needs to provide more information to adequately assess the impacts of this snowmaking expansion on water resources.³² Specifically, the Forest Service should include the current snowmaking withdrawals permit in the EIS documentation, and answer the following questions in the EIS:

- What volume of water does the Resort currently use for snowmaking, how variable is that amount year to year, and how does that compare to the limits set in the current snowmaking permit?
- How would the total amount of water used for snowmaking change with the proposed action? Is it realistic that total snowmaking water use would not increase, given the increase in snowmaking terrain and warming winters in which resorts are expected to rely on increased snowmaking to remain open?
- What is the source of the Resort’s snowmaking water? What is the vulnerability of this source to climate change, and will there be adequate water for other ecological and human needs with continued or increased snowmaking use?

The EIS Must Consider the Cost and Feasibility of Remediating Impacts Should the Resort Close

The proposed action would bring significant, long-term environmental consequences to public land for the short- or medium-term benefit of a private business. It is incumbent on the Forest Service, as stewards of our public lands for the greatest, long-term public good, to thoroughly consider the cost of remediating and restoring the area impacted by the Resort’s development if or when the Resort should close. As detailed earlier in this letter, it is possible that the proposed action will have impacts on water resources, rare, threatened and endangered species, and natural forest habitat. The Resort will also face increasingly difficult conditions due to climate change, and may no longer be viable by the end of the century or before.³³ Given these significant impacts and the economic uncertainty facing the Resort, it is imperative to plan for remediation and restoration of the Resort’s SUP area should the resort close. Specifically the EIS should address the following questions:

³¹ Jong, B. T., Delworth, T. L., Cooke, W. F., Tseng, K. C., & Murakami, H. (2023). Increases in extreme precipitation over the Northeast United States using high-resolution climate model simulations. *Climate and Atmospheric Science*, 6(1), 18.

³² WRV EIS Scoping Newsletter, p. 6. Available at <https://usfs-public.app.box.com/v/PinyonPublic/file/1864311712278>

³³ Scott, D. et al., 2019.

- What is the estimated cost of remediating ski terrain, removing buildings and other infrastructure, and replanting deforested areas as needed following closure of the Resort?
- If the Resort closes, who would pay for this remediation? Would the public be forced to fund this or is there a mechanism by which the Resort can be held liable?

Impacts to Mature and Old Growth Forests

Mature and old-growth forests are of significant ecological, climate, and social importance. Such forests are rare across New England, but exist in greater concentration in the WMNF. The Story Map indicates that there are “[p]ockets of isolated mature tree stands in the area, consisting of two separate three-acre areas...Although the two pockets of isolated old trees do not meet the WMNF definition for old growth as the stands are smaller than 10 acres in size, these stands have been removed from consideration for proposed glading.”³⁴

Maps provided by the Forest Service do not depict the location of these older stands. It appears that gladed terrain or ski trails will likely surround these older stands, diminishing the many values that they provide by increasing their fragmentation from surrounding habitat, creating new vectors for invasive species from logging equipment and recreators, exposing the stands to heightened impacts from wind, and increasing the likelihood of human intrusion on skis or foot, regardless of whether these stands are thinned (skiers often inflict damage on trees in gladed areas, intentionally and unintentionally, such as by breaking off branches or stems, slicing through vegetation with ski blades, etc).

The Story Map seems to confuse the terms “mature,” “old,” and “old-growth.” We have to assume that these “two separate three-acre areas” are older than the WMNF definition of “mature forest habitat”³⁵ and the “mature” age class³⁶ to warrant their mention. Even if these areas do not meet the Forest Plan definition for “old-growth forest,” they likely meet the definition of “old forest habitat.”³⁷ As stated in the Forest Plan, “No harvest will occur in stands identified to provide old forest habitat,” meaning this prohibition extends to the entire stand boundary, not merely to the three acres of older trees.³⁸

The Forest Service should map the stand ages of each stand where activities are planned within WVR EIS project boundary to assist the public with developing alternatives.

³⁴ WVR EIS Story Map at this link:

<https://storymaps.arcgis.com/stories/c2440910a1924df5b112568dfbc7ed99#ref-n-jyvsJR>

³⁵ WMNF 2005 Forest Plan - Abbreviations, Acronyms, and Glossary at 18

³⁶ WMNF 2005 Forest Plan Appendix D, Age Class Definitions by Habitat Type at 2

³⁷ WMNF 2005 Forest Plan - Abbreviations, Acronyms, and Glossary at 21

³⁸ Ibid

Impacts to Threatened and Endangered Species

The Forest Service proposes to make “Amendments to the Forest Plan for the reallocation of approximately 710 acres of NFS lands to new Management Areas, and to remove the applicability of Forest-wide Canada lynx Standard S-3 from within the proposed SUP boundary expansion and adjacent block of proposed Management Area 9.2 (Alpine Ski Area Expansion).”³⁹ Nowhere in the project documents does the Forest Service make a rational argument for why ski resort expansion should take precedence over protection of threatened and endangered species, including but not limited to Canada lynx.

Removal of 32 acres of forest and additional glading will impact the availability of habitat for other imperiled species, including the endangered Northern Long-eared Bat. The WVR EIS must carefully analyze the impacts of proposed activities on threatened and endangered species, including the unique value of the areas proposed for logging for each threatened or endangered species and whether those qualities are adequately compensated by rezoning Forest Plan management areas elsewhere.

Impacts from proposed amendments to Forest Plan Management Areas must be thoroughly and impartially analyzed

The Proposed Action includes significant changes to Forest Plan management area boundaries. The Forest Service appears to suggest that these changes would be mitigated by making additional changes elsewhere in the National Forest, perhaps including on the opposite side of the Town of Waterville Valley,⁴⁰ to compensate for development or anticipated development in the project area of the WVR EIS.⁴¹ However, the Forest Service does not provide conclusive information about exactly how this “compensation” scheme will work. No static maps are provided showing the lands that would be changed from one MA to another.

What would be the impact of reducing protections for areas that are currently managed as MA 6.2 (Semi-Primitive Non-Motorized Recreation), by shifting them to MA 7.1 (Alpine Ski Area), MA 9.2 (Alpine Ski Area Expansion), and MA 2.1: General Forest Management? Are the areas that would become MA 6.2 (as compensation) of similar quality to the areas that would be converted from MA 6.2 to a less restrictive MA? Based on the Story Map, this does not appear to be the case. Areas proposed for designation as MA 6.2 are closer to the town of Waterville Valley and are likely to experience different human impacts than areas that are currently designated as 6.2 and which are proposed for amendment to 7.1 or 9.2. The Draft EIS must explore these changes and their costs and benefits for habitat, recreation, and production of ecosystem services, among other qualities.

³⁹ WVR EIS Scoping Newsletter at 4.

⁴⁰ WVR EIS Story Map at this link:

<https://storymaps.arcgis.com/stories/c2440910a1924df5b112568dfbc7ed99#ref-n-45Nbit>

⁴¹ WVR EIS Scoping Newsletter at 7.

Cumulative Impacts Must Be Analyzed

It is essential for the Forest Service to consider cumulative impacts. Such impacts include the numerous ongoing logging projects across the WMNF, and proposed or anticipated projects that are under development (these include Wanosha Integrated Resource Project, Peabody West Integrated Resource Project, Tarleton Integrated Resource Project, Sandwich Vegetation Management Project, Lost River Integrated Resource Project, Hales Location Wildfire Resiliency Project, and others). Especially considering the fact that the Forest Plan is already overdue for revision, cumulative impacts analysis is essential to ensure that this and other actions are consistent with the Forest Plan.

Furthermore, the WVR EIS should consider the cumulative impact of development that is occurring or is likely to occur on private lands beyond the project boundary.

Conclusion

We appreciate your attention to the comments and concerns raised in this letter. We welcome the opportunity to discuss this matter further with the Forest Service or WVR.

Sincerely,

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