

August 21, 2026

Brian Glaspell, Forest Supervisor
c/o Sarah Strehle, Mountain Sports Permit Administrator
USDA Forest Service
Dillon Ranger District
PO Box 620
Silverthorne, CO 80498

RE: Arapahoe Basin 2026 Improvement Projects

Dear Supervisor Glaspell:

Please accept these comments regarding the proposed A-Basin 2026 Improvement Projects. The comments are submitted on behalf of Wilderness Workshop, Winter Wildlands Alliance, and Rocky Smith.

1. The Proposed Project Must Comply with the Forest Plan.

The National Forest Management Act (NFMA) requires the U.S. Forest Service (USFS or Forest Service) to develop a Land Resource Management Plan (LRMP or forest plan) for each national forest administrative unit that balances ecological, commercial, recreational, and other uses. The Forest Service implements the LRMP through individual site-specific projects, which must comply with the plan. 16 U.S.C. § 1604(i).

Alpine Environments

The 2002 White River National Forest (WRNF) LRMP includes protections and prohibitions to protect alpine environments on the Forest. For example, the plan includes a forest-wide standard prohibiting new structural facilities in alpine areas and guidelines requiring the agency to minimize new roads and trails, soil disturbance and excavation, as well as new structures and resource damage more generally.¹

The proposed action includes new structures for storing avalanche safety equipment (including explosives), as many as 17 new Remote Avalanche Control Systems (RACS) towers that will be used to trigger avalanches remotely, as well as snowmaking infrastructure in alpine areas.² It seems likely that constructing and maintaining these facilities would also require some new road access, which is not discussed in the NOPA. These activities do not appear to comply with Forest Plan standards and guidelines.

Boreal Toad

¹ See USFS, WRNF LRMP (2002), at 2-7; *see also* USFS, WRNF Forest Plan Amd. 02 – Alpine and Roadless Standards and Guidelines DN/FONSI (Jan. 2006), at 6-7, available at <https://www.fs.usda.gov/sites/nfs/files/r02/whiteriver/publication/Amendment%20%20Alpine%20and%20Roadless.pdf>.

² USFS, Notice of Proposed Action: Arapahoe Basin 2026 Improvement Projects (NOPA), at 4.

The 2002 WRNF LRMP includes Goal 1 Ecosystem Health: “Promote ecosystem health and conservation using a collaborative approach to sustain the nation’s forest, grasslands, and watersheds.”³ Objective 1c of the plan directs the agency to “[h]elp ensure viability of species of concern for the White River National Forest through implementation of the Forest Plan...”⁴ According to the 2002 LRMP, boreal toads are a species of viability concern.⁵

The NOPA confirms that “[b]oreal toad habitat occurs within and adjacent to the project area, including a known pond within the North Fork Snake River drainage.”⁶ Studies are ongoing to evaluate “potential surface water and groundwater interactions that may influence pond water levels, hydroperiod, and habitat conditions.”⁷

The LRMP includes two strategies aimed at ensuring the viability of boreal toads and achieving Objective 1c: “1c.14 [m]aintain corridors for interaction between adjacent populations of boreal toads and between adjacent populations of leopard frogs;” and “1c.15 [i]dentify suitable habitat for reintroduction of boreal toads and leopard frogs and coordinate potential reintroductions with the State of Colorado.”⁸

In this case, the USFS must ensure that the Proposed Action will not undermine the viability of boreal toads or adversely affect any of the toads’ interaction corridors. If the proposed development area is a suitable place for reintroduction, the USFS should ask Arapaho Basin to partner in such an effort; and make reintroduction part of the plan.

Further, the LRMP indicates forest-wide standards that must be followed for the protection of boreal toads including:

1. Allow no loss or reduction in habitat quality of occupied or known historic boreal toad or leopard frog habitat;
2. Maintain adequate vegetation cover around occupied boreal toad or leopard frog breeding ponds when implementing management activities to minimize avian predation on newly metamorphosed frogs and toads.
3. Use only chemical herbicides shown to have no effect on boreal toads or leopard frogs, or use other vegetation management techniques, within 300 feet of occupied or known historic boreal toad sites;
4. Do not use fish toxins with the potential to harm boreal toads or leopard frogs in occupied boreal toad and leopard frog habitats.⁹

The LRMP also indicates forest-wide guidelines for the protection of boreal toads including:

³ WRNF LRMP (2002), at 1-3.

⁴ *Id.* at 1-4.

⁵ *Id.* at 2-25–2-26.

⁶ NOPA, at 10.

⁷ *Id.*

⁸ WRNF LRMP (2002), at 1-5.

⁹ *Id.* at 2-25–2-26.

1. To prevent direct mortality to boreal toads, restrict the following activities to periods when toads are inactive (generally late fall to early spring):
 - a. Management-ignited fire treatments within 3 miles of occupied boreal toad breeding sites.
 - b. Vegetation management using heavy, ground-based equipment within 1.5 miles of occupied boreal toad breeding sites.
2. Restrict construction of new roads and trails within 300 feet of occupied or known historic boreal toad and leopard frog breeding sites to prevent direct mortality and disturbance of adjacent vegetation during construction and trail use.
3. Where impacts to occupied or known historical boreal toad or leopard frog breeding sites associated with livestock grazing are identified, consider actions to reduce or remove impacts such as, but not limited to:
 - a. Fencing,
 - b. Modification of season of use, or
 - c. Provision of alternate water sources at a sufficient distance.
4. Where roads or trails are located within 300 feet of occupied or historical boreal toad or leopard frog breeding sites, consider reclaiming, redirecting, or redesigning trails and user traffic to minimize direct mortality and disturbance of adjacent vegetation.¹⁰

The NOPA makes no reference to these standards and guidelines. The National Environmental Policy Act (NEPA) requires the agency take a hard look at all potential impacts to sensitive species before approving a new development, and NFMA demands the USFS to comply with the Forest Plan. Therefore, the NEPA document for the proposed project must carefully analyze and disclose the potential impacts to boreal toads and consider how such impacts would be avoided or minimized.

Wetlands

Wetland health is a vital goal of the Forest Service and of the 2002 WRNF LRMP.¹¹ Therefore, in the agency's analysis of the proposed action the USFS must disclose how the agency will achieve the plan's goals, objectives, standards, and guidelines, including the following forest-wide guidelines for the protection water and riparian resources:

Guideline 2. Keep vehicles and equipment out of streams, lakes, and wetlands except to cross at designated points, build crossings, do restoration work, or where protected by one foot of snowpack or frozen soil;

Guideline 3. Maintain existing federal water rights. Take appropriate action to use and protect water rights, including but not limited to changing uses to meet federal needs for water. If the water rights are not needed to meet national forest purposes, sell, lease, or

¹⁰ *Id.* at 2-26.

¹¹ The agency's Watershed Conservation Practices Handbook, FSH 2509.25, provides: "Maintaining the physical and chemical integrity of watersheds and water bodies through these watershed conservation practices is necessary to provide quality habitat for aquatic, riparian and wetland flora and fauna."

exchange these federal water rights;

Guideline 5. Manage public uses to minimize resource damage in alpine ecosystems.¹²

To the extent any alpine wetlands are implicated by the proposal, LRMP standards demand that the USFS “[p]rohibit new structural facilities in alpine wetlands, streams, and riparian areas except when needed to reduce existing resource impacts.”¹³

2. The Proposed Project may have Significant Impacts and Necessitates Preparation of an EIS.

NEPA requires federal agencies to prepare an environmental impact statement for all major Federal actions significantly affecting the quality of the human environment.¹⁴

As discussed throughout this comment letter, the proposed project involves numerous activities that may have significant impacts on the environment. These activities include, increased water depletions in a watershed that is already depleted and where pollutant concentrations are already high; the transportation, storage and use of explosives to control avalanches and to make known avalanche terrain suitable for increased recreational use; the use of helicopters for reloading explosive stockpiles; construction of two new parking lots with 400 new parking spaces and all associated impacts (e.g., cut and fill, destruction of wetlands, increased traffic, increased air and water pollution, etc.); impacts to sensitive wildlife species, including boreal toad; impacts to sensitive plant species, including the Paradox Moonwort; construction of new facilities in the alpine; possible damage to alpine wetlands; snowmaking impacts that have never been considered on a programmatic scale; and climate impacts that have never been considered. These are just a few of the potential effects that may be significant and necessitate completion of an EIS.

3. The Impacts of Snowmaking and Climate Change May Be Significant and Must be Considered Programmatically.

In 2023, Congress amended NEPA to require that when relying on the analysis in programmatic EISs, agencies must reevaluate the EISs to ensure they remain valid. NEPA directs that when the programmatic analysis is more than 5 years old, an agency may rely on it only if “the agency reevaluates the analysis in the programmatic environmental document and any underlying assumption to ensure reliance on the analysis remains valid.”¹⁵ Even where a programmatic EIS is less than five years old, agencies must reevaluate it where “there are substantial new circumstances or information about the significance of adverse effects that bear on the analysis.”¹⁶

¹² WRNF LRMP (2002), at 2-6.

¹³ *Id.* at 2-7.

¹⁴ 42 U.S.C. § 4332(C).

¹⁵ *Id.* at § 4336b.

¹⁶ *Id.*

Ski area management on the WRNF is governed by the 2002 LRMP.¹⁷ The LRMP provides guidance related to resource management,¹⁸ but it provides no discussion of climate change. Climate change is briefly mentioned in the EIS that the Forest Service used to inform the plan. The EIS says that “[w]eather trends do not favor skiing,” and that “trends indicate a warming of the earth’s climate.”¹⁹ It notes that years are trending warmer, warming is more pronounced in the winter months, and snow cover is declining. “Taken together, these phenomena may work to shorten the ski seasons and hold down skier visits.”²⁰ This prediction suggests that there may be a time when the future of skiing is no longer sustainable, and it has borne out. However, the LRMP goes no further. It does not consider or include standards or guidelines directing agency officials how best to manage ski areas in a warmer climate—when resources needed to keep the industry on life-support cause more damage than good.

Those questions must be asked and resolved now for reasons discussed in more detail below. Ski companies like A-Basin and others across the WRNF are asking for additional snowmaking capacity to lengthen their operating season in response to changing climatic conditions. Snowmaking activities may significantly impact other resources, for example they require large quantities of water and energy that the Forest Service has never considered on a broader scale. In other words, new information and changed circumstances that have never been considered render the existing LRMP/FEIS stale, outdated, and inadequate with regard to ski area management. Consequently, before authorizing new snowmaking operations, the USFS must take a hard look at the effects of its ski area management program in light of new information and changed circumstances including climate change.

This project would nearly double existing snowmaking capacity at Arapahoe Basin.²¹ Snowmaking requires megawatts of energy and significant volumes of water.²² It contributes to climate change, changes the natural runoff regimes and impacts public land resources including wildlife and vegetation, as well as municipal water supplies and human health. In the Snake River, which is contaminated from historic mining operations, snowmaking depletions may increase already high concentrations of rare earth minerals and other elements that make the watershed unlivable for plants and animals.²³ The USFS must consider these impacts from the

¹⁷ WRNF LRMP (2002), at 3-80–3-83.

¹⁸ See e.g., *id.* at 3-80 (“Vegetation is managed to avoid catastrophic changes that could result from windthrow, insects, disease, or fire. Disturbed areas are revegetated to protect scenery and minimize erosion.”), 3-83 (“Snow management, including snowmaking and snow-farming, will be conducted in a manner that prevents slope failures and gully erosion, as well as bank erosion and sediment damage in receiving channels.”).

¹⁹ *Id.* at 3-83.

²⁰ *Id.*

²¹ See NOPA at 3 (A-basin’s snowmaking system current covers 75 acres and they are proposing to expand snowmaking coverage by 65 acres).

²² See e.g., “Colorado Skiing: Snowmaking Uses Millions Of Gallons Of Water Each Year.” CBS Denver (December 17, 2021), available at <https://www.google.com/url?q=https://denver.cbslocal.com/2021/12/17/colorado-skiing-snowmaking-gallons-water-use/> (attached as Ex. 1); Shannon Mullane. “How Do Colorado Ski Areas Prepare for a Changing Climate? Ask Eldora Mountain Resort.” Fresh Water News, Water Education Colorado. <https://www.watereducationcolorado.org/fresh-water-news/how-do-colorado-ski-areas-prepare-for-a-changing-climate-ask-eldora-mountain-resort/> (attached as Ex. 2).

²³ Nancy Averett, New Contamination Concern for Colorado Streams, Eos digital magazine (Oct. 14, 2021), available at <https://eos.org/articles/new-contamination-concern-for-colorado-streams> (attached as Ex. 3); Elizabeth Miller, Climate change is eroding work to clean up the Snake River. Is Summit County snowmaking making it worse? The Colorado Sun (Feb. 16, 2022), available at <https://coloradosun.com/2022/02/16/snake-river-summit->

proposed action, but as discussed herein, the agency should not consider these impacts in a vacuum.

In response to persistent and multi-seasonal droughts, many Colorado ski resorts are proposing snowmaking expansions.²⁴ In fact, reports estimate that by 2050, ski resorts in Colorado will need to increase their water supply by 41% to support increased snowmaking.²⁵ Nearly every major ski area within the WRNF, Colorado River Basin, and USFS's Region 2 is asking the USFS to approve increased snowmaking capacity.²⁶ Ski resorts are proposing to expand snowmaking for similar reasons and to fulfill similar needs (most notably to enhance the reliability of snow coverage).²⁷ These proposals share timing and geography, and result in shared impacts (e.g., water depletions, alterations in flow regimes, impacts to wildlife (especially effects on migrating wildlife and threatened and endangered species), and impacts related to climate change (which is part of the reason these projects are being proposed)). Taken together, these impacts may be significant. But, to date, the USFS has not examined snowmaking proposals and the impacts of increased snowmaking altogether. Rather, the agency is looking at each of these

[county-water-pollution-snowmaking-climate-change/](#) (attached as Ex. 4); Rae Solomon, Climate change is behind rising metal and acid pollution in Colorado's mountain rivers, NPR News, Colorado Stories (July 25, 2024), available at <https://www.kunc.org/news/2024-07-25/climate-change-is-behind-rising-metal-and-acid-pollution-in-colorados-mountain-rivers> (attached as Ex. 5).

²⁴ Alex Hager, A Snow Drought is Leaving the West's Mountains High and Dry, KUER News, Published December 27, 2023, <https://www.kuer.org/health-science-environment/2023-12-27/a-snow-drought-is-leaving-the-wests-mountains-high-and-dry> (attached as Ex. 6).

²⁵ See Ex. 2 (Mullane, "How Do Colorado Ski Areas Prepare for a Changing Climate?").

²⁶ See, e.g., Aspen Highlands Snowmaking 2024 (see: <https://www.fs.usda.gov/r02/whiteriver/projects/65596>); Beaver Creek Mountain Improvements (see: <https://www.fs.usda.gov/r02/whiteriver/projects/33695>); Beaver Creek Resort – McCoy Park Terrain Development (see: <https://www.fs.usda.gov/r02/whiteriver/projects/52650>); Copper Mountain Improvements EA (see: <https://www.fs.usda.gov/r02/whiteriver/projects/47716>); Copper Mountain Resort – Lumberjack Chairlift replacement project (see: <https://www.fs.usda.gov/r02/whiteriver/projects/60014>); Buttermilk Mountain Improvements (see: <https://www.fs.usda.gov/r02/whiteriver/projects/23361>); Copper Mountain Resort Recreation Enhancement Projects (see: <https://www.fs.usda.gov/r02/whiteriver/projects/48633>); Snowmass Ski Trail Enhancements and High Alpine Chairlift Replacement (see: <https://www.fs.usda.gov/r02/whiteriver/projects/44643>); Vail Mountain Resort 2007 Improvement Project (see: <https://www.fs.usda.gov/r02/whiteriver/projects/23385>); Vail Mountain Resort Snowmaking (see: <https://www.fs.usda.gov/r02/whiteriver/projects/54859>); Golden Peak Improvements (see: <https://www.fs.usda.gov/r02/whiteriver/projects/47937>); Aspen Mountain Pandora Development and Summit Snowmaking Projects (see: <https://www.fs.usda.gov/r02/whiteriver/projects/53847>); Snowmass Snowmaking and Elk Camp Meadows Projects (see: <https://www.fs.usda.gov/r02/whiteriver/projects/54555>); Keystone Resort – 2018 Improvements Project (see: <https://www.fs.usda.gov/r02/whiteriver/projects/53800>); Summer Construction Projects at Breckenridge (see: <https://www.fs.usda.gov/r02/whiteriver/projects/45788>); Copper Mountain Snowmaking and Summer Uses (see: <https://www.fs.usda.gov/r02/whiteriver/projects/54909>); Sheer Bliss Pond Modification Project (see: <https://www.fs.usda.gov/r02/whiteriver/projects/48952>); Steamboat Ski Area FY18 Projects (see: <https://www.fs.usda.gov/r02/mbrtb/projects/52845>); Powderhorn Snowmaking Supply Line and Trail Project (see: <https://www.fs.usda.gov/r02/gmug/projects/archive>); Telluride Ski Area: Upper Village Bypass Snowmaking Improvements CE (see: <https://www.fs.usda.gov/r02/gmug/projects/42589>); and Crested Butte Mountain Resort Ski Area Projects (see: <https://www.fs.usda.gov/project/?project=46904>).

²⁷ See e.g., Pandora Development and Summit Snowmaking Projects at Aspen Mountain EA (hereafter "Pandora EA") at 3 (discussing the need for snowmaking to improve early season conditions), 19-20 (dismissing a No Action alternative because snowmaking is necessary to improve early season snowpack), 26 ("Snowmaking projects would also improve alpine skiing opportunities through improving the reliability and consistency of snow coverage on the upper mountain, allowing for top-to-bottom skiing, especially during the early and late parts of the season."), available at <https://www.fs.usda.gov/r02/whiteriver/projects/53847>.

proposals on an individual basis and relying on dated analyses and planning documents.

Currently, the Forest Service relies on resources such as the WRNF's 2002 LRMP and FEIS to support approval of new snowmaking proposals. The NOPA for this project notes a 1999 A-Basin MDP EIS/ROD analyzing and governing diversions from the North Fork Snake River that the ski company uses to support snowmaking. These plans, approximately 25-years-old now, never took a hard look at contemporary information related to climate, the availability and quality of water resources and habitat, or contemporary demographics and recreational demand. Even if they had taken a hard look at these issues, circumstances have changed dramatically in recent decades, and the Forest Service's reliance on these dated sources may have harmful results that the agency did not contemplate in the late '90s and early 2000s.

To comply with obligations under NEPA and to make a fully informed decision, the USFS must disclose and analyze the suite of reasonably foreseeable impacts that increased snowmaking at resorts within the WRNF will have. The most effective way to achieve compliance with the law would be for the USFS to undertake a programmatic or area-wide EIS on all the existing, pending, and foreseeable snowmaking expansion projects before it.

NEPA expressly contemplates preparation of an EIS for situations just like this one where an agency is facing multiple, independent permitting decisions that have overlapping, shared, and cumulative impacts. *See Native Ecosystems Council v. Dombeck*, 304 F.3d 886 (9th Cir. 2002) ("A single NEPA review document is required for distinct projects when ... the projects are 'connected,' 'cumulative' or 'similar' actions ..."). Courts have agreed that a single EIS is required for multiple discreet actions under some circumstances, for example, when the projects have common timing, geography, and/or impacts. *See, e.g., Blue Mountains Biodiversity Project v. Blackwood*, 161 F.3d 1208, 1215 (9th Cir. 1998) (multiple timber sales must be evaluated in a single EIS where the sales were reasonably foreseeable, in a single general area, disclosed at the same time, and developed as part of a comprehensive strategy).

While each individual project has a range of unique local effects on the environment that must be evaluated, a broader EIS should be undertaken to assess those environmental effects of the various projects that are similar, connected, and/or cumulative. These shared impacts include (but are not limited to) those related to 1) water quality and quantity, including increased stream flows during peak runoff and increased diversions during low-flow periods; 2) energy consumption, greenhouse gas emissions, and climate; and 3) wildlife/habitat impacts.

First, the Forest Service should assess the broad impacts that snowmaking projects have on water quality and quantity. The USFS has acknowledged such impacts in other project-specific analyses.²⁸ The Pandora EA even confirms that there may not always be enough water to support

²⁸ *See e.g.,* Pandora EA at 5 ("Implementation and utilization of additional snowmaking infrastructure within the SUP area, including water storage ponds, may affect surface erosion and channel stability in small drainages on Aspen Mountain."), 40 ("The additional snowmaking included as part of the Proposed Action would increase water yields across the project area watersheds, with increases ranging from 11 percent to 21 percent."), 13 (discussing 1.75 million gallon pond necessary to store water for snowmaking, as well as other facilities and infrastructure that will alter flow regimes), 14 (discussing measures necessary to deal with increased runoff), 18 (discussing PDCs necessary to deal with increased flows and erosion), 50 ("Higher watershed yield and associated surface runoff from the Proposed Action has the potential to impact water quality.").

the proposed snowmaking project: “... some snowmaking shortages are possible under drought conditions.”²⁹ Nonetheless, the agency has ignored the potential impacts that all of the existing, proposed, and foreseeable snowmaking projects will have together. This is a huge oversight, especially in watersheds that may support multiple different ski area operations, like the Snake River watershed.³⁰

The USFS has failed to consider this project in the context of other snowmaking projects in the watershed and on the WRNF where water depletions are adversely affecting sensitive plants and wildlife, and numerous other public land values.³¹ The agency has an obligation, as it approves these snowmaking proposals that affect the same sensitive resources, to fully consider and disclose potential impacts. The best way to accomplish that would be with a programmatic EIS. As it is, the agency’s piecemeal analysis of these projects individually fails to account for cumulative impacts.

Second, the Forest Service must consider the energy that will be necessary to make snow for the proposed project, the amount of greenhouse gas that will be produced from additional snowmaking, and other climate change-relevant impacts.³² Other Forest Service EAs include only the most general discussion of these impacts: “The construction and operation of both the Pandora area and the snowmaking development are associated with GHG emissions and increased energy use, which also correlate to the release of GHG emissions.”³³ The USFS’s failure to disclose, consider and analyze potential impacts related to these resources in any meaningful way is inadequate under NEPA. *See San Juan Citizens Alliance v. U.S. Bureau of Land Management*, No. 18-2119 (10th Cir. Oct. 26, 2018) (agency analysis violated NEPA for failure to take a hard look at impacts related to climate change, greenhouse gases, and water use).

Snowmaking has a huge environmental impact. Ski resorts use energy and produce carbon dioxide, as well as other greenhouse gases, to make snow. Snowmaking is one of the biggest single energy uses at ski resorts where it occurs.³⁴ Snowmaking is both a response to climate change and a cause of climate change. To deal with the reduced natural snow reliability, ski areas want to make more snow. But to make more snow, these companies need to use more diesel fuel and coal to generate the electricity to pump water to the snow guns and fan it out over the slopes.

²⁹ *Id.* at 54.

³⁰ *See e.g.*, Heather Sackett, Aspen Journalism, “After expansions, Skico will use about 900 AF of water a year for snowmaking” (Jan. 2, 2019) (discussing total depletions in the Roaring Fork watershed from snowmaking operations at Aspen Ski Co.’s four resorts), available at <https://www.aspenjournalism.org/2019/01/02/skico-snowmaking-will-use-around-900-acre-feet-of-water-on-average-per-year/> (attached as Ex. 7).

³¹ *See e.g.*, N.26 *supra* (listing numerous snowmaking projects on the WRNF and throughout western Colorado that have been analyzed individually without consideration of cumulative impacts or the broader context of climate change).

³² Importantly, the USFS has an obligation to consider the project’s impact on climate change and the impact of climate change on the project. *See e.g.*, *AquAlliance v. U.S. Bureau of Reclamation*, 1:15-cv-00754-LJO-BAM (E.D. Cal. Feb. 15, 2018) (finding FEIS unlawful because climate change’s impact on the project was not considered).

³³ *See* Pandora EA at 67.

³⁴ Susan Shain, Ski resorts are increasingly reliant on snowmaking, But at what cost? *Grist* (Feb. 26, 2026) (“One study of 10 ski areas across the country estimated that snowmaking accounts for 18 percent of a resort’s energy use on average”), available at <https://grist.org/energy/ski-resorts-are-increasingly-reliant-on-snowmaking-but-at-what-cost/> (attached as Ex. 8).

Then they rely on diesel-powered snowcats to spread the snow into a skiable surface.

The USFS has never addressed any of these impacts in meaningful detail. For example, while the Pandora EA does mention Aspen Ski Company's efforts to reduce climate impacts and Pitkin County's Climate Action Plan, there is no attempt to quantify potential impacts of the project.³⁵ The USFS's failure to disclose and analyze the energy needs, emissions, and the climate impacts of individual snowmaking projects is compounded by the agency's decision to ignore the numerous other snowmaking proposals on the forest and the foreseeable direct, indirect and cumulative effects all these projects will have together. The agency should change course and take a hard look at the numerous snowmaking projects before it "altogether" since those projects are all, at least in part, a response to climate change; and because altogether they may have significant climate impacts.

Courts have held that agencies have an obligation to consider the impacts that their activities will have on climate. *See e.g., High Country Conservation Advocates v. U.S. Forest Service*, 52 F. Supp. 3d 1174, 44 ELR 20144 (D. Colo. 2014) (USFS's failure to quantify GHG emissions and analyze relevant impacts rendered the agency's decision arbitrary). Here the USFS must consider potential impacts of all connected, cumulative, and similar snowmaking projects. Failure to consider these impacts altogether is a violation of NEPA, and tantamount to turning a blind eye to the impacts that are driving ski area managers to propose these projects in the first place.

Finally, the Forest Service must consider impacts snowmaking may have on sensitive wildlife and habitat. The section below describing potential impacts to boreal toads lists recreation areas, including ski areas, as a significant threat to the species. The section above describes how maintaining viable boreal toad populations is required by the LRMP. Snowmaking changes the timing of runoff, peak flow, and water yield. New snowmaking and additional snow compaction will delay, prolong, and increase runoff. It will also impact vegetation, soil productivity, and aquatic and riparian health. These impacts may or may not be significant on a project level scale, but cumulatively they may have significant impacts on important wildlife resources, including boreal toad populations across the WRNF. Without taking a hard look at all these projects together, in a new programmatic analysis, the USFS will continue not to meet its obligations under NEPA to take a hard look at the potential direct, indirect, and cumulative effects of snowmaking on the environment.

4. Water Quality and Quantity Impacts May be Significant.

The Forest Service must comply with the Clean Water Act and applicable State laws and regulations intended to restore and maintain the chemical, physical, and biological integrity of the Nation's waters.³⁶

³⁵ *See* Pandora EA at 67.

³⁶ *See* Forest Service, Watershed Conservation Practices Handbook, FSH 2509.25, section 01.1 (6), (citing 33 U.S.C. §§ 1251 et seq.). Impacts to flow patterns, temperature, dissolved oxygen, sediment, and pollutant levels must be controlled as well. *id.* (citing 33 U.S.C. §§ 1311, 1314; *Sierra Club v. United States Forest Serv.*, 843 F.2d 1190, 1194 (9th Cir. 1988); *Thomas v. Peterson*, 753 F.2d 754, 759 (9th Cir. 1985)).

As discussed above, snowmaking requires diversion of significant quantities of water from creeks and rivers, results in the loss of water from watersheds, and changes natural runoff regimes. Snowmaking diversions can affect wetlands, wildlife, vegetation, human health and recreation. Existing snowmaking operations in the Snake River already present a problem for fish and other biological resources.³⁷ The Snake River is overallocated and polluted. Further water depletions may exacerbate existing pollution problems in the watershed.

A-Basin plans to divert its snowmaking water from the North Fork of the Snake River.³⁸ The Snake River, including all tributaries and wetlands from the source to Dillon Reservoir except Segments 6b, 7, 8, and 9, is listed as impaired under the Clean Water Act for zinc and manganese. Total maximum daily loads (TMDLs) are needed for these pollutants. TMDLs are already in place for cadmium, copper, and lead.³⁹

The clean waters of the North Fork help dilute toxic heavy metal pollution in the Snake River downstream. Concern that increased diversion will result in elevated concentrations of the metals in the Snake dates to the late 1990s when A-Basin sought approval for snowmaking on 125 acres and Keystone sought a huge expansion in snowmaking capabilities.⁴⁰ Both plans were subject of administrative appeals and at least one lawsuit. *See e.g., Colo. Wild, Inc. v. United States Forest Serv.*, 122 F. Supp. 2d 1190 (D. Colo. 2000).

Levels of metals in the Snake River, including zinc, manganese, cadmium, and iron, chronically violate water quality standards (either designated uses or numerical standards, or both). The concentrations are high enough to negatively affect the health of the aquatic ecosystem. In fact, acid mine drainage renders large portions of the river naturally uninhabitable for self-sustaining fish populations. The pollution originates with run-off from abandoned mines riddled throughout the nearby mountains. During large rain events, mine blowouts have caused mass fish die offs.⁴¹

Concern related to the environmental impacts of diverting water from the North Fork of the Snake River motivated the Forest Service to condition approval of snowmaking diversions in the 1999 ROD approving the A-Basin Master Development Plan. Specifically, the agency limited A-Basin's use of water from the North Fork of the Snake River to less than 25% of the streamflow year-round. Under the ROD, the company was also required to maintain a 0.5 cubic feet per second bypass flow during the majority of the snowmaking season. In October, the company must maintain a bypass flow of 1.0 cubic feet per second. A-Basin also volunteered to be part of

³⁷ See Ex. 4 (Miller, Climate change is eroding work to clean up the Snake River). *See also* Bob Berwyn, A-Basin Gets Approval for Snowmaking, *Ski Magazine* (Jan. 1, 2000), available at <https://www.skimag.com/ski-resort-life/a-basin-gets-approval-for-snowmaking/> (attached as Ex. 9).

³⁸ NOPA at 3.

³⁹ See Colorado's 303(d) list, CODPHE, WCC, 2024, at 137 (attached as Ex. 10).

⁴⁰ See Trout Unlimited Press Release "Keystone Wants Huge Increase In Water For Snowmaking — But Doesn't Want Public Review" (July 15, 1999), available at <https://www.tu.org/press-releases/keystone-wants-huge-increase-in-water-for-snowmaking-but-doesnt-want-public-review/> (attached as Ex. 11).

⁴¹ *See e.g.*, Bob Berwyn, Fish kill in Snake River traced to Peru Creek discharge, *Summit Daily News* (Aug. 9, 2007), available at <https://www.summitdaily.com/news/fish-kill-in-snake-river-traced-to-peru-creek-discharge/> (attached as Ex. 12).

an effort to do some passive, low-tech and low-cost treatment of water at some of the abandoned mines in hopes of mitigating at least part of the impact.⁴²

Despite these limitations and commitments, environmental problems persist. The Snake River remains on the impaired waters list, and the river still cannot support self-sustaining populations of fish. In fact, there is evidence that climate change and drought may be making environmental conditions in the watershed worse. For example, in 2012 A-Basin and Keystone had to cut back their snowmaking operations due to water shortages in the Snake River watershed.⁴³ Drought and reduced snowpack are consequences of climate change, and they are expected to continue. Recent studies also suggest that “warmer, drier conditions brought on by a changing climate seem to be releasing more heavy metals and acidity both from the former mine sites and from untouched bands of mineralized rock.”⁴⁴

The NOPA notes that “A-Basin proposes removing the 25 percent withdrawal limitation to allow expanded snowmaking...”⁴⁵ Granting that request would be inappropriate given all the information discussed above. But if this provision is still pursued, additional diversions with fewer limitations and restrictions may have significant impacts on the environment that must be thoroughly analyzed by the Forest Service prior to approval. Potential impacts that must be considered include loss of water from the Snake River watershed and changes to natural runoff regimes, resulting in an increase in concentration of pollutants, as well as impacts to wetlands, wildlife, vegetation, human health and recreation.

⁴² Note: there remain concerns about the efficacy and enforceability of instream flow restrictions. *See e.g.*, Michelle Nijhuis, Keystone snowmakers get thirsty, High Country News (Jan. 18, 1999), available at <https://www.hcn.org/issues/issue-146/keystone-snowmakers-get-thirsty/> (attached as Ex. 13). Note too: the withdrawal limitations imposed in the 1999 ROD assumed that A-Basin would construct and use a 7.5-acre foot snowmaking storage pond. However, that 7.5-acre pond was never built and instead A-Basin relies on a 5.5-acre foot storage pond which does not provide as much buffer storage when flows are low in the North Fork.

⁴³ Dave Buchanan, Drought plagues snowmaking at Arapahoe Basin, Keystone, Grand Junction Daily Sentinel (Nov. 28, 2012), available at https://www.gjsentinel.com/outdoors/snow_sports/drought-plagues-snowmaking-at-arapahoe-basin-keystone/article_4aa128b1-56f3-5fb2-9e66-bf87b351fb7d.html (attached as Ex. 14).

⁴⁴ Garrett P. Rue, Diane M. McKnight; Enhanced Rare Earth Element Mobilization in a Mountain Watershed of the Colorado Mineral Belt with Concomitant Detection in Aquatic Biota: Increasing Climate Change-Driven Degradation to Water Quality. *Environ. Sci. Technol.* 2 November 2021; 55 (21): 14378–14388. <https://doi.org/10.1021/acs.est.1c02958> (attached as Ex. 15); *see also* Kylie Mohr, Climate change increases rare earth elements in Colorado’s Snake River, High Country News (Sept. 16, 2021), available at <https://www.hcn.org/articles/north-climate-change-increases-rare-earth-elements-into-colorados-snake-river/> (attached as Ex. 16); Elizabeth Miller, Climate Change is Acidifying and Contaminating Drinking Water and Alpine Ecosystems, *Scientific American* (Nov. 4, 2021), available at <https://www.scientificamerican.com/article/climate-change-is-acidifying-and-contaminating-drinking-water-and-alpine-ecosystems/> (attached as Ex. 17); Todd, A., D. McKnight, and L. Wyatt (2003), Abandoned mines, mountain sports, and climate variability: Implications for the Colorado tourism economy, *Eos Trans. AGU*, 84(38), 377–386, doi:10.1029/2003EO380002 (attached as Ex. 18); Elizabeth Miller, Climate change is eroding work to clean up the Snake River. Is Summit County snowmaking making it worse?, *The Colorado Sun* (Feb. 16, 2022), available at <https://coloradosun.com/2022/02/16/snake-river-summit-county-water-pollution-snowmaking-climate-change/> (attached as Ex. 19); Coyote Gulch Blogpost “Rare earth elements and old mines spell trouble for Western #water supplies – University of #Colorado” (Sep. 14, 2021), available at <https://coyotegulch.blog/category/colorado-water/blue-river-watershed/snake-river-watershed/> (attached as Ex. 20).

⁴⁵ NOPA at 3.

We question whether expanded snowmaking is appropriate in the first place, as A-Basin is already the first Colorado ski area to open in most years, or closely behind whatever area opens ahead of it, and the last to close operations for the summer. The new snowmaking would be primarily, it seems, for early-season terrain.⁴⁶ Also, a good chunk of the increased snowmaking would cover parts of Montezuma Bowl,⁴⁷ which faces south to west, where snow would be subject to melting on warm days. This is simply not appropriate, especially given the increased problems with water pollution likely to occur with use of additional water for snowmaking.

5. Impacts to Boreal Toads May be Significant.

The boreal toad is Colorado's only alpine toad species, living in mountain lakes, ponds, meadows, and wetlands at elevations between 8,000 and 12,000 feet. Despite the boreal toad's resilience in living at high altitude, the species has faced a significant decline in population. As discussed above, it is listed as a sensitive species by the USFS, and the 2002 LRMP includes specific provisions to protect and enhance remaining boreal toad populations. Colorado Parks and Wildlife (CPW) listed the boreal toad as a state endangered species in 1993 and has undertaken an effort to research and reintroduce the boreal toad into its natural habitat.

Like other amphibians, boreal toads are cold-blooded and use their skin to absorb oxygen, so they are more sensitive to harm from water contaminants and changes in water level and temperature. Factors such as habitat loss, climate change, pollution, and the spread of the chytrid fungus have contributed to their diminishing numbers.

CPW prepared a table listing threats to boreal toad populations in the State.⁴⁸ Recreation areas, including ski areas, are listed in the table. Ski areas and other snow-compacting activities and areas within ¼ mile of breeding sites can alter snowmelt regimes and affect breeding area access and hydroperiods. Construction and use of roads and trails can fragment toad dispersal corridors and can directly kill toads via trampling/vehicle strikes. Heavy equipment and/or ground disturbance within 300 feet of breeding sites can alter habitat, potentially introduce disease and crush or injure toads. Changes in water management can degrade breeding sites. As can extended drought and changes in snowpack. Boreal toad populations are also susceptible to increased pollution loads related to acid mine drainage and other contaminants related to historic mining, which is an issue in the Snake River watershed.⁴⁹

The proposed action involves increasing recreational use at a ski area, increased traffic, the use of heavy machinery, alterations to snowmaking and snowmelt that will change water levels and snowmelt regimes, and water withdrawals that may result in less water to dilute contaminants related to historic mining in the area. These impacts may be significant and necessitate thorough environmental analysis by the USFS. The analysis must include a discussion of the practicality and effectiveness of possible mitigation measures designed to avoid or minimize impacts.

⁴⁶ *Id.* at 2.

⁴⁷ *Id.* at 3.

⁴⁸ See CPW "Boreal Toad" website, available at [https://tableau.state.co.us/t/CPW_AquaticVisualization/views/2025SWAPDataHubProd/SpeciesDashboardLink?Taxonomic%20Group=Amphibians&Display%20Name=Boreal%20Toad%20\(Southern%20Rocky%20Mountain%20Population\)%20\(Anaxyrus%20boreas%20boreas\)&%3Aembed=y](https://tableau.state.co.us/t/CPW_AquaticVisualization/views/2025SWAPDataHubProd/SpeciesDashboardLink?Taxonomic%20Group=Amphibians&Display%20Name=Boreal%20Toad%20(Southern%20Rocky%20Mountain%20Population)%20(Anaxyrus%20boreas%20boreas)&%3Aembed=y) (click on "Threats") (attached as Ex. 21).

⁴⁹ See Ex. 3 (Averett, New Contaminants Concern for Colorado Streams).

6. Impacts to the Paradox Moonwort May be Significant.

The Paradox Moonwort (*Botrychium paradoxum*), also called the peculiar or puzzling moonwort, is a rare small fern found in montane and subalpine within the project area. The NOPA indicates that one occurrence was identified along a proposed snowmaking pipeline.⁵⁰ The NOPA suggests that the snowmaking line may subsequently have been relocated, but that fact is not entirely clear. Nor is it clear if additional occurrences of the Paradox Moonwort are likely or if additional surveys have been undertaken.

U.S. Forest Service has created their own set of guidelines for conserving this species. Thinning or fire is not a problem for moonworts, in fact they are often found in sites recovered from a disturbance but not yet closed over with a tree canopy, making cleared ski slopes ideal habitat for them.⁵¹ Moonwort is mycoheterotrophic and relies on belowground mycorrhizal fungus to colonize before sprouting aboveground.⁵² This makes moonwort highly sensitive to ground disturbances and difficult to translocate successfully.⁵³ Steve Popovich, moonwort expert and former Forest Service botanist, has speculated that because of their reliance on soil fungi, moonworts could become a kind of canary in the coal mine as indicators of soil health.⁵⁴

The proposed action involves disruption of soil for the installation of RACS towers and snowmaking infrastructure and will likely involve the use of heavy machinery. These impacts may be significant and necessitate thorough environmental analysis by the USFS. Prior to approving any activities that may impact this sensitive species, the Forest Service must take a hard look at potential effects and consider alternatives that avoid or minimize those potential impacts.

7. Wetland Impacts May be Significant.

Wetlands are important features in the landscape that provide beneficial services for people and for fish and wildlife. Some of these services, or functions, include protecting and improving water quality, providing fish and wildlife habitats, storing floodwaters and maintaining surface water flow during dry periods. These valuable functions are the result of the unique natural characteristics of wetlands.

⁵⁰ NOPA at 11.

⁵¹ Don Farrar & Steve Popovich, *Botrychium & Other Ophioglossaceae Key*, Sw. Colo. Wildflowers, <https://swcoloradowildflowers.com/PDF/Plant%20Keys/Botrychium%20&%20other%20Ophioglossaceae%20Key.pdf> at 2 (2010) (attached as Ex. 25).

⁵² Donald R. Farrar & Cindy L. Johnson, *Botrychium* Subgenus *Botrychium*: Moonwort Biology Basics, 114 Am. Fern J. 10 (2024).

⁵³ Steve J. Popovich, Cindy L. Johnson & Denise E. Larson, Methods and Lessons Learned from Translocations of *Botrychium* (*Ophioglossaceae*) as a Conservation Solution for Populations Impacted by Disturbance Activities in Colorado and Minnesota, U.S.A., 114 Am. Fern J. 66 (2024), <https://doi.org/10.1640/0002-8444-114.1.66>.

⁵⁴ Sue Dingwell, *Get A Little Moonwort Madness*, Colo. Native Plant Soc'y (Nov. 16, 2021), <https://conps.org/get-a-little-moonwort-madness/> (attached as Ex. 26).

It is the policy of the Forest Service to “[a]pply watershed conservation practices to sustain healthy soil, riparian, and aquatic systems.”⁵⁵ The Forest Service Handbook includes these objectives:

1. Hydrologic Function: Conserve the ability of watersheds and riparian areas to absorb water, filter sediment, and sustain stream channel integrity.
2. Soil Quality: Restore and maintain the long-term inherent productive capacity of the soil.
3. Aquatic Systems: Sustain water quality and aquatic habitat in each aquatic ecosystem, unless excepted by law.⁵⁶

The goal of watershed conservation is to sustain and restore watershed health in each watershed.⁵⁷ Land factors reflecting soil and stream health include ground cover, soil bulk density, connected disturbed areas, and slope stability. Water factors include channel widths-depths, large woody debris, substrate, bank stability, flow regime, and water chemistry. Other factors may also be locally important.⁵⁸

Clean Water Act regulations also prescribe agencies first consider impact avoidance, followed by minimization, with compensation for any remaining impacts as last priority.⁵⁹

Here, the proposed action would include two new parking lots projected to provide 400 additional parking spaces.⁶⁰ Both new parking lots would overlap existing wetlands.⁶¹ The parking lots would require paving or surface hardening as well as substantial cut and fill.⁶²

The proposed action would degrade or destroy wetlands that currently store water, filter pollution, and shelter wildlife. The hardened parking lots would change drainage patterns, cause faster runoff, reduce natural water storage capacity in the upper North Fork watershed, and increase water pollution. Any environmental analysis must analyze and disclose these potential impacts and consider whether they are compatible or incompatible with Federal law and agency policy. The proposed action begs this question, which the Forest Service should answer in any environmental analysis or decision document: why are we using sensitive public lands to build parking lots for the ski industry?

Additionally, A-Basin must obtain appropriate permits from the U.S. Army Corps of Engineers prior to discharging fill material into Waters of the U.S. in accordance with Section 404. Waters of the U.S. are defined in 33 C.F.R. Section 328.3 and may include wetlands as well as perennial,

⁵⁵ Forest Service, Watershed Conservation Practices Handbook, FSH 2509.25, at 10 (section 02).

⁵⁶ *Id.*

⁵⁷ *Id.* at 20 (section 06.3).

⁵⁸ *Id.*

⁵⁹ See generally 40 C.F.R. 230.5; 40 C.F.R. 230.10.

⁶⁰ NOPA at 5-7.

⁶¹ See SE Group, Arapahoe Basin 2026 Improvements Project: Proposed Parking Circulation Plan (showing overlap between proposed parking lots and existing wetlands).

⁶² NOPA at 6.

intermittent, and ephemeral streams. The USFS must provide proof of compliance with the Clean Water Act prior to approval of any improvement project.

8. The Proposed Project Implicates Lynx Critical Habitat.

It is not clear if the proposed ski area boundary change would implicate recently designated critical habitat for lynx. Prior to approval the Forest Service must take a hard look at this issue.

9. Adjusting the Ski Area Boundary Requires a Plan Amendment.

Under the proposed action, there would be a change to A-Basin's special use permit (SUP) boundary. Five acres would be added to the SUP for the new parking lots, and five acres would be removed from the SUP in lower Montezuma Bowl.⁶³

None of the documents for the proposed project show where the change in Montezuma Bowl would be, nor state whether the acreage would be added to management area 5.5 or 1.31, both of which border the A-Basin SUP area on the south side.

A forest plan amendment is needed for this proposed change.

10. The Forest Service must take a hard look at the impacts of increased visitation and use that would result from the proposed action

By expanding terrain available to skiers in the early season and adding 400 new parking spaces, A-Basin clearly aims to increase visitation at the resort. Increased visitation will have a multitude of impacts that the Forest Service must disclose and consider in any environmental analysis. Such impacts include increased traffic on the Loveland Pass roadway, increased waste from more visitors, more traffic, resort crowding, pushing users into the backcountry where impacts to wildlife are more likely to transpire, increased human waste and need for its disposal, and other impacts from increased ski area visitation.

These impacts must be analyzed and disclosed.

11. The Forest Service must protect existing designated backcountry access.

The potential effect on backcountry access is not speculative. In its 2016 Arapahoe Basin Ski Area Projects FEIS, the Forest Service identified two designated backcountry access points associated with Montezuma Bowl: one uphill and east of the Zuma chairlift top terminal providing access to Thurman's Bowl, and one below the Zuma chairlift bottom terminal

⁶³ *Id.*

connecting down the drainage to Montezuma Road.⁶⁴ The ROD expressly stated that the existing access points to Thurman's Bowl and below Montezuma Bowl would remain.⁶⁵

These Forest Service-designated backcountry access points must be distinguished from A-Basin's resort-controlled access gates into the in-bounds hike-back terrain below the Zuma lift. The 2025 Master Development Plan describes controlled gates providing access to a small hike-back zone below the lift terminal, but does not clearly explain the present status or management of the separate Forest Service-designated access point leading toward Montezuma Road.⁶⁶

The 2026 proposal would install an estimated six RACS towers in Montezuma Bowl, expand snowmaking infrastructure, conduct recurring helicopter operations, and remove approximately five acres from the ski-area special-use permit in Lower Montezuma Bowl.⁶⁷ Yet the current NOPA does not identify either of the backcountry access points retained by the 2016 decision.⁶⁸ Nor does it show their relationship to the proposed permit-boundary removal, RACS blast areas, potential avalanche-runout zones, snowmaking construction, helicopter operations, or operational closures.

The difficulty or comparatively low use of an access route does not make its loss irrelevant. The Forest Service previously designated these access points and committed to retaining them. If the agency believes that use is limited, it should document current use rather than assume that no effect would occur.

Current A-Basin policy further demonstrates the importance of distinguishing resort uphill access from designated backcountry access. During operating hours, resort uphill access is restricted to a designated frontside route and is prohibited above Black Mountain Lodge. West Zuma is always closed to uphill access, and the entire mountain may be closed to uphill users during avalanche control, snowmaking, or other operations. The policy separately directs people entering the backcountry to use designated backcountry access points.⁶⁹ Thus, the existing

⁶⁴ USFS, *Arapahoe Basin Ski Area Projects Final Environmental Impact Statement* (Aug. 2016), at 2-3, 3-63-3-79.

⁶⁵ USFS, *Arapahoe Basin Ski Area Projects Final Record of Decision* (Nov. 18, 2016), at ROD-16 (stating that the existing access points to Thurman's Bowl and below Monte Montezuma Bowl would remain).

⁶⁶ Arapahoe Basin Ski Area, *2025 Master Development Plan* (Sept. 2025), at 31-34 and fig. 4 (describing controlled access gates and hike-back terrain below the Zuma lift). Available at https://stgabin02.blob.core.windows.net/arapahoe/uploaded/trailmaps/arapahoe%20basin%20final%202025%20master%20development%20planx.pdf?utm_source=chatgpt.com.

⁶⁷ NOPA at 4-6, 9-14.

⁶⁸ USFS and SE Group, *Arapahoe Basin 2026 Improvements Project—Proposed Action Figure* (2026), official Proposed Action Figure.

⁶⁹ Arapahoe Basin Ski Area, "Mountain Safety—Uphill Access and Backcountry Warning," (providing that avalanche control and snowmaking may close uphill access, that West Zuma is always closed to uphill travel, and that backcountry users must use designated access points), available at https://www.arapahoebasin.com/mountain-safety/?utm_source=chatgpt.com.

backcountry access points cannot be dismissed merely because Montezuma Bowl is not generally open as a resort uphill route.

The EA should:

1. Provide a georeferenced map showing:
 - The two access points retained by the 2016 ROD;
 - Their associated access and egress corridors;
 - The SUP and operational boundaries;
 - The proposed five-acre Lower Montezuma boundary adjustment;
 - RACS towers, blast zones, and anticipated avalanche-runout areas;
 - Snowmaking construction;
 - Helicopter staging and flight corridors; and
 - Anticipated public closure areas.
2. State whether each designated access point would remain physically and legally usable, including during construction, avalanche-control operations, and periods when the ski area is not operating.
3. Explain whether reaching either point requires a lift ticket, uphill pass, resort-controlled route, or passage through terrain that may be closed by A-Basin.
4. Quantify present use and estimate the number, duration, timing, and geographic extent of future closures affecting these access points or adjacent National Forest lands.
5. If an access point must be relocated, provide an equally functional replacement before the existing point is closed.
6. Explain whether removing approximately five acres from the SUP in Lower Montezuma would protect or improve public access. Removing acreage from a permit does not create meaningful recreation access unless the parcel has a usable route, a connection to public roads or trails, and management provisions that keep it available.

12. The Forest Service must take a hard look at RACS, helicopters, wildlife, and human-powered recreation.

A-Basin proposes approximately 17 permanent RACS towers, including six in Montezuma Bowl. Each tower could hold twelve five-kilogram explosive charges. The towers would operate from October through May, and helicopters would be used to reload magazines during winter, remove magazines for summer storage, assist with construction, and perform maintenance.⁷⁰

The project documents do not quantify the anticipated number of helicopter flights, magazine-reloading trips, detonations, or operational closures. These details are essential because the number of flights and detonations would depend on storm frequency, snow conditions, the number of charges deployed, and how often the magazines must be replaced.

⁷⁰ NOPA at 4–6, 9–14.

The RACS Study Plan raises additional concerns. It states that only botanical habitat surveys were specifically planned within the RACS areas and that other resource field data collection was limited because of topography and access constraints. It also proposes deferring tower locations, trail closures, flight-access details, and other measures to a post-NEPA Construction Implementation Plan. Finally, it anticipates no future monitoring.⁷¹

The Forest Service should not assume that effects will be limited merely because the infrastructure footprints are small or the terrain is steep. The operational effects encompass the larger blast, avalanche-runout, helicopter-disturbance, noise, and closure areas. Not just the approximately one-square-meter foundation beneath each tower.

The NOPA states that wildlife surveys were conducted during summer 2025, even though the RACS would operate from October through May.⁷² Summer surveys cannot establish how wintering wildlife use proposed blast areas, avalanche paths, ridgelines, flight corridors, or adjacent habitat.

Available science also counsels against assuming that steep avalanche terrain has little wildlife value. Research found strong behavioral responses by mountain goats to helicopter overflights, particularly when helicopters approached within 500 meters.⁷³ Recent research also found that avalanches can be a substantial source of mortality for alpine ungulates.⁷⁴ These studies do not establish that the proposed project would harm wildlife at A-Basin, but they demonstrate the need for project-specific winter analysis rather than unsupported assumptions.

The EA should:

- Consult Colorado Parks and Wildlife and use current winter-occurrence and movement data for white-tailed ptarmigan, bighorn sheep, mountain goats, Canada lynx, and other potentially affected species.
- Quantify existing and proposed avalanche-control activity, including the number and size of charges, detonations per season, areas affected, expected avalanche frequency and runout, and the extent to which RACS would replace or supplement existing control methods.
- Quantify construction and operational helicopter flights, including routes, altitude, frequency, duration, staging and landing areas, and flights expected after major storm cycles.
- Analyze whether controlled avalanches or closures could extend beyond the operational boundary or affect the designated access routes to Thurman's Bowl and Montezuma Road.

⁷¹ SE Group, Arapahoe Basin 2026 Improvements—Proposed RACS Study Plan, pp. 1–2 (May 14, 2026), discussing limited field data, information deferred to construction planning, and the absence of anticipated future monitoring, RACS Study Plan.

⁷² NOPA at 4–6, 9–14.

⁷³ Steeve D. Côté, “Mountain Goat Responses to Helicopter Disturbance,” *Wildlife Society Bulletin* 24(4):681–685 (1996) (attached as Ex. 22).

⁷⁴ Kevin S. White et al., “Snow Avalanches Are a Primary Climate-Linked Driver of Mountain Ungulate Populations,” *Communications Biology* 7, art. 423 (2024) (attached as Ex. 23).

- Establish species-specific flight buffers, timing restrictions, pre-operation wildlife checks, closure protocols, flight and detonation logs, and enforceable adaptive-management triggers in consultation with Colorado Parks and Wildlife.
- Analyze changes in the number and duration of closures for uphill users, backcountry travelers, and users of adjacent National Forest lands.
- Require public notice of avalanche-control closures and a procedure for confirming that access routes and potential avalanche-runout areas are clear before detonations.
- Require post-installation wildlife, recreation, flight, and closure monitoring rather than accepting the Study Plan's current assumption that no future monitoring will be necessary.
- Analyze operational noise in detail rather than dismissing it as similar to existing conditions, particularly because the proposal would add 17 permanent remote explosive systems and recurring helicopter servicing.⁷⁵

RACS may improve worker safety and could reduce reliance on artillery or hand charges. They might also allow avalanche-control work to be completed more efficiently, potentially reducing some closures. But the EA must substantiate those potential benefits by comparing existing and proposed operations, including the number of detonations, helicopter flights, closure hours, and acres affected. It must then weigh those benefits against impacts to designated backcountry access, winter wildlife, public safety, and human-powered recreation.

13. The Forest Service must analyze the proposal under applicable winter travel and Forest Plan direction.

Management Area 8.25 of the White River Forest Plan anticipates intensively managed ski-area recreation and allows motorized equipment to construct, maintain, and operate permitted facilities where appropriate. At the same time, the Forest Plan prohibits other motorized travel unless authorized by a special-use permit or needed for administrative or emergency purposes.⁷⁶

Neither the travel plan nor Management Area 8.25 provides blanket approval for every new helicopter flight, explosive operation, public closure, or effect on adjacent National Forest lands.

The EA should identify the written authorization governing every category of winter motorized or aircraft use, including snowcats, snowmobiles, construction flights, winter magazine-reloading flights, maintenance flights, staging areas, and landing locations. It should explain what changes would be required to A-Basin's special-use permit and annual winter operating plan and demonstrate consistency with the Forest Plan, Travel Management Plan, and access commitments in the 2016 ROD.

The Forest Service should also recognize that the motorized-prohibited designation creates an important recreation context. The public generally cannot use snowmobiles in this area, while the proposal would authorize additional commercial helicopter and explosive activity. The EA should analyze how this additional activity would affect people using adjacent lands for human-powered winter recreation.

⁷⁵ NOPA at 4–6, 9–14.

⁷⁶ WRNF LRMP (2002), Management Area 8.25, at 3-80–3-81.

14. The Forest Service must take a hard look at the impacts to historic and cultural resources.

The NOPA states that “[e]ligible and potentially eligible historic resources are... located in the vicinity of the East Wall RACS.”⁷⁷ The NEPA document for the project must state the “protective measures” [that] would be incorporated into the project design and construction implementation plan to avoid these resources.”⁷⁸ The likely effectiveness of these measures must be evaluated.

15. The USFS Must Consider Reasonable Alternatives to the Proposed Action that Minimize Potential Impacts

NEPA Section 102(2) (E), 42 USC 4332(E), requires that agencies shall, “study, develop and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources.” NEPA further requires that an agency consider and discuss steps that can be taken to mitigate the adverse environmental consequences of a proposed project. Even though there is no requirement that the agency reach a particular substantive result, the agency must discuss the extent to which adverse effects can be avoided, i.e., by mitigation measures, in sufficient detail to ensure that environmental consequences have been fairly evaluated. *Dubois v. United States Dep't of Agric.*, 102 F.3d 1273, 1277 (1st Cir. 1996)

In this case, the Forest Service must consider alternative methods to secure early-season terrain. One idea that other ski areas are exploring involves the use of Snow Secure insulation mats.⁷⁹ The patented technology has been applied to terrain parks on both Buttermilk and Snowmass Mountain, effectively covering 3.5 million gallons of primarily man-made snow water equivalent and keeping it insulated throughout the summer to prevent it from melting. Aspen officials were quoted saying: “covering the snow that was made during the 2025/26 winter season will reduce the amount of snow that will need to be made in the early part of the 2026/27 season, meaning the amount of water to make new snow and energy to blow that snow will also be notably reduced.”⁸⁰

With its high elevation, where snowmelt is slower, A-Basin would be a good location to use this technology to reduce off-season snowmelt.

Alternative solutions to parking needs must also be considered that could improve operational efficiency, guest arrival experience, and employee safety, as well as reducing environmental impacts on National Forest lands and important public land resources. Such alternatives include remodeling existing parking lots to maximize efficiency rather than building new parking lots that require destruction of wetlands and watershed degradation. Construction of a parking structure on existing parking lots is one example of a more efficient alternative that could reduce

⁷⁷ NOPA, Table 2 at 11.

⁷⁸ *Id.*

⁷⁹ River Stingray, Aspen Snowmass pioneers snow coverage in Colorado, Aspen Times (June 4, 2026), available at <https://www.aspentimes.com/news/aspen-snowmass-pioneers-snow-coverage-in-colorado/> (attached as Ex. 24).

⁸⁰ *Id.*

impacts on public lands. A parking structure could also reduce snow removal costs and complications by creating cover for many parking spots.

CONCLUSION

The proposed action must not be approved as proposed. Diverting water from a headwater stream that would decrease dilution of pollutants downstream so that A-Basin can open south- and west-facing terrain earlier in each snow season is not appropriate.

Alternatives that would reduce the possible impacts described in these comments must be considered. Such alternatives and analyses of their impacts should be circulated to the public for additional comment.

Sincerely,

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Exhibit List

1. Colorado Skiing: Snowmaking Uses Millions Of Gallons Of Water Each Year.” CBS Denver (December 17, 2021)
2. Shannon Mullane. “How Do Colorado Ski Areas Prepare for a Changing Climate? Ask Eldora Mountain Resort.” Fresh Water News, Water Education Colorado
3. Nancy Averett, New Contamination Concern for Colorado Streams, Eos digital magazine (Oct. 14, 2021)

4. Elizabeth Miller, Climate change is eroding work to clean up the Snake River. Is Summit County snowmaking making it worse? The Colorado Sun (Feb. 16, 2022)
5. Rae Solomon, Climate change is behind rising metal and acid pollution in Colorado's mountain rivers, NPR News, Colorado Stories (July 25, 2024)
6. Alex Hager. A Snow Drought is Leaving the West's Mountains High and Dry. KUER News. Published December 27, 2023
7. Heather Sackett, Aspen Journalism, "After expansions, Skico will use about 900 AF of water a year for snowmaking" (Jan. 2, 2019)
8. Susan Shain, Ski resorts are increasingly reliant on snowmaking, But at what cost? Grist (Feb. 26, 2026)
9. Bob Berwyn, A-Basin Gets Approval for Snowmaking, Ski Magazine (Jan. 1, 2000)
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