**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**
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May 28, 2020

Ref: 8ORA-N

Scott Fitzwilliams, Forest Supervisor
c/o Sam Massman, Project Leader
White River National Forest
Dillon Ranger District
P.O. Box 620
Silverthorne, Colorado 80498

Dear Supervisor Fitzwilliams:

The U.S. Environmental Protection Agency Region 8 has reviewed the U.S. Department of Agriculture Forest Service April 2020 notice of proposed action (NOPA) to prepare an Environmental Assessment (EA) for the Keystone Resort Bergman Bowl Enhancement Projects in the White River National Forest (WRNF). In accordance with our responsibilities under Section 102(2)(C) of the National Environmental Policy Act (NEPA), we are providing scoping comments.

The proposed project includes the: 1) construction of a detachable chairlift in Bergman Bowl and associated infrastructure and utility improvements; 2) construction of thirteen ski trails in Bergman Bowl and three ski trails in Erickson Bowl; 3) installation of 22 acres of snowmaking coverage in Bergman Bowl; 4) construction of a 2,200-foot road; 5) construction of a 1,000-square-foot ski patrol facility; and 6) expansion of the Outpost Restaurant. The proposed project would result in approximately 73 acres of tree clearing, 19 acres of grading, and glading within 40 acres.

**Key Topics the EPA Recommends Be Addressed During the NEPA Process**

Based on our current understanding of the proposed project and the area, the EPA is primarily concerned with impacts to wetlands and waters of the U.S. resulting from proposed expansion plans. These plans include substantial tree removal and the potential for increased withdrawals for snowmaking from an impaired stream that has high concentrations of heavy metals, including cadmium, copper, lead, zinc, and low pH. Among other potential impacts, the NOPA states that implementation of the proposed action has the potential to impair stream and riparian health of the North Fork of Keystone Gulch (p. 12). We recommend that the USFS clarify in the NEPA document whether the use of the term "impair" indicates a potential impairment in the context of the Clean Water Act, or if the term is intended to generally indicate adverse impacts to resources. If the USFS determines that the project could cause or contribute to Colorado water quality standard exceedances or violations (an impairment under the Act), then we would consider that a significant impact that must be avoided (§ 1508.27). We recommend that the USFS consult with the Colorado Department of Public Health and Environment (CDPHE) if there is the potential that the Project will not provide sufficient protections to avoid causing or contributing to violations of Colorado water quality standards.

Upon review of the NOPA, the EPA provides comments and recommendations related to baseline environmental conditions, impacts to water resources including waters of the U.S. and wetlands, and air quality.

**Baseline Environmental Conditions**

When evaluating effects of project alternatives, we recommend that current existing environmental conditions be used as the baseline for comparison of the action and no action alternatives to quantify and/or characterize the magnitude of impacts. This is especially true when there are environmental protections in place that are based on current conditions, such as total maximum daily loads (TMDLs) for impaired river segments. It can also be useful, although often less certain, to compare alternatives against a no action baseline that includes reasonably foreseeable future conditions. The EPA recommends that the NEPA analysis compare and present impacts to resources against the existing conditions baseline using a consistent method for all alternatives to measure project impacts on these critical resources.

For all resources, we recommend that data over five years old are verified as representative of current conditions.

*Aquatic Resources Baseline*

We recommend the NEPA document identify existing aquatic resource baseline conditions in the proposed project area, including wetlands (including peatlands or fens), springs, streams and ephemeral drainages. Specifically, we recommend describing watershed conditions, streambank conditions, vegetation cover, soil conditions, and wildlife and fish population health and habitat. We also recommend that the NEPA document include a map that identifies all waters of the U.S. (e.g., streams, wetland delineation) within a minimum of 500 feet from any construction activities, with dominant plant community types identified. The NEPA document would benefit from more detailed analysis of potentially impacted resource areas that are identified in the NOPA.

*Water Quality Baseline*

We recommend the NEPA document provide a summary of available information and monitoring data on water quality for the snowmaking source and receiving waters and identify impaired waterbodies within and downstream of the planning area, including waterbodies listed on the State of Colorado's most recent EPA-approved Clean Water Act (CWA) § 303(d) list. Such data for any streams and lakes potentially affected by snowmaking or trail construction would provide a baseline for future monitoring of impacts and evaluation of potential influence on downstream water quality. We recommend including parameters of significance to impaired waterbodies within or downstream of the project area. Identification of any significant gaps in data may be helpful in developing the project monitoring plan.

Based on Colorado's assessed and impaired waters information, it appears that the State has identified waters upstream and downstream of the Keystone Resort that are impaired for cadmium, copper, lead, zinc and pH, and developed TMDLs for those impairments with the exception of zinc. Please refer to the web-links below for the most recent water quality information available from the state.

The State's Final 2020 Integrated Report can be found here: https://drive.google.com/file/d/1tkjTqyKeti4lgs42d2hLh-Q6IFLJF4bh/view.
The Snake River and Peru Creek TMDL Report can be found here: https://drive.google.com/file/d/0B4_2BkAMBRe8WDFqa3JBU3picG8/edit.

When defining baseline conditions, please consider the following:

- Include resources directly impacted by the project footprint within the geographic scope of analysis as well as the resources indirectly (or secondarily) impacted by the project. These indirectly impacted areas may include downstream segments, source water areas where water withdrawals will occur, and any other resource areas which may be affected by changes in water management or operations.
- Include current water quality at a critical flow condition in any affected stream reaches.
- Consider and document water quality impairments per State CWA Section 303(d) lists, draft or established TMDLs, and identify potentially affected dischargers, including water treatment providers.
- Identify any Source Water Protection areas and how the project will be consistent with Source Water Protection planning measures.

*Snowmaking Baseline*

The EPA is interested in how any proposed changes in the snowmaking water withdrawal regime would impact the water supply at Dillon Reservoir as well as flows in the Snake River. Additionally, segments of Snake River and associated tributaries as well as surrounding water bodies around nearby Dillon Reservoir including segments of Meadow Creek, Blue River, and Soda Creek and respective associated tributaries are identified on the CWA Section 303(d) list. These waters are currently listed within Colorado's 2020 Integrated Water Quality Monitoring and Assessment Report as Category 5 impaired waters with high concentrations of heavy metals, including zinc and copper, and low pH. Changes in the timing and amount of Keystone's withdrawals have the potential to positively or negatively affect both the Dillon Reservoir and the Snake River compared to current operations.

We recommend that the NEPA document include the following baseline information related to snowmaking:

- A discussion of the existing snowmaking operation and how operations may change with the proposed project regarding the amount of snow being made and water volumes required for proposed operations;
- A water quality analysis of the water to be used for snowmaking, as well as an assessment of water quality in the receiving waters to which the snow melt will flow as mentioned above; and
- A soil analysis of the proposed enhancement area to determine possible soil mineral/nutrients that could be disturbed and leaked into increased runoff from snow melt and enter surrounding waterbodies.

*Air Quality Baseline*

To characterize baseline air quality conditions, we recommend that the NEPA document include the following:

- Identification of sensitive receptors (such as population centers and Class I and Sensitive Class II areas in the vicinity);

- Ambient air quality data including air quality trends of any Class I areas in the vicinity over the past several years. Such data are readily available from CDPHE or the EPA (www.epa.gov/airdata/);
- A description of current vehicle data and trends associated with resort visitation; and
- Projected future year (post construction) vehicle data and trends with expanded resort visitation.

**Potential Impacts to Water Resources including Waters of the U.S. and Wetlands**

In mountain environments, cut and fills associated with grading for trail and road construction and trenching for utilities have the potential to impact streams, wetlands, and their supporting hydrologic systems. It is important to include the design details for these actions in the NEPA document.

Given the potential for these projects to affect aquatic resources, we recommend that the NEPA document evaluate potential impacts by including the following information in the analysis:

- Assessment of potential impacts on baseline aquatic resource conditions, including direct, indirect and cumulative effects. Impacts may include changes in surface and groundwater hydrology supporting streams and wetlands.
- A description of any wetland impacts, temporary and permanent, direct and indirect, past and reasonably foreseeable. Such impacts may include functional conversion of wetlands (e.g., forested to shrub-scrub); changes to supporting wetland hydrology even if these wetlands are outside of the construction footprint. (e.g., snow melt patterns, sheet flow, and groundwater hydrology); and wetland disturbance.
- Disclosure of any aquifers that may be vulnerable to impacts from the project (e.g., changes in hydrology).

*Wetland Impacts*

The wetlands typically found in mountain environments represent valuable montane wetland ecosystems performing a variety of functions and values. Impacts to the types and functions of wetlands in montane environments are difficult or sometimes impossible to mitigate due to shorter growing seasons and low temperatures at night. The EPA recognizes the challenges facing the USFS in managing wetland resources in forested montane environments and we appreciate the intent to minimize such impacts with this project. The NOPA identifies wetlands that could be affected by the activities outlined in this project. We recommend the NEPA document describe how the project will show compliance with Executive Order 11990, Protection of Wetlands, including how wetlands will be identified and avoided, and how unavoidable impacts would be minimized and mitigated.

The NOPA describes direct impacts to 0.2 acres of wetlands, as well as indirect affects to approximately 5 acres of wetlands through overstory tree removal for tree clearing and glading activities. We also understand that several of the proposed projects are located in proximity to fens. To ensure that wetlands are protected, it may be necessary to consider exclusion of road, trail or infrastructure construction and mechanized vegetation and tree removal treatments in areas where wetlands or riparian areas would be adversely impacted either directly or indirectly from adjacent construction activities, changing supporting wetland hydrology. The EPA recommends the USFS reduce impacts through the use of BMPs to protect sensitive soils, wetlands, riparian areas, meadows, stream crossings, and critical habitat.

We support establishment of riparian habitat buffer zones to avoid adverse impacts to streams and riparian areas

Discharge of dredged or fill material into waters of the U.S., including wetlands, is regulated under CWA Section 404. This permit program is administered jointly by the Corps and the EPA. We recommend the USFS consult with the Corps during the NEPA process to determine the applicability of CWA Section 404 permit requirements to any wetlands that would be impacted in the project area. We also recommend the NEPA document include a description of impacts to waters not regulated by the Corps. We recommend avoiding impacts to aquatic resources that are considered "difficult to replace" under the EPA's and the Corps' Final Rule for Mitigation for Losses of Aquatic Resources [33 *CPR* Parts 325 and 332; 40 CFR Part 230 (73 FR 19594, April 10, 2008)]. The rule emphasizes the need to avoid and minimize impacts to these "difficult-to-replace" resources, (including streams and fens) and requires that any compensation be provided by in-kind restoration, rehabilitation, or enhancement to the extent practicable. We recommend that restoration plans require soil profiles and hydrology to be re-established as much as possible to the original state.

We also recommend that the NEPA document assess surface disturbance impacts related to installation of snowmaking infrastructure and utilities, including:

- Location and length of pipe proposed in wetlands (if applicable);
- Location where the soil from the trench would be temporarily stored;
- Amount of wetland soil compaction expected from related installation equipment; and
- Identification of fill material that would be placed in the trench that may inadvertently promote drainage (e.g., gravels).

It can be difficult to avoid permanent impacts to sloped wetlands from placement of snowmaking pipelines and other on-mountain facilities. Where wetland crossings are unavoidable, we encourage the use of the following BMPs and mitigation measures during design and construction of a water conveyance system:

- Selecting the narrowest available crossing locations and avoiding crossings through fen-type wetlands.
- The use of bulkheads, where applicable, to minimize the disturbance width for utility line trench in wetlands.
- Placement of groundwater barriers on the downgradient side of the utility crossing to prevent wetland drainage. Site-specific engineering design details should be reviewed by the USFS hydrologist and by resource agencies prior to approval of the wetland permit.
- Protection of wetland vegetation adjacent to the trench by use of construction fabric, hay layers, or wood chips to store trench soils. This can minimize or prevent damage from soil compaction and soil mixing.
- Monitoring wetland BMPs during construction and post-construction to ensure effectiveness and a requirement that any drainage problems be corrected.
- Reseed as soon as possible after the disturbance and monitor for 5 years to ensure successful revegetation of impacted areas.

*Water Quality Impacts and Impaired Waterbodies*

The USFS should determine whether this project will contribute to a further degradation of water quality in the area, particularly for increased metals and/or sediment loading and decreased macroinvertebrate populations in Keystone Gulch, the Snake River and nearby Dillon Reservoir area. We recommend that the USFS: (a) analyze potential direct and indirect impacts to impaired waterbodies within and/or downstream of the planning area, including waterbodies listed on the most recent EPA-approved CWA § 303(d) list; and (b) coordinate with the CDPHE if there are identified potential impacts to impaired waterbodies in order to avoid causing or contributing to the exceedance of water quality standards. Where a TMDL exists for impaired waters in the area of potential impacts, pollutant loads should comply with the TMDL allocations for point and nonpoint sources. Where new loads or changes in the relationships between point and nonpoint source loads are created, we recommend that the USFS work with CDPHE to revise TMDL documents and develop new allocation scenarios that ensure attainment of water quality standards. Where TMDL analyses for impaired waterbodies within, or downstream of, the planning area still need to be developed, we recommend that proposed activities in the drainages of CWA impaired or threatened waterbodies be either carefully designed to prevent any worsening of the impairment or avoided where such impacts cannot be prevented.

*Water Quality Impacts of Soil Disturbance and Hydrologic Changes*

We recommend the NEPA document describe site-specific current soil conditions and include an assessment of potential project impacts. Such impacts may include soil loss, altered soil chemistry from melted man-made snow, increased surface storm flow, and changes in water temperature associated with erosion of soils and stream banks, water channelization, reduced stream base flows from decreased infiltration to groundwater, soil compaction, and vegetation loss. We recommend this analysis assess impacts to aquatic resources, including water quality, stream and wetland processes, and fish populations/habitat, and provide mitigation measures to address such impacts. We also recommend that details of the proposed monitoring program mentioned in the NOPA be included in the NEPA document.

Snowmaking, tree clearing, roads, trails, grading and glading all are likely to increase surface runoff can cause sedimentation loading and possible pollutant delivery. The EPA's general recommendations include:

- Avoid or bridge wetlands and sensitive ecological areas where practicable;
- Minimize road and trail construction and density to reduce adverse impacts to watersheds;
- Locate roads and trails away from difficult to replace alpine resources, such as alpine meadows, wetlands, streams and riparian areas as much as possible;
- Locate roads and trails away from steep slopes or erosive soils;
- Minimize road and trail stream crossings;
- Stabilize cut and fill slopes according to BMPs developed by the USFS that are applicable to sensitive alpine areas;
- Locate cut and fill in areas that are unlikely to impact wetland hydrology, with additional attention paid to fen wetlands.
- Provide road and trail drainage and control surface erosion with waterbars, crowns, and ditch relief culverts to promote drainage off roads or along roads/trails;

- Consider road and trail effects on stream structure and seasonal spawning habitats when determining alignment; and
- Allow for large woody debris recruitment to streams and riparian buffers near streams.

*Water Quality Impacts with Additional Snowmaking*

We recommend that the NEPA document include the following information related to snowmaking:

- Details on any impacts from operational changes including the timing of implementation and operational design;
- An assessment of whether snowmaking water is likely to adversely impact streams, soils, plants or wetlands on or below the ski area; and
- An assessment of the magnitude and impact of water quantity changes associated with the snowmaking and municipal withdrawals to serve the project area.

Because there may be operational changes associated with the additional snowmaking, we recommend information be included regarding where withdrawals would occur, the timing and magnitude of withdrawals, the ability to maintain critical instream flows, and potential adverse impacts to aquatic habitat from additional diversion and changes in water yield due to snowmaking.

When selecting stream reaches for the impact analysis, ensure that potentially affected critical resources are included within the scope of analysis. Critical resources include species recovery areas, recreational areas, critical habitat for threatened or endangered species, segments impaired per Section 303(d) of the CWA, segments for which TMDLs have been established, receiving waters for permitted dischargers, receiving waters for snowmaking runoff, and source water areas. If the project will alter in-stream flow quantity or quality, we add the following detailed recommendations for assessing impacts:

- Comparison of pre- and post-project water usage and impacts to stream flows, which include the maximum, minimum and mean or median values for each month for the proposed snowmaking source water;
- An analysis of additional spring runoff to streams in the project area resulting from increased snowmaking and the potential for stream bank erosion and spawning habitat degradation resulting from increased flow;
- An analysis of impacts to resident fish species and invertebrate assemblages; and
- Comparison of current and post-project water quality at a critical flow condition and expected impacts to assimilative capacity or permit limits, which account for applicable water quality standards, water quality impairments per State CWA Section 303(d) lists, draft or established TMDLs, and potentially affected dischargers.

Because the proposed snowmaking may cause or exacerbate drainage problems and increase direct surface flows to streams, we recommend that adverse impacts from snowmaking (including past, present and reasonably foreseeable development) be evaluated in the NEPA document.

We also recommend the NEPA document analyze the potential impacts of less availability of water during drought years on viability of the proposed project. The NEPA document should consider whether continuation of recent snowpack trends could result in the need for expanded snowmaking to maintain the same level of existing and proposed snow coverage.

*Other Mitigation Considerations*

The EPA recommends that the USFS seek alternatives and mitigation to avoid, reduce and compensate for impacts associated with the project including water quality impacts, wetland and aquatic resources impacts, and permanent vegetation change and permanent habitat loss.

*CWA Waters of the U.S. including Wetlands*

If jurisdictional or non-jurisdictional wetlands on federal lands are going to be impacted, we recommend identifying the offsetting mitigation that will be incorporated by the USFS. The use of functional replacement-based mitigation is often preferred to an acre-to-acre replacement approach since it ensures that the specific wetland functions are replaced in an ecosystem. The NOPA states that there could be type conversion of wetland resources, but there "would be no change in overall wetland quality or functional capacity." The EPA notes that wetland functions are tied to wetland type and conversion from one type of wetland to another will likely result in the loss or degradation of certain wetland functions. Assumptions regarding wetland quality and function should be field verified using a functional assessment methodology, such as the Functional Assessment of Colorado Wetlands (FACWet) and the results included in the NEPA document. Further, post-project monitoring should be conducted to ensure that the project achieves the predicted environmental finding of no negative effects to the function of wetlands within the project area.

**Potential Impacts to Air Quality**

Protection of air quality is important to address in the NEPA document. We recommend the NEPA document include a qualitative discussion of the potential for impacts on National Ambient Air Quality Standards, Prevention of Significant Deterioration standards, and air quality related values (AQRVs).

Burning is mentioned in the NOPA as one of the potential options related to tree removal for this proposed project. Fire activity may cause periodic degradation of air quality and visibility in the region. The details related to burning is limited at this stage of the NEPA process; however, we assume this does not indicate prescribed fire treatments. We recommend the NEPA document include information on the type of proposed burning and the amount of burning potential (e.g., number of piles if piling and burning removed trees). We also recommend that the NEPA document provide an estimate of predicted emissions and potential air quality impacts that may result from the potential burning. In addition, it would be helpful to include proposed burning areas on any vegetation/tree removal maps provided in the document.

In addition, we recommend that consideration be given to opportunities to reduce vehicle and equipment emissions by limiting unnecessary idling, as well as minimizing road and construction-related fugitive dust emissions (as appropriate) through the application of best management practices such as dust suppression practices.

We appreciate the opportunity to provide comments at this early stage of the NEPA process. These comments are intended to facilitate the decision-making process; thank you for considering our input.

If we may provide further explanation of our comments, please contact me at (303) 312-6540 or wasco.melanie@epa.gov, or Phil Strobel, the NEPA Branch Chief, can be reached at (303) 312-6704.

Sincerely,

Melanie Wasco
NEPA Branch
Office of the Regional Administrator