



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8**

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July 28, 2023

Ref: 8ORA-N

Todd Stiles, District Ranger
c/o Mariah Radue, Environmental Coordinator
Bridger-Teton National Forest
Jackson Ranger District
P.O. Box 1689
Jackson, Wyoming 83001

Subject: Jackson Hole Mountain Resort Recreation Enhancement Project 2023

Dear District Ranger Stiles:

The U.S. Environmental Protection Agency Region 8 has reviewed the U.S. Department of Agriculture Forest Service July 1, 2023, scoping notice and supplemental documents for the Jackson Hole Mountain Resort (JHMR) Recreation Enhancement Project. The Forest Service expects to prepare an environmental assessment (EA) according to the scoping notice. In accordance with our responsibilities under Section 102(2)(C) of the National Environmental Policy Act (NEPA), we are providing scoping comments. These comments convey important questions or concerns that we recommend addressing during the NEPA process.

The JHMR is on the Bridger-Teton National Forest located adjacent to Teton Village, Wyoming, which is 12 miles northwest of the Town of Jackson. The JHMR is seeking the authorization of implementing the proposed action of 35 projects over 6 years that are outlined in the revised and amended 2022 mountain master development plan. According to the scoping notice, the proposed action includes projects in the following categories:

- Lift replacement;
- Ski run, travers, and terrain park construction and modification;
- Construction and modification of visitor service facilities;
- Development of new summer recreation opportunities;
- Fuels reduction at the wildland-urban interface; and
- Avalanche control.

The construction of the combined projects is estimated to disturb approximately 73 acres.

Based on our current understanding of the proposed project and the area, the EPA is primarily concerned with potential impacts to wetlands and water resources resulting from the proposed expansion plans. These plans include but are not limited to grading, tree removal, and vegetation clearing that involve the use of earthmoving equipment (e.g., dozers, excavators) and the potential for increased water withdrawals and changes to water quality from expanding snowmaking.

The EPA's detailed comments are enclosed. We appreciate the opportunity to provide comments at this early stage of the NEPA process as environmental data are being compiled. 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) 312-6500 or hubner.matt@epa.gov, or Melanie Wasco who is the NEPA project lead at (303) 312-6540 or wasco.melanie@epa.gov.

In addition to email lists with direct contacts, the EPA is also encouraging electronic submissions and early engagement with our branch for any future NEPA documents. Notifications regarding any upcoming Forest Service NEPA documents can be emailed to EPA-R8-NEPA@epa.gov for EPA Region 8 review or coordination.

Sincerely,

Matt Hubner
Acting Manager, NEPA Branch
Office of the Regional Administrator

Enclosure

Enclosure – EPA Scoping Comments

Jackson Hole Mountain Resort Recreation Enhancement Project 2023 Scoping Notice

Upon review of the scoping notice, the EPA’s comments and recommendations relate to baseline environmental conditions, impacts to water resources including wetlands, and air quality.

Existing Environmental Conditions

Existing conditions are a key frame of reference for quantifying and characterizing magnitudes of adverse and positive environmental effects under each alternative. The EPA recommends evaluating the effects of project alternatives against existing environmental conditions as the primary basis for comparison. If the No Action Alternative includes future actions and is not representative of current conditions, we recommend also evaluating the no-action alternative against the existing condition baseline. Although alternatives can also be compared against a projected no action scenario that includes reasonably foreseeable future conditions, this approach can result in additional uncertainty for the alternatives analysis. By utilizing existing environmental conditions as a point of comparison, future changes to environmental resources can be more accurately measured for all alternatives, including the No Action alternative. We recommend the EA verify whether historical data (e.g., data 5 years or older) are representative of current conditions. Details can be found below regarding additional information we recommend considering when evaluating existing conditions for various resources.

Aquatic Resources Existing Conditions. We recommend the EA identify aquatic resource existing 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 EA include a map of the project area that identifies wetlands and regional water features within a minimum of 500 feet from any construction activities, with dominant and rare plant community types identified. We also recommend conducting wetland functional analyses if there is any potential that project elements will cause impacts.

Water Quality Existing Conditions. We recommend the EA 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 Wyoming’s most recent EPA-approved Clean Water Act (CWA) § 303(d) list. Such data for any streams and waterbodies potentially affected by project proposals such as snowmaking or trail construction would provide information for the evaluation of the potential influence of current and future resort area activities on downstream water quality, and a point of comparison for future monitoring of impacts. 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.

When defining existing conditions, please consider the following:

- Include resources directly impacted by the project footprint 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 Total Maximum Daily Loads (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 Existing Conditions. The scoping documents state that both new snowmaking infrastructure as well as expansion from existing lines are being proposed in various areas to facilitate skier circulation and flow, although the information does not delineate the acreage of new coverage. The scoping notice also explains that in order to achieve the project purpose in part is to respond to climate change, particularly to address diminishing snowpack. We recommend that the EA describe existing water rights and the current snowmaking operation. The EPA is interested in what impacts may be currently occurring due to such snowmaking activities to assist with understanding how any proposed changes in the snowmaking water withdrawal regime and application would impact the project area. We recommend that the EA include the following information related to snowmaking:

- A discussion of the existing snowmaking operation, and any related impacts to hydrology or water quality;
- 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 areas to determine possible soil mineral/nutrients that could be disturbed and leaked into increased runoff from snow melt and enter surrounding waterbodies.

Additional information is provided further below related to climate change and potential effects to water resources.

Air Quality Existing Conditions. The EPA recommends that the EA evaluate whether project activities could affect air quality. In order to do so, we recommend characterizing existing conditions, which should help to understand how project activities may affect air quality and what measures may be needed to mitigate any potentially significant impacts. The project area is in proximity to Grand Teton and Yellowstone National Parks. In addition to the health-based National Ambient Air Quality Standards (NAAQS) that protect ambient air quality, the Clean Air Act provides Class I Areas special protection for air quality and air quality related values (AQRVs), including visibility. To characterize air quality conditions, we recommend that the EA include the following:

- For criteria pollutants we recommend coordinating with the Wyoming Department of Environmental Quality (DEQ) to establish representative design values (background pollutant concentrations) based on the most recent monitoring data that are representative of the project area. Alternatively, data are available from EPA at their design values webpage.¹ Monitoring locations and data can also be accessed by the public through EPA's outdoor air monitor webpage,² as well as through the EPA's Air Quality System (AQS) for AQS users.³
- Identification of sensitive receptors in the vicinity (such as population centers, and Class I and Class II areas with sensitive resources);

¹ <https://www.epa.gov/air-trends/air-quality-design-values#:~:text=Design%20Value%20Reports-What%20is%20a%20Design%20Value%3F,in%2040%20CFR%20Part%2050%20>

² <https://www.epa.gov/outdoor-air-quality-data/interactive-map-air-quality-monitors>

³ <https://www.epa.gov/aqs>

- Trends in air quality and AQRVs at the adjacent Grand Teton and Yellowstone National Parks Class I areas, provided by the National Park Service on their air quality trends website;⁴
- A description of current vehicle data and trends associated with resort visitation; and
- Any regional air quality concerns in the area (e.g., whether there are any PM₁₀ issues in the area, seasonal wildfire smoke, etc.). This is particularly important since burn activities related to tree and vegetation removal are planned for the proposed project.

Potential Impacts to Water Resources

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. For example, the scoping documentation discusses filling an existing depression that supports a wetland due to the widening of Werner Trail. It is important to include the design details for these actions in the EA.

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

- Assessment of potential impacts on aquatic resource existing conditions, including direct, indirect and cumulative effects. Impacts may include changes in surface and groundwater hydrology supporting streams and wetlands.
- A description of any direct, indirect and cumulative wetland impacts, both temporary and permanent, direct and indirect. 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 Forest Service in managing wetland resources in forested montane environments and we appreciate the intent to minimize such impacts with this project. We recommend the EA 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.

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. 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 certain wetlands, is regulated under CWA Section 404. This permit program is administered jointly by the Corps and the EPA. We

⁴ <https://www.nps.gov/subjects/air/park-conditions-trends.htm>; for Grand Teton and Yellowstone National Parks

recommend the Forest Service consult with the Corps during the NEPA process to determine the applicability of CWA Section 404 permit requirements in the project area. We also recommend the EA 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 CFR 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. In addition, the EPA recommends that the Forest Service consider the mitigation rule to protect aquatic resources even when a CWA Section 404 permit is not required.

We also recommend that the EA 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 Best Management Practices (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 (see additional information on fen wetlands below).
- 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 Forest Service hydrologist and by resource agencies prior to approval of any CWA Section 404 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 and maintenance of pre-disturbance hydrology in impacted areas.

Mitigation of Wetland Impacts. If wetlands on federal lands are going to be impacted, we recommend identifying the offsetting mitigation that will be incorporated by the Forest Service. 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 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 the Montana Wetland Assessment Method (MWAM) or another assessment method appropriate for the region and the results included in the EA. Further, post-project monitoring should be conducted to ensure that the project achieves no negative effects to the function of wetlands within the project area.

Fen Wetlands. Fen wetlands provide important hydrological and water quality functions by improving water quality in headwater streams and may support rare assemblages of aquatic invertebrates. They also provide critical ecological functions such as providing base flows to streams during late summer and/or drought periods. The EPA recognizes fen-type wetlands as ecologically critical in that they provide local and regional biodiversity. The U.S. Fish and Wildlife Service (USFWS) designated fen wetlands a Resource Category 1 with respect to the USFWS Peatland Mitigation Policy. The mitigation goal of USFWS Resource Category 1 is no loss of habitat values and the Peatland Mitigation Policy places the protection and avoidance of fen wetlands as a priority during CWA Section 404 reviews.

Fen communities are very sensitive to hydrologic alterations and restoration is extremely challenging once function has been impaired. Due to the slow rate of accumulation of peat in fens, these ecosystems are generally considered to be irreplaceable. We recommend that the EA include a description and the spatial extent of fens within the project area as well as a description of potential impacts that could occur from proposed project activities. We strongly recommend that project design criteria include requirements to avoid both direct and indirect impacts to these highly valued resources.

Water Quality Impacts and Impaired Waterbodies. The Forest Service should determine whether this project will contribute to a further degradation of water quality in the area. We recommend that the Forest Service: (a) analyze potential direct and indirect impacts to any 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 Wyoming DEQ 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 Wyoming DEQ 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 EA 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 artificially made snow, increased surface storm flow, changes in water temperature associated with erosion of soils and stream banks, water channelization, soil compaction, reduced stream base flows from decreased infiltration to groundwater, 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.

Project elements such as snowmaking, tree clearing, trail modification and development, construction areas, and any grading are likely to increase surface runoff and 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 Forest Service that are applicable to sensitive alpine areas;
- Locate cut and fill in areas that are unlikely to impact wetland hydrology, with additional attention 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 Quantity and Quality Impacts with Additional Snowmaking. We recommend that the EA include the following information related to snowmaking:

- A description of the increase in total acreage of snowmaking coverage compared to the current artificial snowmaking activities;
- Details on any operational changes needed for the proposed project, including the water volumes required for proposed operations, timing of withdrawals and application, and amount of snow being made;
- 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 including information 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. Potential impacts should also be considered through the lens of regional climatic trends. We recommend that the EA discuss the effects of ongoing and projected climate change in the project area, and how implementation of the proposed project could exacerbate these effects. This discussion should assess potential impacts from changes in the amount and timing of streamflow. Such changes could affect aquatic habitat and lifecycles, riparian and wetland areas and functions, and climate-influenced water quality parameters like water temperature.

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, mean and 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, accounting for applicable water quality standards, water quality impairments per State CWA Section 303(d) lists, draft or established TMDLs, and potentially affected dischargers.

We also recommend the EA analyze the potential impacts of less availability of water during drought years on viability of the proposed project. The EA should also 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.

Potential Impacts to Air Quality

Protection of air quality is important to address in the EA. We recommend the EA include a discussion of the activities and equipment that will be necessary to complete the project. Based on the level of emission generating activity and the schedule for construction, we recommend generating an emission inventory. Based on the description of the activities, emission sources, schedule, and emission inventory, we recommend disclosing potential impacts to air quality and AQRVs. We also recommend that the EA include projected future year (post construction) vehicle data and trends with expanded resort visitation. If large increases in visitation are projected, it may be appropriate to include these emissions in the emission inventory.

The scoping documentation states that burning will be conducted on site (although some slash may be hauled off-site for processing) related to tree and vegetation removal for this proposed project. Fire activity may cause periodic degradation of air quality and visibility in the region. We recommend the EA include information on the potential amount of slash burning proposed to be chipped or stacked (e.g., number of slash piles). Because burning is proposed, we recommend that the EA include in the emission inventory an estimate of predicted emissions and potential air quality impacts that may result from burning. In order to understand the region of influence from any burning, we recommend the EA include the location of any proposed burning areas on any vegetation/tree removal maps.

In addition, we recommend considering 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 BMPs such as dust suppression practices.

Mitigation

The EPA recommends that the Forest Service 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. We recommend that each alternative in the EA explicitly include identification of mitigation where impacts are expected. Monitoring and modeling efforts are key components for accurately assessing current conditions, predicting project impacts, and ultimately ensuring adequate mitigation planning and implementation of effective mitigation. The higher the uncertainty is surrounding project impacts, the more emphasis there should be on providing mitigation details to assure protection of resources. At a minimum, we recommend including the following information in the Draft EA:

- Provide a description of the required mitigation and its expected effectiveness;
- Identify the entity responsible for implementing the mitigation;
- Outline a detailed plan for the monitoring of the mitigation measures to ensure timely and correct implementation and maintenance
- Outline a detailed plan for existing condition baseline monitoring if data are lacking;
- Provide an evaluation process for determining the effectiveness of the implemented mitigation and further measures to apply in cases of ineffectiveness;
- Define specific management decision points based upon protecting desired environmental conditions (thresholds) in the project area, which would trigger action;
- Identify management alternatives and mitigation measures that would be implemented should a threshold be exceeded and timeframes for corrective action;
- Identify funding sources and financial assurances to sustain mitigation commitments;
- Establish mechanisms for public disclosure of the analysis and management decisions; and
- Define specific temporal milestones to meet rehabilitation standards.

We emphasize the importance of the EA including details on mitigation measures for any impacted resource, especially effects related to water quality, stream morphology, and aquatic life impacts. Ensuring that any mitigation details presented are consistent with the 2008 Rule on Compensatory Mitigation for Losses to Aquatic Resources for CWA Section 404 related impacts can help streamline permitting when a CWA 404 permit is required prior to project implementation.

The EPA also recommends the EA include:

- A list of BMPs that will be required to protect water resources;
- A discussion of the circumstances under which the BMPs would be applied (e.g., proximity to surface water resources, presence of erosive soils, slope, sensitive aquifers, spring emergences, etc.); and,
- An explanation of how the Forest Service or another entity would ensure that the BMPs would be funded and monitored to ensure timely and correct implementation.

Special Status Species

Since the planning area may contain numerous special status species, including Endangered Species Act-listed threatened species, early coordination with the USFWS on this EA will be important. Documentation of USFWS's consultation and recommendations for design criteria, mitigation, monitoring, and adaptive management strategies will be a valuable part of the EA.