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(406) 542-0539
PO Box 7593
Missoula, MT 59807
clarkfork.org

Daniel Pliley
1801 North First Street
Hamilton, MT 59840
Daniel.Pliley@usda.gov

September 10, 2026

RE: Draft Revised Plan of Operations for Sheep Creek Mine_U.S. Critical Materials, Inc.

District Ranger Pliley,

Please accept the following comments on behalf of the Clark Fork Coalition (CFC). For over 40 years, CFC has worked to protect and restore the waters of the Clark Fork Basin from the headwaters near Butte to Lake Pend Oreille, and tributaries such as the Bitterroot River. Across this landscape, we've seen firsthand how poorly planned or unregulated mining projects have decimated waterways, harmed (or even eliminated) aquatic ecosystems, and left taxpayers on the hook for decades of cleanup costs required to restore the Clark Fork's water resources. In some cases, our water resources have been obliterated or damaged beyond repair and can only be "replaced" with equivalent natural resources that may or may not make the public whole. Given this history, the CFC has a keen interest in evaluating and commenting on newly proposed mining projects that may negatively impact the outstanding water resources of the Clark Fork Basin.

We understand that the Forest Service is currently evaluating the Draft Plan to determine whether the Sheep Creek Exploration Project ("the Project") qualifies for approval under a Categorical Exclusion ("CE") to the environmental review process (CE category USDA-32(d)). Public communications have stated that if the agency's analysis indicates that the proposed activities warrant additional National Environmental Policy Act ("NEPA") review beyond that of a CE, the Forest will make the appropriate analysis decisions at that time. The agency is also soliciting general public input on the Draft Plan.

The Sheep Creek Exploration Project proposes to authorize U.S. Critical Materials ("USCM") to conduct mineral exploration across a significant footprint within the headwaters of the West Fork of the Bitterroot River, a land and water resource of enormous ecological, recreational, economic and cultural value. Exploration will occur at 4 locations within the 11-square mile proposed mining site and will require heavy drilling equipment, chemicals, explosives, and underground sumps to collect and reuse water and settle mine waste.

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Over 3,000 helicopter flights will transport excavated rock material (ore), equipment, imported water and other mining materials to, from, and within the site. Up to 6 million pounds of potentially toxic excavated rock material will be transported along 30-miles of the West Fork of the Bitterroot River from the Sheep Creek exploration site to Conner. USCM proposes using a heavy-duty truck and trailer. Any waste rock will be left on site. The Draft Plan states that exploration activities will take place within one year and that reclamation will occur within 12 months of completing exploration work.

Proceeding with a CE remains unsupported by local government, the Confederated Salish and Kootenai Tribes, residents, business owners, and broader Montanans alike. In the 2026 University of Montana public lands survey, for example, 66% of Montanans[1] oppose speeding up approval of the Project by reducing environmental reviews and local public input.

The purpose of this comment letter is to illustrate that the Project does not qualify for a CE under NEPA or the agency's own guidelines due to 1) uncertainty regarding environmental harm 2) exceedance of the one-year timeframe allowed for both exploration and reclamation and 3) the existence of numerous extraordinary circumstances. At a minimum, the Project should be subject to an Environmental Assessment (EA).

As your office conducts further analysis on the issue, we hope that you will fully address our concerns. Please keep us informed of all other documents and information regarding this Project. We greatly appreciate the opportunity to submit public comments on this Project.

Plan of Operations

The General Mining Law of 1872 confers a statutory right to prospect, explore, and mine minerals on certain public lands, including National Forests. 30 U.S.C. § 22, amended by Surface Resources Act of 1955, 30 U.S.C. § 612; 16 U.S.C. § 482. Such activities, known as "operations," must be "conducted so as to minimize adverse environmental impacts on National Forest System surface resources." 36 C.F.R. § 228.1. "Operations" are defined as "[a]ll functions, work, and activities in connection with prospecting, exploration, development, mining or processing of mineral resources and all uses reasonably incident thereto " *Id.* at § 228.3(a).

Under the Forest Service's mineral regulations, any person proposing "operations which might cause significant disturbance of surface resources" must file "a notice of intent to operate" with the Forest Service District Ranger with jurisdiction over the operations area. 36

[1] University of Montana. 2026. University of Montana Crown of the Continent and Greater Yellowstone Initiative: 2026 Montana Statewide Survey Key Findings. https://www.umt.edu/crown-yellowstone/voter-surveys/2026/2026_u_of_montana_deck_d3c.pdf

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C.F.R. § 228.4. If the District Ranger finds that any operation will likely cause "significant disturbance of surface resources," the operator must submit a "proposed plan of operations" to the Forest Service for approval. 36 C.F.R. § 228.4. No operations can be conducted until a plan of operations is approved. 36 C.F.R. § 228.4.

A plan of operations must provide, among other things, a description of how the operations will be conducted and the "measures to be taken to meet the requirements for environmental protection in § 228.8." 36 C.F.R. § 228.4. In turn, § 228.8, titled "[r]equirements for environmental protection," requires an operator to "reclaim the surface disturbed in operations by such measures as will prevent or control . . . damage to the environment and forest services including . . . reshaping and revegetation of disturbed areas" and "rehabilitation of fisheries and wildlife habitat." 228.8(g), (g)(4)-(5). Once the Forest Service receives an operator's proposed plan of operations, the agency must complete "an environmental analysis in connection with [the] proposed operating plan" to "determine whether an environmental statement is required." § 228.4(f), (a)(4), (b); § 228.5(a)-(b).

NEPA Obligations

NEPA is our "basic national charter for protection of the environment." *N. Idaho Cmty. Action Network v. U.S. Dep't of Transp.*, 545 F.3d 1147, 1153 (9th Cir. 2008) (quoting *Ctr. For Biol. Diversity v. Nat'l Highway Traffic Safety Admin.*, 538 F.3d 1172, 1185 (9th Cir. 2008)). The statute "declares a broad national commitment to protecting and promoting environmental quality." *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 348 (1989); *see* 42 U.S.C. § 4331.

NEPA's "action-forcing" procedure serves two purposes: (1) "it ensures that the agency, in reaching its decision, will have available, and will carefully consider, detailed information concerning significant environmental impacts," and (2) it "guarantees that the relevant information will be made available to the larger audience that may also play a role in both the decisionmaking process and the implementation of that decision." *Dep't of Transp. v. Pub. Citizen*, 541 U.S. 752, 768 (2004) (quoting *Robertson*, 490 U.S. at 349) (internal citations and alteration omitted).

An agency can comply with NEPA in three ways: (1) it can prepare an Environmental Impact Statement ("EIS"); (2) it can prepare an Environmental Assessment ("EA"); or (3) it can invoke a Categorical Exclusion ("CE") to avoid preparing an EIS or EA.

"The centerpiece of environmental review under NEPA is the environmental impact statement ('EIS'), in which the responsible federal agency describes the proposed Project and its impacts, alternatives to the Project, and possible mitigation for any impacts." *Or. Nat. Desert Ass'n v. v. Jewell* ("*ONDA v. Jewell*"), 840 F.3d 562, 568 (9th Cir. 2016); *see also* 42 U.S.C. § 4332(2) (C) (requiring an EIS for "major Federal actions significantly affecting the quality of the

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human environment"). An EIS is required any time there are "substantial questions" as to whether an action "may" have a significant environmental impact. *Klamath Siskiyou Wildlands Ctr. v. Boody*, 468 F.3d 549, 562 (9th Cir. 2006).

"If an agency is unsure whether its proposed action will have significant environmental impacts, it may first prepare an EA [environmental assessment]." *Envtl. Def. Ctr. v. Bureau of Ocean Energy Mgmt.*, 36 F.4th 850, 872 (9th Cir. 2022). An EA is a concise, public document providing evidence and analysis for the agency to determine whether to prepare an EIS. "Thus, an EA is intended to help an agency decide if an EIS is warranted; *an EA is not meant to replace or substitute for an EIS*." *Envtl. Def. Ctr.*, 36 F.4th at 872 (emphasis added) (citing *Anderson v. Evans*, 314 F.3d 1006, 1023 (9th Cir. 2002)).

Categorical Exclusions

Categorical Exclusions represent a "more expedited track available for a limited set of agency actions . . . 'that normally do not have a significant effect on the human environment.'" *Earth Island Inst. v. Muldoon*, 82 F. 4th 624, 632 (9th Cir. 2023). Invoking an exclusion allows an agency to avoid preparing an EIS or EA so long as no "extraordinary circumstances" indicate that the action will nonetheless have a significant environmental effect. *Id.* To approve a Project using a CE, the Forest Service must issue a decision memo supported by a Project record or case file. 7 CFR § 1(b)(3)(g)(1). See *Friends of the Inyo v. United States Forest Serv.* (9th Cir. 2024), 103 F.4th 543, 547-48 ("*Friends of the Inyo*").

In this case, the Service has stated that they are reviewing the Sheep Creek Exploration Project under CE-8 (now codified in 7 CFR § 1(b)(4)(d)(32)), which allows "[Short-term (1 year or less) mineral, energy, or geophysical investigations and their incidental support activities that may require cross-country travel by vehicles and equipment, construction of less than 1 mile of low standard road, or use and minor repair of existing roads."

Examples include, but are not limited to:

(i) Authorizing geophysical investigations which use existing roads that may require incidental repair to reach sites for drilling core holes, temperature gradient holes, or seismic shot holes;

(ii) Gathering geophysical data using shot hole, vibroseis, or surface charge methods;

(iii) Trenching to obtain evidence of mineralization;

(iv) Clearing vegetation for sight paths or from areas used for investigation or support facilities;

(v) Redesigning or rearranging surface facilities within an approved site;

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(vi) Approving interim and final site restoration measures; and

(vii) Approving a plan for exploration which authorizes repair of an existing road and the construction of 1/3 mile of temporary road; clearing vegetation from an acre of land for trenches, drill pads, or support facilities.

Extraordinary Circumstances

"When applying categorical exclusions, USDA subcomponents shall consider relevant resources in the potentially affected environment for which an extraordinary circumstance may exist that would require the action to instead be documented in an environmental assessment (when there is uncertainty regarding the degree of effect) or an environmental impact statement (if it is determined there is a reasonably foreseeable significant impact)." 7 CFR § 1(b)(3)(f); *Friends of the Inyo*, 103 F.4th T 551.

(1) Resource conditions that should be considered in determining whether extraordinary circumstances related to a proposed action warrant further analysis and documentation in an EA or an EIS are:

(i) Federally listed threatened or endangered species or designated critical habitat or species proposed for Federal listing or proposed critical habitat;

(ii) Flood plains, wetlands, or other such sensitive areas;

(iii) Special sources of water, such as sole-source aquifers, wellhead protection areas, municipal watersheds, or other water sources that are vital in a region;

(iv) Areas having formal Federal or state designations, such as wilderness areas, parks, or wildlife refuges; wild and scenic rivers; marine sanctuaries; national natural landmarks; inventoried roadless areas; or national recreation areas;

(v) Specially managed areas, such as designated research or experimental areas, coral reefs, coastal barrier resources, or, unless exempt, coastal zone management areas;

(vi) Prime, unique, or important farmland as defined by and subject to the provisions of the Farm Protection Policy Act;

(vii) Property (e.g., sites, buildings, structures, and objects) of historic, archeological, or architectural significance, as designated by Federal, Tribal, State, or local governments, or property eligible for or listed on the National Register of Historic Places; or

(viii) American Indian and Alaska Native religious or cultural sites.

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The mere presence of one or more of these resource conditions does not preclude use of a categorical exclusion. However, the FS should examine for a cause-effect relationship between a proposed action and the **potential** effect on these resource conditions. If such a relationship exists, it is the degree of the **potential** effect of a proposed action on these resource conditions that determines whether extraordinary circumstances exist. In other words, an extraordinary circumstance applies "when there is reasonable uncertainty whether the degree of the effect is significant or certainty that the degree of effect is significant." 7 CFR § 1(b)(3)(f)(2).

As outlined below, there is ample evidence that the proposed Project will have a potential effect on several enumerated resource conditions. At a minimum, the evidence raises a "reasonable uncertainty" regarding the Project's effects on these resource conditions. Therefore, the FS is precluded from approving the Project under a CE.

The Sheep Creek Exploration Project

The proposed Sheep Creek Exploration Project would authorize mineral exploration at 4 locations across an 11-square mile proposed mining site (up to 7 days a week; 12 hours a day) and will require heavy drilling equipment, chemicals, explosives, and underground sumps to collect and reuse water and settle mine waste. The Project proposes more than 3,000 helicopter flights to complete the planned exploration.

Project activities would generate continuous industrial noise, light, traffic, and surface and subsurface disturbance across a landscape that currently has no comparable industrial presence. The Project would authorize mineral exploration over a roughly one-year timeline, but the Draft Plan indicates Project activities will take place across multiple seasons and remedial work could extend well beyond the one-year timeline. The Project proposes both bulk sampling of potential mineral-bearing rock as well as core sampling at multiple locations. The Draft Plan is vague or silent regarding water sourcing, water handling, how mine waste would be managed, area geochemistry, and the potential interception of radioactive materials and asbestos. The Project's description of "bulk sampling" is essentially mining activity and would expose subsurface rock in an area that could contain sulfide minerals and create the potential for acid rock drainage. For example, at Location #1 the Draft Plan states:

> *To facilitate bulk sampling, a series of blast holes will be advanced in the sidewalls of the adit using jack-leg drills along the carbonatite vein. Explosives will be placed in the holes and a controlled blast deployed to fragment the rock. Blasting will generate waste rock and mineralized rock. Waste rock will be placed within an existing void space (offshoot) on the south side of the adit tunnel and/or will be placed on the ground in the tunnel as road base. Mineralized rock will be hauled out of the adit and placed into super sacks for offsite transport. Approximately 1,500 short tons of bulk material will be generated in the first season in 2026*

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and approximately 1,500 short tons of bulk material generated in the second season in 2027. Bulk material samples will be collected by helicopter daily and flown to the truck parking / interim staging area, where they will be transported to a lab for testing. The Project goal is to collect a total of approximately 3,000 short tons of bulk material over the course of the exploration program for testing.

Water Resource Impacts

The West Fork of the Bitterroot comprises some of the highest quality water resources and aquatic habitat in the Clark Fork Basin. The people and the economy of the Bitterroot Valley depend on the integrity of these high-quality water resources. USCM's plan fails to explain how both water quantity and quality will be protected in Sheep Creek and the West Fork Bitterroot River, meaning that the Forest Service must take a closer look.

The Project anticipates roughly 8,800 gallons of water per day for drilling operations, dust control and other uses, but the Draft Plan contains no details as to where Project water will be sourced. At minimum, USCM must demonstrate they have the adequate rights to water to serve the Project and disclose the nature, location, and limits of those water rights.

The Project requires the use of tens of thousands of gallons of water and over 100 gallons of additives for the drilling and bulk sampling processes and mentions the need to settle out solids and neutralize acids in order to reuse this process water. However, there is no plan for treating and disposing of this water after the exploration process is complete, and no investigation of the potential for ongoing acidification that could result from the exploration process. USCM simply asks the Forest Service and the public to trust that no discharge to ground or surface waters will occur from their operations. This ambiguity regarding potential water quality impacts is precisely what NEPA seeks to avoid, and warrants an EA.

Nearly all of the locations proposed for exploration are located adjacent to surface waters, including Sheep Creek and smaller drainages feeding Sheep Creek. Many of the proposed exploration activities are well known to increase erosion, yet there is no evaluation of the likely increase in sediment loading. The Draft Plan asserts that the Project will not construct any new stream crossings but fails to consider the impact of increased traffic use on existing primitive crossings. The Draft Plan also emphasizes that many activities will not require extensive surface preparation or will take place on areas that have been formerly disturbed, but the proposed 11,800 square feet of disturbance will likely lead to increased erosion and sediment loading regardless of the prior condition of the disturbed area. The Draft Plan offers minimal detail as to how existing water quality will be maintained, other than to note Montana State Best Management Practices to offset potential stormwater impacts. The minimal erosion control measures put forth in USCM's plan are not sufficient to minimize sediment issues.

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In addition to potential sediment impacts, seepage from infiltration through the proposed sumps could impact groundwater and surface water downgradient from the drill sites. A 10 x 10 x 6 foot sump holds 4,488 gallons before subtracting liner folds, sloped sides, sediment, drill cuttings, and freeboard (gap between the top of the water and the top of the sump that helps prevent overflow). With one foot of freeboard, capacity falls to 3,740 gallons. The daily water-use number may represent a recirculating flow rather than storage volume, but the Draft Plan does not show the water balance needed to confirm that. The Draft Plan should include design drawings and calculations for sump volume, freeboard, storm capacity, liner specifications, cuttings volume, drill-fluid volume, expected water losses, recycling rate, and emergency overflow prevention.

Despite the above-listed concerns, the Project does not anticipate any water quality monitoring to analyze either baseline conditions or potential impacts of exploration activity (such as wastewater, stormwater, groundwater interaction with waste rock, etc….) on area surface or groundwaters (see Draft Plan of Operations, page 13). Without an EA, the Forest Service lacks credible information on the Project's impacts to water resources, which in turn raises significant concerns about impacts to fisheries and aquatic life in the immediate area, as well as downstream water users and communities along the Bitterroot River mainstem.

<u>The Forest Service Must Prepare an EA for the Sheep Creek Exploration Project</u>

USCM's proposed Sheep Creek Exploration Project does not meet the requirements for a CE because, as outlined throughout our comments, the Project is likely to have effects on the surrounding environment. "CEs are designed to streamline this process when a class of proposed actions has been found to have little to no effect on the environment. But when an agency applies CEs in a way that circumvents NEPA's procedural requirements and renders the environmental impact of a proposed action unknown, the purpose of the exclusions is undermined. *Friends of the Inyo*, (103 F.4th at 556 (internal citation omitted)).

Further, the Project is disqualified from using a CE because exploration and remediation will take longer than one year. USCM's Draft Plan indicates project activities that, if approved, will take place across multiple seasons with remedial work scheduled to begin as soon as possible after exploration is complete. Mineral exploration activities and the required remediation must be viewed together as a single project. "[...] [R]emediation cannot be artificially bifurcated from mineral exploration. *Friends of Inyo* at 558.

Lastly, there are numerous Extraordinary Circumstances that preclude the approval of the Project under a CE:

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I. Federally Listed Species Present

Each of the federally listed species described in this section is present within the Project site. We demonstrate that cause-effect relationships exist between Project activities—blasting, waste rock storage and handling, helicopter use, vehicle use, chemical use and storage, and increased human presence in an undeveloped area—and the displacement, harassment, and mortality of multiple listed wildlife species, which meets the agency's definition of Extraordinary Circumstances that preclude a CE. Under an EA, a robust environmental review should include baseline data collection in the form of range and habitat surveys for species and their known prey, satellite imagery on forest structure and successional stages, and migration corridor mapping *before* Project implementation and *before* any irreversible or irretrievable commitments of resources are made.

In sum, because of insufficient data on all of the species covered here and uncertain effects of this exploration, the Forest Service cannot reasonably conclude that there are no potentially significant effects to any of these federally listed species from the Project. This uncertainty should prompt a finding of an extraordinary circumstance that precludes approving the Project under a CE.

A. Bull Trout

Once abundant in western Montana, in 1999, native bull trout (*Salvelinus confluentus*) were listed within the coterminous United States as threatened by the U.S. Fish and Wildlife Service pursuant to the Endangered Species Act ("ESA"), as amended (64 FR 58910; 1 November 1999). Native bull trout, despite significant declines in abundance, can still be found in the upper Bitterroot River and the West Fork. The Bitterroot River and the West Fork are listed as critical habitat for bull trout by the U.S. Fish and Wildlife Service (USFWS 2010) and are also within the Columbia Headwaters Recovery Unit (USFWS 2015). The loss of acceptable, high-quality habitat — like that of the West Fork — is the primary reason that bull trout are listed as threatened under the ESA.

The upper West Fork is also home to an important population of bull trout, with both resident and adfluvial populations that migrate between Painted Rocks Reservoir and upstream tributaries. The U.S. Fish and Wildlife Service recovery plans for bull trout highlight the value of the West Fork above Painted Rocks as core area. Sampling data for Sheep Creek in 2023 revealed that the stream's fishery composition included 56% westslope cutthroat and 38% bull trout. Similar westslope cutthroat and bull trout percentages were found in the West Fork near Sheep Creek.

NEPA review must consider the direct, indirect, and cumulative impacts of the proposed activity on threatened bull trout, including, but not limited to, changes to water quality, stream flows, temperature, habitat, food availability, groundwater upwellings, hyporheic

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zones and connectivity. This review must also include foreseeable impacts from full-scale mining at the Project mine site. *Ksanka Kupaqa Xa'lcin v. United States Fish & Wildlife Serv.*, 534 F. Supp. 3d 1261, 1271 (D. Mont. 2021).

Studies conducted on the Bitterroot National Forest have found that, based on population estimates, bull trout numbers are negatively correlated with the amount of fine sediment found in the stream.[2] For example, studies found that the higher the percent of the spawning substrate that is < 0.25" in diameter, the lower the survival to emergence success of bull trout and westslope cutthroat trout. McNeil core samples taken on the Bitterroot National Forest had a high average proportion of fine sediment (38-41% <0.25") in developed and undeveloped drainages (Clancy 1991). Wolman pebble counts in undeveloped watersheds in the Bitterroot National Forest generally have less than 25% fine sediment less than 0.25". As noted above, the minimal erosion control measures put forth in USCM's plan are not sufficient to minimize sediment issues that are likely to result from the Project. The FS should fully analyze these issues and consult on potential impacts to bull trout.

At a minimum, USCM should collect baseline data on the fish and wildlife that might be impacted and include plans to monitor those impacts. The current Draft Plan fails to do either. Further, the presence of bull trout should require consultation with the U.S. Fish and Wildlife Service, the Montana Department of Fish, Wildlife & Parks, and the Confederated Salish and Kootenai Tribes regarding qualification under a CE and the underlying determination that no extraordinary circumstances exist. These entities would be able to provide the necessary information on the fishery, aquatic habitats, and the human investment in those resources that must be considered.

B. Grizzly Bears

Verified grizzly bears have been documented east of the Sheep Creek Exploration Project and these bears are likely candidates for natural movement into the Bitterroot Ecosystem through habitats within the Project site. The Project has the potential to change or decrease the movements of grizzly bears, increase grizzly mortality risk, and impact recovery of grizzly bears in the Bitterroot Ecosystem, especially because there is a concentration of verified grizzly bear sightings east of the Project site along the MT-ID state line. Key obstacles to grizzly bear recovery in the Bitterroot Ecosystem include loss of habitat security through increased

[2] Bitterroot River Drainage, Bull Trout Status Report, *Montana Bull Trout Scientific Group* (1995) at 7. https://myfwp.mt.gov/getRepositoryFile?objectID=17406

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human activity in currently low human use areas, threats to connectivity with other grizzly populations, and increased motorized use in currently non-motorized areas.

Threats to Grizzly Bear Recovery in the Bitterroot Ecosystem

The Project site is at the junction of the eastern edge of the Bitterroot Ecosystem and the connecting habitat between the Yellowstone Ecosystem to the southeast, and the Sapphire Range and the Northern Continental Divide Ecosystem to the northeast. The area has been identified by Sells and Costello (2024)[3] as part of the possible grizzly bear connection habitat into the Bitterroot Ecosystem. The Project site is particularly important as grizzly bear connection habitat because it lies at the south edge of the Bitterroot Valley west of low-density human development and settlement along Highway 93 so that bears moving from the east could cross the highway while moving west with minimal human disturbance other than the highway.

The Bitterroot Ecosystem is an important nexus for grizzly bear populations in the northern U.S. Rocky Mountains because it exists between the Yellowstone, Northern Continental Divide, Selkirk, and Cabinet Yaak ecosystems and contains significant and important habitat for grizzly bears. Bear foods are well distributed throughout, are comparable to occupied habitat in other grizzly bear ecosystems, and produce adequate sources of known foods, including elk and deer, small mammals, herbaceous vegetation and tubers, and fruits and nuts. The reoccupancy and recovery of grizzly bears in the Bitterroot ecosystem fills the gap between other bear ecosystems and allows and facilitates functional movement and interconnectivity for grizzly bears. The most likely route that grizzly bears would take moving from either the Yellowstone Ecosystem or from the Northern Continental Divide Ecosystem through the Sapphire Range would be moving westward across upper elevations during summer along the MT-ID state line. Grizzly bears often move along ridgelines at higher elevations during summer, especially when lower elevation valley areas have higher road densities than the ridgelines and the traffic volumes are higher on these roads during summer. Such movements would be through areas impacted by the Project site, as shown in Figure 1. Reoccupancy of the Bitterroot Ecosystem will increase the probability of establishing a functional metapopulation, one that has movements between the existing separated ecosystems. Connectivity between grizzly bear ecosystems increases demographic and genetic resiliency and resiliency to climate change. Therefore, preservation and enhancement of connection habitats and connection opportunities is important to maintaining healthy grizzly bear populations south of Canada in

[3] Sells, S. N. and C. M. Costello, 2024. Predicting future grizzly bear habitat use in the Bitterroot Ecosystem under recolonization and reintroduction scenarios. PLOS ONE. 19(9): e0308043. https://doi.org/10.1371/journal.pone.0308043

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the 5% of their historic range in the conterminous United States where grizzlies still live or can exist.

To maintain the possibility of natural grizzly movement into the Bitterroot Ecosystem, it is important to carefully manage human disturbance and prevent harassing activities that cause bears to avoid potential connection areas between the Bitterroot Ecosystem and other ecosystems that have grizzly bear populations. The Project site along the MT-ID state line west of Highway 93 and between Salmon, Idaho and Darby, Montana is one of the primary connection paths into the Bitterroot Ecosystem, and it has been identified as a connection area by recent habitat modeling.[1]

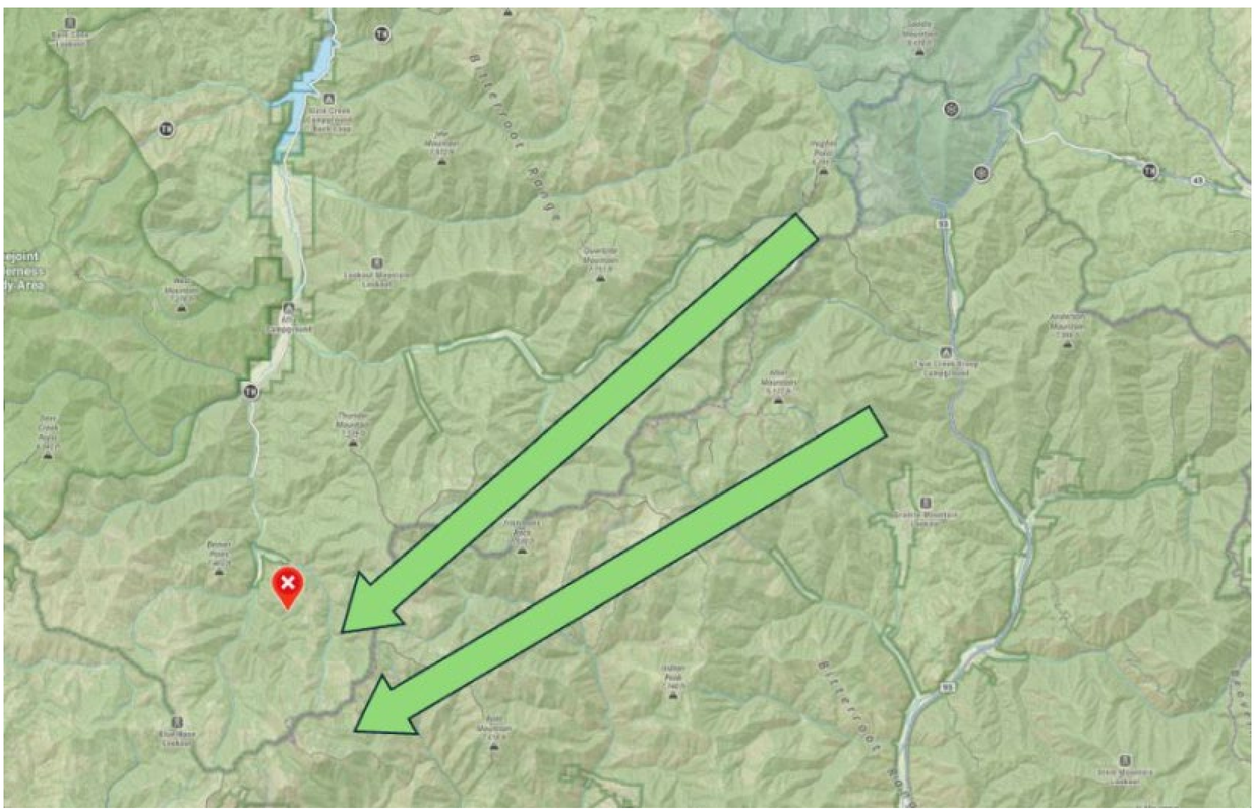

Figure 1. Hypothetical summer travel areas for grizzly bears westward into the Bitterroot Ecosystem from either the Yellowstone or NCDE ecosystems. Sheep Creek Exploration Project noted as red waypoint.

Multiple grizzly bears have been confirmed in areas immediately surrounding the grizzly bear recovery zones over the last 15 years. Multiple verified sightings (Figure 2) have recently occurred in habitats between the Yellowstone and Northern Continental Divide occupied

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range and the Bitterroot recovery zone. These verified sightings are concentrated in the area immediately east of the Project site, as shown in Figure 2. The most likely route for these bears east of the Project mine to move into the Bitterroot Ecosystem during summer is along the ridgelines along the MT-ID border adjacent to the proposed mine because of the lower road density and lower levels of present human use along the higher elevation border ridgelines. As current distributions of grizzly bears in the Yellowstone and Northern Continental Divide Ecosystems continue to expand, we can expect increasing numbers of bears to attempt to move into the Bitterroot via the MT-ID border adjacent to the Project site.

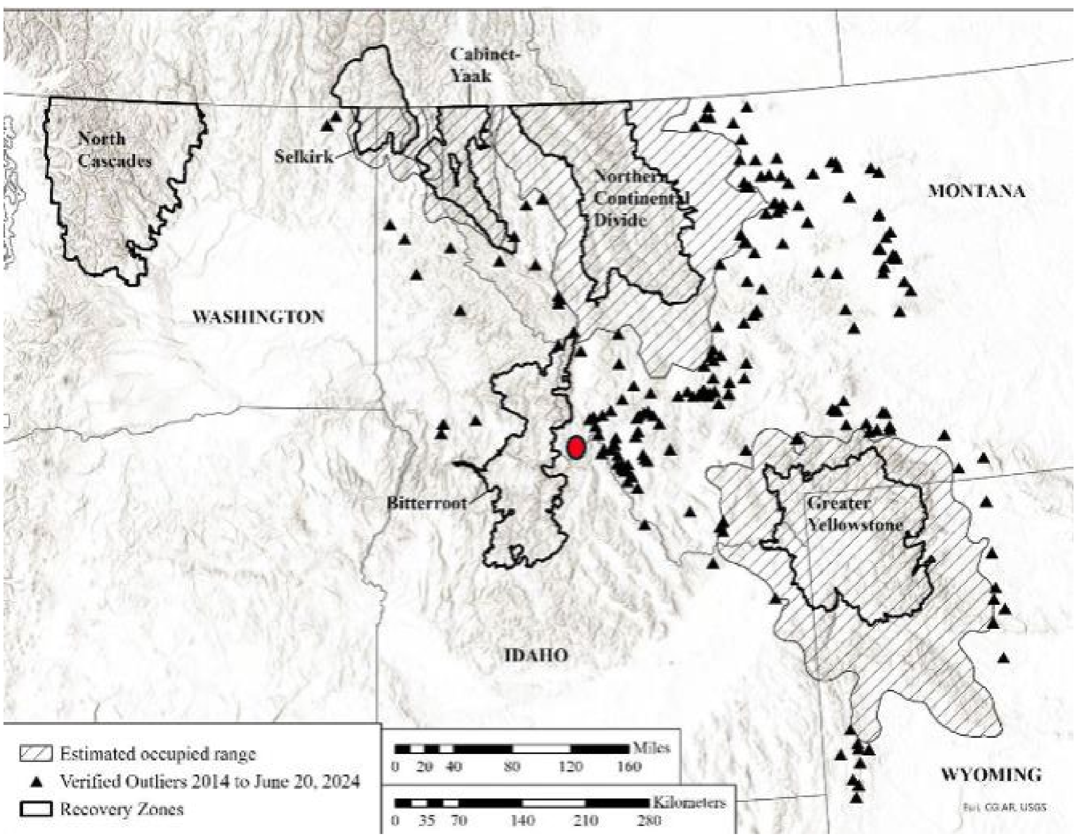

Figure 2. Verified grizzly bear reports shown as triangles between grizzly bear recovery areas. The location of the Sheep Creek Exploration Project is shown by a red dot. Data from U.S. Fish and Wildlife Service, p. 189.[4]

[4] U.S. Fish and Wildlife Service. 2024. Draft Species Status Assessment for the grizzly bear (Ursus arctos horribilis) in the Lower-48 States. Version 2.2, October 28, 2024. Missoula, Montana. 398 pp.

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Harassment of Grizzly Bears from Helicopters

Helicopter use is planned extensively in association with this Project, and helicopter use will generate significant noise at the site and for hundreds of meters all around the staging area and landing pads. Helicopters will also produce noise below and along all helicopter flight paths. Noise pollution represents an invisible source of habitat degradation and harassment for wildlife.[5] The introduction of high levels of noise into formerly undisturbed habitat areas will have significant negative consequences to wildlife use of the Project site. The impacts of noise produced by proposed activities will impact the site and surrounding habitats for hundreds of meters in all directions around the Project site and along vehicle and helicopter access routes. Grizzly bears in thinner tree cover, as found at the Project site due to wildfire, are more sensitive to helicopters flying at low elevations, and their responses include avoidance, displacement, and physiological or behavioral stress.[6] Location 2 in the Draft Plan is closest to the ridgeline and represents a summer travel path for grizzly bears. Helicopter use at this site has high potential to result in avoidance of the Project site by grizzly bears attempting to move west into the Bitterroot Ecosystem, thus jeopardizing connectivity between other occupied ranges. Such noise may also alienate multiple other species from these areas.[7]

Harassment and Mortality of Grizzly Bears on/near Roads

Although the Project describes helicopters as the primary mode of transportation, road use will increase to and from the Project site along the West Fork Road to Connor, Montana. There will also be increased road use and road upgrades or development in and around the Project site. It is well established that grizzly bears suffer high human-caused mortality in roaded

[5] Ware, H.E., C. J. W. McClure, J. D. Carlisle and J. R. Barber. 2015. A phantom road experiment reveals traffic noise is an invisible source of habitat degradation. Proceedings of the National Academy of Science. 112:12105-12109. http://www.pnas.org/cgi/doi/10.1073/pnas.1504710112

[6] Montana/Northern Idaho Level I Terrestrial Biologists Team. 2009. Guide to Effects Analysis of Helicopter Use in Grizzly Bear Habitat. 19 pp.

[7] Ditmer M. A., C. D. Francis, J. R. Barber, D. C. Stoner, B. M. Seymoure, K. M. Fristrup and N. H. Carter. 2021. Assessing the Vulnerabilities of Vertebrate Species to Light and Noise Pollution: Expert Surveys Illuminate the Impacts on Specialist Species. From the symposium “SICB-Wide Symposium: Blinded by the light: Effects of light pollution across diverse natural systems” presented at the virtual annual meeting of the Society for Integrative and Comparative Biology, January 3–7, 2021. Integrative and Comparative Biology 61:1202-1215. https://doi.org/10.1093/icb/icab091

Zeller et al., 2024. Experimental recreationist noise alters behavior and space use of wildlife. Current Biology 34, 2997–3004. https://doi.org/10.1016/j.cub.2024.05.030

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portions of their habitat.[8] Humans are the cause of most grizzly bear deaths.[9] Impacts of increased motorized vehicle use on grizzly bears include four factors:

1. Displacement from important habitats and loss of the resources in near roads for the grizzly bears that do avoid roads and motorized trails.
2. Fragmentation of habitat due to avoidance of roads or increased mortality near roads resulting in reduced or interrupted movement and isolation and loss of genetic and demographic resiliency.
3. Direct loss of grizzly habitat as formerly productive habitat is converted to dirt and gravel roads and motorized trail surfaces or productive habitats near roads are avoided by some bears.
4. Increased mortality due to humans. This mortality risk occurs for those grizzly bears that do not avoid the vicinity of roads and motorized trails.

Road avoidance is particularly damaging to potential grizzly bear connection areas where roads and associated vehicle traffic occur in known bear travel corridors. Such road use avoidance has the potential to reduce or even eliminate ecosystem connectivity by grizzly bears. The Interagency Grizzly Bear Committee (IGBC) is the committee leading the management of grizzly bears and grizzly bear habitat in the conterminous U.S. The IGBC produced a Taskforce Report on the management of motorized access in grizzly bear habitat. This report on grizzly

[8] McLellan, B. N, and D. M. Shackleton. 1988. Grizzly bears and resource extraction industries: effects of roads on behavior, habitat use and demography. Journal Applied Ecology 25:451–460.

Graham, K., J. Boulanger, J. Duval, G. Stenhouse. 2010. Spatial and temporal use of roads by grizzly bears in west-central Alberta. Ursus 21:43–56. https://doi.org/10.2192/09GR010.1

Mace, R. D., and J. S. Waller, T. L. Manley, L. J. Lyon, and H. Zuuring. 1996. Relationships among grizzly bears, roads and habitat in the Swan Mountains, Montana. Journal of Applied Ecology 33:1395–1404.

Schwartz, C. C., M. A. Haroldson, G. C. White. 2010. Hazards affecting grizzly bear survival in the Greater Yellowstone Ecosystem. Journal of Wildlife Management 74:654-667. https://wildlife.onlinelibrary.wiley.com/doi/10.2193/2009-206

[9] McLellan, B. N. 1989. Dynamics of a grizzly bear population during a period of industrial resource extraction. III. Natality and rate of increase. Canadian Journal of Zoology 67:1865–1868.

McLellan, B. N., F. W. Hovey, R. D. Mace, J. G. Woods, D. W. Carney, M. L. Gibeau, W. L. Wakkinen, and W. F. Kasworm. 1999. Rates and causes of grizzly bear mortality in the interior mountains of British Columbia, Alberta, Montana, Washington, and Idaho. Journal of Wildlife Management 63:911–920.

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bear/motorized access management was first released in 1994 and revised in 1987. The IGBC recognized that management of roads and motorized access on roads is one of the most important factors affecting habitat security for wildlife in general and for grizzly bears in particular.[10] The Taskforce Report recognized that by managing motorized access, the following grizzly bear management objectives can be met:

- Minimize human interactions and potential grizzly bear mortality;
- Minimize displacement from important habitats;
- Minimize habituation to humans; and
- Provide relatively secure habitat where energetic requirements can be met.

Habitat near motorized roads is impacted by the road and the type and duration of human activity on the road. Road impacts to grizzly bears are a combination of both habitat avoidance by bears that avoid roads combined with increased mortality risk for bears that do not avoid roads or become habituated to road use and thus become more vulnerable to mortality because of habituation. Multiple research Projects in grizzly bear habitat in the Northern Rocky Mountains have documented that the influence zone of roads extends to 500 meters (1650 feet) on either side of roads.[11] The 500-meter influence zone of a road includes

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[10] Mattson, D. J., R. R. Knight, and B. M. Blanchard. 1987. The effects of developments and primary roads on grizzly bear habitat use in Yellowstone National Park, Wyoming. International Conference on Bear Research and Management 7:259–273.

Mace, R. D., and T. L. Manley. 1993. South Fork Flathead River grizzly bear Project: progress report for 1992. Montana Department of Fish, Wildlife and Parks, Helena, Montana.

U.S. Fish and Wildlife Service (Service). 1993. Grizzly bear recovery plan. Missoula, Montana.

Christensen, A. G., L. J. Lyon, and J. W. Unsworth. 1993. Elk management in the northern region: considerations in forest plan updates or revisions. General Technical Report INT-303. USDA FS Intermountain Research Station, Ogden, Utah.

[11] Mattson, D. J., R. R. Knight, and B. M. Blanchard. 1987. The effects of developments and primary roads on grizzly bear habitat use in Yellowstone National Park, Wyoming. International Conference on Bear Research and Management 7:259–273.

Mace, R. D., and J. S. Waller, T. L. Manley, L. J. Lyon, and H. Zuuring. 1996. Relationships among grizzly bears, roads and habitat in the Swan Mountains, Montana. Journal of Applied Ecology 33:1395–1404.

Benn, B. and S. Herrero. 2002. Grizzly bear mortality and human access in Banff and Yoho National Parks. Ursus 13:213–221.

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both behavioral avoidance and increased mortality risk. A 2014 study of road impacts on grizzly bears documented that 19 of 22 grizzly mortalities occurred within 500 meters of a road.[12] Only one of the 19 was close to a paved road while all the rest were proximate to an unpaved forest road, like those proposed within the Project site.

C. Canada Lynx

The current total contiguous United States population of lynx is estimated at fewer than 1,000 annuals with approximately 300 in Montana. The best available science reveals the most serious threats facing lynx are from climate change (loss of habitat, changes in snow cover, changes in prey distribution and abundance, and changes to the lynx's climate envelope) and the loss of habitat and increased habitat fragmentation from logging, extractive industry on public lands, and wildfires. Other threats to lynx occur from trapping, illegal shooting, disturbance from recreation, development, and vehicle collisions.

Trapping records from the Montana Department of Fish Wildlife and Parks suggest lynx once occupied most mountain ranges in western Montana, from the Greater Yellowstone Ecosystem to northwest Montana. Notably, in some regions, historic trapping records reveal lynx population numbers fluctuated but were once robust. At present, however, the lynx's range in western Montana continues to contract. The small lynx population remaining in western Montana likely has an effective population of less than 100 and currently exists in a number of small subpopulations of relatively few individuals. This makes the remaining lynx in Montana critical to larger conservation efforts and highly susceptible to environmental and demographic factors.

A recent report[13] found that the Bitterroot National Forest houses over 60% high and moderate lynx habitat (Figure 3) as opposed to recent habitat assessments by agencies. Lynx habitat and their primary prey snowshoe hare habitat exists in and around the Project. The Project will result in the loss of important understory vegetation and the removal of forest

Schwartz, C. C., M. A. Haroldson, G. C. White. 2010. Hazards affecting grizzly bear survival in the Greater Yellowstone Ecosystem. Journal of Wildlife Management 74:654-667. DOI: 10.2193/2009-206

Van Manen, F. T., M. A. Haroldson, D. D. Bjornlie, M. E. Ebinger, D. J. Thompson, C. M. Costello, and G. C. White. 2016. Density dependence, whitebark pine, and vital rates of grizzly bears. Journal of Wildlife Management 80:300–321.

[12] Boulanger J, and G. D. Stenhouse. 2014. The Impact of Roads on the Demography of Grizzly Bears in Alberta. PLoS ONE 9(12): e115535. https://doi.org/10.1371/journal.pone.0115535

[13] Carter J. 2026. Management Critique and Recommendations With a Focus on the GYA and Y1UConn. Yellowstone to Unitas Connection. 136 pp.

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cover (including the loss of mature forest stands with horizontal cover and adequate snowshoe hare populations). It would also cause habitat fragmentation and would result in more snow compaction (thereby creating more opportunities for competitors to use the area).

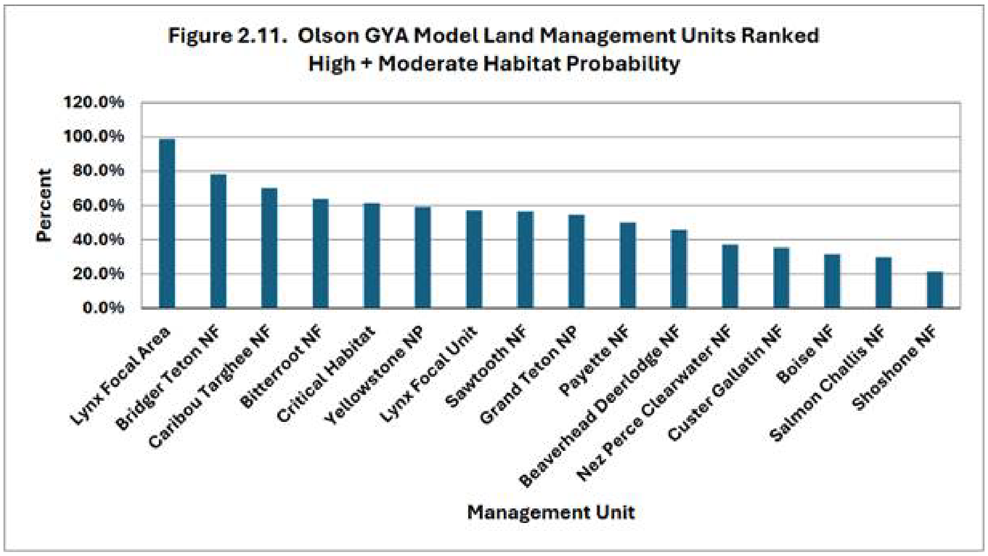

Figure 3: High and moderate lynx habitat by forest from Carter 2026.

D. <u>Wolverine</u>

The wolverine is a wide-ranging low population density mesocarnivore listed as threatened under the Endangered Species Act as threatened in November 2023. The Sheep Creek claims sit astride the Bitterroot Range in an area found to be primary habitat for wolverines (Figure 4).[14]

[14] Inman, RM, BL Brock, KH Inman, SS Sartorious, BC Aber, B. Giddings, SL Cain, ML Orme, JA

Fredrick, BJ Oakleaf, KL Alt, E Odell, G Chapron (2013). Developing priorities for metapopulation conservation at the landscape scale: Wolverines in the western United States. Biological

Conservation 166:276-286

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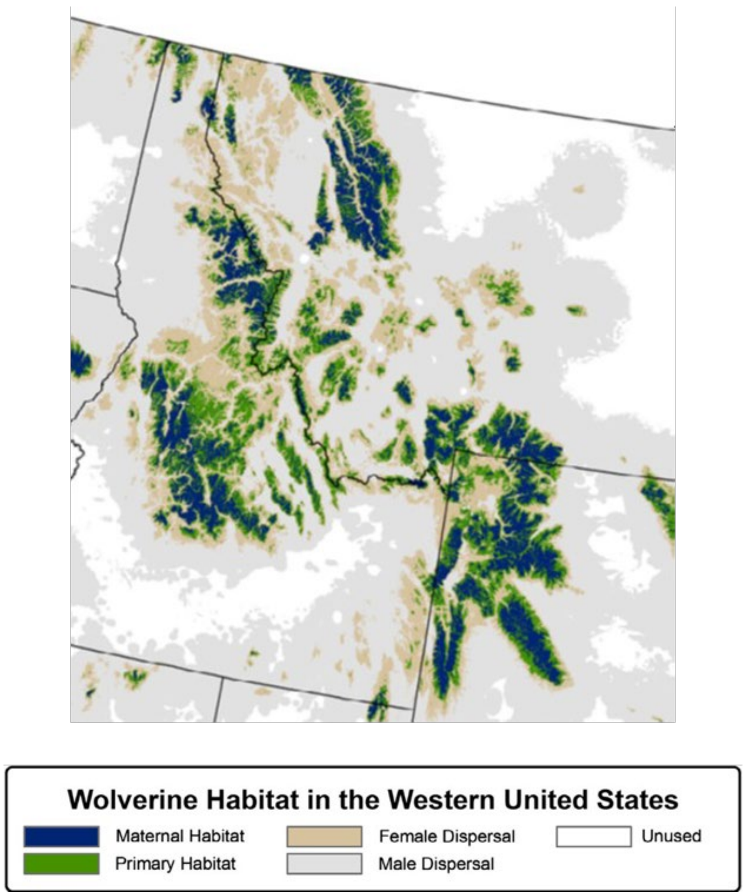

Figure 4: Wolverine maternal, primary and dispersal habitat from Inman et al 2013.

The region of the Bitterroot Range through which daily helicopter flights will occur for 60-90 days annually for multiple seasons is wolverine habitat and was proximate to a wolverine location in Bitterroot National Forest wolverine surveys (Figure 5).[15]

[15] Paul, K. (2020). Citizen-Based multi-species forest carnivore monitoring in the Bitterroot

National Forest. Wolverine Watchers Report. Five Year Project Report. U.S. Forest Service, MPG Ranch, Defenders of Wildlife, December 2020. pp.35.

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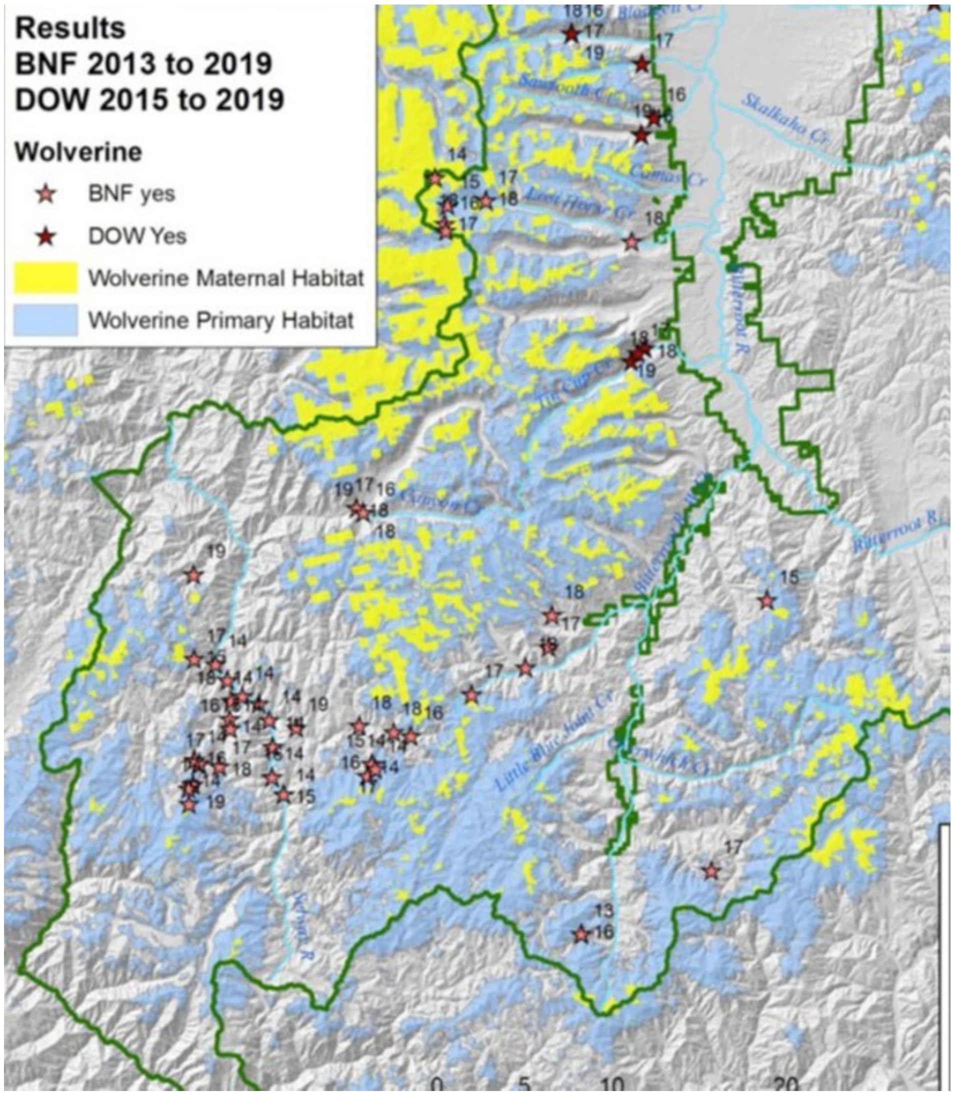

Figure 5: Wolverine Watchers Report showing locations of wolverine from 2015 to 2019 in the southern Bitterroot National Forest by National Forest researchers.

Helicopter operation has been repeatedly found to displace wolverines from their habitat, dens or travel routes.[16] Thus, it is likely that the proposed operation will serve as a barrier to

[16] Krebs, J, EC Lofroth and I Parfitt (2007). Multiscale habitat use by wolverines in British Columbia, Canada. J. of Wildlife Management 71(7):2180-2192.

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wolverine use or transit within the area, with significant effects on wolverine recovery and survival. Studies also document the habitat use displacement that human activity creates.[14,17]

E. Whitebark Pine

Whitebark pine are a five-needle conifer tree species native to the western United States (including the Bitterroot National Forest) and southwestern Canada that generally inhabit cold, upper subalpine environments. The tree species occasionally occurs in pure or nearly pure stands at high elevations but is most commonly found in stands of mixed species in a variety of forest types (at higher elevations). Whitebark pine exists throughout large portions of the Bitterroot National Forest, including the West Fork drainage and the Project.

Whitebark pine seeds are an important food source for a number of birds and other wildlife, including grizzly bears. The seeds have more calories per gram than chocolate offers humans and provide an important source of fat and protein. Whitebark pine seeds are one of four important and primary food sources for threatened grizzly bears, especially females. Whitebark pine are a masting species and grizzly bear consumption spikes when cone production is high (seeds may comprise 50-80% of fall scat volume for some grizzly bears). Grizzly bears obtain virtually all of their whitebark pine seeds by finding and excavating middens of seeds from squirrels. The scientific literature also reveals there is likely a direct link between whitebark pine cone production and the survival of individual bears, as well as fecundity (number of females and cubs produced a year), movements, and the frequency of management actions.

Whitebark pines are currently at risk due to white pine blister rust, mountain pine beetle infestations, altered fire regimes, and climate change. They are often removed as part of various multiple use activities or Projects occurring on Forest Service lands, which compounds these risks. For example, the Bitterroot National Forest's currently approved Projects–Mud Creek, Thunder Mountain, Eastside, Bitterroot Front, Piquett Creek etc.–have resulted in the removal of significant amounts of whitebark pine as part of various vegetation or prescribed fire activities. Similar removals are likely during this Project related to drill pad construction, helicopter landing area construction, road improvements, and UTV use.

II. Species of Concern

A. Westslope Cutthroat Trout

[17] Scrafford MA, Boyce MS (2014) Effects of industry on wolverine (Gulo gulo) ecology in the boreal forest of northern Alberta. Progress Report. University of Alberta, pp. 20.

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The West Fork above Painted Rocks is home to an enormously important meta population of native westslope cutthroat trout.. Like bull trout, westslope cutthroat require clean, cold and connected waterways in order to thrive, and both are highly sensitive to disturbances in water quality from pollutants such as sediment, heavy metals, and increases in water temperature.

The Project threatens these native species and their habitat. Native westslope cutthroat trout are present within the Project area streams and are likely to be impacted by Project activities. Westslope cutthroat trout are on the Forest Service sensitive species list and are ranked S2 Imperiled in Montana (Aquatic sensitive species list Forest Service-Region 1, February 2011). Westslope cutthroat trout depend on cold, clean, and highly complex headwater streams with abundant woody debris and pool cover and can be harmed by the increased sedimentation impacts, which can degrade or destroy spawning habitat.

The Forest Service has noted that "Westslope cutthroat trout, a Forest Service Species of Conservation Concern and Montana species of concern, are native to the streams within the Project area. The State of Montana has classified this trout as a species of concern, in part due to "due to sedimentation … in streams …" Like the potential impacts to bull trout, the FS should fully analyze these impacts in an EA.

B. Elk and Other Big Game

Elk are dependent on secure habitat to thrive. They need security from human disturbance for calving, forage, and as escape cover. The Project site is already within an area that is below the objective population set by biologists with the Montana Department of Fish, Wildlife and Parks. Yet, the West Fork Bitterroot River drainage, which is directly beneath the daily flight path to/from Conner, Montana, serves as important winter range for elk and bighorn sheep from multiple areas.[18] Numerous peer reviewed studies show that motorized vehicles and aircraft displace elk and other big game including "distribution shifts of populations away from trails; increased flight responses, movement rates and energetic costs; reduced foraging times; and reduced carrying capacity from cumulative effects (Havlick, 2002; Brillinger et al.,

[18] Laird, S. 2022. Big Game Migration Conservation for Lolo and Bitterroot National Forest Plan Revisions. Theodore Roosevelt Conservation Partnership. 18 pp. https://www.trcp.org/wp-content/uploads/2022/03/Lolo-Bitterroot-report_final.pdf

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2004, 2011; Wisdom et al., 2004a; Preisler et al., 2006, 2013; Naylor et al., 2009; Ciuti et al., 2012)."[19]

The displacement of big game from the West Fork Bitterroot River drainage would result in the reassessment of hunting quotas by the Montana Department of Fish, Wildlife and Parks. This would, in turn, impact recreational hunting by reducing access to tags within Hunting District 250 for local and out-of-state hunters.

III. Flood Plains, Wetlands, or Municipal Watersheds

In an analysis of the importance of different watersheds for drinking water supply, the West Fork Bitterroot River-Beaver Creek HUC12 watershed, which encompasses the Project site and the West Fork Bitterroot River headwaters tributaries, including Sheep Creek, supplies water for 11,960 downstream public water users.[20] These water users receive drinking water via public water systems that use surface water or groundwater sources under the direct influence of surface water. The water resources impacts described above, most notably the potential for acid mine drainage, is of considerable concern to water users whose drinking water sources could be contaminated by actions occurring upstream at the Project site. The headwaters of the West Fork Bitterroot River also include natural wetlands directly downstream of the Project site. The presence of wetlands and the nexus with downstream drinking water sources necessitates a watershed survey as part of an EA to assess how drilling may form connections with aquifers through faults, fractures, or other mechanisms that could result in adverse impacts to headwaters wetlands and downstream water users.

IV. Inventoried Roadless Area or Potential Wilderness Area

Location 2 (at 45.49829, -114.29405, see Figure 6) is within the Allan Mountain Inventoried Roadless Area (IRA). The Forest Service must analyze and disclose the potential impacts of the Project on the Allan Mountain IRA and avoid any activities that would violate the Roadless Rule's management prescriptions. The Forest must also ensure any other IRAs - or other administratively or statutorily protected landscape units, for that matter - are appropriately accounted for in its analysis and any Project approval.

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[19] Wisdom, Michael J. and Preisler, Haiganoush K. and Naylor, Leslie M. and Anthony, Robert G. and Johnson, Bruce K. and Rowland, Mary M., 2018. Elk responses to trail-based recreation on public forests, Forest Ecology and Management, Vol 411, 0378-1127, p. 223

http://dx.doi.org/10.1016/j.foreco.2018.01.032

[20] Comte, L., Olden, J.D., Littlefield, C., Dickson, B.G., Zablocki, J. and D. Moryc. 2026. National assessment of river protection in the United States. Nature Sustainability. https://doi.org/10.1038/s41893-025-01693-8

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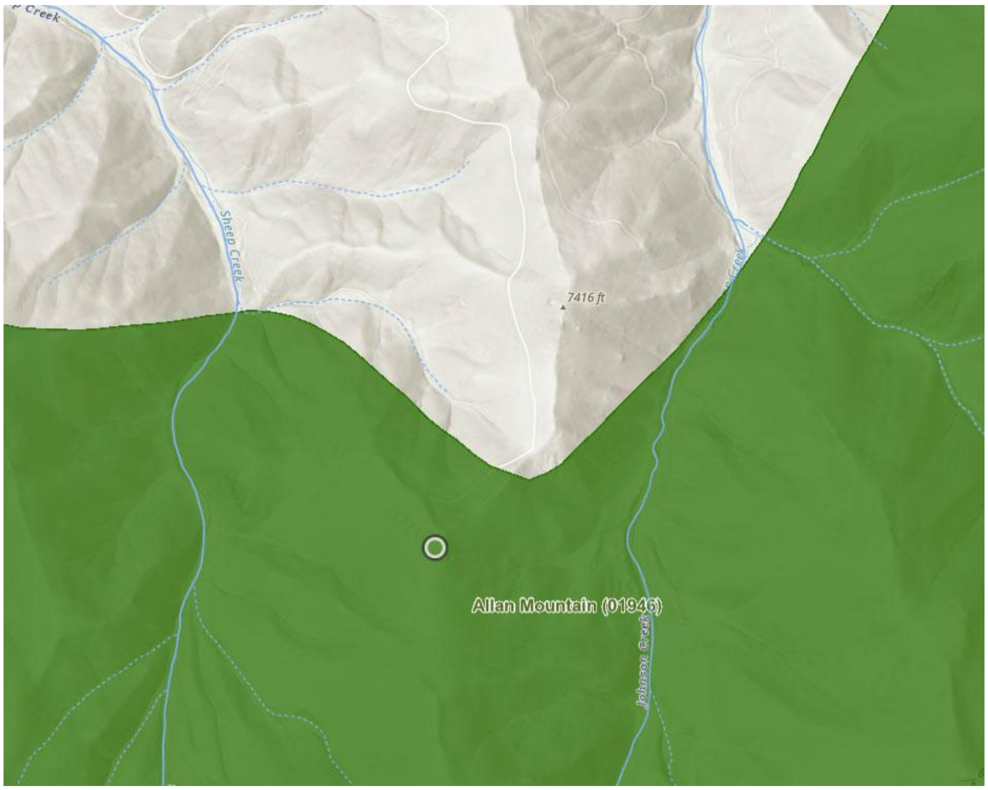

Figure 6: The green dot marks Location 2, which is within the Allan Mountain IRA.

The Roadless Rule designated approximately 58.5 million acres of National Forest Service lands as IRAs. *See* Special Areas; Roadless Area Conservation, 66 Fed. Reg. 3244, 3245 (Jan. 12, 2001) (36 C.F.R. §§ 294.10-294.14). These "large, relatively undisturbed landscapes" have a variety of scientific, environmental, recreational, and aesthetic attributes and characteristics unique to roadless areas, which the Department refers to as "roadless values." *Id.* at 3245, 3251. *Organized Village of Kake v. Dept. of Agriculture*, 795 F.3d 956, 959 (9th Cir. 2015).

The Roadless Rule prohibits, with reasonable exceptions, new road construction and commercial logging in these intact landscapes. While development of unpatented mining claims on public lands in IRAs is not specifically prohibited, the associated activities related to mining are often antithetical to the Rule's purpose. Furthermore, per 294.13(b)(1), timber can only be cut, sold, or removed from IRAs to achieve certain purposes. The Forest Service must disclose

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whether any timber would need to be cut in the Allan Mountain IRA to facilitate this Project, and if so, how this complies with the Roadless Rule.

On August 29, 2025, the Forest Service began the formal process to repeal the Roadless Rule. 90 FR 42179. As of the submission of these comments, however, that repeal is not final, and the 2001 Roadless Rule is still in effect. Although the agency intends to complete the rulemaking process by the end of 2026, a significant amount of uncertainty for roadless area management will persist for some time. It is reasonable to expect that one or more concerned stakeholder will litigate a decision that repeals or significantly weakens the Roadless Rule. Such litigation would likely include a request that the court issue a stay on any Project-level activities contrary to the current rule in IRAs. If granted, that stay could remain in place until the litigation is resolved - likely several years. Given the uncertainty around the management of IRAs, we encourage the Forest Service to analyze this Project under the assumption that the Roadless Rule's direction will remain in effect for the duration of Project implementation.

V. American Indians and Alaska Native Religious or Cultural Sites

The Bitterroot Valley and the West Fork of the Bitterroot River are culturally significant to the Séliš (Salish) People and lie within the ancestral territory of the Confederated Salish and Kootenai Tribes. The West Fork Bitterroot River served for generations as a place to harvest edible valerian root, an important medicinal plant.[21] NEPA analysis under an EA is necessary to analyze the potential direct, indirect, and cumulative impacts of exploration activities within this sacred river corridor, additional sacred and cultural sites, and cumulative effects to cultural uses, ceremonies, and Indigenous Peoples who regularly use this area.

We strongly encourage the Forest Service to fully and sufficiently conduct tribal consultation with the Confederated Salish and Kootenai Tribes to identify, in addition to the West Fork, religious and cultural sites, ceremonies, and uses that may be impacted by the Project.

[21] American Rivers. 2022. Wild & Scenic River Eligibility Report for the Lolo and Bitterroot National Forests. p. 59-60.

Conclusions

CFC and our members believe that this Project does not qualify for a CE due to 1) uncertainty regarding environmental harm 2) exceedance of the one year timeframe allowed for both exploration and reclamation and 3) the existence of numerous extraordinary circumstances. For these reasons, we respectfully submit that the Forest Service must, at a minimum, prepare an EA for the proposed action and, ultimately, must approve the exploration Project and related activities only if the agency is certain that the Project is consistent with the requirements of state and federal law.

Sincerely,

Brian Chaffin, Ph.D.,

Executive Director
Clark Fork Coalition
Missoula, Montana
brian@clarkfork.org
(406) 550-5503

Attached Exhibits

Exhibit A. Analysis prepared by grizzly bear expert Chris Servheen.

Sheep Creek Mine: Impacts on Grizzly Bears, August 2026

Chris Servheen August 2026 chrisservheen@gmail.com

1. The proposed project is at the junction of the eastern edge of the Bitterroot Ecosystem and the connecting habitat between the Yellowstone Ecosystem to the southeast, and the Sapphire Range and the Northern Continental Divide Ecosystem to the northeast. The project is close to MT-ID state line in the main potential connection habitat into the Bitterroot ecosystem from the east.
2. The area of the project has been identified by Sells and Costello (2024)[1] as part of the possible grizzly bear connection habitat into the Bitterroot Ecosystem. The project area is particularly important as grizzly bear connection habitat because it lies at the south edge of the Bitterroot Valley west of low-density human development and settlement along Highway 93 so that bears moving from the east could cross the highway while moving west with minimal human disturbance other than the highway.
3. The most likely route that grizzly bears would take moving from either the Yellowstone ecosystem or from the Northern Continental Divide ecosystem through the Sapphire Range would be moving westward across upper elevations during summer along the MT-ID state line. Grizzly bears often move along ridgelines at higher elevations during summer, especially when lower elevation valley areas have higher road densities than the ridgelines and the traffic volumes are higher on these roads during summer. Such movements would be through areas impacted by this project as shown in Figure 1.
4. Reoccupancy of the Bitterroot Ecosystem will increase to probability of establishing a functional metapopulation in the Northern U.S. Rocky Mountains. A functional metapopulation is one that has movements between the existing separated ecosystems. Connectivity between grizzly bear ecosystems will increase demographic and genetic resiliency and will increase the resiliency of grizzly bears in the Northern U.S. Rockies to climate change. Therefore, preservation and enhancement of connection habitats and connection opportunities is important to maintaining healthy grizzly bear populations south of Canada in the 5% of their historic range in the conterminous United States where grizzlies still live or can exist.
5. The Bitterroot ecosystem in an important nexus for grizzly bear populations in the northern U.S. Rocky Mountains because it exists between the Yellowstone, Northern Continental Divide, Selkirk and Cabinet Yaak and ecosystems. The reoccupancy and

[1] Sells, S. N. and C. M. Costello, 2024. Predicting future grizzly bear habitat use in the Bitterroot Ecosystem under recolonization and reintroduction scenarios. PLOS ONE. 19(9): e0308043. https://doi.org/10.1371/journal.pone.0308043

recovery of grizzly bears in the Bitterroot ecosystem will fill the gap between these ecosystems and allow and facilitate functional movement and interconnectivity between these Northern U.S. Rockies grizzly bears.

6. To maintain the possibility of natural grizzly movement into the Bitterroot Ecosystem, it is important to carefully manage human disturbance in the potential connection areas between the Bitterroot ecosystem and other ecosystems that have grizzly bear populations. The project area along the MT-ID state line west of Highway 93 and between Salmon, Idaho and Darby, Montana is one of the primary connection areas into the Bitterroot ecosystem. This area has long been identified as a connection area between Bitterroot and the Yellowstone and the NCD ecosystems, and it has been identified as a connection area by recent habitat modeling.[1]

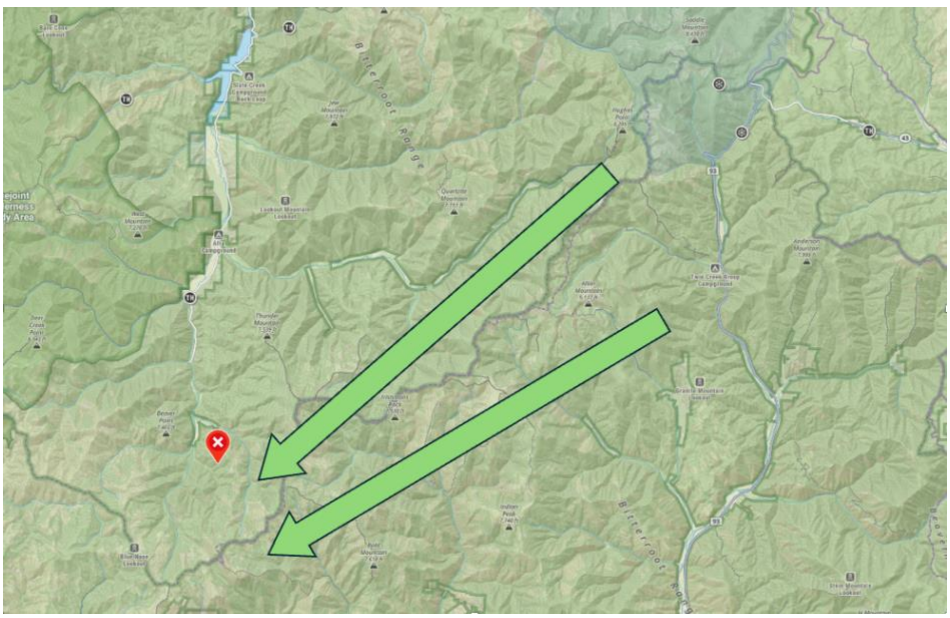

Figure 1. Hypothetical summer travel areas for grizzly bears westward into the Bitterroot Ecosystem from either the Yellowstone or NCDE ecosystems. Project area noted as red waypoint.

7. The Bitterroot ecosystem contains significant and important habitat for grizzly bears but few grizzlies. The reason that grizzlies are gone from this ecosystem are a combination of factors including unregulated killing of bears by shooting, trapping and poisoning and the elimination of spawning salmon. The Bitterroot still contains significant natural foods for grizzly bears despite the elimination of spawning salmon. A wide variety of vegetation types rich in bear foods exist in the Bitterroot Ecosystem. These habitats containing bear foods are well distributed throughout the area and are comparable to occupied habitat in other grizzly bear ecosystems. These habitats would produce adequate sources of known grizzly bear foods,

including elk and deer, small mammals, herbaceous vegetation and tubers, and fruits and nuts.

8. There is currently no known grizzly population in the Bitterroot Ecosystem. However, multiple grizzly bears have been confirmed in areas immediately surrounding the grizzly bear recovery zones over the last 15 years. Multiple verified sightings (Figure 2) have recently occurred in habitats between the GYE and NCDE occupied range and the Bitterroot recovery zone. These verified sightings are concentrated the area immediately east of the proposed project site as shown in Figure 2. The most likely route for these bears east of the project area to move into the Bitterroot ecosystem during summer is along the ridgelines along the MT-ID border adjacent to the project site because of the lower road density and lower levels of present human use along the higher elevation border ridgelines. As current distributions of grizzly bears in the GYE and NCDE continue to expand we can expect increasing numbers of bears to attempt to move into the Bitterroot via the MT-ID border adjacent to the project site.

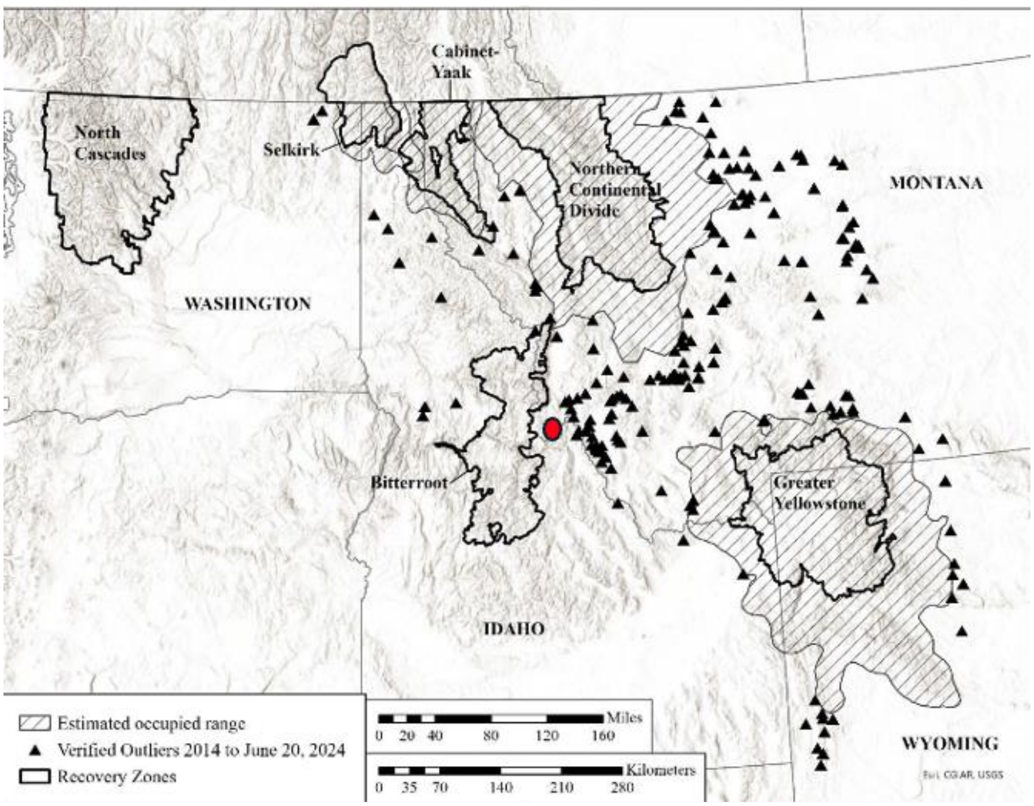

Figure 2. Verified grizzly bear reports shown as triangles between grizzly bear recovery areas. The location of the Sheep Creek project area is shown by a red dot. Data from USFWS, p. 189.[2]

[2] U.S. Fish and Wildlife Service. 2024. Draft Species Status Assessment for the grizzly bear (*Ursus arctos horribilis*) in the Lower-48 States. Version 2.2, October 28, 2024. Missoula, Montana. 398 pp.

9. Key obstacles to grizzly bear recovery in the Bitterroot Ecosystem include 1) loss of habitat security through increased human activity in currently low human use areas, 2) threats to connectivity with other grizzly populations, and 3) increased motorized use in currently non-motorized areas.
10. The Sheep Creek project will increase road use to and from the project site along the existing road from the project area to Connor, Montana. There will also be increased road use and road upgrades or development in and around the Sheep Creek project site area.
11. Potential impacts of increased motorized use on grizzly bears include four factors:
    a. Displacement from important habitats and loss of the resources in near roads for the grizzly bears that do avoid roads and motorized trails.
    b. Fragmentation of habitat due to avoidance of roads or increased mortality near roads resulting in reduced or interrupted movement and isolation and loss of genetic and demographic resiliency.
    c. Direct loss of grizzly habitat as formerly productive habitat is converted to dirt and gravel roads and motorized trail surfaces or productive habitats near roads are avoided by some bears.
    d. Increased mortality due to humans, usually due to indiscriminate shooting from the road either by unscrupulous individuals or as mistaken identity kills by black bear hunters. This mortality risk occurs for those grizzly bears that do not avoid the vicinity of roads and motorized trails.
12. Increased road use and possible road development associated with the Sheep Creek project, and any subsequent development at the site, will increase mortality risk for any grizzly bears attempting to move into the Bitterroot ecosystem in the areas near the project site. This mortality risk is due to increased road use to the site and in the immediate vicinity of the project. It well established that grizzly bears suffer high human-caused mortality in roaded portions of their habitat.[3] Humans are the cause of most grizzly bear deaths.[4] Almost all bears killed illegally or

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[3] McLellan, B. N, and D. M. Shackleton. 1988. Grizzly bears and resource extraction industries: effects of roads on behavior, habitat use and demography. Journal Applied Ecology 25:451–460.
Graham, K., J. Boulanger, J. Duval, G. Stenhouse. 2010. Spatial and temporal use of roads by grizzly bears in west-central Alberta. Ursus 21:43–56. https://doi.org/10.2192/09GR010.1
Mace, R. D., and J. S. Waller, T. L. Manley, L. J. Lyon, and H. Zuuring. 1996. Relationships among grizzly bears, roads and habitat in the Swan Mountains, Montana. Journal of Applied Ecology 33:1395–1404.
Schwartz, C. C., M. A. Haroldson, G. C. White. 2010. Hazards affecting grizzly bear survival in the Greater Yellowstone Ecosystem. Journal of Wildlife Management 74:654-667. https://wildlife.onlinelibrary.wiley.com/doi/10.2193/2009-206
[4] McLellan, B. N. 1989. Dynamics of a grizzly bear population during a period of industrial resource extraction. III. Natality and rate of increase. Canadian Journal of Zoology 67:1865–1868.
McLellan, B. N., F. W. Hovey, R. D. Mace, J. G. Woods, D. W. Carney, M. L. Gibeau, W. L. Wakkinen, and W. F. Kasworm. 1999. Rates and causes of grizzly bear mortality in the interior mountains of British Columbia, Alberta, Montana, Washington, and Idaho. Journal of Wildlife Management 63:911–920.

mistakenly by humans are shot. The reasons for these killings of grizzly bears close to roads include illegal malicious kills; mistaken identity kills by black bear hunters; self-defense kills due to human-bear encounters at ungulate kill sites or in surprise encounters with bears close to roads; bear encounters with unsecured attractants such as human-related foods, foods, garbage and game animal meat in roadside camps; and legal grizzly hunting where such hunting occurs.

13. Road-related mortality is difficult or impossible to regulate as many of these deaths are illegal and/or unreported for various reasons. This means that many human killings of grizzly bears are unknown to wildlife managers, confounding successful management of bear mortalities to sustainable levels. There are a significant number of grizzly bears that are killed by humans in areas close to roads or in backcountry areas that are never reported to management authorities. Since road access is a significant source of grizzly bear mortality, any increase the vehicle use levels of existing roads will result in an increase in grizzly bear deaths, most which will not be reported to authorities.
14. Roads receiving more than 20 or more vehicles per day are usually avoided by grizzly bears.[5] Most grizzly use habitats less than 100 meters from roads less than expected.[6] Some studies have shown avoidance of all roads regardless of traffic volume, while in other study areas where bears were primarily nocturnal, bears were more influenced by traffic volume.
15. Road avoidance is particularly damaging to potential grizzly bear connection areas where roads and associated vehicle traffic will occur in the possible travel routes of bears. Such road use avoidance has the potential to reduce or even eliminate ecosystem connectivity by grizzly bears.
16. The Interagency Grizzly Bear Committee (IGBC) is the committee leading the management of grizzly bears and grizzly bear habitat in the conterminous U.S. The Interagency Grizzly Bear Committee produced a Taskforce Report on the management of motorized access in grizzly bear habitat. This report on grizzly bear/motorized access management was first released in 1994 and revised in 1998[7]. The IGBC recognized that management of roads and motorized access on roads is one of the most important factors affecting habitat security for wildlife in general

[5] Northrup et al. 2012. Vehicle traffic shapes grizzly bear behavior on a multiple use landscape. Journal of Applied Ecology. 49, 1159-1167. doi: 10.1111/j.1365-2664.2012.02180.x

[6] McLellan, B. N, and D. M. Shackleton. 1988. Grizzly bears and resource extraction industries: effects of roads on behavior, habitat use and demography. Journal Applied Ecology 25:451–460.

[7] Interagency Grizzly Bear Committee (IGBC). 1994. Taskforce Report: grizzly bear/motorized access management.

Interagency Grizzly Bear Committee (IGBC). 1998. Taskforce Report: grizzly bear/motorized access management.

and for grizzly bears in particular.[8] The 1998 Taskforce Report recognized that by managing motorized access, the following grizzly bear management objectives can be met:

• Minimize human interactions and potential grizzly bear mortality;

• Minimize displacement from important habitats;

• Minimize habituation to humans; and

• Provide relatively secure habitat where energetic requirements can be met.

Habitat near motorized roads is impacted by the road and the type and duration of human activity on the road. Road impacts to grizzly bears are a combination of both habitat avoidance by bears that avoid roads combined with increased mortality risk for bears that do not avoid roads or become habituated to road use and thus become more vulnerable to mortality because of their habituation. Research in multiple research projects in grizzly bear habitat in the Northern Rocky Mountains has documented that the influence zone of roads extends to 500 meters (1650 feet) on either side of roads.[9] The 500-meter influence zone of a road includes both behavioral avoidance and increased mortality risk. A 2014 study of road impacts on grizzly bears documented that 19 of 22 grizzly mortalities occurred within 500 meters of a road.[10] Only one of the 19 was close to a paved road while all the rest

[8] Mattson, D. J., R. R. Knight, and B. M. Blanchard. 1987. The effects of developments and primary roads on grizzly bear habitat use in Yellowstone National Park, Wyoming. International Conference on Bear Research and Management 7:259–273.
Mace, R. D., and T. L. Manley. 1993. South Fork Flathead River grizzly bear project: progress report for 1992. Montana Department of Fish, Wildlife and Parks, Helena, Montana.
U.S. Fish and Wildlife Service (Service). 1993. Grizzly bear recovery plan. Missoula, Montana.
Christensen, A. G., L. J. Lyon, and J. W. Unsworth. 1993. Elk management in the northern region: considerations in forest plan updates or revisions. General Technical Report INT-303. USDA FS Intermountain Research Station, Ogden, Utah.
[9] Mattson, D. J., R. R. Knight, and B. M. Blanchard. 1987. The effects of developments and primary roads on grizzly bear habitat use in Yellowstone National Park, Wyoming. International Conference on Bear Research and Management 7:259–273.
Mace, R. D., and J. S. Waller, T. L. Manley, L. J. Lyon, and H. Zuuring. 1996. Relationships among grizzly bears, roads and habitat in the Swan Mountains, Montana. Journal of Applied Ecology 33:1395–1404.
Benn, B. and S. Herrero. 2002. Grizzly bear mortality and human access in Banff and Yoho National Parks. Ursus 13:213–221.
Schwartz, C. C., M. A. Haroldson, G. C. White. 2010. Hazards affecting grizzly bear survival in the Greater Yellowstone Ecosystem. Journal of Wildlife Management 74:654-667. DOI: 10.2193/2009-206
Van Manen, F. T., M. A. Haroldson, D. D. Bjornlie, M. E. Ebinger, D. J. Thompson, C. M. Costello, and G. C. White. 2016. Density dependence, whitebark pine, and vital rates of grizzly bears. Journal of Wildlife Management 80:300–321.
[10] Boulanger J, and G. D. Stenhouse. 2014. The Impact of Roads on the Demography of Grizzly Bears in Alberta. PLoS ONE 9(12): e115535. https://doi.org/10.1371/journal.pone.0115535

were proximate to an unpaved forest road. Habitat more than 500 meters from roads is usually considered secure habitat where bears can meet their ecological and behavioral needs without avoiding road activity or suffering increased mortality risk.

17. Another byproduct of the proposed Sheep Creek project is noise produced by actions at the project sites and possible artificial lights used at the sites. Helicopter use is planned extensively in association with this project and helicopter use will generate significant noise at the site and for hundreds of meters all around the project sites. Helicopters will also produce noise below and along helicopter flight paths. Noise pollution represents an invisible source of habitat degradation for wildlife.[11] The noise impacts of this project on multiple species including sensitive bird and mammal species such as grizzly bears should be carefully considered. The introduction of high levels of noise into formerly undisturbed habitat areas will likely have significant negative consequences on the wildlife use of the project area. The impacts of noise produced by these actions will impact the sites and surrounding habitats for hundreds of meters in all directions around project sites and along vehicle and helicopter access routes. Location 2 in the project plan is closest to the ridgeline and possible summer travel use areas by grizzly bears. Helicopter use at this site has high potential to result in avoidance of these areas by grizzly bears attempting to move west into the Bitterroot Ecosystem. Such noise may also alienate multiple other species from these areas.[12]
18. Summary:
    a. Verified grizzly bears have been documented east of the Sheep Creek project area and these bears are likely candidates for possible natural movement into the Bitterroot Ecosystem through habitats in the proposed project area.

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[11] Ware, H.E., C. J. W. McClure, J. D. Carlisle and J. R. Barber. 2015. A phantom road experiment reveals traffic noise is an invisible source of habitat degradation. Proceedings of the National Academy of Science. 112:12105-12109. http://www.pnas.org/cgi/doi/10.1073/pnas.1504710112

[12] Ditmer M. A., C. D. Francis, J. R. Barber, D. C. Stoner, B. M. Seymoure, K. M. Fristrup and N. H. Carter. 2021. Assessing the Vulnerabilities of Vertebrate Species to Light and Noise Pollution: Expert Surveys Illuminate the Impacts on Specialist Species. From the symposium "SICB-Wide Symposium: Blinded by the light: Effects of light pollution across diverse natural systems" presented at the virtual annual meeting of the Society for Integrative and Comparative Biology, January 3–7, 2021. Integrative and Comparative Biology 61:1202-1215. https://doi.org/10.1093/icb/icab091
Zeller et al., 2024. Experimental recreationist noise alters behavior and space use of wildlife. Current Biology 34, 2997–3004. https://doi.org/10.1016/j.cub.2024.05.030

b. The proposed Sheep Creek project will generate significant deleterious impacts on habitats, mortality risk and movement patterns of grizzly bears in the project area.
c. The evaluation of these significant impacts will require an in-depth environmental analysis to understand these impacts and to develop responsible management systems and procedures to attempt to mitigate these impacts and a monitoring system to document any negative impacts.
d. This proposed project has the potential to change or decrease the movements of grizzly bears and increase grizzly mortality risk to grizzly bears in the project area. These impacts on grizzly bears will have an impact on the recovery of grizzly bears in the Bitterroot Ecosystem, especially because there is a concentration of verified grizzly bear sightings east of the project site along the MT-ID state line.

Christopher Servheen, Ph.D.

Missoula, Montana USA

Earned bachelor's degree at the University of Montana, and a master's degree at the University of Washington, and a Ph.D. at the University of Montana working on grizzly bears in the Mission Mountains. Was the U.S. Fish and Wildlife Service (FWS) Grizzly Bear Recovery Coordinator for 35 years until retiring in 2016. During that time, wrote the 1993 Grizzly Bear Recovery Plan and led the grizzly bear recovery program in Montana, Wyoming, Idaho, and Washington. Wrote the original grizzly delisting rule for Yellowstone in 2007 (72 FR14866) and contributed to the Yellowstone delisting rule published in 2016. Was the EIS Team Leader for the Bitterroot Grizzly Bear Reintroduction EIS process. Work involved all facets of grizzly recovery including public meetings and hearings and working with state and federal agencies and the public to build management plans and interagency cooperation based on science and facts. Was invited to testify before Congress in 2023 and 2025 about grizzly bear management and recovery. In 2024, wrote a proposed revision to the 1993 Grizzly Bear Recovery Plan that promoted the idea of managing grizzlies in the Northern Rockies as an interconnected population and submitted it to FWS. Has chaired 8 interagency Boards of Review on human fatalities due to grizzly bear attacks in the lower 48 states. These Boards of Review produce detailed reports on how and why each fatality occurred and produce detailed recommendations on ways to minimize such human fatalities in the future. In the late 1980's, worked in cooperation with WWF on the issue of the trade in bears and bear parts for use in traditional medicine in South Korea, Taiwan, China, Malaysia, Laos, and Thailand. Was a Fulbright Scholar in 1993 working on brown bear conservation in Greece. Was the faculty advisor for 21 graduate students at the University of Montana while they worked on research on bears and other species in the U.S., Greece, Japan, Taiwan, Honduras, Jamaica, Siberia, and Malaysia. Taught International Wildlife Conservation at the University of Montana for 18 years. Is currently the co-chair of the North American Bears Expert Team for the Bear Specialist Group of IUCN.