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Submitted via e-mail Sheep.Creek.Comments@usda.gov

Comments concerning the Sheep Creek Rare Earth Exploration Project

Ranger Pliley and Supervisor Anderson

Please consider these comments submitted by Friends of the Bitterroot, The Montana Chapter of the Sierra Club, Friends of the Clearwater, The Center for Biological Diversity, Bitterroot River Protection Association, WildEarth Guardians, Alliance for the Wild Rockies, Native Ecosystems Council, Conservation Congress, Western Watersheds, and Montana Environmental Information Center concerning the Sheep Creek Rare Earth Exploration Project (Project). Many members of the above listed groups fish and float the Bitterroot River and its West Fork including Painted Rocks Reservoir. They also enjoy wildlife viewing, hunting, hiking, biking, and backpacking in and around the project area. The potential of a headwaters mining exploration project to degrade the water quality of the Bitterroot River and/or its tributaries is of great concern to our members. In addition, the wild character of the Sheep Creek drainage and the Allan Mountain IRA and their value for fish and wildlife, especially Endangered Species Act listed species such as bull trout, grizzly bear, wolverine, Canada lynx, and whitebark pine, are threatened by the extensive industrial activity on site including, but not limited to blasting, drilling, helicopter, truck and UTV use proposed by the plan.

Introduction

Location matters. The Sheep Creek mine could hardly be in a worse place for a mine site. It is at the headwaters of the Bitterroot River in an area with exceptionally rich wildlife habitat from ridgetop to river bottom.

The approximately ten square mile area of the proposed Sheep Creek mine supports iconic species of resident and migrating wildlife, like eponymous rocky mountain sheep, wolverine, elk, mountain goats, and Northern Rockies fisher. It also provides exceptional wildlife habitat suitable for recovery of locally extinct wildlife like Canada lynx and grizzly bears.

The proposed mining location includes a linkage area critical for connected wildlife

Habitat. The US Fish and Wildlife Service's recovery plan for grizzly bears, listed as threatened under the ESA, relies on natural migration into the Bitterroot Recovery Area. The Idaho/Montana state line near Sheep Creek is a wildland migration corridor through the highly populated Bitterroot Valley heading into the US Fish and Wildlife Service designated Grizzly Bear Recovery Area. The proposed mine site spans this at-risk linkage area.

Location at the headwaters of the Bitterroot puts aquatic life, agriculture and the fishing industry downstream at risk.

The Upper West Fork of the Bitterroot River, above Painted Rocks Dam, provides a large refuge of connected habitat for native fish. It contains designated critical habitat for threatened Bull Trout, an ESA-listed species. It also provides for a unique, non-hybridized and genetically diverse Westslope Cutthroat Trout population that has statewide significance. Painted Rocks reservoir, only about 12 miles downstream of the mine site, provides clean, cold late season agricultural and recreational water storage as well as fish habitat and protection from hybridization contamination by fish from downstream.

Putting such place-based agricultural, recreational, and fish and wildlife values at risk is not worth the gamble. Short term exported profit from mining is not sustainable, nor is it fair to the people that will be living in the Bitterroot long after the mine site is polluted and abandoned.

The Project is likely to affect human health. A Health Risk Assessment for known radioactive minerals and likely asbestos must be done prior to ground disturbance.

Proposed Analysis

A recent press release dated July 27, 2026 from the Bitterroot National Forest (BNF) states, "At this time, the Forest Service is analyzing the draft Plan under CE category USDA-32(d)."

At the outset, the agency cannot rely on CE-8 (36 C.F.R. § 220.6(e)(8)), *repromulgated at* 7 C.F.R. § 1b.4(d)(32), as the promulgation of the CE, both originally and recently in its re-promulgated and revised version, did not adequately consider, if at all, the potential significant impacts from use of the mineral exploration CE. This includes the failure to consider the direct, indirect, and cumulative impacts, and their potential significance, of "mineral, energy, or geophysical investigations and their incidental support activities" under the using the CE on public lands in the western states (and across the country). A federal court recently invalidated and vacated the Forest Service's use of a CE (in that case, for timber projects) for initially failing to consider

the impacts from promulgation and use of that CE, and for failing to support the promulgation and use of the CE with reasoned decision-making under the APA. *Oregon Wild v. Forest Serv.*, 819 F.Supp.3d 1185 (D. Or. Jan. 13, 2026), Clarified on Denial of Reconsideration by *Oregon Wild v. U.S. Forest Service*, 2026 WL 916346 (D. Or., March 16, 2026).

Based on the submitted plan of operations, and agency mining regulations, the Project cannot fit under any applicable Categorical Exclusion (CE), including the strict time limit and operational restrictions contained in Categorical Exclusion CE-8/32, which applies to "[s}hort-term (1 year or less) mineral, energy, or geophysical investigations and their incidental support activities." 36 C.F.R. § 220.6(e)(8), *repromulgated at* 7 C.F.R. § 1b.4(d)(32).

Also, based on the proposed project, and its significant impacts to important environmental resources, such as listed species, the specially designated Allan Mountain IRA, cultural/historical sites/areas, floodplains/wetlands, and other "extraordinary circumstances" listed at 7 C.F.R. §1b.3(f), the agency cannot apply any CE and must prepare, at a minimum, a draft Environmental Analysis (EA) for public review and comment.

An EA would be the bare minimum. Considering these extraordinary circumstances including the adverse impacts to ESA listed species, to the specially designated Allan Mountain Inventoried Roadless Area (IRA), to the connectivity necessary for grizzly bear recovery, to the areas contribution for connectivity of ESA listed Canada lynx and wolverine, and to the communities and economies that rely on the watershed of the Bitterroot River, as well as the likely damage to a pure strain of Cutthroat trout, an Environmental Impact Statement (EIS) must be required.

Given the concerns raised below, it is impossible to argue that significant environmental effects will not occur if this project moves forward. Therefore, a CE should be neither considered nor provided to USCM. USCM already attempted to circumvent MTDEQ authority, by requesting an exemption which the DEQ denied saying that the Metal Mine Reclamation Act applies to all exploration and mining activities, and the company's argument that a small disturbance doesn't count "ignores the plain reading of the statutory text" (See Daily Montanan, July 2026). There is no evidence to support the contention that USCM has the expertise or ability to undertake exploratory mining operations in a way that will be impact-free. An EIS at this stage should be considered a part of doing business for USCM, and no work should commence on site until the necessary approvals are in place. It is unclear as to why the FS wants to give this company a free pass to pollute.

Need for an Environmental Risk Assessment

Given the geologic nature of the Sheep Creek area and the association of thorium and uranium with rare earth deposits, there is legitimate concern that some forms of arsenic and asbestiform

actinolite may be present. Thorium or uranium are known to occur in both mineralized and waste rock excavated from the site. The Plan of Operations (PoO) states that aerial transport of mineralized rock (PoO pg 7) will occur in bags, with uncertain air tightness and therefore threatens to deposit dust across the site. Transfer from bags to trucks presents another opportunity for dispersion of such minerals in the West Fork Bitterroot watershed. Additionally, the sufficiency of sealing of transported minerals to unnamed sites for analysis is not evident from the PoO. Sealing of such loads will be mandatory due to possible asbestos, known radioactive minerals or arsenic (and any other toxics) are present in the mineralized rock samples.

The Project lacks any discussion of occupational safety issues and protocols related to handling REEs. It is interesting that the Project, under the sub section G., Hazardous Substances, in which it was asked to identify the type and volume of all hazardous materials and toxic substances that will be "used or generated" in the operations, lists only those being used such as fuels, gasoline, and equipment maintenance and waste procedures, and drilling and blasting related fluids, etc. and their volumes, etc. (Pg.17). The Project completely fails to mention any of the hazardous materials being generated in the operation, especially in the production of waste rock and mineralized ores, that could include lead and other heavy metals, arsenic, selenium, asbestos, rare earth elements and even radioactive materials, all of which constitute potential human health hazards.

In the 286-page Project, included 217 pages with data about all the hazardous substances that they intend to use, describing in detail the expected volumes, identifying the hazards, describing physical and chemical properties and composition information on ingredients, first aid measures, handling and storage precautions, exposure controls and personal protection, disposal considerations, regulatory information, and potential negative impacts on aquatic organisms, vegetation, and human health. But there is not a single page of discussion or data concerning the hazardous substances that will be generated on the site contained in the fractured waste rock and mineralized ore being produced.

From decades of mining in Montana, a lot is known about the hazardous substances produced by mining in terms of lead and other heavy metals and the kind of contamination and health hazards they precipitate. So far Montana hasn't permitted a single Rare Earth Element mine. There is only one productive Rare Earth Element mine active in the U.S. We know from that endeavor and from similar mines elsewhere in the world, that rare earth elements are hazardous to human health.

Each element is hazardous in varying degrees and impacts human health in various ways. Several of these elements have been identified by USCM as target elements found in its Sheep

Creek Project sampling to date, including Gallium, Neodymium, Praseodymium, Scandium, Samarium, Lanthanum, and Cerium.

If the Bitterroot National Forest intends to allow U.S. Critical Materials to mine 3,000 tons of ore containing REEs in the headwaters of the Bitterroot River, it is imperative they conduct an Environmental Risk Assessment (ERA).

The concentration of these elements in the waste rock and in the mineralized ore must be determined in advance of any ground-disturbing exploration or mining. The expected volumes to be produced need to be disclosed, and an ERA needs to be conducted. An ERA examines processes, emissions, the spread of contaminants, and exposures to humans and biota. It is a systematic procedure for predicting potential risks to human health or the environment. A complete ERA process includes both ecological and human health risk assessments and the preceding assessment of hazards and the related exposure concentrations. A model for this type of assessment has been developed which consists of both ecological and health risk assessments that are preceded by an examination of the exploration and mining processes, emissions, the transport of contaminants and the resulting concentrations in the surrounding media.

There is an international radioactive waste classification scheme and a safety guide defining six levels of risk ranging from Exempt waste to High Level waste. What level of waste is expected from the Sheep Creek Mine?

Elevated concentrations of REEs may also cause toxic reactions and negative effects on plants. Is the dust control adequate? What impact will dust control have on surrounding soils and vegetation at the adit pads and the loading site near the bottom of Sheep Creek where ore and mine waste will be stored prior to loading for off-site transportation?

It is necessary to determine the concentration levels for all the individual metals and REEs in the deposit to make any reasonable determination of the health risks involved at every stage of this project; as well as a detailed plan for handling them throughout the process, from tunneling to extraction, delivery to the lab, undisclosed construction sites, or off-site storage areas.

Drilling lubricants and hole conditioning polymers are hazardous to human health. Lubricants and hold conditioning polymers and other conditioners will be used to drill at depth and are likely to enter the water table. Will these introduce “forever chemicals” or microplastics to waterways? How will that affect fisheries, watersheds, and human health? The DEQ recently found “forever chemicals” in fish and waterways in Montana (DEQ 2026).

This Project discloses significant foreseeable human health risks and makes it impossible to determine the degree of significance involved without conducting an ERA before any ground is disturbed.

Fire risk

The Project states that the project will use wildfire prevention measures and fire suppression equipment. That general statement is not enough for industrial work in a dry, remote drainage using helicopters, fuel, generators, saws, drilling, equipment, and blasting materials.

The Forest Service should require:

- A site-specific wildfire prevention plan.
- Daily fire-risk restrictions.
- Shutdown rules during red flag conditions.
- Spark-arrestor and equipment inspection requirements.
- Emergency water and fire tools at every active site.
- Coordination with local fire departments.
- A bond or financial assurance that covers firefighting costs and damage from project-caused fire.

Allan Mountain Roadless Area

The Project proposes to drill core holes at Location #2, inside the Allan Mountain IRA. Exploration activities at Locations #2 will involve surface drilling using a diamond drill rig, powered by a portable generator. Before exploration, brush/debris at Location #2 will be selectively removed to facilitate access to the work areas. The Project states:

> *Exploration at all locations will begin with construction of one 16' x 16' timber helicopter landing platform (as described in detail above). At Location #2, the helicopter landing platform will be constructed on a ridge in an existing clearing at the end of Forest Service Road No 5677. One 30' x 40' drill pad and one 30' x 40' laydown area will be sited on flat, unvegetated surfaces in the same clearing adjacent to the helicopter landing platform; little to no surface preparation is anticipated – equipment and materials will be placed on existing ground. The drill pad and laydown area will serve as staging areas for the equipment and materials listed in Section IV.E (below). One 10' x 10' sump will be excavated to six feet deep adjacent to the drill pad; excavated soil material will be staged on the drill pad or laydown area for future use in reclamation.*

In the Allan Mountain IRA, the plan is to run UTVs and helicopters to and from the site. This constitutes significant, adverse impacts to the Allan Mountain IRA, an extraordinary circumstance. Running UTVs to and from Location #2, bulldozing a helicopter landing site, running multiple helicopter flights, and bringing in a drill rig would harm the Roadless area quality. The BNF must manage the Allan Mountain IRA for eventual inclusion in the Wilderness system.

The Project proposes to enlarge an existing adit in the Allan Mountain Roadless Area, drill within the adit and to run UTVs and helicopters to and from the site. This constitutes an extraordinary circumstance. The historic road leading to that adit is currently not passable. Running UTVs to and from the adit on that road or offroad, bulldozing a helicopter landing site, running multiple helicopter flights, and bringing in a drill rig would harm the Roadless area quality. The BNF must manage the Allan Mountain Roadless area for eventual inclusion in the Wilderness system.

Maintaining roadless habitat can reduce wildfires. Roads contribute to an increase in fire by facilitating human access. Humans caused 84% of wildfires from 1992-2012 and lengthened the fire season threefold (Balch et al 2017). A study on wildfires from 2012-2018 found that 'human-caused fires occur under significantly more extreme fire weather than lightning-caused fires" (Hantson et al 2022, p 4). Aplet et al 2026 found that "ignition density is higher near roads" and new road construction is "likely to increase fire ignitions" (p 6). Bradley et al 2016 analyzed 1500 fires from 1984 to 2014 and found that roadless landscapes experienced less fire severity despite higher forest density.

Preserving roadless landscapes protects water quality, streams, and fisheries. Nearly 20% of the nation's water supply comes from public lands. Roads increase erosion and sediment loadings and change the runoff characteristics of watersheds (Furniss et al 1991). Grace 2002 found "roads alone can increase erosion rates and turbity three orders of magnitude greater than the undisturbed forest condition" (p 13). Sedimentation in streams degrades water quality and habitat for native fish (Dunham and Rieman 1999). Sedimentation not only affects water quality it also affects spawning, incubation and the rearing of juvenile fish. Jones et al 2000 found that roadless areas increase watershed ecosystem resilience.

Protecting roadless habitat makes good fiscal sense. The Bureau of Land Management and the Forest Service manage 75,000 and 386,000 miles of roads respectively. Currently, they suffer from a 10 billion dollar backlog of road maintenance costs (GAO report 2024). Preserving roadless areas and reducing roads saves money, protects wildlife, and protects public resources.

Wildlife

Project activities will have deleterious effects on all wildlife including ESA listed and sensitive species. Operating 12 hours/day, seven days/week will be tremendously disruptive to all wildlife. The operation of helicopters, trucks, UTEs, and explosive materials for 12 hours per day is highly likely to interfere with normal wildlife behavior such as foraging for food, resting, reproducing, and moving through the area. The plan envisions diamond-core drill rigs and diesel generators operating 12 hours per day, 7 days per week, for months on end. Given the sensitivity of many of the wildlife in this wild remote area, this kind of activity will be disruptive and harmful and the Forest Service must do a thorough review of the impacts to the abundant fauna in the area, including species protected under the Endangered Species Act. The BNF must consult with the USFWS on the impacts from this proposed project on the ESA-listed species present in the area. No activity may occur until that consultation has occurred.

Gaynor et al 2018 found that wildlife of all types shift to nocturnality in areas of high human disturbance with deleterious results, "…animals often decrease their overall activity throughout the 24-hour period in response to human disturbance, spending more time resting and less time foraging or engaging in other fitness-enhancing behaviors (21)" (p 2).

The PoO lists general wildlife measures: food storage, wildlife-proof containers, temporary fencing around sumps, daylight helicopter operations, and notice to the Forest Service and the public if grizzly bear, lynx, wolverine, or other species are observed. Those measures are inadequate and at the very least need stronger conditions.

The Forest Service should require:

- All adit gates are bat-friendly.
- Sump fencing must be wildlife-safe.
- Seasonal limits to operations for the protection of bears, elk, nesting birds, and other sensitive species.
- Required shutdown if grizzly bears or other sensitive wildlife are observed near work areas.
- The elimination of all wildlife attractants.
- Wildlife monitoring by an independent group.
- Immediate public reporting of wildlife incidents.

Birds

Bald Eagles, Golden Eagles, and Peregrine Falcons are documented nesting in the West Fork Bitterroot and especially sensitive to helicopters during their breeding seasons. During spring and autumn thousands of eagles, hawks, falcons and waterfowl migrate through Bitterroot

National Forest. Solely Isolated analysis of site-specific effects of exploration activities is not acceptable if resource integrity and biological diversity are of any concern. A full analysis of species present, time of season, habitat types, etc. must be conducted before decision. Compliance with the Migratory Bird Act and the Eagle Protection Act is required.

Northern Rockies Fisher

Northern Rockies fisher have been detected in the BNF and the West Fork area. Fisher are sensitive to helicopter noise, chemicals in ground water and streams, UTV use, and habitat fragmentation by human activity and vegetation removal. Surveys for Fisher in the area must be completed. Direct, indirect, and cumulative effects of Project activities on Northern Rockies Fisher must be fully analyzed and disclosed.

Big Horn Sheep

Big horn sheep are present in and around the area. Big horn sheep are sensitive to helicopter activity and habitat fragmentation by Project activities. Direct, indirect, and cumulative effects of Project activities on big horn sheep must be fully analyzed and disclosed. Affects to hunter opportunity must also be considered as tags for big horn sheep are highly coveted.

Mountain Goats

Mountain goats have been detected in and around the Project area. Mountain goats are highly sensitive to Project activities and they are becoming scarce on the Montana landscape. Cote 1996 found, "Helicopter flights caused the disintegration of social groups on 25 occasions and resulted in 1 case of severe injury to an adult female" (abstract). Direct, indirect, and cumulative effects of Project activities on mountain goats must be fully analyzed and disclosed.

Canada Lynx

When Canada lynx (lynx) were listed as a threatened species under the ESA in March, 2000, FWS determined the lack of regulatory mechanisms, specifically the lack of direction for lynx management in forest plans and resource management plans was the most significant threat to the species. But today, 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 (and other activities on public land) and wildfires. Other threats to lynx occur from trapping, illegal shooting, disturbance from recreation, development, and vehicle collisions.

The current total population estimate – which is merely a best guess – is that fewer than a 1,000 lynx currently inhabit the entire contiguous United States. About half of those lynx are in Maine,

approximately a 100 in the southern Rockies, smaller numbers in north-central Washington and northeast Minnesota, and the remainder (approximately 300) in Montana.

Trapping records from the Montana Department of Fish Wildlife and Parks ("MFWP") and the published literature (McKelvey (2000)), suggests 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.

In Montana, for instance, more than twenty years of trapping records, occurrence reports, and snow track surveys from MTFWP reveal lynx distribution was widespread with verified occurrences "throughout the majority of the predicted lynx habitat" in the state. Montana reported lynx were once "considered common throughout the western part of the state," as revealed by Montana's own trapping maps. Indeed, Montana's trapping records also reveal hundreds of lynx were routinely killed each year (including 380 in 1963 and 300 in 1972) in western Montana.

A biological information report generated by Montana in 1977 estimated that the statewide population in Montana alone was somewhere between 1,750 and 2,400 individuals. In 1994, Montana estimated the lynx population to be roughly "700–1,050 animals." Montana also explained in 1994 that an increasing number of lynx reports are being received each year and that an assessment of the state-wide population reveals a "large distribution" within the state's montane forest ecosystem. The population was deemed "dynamic" (with population fluctuations over time) but "presently stable to increasing."

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.

Given the declining population of lynx, is thus imperative that the Forest Service take lynx conservation and impacts to lynx and lynx critical habitat from projects like the proposed Sheep Creek mine project seriously and take a hard look at the direct, indirect, and cumulative effects to lynx and engage in formal consultation on lynx and lynx critical habitat.

Recent satellite imagery, along with field or on-the ground data on forest structure and successional stages, which are extremely important to lynx and evaluating the effects to lynx and lynx habitat should be used to establish a baseline for the lynx population and to determine compliance with the Northern Rockies Lynx Management Direction ("NRLMD") adopted by the Forest Service in 2007.

Section 7 consultation on lynx and lynx critical habitat is required *before* project implementation and *before* any irreversible or irretrievable commitment of resources are made.

Based on our very limited knowledge, the proposed mine would likely "change lynx habitat," resulting in the loss of important understory vegetation and the removal of forest 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). None of these effects are "beneficial," "insignificant" or "discountable." For this reason, the Forest Service must initiate and complete formal consultation under Section 7 of the ESA on lynx *critical habitat* and obtain a biological opinion and related ITS from FWS.

Wildfires, beetle outbreaks, incidental take from trapping, logging and prescribed fire projects, recreational activities, state and private land activities and development, existing high road densities, climate change, mining projects, and grazing are collectively resulting in cumulative effects to lynx, lynx habitat, lynx critical habitat, and connectivity for lynx. Therefore, the best available science on lynx should be used to ascertain the threats and habitat needs of lynx, lynx conservation, and the importance of the Bitterroot Forest to the species and its recovery in the lower 48 States. The FWS's most recent 2017 species status assessment ("SSA") for lynx and the updated 2023 addendum to the lynx SSA should be used to inform this assessment.

In addition, the Forest Service must demonstrate and ensure compliance with the NRLMD, including but not limited to the components that pertain to mineral and energy development, including the "Human Use" ("HU") components, Linkage Area components, and Standard ALL S1 directing to agency to ensure habitat connectivity in LAUs and linkage areas is maintained.

The limited information that exists reveals the project – when combined with other state, private, and federal activities (past, present, and reasonably foreseeable ones) – is likely to undermine this area's ability to provide for connectivity for lynx and other species (including grizzly bears and wolverine) in violation of ALL S1 as well as forest-plan components which directs the agency to ensure the landscape provides habitat connectivity for wide-ranging species, including grizzly bears, lynx, wolverine and other species between public lands in northern Montana and those in southwestern Montana, including lands within the GYE.

The BNF must disclose the lynx habitat map used for analysis and how and when it was created. A map of snowshoe hare habitat must also be disclosed and analyzed for overlap and proximity to the proposed action area. Effects of climate change must be analyzed and disclosed as climate plays a role in Lynx recovery as well as all listed species in the area.

The Biological Assessment for Canada lynx documents the importance of peripheral areas as:

> *Peripheral populations may contain valuable genetic, physiological or behavioral adaptations that are unique to their ecological success. Because suitable habitats in areas where populations act as metapopulations are spatially separated, the persistence of a metapopulation is dependent on the efficiency and success of dispersing animals in reaching isolated patches of suitable habitat. When patches are fragmented and connections between patches do not exist, recolonization becomes problematic and the metapopulation may be unable to persist, even though patches of suitable habitat remain (Meffe and Carroll 1997). (USDA Forest Service 1999, p. 149)*

The UDSA Forest Service 1999 historical lynx habitat map (Figure 1) shows that the Bitterroot National Forest area has housed lynx in the past and the currently occupied and unoccupied habitat shows referenced link of currently occupied and unoccupied habitat shows there are core and peripheral or linkage areas. Ruggierio et al 1999 also discuss the effects of fragmentation on competition with lynx by other carnivores and the loss of connectivity. The linkage areas and peripheral areas of lynx habitat will be affected by the project.

> *Dispersal to distant islands from other islands with small populations is unlikely, and even successful dispersal frequently will not result in successful colonization. Population size, distance, and barriers to dispersal between islands are therefore critically important to the stability of the metapopulation,* ***it is therefore critically important to maintain or increase the carrying capacity of all areas capable of supporting lynx.*** *(emphasis added, p 452).*

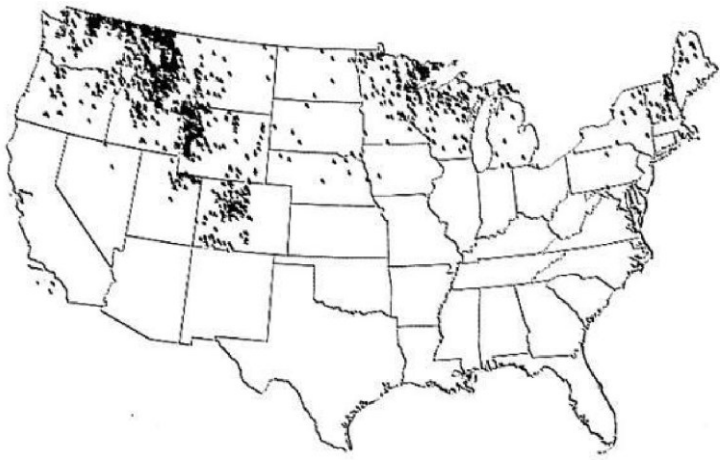

Figure 1. Historical Canada lynx habitat USFWS

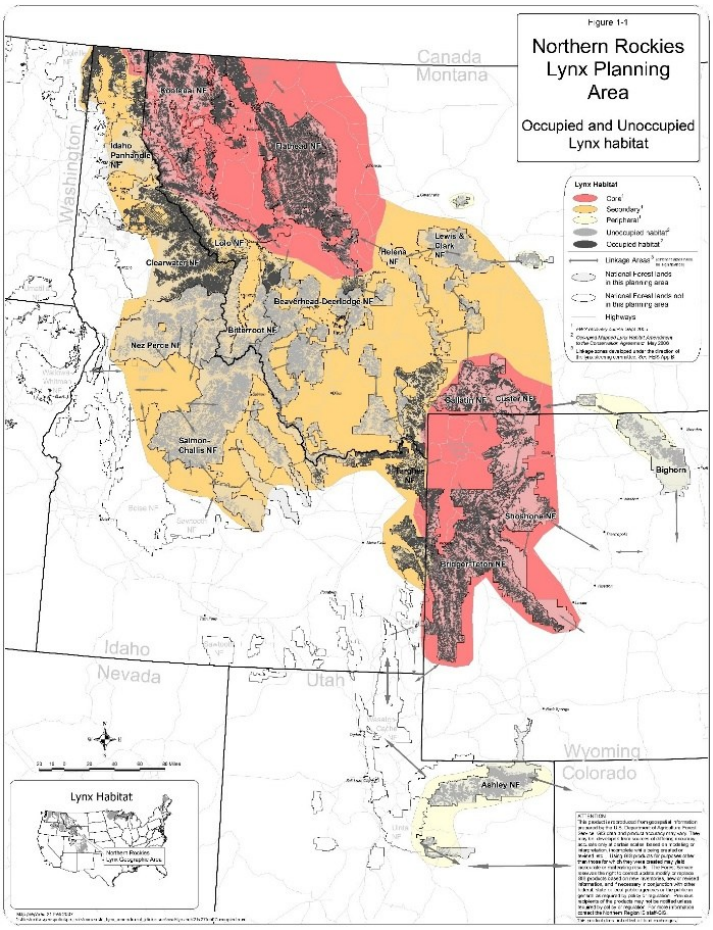

Figure 2: Lynx planning area USFWS

The importance of stepping stone areas to species in a changing climate is demonstrated in Saura et al 2014:

> *Synthesis and applications. Previous static connectivity models seriously underestimate the importance of stepping-stone patches in sustaining rare but crucial dispersal events. We provide a conceptually broader model that shows that stepping stones (i) must be of sufficient size to be of conservation value, (ii) are particularly crucial for the spread of species (either native or invasive or genotypes over long distances and (iii) can effectively reduce the isolation of the largest habitat blocks in reserves, therefore largely contributing to species persistence across wide spatial and temporal scales.*

As shown in the Western Wildway Map (Figure 3), the Bitterroot National Forest, and the Beaverhead National Forest are a part of the Continental Corridor connecting Mexico to Alaska, and the regions of that corridor being addressed by scientists and advocates of connectivity for wildlife. This represents a conservation biology approach to landscape conservation which emphasizes linkage zones and connectivity for Canada lynx and other species. The Revision of Critical Habitat abandons these conservation biology principles and connectivity linkage zones.

By excising the BNF and the BDNF from primary and secondary habitat designation, the proposal completely ignores the importance of peripheral and connectivity areas.

Figure 3: Western Wildway Map: Connecting and Restoring the Spine of the Continent

A recent report, Carter 2026 (Exhibit A) found that the BNF houses over 60% high and moderate lynx habitat (Figure 4) as opposed to recent habitat assessments by agencies. Lynx habitat and their primary prey snowshoe hare habitat is in and around the Project area and should be protected.

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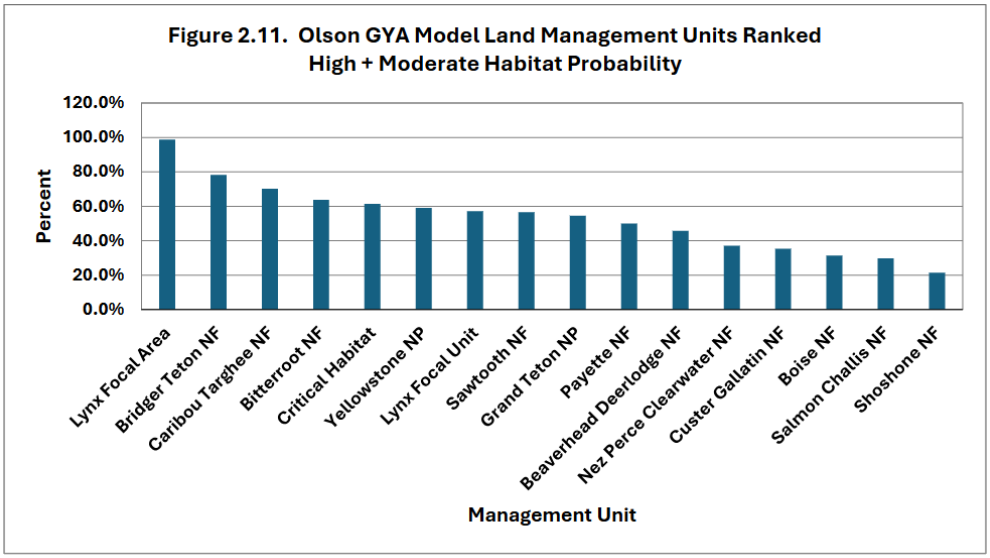

Figure 4: high and moderate lynx habitat by forest from Carter 2026 Exhibit A

A “hard look” must be conducted of habitat fragmentation, corridor functionality, vegetation treatments, proposed road “variances”, road density, snowmobile use, illegal motorized use, and motorized activity, trapping and other human activity enabled by the Project. Direct, indirect, and cumulative effects of project activities to lynx and lynx habitat must be analyzed and disclosed.

Surveys must be conducted before activities. Squires et al (2010) studied lynx in the Swan River drainage near Seeley Lake, Montana. The area was bordered by the Mission Mountain and Bob Marshall Wilderness areas. See Figure 5 for a map illustrating how studies or areas accessible to people can result in more observations compared to areas such as wilderness where human presence is low in winter. Does this mean, therefore, that the wilderness is not a suitable habitat? Or that more people with their associated impacts need to be present to document lynx? This speaks to the need for surveys in and around the project area before activities occur.

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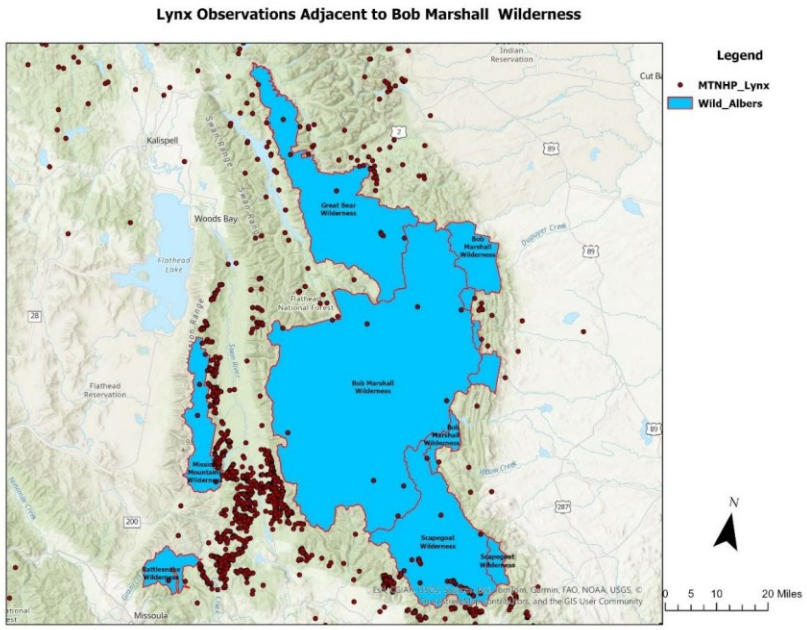

Figure 5: Lynx sightings in the Bob Marshall Wilderness from Squires et al 2010

Since the publication of foundational scientific documents such as *Ecology and Conservation of Lynx in the United States* (Ruggiero et al. 1999), snowmobile and off-road vehicle use has expanded. Even in 1999, the report contends that earlier conclusions minimizing road and recreation impacts are no longer valid under present-day use levels.

The BNF must consult with the USFWS on the impacts from this proposed project on Canada lynx, their recovery, and their habitat. The biological assessment and biological opinion must be disclosed to the public before decision, No activity may occur until that consultation has occurred.

Grizzly Bears

Sheep Creek is the gateway to a key grizzly bear recovery zone. With climate change affecting habitat and food sources, and the USFWS seeking to rollback key protections such as those associated with 4(d) rule, bears are at greater risk, with the potential to reverse 50 years of conservation success. The planned helicopter flights and UTV use will further reduce the functional value of the corridor for use by grizzlies at an important time during their recovery…just as they are arriving.

While the Bitterroot Ecosystem Recovery Area (BE) is not occupied, verified grizzly sightings have occurred in recent years in and around the BE. Siting a mine at a key gateway for connectivity to the BE will greatly impede, if not completely prevent species recovery, and will severely impact long term genetic diversity by limiting the corridors for bear connectivity across

the larger ecosystem. Project analysis must take a hard look at effects of project activities to grizzly bears and grizzly bear recovery.

The BNF must analyze and disclose direct, indirect, and cumulative effects of project activities to grizzly bears, grizzly bear habitat, and grizzly bear recovery. The BNF must consult with the USFWS on the impacts to the grizzly bear and grizzly bear recovery from this proposed project. No activity may occur until that consultation has occurred.

The Biological Assessment and the Biological Opinion must use the best available science to analyze effects to grizzly bears and grizzly bear core habitat including minimum patch size. Research by Mace et al. (1996) in the Northern Continental Divide Ecosystem (NCDE) showed greater use in patchers of secure habitat more than 2,500 acres in size. Michael Proctor 2019 literature review concluded that secure habitat should be maintained in minimum patch sizes of ten square kilometers (more than 2,471 acres). Gibeau et al. measured secure habitat in minimum land sizes of more than nine square kilometers (about 2,224 acres) based on an adult female grizzly bear's daily foraging radius. Wayne Wakkinen and Wayne Kasworm's attempt to identify minimum secure habitat polygon sizes for grizzly bears in the Selkirk and Cabinet-Yaak Ecosystems was hampered by small sample sizes, but they nevertheless concluded that "if a minimum size occurs, it is likely between 2 [square miles (1,280 acres)] and 8 [square miles (5,120 acres)]," and further noted that—even then—"[n]arrow strips of core habitat that may fit some minimum size criteria likely will not provide effective core habitat for bears."

The best available science reveals that motorized access and roads – including temporary and closed roads - into areas used and occupied by grizzly bears is the most serious threat to the species in the lower 48 States, *see also WildlEarth Guardians v. Steele*, 545 F. Supp. 3d 855, 860 (D. Mont. 2021) (discussing the threats to grizzly bears from roads).

Mattson 2024 found that motorized access and roads impact grizzly bears by increasing mortality risks through interaction, displacing bears from important habitat, increasing habituation to humans, and decreasing available habitat where energetic requirements can be met. Roads may also "disrupt breeding behaviors by discouraging female bears to travel, feed, or shelter in high-density road areas." *Steele*, 545 F. Supp. 3d at 860 (citing literature).

In addition to issues related to connectivity and the patch size needed for effective grizzly habitat, a permanent human presence in the area for 90 days each summer will be detrimental to any grizzlies entering the area due to increased vehicular mortality, increased possibility of poaching, and increased grizzly-human conflicts. Given the listed status of grizzly bears, embarking upon a mine exploration project absent analysis and a bear management plan appears to be both arbitrary and capricious.

Grizzly bears (*Ursus arctos*) once ranged throughout most of western North American, from the high Arctic to the Sierra Madre Occidental of Mexico, and from the coast of California across most of the Great Plains. Prior to European settlement, scientists believed that approximately 50,000 grizzly bears occupied the western United States between Canada and Mexico. With European settlement of the American West and a federally funded bounty program aimed at eradication, grizzly bears were shot, trapped, and poisoned, reducing the population to just 2 percent of their historic range. As a result of its precipitous decline, FWS listed the grizzly bear as a threatened species in the lower 48 states under the Endangered Species Act in 1975. Today scientists estimate there are approximately 1,800 grizzly bears left in the lower 48 states, occupying five isolated populations. The Grizzly Bear was listed partially due to isolation and populations in the contiguous U.S. remain isolated (USFWS 2021). None of the Recovery Areas are large enough to independently support a viable population so that linkage of the isolated grizzly bear populations into a genetically-diverse metapopulation (as defined by Hanski and Gilpin 1991) would increase the probability of long-term survival (Allendorf et al 2019; Boyce et al 2001; Servheen and others 2001; Craighead and Vyse 1996).

The Sheep Creek claims sit astride the ridge that serves to join the Greater Yellowstone Ecosystem Recovery Area to the BE for the grizzly bear. As a federal agency, the Bitterroot National Forest has a duty to conserve listed species under Section 7 of the Endangered Species Act. This includes a duty to promote recovery as well as mere survival.

The region of the Bitterroot Range through which daily helicopter flights (PoO pg 7) will occur for 60-90 days in each of 2026 and 2027 (PoO pg 7) is identified as a critical area for grizzly bear connectivity (Sells et al 2023) (Figure 6).

Continued on next page.

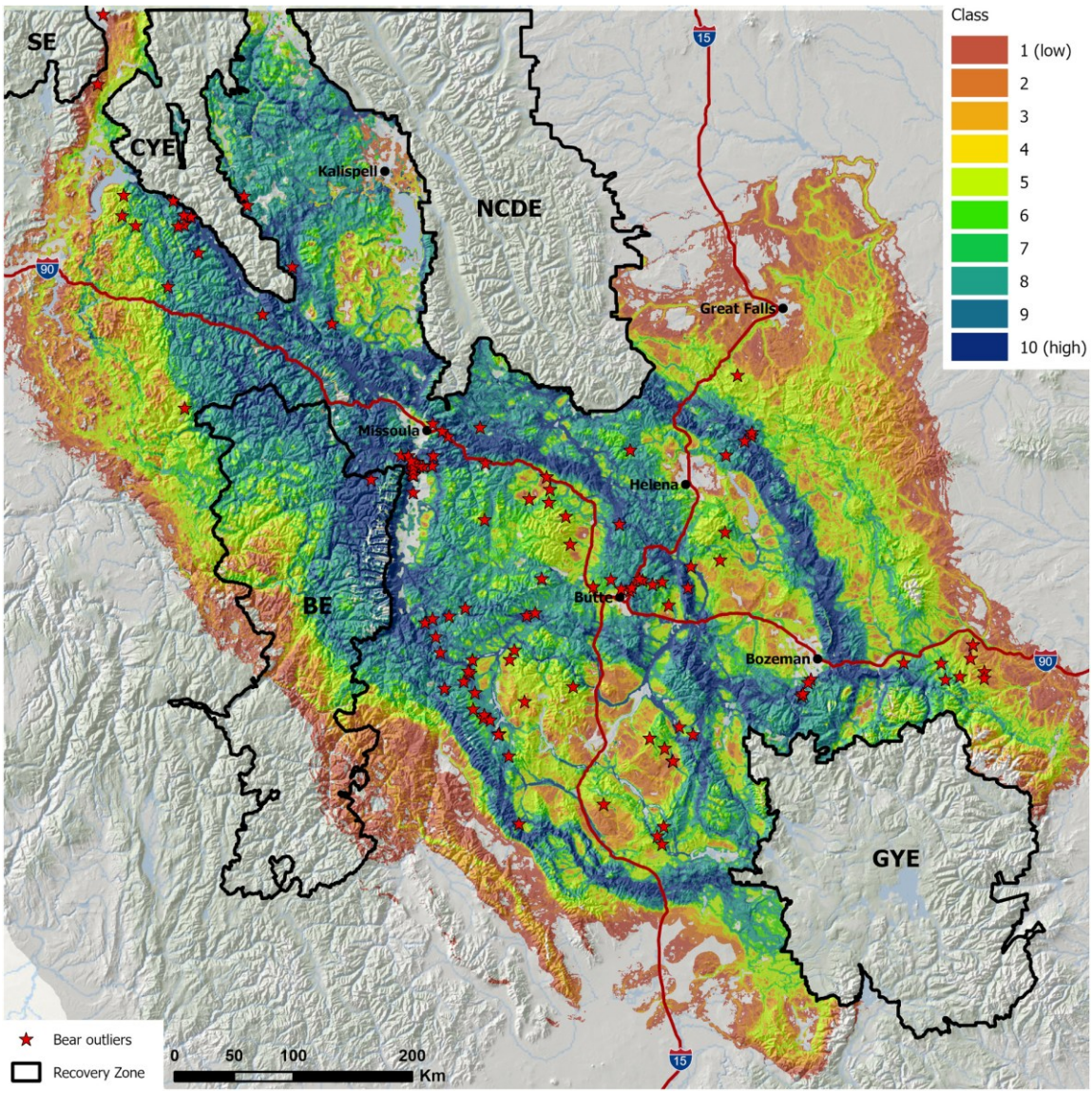

Figure 6: "Predicted Connectivity Pathways between grizzly bear ecosystems in Western Montana" Sells et al 2023. "Prediction of female grizzly bear connectivity pathways in western Montana, summarized from 5 sets of directed (randomized shortest path) movement simulations using start and end nodes associated with routes of NCDE-BE and GY-BE."

Figure 7 is a close up of the Sells map with the approximate mine area circled. Note the sightings of grizzly bears (red stars) are pointing toward the Sheep Creek Mine area.

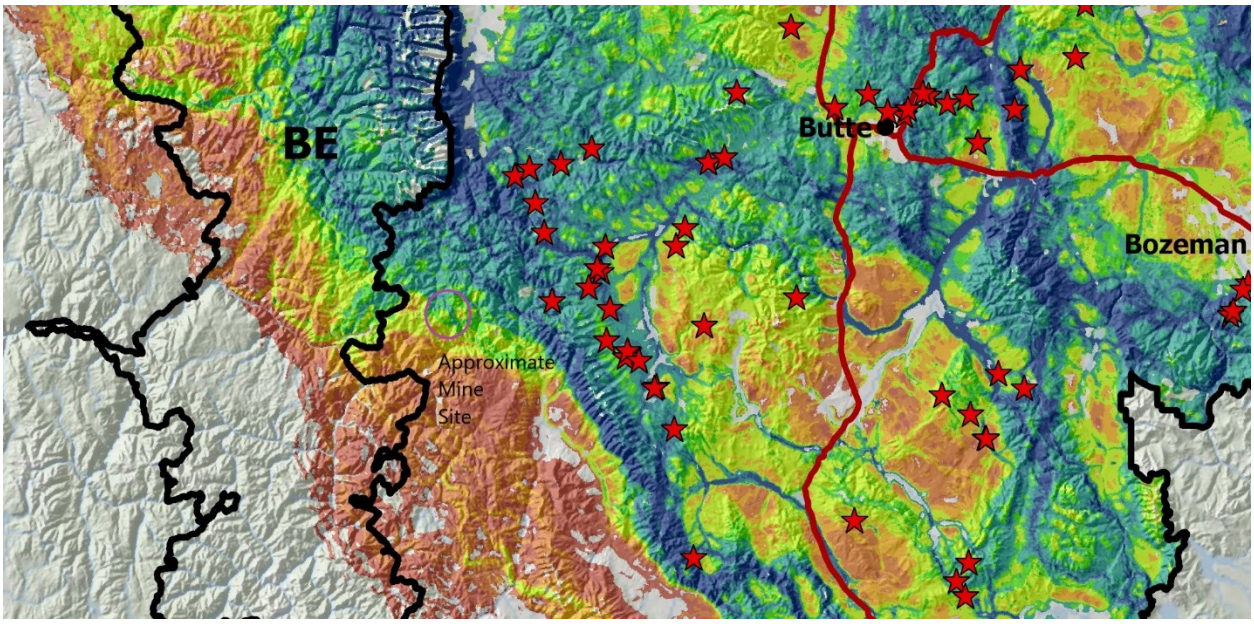

Figure 7: Close up of the Sells 2023 map with a red circle around the proposed Sheep Creek mine area. Red stars are verified grizzly bear sightings.

We incorporate by reference the comments submitted by Chris Servheen on the Sheep Creek mine (Exhibit B). Please consider these comments. Servheen discusses effects to grizzly bear due to Project activities. Servheen also provides a graphic showing Sells pathways directed toward the Sheep Creek mining claims (Figure 8).

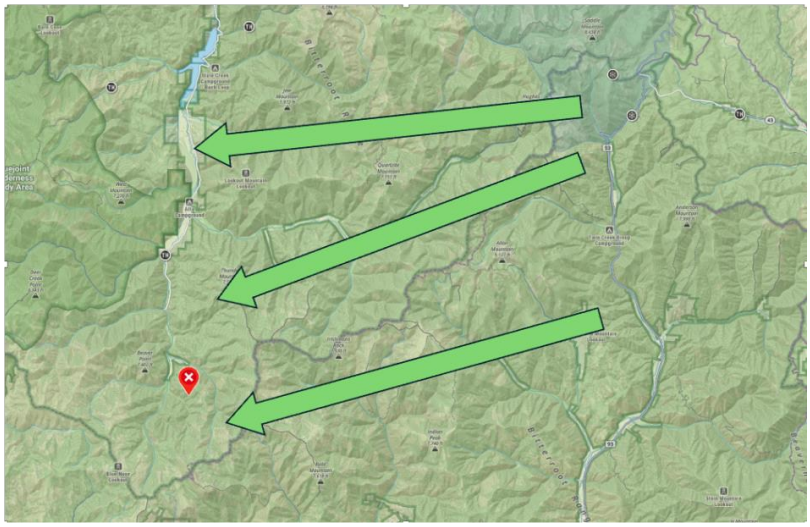

Figure 8: Hypothetical travel areas for grizzly bears westward into the Bitterroot Ecosystem from either the Yellowstone or NCDE ecosystems. Project area noted as red waypoint. From Servheen comments Exhibit B

Grizzly bears may very well be present in the warmer months of the year in this region and may den over the winter in these areas (Bader and Sieracki 2022) (Figure 9).

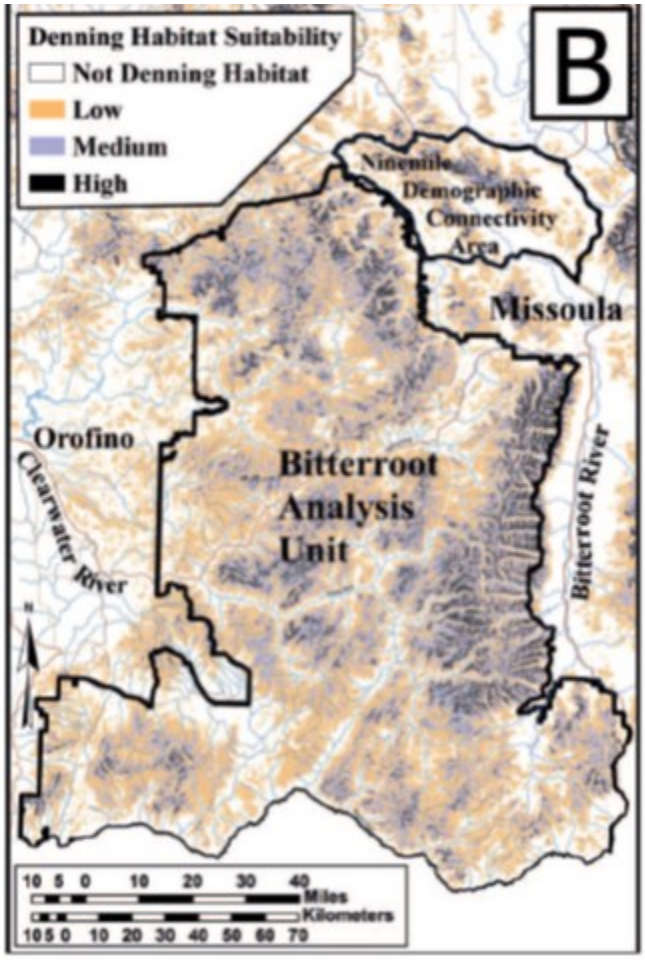

Figure 9: "Denning suitability results for the analysis units showing the selection for steep slopes, higher elevation, and distance from open roads and water bodies." Bader and Sieracki 2022.

Helicopter operation has been repeatedly found to displace grizzly bears from their habitat, dens or travel routes (Quimby 1974 as cited in Schallenberg 1980; Crupi et al 2020). Thus, it is likely that the proposed operation will serve as a barrier to grizzly bear use or transit of the area, blocking migration of grizzly bears from the Greater Yellowstone Ecosystem to the Bitterroot Ecosystem contrary to the goals of the Grizzly Bear Recovery Plan (USFWS 1992; USFWS 1996).

This effect on an ESA listed species creates an extraordinary circumstance, requiring at least an EA rather than a CE to review impacts of the project on the species under the National Environmental Policy Act (NEPA) (7 CFR 1b.3). The BNF must demonstrate that there are no extraordinary circumstances to avoid the need to do an EIS or an EA. There is undoubtedly "reasonable uncertainty" that significant impacts to grizzly bear will occur. Clearly, given the

importance of this area to grizzly bear recovery, the numerous, daily helicopter flights to transport equipment, materials and mineralized rock and drill cores for analysis (PoO pgs. 4, 6, 7, 8, 9, 10), extraordinary circumstances exist requiring an EA at a minimum and perhaps an EIS, as these effects likely rise to the level of significant impacts on the quality of the human environment under NEPA 42 USC 4332(c).

Likewise, the use of a UTV to access Location #2 (PoO pg. 3) presents threats to grizzly bear use of the area. Location #2 is in the Allan Mountain Roadless area. Studies document the habitat use displacement that motorized transport creates (Graves 2002; Graves et al 2003; Ladle et al 2018; Proctor et al 2019). Just putting aside the impacts of blasting and drilling on grizzly bear use of the area, the combined impact of UTV use and helicopter use create a "reasonable uncertainty" that significant impacts will be entirely avoided. Thus, at least an EA must be done to meet the requirements of NEPA.

Add to these disturbances the industrialization of the site for 9 months of the year for at least 2 years and grizzly bears will largely be excluded from this major connection between the GYE and BE recovery zones. The courts have found that connectivity of the GYE population to other populations is necessary for recovery of the grizzly bear under the Endangered Species Act Crow Indian Tribe v. United States of America, No. 18-36079 (9th Cir, 2020). This interference with grizzly bear recovery presents the threat of failure to conserve grizzly bears under Section 7 of the ESA and certainly presents extraordinary circumstances that create reasonable uncertainty of significant effects requiring at least an EA and likely an EIS under NEPA and its applicable rules.

The PoO makes reference to possible "variances" to use motorized access on trails to reach the site. Certainly, such a variance in this place that serves as grizzly connectivity habitat between the GYE and BE is not appropriate and any such "variance" must be the subject of at least an Environmental Assessment under NEPA. These variances must also be analyzed and included in total road densities and core habitat.

The PoO also states that grizzly bear sightings on site will be treated as follows: "If threatened, endangered, or species of special concern (e.g., Canada Lynx, Grizzly Bear, North America Wolverine), and/or carcasses that could become wildlife attractants, are spotted within or near the work areas, project personnel will immediately notify the Forest Service." Sightings of grizzly bear should instead require suspension of operations for a period of days to allow the bears to disperse from the area. Notification to a BNF office will result in undue delay and, while useful to understand what is happening on the site, will do nothing to ensure the safety of the bear(s)

or the personnel on site. Personnel should be required to leave the site after all attractants and bear safety threats are removed.

Wolverine

Direct, indirect, and cumulative effects must be analyzed and disclosed concerning effects to wolverine, wolverine habitat. and the recovery of wolverine.

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 (Inman et al 2013) (figure 10). As a federal agency, the Bitterroot National Forest has a duty to conserve listed species under Section 7 of the Endangered Species Act. This includes a duty to promote recovery as well as mere survival.

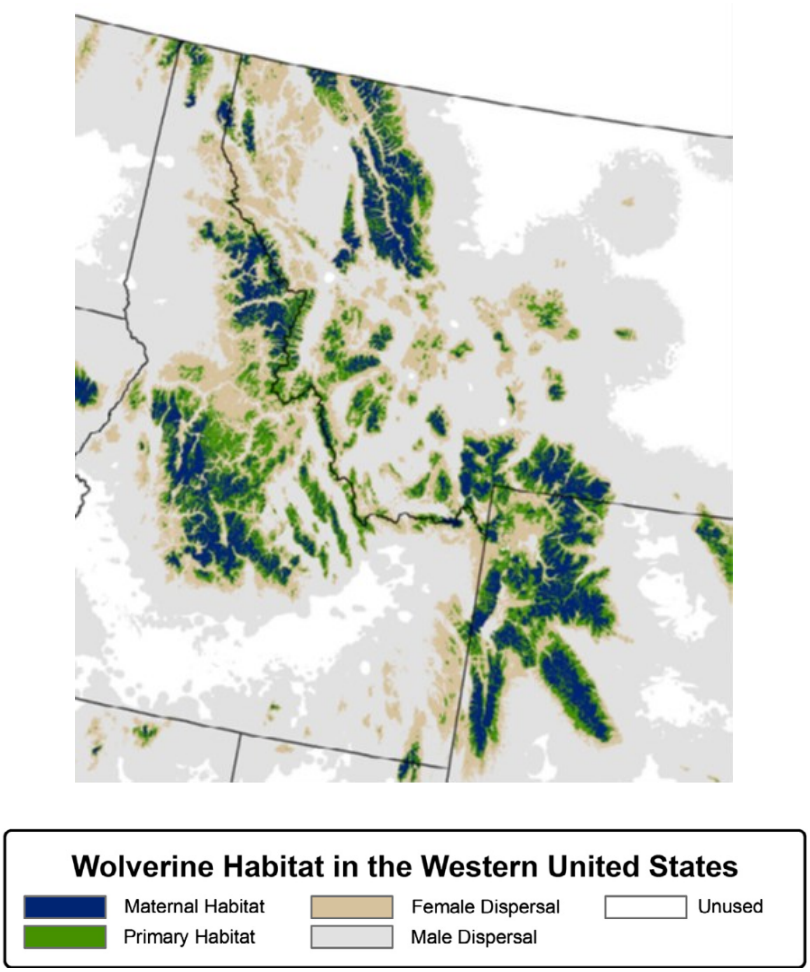

Figure 10: Wolverine maternal, primary and dispersal habitat from Inman et al 2013 Fig. 2.

The region of the Bitterroot Range through which daily helicopter flights (PoO pg 7) will occur for 60-90 days in each of 2026 and 2027 (PoO pg 7) is wolverine habitat and in fact was in the

area of a wolverine location in Bitterroot National Forest wolverine surveys (Paul 2020; Figure 11).

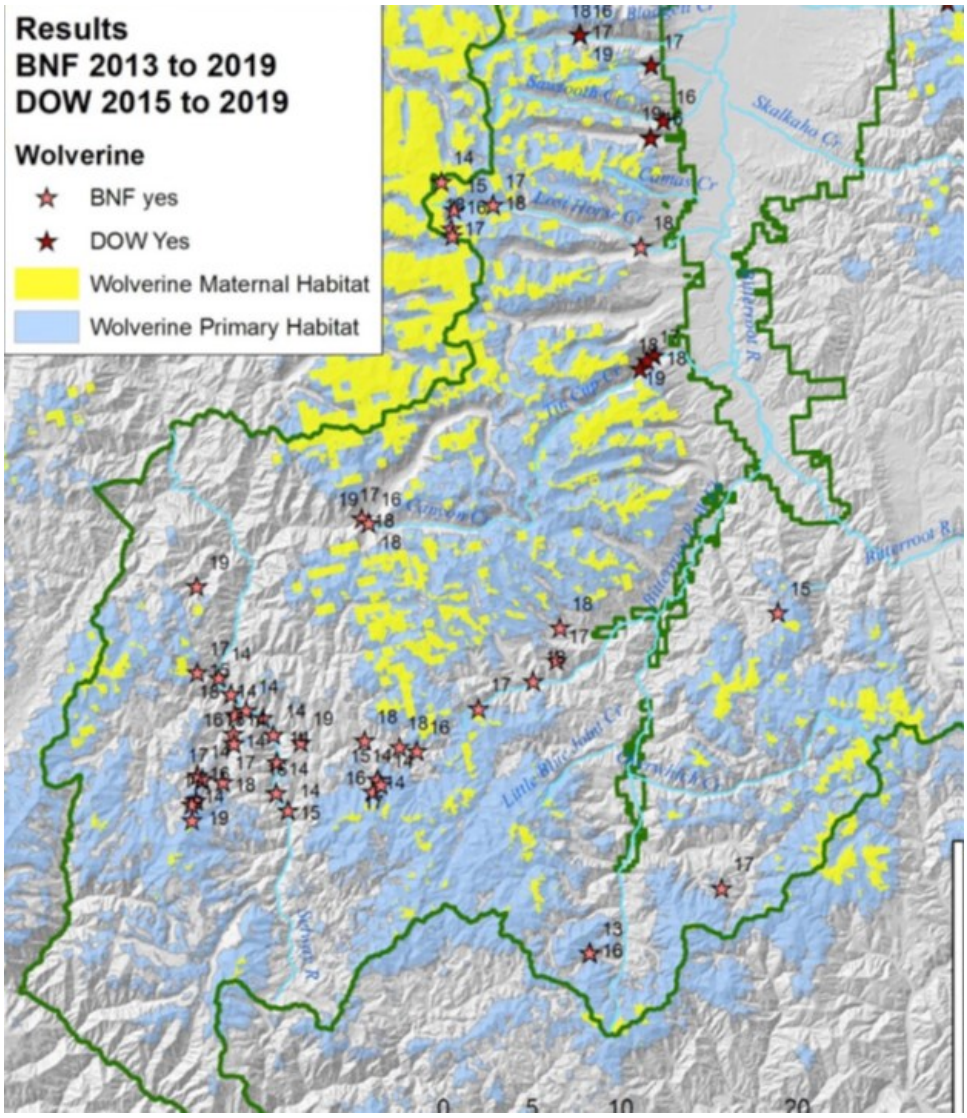

Figure 11: Wolverine Watchers Report (Paul 2020) Fig. 7 excerpt showing locations of wolverine from 2015 to 2019 in the southern Bitterroot National Forest by National Forest researchers.

Helicopter operation has been repeatedly found to displace wolverines from their habitat, dens or travel routes (Krebs et al 2007). Thus, it is likely that the proposed operation will serve as a barrier to Wolverine use or transit of the area, with significant effects on wolverine recovery and survival.

This effect on an ESA listed species creates an extraordinary circumstance, requiring and an EIS or at the least an EA than a CE to review impacts of the project on the species under the National Environmental Policy Act (NEPA)(7 CFR 1b.3). The BNF must demonstrate that there are no extraordinary circumstances to avoid the need to do an Environmental Assessment (EA). There is undoubtedly "reasonable uncertainty" that significant impacts to wolverine will occur. Clearly, given the importance of this area to wolverine recovery, the numerous, daily helicopter flights to transport equipment, materials and mineralized rock and drill cores for analysis (PoO pgs. 4, 6, 7, 8, 9, 10), extraordinary circumstances exist requiring an EA at a minimum and perhaps an EIS, as these effects likely rise to the level of significant impacts on the quality of the human environment under NEPA (42 USC Sec. 4xxx).

Likewise, the use of a UTV to access Location #2 in the Allan Mountain Roadless area (PoO pg. 3), the presence of people and operations across the sites for 12 hours a day or even lesser lengths of time, blasting and drilling all present threats to wolverine use of the area. Studies document the habitat use displacement that human activity creates (Scrafford and Boyce 2014; Krebs et al 2007). Just putting aside the impacts of blasting and drilling on wolverine use of the area, the combined impact of UTV use and helicopter use create a "reasonable uncertainty" that significant impacts will be entirely avoided. Thus, at least an EA must be done to meet the requirements of NEPA.

Add to these disturbances the industrialization of the site for 9 months of the year for at least 2 years and wolverines will largely be excluded from this significant habitat. This interference with wolverine recovery presents the threat of failure to conserve wolverines under Section 7 of the ESA and certainly presents extraordinary circumstances that create reasonable uncertainty of significant effects requiring at least an EA and likely an EIS under NEPA and its applicable rules.

The PoO makes reference to possible "variances" to use motorized access on trails to reach the site. Certainly, such a variance in this place that serves as wolverine habitat is not appropriate and any such "variance" must be the subject of an EA or EIS under NEPA.

The PoO also states that wolverine sightings on site will be treated as follows: "If threatened, endangered, or species of special concern (e.g., Canada Lynx, Grizzly Bear, North America Wolverine), and/or carcasses that could become wildlife attractants, are spotted within or near the work areas, project personnel will immediately notify the Forest Service." Sightings of wolverine should require suspension of operations for a period of days to allow the individual to disperse from the area. Notification to a BNF office will result in undue delay and, while useful to understand what is happening on the site, will do nothing to ensure the safety of the wolverine. Personnel should be required to leave the site as well.

The BNF must consult with the USFWS on the impacts from this proposed project on Wolverine, their recovery, and their habitat. The biological assessment and biological opinion must be disclosed to the public before decision and no activity may occur until that consultation has occurred.

Elk

This project would have major negative impacts on elk in the area. Elk are dependent on secure habitat to thrive. They need security from human disturbance for calving, forage and as escape cover. User created roads due to extensive UTV use and heavy traffic of UTVs and helicopters will displace elk, and further make it harder for them to survive throughout the area. This would come in an area that is already below the objective population set by biologists with the Montana Department of Fish, Wildlife and Parks.

An intensively used road and human activity would also hinder elk migration through the area. The Bitterroot Valley is an elk winter ground for elk from multiple areas. Putting such an industrial land use, with heavy truck traffic on a daily basis, would significantly harm the elk population in this area. Numerous peer reviewed studies show that motorized vehicles displace elk, and again the elk herd in this area is already struggling. Such a project would result in less secure habitat, fewer elk and less public hunting opportunity. Montana FWP will either have to shorten the season in the area, or go to limited draw hunting licenses to account for the reduction in elk security habitat.

Wisdom et al 2018 found, “Increasing ATV use has prompted concerns about effects on wildlife (Proescholdt, 2007; Tarr et al., 2010; Webb and Wilshire, 2012), which include 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., 2004, 2011; Wisdom et al., 2004a; Preisler et al., 2006, 2013; Naylor et al., 2009; Ciuti et al., 2012)” (p 223).

The elk herd in the West Fork EMU is below objective affecting hunter opportunity. The BNF must analyze the adverse effects of project activities to hunter opportunity and other recreational opportunity as mandated in the 1987 Forest Plan.

Fisheries

The Upper West Fork of the Bitterroot River, above Painted Rocks Dam, provides a uniquely large, connected habitat for native fish. Three native species of concern inhabit this area: adfluvial and resident populations of Bull Trout, an ESA-listed species; a unique, non-hybridized

and genetically diverse Westslope Cutthroat Trout population; and populations of Slimy Sculpin. The Westslope Cutthroat Trout population of the Upper West Fork is considered among the highest valued fisheries for conservation in Montana. Additionally, stream temperature modeling predicts that the Upper West Fork is one of the few areas in the Bitterroot that will continue to provide cold water into the future, sufficient to allow migratory Bull Trout and other cold water sensitive species to persist. For these reasons, this area has been a focus for substantial fisheries restoration investment and prioritization by state and federal agencies, as well as partners in fisheries conservation (See Exhibit C Clancy et al 2026).

Westslope Cutthroat trout is designated an indicator species for watershed health in the BNF 1987 Forest Plan. Surveys must be conducted before any activity occurs and constant monitoring must be funded and mandated in any plan moving forward to comply with the Forest Plan.

Based on the high conservation values associated with the Upper West Fork of the Bitterroot River, no adulteration of the resource should be permitted. A full analysis should be required in advance of ANY ground disturbing activity given that this native fishery is likely highly sensitive to impacts from sedimentation and the introduction of toxic substances.

The fish in much of the Clark Fork drainage are no longer considered fit for human consumption (DEQ 2026). This is one of the last strongholds for uncontaminated, genetically intact bull trout and west slope cutthroat trout. The Upper West Fork provides refugia for these fish species in the face of a dramatically changing climate. For all of these reasons and more, a full analysis is required.

Bull Trout

Bull trout is listed as endangered under the ESA. Both the West Fork of the Bitterroot River and the Painted Rocks Reservoir are designated critical habitat (USFWS 2010). Recent surveys found bull trout in the West Fork near Sheep Creek, Sheep Creek, and Johnson Creek (Exhibit C: Clancy 2026 p 6).

> *Sheep Creek 2023: Westslope Cutthroat Trout: 19 (56%), Bull Trout: 13 (38%); Eastern Brook Trout x Bull Trout hybrid: 2 (6%)*
>
> *West Fork near Sheep Creek 2023: Westslope Cutthroat Trout: 58 (70%), Bull Trout: 22 (26%); Eastern Brook Trout x Bull Trout hybrid: 3 (4%)*
>
> *Johnson Creek 2025: Westslope Cutthroat Trout: 11 (29%), Bull Trout: 27 (71%)*

Bull trout are not mentioned in the Sheep Creek exploration plan. There is one preventative measure to protect fish in general on page 15, “No crossings will be constructed over waterways (e.g., creeks or streams).” It does not discuss vegetation management and removal of trees and

vegetation that would affect streams, riparian areas, or RHCAs. There is no discussion of marking riparian areas or compliance with INFSH.

How will "variances" of road restrictions affect road densities and bull trout? How will UTV use of currently impassable roads affect sedimentation in the already sediment impaired West Fork? How will illegal use of new user created UTV roads from the proposed exploration plan affect fisheries? The exploration plan activities direct, indirect, and cumulative effects to bull trout and bull trout critical habitat must be fully analyzed and disclosed. Consultation must be completed and disclosed to the public before decision.

The USFWS Columbia Basin Recovery Unit Implementation Plan for Bull Trout (RUIP 2015) makes it clear that fish surveys are lacking in the project area, "Bitterroot River tributaries are high priorities for additional presence/absence survey mapping, potentially using new e-DNA survey techniques (D-70)". There is no indication that fish surveys will be conducted before project activities occur, this does not allow for trend analysis and does not suffice for the hard look required by NEPA. The project must disclose a biological assessment of the project before decision.

RUIP 2015 finds, "Riparian habitat trend has been generally improving in SR habitat over the past 25 years or longer on Federally managed timber lands (see, *e.g.*, PACFISH/INFISH Biological Opinion effectiveness monitoring [Archer and Groce 2015]), due in part to recent improvements in management practices, but also as an artifact of declining timber harvest and the virtual cessation of road building on Federal lands (USFS 2013).

A recent visit to the Sheep Creek area found a gate breached for wider vehicles than allowed on the Sheep Creek Road FS5685. The breach shows recent and frequent use (Figure 12). Illegal road use and its effects to bull trout must be analyzed and disclosed. The BNF must consult with the USFWS on the impacts from this proposed project on bull trout, bull trout critical habitat, and their recovery. The biological assessment and biological opinion must be disclosed to the public before decision and no activity may occur until that consultation has occurred.

Continued on next page.

Figure 12: Breach created for wider motorized vehicles that are illegal past the gate.

Frissell, 2014 states:

> *Roads are ecologically problematic in any environment because they affect biota, water quality, and a suite of biophysical processes through many physical, chemical, and biological pathways (Trombulak and Frissell 2000, Jones et al. 2000). The inherent contribution of forest roads to nonpoint source pollution (in particular sediment but also nutrients) to streams, coupled with the extensive occurrence of forest roads directly adjacent to streams through large portions of the range of bull trout in the coterminous US, adversely affects water quality in streams to a degree that is directly harmful to bull trout and their prey. This impairment occurs on a widespread and sustained basis; runoff from roads may be episodic and associated with annual high rainfall or snowmelt events, but once delivered to streams, sediment and associated pollutant deposited on the streambed causes sustained impairment of habitat for salmon and other sensitive aquatic and amphibian species. Current road design, management of road use and conditions, the locations of roads relative to slopes and water bodies, and the overall density of roads*

throughout most of the Pacific Northwest all contribute materially to this impairment. This effect is apart from, but contributes additively in effect to the point source pollution associated with road runoff that is entrained by culverts or ditches before being discharged to natural waters (p 13).

Though the BNF uses design features and Best Management Practices to mitigate sediment to streams, Friends of the Bitterroot have not found evidence of this on the ground. Friends of the Bitterroot created two reports that show side-casting in riparian areas and open gates on closed roads (Exhibits D-E)

There are many roads in and around the project area from previous logging and mining exploration projects. Illegal use and poaching must be considered and analyzed. Two studies by Friends of the Bitterroot found illegal use and user created roads on the BNF (see Exhibits F-G).

USDA Wisdom et al 2000 states:

Our analysis also indicated ***that >70 percent of the 91 species are affected negatively by one or more factors associated with roads.*** *Moreover, maps of the abundance of source habitats in relation to classes of road density suggested that road-associated factors hypothetically may reduce the potential to support persistent populations of terrestrial carnivores in many subbasins. Management implications of our summarized road effects include the potential to mitigate a diverse set of negative factors associated with roads.* ***Comprehensive mitigation of road-associated factors would require a substantial reduction in the density of existing roads as well as effective control of road access in relation to management of livestock, timber, recreation, hunting, trapping, mineral development, and other human activities.***

...Efforts to restore habitats without simultaneous efforts to reduce road density and control human disturbances will curtail the effectiveness of habitat restoration, or even contribute to its failure; this is because of the large number of species that are simultaneously affected by decline in habitat as well as by road-associated factors (*emphasis added).*

The necessity is to reduce roads yet the BNF is considering a mining project that will open previously impassible roads via UTV use and allow variances for use on existing roads.

It is also important to recognize the ongoing ecological damage of roads—regardless of the adequacy of maintenance funding:

Undesirable consequences include adverse effects on hydrology and geomorphic features (such as debris slides and sedimentation), habitat fragmentation, predation, road kill, invasion by exotic species, dispersal of pathogens, degraded water quality and chemical contamination, degraded aquatic habitat, use conflicts, destructive human actions (for

example, trash dumping, illegal hunting, fires), lost solitude, depressed local economies, loss of soil productivity, and decline in biodiversity. (Gucinski et al., 2001)

Aside from roads and illegal use, helicopter pad construction, drill pad construction, heavy truck traffic along the West Fork and past Painted Rocks Reservoir, the BNF must also fully analyze the drilling lubricants and hole conditioning polymers. These will be used to drill at depth and will enter the water table. Will these introduce "forever chemicals" or microplastics to waterways? How will that affect bull trout and fisheries? The DEQ recently found forever chemicals in fish and waterways in Montana (DEQ 2026).

The Forest Service must require:

- Bull trout surveys and habitat analysis.
- ESA consultation.
- Analysis of effects to spawning and rearing habitat.
- Water temperature, sediment, and turbidity monitoring.
- Nitrate and ammonia monitoring related to blasting.
- Stop-work triggers if water quality changes.

Direct, indirect, and cumulative effects of project activities on bull trout, bull trout critical habitat, and the recovery of bull trout must be fully analyzed and disclosed.

The BNF must consult with the USFWS on the impacts from this proposed project on bull trout, bull trout critical habitat, and bull trout recovery. The biological assessment and biological opinion must be disclosed to the public before decision and no activity may occur until that consultation has occurred.

Other wildlife

Entire segments of the ecosystem will likely be adversely impacted by the proposed mine site, including reptiles and amphibians, and pollution sensitive insect species, any of which play a critical role in environmental function. The public must be provided with the opportunity to (1) understand what species will be impacted (including macroinvertebrates); and (2) how will those losses impact the overall ecosystem function. This should not be optional, or at the discretion of USCM. This should be required by the FS as part of its due diligence in advance of consideration of the PoO application.

Sensitive and Rare Vegetation

The PoO lacks an inventory of vegetative resources. Sensitive species and/or T&E species should be identified and inventoried during the appropriate season. Where necessary, a vegetation conservation plan should be provided for each species.

White Bark Pine

Whitebark pine is an ESA-listed threatened species (USFWS Whitebark Pine SSA). The PoO's only reference to protection of whitebark pine states (p. 15): "No whitebark pine will be removed; if whitebark pine is identified, a 33-foot buffer will be maintained."

This is inadequate protection for whitebark pine. Who will be responsible for identification of whitebark pine? There appears to be no incentive for the company to identify whitebark pine. Therefore, before the project can proceed, surveys must be done by a qualified USFS biologist in each of the areas proposed for activity. If whitebark pine is identified, then the 33-foot buffers must be marked on the ground by the USFS.

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).

There are four stages in the lifecycle for whitebark pine: seed, seedling, sapling, and mature trees (which are reproductive adults). Seeds are produced in female cones and once on the ground may take two years or more to germinate. Germinated seeds become small seedlings which then grow for decades before becoming mature, reproducing trees. Mature, reproductive whitebark pines contain both female and male cones and can survive on the landscape for over a thousand -years.

Whitebark pine are sometimes referred to as "high-elevation heroes" because they are a keystone and foundation species that promotes biodiversity, provides ecosystem structure, and influences ecosystem dynamics in high-elevation communities. The wide canopy of these high-elevation trees shade and protect snowpack and slow the progression of snowmelt, essentially reducing spring flooding at lower elevations and prolonging critical runoff and water supply at those lower elevations. At higher elevations, snow drifts also form around the base of whitebark pine trees which increases soil moisture, modifies soil temperature, and holds moisture in the soils later in the season.

Because whitebark pine seeds are not wind disseminated, primary seed dispersal occurs almost exclusively by the Clark's nutcracker. The tree and the birds have a symbiotic relationship. The birds get a high caloric food resource and the reproductive strategy of whitebark pine is almost wholly dependent on neglected or overprovisioned Clark's nutcracker caches (which are widely dispersed across the landscape). Seeds are typically cached within 1.5 miles from their source tree but are sometimes found as far as 20 miles. A single nutcracker can cache up to an estimated 98,000 whitebark pine seeds during good seed crop years. The Clark's nutcracker thus plays a critical role in facilitating the whitebark pine's regeneration and influencing its area of distribution and population structure. As Ronald Lanner noted in *Made for Each Other: A symbiosis of Birds and Pines*, "Working in consort, Clark's nutcracker and the whitebark pine build ecosystems."

Whitebark pine seeds are also an important food source for a number of birds and other wildlife, including threatened grizzly bears. The seeds have more calories per gram than chocolate offers humans and provide an important source of fat and protein.

In the GYE, for example, 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. Cone crop failures directly influence foraging behaviors in bears and increase vulnerability to human-caused mortality. When seed production is poor, grizzly bears tend to leave the high-country and rely more heavily on meat in the lower-elevations where the risks of human-conflict with livestock are high and survival rates low.

Whitebark pines and the important ecosystem functions they provide are currently at risk due to white pine blister rust (a non-native fungal disease), mountain pine beetle infestations, altered fire regimes, and climate change, as well as the synergistic or cumulative interactions occurring between such stressors. These stressors are now killing whitebark pine across the species' range at unsustainable rates (whitebark pine are also sometimes removed as part of various activities and projects occurring on our National Forest System lands, including logging, prescribed burning, and resource extraction.

Current range-wide data from the Forest Service's surveys indicates that roughly 51% of all standing whitebark pine trees in the West are now dead with over half of that amount occurring

in the last few decades. Dead whitebark pine now out number live ones and mortality is exceeding gross growth volume. The problem in some areas is particularly alarming.

In parts of the Northern Rockies (including northern Idaho and northern Montana) nearly 75% of all whitebark pine are either dead or dying due to white pine blister infection (figure 13). According to the Service, the loss of live, cone producing whitebark pine has now led to conditions that likely fall below the estimated basal area threshold needed to attract and retain Clark's nutcrackers during seed dispersal periods.

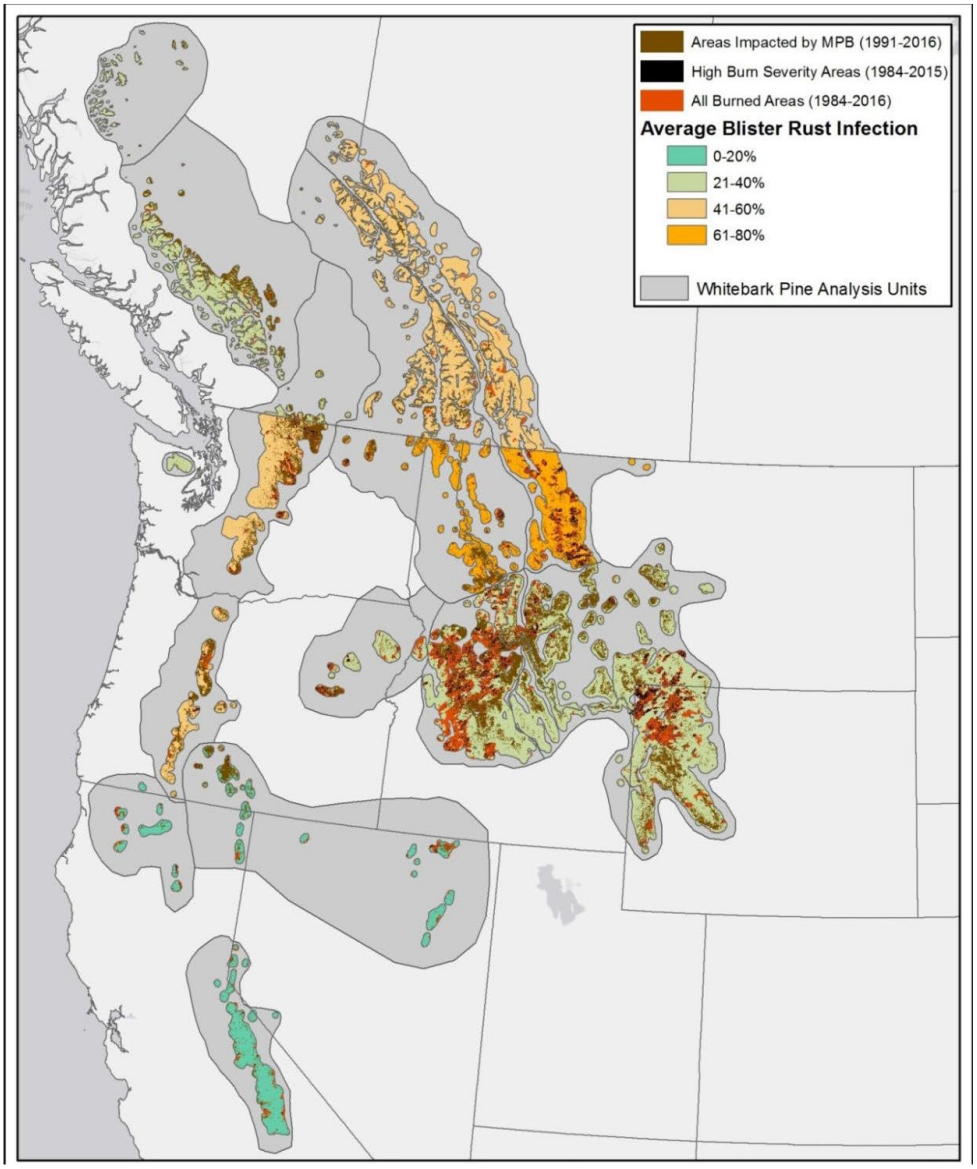

Figure 13: Blister rust and mountain pine beetles in whitebark pine stands

The Service estimates that over the next generation (roughly 60 years) the amount of resiliency, redundancy, and representation - the "three Rs" needed for species viability – are likely to be so reduced that the species "may not be able to produce another generation that has long-term viability." 87 Fed. Reg. at 76,910. Based on "projections of how white pine blister rust, mountain pine beetle, and high-intensity fire could increase in scope, it is likely that the species will lose a large number of reproductive adults in the foreseeable future." *Id.* This loss of reproductive trees "will lead to a substantial decline in the establishment of new seedlings, meaning new trees will not be able to replace lost trees sufficiently quickly given the species' long generational time." *Id*. Further, the authors of a recently USDA published paper (Parks 2025) are now projecting an 80% reduction in climatically suitable aeras for whitebark pine by the mid-21st century.

Relevant here, whitebark pine exists throughout large portions of the Bitterroot National Forest, including the West Fork and the Sheep Creek mine area.

For example, the Forest Service has yet to analyze the cumulative effects to whitebark pine on the BNF or in the West Fork. The BNF currently approved projects: Mud Creek, Thunder Mountain, Eastside, Bitterroot Front, Piquett Creek, etc result in the removal of significant amounts of whitebark pine as part of various vegetation or prescribed fire projects. Yet, the Forest Service has never evaluated or analyzed the combined or cumulative effects to whitebark pine or identified certain stands or populations that should be conserved and protected because they have high conservation value. The Forest Service also neglected to analyze or explain the direct or indirect effects to whitebark pine, including how many trees may be affected by the project and related activities including drill pad construction, UTV use, and helicopter landing areas.

The BNF must analyze the direct, indirect, and cumulative effects of project activities on whitebark pine. The BNF must consult with the USFWS on the impacts from this proposed project on whitebark pine, its recovery, and its habitat. The biological assessment and biological opinion must be disclosed to the public before decision and no activity may occur until that consultation has occurred.

Formal consultation

There is no indication that the Service has initiated and completed formal consultation with USFWS as required by Section 7 of the ESA for listed species such as grizzly bears, wolverine, lynx, bull trout, and whitebark pine. Both the requisite NEPA analysis and Section 7 consultation must occur *before* any activity occurs, before project implementation and approval and *before* any irreversible or irretrievable commitment of resources is made.

Additionally, given the Sheep Creek Exploration project's likely harmful effects to grizzly bears, wolverine, Canada lynx, lynx critical habitat, and whitebark pine – all listed species in the project area – as well as other concerns regarding adverse effects to the local water supply (ground and surface), bull trout in Sheep Creek, Johnson Creek and the West Fork of the Bitterroot, and Inventoried Roadless Areas ("IRAs"), the Forest Service must prepare an EIS for this project as required by NEPA. NEPA requires the Forest Service to prepare an EIS for all "major federal actions significantly affecting the quality of the human environment." 42 U.S.C. § 4332(2)(C). The Sheep Creek Exploration project meets that standard.

Water Quality Issues

The Plan of Operations (PoO) raises many concerns about impacts on water quality in the headwaters of a major river system threatening the clean water and its quantity upon which agriculture, human communities, recreation, fish and wildlife depend.

The plan states that 10'x10' sumps will be constructed at locations #2-#4 to handle fluid drilling byproducts. There is no definite indication that these sumps will be monitored for leaks to surface or groundwater, presenting the possibility of leaching/transport to Sheep Creek and/or the West Fork of the Bitterroot. The plan likewise makes no mention of detailing groundwater interception in the drilling process or testing for groundwater water quality before, during and following exploratory drilling. Such monitoring would assist with containing drilling waste and preventing dispersal of drilling fluids/lubricants etc detailed on the MSDS sheets attached to the PoO. The plan only states that monitoring will be done if required by the permit. The BNF must require water quality/liner leak monitoring at each location and in Sheep Creek and the West Fork of the Bitterroot downstream from each of the locations.

In addition, within Adit #1 at Location #1 a larger sump will be constructed for "water detention" for water associated with bulk sampling. This water will likely be exposed to waste and mineralized rock prior to its transfer off site, especially because road grade will be leveled with waste rock. There is high potential for this sump water to leach into groundwater, with waste products of blasting with ammonium nitrate and other drilling and transport waste products. It is unclear if this sump will be lined, but even if it is, leak monitoring should be a basic requirement of operations. Thus, prior to bulk sampling work there should be testing/monitoring of groundwater connections and groundwater composition to allow detection of contamination once work commences, during operations and after reclamation. This is another term of any permit that must be required by the BNF.

It is also questionable whether a single liner will be adequate. From Westernliner.com a major poly liner supplier “If the liner material will be completely backfilled with crushed rocks or sharp aggregate, a geotextile fabric can be place above the liner material in order to protect the liner from potentially puncturing” (Western Environmental Liner) The permit, if granted, must require a double liner of all sumps.

In all cases if leaks or migration of process water to surface or groundwater is detected work must be halted in the area of the contamination until it is remedied. Thus, any permit must make provision for exploration stoppage upon detection of leaks or contamination.

Drilling lubricants and hole conditioning polymers will likely enter the ground water during drilling operations. Will the polymers release “forever chemicals” into the ground water? Will the polymers break down into microplastics or “forever chemicals”? How will this affect ground water resources, fisheries, and downstream communities?

Moreover, all testing/monitoring results should be immediately publicly available as a requirement of any permitted activity.

The PoO provides virtually no realistic, fact-based information related to water quality and quantity. Flying water in by helicopter is unrealistic and unsustainable long term. Basic questions remain unanswered, and the studies needed are lacking. To approve the exploration plan without thorough analysis is unacceptable. Water is the lifeblood of the local residents, the wildlife and the fisheries. Water quality studies need to be undertaken, and water quantity analyses should be required. See Appendix E for further information, as well as the comments below.

Water, groundwater, and stormwater

The courts in Montana have already held that surface waters and groundwater are legally connected. Therefore, any underground disturbance poses both potential impacts to surface and groundwater sources. Injection of spent water into subsurface waters/excavation sites/wells/holding tanks, etc. should not be permitted due to the possibility of groundwater contamination. A thorough analysis of impacts is required.

USCM says drilling may use up to 8,500 gallons of water per day at Locations 2–4, with most water recycled through lined sumps. Bulk sampling at Adit 1 may use up to 300 gallons per day. Water would come from outside the project area and be flown to the sites by helicopter. The Project also says no surface-water or groundwater monitoring is needed unless another permit requires it. The company must assure the Forest Service and the public that the sources of water for their project operations are dependable, legally available, and will not negatively impact any other water users. The sources and the amounts of water for the whole project need to be disclosed in detail.

The Project states that "separate from a permit or authorization, no surface water or groundwater quality monitoring is necessary given the nature of the project and minimal surface disturbance" (pg. 13).

The conclusion that groundwater monitoring is unnecessary "given the nature of the project" is irrational. The Project proposes drilling, blasting, sumps, fuel storage, drilling additives, drill cuttings, and bulk-sample handling, all of which present potential harms to the watershed, especially in the steep terrain. To propose conducting those activities in such a location without conducting a basic study of the hydrological characteristics of the groundwater flows in the area and its current chemical composition is unacceptable.

Because waste rock and low/medium grade ore produced by this project is from an area with sulfide mineralization, geochemical testing of each rock type that will be encountered is necessary to determine the likelihood that dissolved metals could be produced when the waste rock/sub-grade ore is exposed to air and water. Unfortunately, no geochemical characterization data was provided in the Project. The Project does not adequately address the fact that the water flowing into the sump at the bottom of the bulk sampling site will have flowed over and through the roadbed composed of fractured waste rock, nor does USCM propose to examine the waste rock to determine the amount of lead and other metals, arsenic, selenium, asbestos, thorium, or any of the targeted rare earth elements it contains. The Project states that USCM will not monitor that water to see what, if any of these metals and elements were dissolved in the process. Running contaminated water through the same gauntlet of toxic material in a "zero-use" recycling process would obviously increase the concentration of dissolved contaminants and compound pollution problems.

The Forest Service and the public need additional information to assess the feasibility of the suggested "zero discharge" processing system, including what processing will be conducted on site, what water treatment will be required to re-use processed water, and a unambiguous description of the arrangement for the disposal of solids or other contaminants accumulating in the holding tank.

Hydrological analysis and trustworthy predictions of the amount of "contact" water generated from the surface area required for the mine workings, temporary waste rock storage, permanent waste rock disposal, and any seepage that might occur from the new underground workings, should be included in the proposed Project. A contingency proposal to treat excess water should be developed, and the funding required to execute this Project must be disclosed. The amount of water to be used in dust abatement in every aspect of the operation, including the access roads, ought to be disclosed.

The Project does not mention how the settled material in the sump at the bottom of the bulk-sampling site will be handled. Simply leaving it in the sump underground encourages future contamination. The proposal for storing large amounts of fractured waste rock produced in the enlargement of the tunnel by shoving it in a void within the tunnel creates future contamination issues, especially when water seepage occurs. Seepage and drainage collection must be carefully planned, and the chemical nature of the water that encounters the waste rock must be described.

The Project does not disclose how potentially contaminated water used in its re-cycling procedure will ultimately be disposed of at the end of the process. Nor does it adequately address the disposal of waste rock. Simply shoving it into a void and leaving it, subject to future groundwater leaching, is not a good answer. This is especially pertinent when the composition of the fractured waste rock has not been properly explained.

Given the steep geography/high elevation of the site, the impacts to both receiving waters and the broader Clark Fork System could be severe. We do not have to hypothesize as legacy mines across Montana (over 3,000 abandoned mine sites in MT alone) demonstrate how mines adversely impact water quality. Impacts generally take the form of both toxic pollutants and sedimentation from both the mine and road building/increased road usage. We should not allow any ground disturbances until (1) the potential impacts are fully understood; and (2) containment plans are presented and approved.

These deficiencies, from failure to disclose the source of water, to failure to do surface or groundwater monitoring, make it impossible to determine the range or degree of the proposed impacts or even gage the reasonably foreseeable impacts once they occur.

The Forest Service should require:

- Specific information regarding expected water use be provided. For example, exactly how much water is expected to be obtained from outside of the exploration area and what are those specific sources? Exactly how will the water be stored onsite? How much water is expected to be lost during operations and how will the lost water be tracked to surface water and groundwater, etc.?
- What kind of monitoring will be instituted after snowmelt, rainy periods, and major storms?
- Monitoring results should immediately and simultaneously be disclosed to the Forest Service and the public.
- Specific plans for sump closure, winterization, and spring runoff should be required.
- USCM should be required to provide and cover the costs for monitoring private wells downstream from the exploration sites before, during, and after operations.

The BNF must analyze and disclose affects to water, ground water, and surface water to comply with the 1987 BNF Forest Plan.

Water Quantity

Since 1999, the entire Bitterroot Basin, including the West Fork, has had a temporary legislative closure in place under MCA 85-2-344 managed by the MT DNRC. Given this state statutory restriction, and the potential adverse impacts to senior water rights holders/agricultural users, existing residential users, and fisheries and wildlife needs a detailed analysis is needed to identify where water will come from once the cost of transporting water via helicopter renders that option infeasible. It should also be noted that it is our understanding that the CSKT water rights compact covers the Bitterroot Valley and it does not recognize any new consumptive water rights, but that is beyond the scope of our comments.

The BNF must analyze and disclose effects to water quantity to comply with the 1987 BNF Forest Plan.

Air Quality

There is no mention of asbestos in the updated PoO. This constitutes gross negligence by USCM. Failure to disclose human health impacts information: From Updated PoO, p.12 Air Quality section in its entirety: (note the USFS does not mention the need to disclose the presence of toxins and abatement plans.)

> *A. Air Quality*
> *Describe measures proposed to minimize impacts on air quality such as obtaining a burning permit for slash disposal or dust abatement on roads.*
>
> *Best management practices to control air emissions will be implemented throughout the exploration program, including:*
> *Equipment will be operated within manufacturer specifications and will be equipped with pollution control devices (e.g., mufflers, converters).*
> *Sufficient water will be applied during drilling operations to lubricate equipment and control fugitive dust.*
> *Flight paths will be optimized and idling time will be minimized for helicopter(s) supporting the project to reduce unnecessary fuel consumption.*
> *Additionally, the project will implement wildfire prevention measures and maintain appropriate fire prevention and suppression equipment on-site. Equipment will be maintained in a condition that minimizes ignition risk.*

Hazardous materials

Waste rock, ore, dust, asbestos, and radioactive materials

Given the geologic nature of the Sheep Creek area and the association of thorium and uranium with rare earth deposits, there is legitimate concern that some forms of arsenic, asbestos, thorium or uranium may be present in either mineralized or waste rock excavated from the site. Aerial transport of mineralized rock (PoO pg 7) will occur in bags, with uncertain air tightness and therefore threatens to deposit dust across the site. Transfer from bags to trucks presents another opportunity for dispersion of such minerals in the West Fork Bitterroot watershed. Additionally, the sufficiency of sealing of transported minerals to unnamed sites for analysis is not evident from the PoO. Saling of such loads will be mandatory of any asbestos, radioactive minerals or arsenic (and any other toxics) are present in the mineralized rock samples.

The Project says blasting at Adit 1 will produce waste rock and mineralized rock. Waste rock would be left in the adit or used as road base. Mineralized rock would be placed in sacks and hauled off site. The Project does not explain how workers would separate waste rock from mineralized rock after blasting. The Project does not appear to adequately discuss asbestos, uranium, thorium, radon, or radioactive materials. The absence of these topics creates a public-safety concern.

In terms of public health hazards, it is especially important that USCM test for the presence of asbestos because of the occurrence of fibrous actinolite in the project area. The Forest Service must require site-specific asbestos characterization, fiber-release potential analyses, and enforceable exposure controls before authorizing any activities that could disturb actinolite-bearing formations.

The verified presence of thorium needs to be examined more closely. The company states, "The deposits are also unique due to low levels of thorium, which potentially allows for mining with minimal environmental impact. The levels of thorium averaged 200 ppm, which is significantly below the 500-ppm permitting threshold established by the Nuclear Regulatory Commission, a U.S. government agency."

It is not clear how USCM arrived at this average estimation. Since the Project calls for separating the highest-grade ore from lower grade ore and waste rock, clarification is required. Is it the high-grade ore alone that averages 200 ppm? Or was that average based on the total amount of waste rock and lower grade ore? If the latter, then the high-grade ore that is being stored separately and shipped separately could have a significantly higher average amount of thorium and in fact trigger the involvement of the Nuclear Regulatory Agency (NRA).

Regardless of the answer to that question, the real uncertainty is not whether the NRA will be involved because of the level of thorium, but is the level of health risks associated with the materials as a whole, including waste rock and low and medium grade ore, being stored in the mine, on site or used elsewhere, in addition to the high-grade ore being transported to the lab. USCM must disclose existing assays or mineralogical data, conduct screening for uranium, thorium, radium, radon potential, gross alpha/beta activity, and asbestos-form minerals in both waste rock and mineralized ore separately.

Both the presence of actinolite formations and the documented presence of thorium in undisclosed concentrations constitute potentially significant negative impacts that are reasonably foreseeable.

The Forest Service should require:

- Baseline geochemical testing of ore, waste rock, drill cuttings, sump solids, and dust.
- Testing of both mineralized and waste rock for asbestos-form minerals, uranium, thorium, radium, radon potential, rare earth elements, lead, arsenic, and other metals by an independent entity.
- Testing results should be immediately and simultaneously disclosed to the Forest Service and the public.
- A written protocol for classifying waste rock and mineralized rock.
- Independent verification before any rock is left underground, used as road base, stockpiled, or transported off site.
- Sealed super sacks or other dust controls for transport.
- Dust monitoring at the adit, drill pads, staging area, and along ground and aerial haul routes.

Asbestos

As soon as any Sheep Creek exploration ground disturbing activities occur dust will result. The chemistry of that dust will reflect the chemistry of the rock being disturbed. There is proof from sample analysis by USCM of radioactive minerals at Sheep Creek mine site and ample reason to suspect there may also be asbestos present. Harm to human health could be an immediate impact. An independent health risk assessment must be completed prior to permitting any ground disturbance. The BNF has previously required an independent asbestos HRA as part of permitting for a proposed mine, so they know how to do it (see Exhibit H: ABM Ridge Asbestos Analysis).

Amphibole asbestos, including actinolite, consists of straight, needle-like fibers that are brittle, chemically diverse, and highly toxic compared to serpentine asbestos. There is good reason to believe the actinolite at Sheep Creek may be asbestos. Actinolite is closely associated with the

minerals US Critical Materials is proposing to mine. The Montana Bureau of Mines and Geology reports that Sheep Creek mine actinolite “forms masses of radiating fibers surrounding other crystals.” Geologists at Montana Tech report that actinolite is one of most common matrix minerals on site and the veinlets that cut across the host rock are "actinolite-rich". (Risedorf)

The American Mineralogist, a prestigious industry journal, reports that at Sheep Creek, “Amphiboles: hornblende and actinolite, which are widespread, are concentrated in the thicker deposits near the walls but in thinner ones are disseminated, with the former showing sub-parallel orientation. Dark green hornblende forms single crystals; light green actinolite forms clusters of fibers, usually in radiating groups. (Heinrich 1961)

USCM has submitted a plan to the Bitterroot National Forest in which they identify four sites to drill or mine. All four sites contain actinolite. Site #2 has a sample that showed 9.4% actinolite. Much more sampling and analysis needs to be done to determine if and how much asbestos occurs at various dust emission points and then arrive at a valid independent human health risk assessment. The fact that asbestos contamination spreads in the form of airborne dust means that it would not be confined to the mine site or the river but would travel with the wind and with transportation of ore off site. Inside the adit workers would be exposed to very high levels of dust, given the planned blasting and mining. Contamination of homes from dust on workers clothing is known to have occurred at the Libby asbestos disaster, causing many deaths and injuries.

For an overview of the potential human health dangers of actinolite see Banerjee.

“The lack of widespread awareness regarding actinolite complicates efforts to mitigate its health risks. Unlike more commonly known asbestos types, such as chrysotile or crocidolite, actinolite often remains underestimated. Actinolite occurs in both fibrous and non-fibrous forms, but the fibrous type has garnered a reputation due to its links with asbestos. Relying on proper testing methods and expert knowledge is essential to accurately determine whether actinolite presents as a health hazard Understanding precautionary measures is crucial when dealing with actinolite.

The health risks associated with this mineral cannot be overstated. Health Risks: Exposure to actinolite, particularly in environments where it is disturbed, poses significant respiratory health risks. The potential for mesothelioma, lung cancer, and other diseases expands with prolonged exposure.”

In Montana we have seen the deadly effects of tremolite, a mineral closely related to actinolite. Hundreds of people died and more than 3,000 have been sickened from asbestos exposure in the Libby area, according to researchers and health officials (see AP News, April 7, 2024).

Asbestos litigation, now thriving in this country as symptoms of mesothelioma have begun to manifest over the past 40 years, is rooted in proving the company, building owner or other entity did not take adequate precautions to shield workers, employees and residents from harmful contamination. Generally making a claim on Actinolite asbestos exposure involves proof that due diligence was not practiced by the responsible party and as a result, avoidable harm was done to the victim (Law Network Dec 30, 2019)

Both the BNF and USCM have been made aware of the likely presence of asbestos (See Exhibit I: Pliley Response).

Dust in the wind knows no boundaries. Clean up would be practically impossible. There is no safe level of asbestos. Mesothelioma has no cure. An HRA must be completed prior to the surface and underground ground disturbing activities described in the PoO.

There is no mention of possible asbestos in the updated PoO Air Quality section. This constitutes gross negligence by USCM. In spite of previous assurances, the BNF failed to identify deficient disclosure and mitigation of potential asbestos in the PoO (Exhibit I: Pliley Response).

The known presence of radioactive thorium and possible presence of asbestos should preclude the use of a CE and, due to potential human health impacts, should require evaluation in an EIS.

Polymers, Microplastics, and Forever Chemicals

Hole conditioning and lubricating agents used during drilling operations are likely to enter the ground water. How will these agents affect ground water? Do the polymers contain or break down into microplastics or "forever chemicals"? A thorough analysis of how these agents will immediately, or as they break down over time, affect ground water, human health, and fisheries must be conducted before drilling occurs.

Waste Management

Off-site storage and Conner/Darby impacts

The Project states that mineralized rock will be hauled to an off-site location for testing. Appendix G of the Project discloses that bulk sample material would go to a private location in the Conner/Darby area. The Project must disclose that specific location and describe what would take place there.

The Project states that the mineralized ore will be trucked to the Conner/Darby area, but does not reveal whether the private location is a temporary storage yard, a transfer point, a sample preparation site, a crushing/splitting location, or a lab staging area. It does not describe stormwater controls, dust controls, traffic, waste handling, or permits for the private site.

The public and the Forest Service deserve to know that this project is not just exporting hazards to another location. We need to know the full extent of the project from beginning to end. The Forest Service should not approve a project in which critical materials simply appear on site and then magically disappear. We need to know where and how essential materials, like water, are being supplied. And we need to know the nature and degree of the hazardous material being produced at the site, stored at the site, and shipped out. Without this information, the degree of significance of the activity remains uncertain.

The Forest Service should require:

- Reveal the exact off-site storage and testing locations.
- A site plan for the storage area.
- Adequate dust controls, tarps, berms, and runoff controls.
- Periodic testing of stored material.
- Testing results should be immediately and simultaneously disclosed to the Forest Service and the public.
- Pre-operations traffic and road analysis for the Conner/Darby route.
- Disclosure of any crushing, splitting, sampling, processing, or re-loading.
- Separate permitting if the off-site site involves storage, processing, or waste handling.

Roads, traffic, bridges, and public safety

The Project says fuel, water, equipment, and materials would be moved to an interim staging area off West Fork Road, then flown to the work sites by helicopter. It identifies West Fork Road, Sheep Creek Road, and Sheep Creek Trail as access routes. The Project asserts that road use will be minimal. That claim requires analysis. Appendix G of the Project states that up to 35,000 pounds of bulk sample material may be hauled off site each day by pickup and gooseneck trailer, in up to two loaded outbound trips per day. Over the life of the project, USCM proposes to remove about 3,000 short tons, or 6 million pounds, of bulk sample material.

The PoO states:

> *Where the exploration locations are located near an existing Forest Service road, personnel and project-related visitors may park in pullouts or widened areas to access the sites by UTV or on foot (collectively, these temporary parking spots are identified as "truck parking locations" on Figure 2); UTV use is proposed at Location #2 only. Additionally, the truck parking location off West Fork Road will serve as an interim staging area. Fuel, water, equipment, and materials will be transported to this truck parking / interim staging area and flown to the site by helicopter. A second fuel tank will be maintained at the interim staging area for helicopter refueling (p 3).*

Has the BNF analyzed this staging area in a "widened area" off the West Fork Road? Does it have the capacity to accommodate loading and unloading trucks, loading and unloading helicopters, a fuel tank, truck parking by visitors and workers, and normal use of the West Fork Road? The Project asserts that no road construction or reconstruction will take place, but the plan to truck in supplies, load them onto helicopters to move them further into a remote place, land helicopters, lower helicopter hauling mechanisms, fuel helicopters and trucks, and maintain a fuel storage tank would require more than widened areas of a remote forest service dirt road. Considering the operations proposed and public safety, this will require further widening, reconstruction of the road.

The Forest Service should require:

- A full traffic analysis.
- Specifications for trucks and trailers expected to be used during operations.
- Analysis of legal payload, axle load, and bridge capacities.
- Analysis of the size and capacity of "widened" area of the proposed staging area.
- Estimates of daily and seasonal truck trips.
- Specific commitments for road maintenance and repair.
- Estimated costs of road maintenance and repair.
- Specific requirements for dust control and load-cover.
- Emergency response plans for crashes, rollovers, fuel spills, and spilled mineralized rock.
- Disclosure of the off-site storage or testing location.
- The need for further widening of the road/road reconstruction.

Helicopters, noise, recreation, and residents

The Project relies on heavy helicopter use. Appendix G of the Project estimates 300 roundtrip transit flights between Conner and Sheep Creek in Season 1, plus 1,900 internal hops. Season 2 would add about 240 transit flights and 1,680 internal hops. The flight route would generally follow the West Fork Road corridor. Decibel levels from helicopter noise, blasting, etc in this narrow canyon could harm the public and wildlife especially on cold mornings.

The Forest Service should require:

- An analysis of helicopter noise.
- Flight-load calculations.
- Caps to the number of flights.
- Limits for flights to specific time-of-day.
- Seasonal limits to protect wildlife and recreation.
- Advance public notice of high-flight days.
- Safety plans for long-line loads near roads, homes, and private property.

- Analysis of cumulative disturbance from repeated flights.

Cultural and Archaeological Resources

Full consultation with Tribal Nations should be undertaken prior to any decision. The presence and impacts to cultural resources is an extraordinary circumstance.

Cost to Taxpayers

An economic analysis should be completed to assess the direct, indirect and tertiary costs associated with this proposed mine.

Reclamation and bonding

USCM says it will be responsible for reclamation performance and bonding. The Project says drill holes will be plugged, sumps closed, equipment removed, disturbed areas scarified and seeded, and revegetation monitored once per year for two years.

The Forest Service and Montana DEQ must require full-cost financial assurance before work begins. The bond should cover reclamation, spill cleanup, waste removal, road repair, water monitoring, revegetation failure, agency oversight, and default or abandonment. Both agencies should disclose the bond amount, calculation, holder, release criteria, and inspection schedule.

Future mine

The Forest Service must make it clear that exploration approval does not endorse a future mine. USCM's Project says the project is intended to better define the type, extent, quality, and quantity of minerals. That means the project is tied to possible future development.

The Forest Service should:

- Treat the exploration plan as part of a larger mineral-development context.
- Avoid segmenting the analysis.
- Require full public review for any future road building, mining, processing, waste storage, water withdrawal, discharge, or tailings proposal.
- State that exploration approval creates no right to mine.

Project Record

Please include these comments, attached exhibits, and attached references in the project record.

Incorporated by reference

We incorporate by reference the comments by Chris Servheen, Sheep Creek Mine: Impacts on Grizzly Bears, July 2026 (Exhibit B), The Bitterroot River Protection Association, Comments on proposed Sheep Creek Mine Exploration revised plan, dated July 13, 2026 (Exhibit J), the Summary of Sheep Creek Exploration Project deficiencies (Exhibit K), and the comments from Larry Campbell in the Pliley Response e-mail chain (Exhibit I).

Conclusion

The headwaters of the West Fork of the Bitterroot River is not a place for mining or mining exploration. The current Project proposal could be a significant health risk and should be denied. At the very least, an Environmental Impact Statement and a hard look at the possible effects of the project must be conducted as the short and long-term impacts may negatively affect the entire watershed downstream from Sheep and Johnson Creeks, Painted Rocks Reservoir, the West Fork, and the mainstem of the Bitterroot River. Also at stake are significant portions of the Bitterroot economy, public health, several threatened and/or endangered species, and species of special concern.

Sincerely,

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Exhibits sent as attachments to Sheep.Creek.Comments@usda.gov

Exhibit A: Carter 2026 Lynx Study
Exhibit B: Servheen comments on Sheep Creek Mine
Exhibit C: Clancy et al 2026
Exhibit D: Side-casting Report
Exhibit E: Sheep Creek Mine Field Monitoring
Exhibit F: Ineffective Road and Trail Closures BNF
Exhibit G: Illegal use Willow/Butterfly
Exhibit H: ABM Asbestos Analysis
Exhibit I: Pliley Response
Exhibit J: Bitterroot River Protection Assoc Comments
Exhibit K: Summary and project deficiencies

References sent as attachments to Sheep.Creek.Comments@usda.gov

Allendorf FW, Metzgar LH, Horejsi BL, Mattson DJ, Craighead FL (2019) The status of the grizzly bear and conservation of biological diversity in the Northern Rocky Mountains. A compendium of expert statements. Flathead-Lolo-Bitterroot Citizen Task Force, Missoula, Montana.

AP News, April 7, 2024. Victims of Montana asbestos pollution take Warren Buffet's railroad to court. Captured 8/2/2026 at https://apnews.com/article/asbestos-libby-montana-bnsf-railroad-trial-e9b7587c0cc78fb93afca24436639eb6

Aplet, G.H., Hartger, P. & Dietz, M.S. Three-decade record of contiguous-U.S. national forest wildfires indicates increased density of ignitions near roads. *fire ecol* **22**, 8 (2026). https://doi.org/10.1186/s42408-026-00450-2

Bader, M and P Sieracki 2022. Grizzly bear denning habitat and demographic connectivity in northern Idaho and western Montana. Northwestern Naturalist 103(3): 209-225.

Banerjee, Understanding the Dangers of Actinolite. captured from https://scivast.com/articles/understanding-dangers-actinolite/ on 8/2/2026.

Bitterroot National Forest Service Press Release July 27 2026, Sheep Creek Rare Earth Exploration Project. Captured 8/4/2026 from https://www.fs.usda.gov/r01/bitterroot/newsroom/stories/sheep-creek-rare-earth-exploration-project

BLM information factsheet, (2018).

Balch JK, Bradley BA, Abatzoglou JT, Nagy RC, Fusco EJ, Mahood AL. (2017). Human-started wildfires expand the fire niche across the United States. Proc Natl Acad Sci U S A. Mar 14;114(11):2946-2951. doi: 10.1073/pnas.1617394114. Epub 2017 Feb 27. PMID: 28242690; PMCID: PMC5358354.

Boyce, M. S., B. M. Blanchard, R. R. Knight, and C. Servheen. 2001. Population viability for grizzly bears: a critical review. International Association for Bear Research and Management Monograph Series 4:1–39.

Bradley, Curtis & Hanson, Chad & Dellasala, Dominick. (2016). Does increased forest protection correspond to higher fire severity in frequent-fire forests of the western United States?. Ecosphere. 7. e01492. 10.1002/ecs2.1492. https://esajournals.onlinelibrary.wiley.com/doi/full/10.1002/ecs2.1492

Côté, Steeve. (1996). Mountain Goat Responses to Helicopter Disturbance. Wildlife Society Bulletin. 24. 681-685.

Craighead, F. Lance, E.R. Vyse. 1996. Chapter 14: Brown and grizzly bear metapopulations. In: Metapopulations and Wildlife Conservation. D. McCullough (Ed.). Island Press. pp. 325-351.

Crupi AP, Gregovich DP, White KS (2020) Steep and deep: Terrain and climate factors explain brown bear (*Ursus arctos*) alpine den site selection to guide heli-skiing management. PLoS ONE 15(9): e 0238711. https://doi.org/10.1371/journal.pone.0238711

Daily Montanan, Keila Szpaller, July 28, 2026. "Sheep Creek mine operators wanted exemption from DEQ review; DEQ denies request".

Dunham, J.B. and Rieman, B.E. (1999), METAPOPULATION STRUCTURE OF BULL TROUT: INFLUENCES OF PHYSICAL, BIOTIC, AND GEOMETRICAL LANDSCAPE CHARACTERISTICS. Ecological Applications, 9: 642-655. https://doi.org/10.1890/1051-0761(1999)009[0642:MSOBTI]2.0.CO;2

Frissel, Christopher A. 2014. Comments on the Revised Draft Recovery Plan for the Coterminous United States Population of Bull Trout (Salvelinus confluentus) U. S. Fish and Wildlife Service

Furniss, M. J., T. D. Roelofs, and C. S. Yee. 1991. "Road Construction and Maintenance." In: Influences of Forest and Rangeland Management. Meehan, W. R. ed. Bethesda, Maryland: American Fisheries Society Special Publication 19. pp. 297-324.

GAO, Deferred Maintenance: Agencies Generally Followed Leading Practices in Selections but Faced Challenges. Report to Congressional committees, (2024).

Gaynor, Kaitlyn & Hojnowski, Cheryl & Carter, Neil & Brashares, Justin. (2018). The influence of human disturbance on wildlife nocturnality. Science. 360. 1232-1235. 10.1126/science.aar7121.

Gibeau, M. L., Herrero, S., McLellan, B. N., & Woods, J. G. (2001). Managing for Grizzly Bear Security Areas in Banff National Park and the Central Canadian Rocky Mountains. *Ursus*, *12*, 121–129. http://www.jstor.org/stable/3873239

Grace, Johnny M., III. (2002). Sediment movement from forest road systems-roads: a major contributor to erosion and stream sedimentation. American Society of Agricultural Engineers : 13-14.

Graves, TA (2002). Spatial and temporal response of grizzly bears to recreational use on trails. Master of Science Thesis. University of Montana.

Graves, T. A, Servheen, C., & Godtel, D. (2003). Spatial and temporal response of grizzly bears to recreational use on trails. *UC Davis: Road Ecology Center*. Retrieved from https://escholarship.org/uc/item/8bd59485

Gucinski, Hermann; Furniss, Michael J.; Ziemer, Robert R.; Brookes, Martha H. 2001. Forest roads: a synthesis of scientific information. Gen. Tech. Rep. PNW-GTR- 509. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station. 103 p.

Hanski I, Gilpin M.1991. Metapopulation dynamics: brief history and conceptual domain. Biological Journal of the Linnean Society 42: 3-16.

Hantson, S., Andela, N., Goulden, M.L. *et al.* Human-ignited fires result in more extreme fire behavior and ecosystem impacts. *Nat Commun* **13**, 2717 (2022). https://doi.org/10.1038/s41467-022-30030-2

Heinrick, EW and Levinson, AA, University of Michigan, 1961. Carbonatic Niobium-Rare Earth Deposits, Ravalli County, MT. The American Mineralogist, Vol 46, Nov/Dec 1961.

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

Jones, J.A., F.J. Swanson, B.C. Wemple, and K.U. Snyder. (2000). Effects of roads on hydrology, geomorphology, and disturbance patches in stream networks. *Conservation Biology* 14: 76–85.

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.

Lanner, Ronald M, *Made for Each Other: A Symbiosis of Birds and Pines* (New York, NY, 1996; online edn, Oxford Academic, 31, Oct. 2023), https://doi.org/10.1093/oso/9780195089028.001.0001 .

Law Network Dec. 30, 2019. Actinolite Asbestos. Captured from https://asbestos.laws.com/actinolite-asbestos 8/2/2026.

Mace, R. D., Waller, J. S., Manley, T. L., Lyon, L. J., & Zuuring, H. (1996). Relationships Among Grizzly Bears, Roads and Habitat in the Swan Mountains Montana. *Journal of Applied Ecology*, *33*(6), 1395–1404. https://doi.org/10.2307/2404779

Mattson, David. (2024). Roads, Residences, and Grizzly Bears: Effects of Human Infrastructure on Brown and Grizzly Bears. 10.13140/RG.2.2.27234.54720.

Parks *et al* 2025 *Environ. Res. Lett.* **20** 104012 **DOI** 10.1088/1748-9326/
https://research.fs.usda.gov/treesearch/69685

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.

Proctor, MF, BN McLellan, GB Stenhouse, G Mowat, CT Lamb, and MS Boyce (2019). Effects of roads and motorized human access on grizzly bear populations in British Columbia and Alberta, Canada. Ursus 30(2): 16-39.

Ruggiero, Leonard F.; Aubry, Keith B.; Buskirk, Steven W.; Koehler, Gary M.; Krebs, Charles J.; McKelvey, Kevin S.; Squires, John R. 1999. Ecology and conservation of lynx in the United States. General Technical Report RMRS-GTR-30WWW. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. Available at:
http://www.fs.fed.us/rm/pubs/rmrs_gtr030.html

Saura, S., Bodin, Ö. and Fortin, M.-J. (2014), EDITOR'S CHOICE: Stepping stones are crucial for species' long-distance dispersal and range expansion through habitat networks. J Appl Ecol, 51: 171-182. https://doi.org/10.1111/1365-2664.12179

Schallenberger, A. (1980). Review of Oil and Gas Exploitation Impacts on Grizzly Bears. *Bears: Their Biology and Management*, *4*, 271–276.
https://doiorg.weblib.lib.umt.edu:2443/10.2307/3872880

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

Sells, Sarah & Costello, Cecily & Lukacs, Paul & Roberts, Lori & Vinks, Milan. (2023). Predicted connectivity pathways between grizzly bear ecosystems in Western Montana. Biological Conservation. 284. 10.1016/j.biocon.2023.110199.

Servheen C, Waller JS, Sandstrom P. 2001. Identification and management of linkage zones for grizzly bears between the large blocks of public land in the Northern Rocky Mountains. ICOET 2001 A Time for Action Proceedings:161-169.

Squires, J.R., DeCesare, N.J., Kolbe, J.A., & Ruggiero, L.F. 2010. Seasonal Resource Selection of Canada Lynx in Managed Forests of the Northern Rocky Mountains. Journal of Wildlife Management, 74(8):1648-1660. 2010.
https://app.box.com/s/305ebw63mqzteymwu3uq3qsj5fy08gbv

Wakkinen, W. L., & Kasworm, W. F. (2004). Demographics and Population Trends of Grizzly Bears in the Cabinet-Yaak and Selkirk Ecosystems of British Columbia, Idaho, Montana, and Washington. *Ursus*, *15*(1), 65–75. http://www.jstor.org/stable/3873077

Western Environmental Liner FAQs, accessed 8/4/26 at https://westernliner.com/faq/

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

Wisdom, Michael J. and Holthausen, Richard S. and Wales, Barbara C. and Hargis, Christina D. and Saab, Victoria A. and Lee, Danny C. and Hann, Wendel J. and Rich, Terrell D. and Rowland, Mary M. and Murphy, Wally J. and Eames, Michelle R, 2000. Source habitats for terrestrial vertebrates of focus in the interior Columbia basin: broadscale trends and management implications. Volume 1—Overview.}, url={http://dx.doi.org/10.2737/PNW-GTR-485}, DOI={10.2737/pnw-gtr-485}, U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station