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Submitted via <https://cara.fs2c.usda.gov/Public/CommentInput?Project=370721>

Comments concerning the Sheep Creek Rare Earth Exploration Project

Ranger Pliley and Supervisor Anderson,

Friends of the Bitterroots (FOB) and the other groups included in FOB's August 5, 2026 comments hereby resubmit their August 5 submittals (and all attachments/exhibits) as if fully set forth herein, as the agency already has these submittals for its consideration and administrative record.

However, FOB, 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, The Flathead Lolo Bitterroot Task Force, Friends of the Wild Swan, Swan View Coalition, Wilderness Watch, and Montana Environmental Information Center, hereby submit additional comments to the Forest Service.

We also include the pre-scoping letter (S-Exhibit A) that FOB and other groups sent to the Bitterroot National Forest on February 1, 2024 concerning proposed exploration of the Sheep Creek claim. All references are included in attached references.

Analysis

In addition to the previously-submitted reasons showing why the project cannot legally be considered under the proposed CE at 7 CFR 1b.4(d)(32)), the project plan of operations' proposed mineral extraction via a "bulk sample" precludes use of that CE, as it does not qualify for the limited types of operations in that CE. Neither does the proposed "processing" of the sample qualify for the limited types of operations in that CE.

The proposed Plan of Operations does not satisfy the submittal requirements of 36 C.F.R. 228.4, as it contains vague and unsupported descriptions of proposed operations. Also, as discussed herein, and in previous comments, the Plan does not satisfy the strict environmental protection

requirements of 36 C.F.R. 228.8 (e.g., requiring protection of water quality, fisheries and wildlife habitat, and other natural and public resources).

The use of a CE seems a forgone conclusion. The proposed Environmental Assessment was cancelled in July of 2026 and a CE was added to the timeline on the FAST 41 website (figures 1-2).

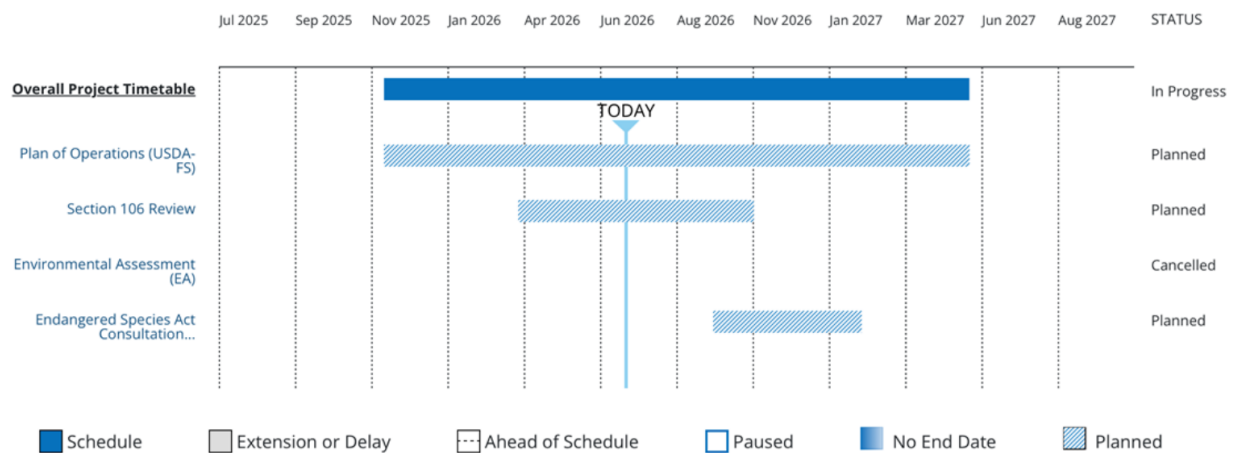


Figure 1: Fast 41 schedule for the Sheep Creek Mine captured on 7/13/2026 at

<https://www.permits.performance.gov/permitting-project/fast-41-transparency-projects/sheep-creek-project>

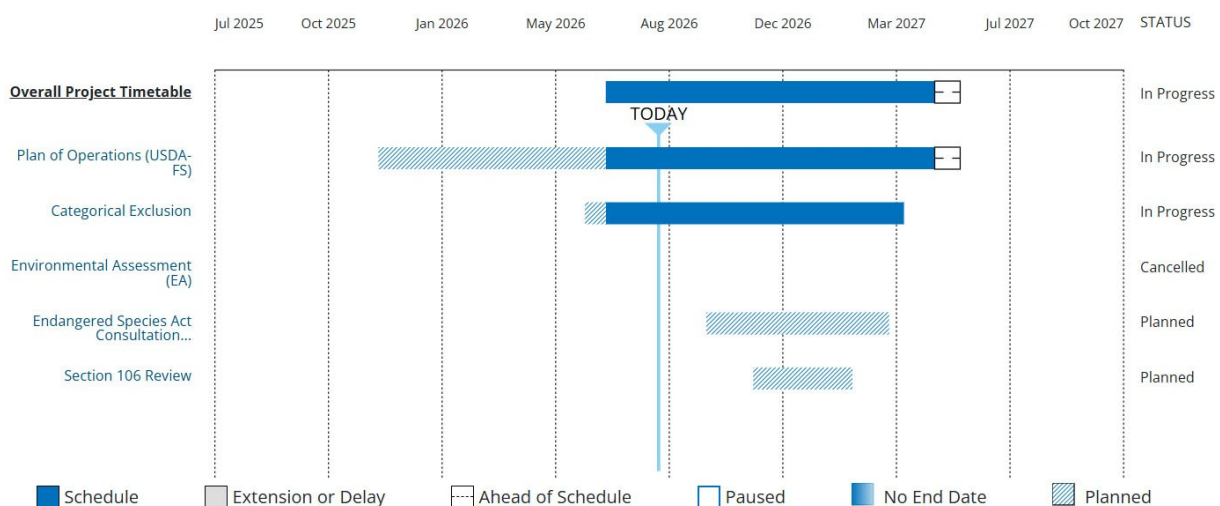


Figure 2: Fast 41 schedule for the Sheep Creek Mine captured 8/18/2026 at

<https://www.permits.performance.gov/permitting-project/fast-41-transparency-projects/sheep-creek-project>

FOREST PLAN

The following Forest Wide Standards for mineral exploration must be followed during the analysis and approval process of the Sheep Creek Mining Exploration Plan (Plan). Standards pertaining to specific Management areas are also listed. Other Forest Plan Standards that apply are listed throughout these comments.

Mineral and Energy Forest Wide Standards:

- a. Case by case surface management restrictions will be developed for locatable, leasable and common variety minerals.

Standards for Management Area 5 pertinent to the Plan:

- a. Management Area 5 contains 233,148 acres of semi primitive recreation and elk security areas.
- b. Management activities will be designed to protect the municipal watershed.
- c. New special uses should include provisions for maintenance of instream flows to maintain existing fisheries (Appendix L)
- d. Offer no semi primitive recreation lands for exchange.
- e. No additional roads will be permitted for mineral prospecting and exploration.
- f. Maintain road surface for public safety and to protect the environment,
- g. Management activities will be designed to protect the municipal watershed.
- h. Soil technical support will be provided for all management activities that involve soil disturbance, such as mining, in areas where soils are identified as sensitive to management activities in the Forest soils inventory. Provide recommended design or protection measures as needed to maintain soil productivity and stability, and to minimize soil erosion, surface disturbance. and stream sedimentation. (III-37-40)

Standards for Management area 2 pertinent to the Plan:

- a. Mineral exploration and development will have road and site restrictions between December 1 and May 15 to avoid big game winter range conflict (Appendix N).

Standards for Management area 3b pertinent to the Plan:

- a. When issuing oil and gas leases and approving operating plans. allow no surface-disturbing activities, unless specially designed, within 300 feet of the normal high water line of spawning streams (Appendix N).
- b. Allow no surface occupancy in wetlands and floodplains.

Standards for Management area 8b pertinent to the Plan:

- a. Mineral exploration and development will have road and site restrictions from December 1 through May 15 to avoid big game winter range conflicts (Appendix N).

Possible asbestos

In addition to previously submitted comments on the possible presence of asbestos, consider the following.

As part of an EA, the completion of an independent Health Risk Analysis of asbestiform actinolite is necessary before any ground disturbing activities are permitted at the Sheep Creek mine site.

Amphibole asbestos, including fibrous actinolite, consists of straight, needle-like fibers that are brittle, chemically diverse, and highly toxic compared to serpentine asbestos. Mining produced dust containing amphibole asbestos has killed over 400 people in Libby Montana. That widespread toxic dust disaster is still killing people long after the mine has been shut down.

Fibrous actinolite is closely associated with the mineralized carbonatite dikes US Critical Materials is proposing to mine. Some is mixed into the ore; more is in the waste wall rock. There is good reason to believe the actinolite at Sheep Creek may be asbestos. The Montana Bureau of Mines and Geology (Crowley) reports that Sheep Creek mine actinolite “forms masses of radiating fibers surrounding other crystals.”

The American Mineralogist, a prestigious industry journal, reports that at Sheep Creek, “Amphiboles: hornblende and actinolite, which are widespread...Dark green hornblende forms single crystals; light green actinolite forms clusters of fibers, usually in radiating groups. (Heinrich)

Geologists at Montana Tech (Risedorf) report that actinolite is one of most common matrix minerals on site and the veinlets that cut across the host rock are "actinolite-rich".

The most immediate human health concern is for workers in the adit at location #1 who would be exposed to a tremendous amount of rock dust containing fibrous actinolite produced in the process of blasting and mining the 6,000,000 pounds of “bulk sample” ore USCM plans to remove.

Proceeding ahead with planned activities without a thorough EA containing a Health Risk Analysis would amount to using mine workers and others as human canaries in the Sheep Creek mine to see if they develop fatal lung diseases. That is not right or legal.

The basic purpose of NEPA is to take a look before recklessly leaping in order to avoid or mitigate problems before they happen. Waving NEPA with a Categorical Exclusion would be extremely irresponsible in this case.

Among other significant extraordinary circumstances that prohibit the use of a CE, the unknown human health risk makes use of a CE inappropriate and illegal.

Radioactive and other hazardous materials

In addition to previously submitted comments on harmful materials, consider the following.

Crowley 1960 found both thorium and uranium in the Sheep Creek area (p 35, 39). The BNF must analyze effects to human health that might be caused by exposing radioactive materials and transporting them by air and by ground through populated areas. Crowley also found elements in the claims that were, “highly radioactive” (p. 23). Near Adit #3 and drilling locations 3 and 4, barium oxide was identified (p 36). A quick look at barium oxide on Wikipedia states barium oxide, “is harmful to human skin and if swallowed in large quantity causes irritation. Excessive quantities of barium oxide may lead to death” (figure 3). What other elements are in the host rock and sample rock? While USCM shares many pages describing the chemicals they will be using, they do not share the possible harmful substances that they will be blasting and drilling through. A full analysis of the rock and soil that will be disturbed must be conducted and all harmful materials disclosed before Plan activities commence.

Barium oxide

[Article](#) [Talk](#)

From Wikipedia, the free encyclopedia

"BaO" redirects here. For other uses, see [BAO \(disambiguation\)](#) and [Bao \(disambiguation\)](#).

Barium oxide, also known as **baria**, is a white [hygroscopic](#) non-flammable [compound](#) with the formula [BaO](#). It has a [cubic](#) structure and is used in [cathode-ray tubes](#), crown glass, and [catalysts](#). It is harmful to human skin and if swallowed in large quantity causes irritation. Excessive quantities of barium oxide may lead to death.

Figure 3: Captured from Wikipedia 9/6/2026

A quick look at hazards in the chemical portion of the Plan found that many of the substances to be used are volatile to heat (See one example, figure 4). What happens if a wildfire is started by Plan operations or lightning in the area? Many of the substances that USCM will use are susceptible to heat, there are 25 references to it in the chemical section.

5.2 Special hazards arising from the substance or mixture

Non flammable. May evolve toxic gases (carbon oxides, styrene, hydrocarbons) when heated to decomposition. Styrene may polymerise readily at elevated temperatures and may violently rupture sealed containers.

5.3 Advice for firefighters

Non flammable. Evacuate area and contact emergency services. Toxic gases (hydrocarbons, carbon oxides, styrene) may be evolved when heated. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use waterfog to cool nearby storage areas.

Figure 4: screen shot from the Plan of information concerning Styrene

Air Quality

In addition to previously submitted comments concerning air quality, consider the following.

The Forest Plan states, “The Forest will cooperate with the Montana and Idaho Air Quality Bureaus in the State Implementation Plans. (II-25). The BNF must analyze effects of dust resulting from the blasting, drilling and transporting of sample and waste rock that include radioactive materials, the possible presence of asbestos, and other harmful materials on air quality.

Water

In addition to previously submitted comments concerning water, consider the following.

The Plan calls for 8500 gallons per day for drilling and 300 gallons a day for bulk sampling. The Plan states that water will come from elsewhere. Where? Do the water rights transfer to bulk sampling and drilling? What if that water supply is not enough? In the previous proposal, if extra water was needed it would come from Sheep Creek or Painted Rocks Reservoir. Is there a guarantee from USCM that no water will be taken from any creek or reservoir in the area? Forest wide standards demand, “Water for nonconsumptive uses (Instream flows) necessary for maintaining fishery habitat, recreational uses, channel maintenance, and aesthetics will be protected by negotiation (compacts), adjudication, special use permits or state reservations. Consumptive water uses to meet National Forest needs will be pursued through appropriate federal and state systems” (II-24). According to the Plan, “Sufficient water will be applied during drilling operations to lubricate equipment and control fugitive dust” (pg 12). And, “Water will be used during bulk sampling and diamond drilling as a lubricant and dust suppressant. A helicopter will sling water to the project site as needed from a source outside the project area. Water will be stored in high capacity holding tank(s) and sumps on-site (e.g., 1,000-gallon water tank)” (Plan p 12).

The Plan states, “the truck parking location on private property on 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.” This property is very close to the river and could be on a flood plain. How will this affect water quality and fisheries in the West Fork? What about wildfire? A “second fuel tank” is mentioned. Where is the first fuel tank to be stored and maintained?

The BNF must also analyze the effects of dust resulting from the drilling and transport of sample and waste rock that include radioactive materials, the possible presence of asbestos, and other harmful materials present on water quality. According to forest-wide standards, “As part of project planning, site specific water quality effects will be evaluated and control measures designed to ensure that the project will meet Forest water quality goals: projects that will not meet State water quality standards (Montana Department of Health and Environmental Sciences, nd) will be redesigned, rescheduled, or dropped” (II-24).

A full analysis of chemicals and polymers used to lubricate drills as well as the rock through which they travel must be conducted before drilling begins. Will biocides be used during drilling? How will these affect ground water? Will Fluoropolymers or standard polymers be used? As the drill moves through 400 feet of elements including but not limited to thorium and uranium, can those items leach into the ground water? Again, the Plan states, “no surface water or groundwater quality monitoring is necessary given the nature of the project and minimal surface disturbance.”

We also include the updated comments from Bitterroot River Protection Association (S-Exhibit B) and all references are attached and listed as Appendix 1-6.

Wildlife

In addition to previously submitted comments concerning harm to wildlife, consider the following.

The Plan states, “A qualified biologist will provide worker environmental awareness training to site personnel prior to start of operations, including species identification and ways to reduce conflicts with wildlife in the area.” The only other mitigations to protect wildlife are to be conducted voluntarily by the workers at the 4 locations and the staging area:

- During helicopter approach, if wildlife is observed in the project area, the approach will be conducted slowly and cautiously to avoid disturbance and will avoid landing if wildlife is near any of the project’s helicopter landing locations.
- Helicopter operations will be conducted during daytime hours to avoid surprise encounters with wildlife.
- Wildlife encountered during exploration activities, if any, will be allowed to leave the work area unharmed and on its own.

- 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.

These mitigations are inadequate at best. They do little to mitigate the impacts of noise and human activity on wildlife. Hovering in a helicopter above wildlife waiting for them to leave the area borders on harassment.

Noise and human activity cause deleterious effects to wildlife. According to Shannon et al 2015, a survey of studies on the effects of anthropogenic noise on wildlife from 1990-2013, “it is clear that noise presents diverse threats to species and ecosystems” (abstract). The effects they noted were:

The majority of studies documented effects from noise, including altered vocal behaviour to mitigate masking, reduced abundance in noisy habitats, changes in vigilance and foraging behaviour, and impacts on individual fitness and the structure of ecological communities. (abstract)

Barber et al 2010 came to a similar conclusion:

Here, we review a broad range of findings that indicate the potential severity of this threat to diverse taxa, and recent studies that document substantial changes in foraging and anti-predator behavior, reproductive success, density and community structure in response to noise. Effective management of protected areas must include noise assessment, and research is needed to further quantify the ecological consequences of chronic noise exposure in terrestrial environments. (p 180)

Ware et al 2015 found, “that noise degrades habitat that is otherwise suitable, and that the presence of a species does not indicate the absence of an impact” (p 12105).

Noise levels, duration of noise and cumulative impacts of helicopter flights along W Fork corridor, helicopter short hops, drilling, and blasting noise must be analyzed and disclosed. Direct, indirect, and cumulative effects of noise on all wildlife including sensitive species and listed species must be analyzed and disclosed. At the very least, hourly and seasonal limits must be implemented to avoid harm to wildlife in the Plan area.

In season 1 the company expects 300 roundtrip transit helicopter flights from Conner to Sheep Creek along a route that will follow the river. There will also be 1,900 internal hops from the staging area to the drill pads. In season 2 there would be 240 roundtrip transit flights and 1,680 internal hops (Appendix G). Along with noise from helicopter flights, blasting larger openings in the adits, widening the tunnel, and mining 3000 tons of material at one location and will create

drilling 45 deep holes in three other locations will create widespread noise disturbance. Though the Plan claims a small surface footprint, the activities guarantee a much larger spatiotemporal footprint.

Zeller et al 2024 studied the effects of recreational noise on wildlife and found, “We broadcast sounds on a weekly schedule and found abundance of wildlife at our sampling sites was 1.5 times lower the week following the deployment of any recreation noise treatment compared with the controls (OR = 1.53, p = 0.0001)” (p 3000).

Zeller did not find a noise threshold for response behavior. “We did not observe a threshold in responses to sound level, indicating that anti-predator behavior is likely to increase with increasing intensity of recreation noise beyond the levels tested in our study” (p 3001). Sytsma et al 2022 “demonstrated that nearly any level of human activity in a protected area may alter wildlife behaviour” (p 1547). Helicopters, OHV traffic, drilling, and blasting will create more noise than was tested in these studies.

Alquezar & Macedo 2019 found, "In addition to the impacts on human well-being, airport noise is also reported to have negative impacts on wildlife ([Pepper et al., 2003](#)). The most obvious effect is animal fleeing in response to panic ([Frid, 2003](#), [Linley et al., 2018](#)), caused by sudden peaks of noise, inducing escape behavior. But studies have also reported increases in alert behavior ([Goudie, 2006](#), [Klett-Mingo et al., 2016](#)), changes in vocal behavior ([Dominoni et al., 2016](#), [Gil et al., 2014](#), [Kruger and Du Preez, 2016](#), [Sierra et al., 2017](#)), and jeopardized reproductive success ([Awbrey and Hunsaker, 1997](#), [DeRose-Wilson et al., 2015](#))” (p 163).

Elk and other ungulates

In addition to previously submitted comments concerning harm to elk and other ungulates, consider the following.

The Plan includes 540 long roundtrip helicopter flights following the West Fork from Connor to Sheep Creek and 3580 short helicopter flights near Sheep Creek in less than one year (Appendix G). The Plan will introduce daily ATV traffic in the Allan Mountain Roadless Area, daily drilling noise at three locations (45 holes), helicopters, blasting in the Plan area, and truck traffic noise to an elk migration area.

The West Fork Elk Management Unit (EMU) is below objective. The Plan states, “Extracted materials will be hauled from the mine to Conner. Up to 35,000 pounds of bulk sample per day will be hauled by pickup and gooseneck trailer, in up to two loaded outbound trips per day” (Appendix G). Truck travel down the West Fork Road hauling tons of sample rock and possible waste rock will alter migration patterns and put the already minimal population at risk decreasing recreational opportunities of hunting and wildlife viewing. According to a Montana

Fish Wildlife and Parks (FWP) 2016 study on Bitterroot elk, the West Fork elk population has, “experienced severe declines in elk numbers and recruitment” (Proffitt et al 2016, p 7).

Frid 2003 found, “Sheep groups fled during helicopter overflights in 43 of 56 observations (77%)” Frid 2003, p 391). The study states:

Ungulates may incur energetic costs when disturbed by aircraft overflights or other human activities. These costs may result from overt behavioural responses, including fleeing, habitat shifts, increased movement, and lower foraging and resting rates (e.g. Stockwell et al., 1991; Bleich et al., 1994; Coˆte’, 1996; Bradshaw et al., 1997, 1998; Maier et al., 1998). More subtle responses, such as increased heart and metabolic rates (MacArthur et al., 1982) and disruptions of rumination (Maier, 1996), also may have energetic consequences (p 387).

Zeller et al 2024 found, “Elk were the most sensitive to recreation noise among species in our study (Figures 3A and 3B). Elk had a 47% probability of fleeing (95% CI [0.34–0.61]) upon hearing any recreation noise and were 6.9 times more likely to flee compared with the control treatments (OR = 0.144, p = 0.0008). Elk also spent 48% of the time vigilant (95% CI [0.41–0.68]) in response to recreation noise and spent 2.9 times longer being vigilant compared to the controls (OR = 0.348, p = 0.0490)” (p 2998).

Beaupre et al 2025 found, “Elk can experience detrimental disturbances during neonatal periods from human-induced disturbances such as recreation and commercial-based impacts (Shively et al., 2005)” p 2. Beaupre also state:

Results from studies conducted in Starkey Experimental Forest on road and traffic disturbance suggest that elk show measurable avoidance and increased movement rate and flight response to all-terrain vehicles (ATVs), mountain bikers, hikers, and horseback riders, with behavioral responses that vary by recreational activity (Preisler et al., 2013; Wisdom et al., 2004). Shifts in elk distribution away from motorized roadways have been documented across many areas of the western United States (Buchanan et al., 2014; Prokopenko et al., 2017; Rowland et al., 2000, 2004; Wisdom et al., 2018). Shifting ranges may reduce the overall carrying capacity of some areas (Rowland et al., 2000) and redistribute elk from public lands toward areas with restricted public access (Proffitt et al., 2013). (p 2)

The BNF must analyze effects to elk populations. The 1987 Forest Plan includes the forest wide standard, “Elk population status will be used as an indicator of commonly hunted ungulate species and the status of their habitat” (II-20). Timing restrictions must be imposed to protect

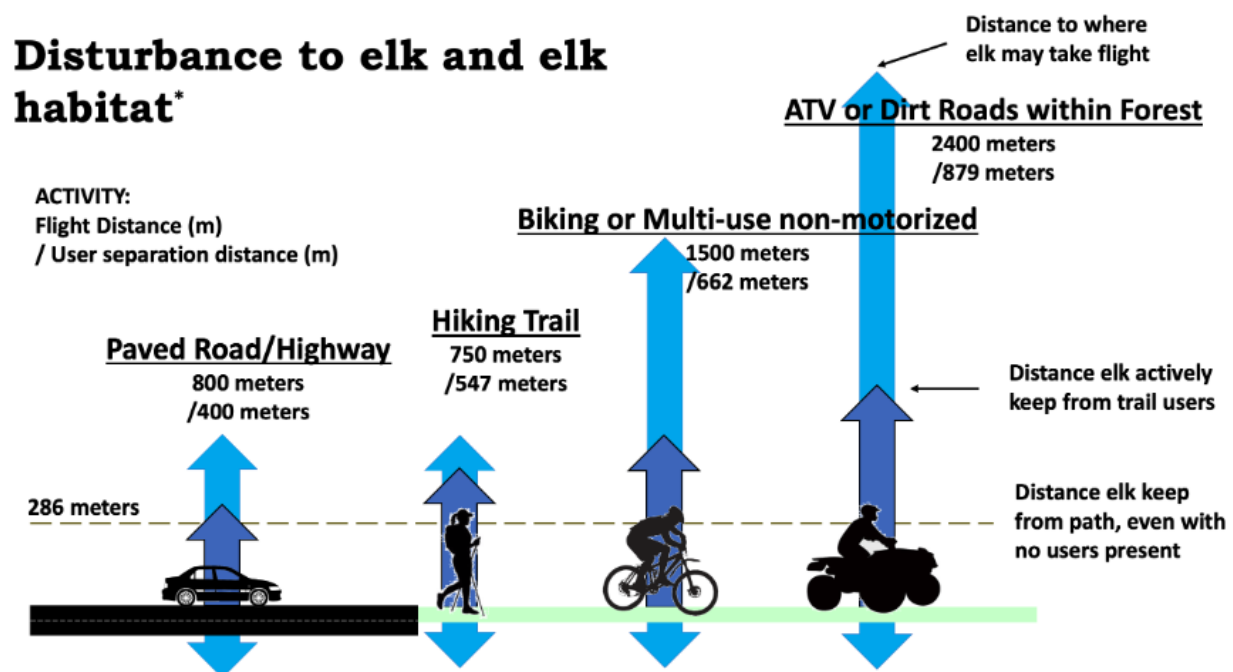
elk calving areas and elk winter range. The Forest Service must also provide a thorough analysis of all impacts of the proposed exploration activities on elk.

Servheen et al 1997 state that “calving normally occurs between May 15 and June 15 with a peak in activity about June 1 (Moroz 1976, Schelegel 1976). ... Most cows appear to have traditional areas they return to each year at calving time. Elk may calve on or adjacent to winter ranges but at other times they migrate to summer range before calving – depending on the rate of snowmelt and plant development (Hershey and Legee 1982)” (p 9).

Plan activities must be limited during calving season to protect elk populations. Shively et al 2005 recommends closing calving habitat to human activity in the spring, “Selective closures, or at least restrictions on recreational activity, may be warranted during calving season. Closures that have been imposed on parts of the Vail and Beaver Creek study areas are working to keep people out of critical calving habitat in spring and should be continued” (p 1079).

A study by the US Forest Service and the State of Oregon outfitted elk with GPS collars and measured the distance that they will flee from trail-based recreation. The study showed wide disturbance zones dependent on the type of recreation (figure 5).

Disturbance to elk and elk habitat*



*based on studies performed by US Forest Service, State of Oregon, and Federal Highway Administration

Figure 5: Chart based on USFS and State of Oregon study Wisdom et al 2018, chart created by Keep Routt Wild

The Plan will have hazardous impacts on elk (*cervus elaphus*). Elk are dependent on secure habitat to thrive. Elk require security from human disturbance for calving, forage, and cover. Quality and security of winter range is essential to elk survival. Traffic on roads, ATV access, and helicopter flights will displace elk causing a decrease in survival rates. Phillips and Alldredge 2000 found, "To ignore potential effects of human-induced disturbance of elk during calving season is to risk declining reproductive success in elk populations. If elk are left inadequate calving-season habitat and can no longer escape disturbance, either from over development of backcountry access corridors or from high levels of off-trail activity, then populations may decline" (p 528).

An intensively used road would hinder elk migration through the area. The West Fork includes substantial winter range for elk (figure 6). The Sheep Creek area overlaps and borders elk winter range. Combining industrial land use, with truck and helicopter traffic on a daily basis, could significantly harm the elk population in this area. Numerous peer reviewed studies show that motorized vehicles and noise displace elk. Such a project would result in less secure habitat, disturbed migration routes, impaired winter range, fewer elk, and less public hunting opportunity. Hunting has already been curbed in the area. According to an FWP report, "Declines in the southern Bitterroot elk population and recruitment prompted managers to reduce hunter opportunity and harvest levels for antlered and antlerless elk in portions of the Bitterroot Valley" (Proffit et al 2016, p 82).

Timing restrictions must be imposed on exploration activities to protect elk winter range as mandated in the 1987 Forest Plan, "Mineral exploration and development will have road and site restrictions between December 1 and May 15 to avoid big game winter range conflict (Appendix N)" (III-12, III-62).

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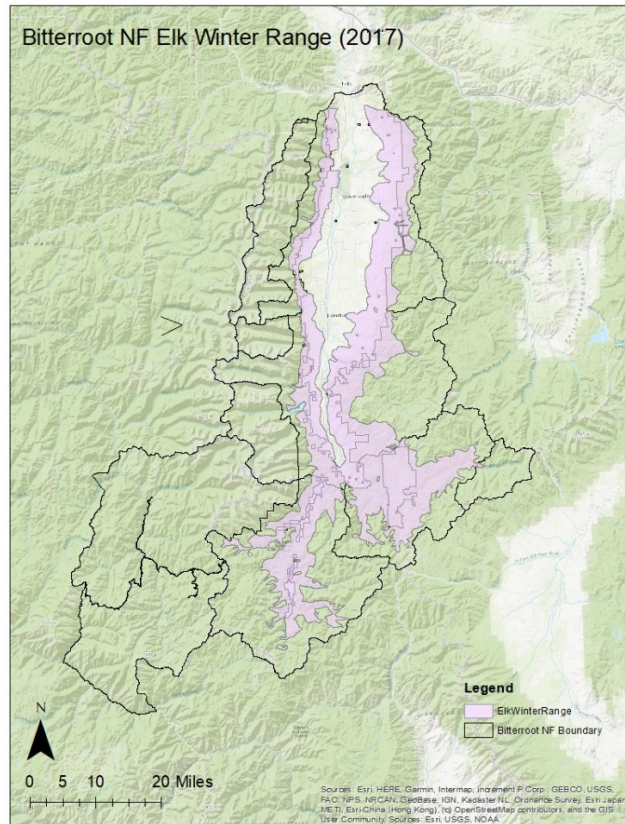


Figure 6: Elk winter range Bitterroot National Forest 2017

Servheen et al 1997 found that, “Disturbance of elk on winter ranges can cause high energy expenditures and increase the energy deficit for elk” (p 11). Winter ranges and their surrounds must be protected from Plan activities.

Proffit et al 2016 found, “Winter range in the upper West Fork has 300 - 500 elk and is comprised of a combination of private and public lands along the West Fork of the Bitterroot River, adjacent timbered benches, and low to mid elevation ridges and slopes. Collared elk wintering in the West Fork used public lands 81% of the time” (p 25-26), (figure 7). It also found, “Management actions designed to address a single factor affecting elk population growth rates (i.e., pregnancy rates, adult survival, or juvenile survival) may be insufficient in areas such as the West Fork where each of these rates is low. Instead, an integrated management approach where antlerless harvest remains low, carnivore densities are reduced, and efforts are made to improve habitat quality and quantity, would likely be a more effective way to increase elk population growth rate and achieve and maintain a larger elk population size” (p 82). Plan activities are a management action that could be prevented. Note also that elk in summer continue to utilize the areas along the upper reaches of the West Fork (figure 8).

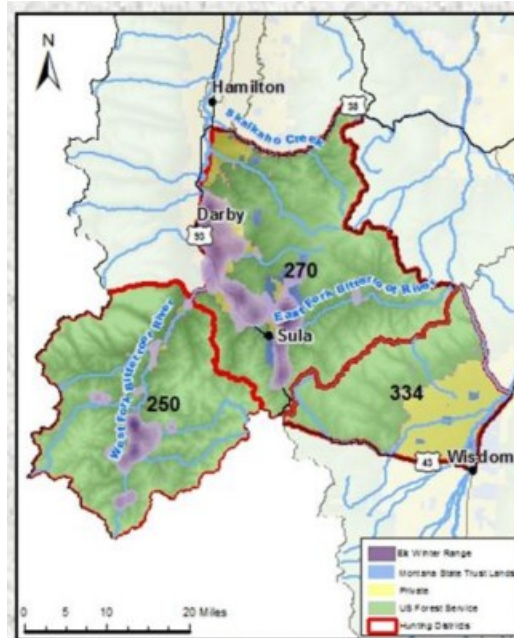


Figure 3.1 Elk winter ranges in the West Fork and East Fork of the Bitterroot Valley during 2011—2013.

Figure 7: Active elk winter ranges in the West Fork from FWP Study, Proffitt et al 2016

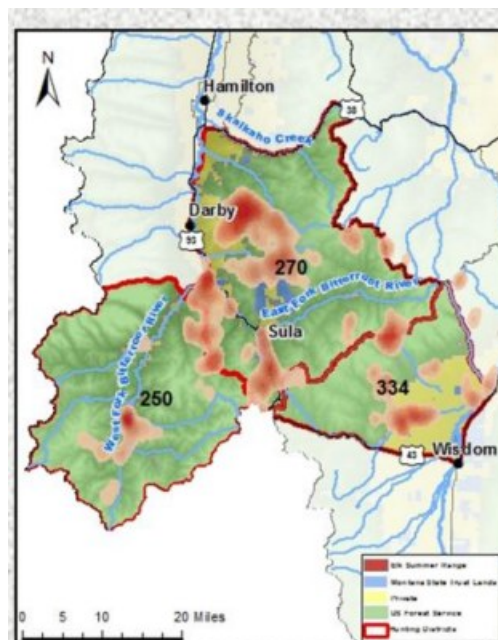


Figure 3.2 Elk summer ranges in the West and East Forks of the Bitterroot Valley and the Big Hole Valley during 2011 – 2013.

Figure 8: Summer ranges in the Sheep Creek area from Proffitt et al 2016

McCorquodale 2013 found:

In a study in relatively open country in Wyoming, Sawyer and Nielson (2005) and Sawyer et al. (2007) found that the distance to the nearest road was one of the most powerful predictors of radiocollared elk use; areas predicted to have the highest elk use in summer were 2.8 km from major roads, and in winter, were 1.2 km from major roads. The authors attributed the difference in the winter model predictions to lower observed traffic in winter. The authors noted, “...if human activity were to increase during the winter due to landscape–use changes, such as off-road vehicle use, energy development, or mineral extraction, we would expect elk to distance themselves from roads in a manner similar to summer, altering the amount of winter habitat available to them” (emphasis added, p 8).

Wintertime is an especially critical time for elk, and stress from avoiding motorized activities takes its toll on elk and populations (figure 9). Kight and Swaddle found, “that environmental noise can lead to DNA damage, alterations in gene expression and changes to a myriad of cellular processes related to appropriate neural, developmental, immunological and physiological functioning. In addition, previous authors have discussed ways in which noise can impact animal behaviour and community ecology (Francis et al. 2009; Barber et al. 2010)” (page 7).

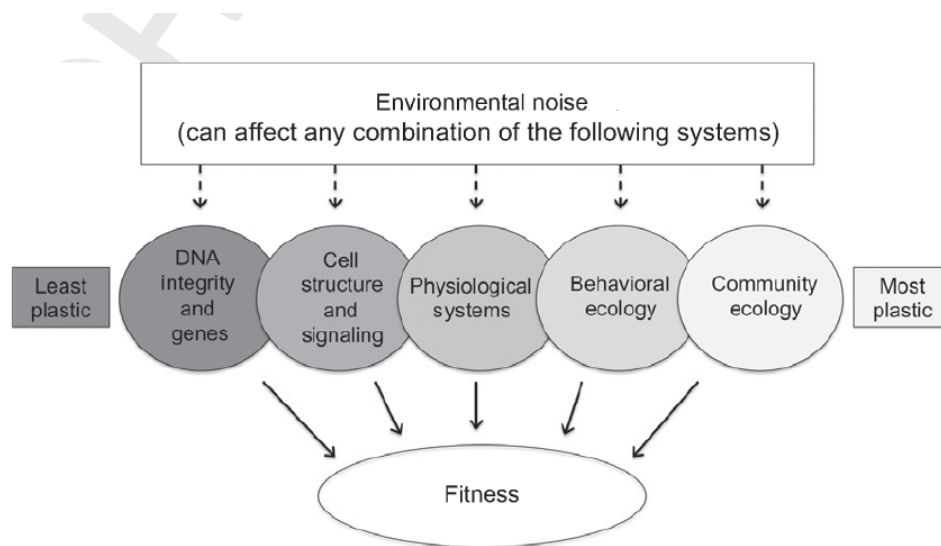


Figure 9: Chart from Kight and Swaddle 2011

Christensen et al 1993: “management of winter range to improve thermal cover and **prevent harassment** may be as important as anything done to change forage quantity or quality” (emphasis added, p 6).

Bunch and Workman 1993 studied heart rate and body temperatures of elk, antelope, and Rocky Mountain Sheep when exposed to various disturbances. The ungulates eventually adapted to many disturbances with the exception of “fixed wing aircraft at low levels of flight; and **helicopter flights at low elevations**” (emphasis added, p 2378).

Cole et al 1997 found, “Under pressure from human disturbance, however, Rocky Mountain elk will flee preferred areas (Edge 1982)” (p 1116). They also found that “human disturbance can increase elk movements. Elk moved greater distances away from logging activity than toward it in western Montana (Edge 1982). When researchers continuously monitored both hunter and elk movements in Oregon's Blue Mountains they found that elk did not move substantial distances until they encountered hunters or vehicles (Bryant et al. 1991). When elk were disturbed during their study, they would move a substantial distance and then remain in that area until they encountered a hunter or a vehicle again” (p 1124).

Servheen et al 1997 found that “displacement of elk from preferred habitats is often harmful to individual animals and the herd” (p 8). It is clear that elk and other ungulates will be negatively impacted by Plan activities. The Forest Service must demand limits on when, where, and how activities occur and they must thoroughly analyze and disclose the harmful impacts to elk, a management indicator species, and sensitive species mountain goats and bighorn sheep. As stated in the forest plan, “The habitat needs of sensitive species, as listed by the Regional Forester, will be considered in all project planning” (II-21).

ESA Listed Species

In addition to previously submitted comments concerning harm to ESA listed species, consider the following.

According to the 1987 Forest Plan, “No formal recovery plan has been established for threatened and endangered species on the Bitterroot Forest. Specific population objectives will be established when sufficient biological information is available to do so. Cooperate and involve the Public in any interagency recovery effort.” Specific population objectives must be established for wolverine, whitebark pine, bull trout, lynx, and all other listed species on the BNF before any more management decisions are made. The BNF has not published a monitoring report as required by the 2012 planning rule since 2022. A lapse in mandated monitoring of these species is a poor excuse for not having sufficient biological information.

Below are excerpts from the Council on Environmental Quality, Guidance for Federal Departments and Agencies on Ecological Connectivity and Wildlife Corridors, March 21, 2023 (S-Exhibit C) which should be considered and applied in analyzing impacts from the Sheep Creek Mine:

- To the maximum extent practicable, Federal agencies are expected to advance the objectives of this guidance by developing policies, through regulations, guidance, or other means, to consider how to conserve, enhance, protect, and restore corridors and connectivity during planning and decision-making, and to encourage collaborative processes across management and ownership boundaries. (p.2)
- Examples of focal areas where connectivity and corridors should be considered early in planning, funding, and decision-making include, but are not limited to: Hard rock mining and mineral exploration and development planning and permitting. (p.4)
- It is important to consider how connectivity and corridors can be promoted early in planning processes... (p.5)
- Baseline information: Federal agencies should appropriately assess the public lands and waters they manage for connectivity and corridors values. Agencies should then incorporate consideration of connectivity and corridors into the guidance for planning, siting, operation, and maintenance of Federal investments, including renewable energy development and infrastructure. (p.6)

The Allan Mountain Roadless Area is a key link in the connectivity zone allowing grizzly bears, lynx, wolverine, and many other species move into the Blue Joint Wilderness Study Area and the Frank Church River of No Return Wilderness. Location 2, where drilling, bulldozing, and ATV travel will occur, is in the Allan Mountain Roadless Area (figure 10). Exploration drilling and other activities must be removed from the Plan if they impede connectivity and disturb movement zones. The Forest Service must also disclose the NEPA surrounding the road in the Allan Mountain IRA that will be cleared and used by OHVs. Has this road been decommissioned?

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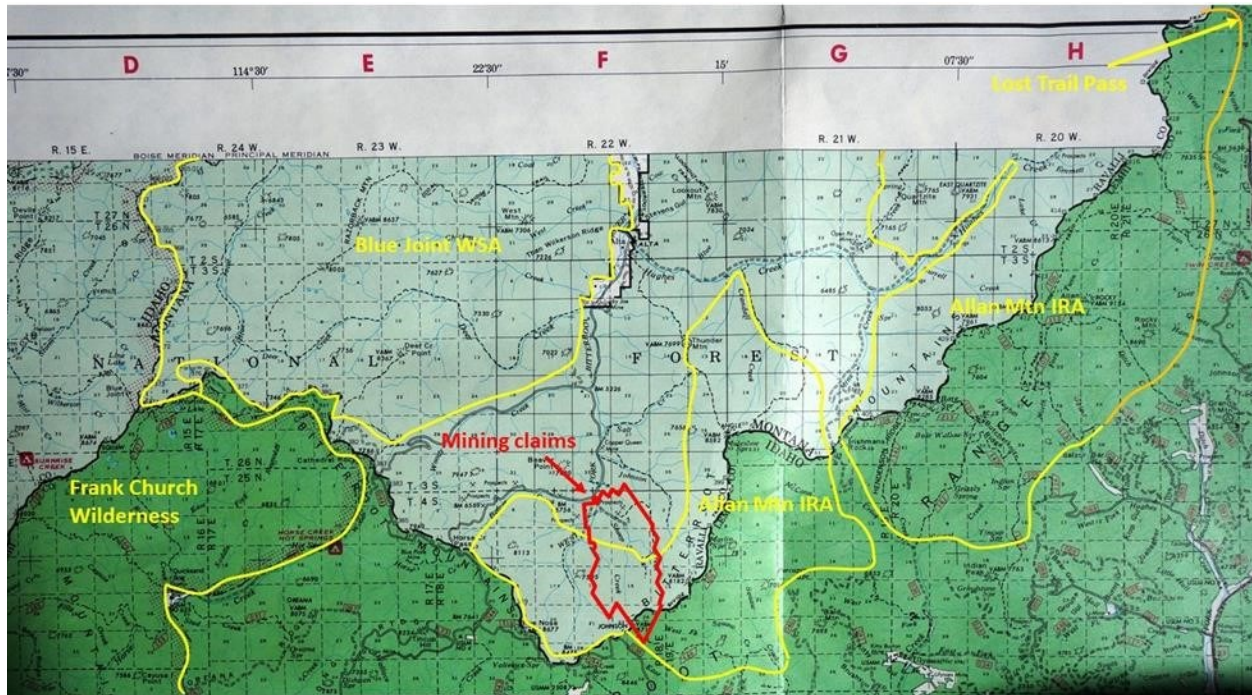


Figure 10: Allan Mountain IRA proximity to protected habitats of Blue Joint WSA and the Frank Church River of No Return Wilderness.

Whitebark Pine

According to the Forest Plan, specific population objectives must be established for whitebark pine which must include forest-wide surveys and analysis. Yet no surveys are to be conducted before Plan activities begin. The Forest Plan mandates, “Participate in the identification and protection of threatened and endangered species and vascular plants identified as rare, pending study and proposal as threatened or endangered” (II-21).

Whitebark pine seedlings and germinated seeds would be impacted adversely by Plan activities. The USFWS Species Status Assessment 2021 states, “Successful recruitment of young trees becomes increasingly critical as mature trees are eliminated by catastrophic events (such as severe wildfire) or environmental conditions (such as climate change). If all trees in a population manage to replace themselves during their lifetime, on average, the population will persist” (p 29). These vulnerable seedlings essential to species persistence take many years to establish and up to 11 years to germinate and even more time to finally produce cones. USFWS 2021 states:

Seeds are produced in female cones and once on the ground may take two years or more (up to 11 years) to germinate. Germinated seeds become seedlings that are between 8 and 10 centimeters (cm) (3 to 4 inches (in)) tall with a 13 to 18 cm (5 to 7 in.) taproot with 7 to 9 cotyledons (embryonic first leaves) (Arno and Hoff 1990, p. 272). Whitebark pine seedlings may persist for multiple years, depending on growing conditions, until reaching the sapling stage of the life cycle. Whitebark pine saplings persist for few to many years, depending on growing conditions, until they produce male and female cones. (p 20)

Plan activities like bulldozing helicopter pads, wind from helicopter landings, enlarging an adit, ATV travel, road clearing, and bulldozing drill pads would impede seedling survival. Seedlings can take up to 60 years to reach maturity (Id p 128). Even one year of abuse from bulldozers and ATVs could impede whitebark pine recovery.

The Forest Service must explain why Plan activities would not result in any level of “take” as defined by the Endangered Species Act (ESA), even though surveys for whitebark pine have not and will not be conducted. What is the incentive for USCM workers to alert the Forest Service to the presence of whitebark pine when doing so would delay activities or even stop work until an alternate strategy is devised?

Wolverine

As stated earlier in these comments and previous comments, repeated industrial activity will degrade habitat, alter movement, and create avoidance and displacement of wildlife including wolverine especially when combined with existing human disturbance.

Heinemeyer et al 2019 found, “Female wolverines exhibited stronger avoidance of off-road motorized recreation and experienced higher indirect habitat loss than male wolverines. Wolverines showed negative functional responses to the level of recreation exposure within the home range, with female wolverines showing the strongest functional response to motorized winter recreation. We suggest indirect habitat loss, particularly to females, could be of concern in areas with higher recreation levels.” (p 1). Barrueto et al 2022 found that in response to increased human activity, wolverine were less likely to show up on remote cameras. “Probability of detecting wolverine rapidly declined from 0 to 10 human user groups per two-week period and then more gradually declined with further increases in human activity (p 153).

Scrafford et al 2025, a review of 51 studies on the effects of human disturbance on wolverine, found, “much of the evidence suggests that wolverines do not use areas with nonlethal human disturbance, with occlusion stronger as the magnitude of human activity increases. Nonlethal

disturbances also might have negative effects on reproduction and increase competition. There appears to be an association between population decline and nonlethal human disturbance, although it can be difficult to disentangle from lethal human disturbances that often occur coincidentally” (p 1).

USFWS Species Status Assessment for Wolverine 2023 Addendum “Wolverine density and detection probability in the Canadian Rocky Mountains declined with increased night light intensity, which is a measure for actively used human developments (Barrueto et al. 2022, p. 8). This pattern is consistent with telemetry-based findings that wolverines avoid infrastructure (May et al. 2006, entire; Moqanaki et al. 2023, pp. 11-12; Scrafford et al. 2018, entire). Connectivity among wolverine habitats appears to be particularly sensitive to housing developments and other human impacts in rugged areas located between typical wolverine habitats (Balkenhol et al. 2020, p. 799)” (p 34).

The USFWS also found, “Models further indicated that wolverines showed negative functional responses to the level of recreation exposure within home ranges, with female wolverines showing the strongest functional response to motorized winter recreation (Heinemeyer et al. 2019a, pp. 13–14; 17–18)” (USFWS 2023, p 18).

Barrueto et al 2022 also found that, “Density of wolverines was higher in areas with persistent spring snow cover. This result confirms previous findings in the region of increased density and occupancy of wolverines related to spring snow cover” (p 156). Locations 1, 2, 3, 4 and staging area 5 fall within Inman et al 2013 primary habitat for wolverine. Location 2 shows persistent snow cover in the previous year when the Bitterroot experienced an unseasonably warm spring and it is near persistent snow cover for the past 2-4 years (figure 11). With a changing climate, these persistent spring snows should be reserved for the wildlife who need them. Location 2 is also close to maternal habitat. The USFWS also found that “wolverine showed higher sensitivity to human disturbance compared to the other large carnivores” (USFWS 2023, p 36). The Sheep Creek area must be protected from increased human disturbance to ensure wolverine recovery.

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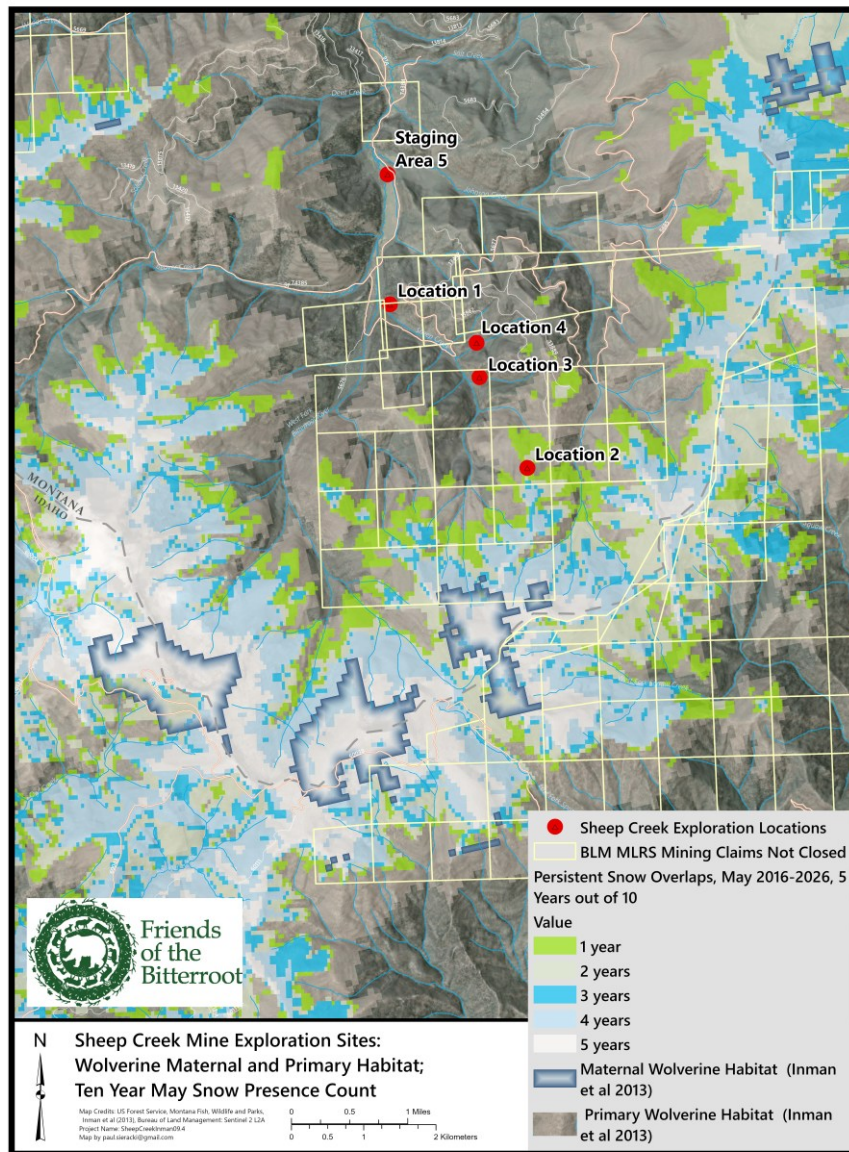


Figure 11: Persistent snow cover and wolverine habitat modeling from Inman et al 2013 in and around BLM MLRS mining claims and the Plan area.

Carroll et al 2020 p 9 found that, “dispersing wolverines move readily through low-quality habitat but do still follow lower-resistance pathways that connect high-quality habitat. Our results align well with observed movements of wolverines between high-elevation habitats” (p 9). The planned locations for drilling, bulk sampling, ubiquitous helicopter hops, and ATV travel fall within Carroll et al 2020 connectivity zones and location 2 lies within the overlap/intersection of connectivity and Montana FWP modeled habitat (figure 12).

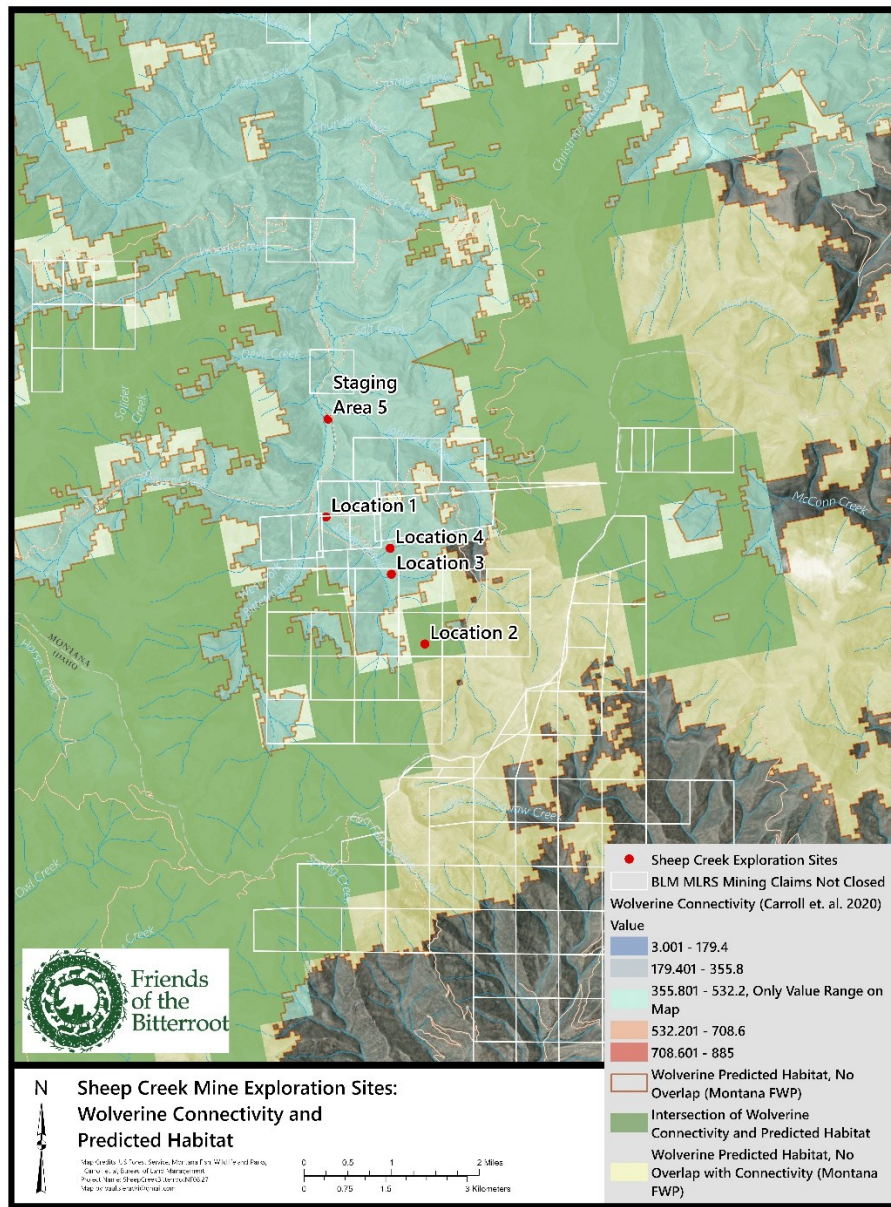


Figure 12: Carroll et al 2020 connectivity and Montana FWP modeled habitat and Plan locations.

Wolverine have a difficult road to recovery because reproduction is characterized by low reproductive output, snow-associated natal and maternal denning, and several months of maternal care. According to Carroll et al 2001, “The combination of large area requirements and low reproductive rate make the wolverine vulnerable to human-induced mortality and habitat alteration” (p 975). May et al 2006 found, “Increased human development and activity in once remote areas may thus cause reduced ability of wolverines to perform their daily activities unimpeded, making the habitat less optimal or causing wolverines to avoid the disturbed area.

Our results suggest that the potential exists for further wolverine recovery in forest ecosystems with low levels of infrastructural development” (p 285). And Ruggiero et al 2010 found, “Many wolverine populations appear to be relatively small and isolated. Accordingly, empirical information on the landscape features that facilitate or impede immigration and emigration is critical for the conservation of this species” (pp 71-72). The Plan would impede wolverine connectivity and movement by introducing, human disturbance, infrastructure, and noise to the area. As discussed herein, and in previous comments, Plan activities would adversely impact wolverine and wolverine recovery.

Canada Lynx

Lynx live primarily on a prey base of snowshoe hare. Snowshoe hare habitat, forests where young trees and shrubs grow densely, is important to lynx survival and recovery. Protection of snowshoe hares and their habitat is critical in lynx conservation strategies. The area around Sheep Creek and in the Allan Mountain Roadless Area burned and now supports dense regeneration on small trees and shrubs. This area must be surveyed for snowshoe hare habitat and that habitat must be preserved. Maps of snowshoe hare and lynx habitat in the Plan area must be disclosed and effects to lynx, lynx dispersal, and snowshoe hare habitat must be analyzed.

Lynx are highly mobile and usually move long distances (60 miles or more); they disperse primarily when snowshoe hare populations decline; subadult lynx often disperse even when prey is abundant, presumably to establish new home ranges or to make exploratory movements outside their home ranges. Squires et al 2013 state, “Preserving connectivity throughout the northern Rocky Mountains (hereafter Northern Rockies) is central to the conservation of many boreal species that are listed or proposed as threatened or endangered under the Endangered Species Act including Canada lynx, wolverine (*Gulo gulo*), grizzly bear (*Ursus arctos*), and woodland caribou (*Rangifer tarandus caribou*). Long-term population recovery of these species requires maintenance of short and long-distance connectivity (Clark et al., 2002).” (p 187).

The USFWS Species Status Assessment for Lynx 2017 states, “Lynx habitats may be lost and fragmented as a result of mining, similar to other development: loss of boreal forest; construction of roads, railroads, and transmission lines; and increased human access and disturbance where lynx occur” (p 103). The SSA found that human activities can produce avoidance in lynx. “Eurasian lynx demonstrated a trade-off in habitat selection, avoiding areas near human development despite high prey (roe deer, *Capreolus capreolus*) densities, and

instead selecting areas with intermediate prey abundance and lower levels of human disturbance (Basille et al. 2009, pp. 687-690)” (Id, p 105).

Though many assume that predators like Canada lynx are less wary of humans, Smith et al 2017 found that “Pumas fled in the majority of cases (83%) upon first hearing humans and only once upon first hearing frogs (6%; figure 1a; Fisher’s exact p, 0.001). The latency to return time after pumas first heard a treatment was significantly greater in response to human playbacks (figure 1b; M-W U12,17 $\frac{1}{4}$ 151.5, p $\frac{1}{4}$ 0.028) because pumas returned to the carcass less often following their first hearing of a human playback (42% of trials) than following their first hearing of a non-predator (frog) playback (18%), or if they did return, they took longer to do so after first hearing humans” (p 3). The study also found that this can affect the entire food chain, “By demonstrating that the fear of humans can cause a strong reduction in feeding by pumas, our results support that non consumptive forms of human disturbance may alter the ecological role of large carnivores.” (p 1).

The BNF must follow the Northern Rockies Lynx Management Direction as it analyzes and considers the Plan. As discussed herein, and in previous comments, the Plan would adversely impact Canada lynx and their recovery. Connectivity and the return of lynx to the area should be top priority and the BNF must err on the side of caution considering the uncertainties of current data and understanding on lynx recovery:

Several sources of uncertainty had to be accounted for in our analysis, including limited data on lynx population sizes, trends, and other important demographic parameters in the DPS; the influence of lynx immigration from Canada on the persistence of the DPS; the effectiveness of habitat management efforts; and the potential effects of competition. We similarly lack consistent habitat and demographic information for snowshoe hares throughout much of the DPS range. Given the emerging role of climate change as a stressor, uncertainties about the timing, rate, and magnitude of projected future impacts to hares; boreal, subalpine, and montane forests; and snow quality, depth, and persistence constrain our ability to precisely predict effects on lynx populations and habitats (USFWS 2017, p 3).

Grizzly bear

The FWS stated in 2025, “After evaluating threats to the species and assessing the cumulative effect of the threats under the Act’s section 4(a)(1) factors, **we conclude that the grizzly bear DPS is at increased risk of extinction within the foreseeable future.**” (emphasis added, Federal Register 1/15/2025 Endangered and Threatened Wildlife and Plants: Grizzly Bear Listing on the List of Endangered and Threatened Wildlife With a Revised Section 4(d) Rule, p 130). They came

to a similar conclusion in the 2021 Five-year status review for grizzly bears, “Although these are plausible future outcomes for the grizzly bear in the lower-48 States, there is enough future uncertainty associated with conservation efforts, such that the grizzly bear in the lower-48 States remains likely to become in danger of extinction within the foreseeable future throughout all of its range” (p 21).

Grizzly bears once existed and thrived throughout most of western North America until human colonization when they were hunted, poisoned, and otherwise destroyed. Currently, thanks to ESA listing in 1975, scientists estimate that there are around 2,000 in the lower 48 states. However, those bears live in isolated populations leaving them vulnerable to change. One of the main factors hindering grizzly bear recovery is the lack of connectivity between the isolated populations due to degraded habitat and human access.

The Forest Service is couched with preserving habitat and the Plan will negatively impact security in connectivity areas especially the Allan Mountain IRA that would connect the Greater Yellowstone Ecosystem (GYE) to the Cabinet Yaak Ecosystem (CYE) and the Northern Continental Divide Ecosystem (NCDE) through the Bitterroot Ecosystem (BE) (figure 13).

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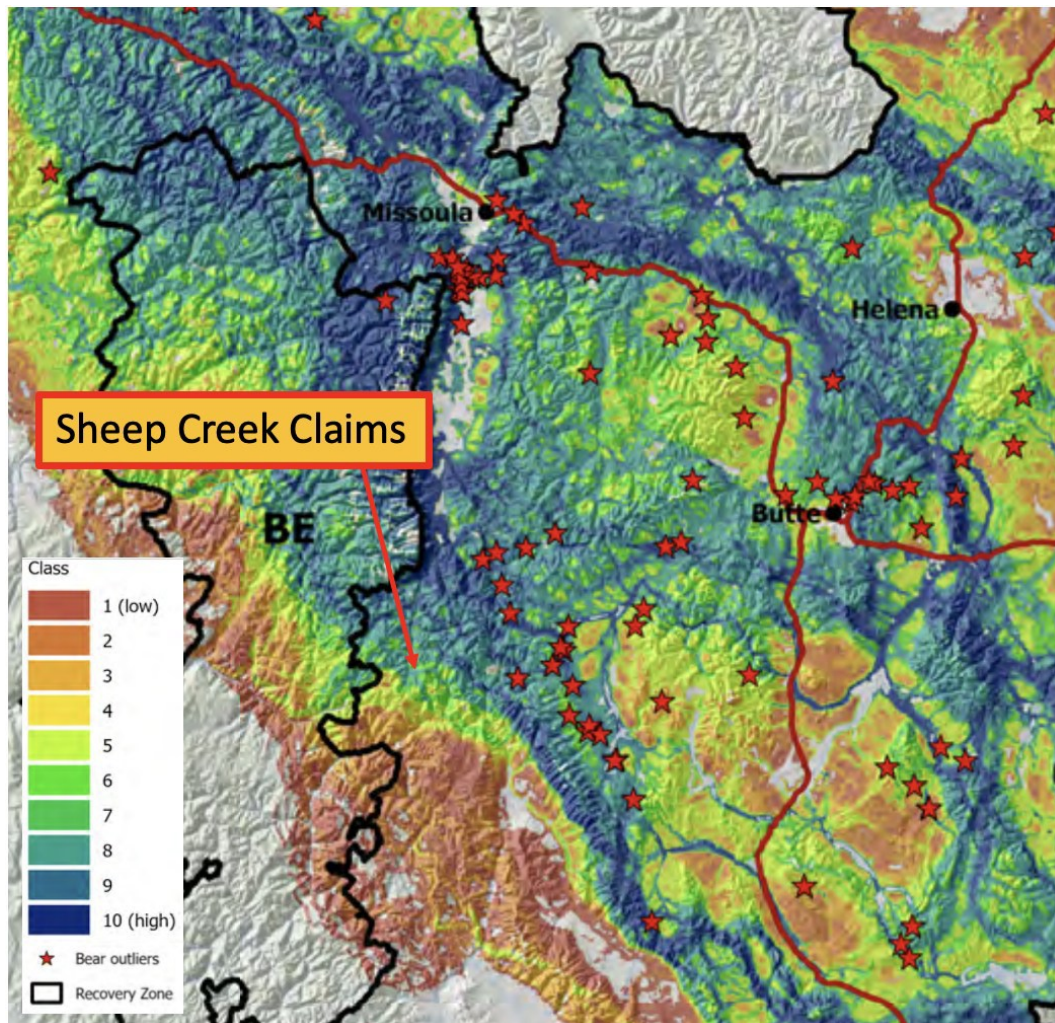


Figure 13: The above map is adapted from figure 3 in Sells et al, 2023. Stars indicate verified grizzly occurrences. Cooler colors indicate areas of less resistance to female grizzly movement. The figure shows that the mine claims lie in a connectivity pathway between the occupied Greater Yellowstone Ecosystem and the federally designated Bitterroot Ecosystem Grizzly recovery area (Sells et al., 2023)

Mattson 2021 found “Fragmentation potentially threatens the persistence of grizzly bears in the contiguous United States by reducing numbers of breeding individuals in any given population; decreasing genetic diversity through impaired gene flow and increased inbreeding and purging (Miller & Waits 2003, Lino et al. 2019); and lessening the likelihood of demographic rescue of one population by another when environmental catastrophes strike (Cosgrove et al. 2018, Millon et al. 2019)” (p 60). The Sheep Creek area and the Allan Mountain IRA are key to connectivity (figure 14). As discussed herein, and in previous comments, the Plan would fragment a connectivity zone and adversely impact the recovery of the grizzly bear.

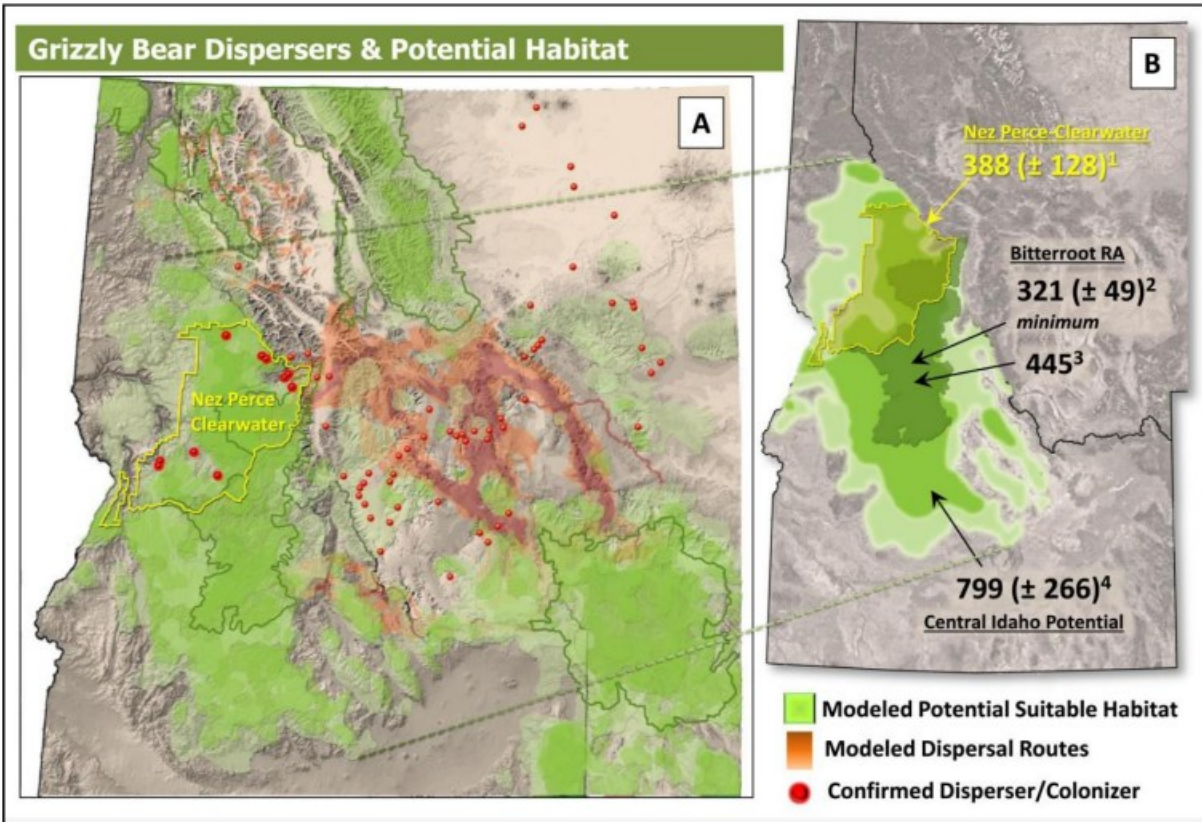


Figure 14: Craighead modeled habitat and dispersal routes, from Mattson 2021

Occupation in the BE is vital to the long-term recovery of the grizzly bear and the Plan would scuttle natural movement into the recovery area. Mattson 2021 states, “natural colonization will depend on creation of in situ conditions that foster survival of newly-arrived grizzlies (p 75). And, “long-term viability will require a contiguous interbreeding population of several thousand grizzly bears, which could be achieved if current populations were connected by on-going colonization of interstitial potential suitable habitat throughout the northern Rockies into Canada” (p 74). However the Plan’s disturbance and noise would fragment habitat, Zeller et al 2024 found that human activities fragment habitat, “The high probability of fleeing we observed for black bear and pronghorn may result in shifts of habitat use away from recreation-adjacent areas, as has been observed in other studies” (p 3002).

The USFWS 2024 Species Status Assessment for Grizzly Bear (*Ursus arctos Horribilis*) in the Lower-48 States (USFWS 2024) not only emphasizes the need for natural colonization of grizzlies in the BE, “Grizzly bears need sufficient genetic and ecological diversity across their range in the lower-48 States to adapt to changing environmental conditions” (p 104). It also affirms the possibility. “The BE is also isolated and does not currently contain a population. However, multiple grizzly bears have been confirmed in areas immediately surrounding the recovery zone over the last 15 years, including a collared bear that dispersed from the CYE into the BE

recovery zone in 2019 and three subadults (two males and one female) that dispersed from the NCDE to within miles of the BE recovery zone from 2022 to 2023. These examples indicate that **connectivity and natural recolonization is possible**” (emphasis added, p 54).

Unfortunately, “motorized access standards have not been developed for adjacent areas to the north and east, where female occupancy is necessary for natural recolonization of the BE (see *Motorized Access in the BE* and *Connectivity and Genetic Health in the BE* below for further information). The National Forests and National Park Service (NPS) within North Cascade agreed to a “no net loss” of core areas approach (USDA FS 1997, entire); however, we have not evaluated whether this 1997 “no net loss” approach provides an adequate amount of secure habitat for a healthy grizzly bear population (see *Motorized Access in the North Cascades* below for further information)” (Id, p 42). And “While females occasionally disperse long distances (up to 80–90 km (50–56 mi)), female dispersal is typically a slow, gradual process and colonization of new areas can take quite some time (Swenson *et al.* 1998, pp. 822–824; Jerina and Adamič 2008, pp. 1495–1497; Proctor *et al.* 2012, p. 35). This slow process can also result in prolonged exposure to fragmentation and human-caused mortality (Proctor *et al.* 2015, p. 2)” (Id, p 70).

In past project analysis the BNF has determined grizzly bears in the area as “transient”, but these adventurous bears are necessary for connectivity. Hertel et al. (2018) discovered that explorer bears are important to connectivity and persistence of the species: “Bolder individuals seem to be more tolerant towards human encroachment and move more easily through human-modified landscapes (Holtmann et al., 2017; Lowry, Lill, & Wong, 2013; Sol, Lapiedra, & Gonzalez-Lagos, 2013), which has implications for dispersal and population connectivity (Clobert, Le Galliard, Cote, Meylan, & Massot, 2009)” (p 99). These important, bold, “transient” bears must be considered inhabitants. Chris Servheen, Ph D., former grizzly bear recovery coordinator for the USFWS, states in his final comments concerning the Plan, “Verified grizzly bears have been documented east of the Sheep Creek project area and these bears are likely candidates for possible natural movement into the Bitterroot Ecosystem through habitats in the proposed project area” (S-Exhibit D, p 7).

The Forest Service must analyze how changing road/ATV access and increasing ATV travel in the Sheep Creek area will affect grizzly bear habitat security and demographic connectivity, as laid out in the Bear Management Units (BMU) in Sieracki & Bader, 2022 and Mattsen 2021. Since no agency has proposed BMUs for connectivity zones around the BE, the BMUs provided in Sieracki and Bader 2022 and Mattsen 2021 provide the tools to analyze effects to grizzly bears in the Plan area and the cumulative effects on demographic connectivity.

Mattson 2021 concludes, “The future of grizzlies will likely depend on whether human resentments and population increases are offset by the **preservation of wild places** and continued emergence of benevolent attitudes towards large carnivores” (emphasis added, p 75). The Allan Mountain Roadless Area and the Sheep Creek claim block area are wild places that must be preserved. As discussed herein, and in previous comments, the plan would adversely impact grizzly bears and their recovery.

Bull Trout

Before adding to our bull trout comments, we must mention of cutthroat trout. The Forest Plan states, “Cutthroat trout populations will be used as an indicator of fisheries habitat changes” (II-20) and, “Watershed project analysis will estimate the effects of sediment on fish habitat” (II-20). There is a pure strain of cutthroat trout above the Painted Rocks Reservoir. This strain must be protected as pure strains are becoming rare in the Clark Fork River Basin. How will polymers and other additives used during drilling affect ground water and subsequently the streams where the pure strain of cutthroat trout and bull trout reside? The newly proposed staging area is near the river, is it on a flood plain? The BNF must analyze effects of dust from the blasting, removing, and transporting of rock on bull trout and cutthroat trout streams? This must be included in the Biological Assessment during consultation with the USFWS.

ESA listed Bull trout are present in Johnson Creek, Sheep Creek, the West Fork of the Bitterroot, and Painted Rocks Reservoir. The West Fork and Painted Rocks Reservoir are designated critical habitat. Frayley et al 1989 **Mining activities could be especially damaging** because bull trout require streams with a steady flow of groundwater for successful spawning and survival of incubating embryos. (emphasis added, p 114).

Bull trout need cold, clear, clean, and connected waters to survive and reproduce. They also associate with groundwater for spawning. Frayley et al 1989 found that bull trout select “low-gradient mountain streams with cold, clean water, beds of clean gravel, and areas of upwelling groundwater necessary for successful egg incubation (Fraleigh and Shepard, 1989)” (p 111). And Baxter and Hauer 2000 found that “bull trout selected reaches for spawning with zones of hyporheic groundwater discharge” (p 1478). Will elements from the drilled rock enter the groundwater and then the streams? Can drilling lubricants and thinners leach into the ground water and streams? How do all of these substances break down over time? Can they affect and accumulate in the food chain? There is little to no information concerning effects to fish and other aquatic creatures by substances used in the Plan. Full analysis and disclosure of effects to fisheries, cutthroat trout and bull trout is required before ground disturbance commences. As discussed herein, and in previous comments, the Plan would adversely impact bull trout and cutthroat trout.

Will constant helicopter hops near Sheep Creek and two daily round trips along the West Fork River affect recreation and fishing opportunity?

Further considerations:

Fisher

Fisher presence in the Bitterroot was verified during the Wolverine Watchers and US Forest Service camera surveys. Ruggiero et al. 1994b found, “fishers generally are more common where the density of humans is low and human disturbance is reduced. Although perhaps not as associated with “wilderness” as the wolverine (V. Banci, Chapter 5), the fisher is usually characterized as a species that avoids humans (Douglas and Strickland 1987; Powell 1993)” (p 63). Fisher require habitat connectivity especially with present and future stresses, increasing recreation, human development, and climate change. How will the Plan affect this sensitive species?

Recommended precautions

In addition to previous comments on necessary precautions to protect public resources, consider the following.

We suggest using the Forest Plan Appendix N, (S-Exhibit E) recommendations for oil and gas leasing to mitigate disturbance to public resources by the Plan. It seems pertinent and logical to apply these same restrictions (listed below) to mining exploration activities to prevent harm.

Cultural and Historic Sites

To protect cultural and historic sites, a cultural resource inventory must be required before ground disturbing activities are allowed.

Eagles

To comply with the Bald and Golden Eagle Protection Act, the forest must “Conduct biological evaluations for bald eagle and peregrine falcon and, as necessary, initiate formal consultation with the USFWS” if activities result in a “may effect” situation as stipulated in the FSM 2670. It must also protect nest sites by prohibiting surface occupancy less than a half mile from nesting sites from January 1 to July 31 for active nests and January 1 to April 30 for all nests. Nesting sites for both bald and golden eagles must be surveyed and timing restrictions put in place before plan activities commence.

Peregrines and other raptors

It is recommended to survey for nesting habitat for peregrines and to prevent disturbance during nesting site selection by imposing restrictions from February 1 to May 31, for active nests increase time restrictions for disturbance until July 31.

Surveys must be completed for other raptors like prairie falcons and osprey. The BNF must prevent disturbance by prohibiting surface occupancy less than ¼ mile from active nests from March 1 to July 31 and all nesting sites from March 1 to April 30.

Soils

To protect soils, use precautions in Forest Plan Appendix N (figure 15).

SOILS

A Landtype Groups with Slope Limitations ^{1/}

1 Landtypes 18A, 18A1, 18A2, 18Ab, 18AB, 18A/C, 18A/D, 18B, 20a, 20b, 21, 21A, 21A2, 25, 25b, 25d, 25A, 25A1, 25A3, 25Aa, 25Ab, 25B, 41, 41a, 45, 45A, 45AB, 63, 63A, 63B, 110, 110A, 110A1, 110A2, 110B, 110AB, 110B1, 110B2, 110C, 111, 111A, 111A1, 111A2, 111AB, 111AV, 111B, 111B1, 111B2, 111BC, 111BV, 211A, G21 G22, G23, R	Surface occupancy will normally not be permitted on slope gradients exceeding 60 percent. These soil units typically have a low revegetation potential, and/or are highly erodible when disturbed.	No surface occupancy stipulation (MT-3109-3)
2 Landtypes 3, 3A, 3A1, 3AB, 3AV, 3B, 11, 11A, 11Aa, 11A'a, 11A1, 11A2, 11AB, 11AV, 14, 14A, 14A1, 14A'a, 14AB, 18Aa, 42A, 42A4, 43A, 43A4, 43B, 47A, 47A3/C, 47A4/C, 47A/C-1, 48B1, 55A1, 55Aa, 63B	These soils are highly erodible and difficult to revegetate. Specially engineered roads, pipelines, buried utilities and drill pads will be required on slopes greater than 40 percent. Special erosion controls and revegetation practices will also be required.	Surface occupancy restriction stipulation (MT-3109-3, by location)
3 Landtypes 1A, 1Aa, 1a, 1Ab, 1B, 1Ba, 1C, 11B, 11B1, 11BC, 11BV, 23, 23A, 23B, 210-211B, 211B	Standard and special stipulations for surface occupancy. Included are soils with low revegetation potential, moderate erosion hazard, and low to moderate mass-failure potential. Special erosion control and revegetation practices required on slopes over 30 percent.	Surface occupancy restriction stipulation (MT-3109-3) by location
4 Landtypes 28A, 38, 38A, 8AB, 39A	Standard and special stipulations. Included are highly erodible soils with low revegetation potential in high elevation landscapes with rolling relief. Special erosion controls and revegetation practices required on slopes exceeding 20 percent.	Surface occupancy restriction stipulation (MT-3109-3 by location)

B Sensitive Soils and Landtype Groups

1 Soils with high clay content in landtypes 11C, 16, 16B, 16C, 17C, 48BC, 48C, 101C	Surface occupancy restrictions necessary to mitigate potential for soil compaction, revegetation, mass-failure, and erosion hazard. Activities restricted to periods of frozen or snow-covered ground and late summer dry season. New roads, buildings, site construction or drilling will require project-specific analysis.	Surface occupancy restriction stipulation (MT-3109-3 by timing), project-specific analysis
2 Soils with high mass-failure potential in landtypes 37A, 37C, 50	No surface occupancy will be allowed on these soils. Included in this grouping are soils with active and vestige mass-failure activity.	No surface occupancy restriction (MT-3109-3)

^{1/} Planning records, Bitterroot National Forest, Forest Plan, "Data Base Criteria", January, 1982

Figure 15: Mitigations to protect sensitive soils from Appendix N, 1987 Forest Plan.

Riparian areas and Water

We recommend that the Forest Service follow stipulations to protect riparian areas, water, and fisheries during exploration activities from Appendix N (figure 16).

STIPULATION REQUIREMENTS OF OIL AND GAS LEASING ON NONWILDERNESS LANDS

RESOURCE CONCERN	AREA AFFECTED	MANAGEMENT OBJECTIVE	STIPULATION
	3 Organic, wet, alluvial, and riparian soils in landtypes 2AW, 10AW, 12A5, 12AW, 23A5, 23A, 23AW, 23AF, 25A5, 28AW, 36, 36A, 36AW, 36B, 46, 46A, 46A4, 46A5, 46A6, 46AF, 46A/D, 46B, 47BW, 49AW, 360	No surface-disturbing activities other than specially designed roads, pipelines, and buried utilities will be allowed. Included are soils with high water tables. Location will be project-specific analysis.	Surface occupancy restriction stipulation (MT-3109- by timing), project-specific analysis
WATER QUALITY	Stream and riparian areas on Forest Plan water overlay maps	No surface-disturbing activities unless specially designed will be allowed within 300 feet of the normal high water line on all streams, lakes, springs, swamps and reservoirs	Surface occupancy restriction stipulation (MT-3109-3, by location)
FISHERIES	Spawning streams of migratory game fish	No surface-disturbing activities unless specially designed within 300 feet of the normal high water line of spawning streams	Surface occupancy restriction stipulation (MT-3109-3, by location)
WETLAND & FLOOD-PLAIN	Stream and riparian areas on Forest Plan water overlay maps	No surface occupancy in wetlands and floodplains	No surface occupancy (MT-3109-3). Exceptions require project-specific analysis under Executive Orders 11988 and 11990.
ROADS AND ACCESS	Roadless recreation areas and visually sensitive areas identified in land management plans	To comply with current land management direction which limits roadbuilding to protect resources, and to comply with Forest Travel Plan.	No surface occupancy or limited surface use stipulation. Exceptions require project-specific environmental analysis
	Roaded areas seasonally closed to vehicle access to maintain recreational experience	To comply with Forest Travel Plan	Surface occupancy restriction stipulation (MT-3109-3, by location and timing)

Figure 16: Mitigation measures to protect resources from Forest Plan appendix N

Mining History

Earthworks has followed mining for many years and has produced reports demonstrating that mining rarely results in what was promised or predicted. In an Earthworks report on Modern Mining (S-Exhibit F), they found:

- A 2006 peer-reviewed study of modern mines revealed that more than 75% of the mines reviewed exceeded water quality standards.
- At least 16 modern mines have gone bankrupt.
- Unfunded taxpayer liability at currently operating mines probably exceeds \$12 billion.

- Historic mining polluted and continues to pollute rivers, streams and aquifers. Until 1976, there were no federal regulations written specifically to govern hardrock mining operations on publicly owned land. But, it is also clear from the issues at modern mines that the patchwork of laws that govern hardrock mining operations are not enough to ensure that western watersheds and communities are protected.
- Mines that began operations in the past three decades in which the mining industry was governed by modern environmental laws have spilled cyanide, killed aquatic life, caused pollution that will require treatment in perpetuity, and burdened the taxpayers with enormous liabilities.

One example in Montana is worrying. The Kendall Mine near Lewiston caused extensive water quality and quantity problems including numerous cyanide spills. In addition, **precipitation flowing through the waste rock piles caused extensive contamination of groundwater and surface water.** Where and how will rock be stored and transported? Will water be able to flow through waste piles?

The Forest Service must consider all the possibilities. A full analysis of precipitation and wildfire effects on waste rock and sample rock piles must be conducted.

A mine at the headwaters of the West Fork of the Bitterroot is highly unpopular. A change.org petition that started long before this public comment period received 2664 signatures and counting (figure 17).



Figure 17: Screen shot of Change.org petition captured 9/8/2026

Conclusion

The BNF must thoroughly analyze all direct, indirect, and cumulative effects of the Plan on wildlife, human health, ecosystems, and watersheds using at the very least an EA. It must request public comment on that analysis and allow ample time for comment. Considering the likely, significant, adverse impacts to wildlife, fisheries, and watersheds, the poor track record of mining, the human health risks, and the communities that rely on the Bitterroot River, the Bitterroot National Forest must deny approval for the Plan.

Sincerely,

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Attached Exhibits:

S-Exhibit A Prescoping
S-Exhibit B BRPA comments
S-Exhibit C 2023 Guidance
S-Exhibit D Servheen
S-Exhibit E Appendix N
S-Exhibit F Montana Earthworks Report 1

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