



August 7, 2019

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RE: Montanore Evaluation Project DSEIS

Thank you for the opportunity to comment on the Draft Supplemental Environmental Impact Statement (DSEIS) for the proposed Montanore Evaluation Project. These comments are submitted on behalf of Earthworks, Save Our Cabinets, Montana Environmental Information Center, Clark Fork Coalition, Montana Trout Unlimited, and Defenders of Wildlife.

These comments address the Montanore Evaluation Project, an evaluation adit proposed for development adjacent to, and tunneling into, the Cabinet Mountains Wilderness - one of the first Wilderness Areas established by Congress. The Cabinet Mountains Wilderness represents just 4% of the Kootenai National Forest, yet this small, but important refuge, supplies some of the purest waters in the lower 48,¹ and provides critical habitat for bull trout and grizzly bear – threatened species under the Endangered Species Act.

At the outset, the DSEIS fails to recognize that Hecla and its CEO, Phillips S. Baker, are currently the subject of litigation by the State of Montana under Montana's "bad actor" law. The Montana Department of Environmental Quality (MTDEQ) has notified the company and its CEO that the "bad actor" law precludes Hecla from conducting exploration or mining work in the state while Mr. Baker is running the company, unless he reimburses the state for the costs of cleaning up after his previous mining operations and addresses the remaining pollution.²

The proposed Montana Evaluation Project also inappropriately relies on an MPDES permit that the Montana District Court has vacated because it fails to comply with the federal Clean Water Act and the Montana Water Quality Act.³

¹ <https://www.fs.usda.gov/detailfull/kootenai/specialplaces/?cid=stelprdb5200701>

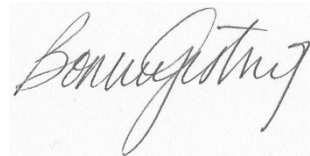
² Montana DEQ, Violation letter to Doug Stiles, General Manager, Revett Silver Company at Hecla Mining, March 20, 2018. Montana DEQ, Violation letter to Phillips S. Baker, March 20, 2018.

³ Order on Cross-Motions for Summ. J., Mont. Env'tl. Info. Ctr., et al. v. Mont. Dep't of Env'tl Quality, et al., No. CDV-2017-641 (July 24, 2019) ("MEIC Order"); see 36 C.F.R. § 228.8(b).

The Draft SEIS also omits important information on the potential impacts to sensitive plant species, cultural resources, wetlands, and other important resources. For these reasons, and others, the Project must not be authorized.

Please see our more detailed comments below. We also include technical analysis by hydrologist Dr. Tom Myers and grizzly bear expert Dave Mattson. We incorporate and adopt by reference herein all previous comments submitted by the undersigned groups on the Montanore Mine, as many of the issues raised in those comments remain unresolved. In addition, previous comments on the Montanore Mine by EPA and other agencies that may be relevant to this Phase/Project should also be addressed by the Forest Service and included in the record for this case.

Sincerely,



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1. MONTANA METAL MINE RECLAMATION ACT – “BAD ACTOR” PROVISION

The DSEIS fails to disclose that Montana DEQ has determined that MMC’s parent company— Hecla Mining Company— and Hecla’s President and CEO— Phillips S. Baker, Jr. —are in violation of the “bad actor” provisions of the Metal Mine Reclamation Act, Mont. Code. Ann. §§ 82-4-331(3), 82-4-335(9), 82-4-360, and may not engage in exploration or mining activity in Montana.⁴ That determination, and Montana DEQ’s pending litigation to enforce the bad actor provisions against Hecla and Mr. Baker place the state-issued exploration license and operating permit required for the Montanore Project in jeopardy. The DSEIS acknowledges that these state-issued permits are required for the project to proceed,⁵ but impermissibly omits the fact that DEQ is presently suing to establish that those permits may not be utilized by Hecla, Mr. Baker, or MMC. Further, any Forest Service approval of evaluation project activities would violate the Forest Service’s own mining regulations given DEQ’s determination that those activities may not proceed under the Metal Mine Reclamation Act.⁶

2. NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) ISSUES

A. The DSEIS Improperly Fails to Review the Main Montanore Mine as a Connected Action Under NEPA and Improperly Segments the Agency’s Review of the Proposed Action and the Mine.

The proposed federal action analyzed in the DSEIS is a Plan of Operations for the Montanore Evaluation Project (Project). The Project would use an existing evaluation adit on private land in upper Libby Creek to drill into and evaluate a copper and silver ore body; would conduct surface monitoring activities, including some in the Cabinet Mountains Wilderness (CMW); and, in some alternatives, would complete geotechnical and hydrologic studies on National Forest System lands between Little Cherry Creek and Poorman Creek in the Libby Ranger District, Kootenai National Forest (KNF), Lincoln County, Montana. Montanore Minerals Corporation (MMC), a subsidiary of Mines Management, Inc. (MMI), a subsidiary of Hecla Mining Company, would be the Project operator.

According to the DSEIS, “The KNF did not analyze the Montanore Project as a connected action because the Montanore Project did not meet the definition of a connected action in 40 CFR 1508.25(a)(1). The reasons, according to the DEIS are: “The Evaluation Project has independent utility from the Montanore Project and would allow MMC to make a determination whether and how to proceed with the Montanore Project. The Evaluation Project could proceed independently and is not dependent on other actions taken previously or occurring simultaneously. Although MMC may subsequently seek approval for the Montanore Project, the Evaluation Project, an evaluation of an ore body and an assessment of the hydrogeologic conditions of a possible

⁴ See generally Third Party Complaint and Counterclaim, Montanore Minerals Corp., et al. v. Mont. Dep’t of Envtl. Quality, et al., No. ADV 2018-363 (Mont. First Judicial Dist. Ct.) (filed June 25, 2018).

⁵ DSEIS 16.

⁶ See 36 C.F.R. § 228.8(c).

tailings impoundment site, is not an interdependent part of a larger action, nor does it depend on any larger action for its justification.” (DSEIS, p. 8)

The DSEIS errs in asserting that the Evaluation Project is not interdependent of a larger action, and does not meet the definition of a connected action under NEPA. The DSEIS (p. S-4) states that “completion of the Project would be a *prerequisite to future Montanore Project development.*” As such, the information that is gathered in this phase is essential to the development of the full mine, and the company cannot move forward without this information. The DSEIS Purposes and Need also expressly points to the purpose of the proposed evaluation adit as central to the development of the full mine: “The KNF’s overall purpose and need is to process MMC’s proposed Plan of Operations to evaluate the Montanore copper and silver deposit. To achieve this purpose, certain monitoring activities and geotechnical and hydrologic studies on and beneath National Forest System lands need to be completed to evaluate if a Plan of Operations to develop and operate the Montanore Project could be approved in compliance with all applicable laws, while minimizing adverse environmental effects on National Forest System lands.” (DSEIS, p. 9) This includes geotechnical information on the proposed tailings impoundment site, an important and interdependent feature of the full mine project.

The Forest Service, itself, determined that it would be most appropriate to consider the evaluation phase as part of the overall mine project, “In 2008, the KNF decided the best approach for disclosing the environmental effects of the Libby Adit evaluation activities was to consider this activity as the initial phase of the overall Montanore Project in the Montanore Project EIS. The Libby Adit evaluation activities were to be the first phase of the Montanore Project in Alternatives 3 and 4.”⁷ The Forest Service can’t simply assert that it is not interdependent now simply by swapping the word Evaluation “Phase” for Evaluation “Project.”

When preparing an EA or an EIS, an agency must consider all “connected actions,” “cumulative actions,” and “similar actions.” 40 C.F.R. §1508.25(a). Actions are “connected” if they trigger other actions, cannot proceed without previous or simultaneous actions, or are “interdependent parts of a larger action and depend on the larger action for their justification.” *Id.* § 1508.25(a)(1). If one project cannot proceed without the other project (i.e., “but for” the other project), or if the first project is not “independent” of the second project, the two projects are considered connected actions and must be reviewed in the same NEPA review. Thomas v. Peterson, 753 F. 2d 754, 758-60 (9th Cir. 1985). “The purpose of this requirement is to prevent an agency from dividing a project into multiple ‘actions,’ each of which individually has an insignificant environmental impact, but which collectively have a substantial impact. ... The crux of the test is whether each of the two projects would have taken place with or without the other and thus had independent utility.” Great Basin Mine Watch v. Hankins, 456 F.3d 955, 969 (9th Cir. 2006).

Even if the Mine could conceivably occur without the previous or simultaneous occurrence of the Project (or vice versa), which is not the case here, if it could not occur without such actions it is a connected action and must be considered within the same NEPA document as the underlying action. “[E]ven though an action could conceivably occur without the previous or simultaneous

⁷ Montanore Mine Draft Environmental Impact Statement, p. 5.

occurrence of another action, if it would not occur without such action it is a ‘connected action’ and must be considered within the same NEPA document as the underlying action.” Dine Citizens Against Ruining Our Env’t v. Klein, 747 F. Supp. 2d 1234, 1254 (D. Colo. 2010).

In improperly segmenting its analysis and failing to consider the Mine and Evaluation project as connected actions, the DSEIS also ignores Judge Molloy’s statement in the 2017 Montanore decision that “because the phases of the (Montanore) Project are interdependent parts of the same proposal, they are required to be discussed in the same EIS.” Save Our Cabinets v. U.S. Dep’t of Agric., 254 F. Supp. 3d 1241, 1263 (D. Mont. 2017).

Further tying the Mine and the Evaluation Phase/project together, the DSEIS discusses various monitoring, data collection and “geotechnical and hydrologic studies” associated with the Mine’s tailings facility. DSEIS “Dear Interested Party” cover letter at 1. Additionally, the DSEIS tiers to the 2015 Montanore Project JFEIS. But under the NEPA regulations at 40 C.F.R. 1502.20, tiering is appropriate only if “a broad environment impact statement has been prepared such as a program or policy statement and a subsequent statement or environmental assessment is then prepared on an action included within the entire program or policy (such as a site specific action)” or “for different states of actions.” Thus, the DSEIS cannot claim that the Evaluation Project is not part of the Montanore Project while simultaneously asserting that it’s appropriate to tier to the JFEIS.

As such, the evaluation adit is interdependent with the full mine because the information that is derived from the evaluation adit is necessary for permitting the full mine.

B. The DSEIS Fails to Review All Direct, Indirect and Cumulative Impacts

The DSEIS fails to adequately consider all direct, indirect, and cumulative environmental impacts of the proposed action. 40 CFR § 1502.16; 40 CFR § 1508.8; 40 CFR § 1508.25(c). “Direct effects” are caused by the action and occur at the same time and place as the proposed project. 40 CFR § 1508.8(a). “Indirect effects” are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. 40 CFR § 1508.8(b). All types of impacts include “effects on natural resources and on the components, structures, and functioning of affected ecosystems,” as well as “aesthetic, historic, cultural, economic, social or health [effects].” Id. “Cumulative effects” are defined as:

[T]he impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

40 CFR § 1508.7. In a cumulative impact analysis, an agency must take a “hard look” at all actions.

[A]nalysis of cumulative impacts must give a sufficiently detailed catalogue of past, present, and future projects, and provide adequate analysis about how these

projects, and differences between the projects, are thought to have impacted the environment. ... Without such information, neither the courts nor the public ... can be assured that the [agency] provided the hard look that it is required to provide.

Te-Moak Tribe of Western Shoshone, 608 F.3d 592, 603 (9th Cir. 2010) (rejecting NEPA review for mineral operation that had failed to include detailed analysis of impacts from nearby proposed mining operations).

The NEPA obligation to consider cumulative impacts extends to all “past,” “present,” and “reasonably foreseeable” future projects. Blue Mountains Biodiversity Project v. Blackwood, 161 F.3d 1208, 1214-15 (9th Cir. 1998); Kern v. BLM, 284 F.3d 1062, 1076 (9th Cir. 2002); Hall v. Norton, 266 F.3d 969, 978 (9th Cir. 2001) (finding cumulative analysis on land exchange for one development failed to consider impacts from other developments potentially subject to land exchanges); Great Basin Mine Watch v. Hankins, 456 F.3d 955, 971-974 (9th Cir. 2006) (requiring “mine-specific ... cumulative data,” a “*quantified assessment* of their [other projects] combined environmental impacts,” and “objective quantification of the impacts” from other existing and proposed mining operations in the region)(emphasis added).

Thus, the USFS must consider the cumulative impacts from all past, present, and reasonably foreseeable future projects in the region (e.g. logging, energy development, recreation activities, grazing, mineral operations, etc.) on water and air quality including ground and surface water quantity and quality, recreation, cultural/religious, wildlife, transportation/traffic, scenic and visual resources, etc. As held by the court decisions noted herein, this means that the impacts from other projects – not just the current Evaluation phase under review – must be fully reviewed.

At a minimum, NEPA requires that the DSEIS fully consider the impacts from the Rock Creek Mine and the Montanore Mine on all affected resources noted above. This is especially true for cumulative impacts from the dewatering and related ground and surface water impacts, and wildlife impacts, from the Rock Creek Mine, the Montanore Mine, and this Evaluation phase project.

Notably, the duty to fully analyze all cumulative impacts is required under NEPA even if the agency believes that the various projects are not “connected actions” under NEPA. In a leading mining and NEPA case dealing with two nearby mining projects, the Ninth Circuit held that, even though the two mines were not “connected actions” under NEPA, the NEPA review document for each mine had to fully review the cumulative effects/impacts of the two mines together on the regional environment. Great Basin Mine Watch v. Hankins, 456 F.3d 955, 968-74 (9th Cir. 2006).

C. Essential baseline data and mitigation plans are missing for sensitive plants, cultural resources, wetlands and other waters of the U.S.; current plans are missing for emergency spill response, vegetation removal and disposal, detrimental soil disturbance, and road and transportation management.

For all aspects of the Project as noted herein, detailed baseline analysis is required under NEPA. The agency is required to “describe the environment of the areas to be affected or created by the alternatives under consideration.” 40 C.F.R. § 1502.15. The establishment of the baseline conditions of the affected environment is a fundamental requirement of the NEPA process:

“NEPA clearly requires that consideration of environmental impacts of proposed projects take place before [a final decision] is made.” LaFlamme v. FERC, 842 F.2d 1063, 1071 (9th Cir.1988). Once a project begins, the “pre- project environment” becomes a thing of the past, thereby making evaluation of the project’s effect on pre-project resources impossible. Id. Without establishing the baseline conditions which exist in the vicinity ... before [the project] begins, there is simply no way to determine what effect the proposed [project] will have on the environment and, consequently, no way to comply with NEPA.

Half Moon Bay Fisherman’s Mark’t Ass’n v. Carlucci, 857 F.2d 505, 510 (9th Cir. 1988). “The concept of a baseline against which to compare predictions of the effects of the proposed action and reasonable alternatives is critical to the NEPA process.” Council of Environmental Quality, Considering Cumulative Effects under the National Environmental Policy Act (May 11, 1999).

Such baseline information and analysis must be part of the revised Draft SEIS and be subject to public review and comment under NEPA. The lack of an adequate baseline analysis fatally flaws an EIS. “[O]nce a project begins, the pre-project environment becomes a thing of the past and evaluation of the project’s effect becomes simply impossible.” Northern Plains v. Surf. Transp. Brd., 668 F.3d 1067, 1083 (9th Cir. 2011). “[W]ithout [baseline] data, an agency cannot carefully consider information about significant environment impacts. Thus, the agency fail[s] to consider an important aspect of the problem, resulting in an arbitrary and capricious decision.” Id. at 1085.

The DSEIS (p. 50 and 62) states that some Project activities, such as road improvements and geotechnical investigations would require ground disturbance, including reconstruction of existing roads, construction of new access roads and drill pads, testing, and reclamation of all disturbed areas as soon as practical after test work completion. Yet, the DSEIS (p. S-10 and S-11) defers the completion of a survey or inventory of cultural resources, sensitive plants and wetlands and other waters of the U.S., and any analysis for how impacts would be mitigated until after the NEPA process.

1. Cultural Resources Survey and Mitigation

Surveys of cultural resources are essential baseline data that must be included in the DEIS. According to the NEPA regulations, in considering whether an action may "significantly affect the quality of the human environment," an agency must consider, among other things: Unique

characteristics of the geographic area such as proximity to historic or cultural resources (40 CFR 1508.27(b)(3)) and the degree to which the action may adversely affect districts, sites, highways, structure or objects listed in or eligible for listing in the National Register of Historic Places (40 CFR 1508.27 (b)(8))

In fact, the DSEIS (p. 50) acknowledges that the identification of cultural resources may result in a redesign of the project. “When an adverse effect on an eligible historic property was anticipated, MMC may choose to redesign the activity to avoid the property. If avoidance is not feasible, MMC would undertake actions to mitigate any adverse effect following the requirements of 36 CFR 800.6.” Yet, the DSEIS defers the development of mitigation plans for cultural resources until after an inventory has been completed.

2. Sensitive Plants Survey and Mitigation

According to the DSEIS (p. S-10 and S-11), MMC will complete a sensitive plant survey on all areas where such surveys have not been completed and that would be disturbed during the Project. However, the DSEIS does not disclose where sensitive plant surveys have not been completed, and it defers this survey until some future time, after the NEPA process is over.

Once again, this is essential baseline data that must be collected and presented in the DSEIS for public review. Without this information, it is impossible to determine the potential impacts to sensitive plants or determine whether mitigation measures are available to reduce or prevent those impacts.

3. Wetland Delineation and Functional Assessment

According to the DSEIS (p. 51), wetland delineation and functional assessment in the area is outdated and no longer valid, “Wetlands and other waters were delineated in the analysis area between 2005 and 2009 following Corps methods; functions and services for these wetlands were also evaluated using the 2008 MDT Montana Wetlands Assessment Method (see the JFEIS, Section 3.23.2.2.1, *Wetland Delineation and Functional Assessment*).” The DSEIS states that wetland delineations are typically valid for only 5 years, and yet it defers the collection and analysis of current data until some future time.

The DEIS must include current wetlands delineation and functional assessment data. Without that information it is impossible to determine the potential impacts to wetlands and other waters of the U.S. from the proposed project activities, and whether mitigation measures are available to reduce, avoid or offset those impacts.

The DSEIS also fails to provide a functional assessment of the wetlands, seeps and springs that would be affected by dewatering from the indirect effects of groundwater drawdown associated with the Evaluation Adit.

4. Vegetation removal and disposal/Detrimental Soil Disturbance

The DSEIS defers to a future plan for the removal and disposal of vegetation in the operating area: “Before any ground-disturbing activities occurred on National Forest System lands, MMC would prepare an Evaluation Project Vegetation Removal and Disposition Plan as part of the amended Plan of Operations. The plan would evaluate the opportunities to minimize tree and other vegetation clearing, particularly in RHCAs; consider potential uses of vegetation removed from disturbed areas; and describe disposition and storage plans.” (DSEIS, p. 52)

The DSEIS must provide sufficient information to evaluate the potential impacts of vegetation clearing and disposition. For example, it must detail the amount of vegetation that would be removed in RHCA, and the potential impacts associated with this removal. Similarly, the DSEIS must provide more detail on the potential for detrimental soil disturbance, as stated on p. 52.

5. Emergency Spill and Response Plan

The DSEIS also notes that the emergency spill and response plan is outdated and will need to be updated. Yet, it defers the development of a current emergency spill response plan until after NEPA. A recent report on the track record of spills and other accidental releases at operating U.S. copper mines, accounting for 89% of U.S. copper production, found that 100% of the mines experienced spills.⁸ The DSEIS must provide a current emergency spill and response plan as part of the DSEIS, such that the public can review and comment, and determine whether it is adequate to address potential spills.

6. Groundwater Dependent Ecosystems (GDEs)

According to the DSEIS, springs and seeps in the mine area have been inventoried, but the inventory has not yet identified the specific groundwater source for each spring or seep (P. 141). The DSEIS defers this data collection and analysis until after the NEPA process. This information is essential data to include in the DSEIS to understand the potential impacts of dewatering on the overlying groundwater dependent ecosystems. According to the USDA Forest Service, “GDEs encompass many of the regionally-and nationally-significant ecosystems on NFS lands and are critical to management of many threatened and endangered species. In many watersheds, they support a disproportionately large percentage of the total biological diversity relative to their size.”⁹

⁸ Earthworks, U.S. Copper Porphyry Mines: The track record of water quality impacts resulting from pipeline spills, tailings failures and water collection and treatment failures, Revised Nov. 2012.

https://earthworks.org/publications/us_copper_porphyry_mines/

⁹ U.S. Forest Service, “Groundwater Dependent Ecosystems on National Forest System Lands: Recognizing and Managing a Largely Overlooked Resource,” Presented by Christopher Carlson, PhD, National Groundwater Program Leader, USDA Forest Service.

<https://gis.lic.wisc.edu/www/licgf/glifwc/UVHUMW/Presentations/Carlson%20EWR%20pres%20for%20USGS.pdf>

7. Baseline data to characterize Midas Creek, Hoodoo Creek and Cable Creek, and there is inadequate data to characterize forest sensitive species, redband trout populations and torrent sculpin, in Libby Creek or other area streams.

The DSEIS (p. 198, p. 105 and 125) indicates that there could be a temporary increase in sediment and/or potential for spills in Midas Creek, Hoodoo Creek. The DSEIS does not appear to provide any baseline data to characterize these streams.

The DSEIS also fails to provide current data to accurately characterize redband trout and torrent sculpin in Project area streams, or analyze the potential impacts to these forest service sensitive species.

Interior redband trout are a subspecies of the rainbow trout and designated by the Forest Service as a sensitive species. Baseline data for this species is out-dated and inaccurate. The Montanore Mine FEIS presented baseline data from 1988 and 2005 for interior redband trout and Westslope cutthroat trout in Libby Creek. (FEIS at 351). Yet, the FEIS states that because no genetic analyses were performed at the time of the 1988 study, some uncertainty exists as to whether the redband trout were hybrid or pure. Similarly, due to the difficulty of differentiating between redband trout, rainbow trout and their hybrids, the 2005 fish were all recorded as *Oncorhynchus* sp., rather than differentiating between rainbow and redband trout.

The FEIS mentions that additional data was included from the MFISH database (FWP 2012), but this database still does not provide data to differentiate between redband trout and rainbow trout in Libby Creek, stating that the results of the specific surveys documented in either the MFISH database (FWP 2012), Kline Environmental Research (2004), or Dunnigan *et al.* (2004, 2005) only record rainbow trout (presumably referring to redband trout, rainbow trout, and their hybrids), as having been collected from the segment of Libby Creek within the analysis area downstream of Libby Falls. (FEIS at 352). In Libby Creek, the last genetic analysis occurred in 2000, revealing that 24 out of 25 fish sampled were redband trout, but that data is limited and now nearly twenty years old. (FEIS at 355). I could find no additional data in the DSEIS to accurately characterize the redband trout population in Libby Creek, a necessary step before the DSEIS can accurately analyze the potential impacts of the proposed Project on this sensitive species.

Torrent sculpin, another Forest Service sensitive species, are limited to the Kootenai River System in Montana. FEIS at 379. The FEIS states that “little data were available to determine the status and distribution of torrent sculpin within the analysis area; thus the discussion of the current status of this species within the analysis area is limited.” FEIS at 379. In fact, the data in the FEIS fails to differentiate between slimy sculpin and torrent sculpin. It states that “Although sculpin were identified as common at the downstream Libby Creek site surveyed in 2005 (Kline Environmental Research and Watershed Consulting 2005a), and were also collected in small numbers at the Libby Creek sites further upstream and in Poorman Creek, they were not analyzed to determine if they were slimy or torrent sculpin.” FEIS at 379.

The FEIS goes on to say that, “while torrent sculpin are thought to inhabit analysis area streams, little data were available to determine the status and distribution of this species within the

analysis area, possibly because of the difficulty in differentiating this species from slimy sculpin morphologically. Based on this, determining the risks to the populations within the watershed is not feasible.” FEIS at 392. The DSEIS provides no additional information to accurately characterize this population, or analyze impacts.

8. Missing road management plan and Transportation Plan

KFP Guideline RF-2 requires the development and implementation of a Road Management Plan (P. 44), but the DSEIS does not include the plan, and defers its development until after NEPA. The plan would include criteria that govern road operation, maintenance, management and decommissioning, inspections, regulation of traffic, implementation and effectiveness of monitoring plans for road stability, drainage and erosion control, analysis of new roads constructed in RHCA's. The plan is necessary to understand the potential impacts of the project and whether mitigation measures would effectively prevent impacts. It is particularly important given the Project's plan to increase traffic in grizzly bear habitat, and develop new roads within bull trout critical habitat watersheds. Furthermore, some of the BMPs associated with road development may require a 404 permit (p. 45).

Similarly, the DSEIS states that the mine will be required to develop a transportation plan, but defers its development until after the NEPA process. According to the DSEIS, this design feature is intended to reduce or avoid impacts on wildlife and fisheries (p. 39). The DSEIS describes some of the potential components of the plan, but no details. Without this information, it isn't possible for the public to determine whether the plan would be sufficient mitigation.

D. The DSEIS is missing sufficient information on monitoring plans and fails to analyze the potential effects of collecting monitoring data and other activities within the Wilderness.

The DSEIS provides conceptual monitoring plans in Appendix C, and states that final monitoring plans will be developed at some future time. It states that, “Each monitoring plan would describe the timing of implementation and location of activities. Monitoring activities would involve small crews collecting data in the spring, summer, and fall to *evaluate effects on groundwater-dependent ecosystems, streamflow water quality, fisheries, and other resources.*”

This section also includes conceptual monitoring plans for bull trout.

It is inadequate to provide “conceptual” plans only. The DSEIS must include monitoring plans with sufficient detail for the public to determine whether impacts from the proposed mine will be identified in a timely manner. Without this information, it is impossible for the public to determine whether impacts will be identified, and whether they will be identified in sufficient time for mitigation measures to be incorporated and effective.

According to the DSEIS, some surveying would need to occur in the Cabinet Mountains Wilderness and may involve the installation of survey monuments or ground-based reflectors. The DSEIS states that “A Minimum Requirements Analysis is required when prohibited uses are being considered in an administrative action (Wilderness Act, Section 4.c). Prohibited uses in the CMW include motorized equipment, motorized or mechanized transportation, and permanent

installations. The DSEIS states that the KNF completed a 2017 MRDG for the conceptual monitoring plan through Step 1 (determination of whether an administrative action is necessary in the CMW).” The determination made was that administrative action is necessary in the CMW due to existing rights and special provisions and as a requirement of other statutes or regulations. However, Step 2, which is the determination of the minimum activity necessary, has not been completed. The DSEIS defers it until a later time, outside of NEPA review. (p. C-40)

This is inadequate. The DSEIS must provide more details on the type of activity that will occur within the Wilderness, and the potential impacts associated with these activities - particularly those activities that result in permanent installations. The complete MRDG (steps 1 and 2) must be included in the DSEIS. Without this information, it is impossible for the public to understand the potential impacts to Wilderness resources and evaluate whether all efforts to minimize these activities have been considered.

The DSEIS also calls for a management plan and monitoring of the special provisions for the protection of wilderness values for the Project. Special Provisions of the Wilderness Act Section 4(d)(3) allow for the following: “Mineral leases, permits, and licenses covering lands within national forest wilderness areas designated by this Act shall contain such reasonable stipulations as may be prescribed by the Secretary of Agriculture for the protection of the wilderness character of the land consistent with the use of the land for the purposes for which they are leased, permitted, or licensed.” (DSEIS, p. C-41)

Once again, the DSEIS inappropriately defers the development of this plan until after the NEPA process. It further states, that if monitoring of the Special Provisions indicates resources are not in conformance with the plan, corrective actions would be taken. Yet, the DSEIS does not provide a plan, or indicate what type of corrective actions are available, or could be taken.

The EPA also raised this issue in its comments on the FEIS, which remain valid for the DSEIS:

“The future monitoring planned for the Pre-evaluation and Evaluation Phases and throughout the project does not appear able to successfully detect, or respond to, effects. Numerous springs, streams, and lakes will be monitored over a one year period to establish background conditions, seasonal variability and connection to the regional groundwater system. While determining the seasonality of surface and groundwater systems is important, collection of seasonal data over a one year period will not provide an adequate baseline dataset. Determining interannual variability of the surface and groundwater conditions will be critical to understanding the hydrologic conceptual model and determining baseline conditions. In general, MMC should collect a minimum of three to four years of data that encompass years that are above, near and below average precipitation and snowpack. It is worth noting that the non-intrusive, low disturbance nature of surface water monitoring is feasible even given wilderness constraints and could thus be initiated this season.

The Conceptual Monitoring Plan (Attachment 3) broadly discusses action levels. It does not present a clear threshold or decision point for the decision-maker or

provide any information on the type of action that would be taken if a threshold is reached. In some instances where action levels are generally described, such as for surface water quantity and quality, they appear to rely upon possibly unrealistic thresholds (e.g. a statistically significant simple linear relationship). For example, the absence of data to characterize the nature of the relationship or the comparability of the affected sites and their benchmark sites, lowers expectations that the monitoring data will demonstrate the specified relationship, limiting its usefulness as a meaningful action threshold. It is also important, where feasible, to document what action will be taken to reduce or mitigate effects in order to demonstrate that the project will not cause or contribute to significant degradation, 40 CFR § 230.10(c), or exceedances of water quality standards, 40 CFR § 230.1 O(b), and will meet the ESA mitigation objectives. This type of decision would benefit from public and agency input. For example, neither the ROD nor the Conceptual Monitoring Plan identify mitigation options or actions for impacts determined as a result of the groundwater dependent ecosystem inventory and/or revised groundwater modeling.”¹⁰

E. The DSEIS fails to take a hard look at the adequacy of the Water Treatment Plant to treat Project discharges, including potential changes to water quality.

According to the DSEIS (p. 191), “Effluent quality *may change over the life* of the Project,” (Emphasis added) MMC currently is discharging water that flows into the 14,000-foot adit developed primarily in the Prichard Formation. The DSEIS fails to take a hard look at the potential for water quality changes as the evaluation project extends into other rock formations, which include the Revett Formation (ore, barren lead, chalcopyrite, pyrite and sphalerite) (See Table C-1 on p. C-7))

According to geochemist, Dr. Ann Maest, one of the biggest concerns from a water quality perspective for the Montanore Project is leaching of lead from the barren lead zone.¹¹ Whole rock lead concentrations in this zone are quite elevated compared to other sampled rock. For example, whole rock lead concentrations from Lower Revett Montanore barren zone rock were 350 ppm, while concentrations in Rock Creek waste rock were 13 ppm (Enviromin, 2007, App. B-1).

Lead leachate concentrations were elevated in the few short-term leach tests (only TCLP) performed on Montanore material. Weak-acid extractable leachate concentrations for Montanore rock ranged from 50 to 640 mg/L, with the highest concentrations in the “waste zone,” which includes barren (lead) zone material (Enviromin, 2007, App. B-2).

The barren zone also has the potential to leach acid. Geochemical analysis in the previous EIS found a “Moderate potential for ARD exists within the halo zones of the Revett Formation (particularly of the barren lead zone),” and determined that elevated lead levels may be released

¹⁰ US EPA, letter to KNF on the Montanore Mine FEIS, May 29, 2015.

¹¹ Ann Maest, PhD, “Technical Review Memorandum, Evaluation of Geochemical Issues in the Montanore Project, Montana, Supplemental Draft Environmental Impact Statement, December 21, 2011.

from this zone.¹² As a result, water quality from the other portions of the evaluation adit may be significantly different from the existing water quality.

The DSEIS also anticipates that the runoff from the waste rock and ore stockpiles would be pumped to the Water Treatment Plant for treatment. DEQ has raised questions about the need for additional data on the potential metal and nutrient release from waste rock from the Pritchard Formation, particularly for arsenic, copper, lead, antimony and nitrate. (P. 60)

The EPA also identifies the potential for water quality changes in its previous comments, and the need for potential additional treatment technology:

“Stipulation #85 requires selective handling of problematic waste by placement on a liner as mitigation for moderate potential for acid rock generation from the altered waste zones of the Revert Formation (particularly of the barren lead zone) and low to moderate for the Prichard Formation and some potential for release of select metals under near-neutral pH (Draft ROD, Table 1). Neither the stipulations nor the Geochemical SAP relate acid generation or metals release to the *need for additional or modified water treatment for leachate from this selectively managed material*. The Final EIS does indicate that water treatment will be modified to remove dissolved metals if monitoring demonstrates that is necessary (p. 168)”¹³

The DSEIS defers to the State of Montana to address any changes in water quality via the discharge permit. However, it is inappropriate to wait until changes in water quality occur before determining if alternative or additional water treatment technology is necessary - particularly because it can take time to develop new water treatment facilities. Furthermore, the DSEIS inappropriately relies on standards established by the BHES Order, a permit to degrade issued to Noranda more than 30 years ago, which has been invalidated by the Montana State District Court as noted herein, and thus cannot be relied upon. It fails to protect high quality waters in bull trout critical habitat (see more below).

The DSEIS also must consider that water temperatures usually increase with depth.¹⁴ The DSEIS should consider that groundwater pumped from the deeper portions of the adit may be warmer than the discharge water from the existing adit.

The DSEIS must take a hard look at the potential for water quality and temperature changes in the adit discharge, and determine whether the existing Project, as designed, is sufficient to mitigate those impacts and comply with all standards. The DSEIS should also provide more detail about the potential for mine impacted waters in the adit and drifts to adversely affect water resources post-closure. Once the adits are plugged, the DSEIS should analyze the potential for mine impacted water to be released into seeps, springs and other water resources via fractures or via other hydrologic pathways, and describe how this would be mitigated.

¹² DSEIS, Montanore Project, Volume 1, p. 221

¹³ US EPA, letter to KNF on the Montanore Mine FEIS, May 29, 2015.

¹⁴ <http://www.geologyin.com/2014/12/geothermal-gradient.html>

F. DSEIS fails to provide scientifically credible modeling analysis of the potential dewatering as a result of groundwater drawdown from the proposed evaluation adit and alternatives, and fails to provide supporting evidence for the proposed plug as a mitigation measure.

The DSEIS relies on the model results in the 2015 FEIS to evaluate the potential impacts of groundwater drawdown from the proposed Project on the streams and lakes that rely on groundwater for a portion of their flows. Yet, there are substantial differences between the Evaluation Adit analyzed in the 2015 FEIS and the alternatives in the DSEIS (See Myers memo). Alternative 2 would extend the existing adit 3300 feet beneath the ore body and add 7100 feet of drifts that are 18 by 18 feet with 16 drill stations (DSEIS, Table 303), whereas Alternative 3 would extend the existing adit 4200 feet to above the ore body and add 6300 feet of lateral drifts that are 15 by 15 feet with 35 drill stations. As such, and as described in the memo by Dr. Tom Myers, the previous model isn't an accurate scientific analysis for the proposed alternatives.¹⁵

The model also relies on unsupported assumptions as identified by Dr. Tom Myers. One particular concern is the manner in which the model characterized the Rock Lake Fault:

“The conceptualization of the faults in the numerical modeling causes the projected impacts to be grossly underestimated, so more of the project-area streams will likely be dried than projected.”¹⁶

While we understand that the stated purpose of the evaluation adit is to collect additional hydrologic data, we are concerned that the inadequacies of the existing model will underestimate the potential impacts of dewatering the evaluation adit.

The DSEIS must be based on scientifically credible analysis to determine the potential impacts of adit dewatering on hydrologically connected water resources, and to provide the public with a clear understanding of the differences between the alternatives.

The DSEIS (p. 141) also predicts that the adit extension could connect groundwater in the East Fork Rock Creek and East Fork Bull River with groundwater under Libby Creek. Groundwater would flow between the watersheds. The DSEIS proposes that the groundwater model be updated in two years to assess whether this will occur. The DSEIS assumes that a plug would prevent the flow, but presents no evidence to support the assumption. As described in Myers (2019):

“The adit extension is not only a flow path but also a sink affecting groundwater for thousands of feet. The changes in potentiometric surface above the adit would also cause changes in the groundwater flow patterns near the incline. These changes could include changes in groundwater flow between watersheds. If modeling indicates that the plugs would not prevent the flow, the evaluation adit could be denied or substantially redesigned. Failure to even analyze the effects of

¹⁵ Tom Myers, PhD, “Technical Memorandum: Review of Montanore Evaluation Project, July 20, 2019.

¹⁶ Tom Myers, PhD, “Technical Memorandum: Review of the Proposed Montanore Mine Supplemental Draft Environmental Impact Statement and Supporting Groundwater Models, December 15, 2011.

the inclines could allow the KNF to approve an unacceptable project. At the least, the failure makes it impossible to know whether the project could be improved.”¹⁷

The DSEIS must provide modeling analysis for the proposed plug, and its potential effect on groundwater movement to determine whether it will mitigate the predicted impacts or whether other mitigation measures are available.

G. The DSEIS should provide more detailed information on waste rock storage, and demonstrate that it meets industry best practice.

According to the DSEIS (p. 58) “MMC would expand an existing waste rock storage area and develop a second lined storage area on the main portal pad site (MMC 2017b). The existing waste rock storage area would be expanded to the north and west, increasing the footprint to 2.5 acres (an expansion of 1.3 acres). The expansion would include a PVC liner that would tie into an existing PVC liner. In addition, a second storage area would be constructed to the northeast of the existing one, with a footprint of 2.7 acres. The new storage area would use a HDPE liner. MMC would cover stockpiles of alteration-zone waste rock and ore with an impermeable material to minimize infiltration from precipitation. The combined capacity of both storage areas would be 164,000 cubic yards.”

The DSEIS should provide more detail on how these two liners will be linked, and whether this proposal meets industry best practice. It appears from Table 313 that the existing Libby Adit Site pad was established in 1989-1991 and another lined storage area was established in 2007. Is the existing Libby Adit Site Pad (established in 1989-1991) lined? If so, it would appear that this liner has already been in use for 30 years, and should be assessed. And if not, how will that waste be managed in conjunction with the new waste that will be added to the Pad? PVC liners are prone to weathering, show poor resistance to UV, and exhibit poor performance at high and low temperatures. Liners are particularly prone to failure at seams/welds. The DSEIS should provide more information about the potential for failure in joining an old PVC liner with a new PVC liner, and whether there are more effective alternatives that would reduce the potential for failure.

H. The DSEIS must provide more detailed information on the water management plan.

According to the DSEIS, dewatering rates of up to 500 gpm could be used initially over a 3- to 4-week period, and water would be pumped to the Water Treatment Plant through an existing pipe. Once water was treated, it would discharge to the distribution box to one of three MPDES-permitted outfalls for Libby Adit water: Outfall 001—percolation pond discharging to groundwater; Outfall 002—drainfield with three infiltration zones discharging to groundwater; and Outfall 003— pipeline outlet to Libby Creek. The percolation pond (Outfall 001) has an estimated capacity of 25 acre-feet. The drainfields (Outfall 002) are designed to accommodate discharge flows in excess of 200 gpm. Outfall 003 has not been constructed (EPA 2003; MMC 2009b).

¹⁷ Tom Myers, PhD, “Technical Memorandum: Review of the Montanore Evaluation Project, December July 20, 2019.

According to the DSEIS, the development of a new storage area would cover outfall 002 (p. 57), and on p. 59, the DSEIS states that development of a new storage area will reduce the size of the percolation pond at the site. Please clarify the reduced size, and potential to affect water management.

I. The DEIS fails to provide sufficient detailed information to evaluate potential impacts of the geotechnical investigations and to determine the effectiveness of mitigation measures.

The DSEIS (P. 62) states that MMC would conduct geotechnical investigations between Poorman Creek and Little Cherry Creek, yet the DSEIS appears to be missing any description of the number of drill pads, boreholes, piezometers that would be constructed for each alternative. It indicates that new roads and drill pads would be relocated around any cultural sites that could not be mitigated (p. 63), but it fails to say where those sites are located, and where the new roads and drill pads would be relocated if a cultural site is identified.

Regarding these and the other purported mitigation measures mentioned in the DSEIS, as well as the other mitigation measures relied upon by the USFS, the DSEIS fails to provide the detailed analysis of the mitigation measures, including a detailed analysis of their effectiveness, as required by NEPA.

[NEPA] does require that an EIS discuss mitigation measures, with “sufficient detail to ensure that environmental consequences have been fairly evaluated.” Methow Valley, 490 U.S. at 352, 109 S.Ct. 1835. An essential component of a reasonably complete mitigation discussion is an assessment of whether the proposed mitigation measures can be effective. *Compare Neighbors of Cuddy Mountain v. U.S. Forest Service*, 137 F.3d 1372, 1381 (9th Cir.1998) (disapproving an EIS that lacked such an assessment) *with Okanogan Highlands Alliance v. Williams*, 236 F.3d 468, 477 (9th Cir.2000) (upholding an EIS where “[e]ach mitigating process was evaluated separately and given an effectiveness rating”). The Supreme Court has required a mitigation discussion precisely for the purpose of evaluating whether anticipated environmental impacts can be avoided. Methow Valley, 490 U.S. at 351–52, 109 S.Ct. 1835(citing 42 U.S.C. § 4332(C)(ii)). A mitigation discussion without at least *some* evaluation of effectiveness is useless in making that determination.

South Fork Band Council v. Dept. of Interior, 588 F.3d 718, 727 (9th Cir. 2009)(rejecting EIS for mine for failure to conduct adequate review of mitigation and mitigation effectiveness).

J. Inadequate analysis of the impacts of increased temperature and contaminants in mixing zone on aquatic life, including threatened bull trout.

The DSEIS fails to analyze and disclose the effects to aquatic life, including threatened bull trout, from contaminants and increased temperatures in the mixing zone, downstream of mine’s discharge point (001). The percolation pond (discharge point 001) is approximately ½ mile upstream from the monitoring point LB 300. (Ero, 2018) Within this ½ mile mixing zone, bull trout and other aquatic life will be subject to large inflows of warm water, with higher

concentrations of pollutants, including ammonia, copper, manganese, zinc, iron, chromium, cadmium and total nitrogen during low flows (See p. G-2 for mass balance calculations of maximum daily concentrations at LB-300 at the end of the mixing zone).

According to Table 325, discharges from the water treatment plant would account for nearly ¼ of base flows (DSEIS, p. 156) at LB 300. Furthermore, the DSEIS states that the model relied on 365 gpm discharge rates, rather than the 500 gpm that could be discharged by MMC during the first few weeks, so the impact of WTP discharges into Libby Creek may be even greater than the model analyzed.

We are also concerned that despite the company's claims that it doesn't intend to discharge directly to Libby Creek, stating that the company has "no plans" to do so (p. 57), the 2017 MPDES permit (outfall 003) would have authorized it. The DSEIS must analyze the potential impacts to bull trout and other aquatic life from all of these alternative discharge scenarios, identify mitigation measures and their effectiveness, and ensure compliance with all water quality standards and requirements.

1. Temperature

The DSEIS generally acknowledges that the Project are likely to increase stream temperatures in key streams, including critical habitat for bull trout. (See p. 110) "Increases in stream temperature could occur as a result of Water Treatment Plant discharges to groundwater, riparian disturbance, and decreased groundwater inflow to streams." However, the DSEIS fails to provide temperature measurements within the mixing zone, deferring to data taken at LB 300 - approximately ½ mile downstream from the discharge point.

The Aquatic BiOp states that the segment of Libby Creek that is the receiving waters for Outfalls 001-003 "has numerous [bull trout] spawning areas" and hosts a local bull trout population that is among "the most resilient ... that occupy the entire Libby Creek watershed."¹⁸

It is this bull trout population that will be "most exposed to the mine's effects," with FWS predicting a decline in abundance due specifically to "[t]he anticipated higher stream temperature in the spawning reach" resulting from discharges authorized in the Proposed Permit.¹⁹

The DSEIS refers to a memo (Ero, 2018) concerning temperature data and analysis based on current adit discharges, but this memo compares data from the downstream station LB 300, at which point water temperatures will likely be reduced by dilution. It fails to provide actual temperature data within the mixing zone, where temperatures would be highest.

Furthermore, the memo evaluates data based on past discharge volumes which have decreased from 128 gpm in 2009 to 38 gpm in 2017, and decreased in the number of days of discharge, whereas the proposed Project is expected to discharge up to 500 gpm.

¹⁸ Aquatic BiOp p. 124.

¹⁹ Aquatic BiOp, p. 105.

According to the BIOP (2013, p. 100), “At best, baseline condition for stream temperature in Libby Creek is already “functioning at risk” for bull trout and warmer augmented water would worsen this habitat attribute likely creating a condition of “functioning at an unacceptable risk.” for bull trout.”

In developing the MPDES permit, DEQ expected the maximum daily value for temperature of the discharge of water to groundwater during the Evaluation Phase to be 55.4°F in the winter and 60.8°F in the summer, based on 17 samples (DEQ 2016). According to (Ero, p. 11), “Maximum effluent temperature from December through February was 58.1°F and 58.6°F from July through September (Table 3). The range of effluent temperatures was higher from November through March, primarily due to lower minimum temperatures in the winter.”

These temperatures are well over the temperature requirements of bull trout. According to the BIOP (p. 95), “The temperature of the discharge of mine and adit water during the evaluation, construction and operations phases is expected to be between 56° and 65°F (KNF BA 2013) which exceeds the temperature thresholds of bull trout spawning, egg incubation, and rearing, and for generally preferred water temperatures of bull trout (see BO section III. B., Habitat Characteristics).”

The DSEIS concludes that “[b]ecause of factors besides MMC’s discharge that influence stream temperatures, the difference between the temperatures of the upstream and downstream Libby Creek sites during Water Treatment Plant discharges is not a useful surrogate for the potential effect of discharges on stream temperatures.” (p. 110). As such, the DSEIS appears to write off potentially significant impacts to stream temperatures simply because other factors also contribute to changes in temperatures. In reality, a more robust measurement plan to collect data at or near the points of discharge would undoubtedly result in more accurate data by which the agency could gauge potential impacts to sensitive species.

The DSEIS must provide in-stream temperature data at the discharge point, not ½ mile downstream. And, it must consider the potential for the temperature to be much higher, given the increase in discharge volume over past discharges and discharges of water that come from deeper in the adit.

2. metals and other pollutants

The mass balance analysis predicted increases in nitrate, ammonia, total nitrogen, copper, cadmium, chromium, zinc, iron and total phosphorous above ambient concentrations during periods of low flow in Libby Creek downstream of LB 300, yet it fails to provide information about the concentrations within the mixing zone which can be expected to be even higher.

The potential impacts from increases in copper, and other parameters, in the mixing zone must also be analyzed for the potential impacts on aquatic life, including threatened bull trout and other sensitive species.

A number of scientific literature reviews have identified the following impacts of copper, including sublethal effects, on salmonids and other aquatic life.²⁰ Very slight increases in copper (Cu) concentrations (5-25 parts per billion) inhibit olfaction in coho and Chinook salmon and rainbow trout, with potential to inhibit recognition of predators, prey, mates, kin, and natal streams (Hansen et al. 1999a, Hansen et al. 1999b, Sandahl et al. 2007, Baldwin et al. 2011, McIntyre et al. 2012). Chinook salmon and rainbow trout avoid Cu contaminated waters altogether, except after long-term sublethal Cu exposure, after which their avoidance response may be impaired (Hansen et al. 1999a, Meyer and Adams 2010). Avoidance can lead to degradation of spawning patterns and resulting genetic diversity which are essential to maintaining overall population structure and sustainability. Adult spawning migrations are delayed or interrupted in Cu contaminated streams, downstream smolt migration is likewise delayed, and osmoregulation of smolts in seawater is impaired (Lorz and McPherson 1976, Schreck and Lorz 1978, Hecht et al. 2007). Copper-exposed salmon are also more vulnerable to predation (Sandahl et al. 2007, McIntyre et al. 2012). Indirect effects of Cu to salmonid food webs are also likely at low concentrations.

Numerous studies document adverse effects of Cu on freshwater algae, zooplankton, mussels, and other invertebrates, which could result in reduced prey abundance and quality to support fish growth and reproduction. Copper is one of the most toxic metals to algae, which form the base of the salmonid food chain. Algae production can decline at Cu increases of only 1-2 parts per billion. Zooplankton and other invertebrates that rely on algae for food suffer decreased growth and reproduction when primary production decreases. Zooplankton and lotic macroinvertebrates are also extremely sensitive to Cu increases.

Bull trout are more sensitive when exposed to a mixture of cadmium and zinc than when exposed to cadmium only (Hansen et al. 2002). Increasing water temperature (from 8 degrees to 12 degrees C) increased the rate of cadmium and zinc toxicity in Bull trout and rainbow trout (Hansen et al. 2002).

Research has also determined that the hardness-based copper standards are unlikely to be protective of aquatic life:

“Criticisms of the hardness based AWQ include the fact that Cu can reduce a salmon’s sense of smell by 50% at increases of just 2 ppb dCu over baseline; hardness does not significantly reduce this effect but dissolved organic carbon can (Sandahl et al. 2007). Another fish sensory system “the lateral line” is comprised of neurons (hair cells) that provide fish information on their environment including vibrations, water flow and other parameters; the lateral line enables schooling, predator avoidance, feeding, and orientation to water flows. In a recent study, fish exposure to dCu concentrations of ≥ 20 ppb for 3 hours destroyed 20% of hair cells (Linbo et al. 2006). Hardness only slightly reduced toxicity of Cu to the lateral line but DOC caused a greater reduction in Cu toxicity. Linbo et al.

²⁰ Woody, Carol Ann, Copper: Effects on Freshwater Food Chains and Salmon: A Literature Review, August 2007; Price, Michael, H.H., Sub-lethal metal toxicity effects on salmonids: a review, December 17, 2013. McIntyre, et. al., “Low level copper exposure increase visibility and vulnerability of juvenile coho salmon to cutthroat trout predators, 2012.

(2009) determined increasing organic carbon (0.1– 4.3 mg/L) increased concentrations at which dCu destroyed 50% of lateral line hair cells from approximately 12 ppb to 50 ppb.²¹

The 2011 Montanore Mine Supplemental Draft EIS acknowledged that there would likely be impacts, but only provides very general statements of potential impacts (Montanore Mine SDEIS p. 31, Draft 404b(1) analysis):

“Potential effects of aquatic life from an increase in copper concentrations are difficult to determine given recent uncertainties regarding the protectiveness of the hardness-modified copper standard and existing instream copper concentrations. Typical groundwater and snowfed mountain streams would be expected to have low dissolved organic carbon concentrations that make dissolved copper bioavailable and potentially toxic.”

“Any increase in metal concentrations could increase the potential risk for future impacts to fish and other aquatic life in some reaches. Metal concentrations near the aquatic life could result in physiological stress, such as respiratory and ion-regulatory stress, and mortality.”

These impacts are entirely ignored in the Montanore Evaluation Adit DSEIS.

3. Nutrients

According to the DSEIS, the concentration of total inorganic nitrogen will be allowed to more than triple as a result of discharges (from 0.2 mg/l to 0.78 mg/l at the end of the mixing zone)(See p. G-2) DEQ used the BHES Order limit for total inorganic nitrogen of 1.0 mg/l in the development of a total nitrogen effluent limit in the discharge permit. However, the new state nutrient standard to prevent nuisance algae growth is 0.275 mg/l total inorganic nitrogen – a much lower concentration than the BHES Order (1 mg/l) authorizes.

The DSEIS must evaluate the potential for nuisance algal growth as a result of the proposed discharge, which will more than triple the concentration of total inorganic nitrogen in the stream, and exceed the state’s new standard to protect against nuisance algal growth.

The DSEIS (p. 109) dismisses any effects by stating that higher total nitrogen concentrations between October 1 and June 30 *would not* lead to nuisance algal growth because “Plant growth slows dramatically in the fall and winter, and spring high- flow events prevent nuisance algal mats from developing (Suplee et al. 2008).” However, we could find no information in Suplee 2008 that supports this definitive conclusion.

In contrast, Suplee (2008) recommends co-limiting TP and TN to prevent nuisance algae growth from tipping the TN:TP ratio. Yet, by allowing the TN concentration to exceed the new nutrient standard for algae, and increase in concentration to the 30-year BHES Order standard of 1.0

²¹ Woody, Carol Ann and Sarah Louise O’Neal, “Effects of copper on Fish and Aquatic Resources,” Prepared for the Nature Conservancy, June 2012.

mg/l, the TN:TP ratio will increase dramatically - something Suplee (2008) specifically warns against.

The EPA also raises these issues in its comments on the Montanore Mine FEIS, stating:

“We are also concerned that some aquatic life (fish) effects may be missed because the habitat analysis method does not incorporate water quality as a factor. Three of the habitat analysis locations on Libby Creek are below the WTP where flow is predicted to increase and water quality decrease due to the project. We are concerned that in these areas, the model-predicted bull trout habitat gains may be negated by decreased water quality attributable to either groundwater drawdown in the upper segment or the addition of metals and nutrients associated with the WTP discharge in the lower segment (Final EIS Table 76, p. 431). If these habitat increases are not realized due to water quality impacts, it would result in greater bull trout loss than currently predicted in the Final EIS.”²²

These issues remain valid for the Evaluation Adit. The DSEIS should provide data on the predicted concentrations within the mixing zone, and an analysis of the potential impacts to aquatic life, including the potential for thermal and chemical barriers to upstream habitat, impacts to spawning and rearing, effects on predation, migration, etc. DSEIS must also analyze potential mitigation measures.

Under the Organic Act, and the 36 CFR Part 228 regulations, the agency cannot approve a PoO unless it can be demonstrated that all feasible measures have been taken to “minimize adverse impacts” on National Forest resources. “The operator also has a separate regulatory obligation to ‘take all practicable measures to maintain and protect fisheries and wildlife habitat which may be affected by the operations.’ 36 C.F.R. § 228.8(e).” *Rock Creek Alliance v. Forest Service*, 703 F.Supp.2d 1152, 1164 (D. Montana 2010) (Forest Service PoO approval violated Organic Act and 228 regulations by failing to protect water quality and fisheries). “Under the Organic Act the Forest Service must minimize adverse environmental impacts where feasible and must require [the project applicant] to take all practicable measures to maintain and protect fisheries and wildlife habitat.” *Id.* at 1170. The water treatment technology in the PoO is inadequate to protect fisheries, and the DSEIS fails to demonstrate that it meets the requirements above. Furthermore, the mixing zone is based on an MPDES permit that is no longer valid, and therefore cannot be relied upon in the DSEIS analysis.

K. Inadequate review of the dewatering effects on groundwater upwellings and hyporheic zones, and impacts to aquatic life, including bull trout.

Groundwater drawdown has the potential to reduce groundwater upwellings in the streams that are predicted to experience reduce base flows (East Fork Rock Creek, East Fork Bull River and Rock Creek) (DSEIS, p. 157). According to Montana Fish Wildlife and Parks, bull trout only spawn in upwelling groundwater, where the buried eggs are aerated.²³ Upwelling reduce fine

²² US EPA, letter to KNF on the Montanore Mine FEIS, May 29, 2015.

²³ <http://fwp.mt.gov/fishAndWildlife/species/threatened/bullTrout/>

sediment, which enhances the porosity and oxygen content of the redds. The DSEIS fails to take a hard look at the direct, indirect and cumulative impacts that loss of upwelling can have on bull trout and other aquatic life as a result of groundwater drawdown. The DSEIS also fails to provide any analysis of how this impact will be mitigated.

The EPA also raised issues about the lack of analysis of groundwater drawdown on groundwater upwellings, and the potential impacts to aquatic life in the FEIS - issues that remain valid for the DSEIS.

“The Final EIS habitat analyses also do not consider the loss and depletion of groundwater upwelling areas within spawning habitat. Upwelling areas provide important overwintering and spawning habitat for fall spawning fish because they provide consistent flow and temperature. In this case, the Final EIS may also be underestimating the adverse effects to bull trout from the project.”²⁴

The EPA also raised issues about the effects of groundwater drawdown, and seasonal dry-up of bull trout spawning habitat.

“Based upon projected flow changes and groundwater drawdown, seasonal dry-up of bull trout spawning habitat is likely and groundwater dependent ecosystems will be lost, including some within the CMW. The Final EIS does not fully assess and quantify these impacts to aquatic life nor demonstrate that those impacts can be offset through mitigation. Specifically, the Final EIS partially quantifies habitat changes for bull trout, *but does not quantify effects for other fish species, macroinvertebrates, or aquatic-dependent life*. The project's impacts to species other than bull trout are likely to be significant, though those impacts are not well described in the Final EIS and no specific mitigation is proposed. Because bull trout spawn in the fall, when complete loss of baseflow is most likely, the habitat analysis' use of bull trout may represent a worst-case effect for fish. However, the analysis may underestimate effects to bull trout because none of the 11 sites included in the habitat analysis represent the highest predicted flow impacts to the overall aquatic habitat, including areas designated as critical bull trout habitat (e.g. EFRC-100, 200, 300, or 400, EFBR-300, or any sites above LB-100).”²⁵

These issues remain valid for the groundwater drawdown effects of the Evaluation Adit, and must be addressed in the DSEIS.

L. Inadequate geotechnical evaluation of Montanore Evaluation adit

According to the DSEIS (p. 208), the KNF completed a Failure Modes and Effects Analysis (FMEA) of the Rock Creek Project underground mine, Phase I, which the agency says would be

Baxter, J. S., and J. D. McPhail. 1999. The influence of redd site selection, groundwater upwelling, and over-winter incubation temperature on survival of bull trout (*Salvelinus confluentus*) from egg to alevin. *Canadian Journal of Zoology* 77:1233-1239.

²⁴ US EPA, letter to KNF on the Montanore Mine FEIS, May 29, 2015.

²⁵ US EPA, letter to KNF on the Montanore Mine FEIS, May 29, 2015.

similar to the Montanore Project. According to KNF, the Rock Creek FMEA considered the Troy Mine subsidence events and developed mitigations as part of agency-modified alternatives (Agapito Associates, Inc. 2014a, 2014b). The KNF concluded that the risk of adit failure, after applying compensating factors, was inconsequential. Because similar compensating factors considered in the FMEA of the Rock Creek Project underground mine would be incorporated into the Montanore mine plan, the KNF concluded the risks of subsidence at Montanore also would be inconsequential.

The DSEIS errs in relying on an FMEA for the Rock Creek Project, rather than conducting a FMEA specifically for Montanore. The Rock Creek and Montanore Project are substantively different, and can't be interchanged. Furthermore, the Troy mine, which the agencies often use as an analogue, has experienced a number of sinkholes and chimney subsidence events in the last decade, and it appears that an earthquake in May 2019 caused another mine collapse, which has yet to be investigated.²⁶

M. The DSEIS fails to provide data for stream flows at required sites, and fails to demonstrate that surface water monitoring can effectively characterize the resource or identify impacts.

The DSEIS identifies myriad problems with collecting surface water monitoring data, particularly in upper watershed streams, where dewatering effects will be most acute, and the DSEIS fails to demonstrate that these hurdles can be overcome.

The DSEIS (p. C-15) states that “MMC was required to collect additional data at EFBR-10 as part of the KNF’s requirement for pre-Project monitoring (KNF 2016).” Yet, additional data at EFBR-10 have not been reported.²⁷ EFBR-10 was established as the uppermost point of observed surface water flow in the drainage extending from Saint Paul Pass to Saint Paul Lake. Flow has only been estimated at this site, rather than measured, as is necessary to accurately characterize the resource and evaluate the potential effects of dewatering. As such, MMC has failed to provide the required information.

The DSEIS also reports that the data logger at EFRC-50 washed out the first year it was installed in 2013. Another attempt in 2017 also suffered problems, and they moved it 1,000 feet downstream. According to the DSEIS, New Fields reported that perennial flow in East Fork Rock Creek seems to generally extend to an elevation of about 5,600 feet. The proposed alternative – monitoring at another site 1,000 feet downstream – does not achieve the necessary objective of characterizing streamflows in the highest reaches of the East Fork of Rock Creek - where dewatering effects are predicted to be the most significance. This is acknowledged in the DSEIS: “Moving the EFRC-50 site 1,000 feet below the original location does not achieve the same objective as the original EFRC-50.” (p. c-15) Without this important data, or any means to measure impacts, the impacts to Wilderness streams cannot be determined.

The DSEIS also reports that synoptic streamflow measurements, necessary to characterize streamflows and identify impacts, have also suffered problems. “Past installations of continuous

²⁶ <https://earthquake.usgs.gov/earthquakes/eventpage/mb80340719/executive>

²⁷ Id.

flow instruments MMC have highlighted the difficulty in maintaining these instruments over the winter months.” (p. c-15). The DSEIS states that for ongoing monitoring, they would consider adapting different techniques to measure flows, but fail to identify what those alternate techniques would be, and how they might be more successful at measuring synoptic flows during the crucial winter months.

It also reports that there are problems with the way that synoptic streamflow measurements have been graphed, and for that reason they have trouble identifying small flow variations between sites, which is essential in small headwater streams. The DSEIS states that future reporting of synoptic streamflow measurements will use an alternate method, but the DSEIS fails to demonstrate that the future reporting could be past reporting, based on different reporting methodology and different measurement methodology. (C-15)

The DSEIS must demonstrate that it can effectively measure impacts to Outstanding Resource Waters from dewatering, and mitigate those impacts, which it has failed to do.

The DSEIS also reports a myriad of problems with collecting and analyzing streamflow/wetted perimeter data to conduct aquatic life impact assessments. The EIS acknowledges that additional data collection at RC-3 and EFBR-2 during low flows (proposed in the Appendix C Monitoring Plan) would provide a more accurate estimate of the relationship between discharge and wetted perimeter (DSEIS, p. 94-95), yet it puts this data collection off until after the NEPA process. Furthermore, it acknowledges that the flow method measurement used for this analysis didn't work for collecting data at the site, and states that additional methods will be considered in the future, but fails to state what those would be, or demonstrate that they could overcome the problems faced by the earlier methods.

“These substrate materials are not ideal for establishing a consistent cross-sectional area for each transect. Water elevations vary because the larger cobbles separate the flow into individual channels within the transect. Under these conditions, the relationship between flow and wetted perimeter does not satisfy the assumptions of the flow measurement method used. Further, ongoing sampling has shown that significant substrate movement occurs between sampling events. For ongoing monitoring, MMC would consider modifications to the method to address the current limitations by relocating the station or adapting different techniques to measure flows and wetted perimeter. Any changes to the wetted perimeter monitoring method would require KNF's approval.” (P. 94-95)

The DSEIS acknowledges that this information on habitat availability is needed to understand the impacts to bull trout and other sensitive fish species (P. 96), and monitor whether mitigation measures are effective.

“The impact assessment assumed that lower or higher habitat availability in Alternative 3 compared to existing conditions would result in adverse or beneficial impacts, respectively, on bull trout populations, and that a greater magnitude of change in habitat availability would result in correspondingly greater impact on the populations. Additionally, while changes to habitat availability were not quantified for redband trout,

westslope cutthroat trout, and other fish species in the analysis area, lower flows were assumed to result in lower habitat availability for these species as well.”

However, it fails to show that adequate data can be collected to make this determination.

N. Financial Assurance

A draft financial assurance amount has not been calculated and incorporated into the DSEIS; therefore, it is not possible to evaluate potential mitigation measures or evaluate compliance with reclamation and water treatment requirements in the event that MMC files for bankruptcy or is otherwise unable to complete reclamation. There are numerous examples in Montana of financial assurance calculations that significantly underestimated the cost to complete reclamation and long-term water treatment.²⁸ As a result, reclamation, mitigation and long-term water treatment were not effectively completed, as required by the MMRA and other federal laws.²⁹

NEPA requires that mitigation measures be fully reviewed in the FEIS, not in the future. “[O]mission of a reasonably complete discussion of possible mitigation measures would undermine the ‘action-forcing’ function of NEPA. Without such a discussion, neither the agency nor other interested groups and individuals can properly evaluate the severity of the adverse effects.” *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 353 (1989). NEPA requires that documents: (1) “include appropriate mitigation measures not already included in the proposed action or alternatives,” and (2) “include discussion of . . . Means to mitigate adverse environmental impacts (if not already covered under 1502.14(f)).” 40 C.F.R. § 1502.14(f); 40 C.F.R. § 1502.16(h). “Mitigation” is defined as a way to avoid, minimize, rectify, or compensate for the impact of a potentially harmful action. 40 C.F.R. §§ 1508.20 (a)-(e). Mitigation measures must be discussed with “sufficient detail to ensure that environmental consequences have been fairly evaluated.” *Robertson*, 490 U.S. at 352. The discussion of mitigation measures must also assess their effectiveness. “An essential component of a reasonably complete mitigation discussion is an assessment of whether the proposed mitigation measures can be effective.” *South Fork Band Council v. Dept. of Interior*, 588 F.3d 718, 726 (9th Cir. 2009).

The USEPA has also repeatedly raised this issue on the Montanore Mine, including the DEIS and DSEIS:

“Given the history of adverse environmental effects resulting from some hardrock mines and the expenditure of public funds used in some cases to address environmental problems caused by mining, EPA believes it is necessary to analyze these factors in the DEIS. Financial assurance could make the difference between a project sufficiently managed over the long-term by the site operator and an unfunded/under-funded post closure site that becomes an unreclaimed liability for expenditure of public funds.”³⁰

²⁸ <https://earthworks.org/publications/mt-track-record-report/montana-predictions-report/>

²⁹ *Id.*

³⁰ USEPA letter to KNF and DEQ, Comments on Draft Environmental Impact Statement for the Montanore Project (CEQ #20090048), July 29, 2009.

“A total bond amount has not been calculated and incorporated into the Final EIS or Draft ROD; therefore, it is not possible to evaluate MMC’s ability to reclaim the mine.”³¹

In this case, the public has no idea as to how “effective” the mitigation/reclamation bond would be for any of the action alternatives – because the DSEIS has not divulged this information. The DSEIS must provide a financial assurance calculation for public review.

O. The DSEIS fails to consider the effects of climate change.

Montana is projected to continue to warm in all geographic locations, seasons, and under all emission scenarios throughout the 21st century.³² By mid-century, Montana temperatures are projected to increase by approximately 4.5-6.0°F (2.5-3.3°C) depending on the emission scenario. These state-level changes are larger than the average changes projected globally and nationally. Across the state, precipitation is projected to increase in winter, spring, and fall; precipitation is projected to decrease in summer.

Recent experience shows that abnormally high levels of precipitation and ensuing flooding can destroy waste dumps, seepage capture systems, and mine access roads; cause impoundments to overflow and dams to be breached; and push water treatment costs over-budget or cause releases of untreated water.³³ These impacts underscore the need to plan for worst-weather events throughout a project’s operation and closure.³⁴ Another recent report documents the effects of climate change on percolation rates through a cover system at the Smoky Canyon Mine in Idaho, allowing significantly more infiltration than predicted, and resulting in adverse impacts to groundwater. The DSEIS fails to adequately consider the effects of climate change on the proposed project.

There are an increasing number of reports from industry, regulatory agencies and academia that relate the impacts of climate change to the mining industry and the need to incorporate these changes into mine plans and practices.³⁵

The DEIS should consider the likelihood that an extreme precipitation event will exceed the design storm for mine infrastructure, resulting in more frequent untreated releases and degrading

³¹ USEPA letter to KNF, Comments on Draft Record of Decision and Objections Period Final EIS for the Montanore Mine, May 29, 2015.

³²<http://montanaclimate.org/sites/default/files/thumbnails/image/2017-Montana-Climate-Assessment-Executive-Summary-Ir.pdf>

³³ See W. McCullough, W. Jepson & B. Maehl, Zortman: Dealing with Extreme Weather Events at 5, 9-11, 15-16, 19, 26-28 (2011); T. D. Pearce *et al.*, *Climate Change and Mining in Canada*, 16 Mitigation & Adaptation Strategies for Global Change 347, 357-58, 360 (2011).

³⁴ R. D. Williams, BLM, Climate Change – Extreme Conditions: Do Plans of Operations Need to Include an Ark? at 29-44 (2012).

³⁵ <http://climateontario.ca/doc/factsheets/Mining%20Factsheet%20--%20Final.pdf>

water quality, and exacerbate the flashy rain on snow events that already contribute to habitat problems for bull trout in Libby Creek. According to the DEIS, Libby Creek sites did not meet pool frequency and width to depth ratio RMOs, and the causes of RMO nonattainment in Libby Creek include historical placer mining, historical timber harvest, road construction and flooding caused by rain-on-snow events. (DEIS, p. 96). The increased frequency and severity of storm events related to climate change could contribute to these problems, and should be analyzed in the DSEIS.

The DSEIS should also consider the effects of climate change, including increased temperatures and precipitation on cover systems and reclamation efforts, such as revegetation plans. The DSEIS fails to consider the cumulative effects of climate change on fish and other aquatic life in addition to the effects of stream dewatering and temperature increases as a result of the Project.

The SDEIS should also consider the effects of climate change, including increased temperatures and precipitation on cover systems and reclamation efforts, such as revegetation plans. It should also develop emergency plans in the event of evacuation or damage from wildfires, as recently occurred at the Donlin Gold Mine in Alaska and the Zortman Landusky Mine in MT. The DSEIS fails to consider the cumulative effects of climate change, such as increased temperatures, on fish and other aquatic life in addition to the effects of stream dewatering and temperature increases as a result of the Project.

As demonstrated by the extensive of research in this area, the implications of climate change on salmonids, including bull trout, are profound. Rieman *et al.* (2007) predicted that climate warming could result in 18 to 92 percent loss of thermally suitable habitat for bull trout. Wenger *et al.* (2011) used a hydrological model to predict the effects of changes in the flow regime and stream temperatures resulting from climate change on cutthroat trout, brook trout, brown trout, and rainbow trout. These species were predicted to lose between 35 and 77 percent of their current habitat due to increased temperatures beyond the species' thermal limits, negative biotic interactions, and increases in winter flood frequency.

Jones et al. developed a spatial stream temperature model to predict stream temperatures throughout the Flathead River Basin, estimate thermal regimes for bull trout habitats, and predict thermal changes under a range of future climate warming scenarios. Model results can be used to focus conservation and management efforts on populations of concern, by identifying critical habitats and assessing thermal changes at a local scale.

Isaak et al. (2010) employed spatially explicit, spatial statistical models to retrospectively estimate the effects of climate change and wildfire on stream temperatures and critical bull trout habitats in the Boise River Basin in central Idaho. The models estimated that from 1993 to 2006 bull trout lost 11–20% of headwater spawning and rearing streams.

The Intergovernmental Panel on Climate Change (2007) determined that changes in temperature and precipitation have occurred in northwest Montana and are likely to continue to occur in the future. Warmer stream temperatures and changes in flow regimes would directly affect some coldwater fish species, including bull trout, cutthroat trout, and other salmonids by contracting and shifting the range of habitat suitable for such fish and increasing the risk of egg scour.

Williams et al. (2009), examined how increased summer temperatures, uncharacteristic winter flooding, and increased wildfires—are likely to affect broad-scale population persistence among three subspecies of cutthroat trout *Oncorhynchus clarkii*. Those results suggest that as much as 73% of the habitat currently occupied by Bonneville cutthroat trout *O. c. utah*, 65% of that occupied by westslope cutthroat trout *O. c. lewisi*, and 29% of that occupied by Colorado River cutthroat trout *O. c. pleuriticus* will be at high risk from one or more of these three factors.

Scientists repeatedly call for resource managers to take these issues into account in their management and decision-making. The Rocky Mountain Research Station has already mapped predictions of water temperature increases as a result of climate change in the Cabinet Mountains Wilderness Area at this interactive website:

<http://www.fs.fed.us/rm/boise/AWAE/projects/NorWeST.html#>

3. ENDANGERED SPECIES ACT

A. Grizzly Bears

Grizzly bears are listed as a threatened species under the ESA, and the Cabinet-Yaak (CYE) grizzly bear population would be affected by the proposed action. The DSEIS explains that the evaluation project would occur in the southern portion of the Cabinet-Yaak Grizzly Bear Recovery Zone.³⁶ The analysis area includes BMUs 2, 5, and 6 and the Cabinet Face BORZ.³⁷ The DSEIS states that ESA consultation between the Forest Service and FWS is underway and will ensure compliance with ESA requirements---an assertion that is not sufficient to explain how the alternatives considered in the DSEIS and decisions based on it will comply with the ESA.³⁸ The DSEIS concludes that Alternative 3, the Forest Service’s preferred alternative, is “not likely to adversely affect the grizzly bear because [it] would include design features to counteract displacement and increased risks of grizzly bear mortality that would be implemented before Project activities begin.”³⁹ That determination, and the supporting analysis presented in the DSEIS, are flawed and invalid for the reasons described below.

1. Population Status

The DSEIS fails to accurately characterize the status of the CYE grizzly bear population, presenting a picture of a significantly improving population poised to withstand any impacts of the project that is not supported by the data. As explained in the attached report of David Mattson, PhD, the Forest Service’s population estimate and discussion of population trend are fundamentally flawed and fail to accurately represent the population’s baseline status.⁴⁰

The Forest Service’s assertion in the DSEIS that the CYE grizzly bear population numbers “between 55 and 60 individuals, with an annual growth rate of 2.1 percent and an estimated

³⁶ DSEIS 334.

³⁷ *Id.*

³⁸ DSEIS 362; see 40 C.F.R. 1502.2(d).

³⁹ DSEIS 363.

⁴⁰ David Mattson, Assessment of Kasworm et al. (2018) as Applied in the Draft Supplemental Environmental Impact Statement Montanore Evaluation Project (July 31, 2019) (“Mattson Report”).

probability that the population is stable or increasing of 73 percent,” is fundamentally flawed.⁴¹ First, the 2.1% annual growth rate cannot be validly applied to the CYE grizzly bear population because (1) it excludes data for bears captured because of conflict situations and bears that are part of the augmentation program, and (2) it is predicated almost exclusively on data from female bears in the Yaak subpopulation.⁴² To fairly represent the CYE population, any growth-rate estimate must include male bears, augmentation bears, and management-trapped bears; indeed, the survival rates for these omitted segments of the population are substantially less than that of the females accounted for in the 2.1% annual growth rate estimate, indicating that the focus on females to the exclusion of other population segments has substantially skewed the result.⁴³

Further, reliance on a population-growth estimate derived from data on grizzlies in the Yaak is improper given that the Cabinet and Yaak subpopulations are almost totally isolated from one another.⁴⁴ Given that reality, the population growth estimate relied upon in the DSEIS has no relevance to the grizzly subpopulation the project would directly affect or an evaluation of the project’s effects on grizzlies.⁴⁵

In addition, the unavoidable uncertainty in the growth rate estimates developed by Kasworm et al.⁴⁶ due to small sample sizes make the DSEIS’s unqualified reliance on the 2.1% growth rate improper. As explained in Dr. Mattson’s report, the uncertainty intervals for all calculated population-growth estimates in Kasworm et al. (2018) substantially overlap zero and one another, undermining the claim that growth rate has varied over time and is currently positive.⁴⁷ The DSEIS, however, fails to acknowledge any uncertainty in the population size and growth rates on which it relies.⁴⁸

For all of these reasons, the total population estimate presented in the DSEIS, which relies on the flawed 2.1% growth rate estimate to extrapolate the 2017 population from the 2012 point estimate in Kendall et al. (2012), is also invalid.⁴⁹ In addition, the 2.1% growth rate used to project the 2017 population estimate does not in fact represent the 2012-2017 period, as it is based on data from 1983-2017 and therefore represents a generalized growth rate for female grizzly bears in the Yaak during that 35-year period.⁵⁰ For this reason, too, the population estimate in the DSEIS is unreliable and invalid.

The DSEIS fails even to acknowledge these critical limitations in the data it relies upon nor disclose the implications for the Forest Service’s analysis of project impacts. Further, the only reliable 2017 population estimate---the minimum estimate for the Cabinet Mountains

⁴¹ DSEIS 340 (citing Kasworm et al. 2018). A summary of Dr. Mattson’s educational and professional background and research scientist record are also attached.

⁴² See Mattson Rep. 2.

⁴³ *Id.*

⁴⁴ *Id.*

⁴⁵ *Id.*

⁴⁶ Kasworm, W.F., T.G. Radant, J.E. Teisberg, A. Welandar, M. Proctor, and H. Cooley. 2018. Cabinet-Yaak grizzly bear recovery area 2017 research and monitoring progress report. U.S. Fish & Wildlife Serv., Missoula, Mont. 102 pp. (“Kasworm et al. (2018)”).

⁴⁷ Mattson Rep. 4.

⁴⁸ See DSEIS 340.

⁴⁹ Mattson Rep. 4.

⁵⁰ Mattson Rep. 3.

subpopulation presented in Kasworm et al. (2018) from a synthesis of genetic and other information---is just 13 bears, which is more consistent with stasis or decline during the 2012-2017 period than with the growth asserted in the DSEIS and reflects little or no improvement since 1988.⁵¹ Indeed, even taking the population growth rate estimate presented in the DSEIS at face value, which is improper for the reasons summarized above, the data indicate that the population has worsened during 2014-2017 compared to 2006-2013 and that population numbers remain substantially lower than the presumed peak around 1998.⁵²

2. Mortality

The DSEIS's discussion of mortality rates and trends in the CYE grizzly bear population also suffers from omission of key data, misuse of the data analyzed, and failure to disclose critical limitations in the available data and implications for the Forest Service's analysis.

First, the DSEIS improperly relies on pooled survival rates to suggest improved grizzly bear survival in the affected population during 2007-2017 and attribute that supposed improvement to initiation of an FWP bear management specialist's work in the CYE.⁵³ At the outset, the uncertainty intervals for the three pooled estimates compared in the DSEIS overlap, which precludes a confident conclusion that there was any difference in mean rates.⁵⁴ In addition, these survival rates suffer from the same undisclosed data limitations discussed above in point A, including by excluding consideration of any conflict or augmentation bears.⁵⁵ Further, data from all bear sex- and age-classes were pooled without any apparent determination of whether doing so preserved representation of the population at large.⁵⁶

Second, the discussion of human-caused mortality rates and trends in the DSEIS is incomplete, opaque, and inadequately supported. The DSEIS notes that 6 known or probable human-caused mortalities occurred in the CYE (defined here as in or within 10 miles of the CYRZ) from 2012-2017, a rate of 1 bear per year.⁵⁷ But the DSEIS fails to disclose the significance of that rate, which FWS has described as sufficient to "limit[] population increase and contribut[e] to extinction risk" of the CYE population and "not sustainable with or without the Montanore Mine."⁵⁸

The DSEIS also fails to explain why 2012-2017 is the (sole) relevant time period for analysis. It is not. For one, the DSEIS goes on to attribute purported reductions in human-caused mortality

⁵¹ Id.

⁵² Mattson Rep. 5-7.

⁵³ See DSEIS 346.

⁵⁴ Mattson Rep. 7.

⁵⁵ Id.

⁵⁶ Id.

⁵⁷ DSEIS 346.

⁵⁸ U.S. Fish & Wildlife Serv., Final Biological Opinion on the Effects to Grizzly Bears From the Implementation of Proposed Actions Associated with Plan of Operations for the Montanore Minerals Corp. Copper/Silver Mine 95 (March 31, 2014).

on both private and public lands in the CYE to conflict-reduction strategies of the kind called for in the Montanore Mine/Montanore Evaluation Project mitigation plans,⁵⁹ yet it does not support those theories with a comparison of human-caused mortality rates in the CYE during the period before and after initiation of the FWP bear specialist position there. Undertaking that comparison does not support the attribution theories presented in the DSEIS, as the data show an increase in the number of human-caused grizzly bear mortalities in the U.S. portion of the CYE during the decade after the bear specialist began work there compared to the prior decade---specifically, 16 known or probable human-caused mortalities occurred in 2007-2016 compared with 13 during 1998-2007.⁶⁰ The picture does not improve if one considers available FWS mortality data through 2018: from 2007-2018, 19 known or probable human-caused mortalities occurred in the U.S. portion of the CYE, compared to 14 from 1995-2006.⁶¹ Such data are critical to evaluating the claims in the DSEIS that the FWP bear specialist and similar conflict-reduction efforts may have caused purported declines in human-caused mortality on private and public lands in the CYE. Indeed, the U.S. District Court for Montana has ruled that such data must be considered to rationally evaluate the efficacy of conflict-reduction strategies in the Montanore mitigation plan and the ability of those measures to reliably neutralize increased mortality risks posed by the project.⁶²

Even setting aside the critical shortcomings in the data on which the DSEIS relies, and its omission of key data, the DSEIS's attribution of purported reductions in human-caused grizzly bear mortality on private and public lands in the CYE to conflict-reduction efforts is unsupported and improper. At the outset, causation is notoriously difficult to establish with reliability or confidence, a challenge confounded here by the very limited data purporting to support the relevant assertions in the DSEIS.⁶³ Further, while the DSEIS acknowledges that higher mortality during 1999-2006 may be attributable to poor berry production during that period,⁶⁴ it illogically fails to acknowledge that relatively lower mortality beginning in 2007 may equally be attributable to abatement of the berry famine. This omission is particularly troubling given that Kasworm et al. (2018), on which the relevant DSEIS discussion relies, itself ascribes more weight to variations in natural food availability, as well as the augmentation program, in driving mortality numbers as compared to initiation of the FWP bear specialist position.⁶⁵ Finally, the suggestions in the DSEIS that purported improvements in mortality rates post-2007 (which, as discussed above, are not borne out by a full review of the relevant data) were driven by conflict management efforts are counterintuitive at best given that at least a substantial proportion---if not the majority---of human-caused grizzly bear mortalities in the CYE result from known poaching events or other killings of undetermined cause (which may well involve malicious killing).⁶⁶ Since such illicit killings are not generally amenable to reduction through public education and outreach, one would expect other categories of killing that are the direct target of education and outreach work---specifically mistaken identity and sanitation-related deaths---to predominate if

⁵⁹ See DSEIS 346.

⁶⁰ Kasworm et al. (2018), Table 1.

⁶¹ Id.; Wayne Kasworm, Cabinet-Yaak and Selkirk Mountains Grizzly Bear Monitoring Update 2 (Nov. 8, 2018).

⁶² *Save Our Cabinets v. U.S. Fish & Wildlife Serv.*, 255 F. Supp. 3d 1035, 1063 (D. Mont. 2017).

⁶³ Mattson Rep. 10.

⁶⁴ DSEIS 346.

⁶⁵ See Mattson Rep. 10-11.

⁶⁶ Id. at 11-12.

such efforts were truly driving a reduction in overall human-caused mortalities.⁶⁷ Finally, hypotheses in the DSEIS attributing purported improvements in human-caused mortality rates on private and public lands to conflict reduction efforts are critically undermined by the very small sample sizes on which those hypotheses rely.⁶⁸ Again, this fundamental limitation on the underlying data and resulting analyses is never acknowledged in the DSEIS. While the commenters strongly support conflict-reduction efforts in the CYE as a critical intervention to help mitigate the already unsustainable levels of human-caused mortality threatening the population, the specific statements in the DSEIS attributing purported improvements in mortality rates in recent years to conflict reduction efforts are not supported by the data and certainly do not support a conclusion that such efforts can reliably neutralize mortality threats from the project.

Third, the assertion in the DSEIS that project activities under the Forest Service's preferred alternative "could result in slight, short-term (18-24 months) increases of grizzly bear mortality risk from shooting of bears" is unsupported and misleading.⁶⁹ As to the duration of impacts, the DSEIS elsewhere states that the full evaluation project and site closure could last five years,⁷⁰ so it is unclear why the quoted portion of the DSEIS assumes any mortality risks would be confined to an 18-24-month period. Further, the basis for characterizing the increased risk as "slight" is not explained and fails to account for the highly precarious baseline status of the CYE population and the impact that even numerically slight increases in mortality can have on the status and fate of the population.⁷¹ The U.S. Fish and Wildlife Services has reported another female grizzly bear mortality in the Cabinets this week,⁷² which is the second year in a row that the population has suffered a female grizzly bear mortality. Though the Forest Service characterizes its analysis of mortality threats in the DSEIS as qualitative, that does not excuse the requirements that the analysis be rationally based on a consideration of the relevant evidence and that the agency's analytical methods be reasonably described in the DSEIS.

3. Cumulative Effects

The DSEIS wrongly asserts that the Montanore Evaluation Project and Phase I of the Rock Creek Mine project will have no cumulative effects "[w]ith the exception of beneficial effects on grizzly bear[s] ... where Rock Creek Phase I mitigation lands would be located."⁷³ Indeed, the DSEIS later suggests that the two projects will cumulatively increase grizzly bear mortality risks,⁷⁴ but merely touts the mitigation measures associated with both projects and makes no attempt to characterize the magnitude of that cumulative impact nor its likely effect on the CYE grizzly bear population. This terse discussion does not satisfy NEPA, which mandates that agencies take a "hard look" at the cumulative impacts and provide "quantified or detailed

⁶⁷ Id.

⁶⁸ Id. at 12.

⁶⁹ DSEIS 355.

⁷⁰ DSEIS 233 (describing Alternative 2), 234 (explaining that Alternative 3 would be similar except for additional geotechnical investigation work).

⁷¹ See Mattson Rep. 12-13.

⁷² http://fwp.mt.gov/news/newsReleases/fishAndWildlife/nr_1251.html?fbclid=IwAR28w0xLOCpdlaawL_fmIsPS3qURgQWFBHzKVrDP2R9YeFTGgHsuChvX5Cc

⁷³ DSEIS 80.

⁷⁴ DSEIS 359.

information” supporting its cumulative impacts analysis.⁷⁵ Among other things, a revised analysis of cumulative impacts from the two projects must contextualize the mortality threat in a defensible and adequately supported presentation of the CYE population’s status and the likely impact of increased mortality.

B. Bull Trout

According to the DSEIS (p. 92), the KNF will submit a BA for aquatic resources to the USFWS that evaluates the potential effect of the Project on T&E aquatic species, including measures the KNF identified as needed to minimize or compensate for effects. In its BA analysis and informal consultation with the USFWS, the KNF will also consider the programmatic *Biological Assessment on Road Related Activities That May Affect Bull Trout and Bull Trout Critical Habitat in Western Montana* (USFS and BLM 2014) and the associated Biological Opinion (USFWS 2015a).

Bull trout (*Salvelinus confluentus*) is currently listed as threatened under the ESA and occurs in the analysis area. The USFWS has designated bull trout critical habitat in the analysis area.

The analysis area consists of the East Fork Bull River, East Fork Rock Creek, Rock Creek and Libby Creek to the US 2 bridge where dewatering the Libby Adit and drifts may reduce stream-flow, the existing Libby Adit Site, existing roads (Libby Creek Road and Upper Libby Creek Road) used for access, an area between Poorman Creek and Little Cherry Creek used for geotechnical investigations, and locations where the KNF would change road access for grizzly bear mitigation.

1. Sediment Impacts

Bull trout are highly sensitive to sediment that is suspended in water or deposited on stream bottoms. Suspended and deposited sediment in excess of natural conditions can be fatal to bull trout at high levels.⁷⁶ Even at low levels, suspended sediment increases stress in bull trout; impairs oxygen delivery, foraging capability, disease resistance, and growth; causes physical abrasion and clogged gills; and interferes with homing and migration.⁷⁷ Sediment deposition also severely degrades spawning habitat, reducing egg survival and juvenile bull trout emergence. In addition, increased stream sedimentation promotes invasion of non-native brook trout, which negatively affects bull trout survival.⁷⁸

The DSEIS states that sediment discharges to project-area streams, and the associated adverse impacts on bull trout and their habitat, will be controlled by implementation of best management practices (“BMPs”) described in the Stormwater Pollution Prevention Plan (“SWPPP”) that MMC submitted to Montana DEQ by in 2017.⁷⁹ The DSEIS further states that the SWPPP

⁷⁵ Great Basin Mine Watch v. Bureau of Land Mgmt., 844 F.3d 1095, 1104 (9th Cir. 2016) (quotations omitted).

⁷⁶ U.S. Fish & Wildlife Serv., Final Biological Opinion on the Effects to Bull Trout and Bull Trout Critical Habitat from the Implementation of Proposed Actions Associated with the Plan of Operations for the Montanore Minerals Corp. Copper/Silver Mine 96 (March 31, 2014) (“Montanore Aquatic BiOp”).

⁷⁷ Id.

⁷⁸ Id.

⁷⁹ See, e.g., DSEIS 44, 105.

requirements will “ensure compliance with the terms and conditions of [MMC’s] MPDES permit” and, by extension, the requirements of the federal Clean Water Act and Montana Water Quality Act.⁸⁰

The Forest Service cannot rely on MMC’s MPDES permit and the associated SWPPP to control discharges of sediment—or any other pollutant—as required by the Clean Water Act and Montana Water Quality Act because that permit has been vacated by Montana’s First Judicial District Court.⁸¹ Indeed, the state court specifically held that the permit’s reliance on BMPs alone to control storm water pollution from the mine is unlawful because Montana DEQ failed to justify its omission of any numeric effluent limitations for that pollution.⁸²

Further, the 2017 SWPPP on which the DSEIS relies does not even attempt to address the control of sediment and other pollutants that will be present in stormwater discharged from the site when the evaluation project activities analyzed in the DSEIS begin; instead, it addresses only current operations at the site—which are limited to care and maintenance activities—and the stormwater pollution associated with those limited activities.⁸³

In addition, the conclusions in the DSEIS that sediment impacts on bull trout and their habitat in Big Cherry Creek, Bear Creek, Cable Creek, Midas Creek, and East Fork Rock Creek will be “negligible” are inconsistent with the conclusions reached by the U.S. Fish and Wildlife Service in its 2014 Aquatic BiOp for the Montanore Project, on which the Forest Service’s 2015 JFEIS relies.⁸⁴ In the 2014 Aquatic BiOp, FWS determined that sediment impacts on bull trout and their habitat in Big Cherry, Bear, Cable, and Midas Creeks during the first 2-4 years of the project (encompassing the evaluation phase activities and potentially construction) would be “severe” and lead to a degradation of baseline conditions from functioning “at risk” for bull trout to functioning “at unacceptable risk.”⁸⁵ FWS also determined that sediment impacts from the initial stage of the project would adversely affect bull trout populations in the mainstem and East Fork of Rock Creek.⁸⁶ The Forest Service must reconcile these starkly inconsistent analyses of the impacts that sediment discharges from evaluation activities at the site will have on bull trout and their habitat, or explain why FWS’s findings—which the Forest Service relied upon in the 2015 JFEIS to which the current DSEIS tiers—are no longer valid.

2. Baseflow Reductions

There are two fundamental flaws in the DSEIS’s analysis of stream baseflow reductions associated with Evaluation Project activities and the impact of those reductions on bull trout.

First, the DSEIS fails to disclose or analyze key data generated by the three-dimensional groundwater model on which the dewatering analysis is based. The DSEIS acknowledges that

⁸⁰ Id. at 105.

⁸¹ Order on Cross-Motions for Summ. J., *Mont. Env’tl. Info. Ctr., et al. v. Mont. Dep’t of Env’tl Quality, et al.*, No. CDV-2017-641 (July 24, 2019) (“MEIC Order”); see 36 C.F.R. § 228.8(b).

⁸² See MEIC Order at 12-16.

⁸³ See generally *Montanore Minerals Corp., Montanore Project Stormwater Pollution Prevention Plan* (March 2017).

⁸⁴ DSEIS 113.

⁸⁵ *Montanore Aquatic BiOp* 101.

⁸⁶ Id. at 103.

Evaluation Project activities will reduce baseflows in project-area streams to the detriment of bull trout and their habitat, but it fails to disclose the full scope of those impacts as required by NEPA.⁸⁷ Specifically, the DSEIS fails to disclose or analyze the impact of baseflow reductions predicted by Geomatrix 2011 at stream monitoring locations LB-50 in Libby Creek, EFBR-300 in East Fork Bull River, and EFRC-200 and EFRC-50 in Rock Creek.⁸⁸ These omissions are not justified, particularly given that the Forest Service disclosed modeled baseflow reductions at these sites in its 2015 Montanore Project JFEIS, to which the current DSEIS tiers. Further, these omissions materially affect the Forest Service’s NEPA analysis because the stream monitoring locations excluded from consideration in the DSEIS all lie in upstream reaches near or within the Cabinet Mountains Wilderness boundary, where the model predicts that the most substantial baseflow reductions will occur. Moreover, the stream reaches excluded from analysis in the DSEIS include occupied bull trout habitat and designated bull trout critical habitat. The Forest Service must explain why it is rational and consistent with NEPA to jettison these key data points in the DSEIS.

Second, as explained herein, none of the scenarios modeled in Geomatrix 2011 accurately reflects the Evaluation Project scenario described in the DSEIS as Alternative 3, the Forest Service’s preferred alternative. Accordingly, Geomatrix 2011 does not provide scientifically valid and reliable predictions of the baseflow impacts associated with Alternative 3 and the resulting impacts on bull trout and their habitat.

4. CLEAN WATER ACT AND MONTANA WATER QUALITY ACT

NEPA requires that an EIS “state how alternatives considered in it and decisions based on it will or will not achieve the requirements of sections 101 and 102(1) of [NEPA] and other environmental laws and policies” such as the Clean Water Act (CWA) and Montana Water Quality Act (WQA).⁸⁹ In addition, the Forest Service’s regulations obligate it to ensure that project activities will comply with all applicable federal and state water quality standards promulgated under the CWA and WQA⁹⁰

The DSEIS relies on Montana DEQ to ensure that the evaluation project complies with the CWA and WQA through the issuance of a valid discharge permit and more specifically relies on the MPDES permit DEQ issued for the Montanore Project in 2017, as well as the BHES Order incorporated in that permit, to satisfy CWA and WQA requirements.⁹¹ Indeed, the DSEIS states explicitly that the MPDES permit is required for the Montanore Evaluation Project.⁹² The DSEIS also relies on the 2017 MPDES permit to ensure compliance with the Kootenai Forest

⁸⁷ See 40 C.F.R. § 1502.16.

⁸⁸ See DSEIS 108, Table 320.

⁸⁹ 40 C.F.R. § 1502.2(d) (emphasis added). See also *Cal. ex rel. Imperial Cty. Air Pollution Control Dist. v. Dep’t of Interior*, 767 F.3d 781, 798 (9th Cir. 2014); *Ctr. for Biological Diversity v. BLM*, 2017 WL 3667700, at *13 (D. Nev. Aug. 23, 2017) (“NEPA requires that agencies not only analyze the direct environmental impact of a project, but also whether that project will comply with other substantive laws, such as the CWA.”); *Mont. Wilderness Ass’n v McAllister*, 658 F. Supp. 2d 1249, 1256 (D. Mont. 2009).

⁹⁰ 36 C.F.R. § 228.8(b).

⁹¹ See, e.g., DSEIS S-7 - S-8, S-20, 1-2, 6-7, 16, 19, 57-58, 61, 105-06, 108-11, 134-35, 146, 148-50, 158, 162-63, 168-72.

⁹² DSEIS 16.

Plan,⁹³ and, as discussed above, to mitigate impacts on ESA-listed bull trout. Finally, the DSEIS acknowledges that Montana DEQ's own record of decision for Phase I of the Montanore Project depends upon the validity of the 2017 MPDES permit and underlying BHES Order.⁹⁴

On July 24, 2019, the 2017 MPDES permit on which the DSEIS and DEQ ROD depend was vacated by Montana's First Judicial District Court due to multiple violations of the CWA, WQA, and federal and state implementing regulations.⁹⁵ That ruling has a number of consequences for the DSEIS and the Forest Service's larger review and approval process for the project.

In addition, the Court's invalidation of the MPDES permit necessarily means that Montana has yet to provide the Certification to the Forest Service under Section 401 of the CWA that the project will comply with all applicable water quality standards. Without such a Certification, the Forest Service cannot approve the Plan of Operations for the Project. The CWA prohibits the USFS from authorizing a project that does not comply with CWA Section 401, which requires that DEQ certify that any activity receiving a "Federal license or permit," will comply with state water quality standards. 33 U.S.C. § 1341(a)(1). "Proposed mining activities on National Forest System lands are subject to compliance with Clean Water Act Section[] 401." Montanore JFEIS at 622. *See also Hells Canyon Preservation Council v. Haines*, 2006 WL 2252554, *4 (D. Or. 2006) (USFS authorization of mining operations without obtaining Section 401 Certification violated CWA).

A. General Impacts of MPDES Permit Vacatur on DSEIS and Forest Service Decision Making

At the outset, all discussion and analysis in the DSEIS that references or relies upon the 2017 MPDES permit is no longer valid or adequate to disclose and analyze the project's effects under NEPA, as the permit no longer exists and must be substantially modified in order to satisfy the district court's order. Indeed, the underlying project proposal may itself require substantive modifications to be consistent with the CWA and WQA, and such changes would need to be disclosed and analyzed in a new DSEIS subject to public comment.

The DSEIS would require substantial revision even simply to extricate the numerous references to the invalidated 2017 MPDES permit. More fundamentally, however, without a valid MPDES permit in place it is unclear how the Forest Service can possibly satisfy its NEPA obligation to explain how the alternatives considered and decisions based on those alternatives will achieve the requirements of the CWA.⁹⁶ Certainly, in the absence of a valid MPDES permit the Forest Service cannot proceed to issuance of a ROD and subsequent plan of operations approval because it cannot ensure that the project will comply with all CWA and WQA requirements.⁹⁷

B. BHES Order

⁹³ DSEIS 146.

⁹⁴ DSEIS 150.

⁹⁵ Order on Cross-Motions for Summary Judgment, *Mont. Envtl. Info. Ctr., et al. v. Mont. Dep't of Envtl. Quality, et al.*, No. CDV 2017-641 (July 24, 2019) ("MEIC Order").

⁹⁶ 40 C.F.R. § 1502.2(d).

⁹⁷ *See* 36 C.F.R. § 228.8(b).

As discussed above, the DSEIS relies on numerous components of the invalidated 2017 MPDES permit to support various aspects of the Forest Service's analysis, including but not limited to its analysis of project impacts on surface water quality, impacts on bull trout, and compliance with the CWA, WQA, ESA, and Kootenai Forest Plan. One aspect of the MPDES permit incorporated extensively in the DSEIS is DEQ's reliance on a 1992 "authorization to degrade" issued by the Montana Board of Health and Environmental Sciences ("BHES Order") to establish effluent limitations for discharges of dissolved solids, total ammonia, nitrate + nitrite, total inorganic nitrogen, total nitrogen, chromium, copper, iron, manganese, and zinc and forego nondegradation review under the WQA.⁹⁸

As the Montana District Court explicitly ruled, however, the BHES Order does not apply to the Montanore Project or Montanore Evaluation Project proposed by Hecla and MMC, as the Order expired when the operational life of Noranda Mining Company's Montanore project ended in 1991.⁹⁹ Accordingly, reliance on the BHES Order to establish any effluent limitations for the current, or any future iteration of the Montanore Project/Montanore Evaluation Project would violate the WQA. Instead, the project under review must comply with all applicable nondegradation limits absent a new degradation authorization issued after full compliance with the requirements of the WQA and its implementing regulations.¹⁰⁰

C. BMP and SWPPP Requirements

The DSEIS also relies extensively on DEQ's determination in the invalidated MPDES permit to rely exclusively on BMPs to control pollution in stormwater, with those requirements to be established in MMC's SWPPP.¹⁰¹ As explained above, the Montana District Court expressly rejected DEQ's approach to controlling storm water pollution from the mine, ruling that DEQ unlawfully failed to justify its omission of any numeric effluent limitations in favor of exclusive reliance on BMPs.¹⁰² That ruling establishes that the Forest Service equally may not rely on BMPs alone to control storm water pollution to satisfy its own compliance obligations under the CWA and WQA, absent some future valid determination by DEQ that numeric limits are infeasible.

D. Nondegradation

Under the CWA and 1897 Organic Act, the Forest Service must ensure compliance with all applicable federal and state water quality laws. 40 C.F.R. § 1502.2(d); 36 CFR 228.8. Montana law requires that "[e]xisting uses of state water and the level of water quality necessary to protect those uses must be maintained and protected." Mont. Code Ann. § 75-5-303 (the "nondegradation" standard). Degradation of "high quality" waters is prohibited unless the DEQ issues an authorization to degrade. §§ 75-5-103(13), 75-5-303. The Montana Water Quality Act defines "degradation" as a change in water quality that lowers the quality of high-quality waters

⁹⁸ See, e.g., DSEIS S-20, 1-2, 6.

⁹⁹ MEIC Order 24-25.

¹⁰⁰ See *id.*; Mont. Code Ann. 75-5-303(3); ARM 17.30.706-.708.

¹⁰¹ See, e.g., DSEIS 44, 105.

¹⁰² See MEIC Order at 12-16.

in terms of physical, biological or chemical properties of the water, unless the change is nonsignificant. § 75-5-103(7), (27).

As noted, the DSEIS relies exclusively on two recently invalidated approvals by the state of Montana to ensure compliance with Montana's nondegradation provision. First, the DSEIS states that the nondegradation rules do not apply to water quality parameters for which an authorization to degrade was obtained before the 1993 amendments to the statute. Pg. 149. The DSEIS concludes that the BHES "Authorization to Degrade" issued to MMC's predecessor in 1992 applies to the Project. A Montana District Court recently held that the BHES Order does not apply to the Montanore Project or Montanore Evaluation Project proposed by Hecla and MMC, as the Order expired when the operational life of Noranda Mining Company's Montanore project ended in 1991. Accordingly, reliance on the BHES Order to establish compliance with Montana's nondegradation provisions for the Montanore Evaluation Project is inappropriate and unlawful.

Likewise, the DSEIS states:

DEQ's approval of the amendments to Operating Permit No. 00150 pertaining to the Project was conditioned on MMC receiving DEQ's approval of the renewal of MPDES Permit No. MT0030279. DEQ issued a final MPDES permit in 2017 (DEQ 2017a) along with responses to comments on prior draft permits (DEQ 2017c). In issuing the MPDES permit, DEQ set effluent limits and conditions for Outfall 001 that comply with the surface water quality standards, the nondegradation policy, and the BHES Order to ensure that the current and future beneficial uses of state waters are protected (DEQ 2016c). Pg. 150.

MMC no longer has a valid MPDES permit. As such, the Forest Service cannot satisfy its NEPA obligation to explain how the alternatives considered and decisions based on those alternatives will achieve the requirements of the CWA. As previously noted, the Forest Service cannot issue a ROD and subsequent plan of operations approval because it cannot ensure that the evaluation project will comply with all CWA and WQA requirements, including the nondegradation provisions.

E. Wetlands (404)

Under Alternatives 3 and 4, MMC would plow Libby Creek Road (NFS road #231) and Upper Libby Creek Road (NFS road #2316) year-round during Project activities. Implementing some BMPs listed in Table 311 may require a 404 permit from the Corps. Wetlands have been identified along Libby Creek Road, however, the Corps has not made a jurisdictional determination of wetlands and streams identified in the area surveyed along Libby Creek Road. (p. 268)

The Grizzly Bear Mitigation Plan for Alternatives 3 and 4 includes access changes on National Forest System and private roads. Except for a segment of Libby Creek Road from US 2 to Bear Creek Road, wetland delineations along the roads and trails proposed for access changes have not been completed, and work to complete access changes may require a 404 permit from the Corps. (P. 270-271)

The DSEIS defers this data collection and analysis until after NEPA, and relies on the Army Corps' 404 permitting process. The Forest Service must be able to demonstrate that the Project will meet all applicable state and federal laws and regulations, and it cannot defer the analysis of important impacts to another agency at another time.

F. Failure to protect and mitigate impacts to Outstanding Resource Waters

The DSEIS (p. 57) states that "If the grouted adit and drifts had substantial groundwater inflows in the vicinity of the Rock Lake Fault or Rock Lake, MMC would notify the KNF within 5 business days. "Substantial groundwater inflows in the vicinity of the Rock Lake Fault or Rock Lake" means a flow from any individual fracture within 1,000 feet of either the Rock Lake Fault or Rock Lake with total flow greater than an average of 50 gpm over a 24-hour period. The KNF would evaluate the inflow data and direct MMC to take appropriate actions. MMC would then evaluate the possible effect on Rock Creek and Rock Lake and provide an evaluation report to the KNF within 30 days after initial agency notification."

Rock Lake is designated an Outstanding Resource Water, and subject to nondegradation protections. The DSEIS must demonstrate that the lake will not be dewatered by drilling that intercepts groundwater that feeds Rock Lake.

The proposed plan to notify KNF within 5 business days of substantial inflows is inadequate because adverse impacts to connected Outstanding Resource Waters are likely to have occurred by then. Even with immediate notice, the DSEIS fails to demonstrate that measures are available to prevent or mitigate impacts to the overlying ORW, once they've occurred. An "evaluation report on the potential effects" is not a mitigation measure.

The Montanore Mine DSEIS and FEIS looked at potential mitigation measures to reduce those effects, including grouting. With respect to grouting, the agencies state in the response to comments (p. M-336) that "the effectiveness of grouting over the long term (i.e., 100 years or more) is uncertain. Fracture grouting of storage facilities typically use a design life of 50 years, and the effectiveness of grouting may decrease beyond 50 years." Thus, grouting can only be considered an uncertain temporary mitigation that would prevent water inflows during mining, but would not protect and provide necessary mitigation to the wilderness hydrologic system in perpetuity, as it must.

As a result, there is no remedy once the impact occurs. A 2007 Forest Service memo from Joe Gurrieri to Ray TeSoro emphasizes the impacts that will occur due to dewatering of underground tunnels, and the uncertainties associated with mitigation of hydrologic impacts.

"Impacts from pumping out and extending the adit are depletion of ground water discharge to springs, wetlands, lakes, and streams. Extrapolating from ERO's flow model, the locations of concern include springs and wetlands in the upper Libby Creek watershed, baseflows in Libby Creek, Libby Lakes, Rock Lake, and surface water features along the Rock Lake Fault between Rock Lake and St Paul Lake." (Guerrieri, 2007)(attached)

“... it should be noted that once the head distributions and flow dynamics in a fractured bedrock aquifer are disrupted by mining, it is very difficult if not impossible to restore the aquifer to its original condition. In other words, there may be irreversible surface impacts from the project for which no practical mitigation exists.” (Guerrieri, 2007)

The DSEIS also states that MMC would create a water storage area within the last 300 feet of tunnel to hold 730,000 gallons of water or 8 days of inflow at current inflow rates of 65 gpm or 2 days of inflow at modeled inflow rates of 260 gpm. It isn't clear that this will provide sufficient storage if MMC intercepts higher than expected inflows, which is reasonably foreseeable. The DSEIS must provide a water balance that identifies the volume of water from inflows, stormwater, and runoff from the waste rock storage areas that must be met by the Water Treatment Plant, to provide a better understanding of whether the treatment plant has sufficient capacity to deal with unexpected high inflows, major storm events, etc.

The DSEIS states that MMC would drill ahead of the drifts and keep all drifts and drill stations 300 feet from the Rock Lake Fault and 1,00 feet from Rock Lake (p. 56). As written, it implies that MMC might drill within 300 feet of the Fault, and the figures indicate that drilling could extend through the fault. Please clarify.

The DSEIS (p. 160) also states that the adit could be plugged if it is determined that the drift would connect groundwater beneath the watersheds of East Fork Rock Creek and the East Fork Bull River with groundwater beneath the Libby Creek watershed, possibly resulting in the diversion of groundwater from the East Fork Rock Creek drainage and East Fork Bull River drainages. Yet, the DSEIS provides no analysis to demonstrate that a plug would be effective, simply stating that the KNF “anticipates” or “expects” a third plug would ensure that streamflow in East Fork Crock Creek, the East Fork Bull River, and Libby Creek would return to existing conditions, and that a third plug would ensure that groundwater discharge into Rock Lake also would return to existing conditions. The DSEIS (p. 158) acknowledges that Geomatrix (2011) did not model closure conditions after the Evaluation Project. Without this information, the DSEIS lacks credible information for the public to assess the potential impacts of the project on Outstanding Resource Waters.

Montana has a number of examples that illustrate the severe impacts associated with impacts to surface and groundwater from underground excavations, including the Stillwater Mine:

Stillwater Mine:

The underground mine began operations in 1986 and drove an adit to access ore reserves. At 4,000 feet the adit encountered a large inflow of water that peaked at 884 gpm and within a few months decreased to a steady-state of approximately 200 gpm where it has remained. A small watershed containing several springs and a perennial stream was located a vertical distance of 830 feet above the adit. The springs and stream both dried up and have remained dried ever since. In 1994, the ongoing mining operations resulted in the drying of three additional springs in another basin. Other workings at Stillwater exhibited similar behaviors. When a tunnel below the Stillwater River connecting the east and west side workings was constructed, water began draining at a peak of 350 gpm from above lying groundwater aquifer. Despite grouting efforts,

heads in the above lying bedrock zone dropped over 120 feet and a large downgradient was produced between the alluvial aquifer and the bedrock aquifer. (Gurrieri, p. 52)

Once again, this example demonstrates the inability to mitigate the impacts.

5. WATER USE ACT

The DSEIS fails to ensure compliance with the Montana Water Use Act. The DSEIS concludes that MMC does not need to obtain a water right permit for pumping associated with its evaluation adit. This conclusion is based on a 2012 letter from the DNRC. It's worth noting that the DNRC's conclusions in the letter – i.e. that groundwater pumping, treatment and subsequent disposal of water from a mine adit is considered neither a beneficial use nor a waste of water – are questionable. Even assuming that the DNRC letter correctly states the law (or has the effect of law), the key consideration is whether MMC is making any subsequent use of the water after it is pumped from the adit. “If the water is just being drained away, with no beneficial use after that, no permit is needed.” *DNRC Policy Letter*, Oct. 9, 2012 at 1.

The DSEIS states that “[i]f any adit water was used for any beneficial use, such as drilling or dust suppression, MMC would need to obtain a beneficial water use permit.” However, the DSEIS does not include any information as to whether water from the evaluation adit will actually be put to subsequent use. It is clear that some amount of water will be necessary for drilling, dust suppression, or other consumptive and non-consumptive uses, but the DSEIS simply assumes that the MMC existing water rights will be sufficient to fulfill all required uses. The DSEIS fails to analyze or explain how much water will be used for drilling, dust suppression and other exploration activities, nor does the DSEIS explain where the required water will come from, and whether these uses comport with the terms and limitations of MMC's existing water rights.

For example, the DSEIS notes that MMC holds a 1989 groundwater permit with a point of diversion located “near the Libby Adit Site” and a maximum flow rate of 40 GPM. This water right is limited to annual volume of 2.80 Acre-Feet, meaning that if the right was used to its full pumping capacity, it would exceed its volume limitation in just 16 days. MMC cannot rely on this existing right to cover all of its anticipated water groundwater uses during the Project. Moreover, the existence of a permit to pump groundwater somewhere near the Libby Adit Site for mining uses does not negate the fact that MMC must acquire a separate permit for *any* subsequent or concurrent use of groundwater pumped from the evaluation adit itself. The DSEIS indicates that dewatering will require pumping large quantities of water at rates of up to 500 GPM. Please explain how MMC's existing rights will specifically be utilized to fulfill the required beneficial uses related to the evaluation adit without putting any adit water to beneficial use.

The DSEIS also indicates that MMC may opt to store water in the evaluation adit for later beneficial uses. The DSEIS states that “MMC could use 300 feet of the adit's distal end as a water pool if necessary to store water. The 300 feet of tunnel at the adit's distal end could hold 730,000 gallons of water, or 8 days of inflow at current inflow rates of 65 gpm, or 2 days of inflow at modeled inflow rates of 260 gpm.” (p. 54). This is problematic because MMC holds no

water rights for storage, and none of its existing rights allow it to store water for later use. Further, if MMC chooses to store any of the water pumped from the evaluation adit for later uses, it would require a new water right permit.

6. EXTRALATERAL RIGHTS

The DSEIS should not consider Alternative 2 or any other alternatives that include activities outside of MMC's extralateral rights. According to the DSEIS, Alternative 2 would occur at the existing Libby Adit Site and underground in the Libby Adit within and "*outside of MMC's extralateral rights.*" (emphasis added)(DEIS P. S-7) The DSEIS (p. 55) discusses the history pertaining to the two mining claims (HR-133 and HR-134) that are the basis for the rights to the copper and silver mineralization. The apex provision of the General Mining Law entitles the owner of a mining claim to the rights to mineralization extending in a downward course beyond the sidelines but between the two vertical planes projected through the endlines of the claims. These rights are referred to as "extralateral rights." MMC's extralateral rights are defined by projections of the west endline of HR 133 and the east endline of HR 134. In MMC's revision 06-002 to its Hard Rock Mine Operating Permit No. 00150 (MMC 2006b), MMC proposed and DEQ approved areas of evaluation outside of its extralateral rights (Figure 306). The Forest Service should not authorize any activities outside of MMC's extralateral rights[BG2] .

According to the DSEIS, In Alternative 3 and 4, MMC would not complete evaluation drilling for any ore (mineralized rock that may be economic to mine) outside of its extralateral rights. However, the DSEIS indicates that MMC *would excavate ore encountered outside of MMC's extralateral rights for which "removal was reasonably incident for access or other evaluation activities,"* and the DSEIS stipulates that the ore either would be stored underground or, if operations required its removal to the surface, would be stored separately in the lined surface storage areas. It would remain on the surface until adit closure, when it would be returned underground west of the easternmost bedrock plug along with the alteration-zone waste rock. Waste rock would be transported to the surface and stored separately at the Libby Adit Site. Once again, no activities should be authorized outside of MMC's extralateral rights. The DSEIS must identify an alternative that does not include the mining of material, or any other use, outside of its extralateral rights. At a minimum, because extralateral rights are limited to the actual economically valuable minerals, they do not encompass "access or other evaluation activities." 30 U.S.C. §26 (extralateral rights apply only to "veins, lodes, and ledges" of valuable minerals).

Regardless of whether Montanore returns the ore that it excavated outside of its extralateral rights, federal mining and public land law do not allow any activities within a withdrawn area, such as the Cabinet Mountains Wilderness Area. *See National Wildlife Federation v. Burford*, 835 F.2d 305, 308 (D.C. Cir. 1987) ("A withdrawal withholds land from operation of one or more of the general land and mineral disposal laws, including the 1872 Mining Law"). Withdrawn lands are no longer available for mining. *Lara v. Sec'y of Interior*, 820 F.2d 1535, 1542 (9th Cir. 1987) (recognizing "the right to prospect for minerals ceases on the date of withdrawal"); *Kosanke v. U.S. Dept. of Interior*, 144 F.3d 873, 874 (D.C. Cir. 1998) ("[L]ands withdrawn from mineral entry are no longer considered to be within the public domain and therefore are not subject to the statutory rights enumerated in the General Mining Law").

“Mining claims located on lands not open to appropriation are null and void ab initio.” Mount Royal Joint Venture v. Kempthorne, 477 F.3d 745, 757 (D.C. Cir. 2007). “[A] mining claim is void *ab initio* when it is located on land which at the date of location was included in an application for withdrawal which has been noted on the land records.” Shiny Rock Mining Corp. v. United States, 825 F.2d 216, 219 (9th Cir.1987).

Thus, the Forest Service cannot approve any activities in or under the designated Wilderness Area, beyond the current extent of MMC’s existing and limited extralateral rights.

7. NFMA

Alternative 2 cannot be approved due to inconsistencies/violations of the Kootenai Forest Plan. According to the DSEIS: “Alternatives 3 and 4 would be consistent with all pertinent KFP direction.” However “With project-specific plan amendments suspending the following guidelines (RF-2, RF-4, MM-1, FW-GDL-RIP-01, FW-GDL-WL-01, FW-GDL-WL-15 and Guideline HU G8), Alternative 2 would be consistent with all pertinent KFP direction.” (DSEIS, p. S-11).

The agency justifies amending the KFP on the grounds that such amendments are required in order to satisfy MMC’s purported rights under the 1872 Mining Law. DSEIS at 11-12. That is wrong. The agency cannot approve any use of Forest Service land that is not consistent with the KFP. There is no exemption for mining projects. “The Forest Service’s failure to comply with a forest plan violates the NFMA.” Save Our Cabinets, 254 F.Supp.3d at 1258 (failure to comply with Forest Plan Desired Conditions violates the NFMA). “Each proposed site-specific project must (1) be consistent with the forest plan and any amendments; [and] (2) be analyzed as required by NEPA.” Rock Creek Alliance, 703 F.Supp.2d at 1182 (Forest Plan requirements apply to ROD for mining project). See Hells Canyon Preservation Council v. Haines, 2006 WL 2252554, *7-*10 (D. Or. 2006)(approval of mining violated INFISH and other Forest Plan requirements).

8. Failure to Comply with the Organic Act

As noted herein, the proposed action would violate various environmental protection requirements (e.g. Clean Water Act, ESA, and related requirements) and failed to adequately mitigate against adverse impacts. As such, the agency failed to protect the forest from depredations under the 1897 Organic Act (16 U.S.C. §§ 478, 482, 551). As noted above, although the agency failed to provide evidence of claim validity and mining rights to support application of the Part 228 regulations to all activities, even for those operations covered by the Part 228 regulations, the agency failed to “minimize” all adverse impacts to public resources as shown above.

9. The DSEIS should clarify the legal status with respect to access of the Montanore mine.

A court decision recently determined that the access tunnel for the Montanore Mine was illegally trespassing on another man's unpatented mining claims.¹⁰³ The DSEIS should clarify the legal status of this situation.

10. The Agency Cannot Authorize Intrusions into the Wilderness Area.

The DSEIS acknowledges that MMC would install various permanent structures and motorized equipment in the Cabinet Mountains Wilderness Area (CMW). DSEIS at 276; and Appendix C. Yet under the Wilderness Act, prohibited uses in the CMW include motorized equipment, motorized or mechanized transportation, and permanent installations. "The determination made was that administrative action is necessary in the CMW due to existing rights and special provisions and as a requirement of other statutes or regulations." DSEIS at C-40.

The DSEIS does not explain what "existing rights" exist in this case that would override the strict prohibitions against motorized uses or permanent/long-term structures in the CMW. "Small battery-powered equipment left on-site for a period of time would be considered motorized equipment." DSEIS at C-40. The subsurface mineral claims and extralateral rights do not provide the "rights" to install such uses/structures/equipment in the CMW.

Although there may be a need for monitoring of water and other conditions in the CMW, the installation of permanent/long-term structures and motorized equipment has not been justified, as this can be accomplished by short-term data gathering visits without the need for permanent/long-term structures and motorized equipment left in the CMW.

¹⁰³ <https://flatheadbeacon.com/2018/11/06/jurors-award-2-575-million-mining-claimants-montanore-suit/>