SAVE THE SOUTH FORK SALMON ⬌ IDAHO CONSERVATION LEAGUE
IDAHO RIVERS UNITED ⬌ EARTHWORKS
AMERICAN WHITEWATER ⬌ AMERICAN RIVERS
THE WILDERNESS SOCIETY ⬌ WINTER WILDLANDS ALLIANCE

October 27, 2020

VIA U.S MAIL AND STIBNITE GOLD PROJECT WEB PORTAL

Linda L. Jackson
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Re: Comment on Stibnite Gold Project Draft Environmental Impact Statement

Dear Ms. Jackson:

Save the South Fork Salmon, Idaho Conservation League, Idaho Rivers United, American Whitewater, American Rivers, Earthworks, The Wilderness Society, and Winter Wildlands Alliance submit these comments on the Stibnite Gold Project draft environmental impact statement (DEIS) prepared by the Payette National Forest. We appreciate the opportunity to comment. Due to the limited file capacity of the web portal, only our comment letter was submitted through the web portal on this date; references and larger documents that are cited in our comment letter have been downloaded onto a flash drive and were mailed by U.S. postal mail on this day.

These comments represent the work of the coalition of groups described above, which have notable expertise in environmental issues, including those issues that stem from mining projects, as well as numerous professional scientific consultants. We incorporate by reference all previous comments, including scoping comments, submitted by each of the individual groups described above, whether submitted individually or jointly, on the Stibnite Gold Project, and comments on the DEIS from the Nez Perce Tribe. This letter is in addition to any separate letters that the groups mentioned above may submit. For all the reasons detailed in our attached comments, we urge the Payette National Forest to revise the DEIS substantially and release a Supplemental Draft Environmental Impact Statement for public review.

Save the South Fork Salmon is a Valley County, Idaho, community-based non-profit organization dedicated to protecting the South Fork of the Salmon River watershed, its outstanding and remarkable natural values, and the economies that depend on those values. Save the South Fork Salmon has members that live, work, and recreate in and around the South Fork of the Salmon River and in the communities that will be impacted by the Stibnite Gold Project. Idaho Conservation League is a non-profit organization dedicated to preserving Idaho's clean water, wilderness, and quality of life through citizen action, public education, and advocacy. Idaho Rivers United's mission is to protect and restore the ecological integrity of Idaho's rivers and ensure their legacy remains for generations to come. American Whitewater is a national river conservation organization that advocates for the preservation and protection of whitewater rivers throughout the United States. Earthworks is a non-profit organization dedicated to protecting communities and the environment against the adverse effects of hard rock mining. The Wilderness Society's mission is uniting people to protect America's wild places. Their vision is a future where people and wild nature flourish together, meeting the challenges of a rapidly changing planet.

Members of our organizations utilize the South Fork Salmon River watershed and surrounding area for recreational activities including family camping, road-biking, wildlife observation, scenery appreciation, birding, hunting and fishing, botanizing, whitewater kayaking, rock climbing, backcountry skiing, hiking, firewood cutting, berry and mushroom picking, mountain biking, and access to wilderness and private land--to name just a few. Our members seek to protect and support restoration efforts in the South Fork Salmon River watershed so that it will continue to provide habitat for Endangered Species Act listed Chinook salmon, steelhead, and Bull trout recovery efforts. We do this under the belief that these fish species, as an integral part of the watershed ecosystem, are what make the South Fork Salmon such an amazing place in central Idaho. These fish are the essence of what makes Idaho, Idaho.

The South Fork Salmon is a major tributary to the second longest free-flowing river in the lower 48 states, the Wild and Scenic Main Salmon. Most of the South Fork Salmon and many sections of its tributaries have been deemed eligible and suitable under the Wild and Scenic Rivers Act by the U.S. Forest Service. Despite a long history of extensive logging, road building, and mining that have impacted the river's health, it continues to boast critically important spawning habitat for migratory fish. Recognizing this importance, Federal agencies, tribes, and other organizations have expended significant efforts to improve the ecological health of the watershed. The South Fork Salmon watershed is indeed a cornerstone in ongoing efforts to restore threatened Chinook salmon and steelhead to Idaho.

Mining projects, even with a restoration component, can have dramatic and permanent impacts on the landscape, soils, water, and wildlife. The Forest Service's proposed Stibnite Gold Project is no exception. Because of its proposed location directly on top of the

headwaters of a major tributary to South Fork Salmon, and the unavoidable environmental, social, and economic risks it poses to the ecosystem and local communities, the Stibnite Gold Mine has generated significant opposition in Valley County and throughout Idaho. It thus deserves a rigorous and thorough review under the National Environmental Policy Act (NEPA) to disclose the impacts to the public. Unfortunately, the DEIS falls far short of this goal.

As noted in the comments attached to this letter, neither the DEIS nor the public comment period have met NEPA's goal to foster public participation and informed decision-making. The DEIS is riddled with inconsistencies, inaccuracies, missing information that is not disclosed, and missing information that the Forest Service and Midas Gold clearly state they have, but won't provide to the public until the final EIS is released. It also lacks organization and clarity.

Not only has public participation been hampered by this substandard DEIS, but also by the Forest Service's unwillingness to extend the comment period to at least 120 days, as requested by a variety of non-profit organizations, individuals, and even representatives of Congress, in order to have adequate time to review a highly technical and voluminous 5,000-plus page document. The Agency's failure to provide complete printed copies of the DEIS in prominent places in and around the local communities impedes the ability of those without a good internet connection and computer to adequately review the document. This oversight disproportionately disenfranchises and deters participation from communities nearest to, and thus most impacted, by the proposed Stibnite Gold Project. Moreover, the lack of disclosure of documents requested months ago under the Freedom of Information Act, the withholding of scientific references listed in the DEIS as "confidential," and the incomplete or tardy provision of requested data files flies in the face of NEPA's goals to ensure that the decision-maker and the public are aware of the environmental consequences of the proposed action.

And that is only the beginning. As described further in our attached comments, the impacts analyses in the DEIS are woefully incomplete. There are crucial data gaps, unreasonable assumptions, unresolved key questions, and uncertain designs. Given the state of the DEIS, it is not possible for the Forest Service to initiate meaningful public participation, take the "hard look" required under NEPA, or ensure that the project will comply with state and federal laws. At a minimum, the Forest Service and Midas Gold need to submit a reasonably detailed proposal with adequate supporting data in a supplemental DEIS available for public review.

The DEIS fails to meet the most basic requirements under NEPA. We urge the Forest Service to withdraw the DEIS, correct the deficiencies and reanalyze the impacts, issue a supplemental DEIS, and resume the process of public notice, review, and comment.

Sincerely,

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Comments to the Payette National Forest on the
Draft Environmental Impact Statement
for the Proposed Stibnite Gold Project

October 27, 2020

I. BACKGROUND

The South Fork Salmon is a major tributary to the second longest free-flowing river in the lower 48 states, the Wild and Scenic Main Salmon. Most of the South Fork Salmon and many sections of its tributaries have been deemed eligible and suitable under the Wild and Scenic Rivers Act by the U.S. Forest Service. Despite a long history of extensive logging, road building, and mining that have impacted the river's health, it continues to boast critically important spawning habitat for migratory fish. Recognizing this importance, Federal agencies, tribes, and other organizations have expended significant efforts to improve the ecological health of the watershed. The South Fork Salmon watershed is indeed a cornerstone in ongoing efforts to restore threatened Chinook salmon and steelhead to Idaho.

Mining projects, even with a restoration component, can have dramatic and permanent impacts on the landscape, soils, water, and wildlife. The Forest Service's proposed Stibnite Gold Project is no exception. Because of its proposed location directly on top of the headwaters of a major tributary to South Fork Salmon, and the unavoidable environmental, social, and economic risks it poses to the ecosystem and local communities, the Stibnite Gold Mine has generated significant opposition in Valley County and throughout Idaho. It thus deserves a rigorous and thorough review under the National Environmental Policy Act (NEPA) to disclose the impacts to the public. Unfortunately, the DEIS falls far short of this goal.

II. THE FOREST SERVICE SHOULD APPLY LONG-STANDING NEPA LAW AND POLICY AND SHOULD NOT SWITCH COURSE MID-STREAM

Since 1978, regulations promulgated by the Council on Environmental Quality (CEQ) have guided every federal agency's implementation of NEPA–our nation's environmental "Bill of Rights." 40 C.F.R. Part 1500 (1978). These regulations codified early judicial opinions based on language of the statute, provided the basis for a substantial body of judicial precedent spanning over four decades, and formed the foundation for more specific regulations and policies enacted by individual agencies to implement their missions. For example, the Forest Service's NEPA procedures are at 36 C.F.R. Part 220 (2008), Forest Service Manual 1950, and Forest Service Handbook 1909.15.

Over the vociferous objections of states, members of Congress, a myriad of conservation, environmental justice, and public health organizations, and the general public, on July 16, 2020, CEQ issued a final rule rewriting its 1978 regulations.[1] The final CEQ rule upends virtually every aspect of NEPA and its longstanding practice, contradicts decades of court interpretations of NEPA's mandates, and undercuts the reliance placed on NEPA by the

[1] 85 Fed. Reg. 43,304 (July 16, 2020) (to be codified at 40 C.F.R. pt. 1500).

public, decision-makers, and project proponents. The rule does so by limiting the scope of actions to which NEPA applies, eviscerating the thorough environmental analysis that lies at the heart of the statute, reducing the ability of the public to participate in federal agency decision-making, and seeking to limit review of agency NEPA compliance. The legality of the final rule is being challenged in a number of pending federal lawsuits.[2]

Under the new CEQ NEPA regulations, after September 14, 2020, agencies are required to apply the final rule only to new NEPA processes initiated after that date. For ongoing NEPA processes, like this one which began years ago, agencies have discretion to continue applying the prior CEQ regulations that were in place when the project was initiated. 40 C.F.R. § 1506.13 (2020). With respect to ongoing NEPA processes, like this one, the Forest Service should not apply the final CEQ rule. Doing so would change the rules of the game mid-review, creating legal liability, significant confusion and uncertainty for the agency and the public, and harm to the public's interest in a stable regulatory environment.

It would be unwise and inefficient for agencies to begin implementing such sweeping changes in the absence of agency policies, procedures, guidance, and training. Additionally, the massive challenges with interpreting and applying the Trump Administration's significant and far-reaching rollback creates a recipe for wasted taxpayer dollars and litigation. That is especially true because the final CEQ rule creates conflict with governing case law, agency regulations and guidance, and longstanding practices that decision-makers, the public, and the courts have relied on for the past four decades. Furthermore, given the highly uncertain fate of the final rule, agencies and project proponents would be wise not to jeopardize or delay ongoing decision-making processes by injecting additional and unnecessary uncertainty.

For these reasons, the Forest Service should continue to apply the 1978 CEQ NEPA regulations, as it has since this project was initiated in 2016.

III. THE FOREST SERVICE MUST PREPARE A REVISED OR SUPPLEMENTAL DRAFT ENVIRONMENTAL IMPACT STATEMENT

"If a draft statement is so inadequate as to preclude meaningful analysis, the agency shall prepare and circulate a revised draft of the appropriate portion." 40 C.F.R. § 1502.9(a) (1978). The agency must then seek public comment on the revised DEIS. 40 C.F.R. §§ 1502.9(a), 1502.1(a)(4) (1978). Not giving the public the opportunity to "double check" the agency's analysis frustrates NEPA's goal of allowing the public the opportunity to "play a

[2] *See Alaska Cmty. Action on Toxics v. CEQ*, No. 3:20-cv-05199 (N.D. Cal. July 19, 2020); *Wild Va. v. CEQ*, No. 3:20-cv-00045-NKM (W.D. Va. July 29, 2020); *Env't Justice Health All. v. CEQ*, No. 1:20-cv-06143 (S.D.N.Y. Aug. 6, 2020).

role . . . in the decision-making process."[3] The obligation to obtain and disclose environmental information during the public review process is central to NEPA's principle of "democratic decision-making," and NEPA is designed to bring "fairly debatable issues" "out in the open" for analysis and discussion.[4] "Only at the stage when the draft EIS is circulated can the public and outside agencies have the opportunity to analyze a proposal and submit comments. No such right exists upon issuance of a final EIS.[5]

An EIS that fails to enable meaningful public review and understanding of the agency's proposal, methodology, and analysis of environmental consequences violates NEPA.[6]

In 2011, the Kootenai National Forest released a Supplemental DEIS on the Montanore Mine Project to develop additional alternatives in response to public comments on the original 2009 DEIS. In 2015, the Boise National Forest released a Supplemental Draft Environmental Assessment (EA) for the CuMo exploration project with an additional public comment period after it the district court determined that the original 2011 EA was insufficient with regard to the groundwater analysis.

As set forth throughout these comments, the Stibnite Gold Project DEIS violates NEPA and other laws in numerous respects. Upon correcting these errors, omissions, inconsistencies, and other flaws, the Forest Service must issue a revised or supplemental DEIS for public review. The Forest Service cannot simply rush ahead and issue a Final EIS without giving the public an opportunity to review and comment on these important factors–factors that are essential to meaningfully reviewing, understanding, and commenting on Midas Gold's proposal, each alternative, and the expected environmental effects.

IV. THE FOREST SERVICE FAILED TO PROVIDE ADEQUATE PUBLIC PARTICIPATION

"[A]gencies shall to the fullest extent possible . . . [e]ncourage and facilitate public involvement in decisions which affect the quality of the human environment." 40 C.F.R. § 1500.2 (1978). Agencies shall "[m]ake diligent efforts to involve the public in preparing and

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[3] *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 349 (1989).
[4] *Or. Natural Desert Ass'n v. BLM*, 625 F.3d 1092, 1121 n.24, 1122 (9th Cir. 2010).
[5] *California v. Block*, 690 F.2d 753, 771 (9th Cir. 1982).
[6] *California ex. rel. Lockyer v. U.S. Forest Serv.*, 465 F. Supp. 2d 942, 948–50 (N.D. Cal. 2006) (finding national monument management plan "incomprehensible" and that corresponding EIS violated NEPA where it contained conflicting and confusing statements regarding applicable management standards). *See also Idaho Conservation League v. Lannom*, 200 F. Supp. 3d 1077 (D. Idaho 2016) (remanding EIS and ordering supplemental EIS where Payette National Forest violated NEPA when it failed to set forth sufficiently detailed statement of environmental impacts and alternatives so as to permit public participation and informed decisionmaking when it approved Golden Hand mine confirmation activities).

implementing their NEPA procedures." 40 C.F.R. § 1506.6 (1978). "Informed public participation in reviewing environmental impacts is essential to the proper functioning of NEPA."[7]

Forest Service regulations state:

> When developing opportunities for public participation, the responsible official shall take into account the discrete and diverse roles, jurisdictions, responsibilities, and skill of interested and affected parties; the accessibility of the process, opportunities, and information; and the cost, time, and available staffing. The responsible official should be proactive and use contemporary tools, such as the Internet, to engage the public, and should share information in an open way with interested parties.

36 C.F.R. § 219.4.

The Forest Service is rushing its review of the Stibnite Gold Project and is not encouraging and facilitating public involvement to the fullest extent possible. Despite significant shortcomings with the information Midas Gold provided with its plan of operations, the Forest Service decided to plow forward with releasing a DEIS riddled with errors, omissions, and inconsistencies, hampering the public ability to review and comment on the DEIS. Moreover, the document lacks organization and clarity. If the information is there, it is scattered about the entire 5,000-plus page document, making it difficult and extremely time-consuming to piece together the full picture of potential environmental impacts from this project.

Also disturbing is the information that the DEIS lists as "incomplete and unavailable information," DEIS at 4.1-4, is not truly unavailable, but has just not been provided to the public during this critical time period during the NEPA process when all impacts are supposed to be disclosed so that the public and decisionmakers can make informed decisions about the choices between the alternatives. There are several examples in Table 4.1-1 where the agency states that data not included in the DEIS, but "will be included, as appropriate, in the Final EIS." This "incomplete and unavailable" information is identified as "relevant to reasonably foreseeable significant adverse impacts" and "essential to a reasoned choice among alternatives." *See* 40 C.F.R. § 1502.22(b)(2). In fact, as detailed below, many of these pieces of information have been identified by our experts as critical to forming an adequate model for baseline conditions for which the impacts are compared, or for adequately analyzing these impacts. Lack of disclosure of this available information in the DEIS hinders the public's understanding

[7] *League of Wilderness Defenders v. Connaughton*, 752 F.3d 755, 761 (9th Cir. 2014).

of the likely adverse impacts the Stibnite Gold Project will have on the socioeconomic and environmental resources, impedes public participation, and thwarts the purposes of NEPA.

Additionally, the Forest Service rushed along this public comment period without providing public meetings. Initially, the Forest Service granted only a 45-day public comment period, even though the Stibnite Gold Project is of major public interest; even though the DEIS is more than 2,500 pages long (not counting the numerous supporting appendices); and even though the COVID-19 pandemic is in full swing.[8] While the Forest Service has now granted a two-week extension, it has still refused to hold public meetings (which can be done virtually). Furthermore, even with the extension, the comment period is still far too short to allow for meaningful public review of such a massive, complex project.

This is not just the opinion of the authors of this letter. The Forest Service received numerous requests from other organizations and individuals for an extension of the comment period to a total of 120-days. The Forest Service has granted much larger extensions of time beyond the regulatory requirement of 45 days in other large mining projects.[9] The Forest Service also received a letter from Representatives in Congress requesting the same extension.[10] Yet, it has failed to provide the public with an appropriate amount of time necessary to review this highly technical and complex document.

The disenfranchisement to the public from the refusal to extend the comment period to a total of 120 days is compounded by the agency's failure to provide complete printed copies of the DEIS in prominent places in and around the local communities. Rural and low-income communities tend to have a disproportionately large percent of the population compared to urban areas or populations of higher income levels that either do not have access to a computer at home, or do not have home-based internet, or both.

To our knowledge, there is only one printed copy of the DEIS at the McCall Public Library. Access to the library and use of its reading space, and thus to this one printed copy, or use of its computers to electronically access the DEIS, has been limited due to COVID-19. And because the library has only one copy, it has not allowed people to check out that copy from the library so that they can take it home to review. The local Forest Service office also has not allowed the public to use its reading room to view a printed copy of the DEIS. Failure to provide a sufficient number of copies in places available to the public impedes the ability of those without a good internet connection and computer to adequately review this voluminous

[8] *See* Letter from SSFS to V. Christiansen (Jan. 4, 2020) (Attached); Letter from SSFS to L. Jackson (July 14, 2020) (Attached).
[9] *See* Letter from SSFS to V. Christiansen (Jan. 4, 2020) (Attached).
[10] *See* Letter from C. Pingree, *et al.*, to V. Christiansen (Sept. 21, 2020) (Attached).

document. This oversight disproportionately disenfranchises and deters participation from communities nearest to, and thus most impacted by, the proposed Stibnite Gold Project.[11]

Another way the Forest Service has precluded meaningful public review of the DEIS is through its ongoing failure to timely respond to multiple Freedom of Information Act (FOIA) requests, including requests from commenter Save the South Fork Salmon (SSFS). SSFS submitted a FOIA request to the Payette National Forest on March 6, 2020, and a second FOIA request to the Payette and Boise National Forests and Washington Office of the Forest Service on May 28, 2020.[12] Both requests pertain to the Stibnite Gold Project, its compliance with the governing Forest Plans and related Forest Plan amendments. SSFS followed up with a September 21, 2020 letter to the Region IV FOIA coordinator and to the Forest Supervisors for the Payette and Boise National Forests, urging the documents to be released, and the comment period to be extended, so SSFS could review the documents during the DEIS public comment period.[13] But the Forest Service has failed to release 90 percent of the documents so far in response to either request.

SSFS also requested model input files, specifically MODFLOW and PHREEQC files, so that our experts could re-run the Forest Service's and Midas Gold's models. And while those requested were filed, the input files in both cases were incomplete.

The Idaho Conservation League filed a FOIA request to the Boise National Forest for information about the Burntlog Road Geophysical Investigation on July 1, 2020. We have not yet received any documents.

Separate from the Forest Service's ongoing violations of FOIA, the Forest Service also violates NEPA by failing to timely respond to SSFS's FOIA requests. As discussed already in these comments, informed public participation in federal agency decisionmaking is essential to NEPA, 40 C.F.R. § 1500.1(b), and public comment procedures are at the heart of the NEPA process.[14] To participate effectively, the public is entitled to receive not only the NEPA analysis itself, but also all incorporated documents and documents underlying the Project's NEPA analysis.[15] CEQ regulations specifically require federal agencies to make such documents available pursuant to FOIA requests. 40 C.F.R. § 1506.6(f). To be meaningful, the public must

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[11] In addition, there have been numerous instances where the Forest Service's Stibnite Gold Project website has been inaccessible for several consecutive days due to broken links or other unknown technical difficulties.

[12] *See* Letter from SSFS to E. Vonderheit (Mar. 6, 2020) (Attached); Letter from SSFS to K. Brown and K. Knesek (May 28, 2020) (Attached).

[13] Letter from SSFS to J. Rose, et al. (Sept. 28, 21, 2020) (Attached).

[14] *California v. Block*, 690 F.2d 753, 770 (9th Cir. 1982).

[15] 40 C.F.R. §§ 1502.21, 1506.6(f); *Idaho Sporting Cong. v. Thomas*, 137 F.3d 1146 (9th Cir. 1998); 36 C.F.R. § 218.24.

have the documents *before* they comment on the NEPA analysis.[16] It is especially problematic when an agency fails to make environmental information available, even after receiving a FOIA request.[17]

Upon request, the Forest Service and Midas Gold did release some documents that should have been readily accessible but were initially marked as "confidential." These include the following documents:

- M3, Lime Kiln for On-Site Lime Production at Stibnite (2018);
- McMillen Jacobs Associates, East Fork South Fork Salmon River (EFSFSR) Tunnel Design Documentation Report (Nov. 20, 2018);
- STRATA, Inc., Geologic Hazard Assessment, Golden Meadows Project (December 2, 2013);
- STRATA, Inc., Preliminary Feasibility Study Slope Designs for Three Proposed Open Pits at the Golden Meadows Project in the Stibnite Mining District, Valley County, Idaho (2014);
- Tierra Group International, Ltd., Stibnite Gold Project Geotechnical Investigations Summary Report and Appendices (2018);
- URS, Site-Specific Seismic Hazard Analysis for the Golden Meadows Project, Idaho (June 3, 2013).

However, these documents were released late enough in the commenting period that we did not always have sufficient time to analyze them. Additionally, we have been unable to locate the following documents:

- STRATA Inc., Geologic Hazard Assessment. Proposed Burntlog Access Road Alignment Valley County, Idaho (2016);

For these reasons, the Forest Service has failed to provide the opportunity for meaningful public participation, undermining one of the fundamental tenets of NEPA. The Forest Service should extend the DEIS comment period to 120 days, or longer as necessary to first provide the requested FOIA documents in time to inform public comment, and should hold virtual public meetings.

[16] *Block*, 690 F.2d at 771 (explaining that by withholding information during the comment process, the agency improperly insulates its decision-making from public scrutiny).
[17] *League of Wilderness Defs. v. Connaughton*, 2014 WL 6977611, 16 (D. Or. Dec. 9, 2014).

V. THE FOREST SERVICE SHOULD DISCLOSE CEQ'S DESIGNATION OF THE STIBNITE GOLD PROJECT AS A "HIGH PRIORITY INFRASTRUCTURE PROJECT" AND OTHER WAYS MIDAS GOLD IS PRESSURING THE AGENCY TO RUSH TO APPROVE THE PROJECT

Another troubling indication that the Forest Service is hastily rushing to approve Midas Gold's mine proposal is the July 27, 2020 CEQ letter purporting to designate the Stibnite Gold Project as a "high priority infrastructure project" under executive orders issued by President Trump: Executive Order 13766 (Jan. 24, 2017) and Executive Order 13807 (Aug. 15, 2017).[18] For numerous reasons, the Forest Service can ignore this dubious designation, need not rush its review, and must in fact comply with NEPA and other legal duties for reviewing Midas Gold's mine proposal, including taking the time it needs to adequately study and disclose the far reaching and long lasting impacts of the Stibnite Gold Project and to provide for meaningful public participation.

First, there is no rational basis for finding Midas Gold's massive mining proposal to be either "high priority" or an "infrastructure project." While the Stibnite Gold Project might be a high priority to Midas Gold's investors, there is no urgent need for the minerals or the environmental degradation.[19] Additionally, excavating three open pits, processing the minerals, and creating a massive mine waste dump is not an infrastructure project. Non-energy mineral projects, like this one, are not among the listed sectors covered by EO 13677 or EO 13807, and they have never been properly added (such as by after notice and comment rulemaking procedures or other proper procedure) by the Federal Permitting Improvement Steering Council or any other agency. The Forest Service can, thus, ignore this designation.

Second, the Executive Orders are neither lawful, nor enforceable. The Executive Orders are an illegal attempt by the Trump administration to give coverage under the Fixing American's Surface Transportation (FAST) Act, Pub. Law No. 114-94, to non-covered activities, like the Stibnite Gold Project, and to otherwise unlawfully accelerate environmental reviews. This cannot be accomplished by executive order, as an executive order cannot override a law passed by Congress.[20]

Third, even under the terms of the Executive Orders, there is no requirement that the Forest Service rush its review of Midas Gold's proposal. While EO 13766 purports that "it is the policy of the executive branch to streamline and expedite" infrastructure projects, it states in the same sentence that this must be done "in a manner consistent with law, environmental

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[18] Letter from CEQ to Governor Little (July 27, 2020) (Attached).
[19] *See* James Kuipers, Letter to the Editor, McCall Star News, Dec. 13, 2018 (Attached).
[20] *See Youngstown Sheet & Tube Co. v. Sawyer*, 343 U.S. 579 (1952).

reviews and approvals."[21] Similarly, while EO 13807 states a policy that federal agencies "make timely decisions with a goal of" completing environmental reviews and issue decisions within two years, it also states that it is the policy of the federal government to safeguard "communities and maintain a healthy environment" and ensure that agencies "make informed decisions concerning the environmental impacts of infrastructure projects[.]"[22]

Just as troubling as the CEQ's improper designation of Midas Gold's mine as a "high priority infrastructure project" is the fact that the Forest Service failed to disclose this designation in the DEIS or any of its publicly available supporting documents, and failed to indicate what, if any, affect the designation may have on the Forest Service's ongoing review. For example, EO 13766 requires the Chairman of the CEQ, upon designating an infrastructure project as a high priority, to coordinate with the head of the Forest Service to establish expedited deadlines and procedures.[23] But the Forest Service failed to disclose in the DEIS any information about any such expedited deadlines and procedures.

Relatedly, the USDA and Midas Gold are also trying to expedite the Stibnite Gold Project under Executive Order 13927 (Jun. 9, 2020), titled "Accelerating the Nation's Economic Recovery From the COVID-19 Emergency by Expediting Infrastructure Investments and Other Activities."[24] Again, the Stibnite Gold Project is not a properly designated "infrastructure" project, and even if it were, this is not a project that qualifies under EO 13927 for expedited NEPA review because this is not the kind of project that:

> (A) may be subject to emergency treatment as alternative arrangements pursuant to CEQ's NEPA regulations and agencies' own NEPA procedures;
> (B) may be subject to statutory exemptions from NEPA;
> (C) may be subject to the categorical exclusions that agencies have included in their NEPA procedures pursuant to the NEPA regulations;
> (D) may be covered by already completed NEPA analyses that obviate the need for new analyses; or
> (E) may otherwise use concise and focused NEPA environmental analyses[.][25]

While the public, the Forest Service, and other agency officials could use more time to fully and adequately review and assess Midas Gold's massive, long-term project–a project that

[21] EO 13766, Sec. 1.
[22] *See* EO 13807 Sec. 2 (a)-(b), (h).
[23] EO 13766, Sec. 3.
[24] *See* USDA Report on Actions (Jul. 7, 2020) (Attached); USDA Report on Actions (Aug. 14, 2020) (Attached)..
[25] EO 13927, Sec. 6(a)(i).

if approved will have major lasting impacts and costs in perpetuity–Midas Gold and the USDA are using COVID-19 as a sword to try to expedite the review and approval of the Stibnite Gold Project. Yet again, the Forest Service fails to disclose this important information to the public or indicate how this affects this ongoing process, which alone violates NEPA. And rushing the approval process forward is likely to only result in further NEPA and other legal violations.

VI. THE DEIS IS BASED ON THE WRONG REGULATORY STRUCTURE

The Forest Service is under the mistaken belief that its review and approval of Stibnite's proposed uses of federal land, and all of the proposed activities, are governed solely by the agency's hardrock mining regulations at 36 CFR Part 228 Subpart A. According to the Forest Service, this is because there are some unpatented mining claims on some of the lands to be covered by project facilities. DEIS at 1-6. The DEIS also states that the existing Forest Plan must be amended to accommodate Stibnite's plans.

According to the Forest Service, its authority is limited by Stibnite's purported and asserted "rights" under the 1872 Mining Law.

> **3.2.2.1 1872 Mining Law**
> The statutory right to search for, develop, and extract mineral deposits on public-domain lands open to mineral entry was established by the General Mining Act of 1872 (1872 Mining Law) and later legislation. These rights include the right to initially locate a mining claim and the right to reasonable access to the claim for further exploration, mining, or necessary ancillary activities, consistent with the Mining and Mineral Policy Act of 1970 (30 United States Code 21a) and other applicable laws. As described elsewhere in this EIS, regulations at 36 Code of Federal Regulations (CFR) 228, subpart A apply to U.S. Forest Service (Forest Service) regulation of surface use of National Forest System lands for locatable mineral operations.

DEIS at 3.2-1. *See also* Purpose and Need Statement above.

Yet the mere fact that the company submitted a mining plan does not mean that all, or any, aspects of the project that remain in federal ownership are regulated only under Part 228 or that approving the plan is the Forest Service's only choice. Indeed, because the record lacks any evidence that the company has statutory rights under federal mining laws, including the 1872 Mining Law, to any of the lands that remain in federal ownership, review and regulation of the project is not under Part 228, but rather the agency's special use and multiple use authorities (36 CFR Part 251/261), including right-of-ways (ROW) under the Federal Land Policy and Management Act (FLPMA).

The Forest Service's overly-restricted interpretation of its authority was squarely and recently rejected by the federal court in Arizona. On July 31, 2019, the federal district court for the District of Arizona issued its decision in *Center for Biological Diversity v. U.S. Fish and Wildlife Service*,[26] in which the court vacated and remanded the Forest Service's approval of a large copper mine (the Rosemont Mine) due to the agency's erroneous interpretation and application of the 1872 Mining Law, federal public land law, and NEPA.

The Arizona federal court squarely rejected the same federal government position taken by the DEIS – that mining claimants are entitled to use and occupy mining claims absent any evidence that the claims are valid under the Mining Law, or that the Part 228 regulations are the proper regulatory vehicle for operations proposed off of valid claims. The court ruled that the government's statutory interpretation was contrary to the plain language and controlling case law under the Mining Law, Organic Act, NEPA, and other laws. The Rosemont decision rejected the government's position that it has no authority to apply its broader public land regulations to mining operations proposed on lands that fail to meet the Mining Law's statutory prerequisites for rights against the United States.

The DEIS's review of the Stibnite Gold Project is based on the legal view that the entire project is regulated by the Part 228 Subpart A regulations simply because it involves uses of federal land related to mining. Here, although it is difficult to ascertain the exact number and nature of the claims from the Stibnite Gold Project DEIS, the Forest Service believes that it is precluded from choosing the no-action alternative, as well as being significantly restricted in its review authority over the Project.

The Arizona federal court decision ruled that the Forest Service's position erroneously interprets the 1872 Mining Law as well as other public land and mining laws. The court held that unless sufficient evidence exists in the agency record that mining claims proposed for use and occupancy met the requirements of the Mining Law and were valid (i.e., each mining claim contained the requisite "valuable minerals"), neither the Mining Law, nor the Part 228A regulations, govern the agency's review of the proposed use/occupancy of those lands. The agency could not simply assume rights under the Mining Law that limit the federal land agency's full and broad authority to protect public land and resources.

> [H]aving a piece of paper reflecting that one has unpatented mining claims does not show that one actually has *valid* unpatented mining claims. If there is no valuable mineral deposit beneath the purported unpatented mining claims, the unpatented mining claims are completely

[26] *Ctr. for Biological Diversity v. U.S. Fish & Wildlife Serv.*, 409 F. Supp. 3d 738 (D. Ariz. 2019).

> *invalid* under the Mining Law of 1872, and no property rights attach to those invalid unpatented mining claims.[27]

The Forest Service's review of the Stibnite proposal is very similar to and based on the same legal positions as its illegal review of the Rosemont Mine. The Arizona court detailed how the agency never inquired into whether the mining claims away from the mine pit met the Mining Law's prerequisite for use/occupancy rights (discovery of valuable minerals), yet the agency "accepted, without question, that those unpatented mining claims were valid" and "assumed that Rosemont had the right to use those 2,447 acres to support its mining operation (i.e., by dumping 1.9 billion tons of waste on that land)."[28] "This was a crucial error as it tainted the Forest Service's evaluation of the Rosemont Mine from the start."[29] The court held that such use/occupancy, without verification that such rights under the Mining Law actually exist on those lands/claims, was ***not*** authorized by the Mining Law, and thus was not governed by the agency's mining regulations.

The court also noted that its ruling does not require that the federal agency conduct a full-scale mineral validity review for every proposed long-term or permanent use/occupancy.

> The Forest Service argues that it is not required to conduct a validity determination before approving a mining plan of operations. However, a validity determination differs significantly from establishing a factual basis upon which the Forest Service can determine rights. A validity determination invokes a separate administrative procedure carried out by the BLM (which is within the Department of the Interior). **In contrast, the Forest Service** (which is within the Department of Agriculture) **merely needed a factual basis to support Rosemont's assertion of rights.** Such a finding would not preclude another individual from bringing an adverse proceeding to determine mineral rights, or the Government from initiating a validity determination. As referenced above, the fact that Rosemont proposed to dump 1.9 billion tons of waste on its unpatented claims on 2,447 acres of the Coronado National Forest was a potent indication that Rosemont's unpatented claims on the land in question were invalid (i.e., if Rosemont was voluntarily proposing to bury its unpatented claims under 1.9 billion tons of its own waste, there is a strong inference that there is no valuable mineral deposit lying below the waste site).[30]

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[27] *Ctr. for Biological Diversity*, 409 F. Supp. 3d at 747-48 (emphasis in original).
[28] *Id*. at 747.
[29] *Id.*
[30] *Id.* at 761-62.

The situation is the same here, as there is nothing in the record that provides "a factual basis to support [the claimant's] assertion of rights." Under basic principles of administrative law: "Any decision made without first establishing the factual basis upon which the Forest Service could form an opinion on surface rights would entirely ignore an important aspect of the problem."[31]

The court also relied upon over a century of Mining Law court precedent which holds that the presence of valuable minerals on one claim (or on private land) cannot support a claim of validity on adjacent or nearby claims or on other federal lands. "A claimant may not use the deposit present in one location to lend validity to an adjacent location."[32]

> Defendants also argue that the Forest Service must allow these extralimital activities because Rosemont owns valid claims in the mine pit area. However, as explained, a separate discovery must support each claim. *See Best*, 371 U.S. at 337; *Waskey*, 223 U.S. at 91; *Lara*, 820 F.2d at 1537. Discovery in one claim cannot lend validity to an adjacent claim in which no valuable mineral deposit exists. *See id.* Rosemont's extralimital rights springing from its valid claims in the mine pit do not permit surface occupancy outside the boundaries of these claims. *See* 30 U.S.C. § 26. No limiting principle would conscript surface use under the Forest Service's interpretation of the Mining Law. This interpretation would render the act of location moot – an individual would need only discover a deposit before gaining a right to all the surface of public lands not withdrawn. This simply does not comport with the plain language of the Mining Law.[33]

Indeed, it is very likely that these ancillary lands do not contain sufficient mineralization to qualify as "valuable mineral deposits" and are in fact simple "common varieties" of rock and sand covering the non-mineralized portions of the Project site. Such lands are governed by the Common Varieties Act of 1955, 30 U.S.C. § 611, not the 1872 Mining Law. "Discoveries of 'common varieties of sand, stone, gravel, pumice, pumicite, or cinders' do not qualify as valuable mineral deposits and therefore do not confer validity upon a mining claim. *See* 30 U.S.C. § 611. Through section 611, Congress intended to remove the

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[31] *Id*. at 757-58 (citing *Motor Vehicles Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983)).

[32] *See Waskey v. Hammer*, 223 U.S. 85, 91 (1912) ("A discovery without the limits of the claim, no matter what its proximity, does not suffice."); *Lombardo Turquoise Milling & Mining Co. v. Hemanes*, 430 F. Supp. 429, 443 (D. Nev. 1977); *Ctr. for Biological Diversity*, 409 F. Supp. 3d at 754.

[33] *Ctr. for Biological Diversity*, 409 F. Supp. 3d at 762-63.

disposition of lands containing only common minerals from the Mining Laws. *See Coleman*, 390 U.S. at 604."[34]

Based on the Forest Service's erroneous view of "rights" under the Mining Law, the DEIS asserts that only Forest Service mining regulations at 36 C.F.R. Part 228A (which have no public interest requirement and no required compliance with the agency's multiple use mandate) apply to every aspect of the project.

The Forest Service mining regulations at 36 C.F.R. Part 228A only apply to "operations authorized by the mining laws." 36 C.F.R. § 228.1. The Arizona federal court held that only upon the satisfaction of the Mining Law's prerequisite requirements for statutory rights against the United States are "operations authorized by the mining laws."

> [I]t does not follow that the Forest Service must use these Part 228 regulations merely because an action falls within the regulation's definition of operations. The Forest Service's reliance on its definition of operations ignores the purpose of its own regulations. Part 228 regulates "use of the surface of National Forest System lands in connection with operations *authorized* by the United States mining laws (30 U.S.C. 21-54 [Mining Law of 1872])." 36 C.F.R. § 228.1. Therefore, authorization under the Mining Law of 1872 acts as a precursor to any regulation through Part 228.[35]

As the court held: "the regulations state that mining activities on Forest Service land are permitted only as specifically authorized by the Mining Law of 1872. As Rosemont has no rights under the Mining Law as to the land at issue, it follows that the regulations certainly do not create independent rights that do not exist under the Mining Law."[36]

Here, at Stibnite, the record does not show that the proposed facilities, uses, and associated operations are "authorized by the Mining Law of 1872." As such, use of the Part 228A regulations, instead of the Part 251/261 special use regulations, is illegal. "The Forest Service could not apply its Part 228 regulations to these activities because the Mining Law did not authorize them. . . . Based on the administrative record, the Forest Service improperly applied its Part 228 regulations to actions not authorized under the Mining Law of 1872."[37]

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[34] *Id.* at 753.
[35] *Id*. at 764 (emphasis in original).
[36] *Id*. at 749.
[37] *Id.* at 764.

The court also rejected the legal position taken by Forest Service here, where it asserts that it cannot choose the No-Action Alternative for the project. In the Rosemont Mine decision, after discussing the agency's erroneous assumption of "rights" under the Mining Law (detailed above), the court discussed how this erroneous legal position also violated the agency's duties under NEPA:

> Based on the administrative record, the Forest Service improperly applied its Part 228 regulations to actions not authorized under the Mining Law of 1872. This mistake infected the FEIS and led to the Forest Service misinforming the public and failing to consider reasonable alternatives within the scope of its duties under the Organic Act.
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> For example, in response to a public comment requesting the Forest Service "give true consideration to selection of the No Action Alternative", the Forest Service responded: "The Forest Service may reject an unreasonable Mine Plan of Operation but cannot categorically prohibit mining or deny reasonable and legal mineral operations under the mining laws." *Id.* at G-10 [Final Rosemont EIS]. In response to a comment requesting the Forest Service "consider other locations for copper mining", the Forest Service responded: "The Forest Service lacks the authority to deny Rosemont Copper's proposal if it can be legally permitted." *Id.* at G-12. And in response to a comment that the Forest Service "should scale down the size of the project or limit it to private lands only", the Forest Service repeated: "The Forest Service may reject an unreasonable Mine Plan of Operation but cannot categorically prohibit mining or deny reasonable and legal mineral operations under the mining laws." *Id.* These examples did not occur in isolation. Rather, they illustrate how heavily the Forest Service relied upon this rationale in its decision-making process.
>
> Under the Part 251 regulations, the Forest Service could limit the mine to any of the above options if it found they ran afoul of the public interest. The Forest Service failed to take the requisite hard look at these alternatives by informing the public that it could not truly consider any alternative that rejected the MPO or substantially modified it as to make the mine economically unfeasible. *See Nat. Res. Def. Council*, 421 F.3d at 813-14. A "thorough discussion of the significant aspects of the probable environmental consequences" will include the regulatory framework in which the Forest Service analyzes those consequences. *See California v. Block*, 690 F.2d 753, 761 (9th Cir. 1982). No amount of alternatives or depth of discussion could "foster[ ] informed decision-making and

> informed public participation" when the Forest Service bases its choice of alternatives on an erroneous view of the law. *See Westlands Water Dist. v. U.S. Dep't of Interior*, 376 F.3d 853, 868 (9th Cir. 2004).[38]

As the court stated, the agency's erroneous interpretation of federal mining law resulted in a violation of the Organic Act and NEPA. "[A] grant to use the surface when the administrative record shows such a right does not exist would contravene the Forest Service's duty to protect the forest from depredations and offer an opinion that runs contrary to the evidence."[39] "In the absence of any statutory right on the part of Rosemont, the Forest Service could deny Rosemont's off claim activities as part of the Forest Service's Organic Act obligations."[40]

The court further rejected the agency's view that alternatives that greatly reduced environmental impacts to public land could be dismissed because they were too expensive for the company. "As discussed throughout this Order, the administrative record before the Forest Service reflects that Rosemont did not have valid surface rights for thousands of acres of its unpatented mining claims. Thus, rather than summarily rejecting this claim as 'technically and financially infeasible,' further consideration and evaluation of this alternative was warranted as it greatly reduced the impacts to the Coronado National Forest."[41]

Thus, at Stibnite, the Forest Service must fully comply with all federal laws and is not constrained by the limits in Part 228. Nor is the agency limited in its duties to protect public resources by Stibnite's assertions of financial need or costs.

Here, as at Rosemont, this means that the Forest Service must regulate the project under its Part 251/261 special use regulations, as well as FLPMA's ROW provisions, and not under the Part 228 regulations. The agency's authority under the Part 251 regulations are very different from, and much more environmentally protective, than the Part 228 regulations. For example, the agency must deny the project if "[t]he proposed use would not be in the public interest." 36 C.F.R. § 251.54(e)(5)(ii).

> The Forest Service could not apply its Part 228 regulations to these activities because the Mining Law did not authorize them.
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> In contrast, the Forest Service's Part 251 regulations apply to "all uses of National Forest System lands, improvements, and resources." 36 C.F.R.

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[38] *Ctr. for Biological Diversity*, 409 F. Supp. 3d at 764-766 (internal footnotes omitted).
[39] *Id.* at 758.
[40] *Id.* at 761.
[41] *Id.* at 765, n.15.

> § 251.50. Any use not regulated under the Part 228, or several other groups of Forest Service regulations, falls into the Part 251 special use regulations. *See id.* These regulations provide a dual screening process in which the Forest Service may deny any activity that does not meet several standards or otherwise comport with the public interest. *See id.* § 251.54(e). **The Part 251 regulations provide significant authority and discretion to prohibit activity on Forest Service lands, whereas the Part 228 regulations merely balance competing interests.**[42]

The Part 251 regulations apply to occupancy and use of National Forest System lands. 36 C.F.R. §§ 251.54–251.64. The applicant must file a special use proposal with the District Ranger or Forest Supervisor having jurisdiction over the affected land. *Id.* § 251.54(b). The Forest Service conducts an initial screening to determine whether the proposed use meets the "minimum requirements applicable to all special uses." *Id.* § 251.54(e)(1). If the proposal passes this initial screening, the Forest Service conducts a second-level screening which requires, among other things, a showing that the proposed use is in the public interest. *Id.* § 251.54(e)(5)(i)–(v). If the proposed use satisfies the Forest Service's screening criteria, the Forest Service may grant a special use permit, but must include terms and conditions to "[m]inimize damage to scenic and esthetic values and fish and wildlife habitat and otherwise protect the environment," among other requirements. *Id.* § 251.56(a)(1)(i)(B). The Forest Service must also "[o]therwise protect the public interest." *Id.* § 251.56(a)(1)(ii)(G). In addition, under the related Part 261 regulations, the Forest Service is required to prohibit the destruction of cultural resources on public lands. *See* 36 C.F.R. §§ 261.9(g)-(h), 261.10(a), (b).

> (a) *General.* (1) Each special use authorization must contain:
> (i) Terms and conditions which will:
> (A) Carry out the purposes of applicable statutes and rules and regulations issued thereunder;
> (B) Minimize damage to scenic and esthetic values and fish and wildlife habitat and otherwise protect the environment;
> (C) Require compliance with applicable air and water quality standards established by or pursuant to applicable Federal or State law; and
> (D) Require compliance with State standards for public health and safety, environmental protection, and siting, construction, operation, and maintenance if those standards are more stringent than applicable Federal standards.
> (ii) Such terms and conditions as the authorized officer deems necessary to:

[42] *Id.* at 764 (emphasis added).

(A) Protect Federal property and economic interests;
(B) Manage efficiently the lands subject to the use and adjacent thereto;
(C) Protect other lawful users of the lands adjacent to or occupied by such use;
(D) Protect lives and property;
(E) Protect the interests of individuals living in the general area of the use who rely on the fish, wildlife, and other biotic resources of the area for subsistence purposes;
(F) Require siting to cause the least damage to the environment, taking into consideration feasibility and other relevant factors; and
(G) Otherwise protect the public interest.

Id. § 251.56. These regulations also require the payment of fair market value for the use of the public's land: "(a) ...special use authorizations shall require the payment in advance of an annual rental fee as determined by the authorized officer. (1) The fee shall be based on the fair market value of the rights and privileges authorized, as determined by appraisal or other sound business management principles." *Id.* § 251.57.

Because the Forest Service makes the same errors here as it did at Rosemont, the agency must reject the Plan of Operations submitted by Midas Gold as inadequate and incomplete. We note some of the baseline information that is still missing in the DEIS should have been gathered and submitted as part of the Plan of Operations application. The Forest Service erred in accepting the original Plan of Operations and the next step should be for Midas Gold to submit a revised Plan of Operations. Even though Midas Gold has stated that Alternative 2 is the company's preferred alternative, the company has not formally submitted that alternative as its Plan of Operations. The Forest Service should not accept any Plan of Operations unless it addresses the Forest Plan consistency issues mentioned previously. Following this, the Forest Service should rescope the project, redo the DEIS and regulate the project under the correct legal regime.[43] Further, the Forest Service has not shown that the project would meet all the requirements in Parts 251/261 to protect the public interest and the natural and cultural resources at/around the site.[44] As such, the Forest Service must deny the proposed uses of public land.

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[43] The DEIS lists the acreages of unpatented claims, but does not say how many claims are lode mining claims or millsite claims. DEIS at 3.15-9. As discussed herein, regardless of the type of claim, the Forest Service cannot assume that the claimant has statutory rights to use the lands covered by the claim without determining whether such rights actually exist and meet the prerequisites for such rights.
[44] Here, in Stibnite, as with Rosemont, the Mining Law's provision that lands are "free and open to exploration," 30 U.S.C. § 22, is not at issue, as none of the alternatives involve exploration under the Mining Law, as compared to long-term or permanent use/occupancy of federal land which the Forest Service proposes to approve.

VII. THE PROJECT FAILS TO COMPLY WITH REQUIREMENT FOR SPECIAL USES ON FEDERAL LANDS AND RIGHTS OF WAY UNDER FLPMA TITLE V

Like with the other facilities proposed on the remaining federal lands, the Forest Service is under the mistaken belief that the access/support corridors and uses thereof are subject only to the Part 228 regulations. The DEIS states that: "transportation and utility uses associated with mineral development activities are authorized under 36 CFR 228A as part of an operator's plan of operations and do not require a separate special use permit." DEIS at 3.15-7. As noted above and herein, that is wrong. For the corridors, the DEIS fails to meet the strict public interest, environmental protection, and financial requirements of the Federal Land Policy and Management Act (FLPMA).

Under FLPMA Title V, Section 504 (which applies to both the Forest Service and BLM), the Forest Service may grant a ROW only if it "(4) will do no unnecessary damage to the environment." 43 U.S.C. § 1764(a). Rights of way "shall be granted, issued or renewed ... consistent with . . . any other applicable laws." *Id.* § 1764(c). A right-of-way that "may have significant impact on the environment" requires submission of a plan of construction, operation, and rehabilitation of the right-of-way. *Id.* § 1764(d). A Title V SUP/ROW "shall contain terms and conditions which will . . . (ii) minimize damage to scenic and esthetic values and fish and wildlife habitat and otherwise protect the environment." *Id.* § 1765(a).

In addition, the ROW can only be issued if activities resulting from the ROW:

> (i) protect Federal property and economic interests; (ii) manage efficiently the lands which are subject to the right-of-way or adjacent thereto and protect the other lawful users of the lands adjacent to or traversed by such right-of-way; (iii) protect lives and property; (iv) protect the interests of individuals living in the general area traversed by the right-of-way who rely on the fish, wildlife, and other biotic resources of the area for subsistence purposes; (v) require location of the right-of-way along a route that will cause least damage to the environment, taking into consideration feasibility and other relevant factors; and (vi) otherwise protect the public interest in the lands traversed by the right-of-way or adjacent thereto.

Id. § 1765(b).

At least three important potential substantive requirements flow from the FLPMA's ROW provisions. First, the Forest Service has a mandatory duty under Section 505(a) to impose conditions that "will minimize damage to scenic and esthetic values and fish and

wildlife habitat and otherwise protect the environment." *Id.* § 1765(a). The terms of this section do not limit "damage" specifically to the land within the ROW corridor. Rather, the repeated use of the expansive term "the environment" indicates that the overall effects of the ROW on cultural/historical, wildlife, environmental, scenic and aesthetic values must be evaluated and these resources protected. In addition, the obligation to impose terms and conditions that "protect Federal property and economic interests" in Section 505(b) requires that the Forest Service must impose conditions that protect not only the land crossed by the right-of-way, but **all** federal land affected by the approval of the ROW. This includes the federal waters and water rights that will be eliminated or significantly reduced by the project.

The requirements in Section 505(b) mandate a Forest Service determination as to what conditions are "necessary" to protect federal property and economic interests, as well as "otherwise **protect[ing] the public interest in the lands traversed by the right-of-way or *adjacent thereto***." (emphasis added). This means that the agency can only approve the ROW if it "protects the public interest in lands" not only upon which the road would traverse, but also lands and resources adjacent to and associated with the ROW. As noted herein, the Forest Service would be unable to make a legitimate finding that industrial use of the lands served by the ROW, given the massive adverse impacts from the Mine, would "protect the public interest."

Third, is the requirement that the right-of-way grants "do no unnecessary damage to the environment" and be "consistent with ... any other applicable laws." *Id*. §§ 1764(a)-(c). This means that a grant of a ROW supporting other activities must satisfy all applicable treaties and laws, regulations and policies, including FLPMA, the Endangered Species Act (ESA), Organic Act, the National Forest Management Act (NFMA), National Historic Preservation Act (NHPA), Clean Water and Air Acts (CWA, CAA), all state and local laws, etc.

Federal courts have repeatedly held that the federal land agency not only has the authority to consider the adverse impacts on lands and waters outside the immediate ROW corridor, it has an obligation to protect these resources under FLPMA. In *County of Okanogan v. National Marine Fisheries Service*, the court affirmed the Forest Service's imposition of mandatory minimum stream flows as a condition of granting a ROW for a water pipeline across Forest Service land.[45] This was true even when the conditions/requirements restricted or denied vested property rights (in that case, water rights).[46]

The Forest Service thus cannot issue a ROW that fails to "protect the environment" as required by FLPMA, including the environmental resource values in and out of the ROW

[45] 347 F.3d 1081 (9th Cir. 2003).
[46] *Id.* at 1085-86.

corridor. "FLPMA itself does not authorize the Supervisor's consideration of the interests of private facility owners as weighed against environmental interests such as protection of fish and wildlife habitat. FLPMA *requires* all land-use authorizations to contain terms and conditions which will protect resources and the environment."[47]

The Interior Department, interpreting FLPMA Title V and its right-of-way regulations, has held that: "A right-of-way application may be denied, however, if the authorized officer determines that the grant of the proposed right-of-way would be inconsistent with the purpose for which the public lands are managed or if the grant of the proposed right-of-way would not be in the public interest or would be inconsistent with applicable laws."[48]

Similar to the *County of Okanogan* and *Colorado Trout Unlimited* federal court decisions noted above, the Interior Department has held that the fact that a ROW applicant has a property right that may be adversely affected by the denial of the ROW does not override the agency's duties to protect the "public interest." In *Kenneth Knight*, the BLM's denial of the ROW was affirmed due not only to the direct impact of the water pipeline, but on the adverse effects of the removal of the water in the first place:

> [T]he granting of the right-of-way and concomitant reduction of that resource, would, in all likelihood, adversely affect public land values, including grazing, wildlife, and riparian vegetation and wildlife habitat. The record is clear that, while construction of the improvements associated with the proposed right-of-way would have minimal immediate physical impact on the public lands, the effect of removal of water from those lands would be environmental degradation. Prevention of that degradation, by itself, justified BLM's rejection of the application.[49]

That was also the case in *Clifford Bryden*, as the adverse impacts from the removal of the water was considered just as important as the adverse impacts from the pipeline that would deliver the water.[50]

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[47] *Colo. Trout Unlimited v. U.S. Dep't of Agric.*, 320 F. Supp. 2d 1090, 1108 (D. Colo. 2004) (emphasis in original) *appeal dismissed as moot*, 441 F.3d 1214 (10th Cir. 2006).
[48] *Clifford Bryden*, 139 IBLA 387, 389-90 (1997) (affirming denial of right-of-way for water pipeline, where diversion from spring would be inconsistent with BLM wetland protection standards).
[49] 129 IBLA 182, 185 (1994).
[50] 139 IBLA at 388-89. *See also C.B. Slabaugh*, 116 IBLA 63 (1990) (affirming denial of right-of-way for water pipeline, where BLM sought to prevent the applicant from establishing a water right in a wilderness study area).

In *King's Meadow Ranches*,[51] the Interior Board of Land Appeals (IBLA) affirmed the denial of right-of-way for a water pipeline, where the pipeline would degrade riparian vegetation and reduce bald eagle habitat. The Department specifically noted that under FLPMA Title V: "[A]s BLM has held, **it is not private interests but the public interest that must be served by the issuance of a right-of-way**."[52] As the IBLA recently held:

> The public interest determination is more than a finding that no laws will be violated by granting the ROW. Even if UUD [Unnecessary or Undue Degradation] can be avoided, degradation to public resources posed by a requested ROW may factor into BLM's determination of whether that ROW would be in the public interest. For example, in *Sun Studs,* we upheld BLM's rejection of a logging road ROW permit based on environmental considerations without any suggestion that the environmental harm rose to the level of unlawful degradation.[53]

The Interior Department has ruled that pipelines and associated infrastructure, including those across public land related to a mining operation, are not covered by statutory rights under the Mining Law. "[A] right-of-way must be obtained prior to transportation of water across Federal lands for mining."[54] Although these cases dealt with BLM lands, they apply equally to Forest Service lands. As noted in *Alanco*, ROWs for access roads (as opposed to internal mine roads) are subject to FLPMA's Title V requirements.

The IBLA has expressly rejected the argument that rights under the mining laws apply to pipelines and roads associated with water delivery:

> Clearly, FLPMA repealed or amended previous acts and Title V now requires that BLM approve a right-of-way application prior to the transportation of water across public land for mining purposes. See 43 U.S.C. § 1761 (1982). As was the case prior to passage of Title V of FLPMA, however, approval of such an application remains a

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[51] 126 IBLA 339 (1993).

[52] 126 IBLA at 342 (emphasis added).

[53] *Klamath-Siskiyou Wildlands Ctr.*, IBLA 2019-75, at 9 (April 29, 2019), citing *Sun Studs*, 27 IBLA at 282-83.

[54] *Far West Exploration, Inc.*, 100 IBLA 306, 308, n. 4 (1988) *citing Desert Survivors*, 96 IBLA 193 (1987). *See also Alanco Environmental Resources Corp.*, 145 IBLA 289, 297 (1998) ("construction of a road, was subject not only to authorization under 43 C.F.R. Subpart 3809, but also to issuance of a right-of-way under 43 C.F.R. Part 2800."); *Wayne D. Klump*, 130 IBLA 98, 100 (1995) ("Regardless of his right of access across the public lands to his mining claims and of his prior water rights, use of the public lands must be in compliance with the requirements of the relevant statutes and regulations [FLPMA Title V and ROW regulations].").

> discretionary matter and the Secretary has broad discretion regarding the amount of information he may require from an applicant for a right-of-way grant prior to accepting the application for consideration. *Bumble Bee Seafoods, Inc.*, 65 IBLA 391 (1982). A decision approving a right-of-way application must be made upon a reasoned analysis of the factors involved in the right-of-way, with due regard for the public interest. *See East Canyon Irrigation Co.*, 47 IBLA 155 (1980).
>
> **BLM apparently contends that a mining claimant does not need a right-of-way to convey water from land outside the claim for use on the claim. It asserts that such use is encompassed in the implied rights of access which a mining claimant possesses under the mining laws. Such an assertion cannot be credited.**
>
> The implied right of access to mining claims never embraced the right to convey water from outside the claim for use on the claim. This latter right emanated from an express statutory grant in the 1866 mining act. *See* 30 U.S.C. § 51 (1970) and 43 U.S.C. § 661 (1970). In enacting FLPMA, Congress repealed the 1866 grant of a right-of-way for the construction of ditches and canals (see § 706(a) of FLPMA, 90 Stat. 2793) and provided, in section 501(a)(1), 43 U.S.C. § 1761(a)(1), for the grant of a right-of- way for the conveyance of water under new procedures. In effect, Congress substituted one statutory procedure for another. **There is simply no authority for the assertion that mining claimants need not obtain a right-of-way under Title V for conveyance of water from lands outside the claim onto the claim.**[55]

The same analysis applies to transmission lines, pipelines, etc. delivering or transporting power, water, water, tailings, etc. on federal land. The leading treatise on federal natural resources law confirms this rule: "Rights-of-way must be explicitly applied for and granted; approvals of mining plans or other operational plans do not implicitly confer a right-of-way."[56]

The fact that the Forest Service mining regulations consider roads and pipelines associated with the project part of the mineral "operations," 36 CFR § 228.3, does not override these holdings or somehow create statutory rights where none exist.

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[55] *Desert Survivors*, 96 IBLA 193, 196 (1987) (emphasis added). *See also Far West Exploration*, 100 IBLA 306, 309, n.4 (1988) ("a right-of-way must be obtained prior to transportation of water across Federal lands for mining.").

[56] George C. Coggins & Robert L. Glicksman, *Pub. Nat. Res. Law*, § 15.21 (2d ed. 2020).

> [I]t does not follow that the Forest Service must use these Part 228 regulations merely because an action falls within the regulation's definition of operations. The Forest Service's reliance on its definition of operations ignores the purpose of its own regulations. Part 228 regulates "use of the surface of National Forest System lands in connection with operations *authorized* by the United States mining laws (30 U.S.C. 21-54 [Mining Law of 1872])." 36 C.F.R. § 228.1. Therefore, authorization under the Mining Law of 1872 acts as a precursor to any regulation through Part 228.[57]

Further, "Access to patented mining claims, mineral leases, and private property inholdings are not subject to 36 CFR part 228, subpart A nor to the access provisions as discussed herein." U.S. Forest Service Minerals Manual § 2817.25.

Overall, the DEIS and agency review of these facilities fails to apply the proper discretionary and public interest review applicable to Title V and its implementing regulations. This failure, as well as the fundamental errors in assuming that Midas Gold has a statutory right to receive approval of any delivery, conveyance, transmission, or access facilities, further undermines the agencies' NEPA alternatives and mitigation analysis.

Lastly, the Forest Service failed to comply with the financial requirements of FLPMA regarding ROW applications and approvals. At a minimum, the Forest Service must obtain "Fair Market Value" (FMV) for the use of federal land and resources. FLPMA requires that "the United States receive fair market value of the use of the public lands and their resources." 43 U.S.C. § 1701(a)(9). "The holder of a right-of-way shall pay in advance the fair market value thereof, as determined by the Secretary granting, issuing, or renewing such right-of-way." 43 U.S.C. § 1764(g). In addition, Midas Gold must fully "reimburse the United States for all reasonable administrative and other costs incurred in processing an application for such right-of-way and in inspection and monitoring of such construction, operation, and termination of the facility pursuant to such right-of-way." *Id.* Forest Service regulations state that: "(a) ...special use authorizations shall require the payment in advance of an annual rental fee as determined by the authorized officer. (1) The fee shall be based on the fair market value of the rights and privileges authorized, as determined by appraisal or other sound business management principles." 36 C.F.R. § 251.57.

[57] *Ctr. for Biological Diversity*, 409 F. Supp. 3d at 764 (emphasis in original).

VIII. FAILURE TO MINIMIZE ALL ADVERSE ENVIRONMENTAL IMPACTS AND TO PROTECT PUBLIC RESOURCES

Even under the Forest Service's erroneous decision to regulate the project solely through its Part 228 regulations, the agency failed to minimize all adverse impacts, as shown herein. Under the Organic Act and Part 228 regulations, the agency must "maintain and protect fisheries and wildlife which may be affected by the operations." 36 C.F.R. § 228.8(e). These impacts also violate the Forest Service's duties to "minimize adverse environmental impacts on National Forest surface resources." 36 C.F.R. § 228.8. "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)."[58] "Under the Organic Act the Forest Service must ...require [the project applicant] to take all practicable measures to maintain and protect fisheries and wildlife habitat."[59]

The CWA, Organic Act, and agency regulations preclude the Forest Service from approving aspects of a mining operation that would violate federal or state water quality standards.

> Under the Clean Water Act Section 313, the Forest Service cannot authorize mining operations that do not comply with state and federal water quality regulations, including a state's antidegradation policy. 33 U.S.C. § 1323(a).[60]

The Organic Act mandates the same compliance, as the Part 228 regulations "further require that mining operators comply with applicable state and federal water quality standards including the Clean Water Act; [and] take all practicable measures to maintain and protect fisheries and wildlife habitat."[61] The 228 regulations require that the operator submit sufficient information to enable the agency to ensure that the Project will comply with all applicable state and federal requirements to protect water quality and fisheries. *See* 36 C.F.R. §§ 228.4(c)(3), 228.8(b), 228.8(e). The DEIS does not show, or properly analyze, that all aspects of the project will fully protect "fisheries and wildlife habitat." This is in addition to

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[58] *Rock Creek All. v. Forest Serv.*, 703 F. Supp. 2d 1152, 1164 (D. Mont. 2010) (mine approval violated Organic Act and 228 regulations by failing to protect water quality and fisheries).
[59] *Id.* at 1170.
[60] *Save Our Cabinets v. U.S. Dep't of Agric.*, 254 F. Supp. 3d 1241, 1249 (D. Mont. 2017) (Forest Service approval of mining project violated duties under CWA and Organic Act to ensure compliance with water quality standards). *See also Hells Canyon Pres. Council v. Haines*, 2006 WL2252554, *4-5 (D. Or. 2006) (Forest Service mine approvals violated state CWA standards).
[61] *Save Our Cabinets*, 254 F. Supp. 3d at 1250.

the agency's/project's failure to fully protect all uses, including Treaty-guaranteed uses and rights.

In addition, regardless of whether the proper Part 251 regulations, or the improper Part 228 regulations are used, the Organic Act prevents the Forest Service from adversely affecting public waters, such as the waters and springs that will be adversely affected/eliminated by the project.

This is also true for the critical wetlands, riparian areas, and Groundwater Dependent Ecosystems that will be severely impacted by the project. In addition to the Executive Order on Wetlands Protection (which requires the Forest Service to protect wetlands), the Organic Act requires the Forest Service to protect public land water resources, which has not been done.

> [N]ational forests . . .shall be as far as practicable controlled and administered in accordance with the following provisions. No national forest shall be established, except to improve and protect the forest within the boundaries, or for the purpose of securing favorable conditions of water flows, and to furnish a continuous supply of timber for the use and necessities of citizens of the United States.

16 U.S.C. § 475. "The legislative debates surrounding the Organic Administration Act of 1897 and its predecessor bills demonstrate that Congress intended national forests to be reserved for only two purposes – 'to conserve the water flows, and to furnish a continuous supply of timber for the people.'"[62] "The objects for which the forest reservations should be made are the ... preservation of forest conditions upon which water conditions and flows are dependent."[63]

New Mexico recognized that the "preservation" of conditions for water flow was aimed primarily at providing water for uses outside the forest boundaries – contradicting the agency's position here that it has no authority over actions on the forests that may eliminate or impair off-forest resources. "Congress authorized the national forest system principally as a means of enhancing the quantity of water that would be available to the settlers of the arid West."[64] Yet instead of "enhancing" water supplies, the project will adversely affect water that would otherwise be available and in good quality for the Forest, to downstream water users, and under rights guaranteed to the Nez Perce Tribe by treaty.

Although the Act itself and the *New Mexico* decision shows that the Forest Service's abdication of authority here is invalid, this does not mean that mining is precluded whenever it

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[62] *U.S. v. New Mexico*, 438 U.S. 696, 707 (1978).
[63] *Id.* at 708.
[64] *Id.* at 713.

affects downstream water supplies. "Congress intended the national forests to be put to a variety of uses ... *not inconsistent with the two principle purposes of the forests*."[65]

Thus, the Forest Service failed to "preserv[e] forest conditions upon which water conditions and flows are dependent."[66] Here, the Forest Service never considered whether its approval of the Stibnite Gold Project is "consistent with" one of the "primary purposes" of the Payette National Forest – "enhancing" and "preserving" water conditions/flows. And based on the information that is provided in the DEIS, the Stibnite Gold Project is not consistent with that purpose, as it will destroy, alter, and degrade wetlands and creeks throughout the mining area and along the transportation and utility routes.

Regarding long-term impacts to public resources, the DEIS admits that long-term or perpetual treatment of water pollution would be needed. DEIS at 2-75. At the outset, the DEIS admits that treatment issues have not been adequately considered in the DEIS: "Evaluation of post closure water treatment is ongoing." *Id*. The agency cannot proceed to issue a Final EIS without allowing the public to comment on final treatment issues in the revised DEIS.

Allowing such perpetual pollution conditions to exist violates the Forest Service's duties to protect public resources, water quality, aquatic life, and wildlife. The Forest Service cannot approve any operations that will require long-term or perpetual treatment (e.g., water quality treatment). The potential for a financial assurance/bond to cover treatment of perpetual pollution (as noted in the DEIS) does not satisfy the agency's obligation not to approve operations that would result in such conditions in the first place.

Allowing an operation to begin that will admittedly never be fully reclaimed due to its unending need for perpetual treatment violates the Forest Service's duties to ensure the protection of public resources under the Organic Act, Minerals Policy Act of 1970, and other applicable laws.[67] Although written for coal mines, there is no reason why the Forest Service cannot adopt this requirement for Stibnite in order to comply with the Organic Act, NFMA, CWA, etc.

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[65] *Id.* at 716 (emphasis added).
[66] *Id.* at 708.
[67] *See, e.g.,* Interior Department, *Hydrologic Balance Protection, Policy Goals and Objectives on Correcting, Preventing and Controlling Act/Toxic Mine Drainage* (Mar. 31, 1997) at 5. https://www.osmre.gov/lrg/docs/amdpolicy033197.pdf ("In no case should a permit be approved if the determination of probable hydrologic consequences or other reliable hydrologic analysis predicts the formation of a post-mining pollutional discharge that would require continuing long-term treatment without a defined endpoint.") (Attached).

Under the Organic Act, NFMA, the CWA, 1970 Act, and the Part 228 regulations (as well as the Part 251/261 rules), the Forest Service cannot approve a mine that does not ensure that reclamation will be completed – i.e., a mine that will require perpetual treatment. Under the Part 228 regulations, the agency can only approve a mine that can be reclaimed. In detailing the reclamation requirements, the regulation states that the:

> [O]perator shall, where practicable, reclaim the surface disturbed in operations by **taking such measures as will prevent or control onsite and off-site damage to the environment and forest surface resources** including:
> (1) Control of erosion and landslides;
> (2) Control of water runoff;
> (3) **Isolation, removal or control of toxic materials**;
> (4) Reshaping and revegetation of disturbed areas, where reasonably practicable; and
> (5) **Rehabilitation of fisheries and wildlife habitat.**

36 CFR § 228.8(g) (emphasis added). By allowing the continuation/creation of a mine with perpetual toxic/polluted waters, the agency has violated these requirements.

As noted in the Forest Service's *Anatomy of a Mine* regulatory guidance report, reclamation is a critical and required component of a logical, complete and reasonable mining plan:

> Satisfactory reclamation should emphasize three major objectives:
> 1. The productivity of the reclaimed land should at least equal that of the premine surface. This does not necessarily mean that the site must be restored to an approximation of its original condition, or that surface uses after mining will be the same as those existing prior to mining. For example, an area used for marginal grazing prior to mining may be changed to a useful and attractive recreational complex, or perhaps in another case to a housing area.
> 2. **Satisfactory reclamation should leave the mined area in a condition that will not contribute to environmental degradation either in the form of air- or water-borne materials, or from chemical pollution.**
> 3. The reclaimed area should be esthetically acceptable and it should be safe for the uses intended.[68]

[68] U.S. Dep't of Agric., Forest Serv., *Anatomy of a Mine, From Prospect to Production* (Feb. 1995) at 68-69 (emphasis added) (General Technical Report INT-GTR-35) (Attached).

The Mining and Minerals Policy Act also mandates successful and final reclamation of mine operations approved by the Forest Service, requiring "**the reclamation of mined land, so as to lessen any adverse impact of mineral extraction and processing upon the physical environment that may result from mining or mineral activities**." 30 U.S.C. § 21a. No such plan to "lessen any adverse impact" from the creation of the polluted waters has been proposed or required in this case.

The creation of a perpetual source of contaminated water, especially one which is a direct threat to wildlife, violates the federal laws and regulations noted herein. As such, the Forest Service cannot issue a record of decision (ROD) that may involve such activities and must reject any plan of operations that does not prevent the mine water contamination. Furthermore, the Forest Service's failure to fully review, and subject the review to public comment, these water quality treatment issues violates NEPA, as discussed below.

IX. MANY SERIOUS AND UNRESOLVED CONCERNS ABOUT THE PROJECT ANALYSES WARRANT A SUPPLEMENTAL DEIS.

The DEIS is riddled with data gaps, inaccurate description of the current environmental conditions, missing but available information, among other concerns. CEQ regulations provide:

> NEPA regulations must ensure that the environmental information is available to public officials and citizens before decisions are made and before actions are taken. The information must be of high quality. Accurate scientific analysis, expert agency comments, and public scrutiny are essential to implementing NEPA.

40 C.F.R. § 1500.1 (1978). By omitting essential information and excluding the best available science, the Forest Service has failed to produce a complete DEIS that meets NEPA's mandate. Here, the DEIS "is so inadequate as to preclude meaningful analysis, the agency [must] prepare and circulate a revised draft of the appropriate portion." *Id*. Updated baseline information and further analysis is needed in a revised DEIS.

A. The DEIS improperly relies on inaccurate or incomplete baseline data.

An EIS must describe the environmental baseline of the areas to be affected. 40 C.F.R. § 1502.15. An accurate baseline is "essential" to an informed analysis. 40 C.F.R. § 1502.22. Baseline conditions are necessary to "determine what effect the project will have on the

environment" and thus to comply with NEPA.[69] "Without establishing the baseline conditions which exist . . . before [a project] begins, there is simply no way to determine what effect the [project] will have on the environment and, consequently, no way to comply with NEPA."[70]

To take the required "hard look," an EIS must provide baseline data and information on effects, and an agency cannot rely on post-approval surveys, studies, or mitigation as a substitute.[71] For example, courts have held that the Forest Service violates NEPA when it approves a mine exploration project without gathering baseline groundwater hydrology information to assess impacts of drilling before approving a project.[72] While it may be permissible in some circumstances for an agency to estimate baseline conditions–instead of conducting actual measurements–by using data from a similar area, computer modeling, or some other method, the agency's method "must be based on accurate information and defensible reasoning."[73]

As shown throughout these comments, the DEIS fails in multiple areas to gather and utilize adequate baseline data that is available or readily attainable. The most critical inadequacy is found in the inputs used for modeling the hydrologic baseline conditions, i.e., interrelationships among meteorological, surface- and ground-water, and physical and biological factors that influence the flow, quality, and/or timing of water. Important data sets were simply lacking, and other input parameters were temporally or geographically limited. *See infra*. Correctly modeling the hydrologic baseline conditions is critical because modeling of potential impacts of the mine to ground- and surface water quantity and quality, and thus impact to fisheries and other aquatic resources are highly dependent on an accurate hydrologic baseline. Without an accurate baseline, impacts can be severely underestimated.

As described further below, there are other instances where the description of the baseline conditions are woefully inadequate. The Forest Service must correct these errors by gathering and utilizing up-to-date, accurate baseline data, and must issue a revised or supplemental DEIS for public comment.

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[69] *Great Basin Res. Watch v. BLM*, 44 F.3d 1095, 1101 (9th Cir. 2016).
[70] *Half Moon Bay Fishermans' Mktg. Ass'n v. Carlucci*, 857 F.2d 505, 520 (9th Cir. 1988).
[71] *See N. Plains Res. Council v. Surface Transp. Bd.*, 668 F.3d 1067, 1083 (9th Cir. 2011).
[72] *Idaho Conservation League v. U.S. Forest Serv.*, No. 1:11-cv-00341-EJL, 2012 WL 3758161, *14 (D. Idaho Aug. 29, 2012); *Gifford Pinchot Task Force v. Perez*, No. 03:13-cv-00810-HZ, 2014 WL 3019165 (D. Or. 2014); *Idaho Conservation League v. U.S. Forest Serv.*, No. 1:16-cv-0025-EJL, 2016 WL 3814021, *10 (D. Idaho July 11, 2016); *Idaho Conservation League v. U.S. Forest Serv.*, No. 1:18-cv-504-BLW, 2019 WL 6896908 (D. Idaho Dec. 18, 2019).
[73] *Oregon Natural Desert Ass'n v. Jewell*, 840 F.3d 562, 570 (9th Cir. 2016).

B. There are several unsupported assumptions, unknowns, and changing circumstances about the Stibnite Gold Project.

As discussed already, an EIS must disclose sufficient details about each alternative to enable meaningful review of environmental effects and consideration of alternatives. Throughout the EIS and its supporting documents, the Forest Service makes numerous unsupported and unreasonable assumptions about the Stibnite Gold Project on issues that are unknown, subject to change, and/or still being decided–issues which could have major implications on the likely environmental effects, feasibility, and other factors related to each alternative, including the proposed action, and for the associated mitigation and monitoring.

For example, degraded water quality is a major concern both in the short and long term. Water quality effects will depend significantly on the CWA permitting for the mine site. But Midas Gold and the Forest Service have failed to disclose in any detail what types of CWA permits will be issued for which point sources, where those permitted point sources will be located, which standards will apply to them, and other important factors.

Additionally, as the Forest Service is aware, Midas Gold has been urging EPA to issue an Administrative Order on Consent (AOC) under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) to address numerous pollution sources at the Project site.[74] In court filings, Midas Gold has stated that it has been in active discussions with the Forest Service, State of Idaho, and others regarding the execution of an AOC for the proposed mine site, and expects EPA to issue such an AOC soon.[75] But the Forest Service fails to disclose this process or its status, and fails to consider the direct, indirect, and cumulative effects the AOC would have on each alternative and the resulting environmental effects during mining, remediation, and beyond.

The Forest Service also fails to fully disclose and fully consider the implications of an Idaho Department of Environmental Quality (IDEQ) rulemaking which is near completion and could have major implications for the Stibnite Gold Project and its likely environmental effects.[76]

The Forest Service also fails to disclose Midas Gold's pending Burntlog Route Geophysical Investigation proposal to the Forest Service. According to the scoping notice issued by the Forest Service, the Investigation is a "connected" action to the Stibnite Gold

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[74] *See* EPA Letter to Midas Gold's Council (July 7, 2020).
[75] *See* Brief in Support of Defs.' Mot. to Stay Litigation (Oct. 9, 2019); Reply in Support of Defs.' Mot. to Stay Litigation (Nov. 13, 2019).
[76] *See* Ore Processing by Cyanidation: Docket No. 58-0113-1901, DEQ, (http://www.deq.idaho.gov/58-0113-1901) (last visited Oct. 8, 2020). *See also* Idaho Rivers United Comments on Negotiated Rulemaking (July 19, 2020).

Project, and Midas Gold needs to conduct the Investigation to inform the feasibility of developing the Burntlog Road.[77] As a "connected" action, the Investigation must be considered together with the Stibnite Gold Project DEIS. *See* 40 C.F.R. § 1508.25.[78] "Connected actions" that must be considered together are actions that are "closely related and therefore should be discussed in the same impact statement," including actions that either: cannot or will not proceed unless taken previously or simultaneously; or are interdependent parts of a larger action and depend on the larger action for justification. 40 C.F.R. § 1508.25(a)(1).

Additionally, the proposed Burntlog Geophysical Investigation is another example of the Forest Service moving forward with the DEIS while Midas Gold admits it is missing information necessary to understand and evaluate its proposal and the alternatives. If this information really is essential, then the Forest Service should complete the NEPA for this geophysical investigation, Midas Gold should gather this information in a manner that protects surface resources, and then the Forest Service should consider and disclose the information in a Stibnite Gold Project supplemental DEIS for public comment.

The Forest Service also fails to fully disclose or fully consider in the DEIS that Midas Gold is exploring for additional mining opportunities at the site. For example, while the DEIS does acknowledge that Midas Gold's Golden Meadows exploration project was previously approved and suggests that it might still be underway, the Forest Service fails to explain how Midas Gold is using this exploration to identify additional mining opportunities beyond the scope of the Stibnite Gold Project as proposed and discussed in the DEIS. *See* DEIS 2-139, 3.16-16. Midas Gold's mining claims along the Burntlog Road suggest that additional mineral exploration activities may be reasonably foreseeable. If Midas does not plan to conduct any exploration or development on these sites, it is unclear if these claims are valid. The idea that additional mineral exploration and development will be occurring in one or more of these locations brings into question the overall timeline for mine closure and restoration.

Instead of rushing ahead to approve Midas Gold's mine, the Forest Service should take the time to resolve these uncertainties, or should at least disclose these uncertainties and properly factor them into the DEIS and its analyses.

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[77] Boise NF, Burntlog Route Geophysical Investigation (Feb. 2020) (Attached). *See also* ICL and IRU Comments (Mar. 2, 2020) (Attached); SSFS Comments (Mar. 1, 2020) (Attached).
[78] *See also Nw. Res. Info. Ctr. v. Nat'l Marine Fisheries Serv.*, 56 F.3d 1060, 1067 (9th Cir. 1995) ("[A]n agency is required to consider more than one action in a single EIS if they are 'connected actions,' 'cumulative actions,' or 'similar actions.'").

C. There are several instances of missing or incomplete information that are relevant to the foreseeable impacts and essential to a choice among the alternatives.

NEPA's purpose is "to foster excellent action," and the "NEPA process is intended to help public officials make decisions that are based on an understanding of environmental consequences, and take actions that protect, restore, and enhance the environment." 40 C.F.R. § 1500.1(c) (1978). To this end, an EIS must "provide full and fair discussion of significant environmental impacts." *Id.* at 1502.1 (1978).

NEPA requires that "environmental information is available to public officials and citizens before decisions are made and before actions are taken." *Id.* at 1500.1(b) (1978). In an EIS, an agency must explain its methodology and results, and include its baseline studies as an appendix for the public to review.[79]

Information disclosed during the NEPA process "must be of high quality."[80] "Accurate scientific analysis, expert agency comments, and public scrutiny are essential to implementing NEPA."[81] As the Ninth Circuit has explained:

> Congress wanted each federal agency spearheading a major federal project to put on the table, for the deciding agency's and public's view, a sufficiently detailed statement of environmental impacts and alternatives so as to permit informed decision making. The purpose of NEPA is to require disclosure of relevant environmental considerations that were given a "hard look" by the agency, and thereby to permit informed public comment on proposed action and any choices or alternatives that might be pursued with less environmental harm.[82]

"[T]he very purpose of NEPA's requirement that an EIS be prepared for all actions that may significantly affect the environment is to obviate the need for speculation by insuring that available data is gathered and analyzed prior to the implementation of the proposed action."[83] "NEPA requires that the agency provide the data on which it bases its environmental

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[79] *See* Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations, 46 Fed. Reg. 18,026, 18,033-34 (Mar. 23, 1981).
[80] *Id.*
[81] *Id.; see also Or. Natural Desert Ass'n v. Jewell*, 840 F.3d 562, 570 (9th Cir. 2016) (NEPA violation where agency's "inaccurate data and unsupported assumption materially impeded informed decisionmaking and public participation"); *Great Basin Res. Watch v. BLM*, 844 F.3d 1095 (9th Cir. 2016) (NEPA violation wehre agency failed to provide support for its selected baseline values).
[82] *Lands Council v. Powell*, 395 F.3d 1019, 1027 (9th Cir. 2005).
[83] *LaFlamme v. F.E.R.C.*, 852 F.2d 389, 400 (9th Cir. 1988).

analysis."[84] NEPA, thus, requires transparency and placing the high-quality information the agency relied on before the public, before approving a project.[85] This is true of supposedly confidential information too.[86]

As set forth in many sections in these comments, the DEIS and its supporting documents rely/depend upon missing, incomplete, confidential, low quality, and inaccurate information. As just one of many examples, the DEIS includes Table 4.1-1, titled "Incomplete and Unavailable Information." DEIS at 4.1-3–4.1-4. Table 4.1-1 identifies many areas of information the Forest Service admits either are, or at least "possibly" are, "relevant to reasonably foreseeable significant effects" and "essential to a reasoned choice among alternatives." *Id.* NEPA regulations allow an agency to proceed in the face of incomplete information, but only if that information is too costly to obtain, or the methods to obtain it are not known. 40 C.F.R. § 1502.22.

There are several instances in Table 4.1-1 where the agency claims that the information is relevant to reasonably foreseeable significant effects and is essential to a reasoned choice among alternatives, but the information is <u>not</u> too costly to obtain, and methods for obtaining it are known. In fact, the Forest service states that it has the information, but that it just didn't make it into the DEIS, and will be provided in the FEIS--when the choice among alternatives has already been made.

This is another example of the rushed nature of this DEIS, and a flat-out violation of NEPA.

The Forest Service must, therefore, gather, consider, and disclose to the public important and high quality information about the Stibnite Gold Project, the proposed alternatives, and their environmental effects in a supplemental or revised DEIS and release it for public comment before rushing ahead to approve the Project.

Additionally, in determining whether an EIS fosters informed decision-making and public participation, courts consider not only the content of an EIS, but also its form.[87] The

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[84] *N. Plains Res. Council*, 668 F.3d at 1083.

[85] *See*, *e.g.*, *Idaho Conservation League v. Lannom*, 200 F. Supp. 3d 1077, 1088 (D. Idaho 2016) (Payette National Forest violated NEPA when it concluded "internally" that mining proposal complied with law but where agency's calculus "was not shared with the public in any written analysis").

[86] *Id.* at 1089 ("The transparency that NEPA requires was ignored when [the mining company] and the Forest Service held a confidential meeting. . . . Under NEPA, the agency cannot rely on material that is kept secret from the public. . . . [T]he agency either must explain it did not rely on this confidential information or, if it did rely upon it, describe the information and how it affected the agency's decision.").

[87] *State of Cal. v. Block*, 690 F.2d 753, 761 (9th Cir. 1982).

NEPA document "is where the [agency's] defense of its position must be found."[88] To provide a "full" and "fair" discussion of environmental effects, an agency must address issues "up front" and cannot "cobble together a 'hard look' from various other analyses."[89]

Here, even when information is purportedly available, much of it is incomprehensible, or extremely burdensome to find and use. Commenters hired multiple experts to review the DEIS, who had to spend significant time to try to cobble together critical information the Forest Service relied upon in reaching its conclusions. The Forest Service must make all information available in a form suitable for public review as part a supplemental or revised DEIS released for public comment.

D. The limited temporal and geographic scales render the analyses inadequate.

"[A]n agency has the discretion to determine the physical scope used for measuring environmental impacts," so long as its choice represents a reasoned decision and is not arbitrary.[90] Similarly, an agency's discretion to determine the temporal scope of its NEPA analysis requires the agency to consider the relevant factors and provide a rational connection between the facts found and the choice made.[91] An agency must offer a "reasonable justification for why it drew the line where it did."[92]

As set forth throughout these comments, the Forest Service arbitrarily constrained the temporal and/or geographic scope of its effects analysis to omit disclosure and evaluation of significant effects caused by the Stibnite Gold Project. For example, as discussed in more detail later in these comments, data collected to model baseline conditions is limited to small areas of the mine site and are spatially-biased. *See infra*..

The scope of the effects analyses are also geographically limited. For example, the DEIS geographically constrains its considerations of transportation of workers and materials and the effects to locations within the mine site and in the immediate haul route, but did not consider impacts of mine-related traffic being transported through local communities within Valley County or from point of origin locations of mine-related hazardous chemicals and supplies.

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[88] *Or. Natural Desert Ass'n v. Rose*, 921 F.3d 1185, 1191 (9th Cir. 2019).
[89] *See Nat'l Parks & Conservation Ass'n v. BLM*, 606 F.3d 1058 (9th Cir. 2010) (NEPA violation where "[a] reader seeking enlightenment on the issue would have to cull through entirely unrelated sections of the EIS and then put the pieces together."). *See also Blue Mountains Biodiversity Project v. Blackwood*, 161 F.3d 1208, 1216 (9th Cir. 1998) ("NEPA emphasizes the importance of coherent and up-front environmental analysis to ensure informed decisionmaking").
[90] *Idaho Sporting Cong. v. Rittenhouse*, 305 F.3d 957, 973 (9th Cir. 2002).
[91] *Selkirk Conservation All. v. Forsgren*, 336 F.3d 944, 962 (9th Cir. 2003).
[92] *Friends of the Wild Swan v. Weber*, 767 F.3d 936, 944 (9th Cir. 2014).

See infra. The effects analyses for many resources are restricted to the local mine site, despite inclusion of colorful maps in the DEIS labeled as the "analysis area." *See, e.g.*, *infra*..

Temporal data is also limited. As discussed below, consideration of meteorological events are limited to monthly timesteps, when more refined weekly or even daily timesteps are required. *See infra*. Stream temperatures are, in fact, regularly recorded hourly and the Forest Service is capable of making similar estimates in their modeling.

Geographical and temporal limitations in the effects analyses can result in both underestimated and unrealized significant impacts that will not be disclosed in the DEIS. The Forest Service/Midas Gold must expand the geographic and temporal scales of the analyses and disclose the potential impacts in a supplemental DEIS for public review.

E. The DEIS fails to include essential information and project designs without explanation.

The DEIS completely omits critical information for the evaluation of the impacts of the Stibnite Gold Project. Some of these items include:

- An analysis under the CWA 404(b)(1) guidelines;
- A detailed reclamation plan;
- A description of financial assurances or bonding;
- A Development Rock/Waste Rock Management Plan;
- An Environmental Legacy Management Plan;
- An Economic Feasibility Study [???];
- A Fugitive Dust Control Plan.

This reliance on future studies and design plans violated NEPA, as NEPA's entire purpose is to ensure that environmental considerations are taken into account *before* a decision is reached. The Forest Service should have obtained--and Midas Gold should have provided--all this information before issuance of the DEIS. Without the missing information, the Forest Service and the public cannot assess the full impacts of the project or meet the basic requirements of NEPA.

F. There are significant changed circumstances since the DEIS was released that require preparation of a supplemental DEIS.

NEPA requires preparation of a supplemental EIS if there are "significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts." 40 C.F.R. § 1502.9(c)(ii) (1978).[93]

As of September 28, 2020, the lightning-caused Buck Fire is currently burning approximately seven miles south of Yellow Pine, ID. As of September 28, the fire was 19,474 acres in size and 33 percent contained.[94] The fire has already burned areas that are part of the Stibnite Gold Project area, including parts of the Burntlog Road and other areas.[95]

Fire, firefighting, and post-fire activities can have significant impacts on baseline conditions and environmental effects of projects, like the Stibnite Gold Project. Among other concerns, the fire alters forest, plant, fish, and wildlife baseline conditions and the Stibnite Gold Project's effects along and around the Burntlog Road and other mine infrastructure corridors, and significantly affects the feasibility, safety, siting, and comparative value of constructing and using the Burntlog Road compared to other alternatives.

The effects of the fire may lead to snags which could pose as hazard trees, increased risk of landslides, increased sedimentation, changes in the distribution of botanical resources, increased avalanche impacts, and changes to a variety of watershed condition indicators and effects on fish. Fire suppression efforts such as dozer lines and hand lines can affect resources. Mine-related road construction, quarrying, and use will have significant impacts on the Burntlog area. The Forest Service needs to assess the combined effects of the fire and road construction. These effects could include additional snag removal to remove hazard trees, greater sedimentation from road construction activities since the soil will be more vulnerable to erosion, increased water yield affecting the ability of culverts to function, increase risk of landslides due to the deterioration of tree roots, different use of the area by wildlife, increased interest in commercial and recreational mushroom gathering in the area, and downstream impacts on listed fish species based on these impacts.

These changed circumstances in areas surrounding the Burntlog Road are alone significant changed circumstances requiring a supplemental DEIS for public comment, and as

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[93] *See Idaho Conservation League v. U.S. Forest Serv.*, 2016 WL 3814021, No. 1:16-cv-00025-EJL (D. Idaho July 11, 2016) (Forest Service violated NEPA when it failed, before approving mine exploration, to resurvey baseline plant populations and habitat conditions after "changed circumstances" caused by recent wildfire and fire-fighting activities).
[94] *See* InciWeb, FINAL Buck Fire Update (Sept. 28, 2020) (Attached).
[95] *See id.*

the fire continues to burn and spread, baseline conditions and potential effects will be only further altered in the Burntlog Road area and possibly beyond to other areas of the project.

NEPA requires informed public comment "on proposed actions and any choices or alternatives that might be pursued with less environmental harm."[96] The Forest Service must, therefore, account for the effects of the Buck Fire in a supplemental DEIS and issue it to the public for review. The supplemental DEIS must not only include updated baseline information and effects analysis, but must also include appropriate project modifications and additional mitigation measures.

G. The structure of and terminology used in the DEIS is misleading to the reader.

Typical DEISs are structured so that the No Action Alternative is identified as Alternative 1, which makes it easy for the public to compare the environmental effects of the other alternatives with the no action alternative. With regard to the Stibnite Gold DEIS, Alternative 1 is the original Plan of Operations (also known as the PRO) and would have impacted 3,533 acres. Alternative 5 is the no action alternative to be used for comparison purposes. Partway through the development of the DEIS, it was discovered that Alternative 1, would have greater negative environmental effects on stream temperature, stream flow, and water quality than originally anticipated. The alternative would lead to both extensive water contamination and more expensive control measures to manage the pollution. As a result, Midas Gold is no longer promoting Alternative 1 and instead developed Alternative 2, also known as the MODPRO, and is promoting it as its preferred alternative. This alternative includes several changes designed to avoid, minimize and mitigate some of the most negative effects that would have resulted from implementation of Alternative 1. However, Alternative 2 still involves the same basic mine plan with three open pits, waste rock dumps and a tailings storage facility and would disturb 3,423 acres.

Whenever the Forest Service seeks to compare the alternatives, the DEIS leads with the impacts of Alternative 1 and is followed by the impacts of Alternative 2. Because Alternative 1 was found to have numerous undesirable effects, several descriptors of Alternative 2 state that the effects will be less than Alternative 1 without making the comparison with Alternative 5, where the negative impacts are often far less than any of the action alternatives. For example, page 16 of the Technical Memorandum for the Stibnite Gold Project Chinook Salmon Flow-productivity Analysis, states that "When comparing Alternative 2 to Alternative 1 (Table 5), the differences are mainly positive (i.e., productivity would be higher under Alternative 2). The differences show that Alternative 2 has a higher productivity (more positive values) when compared to Alternative 1 for all reaches except for Lower Meadow Creek SFA reach MC-6 in

[96] *Lands Council v. Powell*, 395 F.3d 1019, 1027 (9th Cir. 2005).

Years -2 through 6 (Table 5). Consequently, Alternative 2 would be better for Chinook productivity (positive differences in productivity in Table 5) for all sites, based on average annual change in productivity during the mine life." This analysis only compares Alternatives 1, 2 and 3 and states that "it provides a relative measure of the effect of modified stream flows on Chinook salmon productivity under each alternative." This technical memorandum does not even include the No Action Alternative as part of this comparison, in violation of NEPA.

Where negative impacts of Alternatives 1 and 2 are the same, many sections about Alternative 2 simply state that the effects are the same as Alternative 1, which forces the reader to go back and attempt to locate the relevant section.

Point blank, the structure of this DEIS and comparison of other alternatives with Alternative 1 rather than the No Action Alternative is, at best, misleading. We recommend that the Forest Service develop a supplemental DEIS in which Alternative 5, the No Action Alternative, is described first and all other alternatives are described in comparison to Alternative 5. Furthermore, descriptions of the effects of each alternative should stand alone and not refer the reader to text on another page.

Additionally, some of the terminology in the DEIS is misleading. While we appreciate the use of the term "Plan of Operations" as opposed to the "Plan of Restoration and Operations" as it more accurately reflects the project impacts and environmental results, the DEIS deceptively refers to waste rock piles as "Development Rock Storage Facilities." We believe that waste rock is a more accurate and transparent term for these structures and development rock is more related to public relations branding. The term waste rock appears regularly in glossaries of mining terms while development rock does not. The supplemental DEIS should replace the term "development rock storage facilities" with "waste rock dumps."

X. THE DEIS LACKS ANALYSIS OF CWA 404(b)(1) GUIDELINES

In addition to the above comments addressed to the Forest Service and the Corps, the following additional comments pertain more directly to the Corps' review of Midas Gold's application for a CWA Section 404 permit, although they should be considered by the Forest Service too, as the Forest Service cannot authorize any activities that could violate the CWA or other federal or state laws/regulations.

Congress enacted the CWA in 1972, to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters." 33 U.S.C. § 1251(a). The Act sets several goals, including attainment and preservation of "water quality which provides for the protection and propagation of fish, shellfish, and wildlife . . . ." *Id.* § 1251(a)(2). To further its goals, the Act prohibits "discharge of any pollutant" into navigable waters except in accordance with the CWA terms. *Id.* § 1311(a).

The Corps issues permits for the discharge of dredged or fill material pursuant to section 404 and subject to the Corps' and EPA's 404(b)(1) Guidelines (Guidelines). 33 U.S.C. § 1344; 40 C.F.R. pt. 230. Corps regulations governing the issuance of Section 404 permits declare that "[m]ost wetlands constitute a productive and valuable public resource, the unnecessary alteration or destruction of which should be discouraged as contrary to the public interest." 33 C.F.R. § 320.4(b)(1); *see also id.* § 320.4(b)(2) (identifying eight types of wetland functions important to the public interest).

The Corps' and EPA's 404(b)(1) Guidelines impose important limitations on the Corps' ability to issue a Section 404 permit. 40 C.F.R. pt. 230. The Corps must ensure compliance with the 404(b)(1) Guidelines before issuing a permit. The Guidelines impose important limitations on when a Section 404 permit may be issued. *Id.* The Guidelines prohibit the permitting of any discharge of dredged or fill material: (1) if there is a practicable alternative to the proposed discharge; (2) if the discharge causes or contributes to violations of applicable state water quality standards; (3) if the discharge will cause or contribute to significant degradation of the environment; or (4) unless all appropriate steps have been taken to minimize potential adverse impacts. *Id.* § 230.10. The 404(b)(1) Guidelines provide that significant adverse effects on human health or welfare; aquatic life and other water dependent wildlife; aquatic ecosystem diversity, productivity, and stability; or recreational, aesthetic, and economic values are effects contributing to significant degradation. *Id.* § 230.10(c)(1)–(4). These factors both individually and cumulatively must be considered when evaluating the specific details of the 404 application.

The Corps cannot authorize a discharge without "sufficient information to make a reasonable judgment as to whether the proposed discharge will comply with [the Section 404(b)(1)] Guidelines." *Id.* § 230.12(a)(3)(iv); *see* 33 C.F.R. §§ 320.2(f) and 320.4(a)(1). EPA notes that:

> the record must contain sufficient information to demonstrate that the proposed discharge complies with the requirements of Section 230.10(a) of the Guidelines. The amount of information needed to make such a determination and the level of scrutiny required by the Guidelines is commensurate with the severity of the environmental impact (as determined by the functions of the aquatic resource and the nature of the proposed activity) and the scope/cost of the project.[97]

[97] *See* Environmental Protection Agency, *Memorandum: Appropriate Level of Analysis Required for Evaluating Compliance with the Section 404(b)(1) Guidelines Alternatives Requirements*, https://www.epa.gov/cwa-404/memorandum-appropriate-level-analysis-required-evaluating-compliance-section-404b1 (Attached).

As discussed herein, the proposed discharge does not comply with the 404(b)(1) Guidelines. Pursuant to the Guidelines, no discharge of dredged or fill material shall be permitted if, among other things, a practicable alternative to the proposed discharge would have less of an adverse impact on the aquatic ecosystem. 40 C.F.R. § 230.10. The Corps also cannot authorize any discharge of dredged or fill material that will cause or contribute to significant degradation of the waters of the United States. *Id.* § 230.10(c). The "degradation or destruction of special aquatic sites, such as filling operations in wetlands, is considered to be among the most severe environmental impacts covered by the[] Guidelines." *Id.* § 230.10(d).

Under the 404(b)(1) guidelines, the Corps is required to consider the following effects, individually and collectively, that contribute to significant degradation:

> (1) Significantly adverse effects of the discharge of pollutants on human health or welfare, including but not limited to effects on municipal water supplies, plankton, fish, shellfish, wildlife, and special aquatic sites.
> (2) Significantly adverse effects of the discharge of pollutants on life stages of aquatic life and other wildlife dependent on aquatic ecosystems, including the transfer, concentration, and spread of pollutants or their byproducts outside of the disposal site through biological, physical, and chemical processes;
> (3) Significantly adverse effects of the discharge of pollutants on aquatic ecosystem diversity, productivity, and stability. Such effects may include, but are not limited to, loss of fish and wildlife habitat or loss of the capacity of a wetland to assimilate nutrients, purify water, or reduce wave energy; or
> (4) Significantly adverse effects of discharge of pollutants on recreational, aesthetic, and economic values.

Id. § 230.10(c). As shown throughout these comments, the proposed mine will violate these requirements and thus a 404 permit cannot be issued.

The Corps is required to base this determination on factual determinations, evaluations, and tests required under the guidelines, and to focus, in particular, on the persistence and permanence of the effects. *Id.* The Guidelines require the Corps to make certain factual determinations addressing the potential short-term or long-term effects of a proposed discharge of dredged or fill material on the physical, chemical, and biological components of the aquatic environment. This includes determinations on (a) physical substrate; (b) water circulation, fluctuation, and salinity determinations; (c) suspended particulate/turbidity determinations; (d) contaminant determinations; (e) aquatic ecosystem and organism determinations; (f) proposed disposal site determinations; (g) determinations of

cumulative effects on the aquatic ecosystem; and (h) determinations of secondary effects on the aquatic ecosystem. *Id.* § 230.11(a)–(h).

When a project is not "water dependent," as in the case of the mine, and the project would fill "special aquatic sites," including wetlands, the Corps' regulations create a rebuttable presumption that there are practicable and environmentally preferable alternatives, and such alternatives are presumed to have less adverse impact unless "clearly demonstrated" otherwise. 40 C.F.R. § 230.10(a)(3).[98] This substantive requirement mandates the Corps to select the least environmentally damaging practicable alternative (LEDPA).

An alternative is practicable "if it is available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes." 40 C.F.R. § 230.10(a)(2). Practicable alternatives include "activities which do not involve a discharge of dredged or fill material," as well as "discharges of dredged or fill material at other locations" where such discharges would result in fewer impacts to the aquatic environment. § 230.10(a)(1). The applicant has the burden of demonstrating that no feasible alternative exists, and the Corps must engage in a reasoned analysis of this issue.[99]

The Corps cannot blindly and uncritically accept an applicant's study of alternatives and its assertions that no practicable alternative exists.[100] Under the regulations, any "practicable" alternative to achieve the basic and overall project purposes must be determined to be cost-effective, when viewed from the perspective of the industry as a whole. The financial circumstances of a particular applicant are not considered relevant if an alternative could be achieved practicably by a "typical" applicant. The preamble to the 404(b)(1) regulations states: "Our intent is to consider those alternatives which are reasonable in terms of the overall scope/cost of the proposed project. The term economic might be construed to include consideration of the applicant's financial standing, or investment, or market share, a cumbersome inquiry which is not necessarily material to the objectives of the Guidelines. We consider it implicit that, to be practicable, an alternative must be capable of achieving the basic purpose of the proposed activity."[101]

But the least environmentally damaging practicable alternative need not be the least-costly, nor the most profitable.[102] The regulations presume that less environmentally damaging alternatives are available to the applicant and practicable, unless the applicant clearly

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[98] *Sierra Club v. Flowers*, 423 F. Supp. 2d 1273, 1352 (S.D. Fla. 2006).
[99] *Id.* at 1356–57.
[100] *Friends of the Earth v. Hintz*, 800 F.2d 822, 835–36 (9th Cir. 1986).
[101] 45 Fed. Reg. 85,339 (Dec. 24, 1980).
[102] *La. Wildlife Fed'n v. York*, 761 F.2d 1044, 1048 (5th Cir. 1985) (noting that the Corps had properly chosen "alternatives that reduced both the applicants' profit and the economic efficiency of their proposed operations in order to preserve other environmental values").

demonstrates otherwise. In the absence of such a clear showing, the Corps is required to deny the permit application. *See* 40 C.F.R. § 230.12(a)(3)(i), (iv). Thus, in this case, the preferred tailings location in Skunk Camp does not comply with these requirements.

To ensure the mandatory CWA requirements are satisfied, the Corps must evaluate the direct, secondary, and cumulative impacts of the activity on a number of resources. *See, e.g.*, 33 C.F.R. §§ 320.4(a)(1), 336.1(c)(5) (endangered species), 336.1(c)(8) (fish and wildlife); 40 C.F.R. §§ 230.11(a)-(h), 230.20-23 (aquatic ecosystem), 230.53 (aesthetics). The EPA Guidelines require the Corps to make detailed factual determinations regarding the individual and collective effects associated with the discharge activity, and "no discharge of dredged or fill material shall be permitted which will cause or contribute to significant degradation of the waters of the United States." 40 C.F.R. §230.10(c). "Findings of significant degradation related to the proposed discharge shall be based upon appropriate factual determinations, evaluations, and tests required by subparts B and G ..., with special emphasis on the persistence and permanence of the effects outlined in those subparts." *Id.*

The "factual determinations, evaluations, and tests" mandated in subpart B include Section 230.11, which requires that "[t]he determinations of effects of each proposed discharge shall include the following:

> (h) *Determination of secondary effects on the aquatic ecosystem.*
> (1) **Secondary effects are the effects on an aquatic ecosystem that are *associated with a discharge* of dredged or fill materials, but do not result from the actual placement of the dredged or fill material.** Information about secondary effects on aquatic ecosystems shall be considered prior to the time final section 404 action is taken by permitting authorities.
> (2) . . . Activities to be conducted on fast land created by the discharge of dredged or fill material in waters of the United States may have secondary impacts within those waters which should be considered in evaluating the impact of creating those fast lands.

40 C.F.R. §230.11(h)(emphasis added). The Guidelines also require the Corps to "control runoff and other discharges from activities to be conducted on the fill." *Id.* § 230.77(a).

Thus, the secondary effects that the Corps is required to consider are not limited in time or space to just the initial discharge. Rather, they encompassed all activities and impacts "associated with" the fill activities. Furthermore, "[f]undamental to these Guidelines is the precept that dredged or fill material should not be discharged into the aquatic ecosystem, unless it can be demonstrated that such a discharge will not have an unacceptable adverse impact **either individually or in combination with known and/or probable impacts of**

other activities affecting the ecosystems of concern." 40 C.F.R. § 230.1(c)(emphasis added).

Indeed, according to the regulatory preamble to EPA's promulgation of the 404(b)(1) Guidelines: "in authorizing a discharge which will create fast lands the permitting authority should consider in addition to the direct effects of the fill itself the effects on the aquatic environment of any reasonably foreseeable activities to be conducted on that fast land."[103] And, regarding the "factual determinations" in § 230.11 (including secondary effects in 230.11(h)), EPA stated: "in response to many comments, we have moved the provisions on cumulative and secondary impact to the Factual Determination section to give them further emphasis. We agree that such impacts are an important consideration in evaluating the acceptability of a discharge site."[104]

In another rulemaking implementing the CWA, the Corps and EPA reiterated that the Corps' must fully consider the indirect/cumulative impacts as well as direct impacts from the discharge itself:

> EPA's long-standing interpretation of Section 404, as reflected in the Section 404(b)(1) Guidelines, demonstrates that EPA and the Corps are not limited to considering solely the environmental effects of the discharge itself. The Guidelines expressly require consideration of "secondary effects," which are defined as:
>
> > effects on an aquatic ecosystem that are associated with a discharge of dredged or fill materials, but do not result from the actual placement of the dredged or fill material.

40 CFR § 230.11(h).

EPA and the Corps believe that considering the primary and secondary effects of a discharge is clearly consistent with the language and intent of Section 404 to ensure protection of the aquatic system from effects associated with the discharge of dredged and fill material.[105]

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[103] 45 Fed. Reg. 85,336, 85,340-41 (Dec. 24, 1980).
[104] *Id.* at 85,343.
[105] 58 Fed. Reg. 45,008, 45,012 (Aug. 25, 1993). Although that rulemaking focused on whether "incidental fallback" from activities should be considered a "discharge of fill material" (not at issue in this case), and not on the scope of review for secondary effects, both agencies detailed their position on secondary effects "to help the public understand how we administered the Section 404 program generally." *Id.* at 45,012.

The agencies highlighted the Tenth Circuit's decision in *Riverside Irrigation Dist. v. Andrews*:[106]

> In this case, the Corps denied nationwide permit coverage for the construction of a dam, the operation of which would have resulted in depleted stream flows that would adversely affect habitat of an endangered species. **Even though the discharge of fill material itself to construct the dam would not have had an adverse impact, the court held that the CWA authorized the Corps to consider the total environmental impact of the discharge, including indirect effects such as the impact of the operation of the dam on flows downstream and associated wildlife impacts.**[107]

The court in *Riverside* concluded that "the Corps was required to consider all effects, direct and indirect, of the discharge for which authorization was sought."[108]

Additional courts have acknowledged the Corps' duty to consider secondary and cumulative effects resulting from issuance of a 404 permit. In *Greater Yellowstone Coalition v. Flowers*, the Tenth Circuit upheld a Corps 404 permit in part because of the Corps' analysis of the "upland aspects" of the entire development, not just the limited direct impact of the fill itself: "the Corps' §404(b)(1) analysis should, and we believe did, take into account the impact of the Canyon Club development as a whole on bald eagle nesting and foraging habitat."[109] The court highlighted the Corps' requirement to consider the impacts on the "aquatic ecosystem," which includes "habitat for interrelated and interconnecting communities and populations of plants and animals."[110]

In confirming the need to consider the adverse impact of the "development as a whole" on wildlife habitat and species, the court further found that: "A discharge of dredged or fill material may adversely affect these species either by directly impacting these [wildlife habitat] elements, [citing §230.30(b)(2)], or by '*facilitating incompatible activities*,' *id*., § 230.30(b)(3)."[111] For the Stibnite Gold Project, there is no question that issuance of the 404 Permit "facilitates incompatible activities" of the mine's construction and operations, which will adversely affect wildlife and habitat.

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[106] 758 F.2d 508 (10th Cir. 1985).
[107] 58 Fed. Reg. 45,012 (emphasis added).
[108] 758 F.2d at 513.
[109] 359 F.3d 1257, 1272 n.15 (10th Cir. 2004).
[110] *Id.* quoting 40 C.F.R. § 230.3(c).
[111] *Id.* (emphasis supplied by court).

In *Sierra Club v. Van Antwerp*,[112] the plaintiffs challenged the issuance of Section 404 permits to limestone mining companies. In order to determine whether the permitted activities would cause or contribute to "significant degradation" of the aquatic ecosystem, "[t]he Court must decide whether the Corps considered, as required by the CWA and implementing regulations, as well as NEPA, the significant adverse effects on municipal water supplies (which were a reasonably foreseeable result of the mining)."[113]

In *Sierra Club v. U.S. Army Corps of Engineers*,[114] the plaintiffs challenged the issuance of a 404 permit for a stretch of new highway. The court relied on the "secondary effects" analysis requirements in 40 C.F.R. § 230.11(h), and the "cumulative effects" determinations in § 230.11(g), to find that the Corps failed to consider the "reasonably foreseeable development" and cumulative effects on the nearby operation of a dam and associated water flow conditions.[115]

The same was true in *Fox Bay Partners v. U.S. Corps of Engineers*,[116] where the court upheld the Corps' denial of a 404 permit for a commercial marina. The court relied on §230.11(h) and § 230.10(c) to find that "the Corps must look not only at the direct effects of a discharge but also at the indirect effects."[117] There, even though "[n]o one claims that the proposed fill or construction [of a marina boat ramp] itself will cause a significant degradation of the waters of the Fox River and Chain-O-Lakes," the court found that the Corps properly considered the degradation that would result from increased boat traffic on the river and lakes that would result from building the boat ramp.[118]

The court's analysis in *Sayler Park Vill. Council v. U.S. Army Corps of Engineers*,[119] is also applicable here, as the court enjoined the upland development associated with a 404 permit for a barge facility on the Ohio River, where "the upland portion . . . would be practically useless without the water-based portion" and the upland development would have potential adverse visual effects on nearby historic properties. The court highlighted the need for an injunction of the entire project, including the upland portion, as "Federal courts have recognized that both economic pressure and regulatory inertia may substantially and improperly impact the decision-making of a federal agency."[120]

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[112] 709 F. Supp. 2d 1254 (S.D. Fla. 2009).
[113] *Id.* at 1270.
[114] 2012 WL 13040281 (S.D. Tex. 2012).
[115] *Id.* at *18-19 ("Federal Defendants do not dispute that the Corps was required to consider the cumulative impacts at Addicks [the nearby dam] under the CWA and the 404 Guidelines.").
[116] 831 F.Supp. 605 (N.D. Ill. 1993).
[117] *Id.* at 609.
[118] *Id.*
[119] 2003 WL 22423202 (S.D. Ohio 2003).
[120] *Id.*

In *Save Our Sonoran v. Flowers*,[121] a case challenging a 404 permit, the court upheld a preliminary injunction against the entire development, despite the fact that the actual acreage of the waters of the United States (WOTUS) discharge was limited. There, the Corps failed to review the impacts from the project as a whole, focusing only on the limited direct impacts from the fill discharge. "[B]ecause the uplands are inseparable from the washes, the district court was correct to conclude that the Corps' permitting authority, and likewise the court's authority to enjoin development, extended to the entire project."[122]

> Because this project's viability is founded on the Corps' issuance of a Section 404 permit, the entire project is within the Corps' purview. *SOS* makes this clear. 408 F.3d at 1124. In *SOS,* we affirmed an injunction barring any development pending adequate environmental review. We did so "[b]ecause no development could occur without impacting jurisdictional waters."[123]

The Corps cannot issue a 404 permit if it "would be contrary to the public interest." 33 C.F.R. § 320.4(a)(1). This requires the Corps to consider "the probable impacts" of a proposed project on "[a]ll factors which may be relevant to the proposal[,] including the cumulative effects." *Id.* "Evaluation of the probable impact which the proposed activity may have on the public interest requires a careful weighing of all those factors which become relevant in each particular case." *Id.*

> All factors which may be relevant to the proposal must be considered including the cumulative effects thereof: among those are conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shore erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership and, in general, the needs and welfare of the people. *Id.*

The Corps must fully consider the impacts from the entire mine in making its public interest determination. "To require [the Corps] to ignore the indirect effects that would result from its actions would be to require it to wear blinders that Congress has not chosen to impose."[124] In addition to the above-analyzed cases, the Ninth Circuit has recognized the Corps' duty to consider these impacts in order to ensure that issuance of the 404 permit is in

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[121] 408 F.3d 1113 (9th Cir. 2003).
[122] *Id.* at 1124; *see also White Tanks Concerned Citizens v. Strock*, 563 F.3d 1033 (9th Cir. 2009).
[123] *White Tanks Concerned Citizens*, 563 F.3d at 1042 (quoting *Save Our Sonoran*).
[124] *Riverside*, 758 F.2d at 512.

"the public interest." In *Ocean Advocates*, after finding that the Corps failed to consider the cumulative impacts from increased shipping traffic resulting from the issuance of a 404 permit for an oil refinery dock, the court noted that upon remand and consideration of these effects, "the Corps may impose conditions on **the operation** of permitted terminals at any time 'to satisfy legal requirements or to otherwise satisfy the public interest.' 33 C.F.R. § 325.4(a)."[125]

In *Clatsop Residents Against Walmart v. U.S. Army Corps of Engineers*,[126] the court upheld a Corps 404 permit needed to construct a Walmart, including the Corps' public interest review, because the Corps had "balanced the 'benefits which reasonably may be expected to accrue from the proposal . . . against its reasonably foreseeable detriments.' 33 C.F.R.§ 320.4(a)(1)," which included the potential indirect detrimental effects of the Walmart "on small businesses."[127]

The same was true in *Greater Yellowstone Coalition*,[128] discussed above, where the Corps successfully argued to the court that it properly considered the impacts of the "development as a whole" on wildlife and habitat, not just impacts from the fill itself. The Corps had argued that the impacts of a proposed project "beyond those associated with the proposed discharge into waters of the United States – such as the environmental impacts of upland aspects of the overall project – are for the most part meant to be addressed . . . through the Corps' public interest review," and that the Corps had "thoroughly considered and addressed the impacts on bald eagles from upland aspects of the proposed Project as part of its public interest and NEPA reviews."[129]

If the Corps properly considered in its public interest determinations these larger regional cumulative effects to wildlife from the golf course development in *Greater Yellowstone*, and on the regional economy and traffic resulting from the Walmart project in *Clatsop*, then it certainly must consider the cumulative and indirect impacts from construction and operation of the Stibnite Gold Project and all associated facilities and impacts – impacts that show the mine/project is not in the public interest and thus the 404 permit cannot be issued.

The 404(b)(1) Guidelines also prohibit the Corps from issuing a 404 permit "unless appropriate and practicable steps have been taken which will minimize potential adverse impacts of the discharge on the aquatic ecosystem." 40 C.F.R. § 230.10(d). Those seeking a 404 permit must mitigate the impacts of the proposed dredge and fill activities by "avoiding,

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[125] 402 F.3d at 871 (emphasis added).
[126] 735 Fed. App'x 909 (9th Cir. 2018).
[127] *Id.* at 912; see also Corps' brief in *Clatsop*, 2017 WL 1757558, **45-46 (noting that the Corps' public interest determination considered the potential indirect effects of the Walmart, including adverse impacts on smaller businesses and traffic).
[128] 359 F.3d at 1272 n.15.
[129] Corps/Appellee's brief to Tenth Circuit, 2003 WL 23723859, *34.

minimizing, rectifying, reducing, or compensating for resource losses." 33 C.F.R. § 320.4(r)(1). The purpose of the compensatory mitigation program is to "offset unavoidable impacts to waters of the United States authorized through" 404 permits. 40 C.F.R. § 230.9l(a)(l). *See also Id.* § 230.93(a). Mitigation is required for "significant resource losses which are specifically identifiable, reasonably likely to occur, and of importance to the human or aquatic environment." 33 C.F.R. § 320.4(r)(2). These adverse effects to aquatic resource functions, whether direct or indirect, must be mitigated. *Id.*; 40 C.F.R. § 230.93(a).

Additionally, under NEPA, an EIS must: (1) "include appropriate mitigation measures not already included in the proposed action or alternatives," 40 C.F.R. §1502.14(f), and (2) "include discussions of: . . . Means to mitigate adverse environmental impacts (if not already covered under 1502.14(f))." 40 C.F.R. § 1502.16(h). "All relevant, reasonable mitigation measures that could improve the project are to be identified, even if they are outside the jurisdiction of the lead agency or the cooperation agencies. . ."[130]

As part of reviewing and approving the mitigation plan, Corps regulations require that Resolution provide "financial assurance" to cover mitigation costs: "(n) *Financial assurances.* (1) The district engineer shall require sufficient financial assurances to ensure a high level of confidence that the compensatory mitigation project will be successfully completed, in accordance with applicable performance standards. . . ." 33 C.F.R. § 332.3(n). "The rationale for determining the amount of the required financial assurances must be documented in the administrative record for either the DA permit or the instrument." 33 C.F.R. § 332.3(n)(2).

"The final mitigation plan must include the items described in paragraphs (c)(2) through (c)(14) of this section.. . ." 33 C.F.R. § 332.4(c)(1)(i). Item (c)(13) is "Financial assurances." 33 C.F.R. § 332.4(c)(13). The mitigation plan must include: "A description of financial assurances that will be provided and how they are sufficient to ensure a high level of confidence that the compensatory mitigation project will be successfully completed, in accordance with its performance standards (see §332.3(n))." *Id.* § 332.4(c)(13). *See also id.* § 332.3(k)("permit conditions . . . must . . .(iv) Describe any required financial assurances or long-term management provisions for the compensatory mitigation project, unless they are specified in the approved final mitigation plan.").

"[T]he district engineer must assess . . . the costs of the compensatory mitigation project." 40 C.F.R. § 230.93(a)(1). "District engineers must document the analysis used to

[130] Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations, 46 Fed. Reg. 18,026, 18,031 (Mar. 23, 1981).

determine the amount of the financial assurance, and must include this analysis in the administrative records for their permits."[131]

XI. THE DEIS FAILS TO COMPLY WITH NFMA

A. The project is not consistent with the Payette and Boise Forest Plans.

The Draft EIS fails to comply with all of the requirements of the Payette and Boise Forest Plans in violation of the National Forest Management Act (NFMA), 16 U.S.C. § 1601 *et seq.* Congress enacted NFMA in 1976 to establish a new legal framework for managing natural resources on National Forest lands. Among other requirements, NFMA requires the Forest Service to prepare a land and resource management plan, or "forest plan," for each National Forest. 16 U.S.C. § 1604(a). Each plan must include standards and guidelines for how the forest shall be managed. 16 U.S.C. §§ 1604(c), (g)(2) & (g)(3). Once a forest plan is adopted, all resource plans, permits, contracts, and other instruments for use of the lands must be consistent with the plan. 16 U.S.C. § 1604(i). "It is well-settled that the Forest Service's failure to comply with the provisions of a Forest Plan is a violation of NFMA."[132] Failing to follow, or to evaluate and document compliance with, a Forest Plan provision can also be a NEPA violation.[133]

The Forest Plans for the Payette and Boise National Forests that apply to the Stibnite Gold Project set forth numerous standards, guidelines, goals, and objectives to protect the environment. *See* DEIS, p. 4.1-20. However, the Stibnite Gold Project, as proposed for approval, fails to comply with many Forest Plan provisions, and the Forest Service has failed to explain how the Project complies with many other Forest Plan provisions in violation of NFMA and NEPA.

While the Forest Service has proposed four amendments to the Forest Plan, these amendments do not cure the many NFMA violations and related NEPA violations. First, the

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[131] Guidance on the Use of Financial Assurances, and Suggested Language for Special Conditions for Department of the Army Permits Requiring Performance Bonds 2 (February 14, 2005) (Regulatory Guidance Letter No. 05-1) (Attached).

[132] *Native Ecosystems*, 418 F.3d at 961. *See alsoIdaho Conservation League v. U.S. Forest Serv.*, No. 1:16-cv-0025-EJL, 2016 WL 3814021 at *17 (D. Idaho, Jul. 11, 2016) (Forest Service violated NFMA by approving mine exploration without following Boise Forest Plan standard and guideline to identify sensitive plant occurrences and habitat and conduct up-to-date surveys).

[133] *See ONDA v. BLM*, 625 F.3d 1092, 1110–11 (9th Cir. 2010) (NEPA analysis must include "considerations made relevant by the substantive statute driving the proposed action"). *See also Westlands Water Dist. v. United States Dept. of Interior*, 376 F.3d 853, 866 (9th Cir. 2004) ("When an action is taken pursuant to a specific statute, the objectives of that statute serve as a guide by which to determine the reasonableness of alternatives" examined under NEPA).

amendments themselves are unlawful, as set forth in section XI.B below. Second, even if lawful, the four amendments do not address or cover many ways in which the Stibnite Gold Project is, likely is, or may be inconsistent with the Forest Plans.

When reviewing Midas Gold's proposal, the Forest Service recognized that approving it would violate numerous Forest Plan standards, guidelines, and other provisions, and that approving it might violate many, many more provisions.[134] The Forest Service's draft Forest Plan consistency table from July 2019 identifies *roughly 175 different Forest Plan provisions* that apply to the Stibnite Gold Project, but which either the Forest Service determined would not be met or was unsure whether they would be met. *See id.* But the Forest Service fails to acknowledge this in the DEIS. Instead, Appendix A to the DEIS, titled "Forest Plan Consistency and Land and Resource Management Plan Amendments", merely glosses over these Forest Plan consistency issues in one and a half pages. DEIS, App. A, pp. A-1 - A-2. Instead of disclosing anything about the agency's initial concerns that Midas Gold's proposal could violate nearly 200 Forest Plan provisions, the Forest Service simply says: "Additional information on the consideration of Forest Plan consistency, including guidelines, is contained in the Project Record." *Id.* This failure to disclose and consider important information violates NEPA, and further, allowing the Stibnite Gold Project to proceed in violation of binding Forest Plan standards, and in violation of guidelines without offering an explanation, violates NFMA.

Among many other important Forest Plan provisions that the Stibnite Gold Project might violate--and which are nowhere mentioned in the DEIS--are binding Forest Plan standards designed to protect riparian areas and streams. Recognizing the ecological complexity and importance of riparian zones, as well as their vulnerability to land management activities like mining, the Payette and Boise Forest Plans establishes "Riparian Conservation Areas" (RCAs), which extend 300 feet to either side of streams and 150 feet to either side of intermittent streams.

Among other provisions to protect RCAs, the Payette and Boise Forest Plans have standards MIST08 and MIST09, which apply to mineral resource projects, like the Stibnite Gold Project. MIST08 prohibits locating new "structures," "support facilities," and "roads," in RCAs unless "no alternative exists." Even when there is no alternative, the Forest Service must "minimize degrading effects to RCAs and streams, and adverse effects to TEPC species" from any such RCA incursions. And road incursions into RCAs incursions must be kept to the "minimum necessary for the approved mineral activity." MIST09 prohibits locating "solid and sanitary waste facilities" in RCAs unless "no alternative exists." "[I]f no alternative to locating

[134] *See* Letter from A. Haslam (Midas Gold) to P. Goessel (Forest Service) (July 18, 2019) with Attachment: Annotated Forest Plan Consistency Review Spreadsheet (Attached).

mine waste (waste rock, spent ore, tailings) facilities in RCAs exists," then the Forest Service must take specifically listed steps to prevent, monitor, and mitigate potential impacts.

The Wallowa-Whitman Forest Plan includes virtually similar standards to MIST08 and MIST09 . In *Hells Canyon Preservation Council v. Haines*,[135] a federal district court held that the Forest Service violated NFMA when it approved constructing mining roads and settling ponds within RCAs without first performing a thorough analysis of whether in fact there was no alternative to each incursion into RHCAs and without providing specific assurances that new road construction was limited to the minimum amount necessary.[136]

Similarly here, the Forest Service has failed to thoroughly analyze whether there are alternatives to each RCA incursion under the alternatives, and failed to provide specific assurances that any RCA incursions are being kept to the minimum necessary. In fact, the DEIS fails to even mention MIST08 or MIST09, despite the fact that Midas Gold's proposal would locate many roads, structures, and facilities in RCAs. The DEIS fails to acknowledge or consider which of the alternatives being considered have the least RCA incursions, and fails to consider whether there are additional alternatives to each proposed RCA incursion. And for RCA incursions that truly cannot be avoided, the Forest Service has also failed to minimize degrading effects to RCAs and streams, and adverse effects to TEPC species. Additionally, for proposed mine waste facilities, the Forest Service has failed to show how it is taking the specific steps listed in MIST09 to prevent, monitor, and mitigate potential impacts.

The Forest Service must address these Forest Plan inconsistencies and protect RCAs by carrying out required alternatives analyses, altering the Project, imposing additional monitoring and mitigation measures, and making all other necessary changes through a supplemental or revised DEIS.

The Forest Service must not only comply with MIST08 and MITS09, but with other Forest Plan goals, objectives, standards, and guidelines designed to protect the environment from the harmful effects of mining. *See* Payette Forest Plan, pp. III-48 - III-51). But the DEIS and its supporting documents fail to disclose and consider these applicable mining provisions and fail to explain how the Forest Service's approval of the Stibnite Gold Project will comply with these provisions.

The Forest Service similarly fails to address Forest Plan provisions designed to protect threatened, endangered, proposed, and candidate species that apply to, and appear to conflict with, the Stibnite Gold Project. *See* Payette Forest Plan, pp. III-8 - III-15. The same goes with

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[135] No. CV 05-1057-PK, 2006 WL 2252554 (D. Or. Aug. 4, 2006).
[136] *See also Gifford Pinchot Task Force v. Perez*, 2014 WL 3019165 (D. Or. 2014) (locating drilling sumps in riparian area violated NFMA).

Forest Plan provisions to protect air quality (*id.* pp. III-16 - III-17); soil, water, riparian, and aquatic resources (*id.* pp. III-18 - 24); wildlife (*id.* pp. III-25 - III-28); vegetation, botanical resources, and non-native plants (*id.* pp. III-30 - III-37); and other public land values.

In addition to specific Foret Plan provisions discussed above, there are numerous other Forest Plan provisions that the Stibnite Gold Project will violate, or might violate, as identified in the Forestin Forest Service's Forest Plan consistency table accompanying the July 18, 2019 letter, mentioned above. The Forest Service cannot simply sweep these issues under the rug by claiming the four proposed Forest Plan amendments somehow cover these dozens of inconsistencies with the Forest Plans. The Forest Service must actually consider the relevant Forest Plan provisions and must explain to the public how the Stibnite Gold Project complies with them; and where it does not comply, must make changes to the Project, reject the Project, or amend the Forest Plan.

B. The proposed Forest Plan amendments are not consistent with the 2012 Planning Rule.

i. The Forest Service failed to comply with the Organic Act and NFMA when it amended the Forest Plans.

The DEIS is also under the mistaken belief that the Forest Service must amend the Payette National Forest Plan in order to allow Stibnite's proposed plans to be approved. The DEIS states:

> It is recognized that not all proposals would move towards or achieve desired conditions, goals, or objectives and there may be tradeoffs between moving towards or achieving these for one resource or another.
>
> Most areas of the PNF and BNF are open to mineral activities, including the Stibnite Gold Project (Stibnite Gold Project) area. The desired condition for mineral projects is that operating plans include appropriate mitigation measures and contain bonding requirements commensurate with the costs of anticipated site reclamation. Where practicable, sites are returned to a condition consistent with management emphasis and objectives. (Payette Forest Plan, p. III-48; Boise Forest Plan, p. III-50).
>
> As Forest Plan management direction, a standard is a binding limitation placed on management actions and must be within the authority and ability of the Forest Service to enforce.

DEIS at Appx. A-1. Much of this rationale violates federal law by making achievement of the environmental requirements of the Forest Plan, NFMA, and the 1897 Organic Act subservient to Stibnite's desired mining operations.

First, NFMA and the Organic Act do not allow the Forest Service to "tradeoff" public land and environmental protection requirements with the Stibnite Gold Project's desired economic returns. At the outset, it should be noted that under the Organic Act and NFMA, all Forest Plan standards, guidelines, and desired conditions must be met.[137] One of the Organic Act's guiding principles directs the agency to "improve and protect" the national forests. 16 U.S.C. § 475. It further requires the Secretary of Agriculture (through the Service) to "make provisions for the protection [of the lands] against destruction by fire and depredations." 16 U.S.C. §551. The Service "will insure the objects of such [forest] reservations, namely, to regulate their occupancy and use and to preserve the forests thereon from destruction." *Id*. "[P]ersons entering the national forests for the purpose of exploiting mineral resources 'must comply with the rules and regulations covering such national forests.' 16 U.S.C. § 478."[138] Instead of complying with these mandates, the Forest Service proposes to eliminate the forest protection requirements of the Forest Plan.[139] The agency's belief that it must comply with the NFMA and Organic Act only "where practicable" violates these laws. "Where practicable, sites are returned to a condition consistent with management emphasis and objectives." DEIS Appx. at A-1.

Second, the fact that the public lands on which Midas Gold has filed its claims are "open" for claiming under the Mining Law does not override the agency's NFMA and Organic Act requirements. As noted herein, this relies on the mistaken view that the agency's

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[137] *See, e.g.*, *Save Our Cabinets v. U.S. Dept. of Agric.*, 254 F.Supp.3d 1241, 1258-59 (D. Mont. 2017) (Forest Service approval of mining project that would not meet the Forest Plan's "desired conditions" protecting water quality violated the NFMA).

[138] *Clouser v. Epsy*, 42 F.3d 1522, 1529 (9th Cir. 1994).

[139] The agency may attempt to rely on another provision of the Organic Act, one cautioning that the creation of national forests was not meant to categorically prevent the exercise of valid rights under the Mining Law or for other lawful purposes. "Nothing in section . . . 551 of this title shall be construed as prohibiting ... any person from entering upon such national forests for all proper and lawful purposes, including that of prospecting, locating, and developing the mineral resources thereof." 16 U.S.C. § 478. But section 478 does not override the duties Congress gave it in the same enactment "to improve and protect the forest [and] secur[e] favorable conditions of water flows" (§ 475) and "preserve the forests thereon from destruction." *Id*. § 551. Section 478 was included in the Organic Act to make clear that the Act did not withdraw the national forests from the filing of new claims under the Mining Law. It did not deny the Forest Service meaningful regulatory authority over such operations. That was made plain by Congress's simultaneous mandate that the Forest Service "regulate their occupancy and use" so as to "preserve the forests thereon from destruction," 16 US.C. § 551, protect them against "depredations," *id*., and to require persons seeking to develop mineral resources to "comply with the rules and regulations" of the Service. *Id.* § 478.

authority over the project is limited to reviewing the mining plan under alleged "rights" under the Mining Law. The agency is not under any statutory obligation to amend the Forest Plan based on purported "rights" under the Mining Law that have not been shown to meet all the prerequisites for such "rights" under that Law.

Third, the agency's self-imposed restriction on its authority to comply with all Forest Plan requirements is unfounded: "a standard is a binding limitation placed on management actions and must be within the authority and ability of the Forest Service to enforce." Appendix A-1. This statement implies that the agency does not have "the authority and ability" to enforce standards, guidelines and desired conditions in the Forest Plan due to Stibnite's purported "rights" under the Mining Law. As noted herein, however, neither Stibnite nor the Forest Service have made the necessary factual determinations to support such assertions of "rights." "This was a crucial error as it tainted the Forest Service's evaluation of the Rosemont Mine from the start."[140] The court held that such use/occupancy, without verification that such rights under the Mining Law actually exist on those lands/claims, was *not* authorized by the Mining Law, and thus was not governed by the agency's mining regulations.

Even if the agency's assumption of "rights" under the Mining Law was supported by the evidence on the ground (which as noted herein is not the case), the agency cannot amend the Forest Plan, or disregard its requirements, to allow mining operations to damage the fisheries, wildlife, and other resources under its Part 22A regulations and the Organic Act. Under the Organic Act and Part 228 regulations, the agency must "maintain and protect fisheries and wildlife which may be affected by the operations." 36 C.F.R. §228.8(e). These impacts also violate USFS's duties to "minimize adverse environmental impacts on National Forest surface resources." 36 C.F.R. §228.8. "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)."[141] "Under the Organic Act the Forest Service must ...require [the project applicant] to take all practicable measures to maintain and protect fisheries and wildlife habitat."[142] These duties are in addition to the agency's/project's failure to fully protect all uses, including Treaty-guaranteed uses and rights.

Thus, the proposed Forest Plan amendments violate the Organic Act and the National Forest Management Act. This is also true because under the NFMA, the agency cannot amend

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[140] *Center for Biological Diversity*, 409 F.Supp.3d at 747.
[141] *Rock Creek Alliance v. Forest Service,* 703 F.Supp.2d 1152, 1164 (D. Montana 2010) (mine approval violated Organic Act and 228 regulations by failing to protect water quality and fisheries).
[142] *Id.* at 1170.

a Forest Plan unless the amendment is supported by a legally-adequate EIS, which as shown herein, has not been done.

ii. The proposed Forest Plan amendments violate NEPA and the 2012 Planning Rule.

The DEIS proposes four project-specific amendments to the BNF and PNF Forest Plans. *See* DEIS Appx. A. As discussed above, the Forest Service has the authority to reject this project as inconsistent with the Forest Plan and the discretion to deny approval. But when the Forest Service decides to resolve that inconsistency by amending the forest plan, that amendment must be consistent with the substantive requirements of the 2012 Planning Rule, 36 C.F.R. Part 219, as amended.

As discussed below, consistency of any forest plan amendment with the substantive requirements of the Planning Rule is not subject to valid existing rights, but must be adhered to.

The Planning Rule sets out substantive requirements for each forest plan and dictates various components that must be included in each plan, including standards, objectives, and guidelines in order to ensure that each forest plan supports ecological, social, and economic sustainability. 36 C.F.R. § 219.10. A forest plan standard "is a mandatory constraint on project and activity decisionmaking, established to help achieve or maintain the desired condition or conditions, to avoid or mitigate undesirable effects, or to meet applicable legal requirements." *Id.* § 219.7(e)(1)(iii). Forest plans, however, may be amended "at any time." *Id.* § 219.13(a).

When a proposed project will be inconsistent with a forest plan the Forest Service may, subject to valid existing rights, resolve the inconsistency by: (1) modifying the project; (2) rejecting the project; (3) amending the forest plan so the project is consistent with the forest plan; or (4) making project-specific forest plan amendments in conjunction with approval of the project. *Id.* § 219.15(c). For each plan amendment, however, the Forest Service must "[d]etermine which specific substantive requirement(s) [of the 2012 Planning Rule] are directly related to the plan direction being added, modified, or removed by the amendment *and apply such requirement(s) within the scope and scale of the amendment.*"[143] *Id.* § 219.13(b)(5) (emphasis added). In other words, all forest plan amendments, including project-specific amendments such as the ones at issue here, must be consistent with relevant

[143] "The [Forest Service's] determination must be based on the purpose for the amendment and the effects (beneficial or adverse) of the amendment, and informed by the best available scientific information, scoping, effects analysis, monitoring data or other rationale." *Id.* § 219.13(b)(5)(i).

substantive requirements of the 2012 Planning Rule.[144] And unlike the Forest Service's discretion to amend the Forest Plan, the directive to apply the substantive requirements of the Planning Rule to a proposed amendment is not subject to valid existing rights. Therefore, any plan amendment for any project must be consistent with the 2012 Planning Rule.[145]

a. The DEIS failed to analyze the impacts of the proposed Forest Plan amendments, in violation of the Planning Rule and NEPA.

Under the Planning Rule, any amendment requires disclosure of the effects the amendment is going to generate. 36 C.F.R. § 219. Although the Planning Rule, as amended, allows the Forest Service to analyze and disclose the effects of a proposed project-specific amendment in the same NEPA document it prepares for the project itself, [cite], this was not done. There are no details given in the DEIS anywhere of the effects of any of the four proposed amendments. This alone is a violation of NFMA and NEPA.

b. The Forest Service failed to identify "species of conservation concern" as required under the 2012 Planning Rule for the proposed amendments.

The Forest Service abdicated its responsibility to identify "species of conservation concern" (SCC), and determine how substantive requirements of the 2012 Planning Rule apply with respect to those identified SCCs. For any "amendment to a plan that was developed or revised under a prior planning rule," such as the Payette and Boise Forest Plans,[146] "if species of conservation concern (SCC) have not been identified for the plan area and if scoping or NEPA effects analysis for the proposed amendment reveals substantial adverse impacts to a specific species, or if the proposed amendment would substantially lessen protections for a specific species, the [Forest Service] must determine whether such species is a potential SCC, and if so, apply section 219.9(b) with respect to that species as if it were an SCC." 36 C.F.R. § 219.13(b)(6).

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[144] *Friends of Bitterroot v. Marten*, No. CV 20-19-M-DLC, 2020 WL 5804251, at *8 (D. Mont. Sept. 29, 2020); *see also Native Ecosystems Council v. Dombeck*, 304 F.3d 886 (9th Cir. 2002).

[145] As discussed above, *supra* at [*/], the Forest Service has not made a determination that the project proponent has a "valid" mining claim. Therefore, even if the Forest Service contends that the general mining laws and regulations restrict the agency's ability to ensure that the forest plan amendments are consistent with the 2012 Planning Rule, those laws and regulations do not apply in the present case. Even so, 36 C.F.R. 228.8(d) still requires that the agency minimize adverse impact "to maintain and protect fisheries and wildlife habitat . . . ."

[146] Both the Payette and Boise Forest Plans were revised in 2003 using the 2000 Planning Rule.

First, the DEIS, as mentioned above, never does a "NEPA effects analysis for the proposed amendment,"*id*., as required under the Planning Rule. 36 C.R.R. § 219.13(b)(6).

Second, even if the Forest Service considered the effects analysis of the proposed project the same as the effects analysis for the proposed amendment, which it cannot, the NEPA effects analysis of the proposed project "reveals substantial adverse impacts to a specific species" and "substantially lessens protection for a specific species." 36 C.F.R. § 219.13(b)(6). Instead, Appendix A of the DEIS simply states that "[t]here are no [SCC] species known to occur with the proposed Stibnite Gold Project area with a substantial concern about the species capability to persist over the long-term in the Forest Plan area." DEIS Appx. A at A-7, A-32. It's apparent from the DEIS and Appendix A that the determination of whether SCCs exist in the plan area was not made.

A SCC is a Forest-Service specific classification defined by the 2012 Planning Rule as a species for which the best available science indicates there is a substantial concern about the species' capability to persist over the long-term in the plan area. There are 17 Forest sensitive species identified in the DEIS. DEIS at 3.13-19 (Table 3.13-2). Sensitive species are selected by the Regional Forester because population viability may be a concern, as evidenced by a current or predicted downward trea in population numbers or density, or a current or predicted downward trend in habitat capability that would reduce a species' existing distribution. Although every Forest sensitive species may not qualify as a SCC because of the different criteria for identification, there are species that may not be on the Forest sensitive species list that may be a SCC. Analysis of the Regional Forester's list of sensitive species cannot therefore compensate for the failure to identify potential SCCs. *See* DEIS section 14.13.2.2. (analyzing impacts to sensitive species). It is therefore critical that the Forest Service identify SCCs prior to amending the Forest Plan(s).

The DEIS states that the project "may cause changes in wildlife habitat in the analysis area that may affect wildlife species including special-status species (threatened, endangered, Management Indicator Species, and sensitive species)." DEIS at 4.13-1. One of those Forest sensitive species is the westslope cutthroat trout. It is not only a fish of management concern to the Forest Service, but also to the State of Idaho. DEIS at 3.12.4.5.1, 3.12.1.

Best available science shows concern for non-Forest sensitive species, such as the Pacific lamprey and Western pearlshell mussel. The Western pearlshell mussel, *Margaritifera falcata,* is listed as an imperiled species (S2) in Idaho. They depend especially heavily on westslope cutthroat trout and the anadromous salmonids (Montana study) as their vector for the glochidia "infestation" and dispersal. Declines in distribution and abundance of cutthroat trout and other salmonids may logically also start the loss of the mussel.

The best available science also shows concern for five Special Status wildlife species, four Special Status plants, DEIS at 3.4-14 and Table 3.10-5, and whitebark pine, a candidate species, in the plan area.[147] DEIS at 3.10-23. Westslope cutthroat trout, as well as all Sensitive plant and wildlife species, all Special Status species, and all Forest Watch species have concern about capability to persist over the long-term in the project area, and need to be evaluated as potential SCCs. None of them were. This is both a violation of NFMA and NEPA.

iii. Amendment 1: General Management Actions

What appears to be at Midas Gold's direction,[148] and not based on any rational decision by the agency, the DEIS proposes a sweeping Forest Plan amendment that would eviscerate a majority of the BNF and PNF Forest Plan standards and guidelines and violate the substantive standards in the 2012 Planning Rule in order to approve the Stibnite Gold Project.

The DEIS proposes to amend both the Payette and Boise Forest Plans in certain management areas to allow the Stibnite Gold Project to "degrade aquatic, terrestrial, and watershed resource conditions during the duration of project implementation . . ." This would be a change from the current Forest Plan standards that only allow projects or actions to degrade these resources "in the temporary time period (up to 3 years) . . ." As discussed further below, this proposed amendment is problematic on several fronts.

a. The timeframe of proposed Amendment 1 exceeds the rationale for a project-specific amendment.

The DEIS describes phases of project implementation that include construction, operations, closure, reclamation, and various post-reclamation actions, like water treatment in perpetuity, stream channel maintenance, and monitoring. The life of the Stibnite Gold Project, thus may be indefinite, or in perpetuity. Therefore, indefinite and "in-perpetuity" timeframes for these actions should be included in the timeframes for the proposed amendment. Resource degradation for indefinite timeframes and for a larger impact area could result in a "significant environmental effect" and need a more extensive Forest Plan amendment process. *See* 36 C.F.R. § 219.13b(3). With the existing low populations of Chinook salmon and steelhead, the

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[147] "Special Status" is generally used to denote species that are considered sufficiently rare that they require special consideration and/or protection by the federal and/or state governments. Special status species include forest watch plant species identified in the Payette Forest Plan (Forest Service 2003) and/or Boise Forest Plan (Forest Service 2010a). Forest watch species are those that are confirmed to occur in the planning area for a Forest and are listed as S1, S2, or S3 at the state level but may not be on the Forest Service regional sensitive species list. DEIS at 3.10-22.

[148] Letter from A. Haslam (Midas Gold) to P. Goessel (Forest Service) (July 18, 2019) with Attachment: Annotated Forest Plan Consistency Review Spreadsheet (Attached).

times that degradation would be allowed--even if only for the lifetime of construction, operations, and closure--could destroy several generations.

The DEIS describes project actions which degrade aquatic and terrestrial conditions indefinitely and in perpetuity. Examples include decreases in critical habitat for ESA-listed bull trout (4.7-11.9 km, or 28-70% loss) and Chinook salmon (5.5-6.9 km, or 21-26% loss), DEIS at 4.12-87, 4.12-69, loss of suitable habitat for cutthroat trout, DEIS at 4.12-93, and loss of habitat for steelhead. DEIS at 4.12-75.

Exceedances of water quality standards are anticipated to extend indefinitely post-closure (SRK 2018).

Engineered stream channels need maintenance over time to generate and support aquatic habitat suitable for the four special status salmonids; these actions are not described in the DEIS, *see* DEIS at 3.12.1, but will need to occur in perpetuity.

Indefinite or "forever" amendments to the Forest Plan should not be done through project-specific amendments.

b. The scale of impacts of proposed Amendment 1 exceeds the rationale for a project-specific amendment.

The Stibnite Gold Project will affect aquatic and watershed resources beyond the management areas proposed for amendment. Anticipated impacts cannot reasonably be limited to those management areas proposed for amendment.

The DEIS describes the fish analysis area as the entire East Fork South Fork, and upper South Fork Salmon River watershed. DEIS at 3.12-1 (Figure 3.12-1). "The analysis area encompasses all areas in which fish resources and fish habitat may be affected directly or indirectly by the Stibnite Gold Project, and not merely the immediate area involved." DEIS at 3.12.1. Surface water quality analysis area is also described to include streams and lakes located in the 22 sub-watersheds and MAs that encompass the proposed mine site, access roads, transmission lines, and off-site facilities within the East Fork and South Fork Salmon River watersheds. DEIS at 3.9-1 (Figure 3.9-1). Yet Chapter 4 only analyzes effects to fisheries or water quality at the mine site area; it fails to analyze consequences of the project to fisheries and surface water quality in the larger analysis area downstream and outside of the local mine site. For example, impacts to waters downstream of the Yellow Pine Pit Lake -- which may be the most impacted waters--are not evaluated. Such impacts that could occur well-beyond the local mine site include, but are not limited to, increased temperatures, spill risk, impacts from roads, and metals concentrations.

Point blank, the geographic scale of the impacts does not match, and well exceeds, that of the management areas identified and affected by the proposed amendment. By failing to include impacts beyond the mine site, the geographic scope of the proposed amendment was unreasonably narrow. The true impacts of this proposed amendment were neither considered nor disclosed to the public.

c. Proposed mitigations do not sufficiently minimize impacts to avoid degradation.

The lists of design features and mitigations in Appendix D are intended to reduce impacts to various resources. The tables in Appendix A justify the compliance of the amendment with the 2012 planning rule requirement with general statements such as: "The mitigations and reclamation actions developed for each resource are created to maintain and restore ecosystem integrity;" and "The mitigations and reclamation actions are developed to minimize impacts to fish and wildlife and maintain and/or restore terrestrial and aquatic habitat." They are merely lists, with no rationale or interpretation or analysis. Chapter 4.11-4.12 clearly describes multiple aquatic and watershed degradations, yet omits any analysis of specific mitigations.

"Mitigation methods proposed are not sufficient to reliably reverse impacts, much improve existing, impaired habitat during or after additional mining occurs."[149] The DEIS needs to include analysis of the specific mitigations that allegedly "correct" specific aquatic and watershed degradation.

d. Amendment 1 is not based on best available science.

The Planning Rule requires that the Forest Service's proposed amendment be "informed by the best available scientific information, scoping, effects, analysis, monitoring data or other rationale." 36 C.F.R. § 219.13(5)(I). The Forest Service's decision was not based on best available science. In fact, it's fisheries analysis was so flawed as to render it "questionable at best."[150] The water quality analysis was equally flawed, as described above. The Forest Service failed to act in accordance with this section of the Planning Rule.

e. Proposed Amendment 1 is not consistent with the substantive requirements of the Planning Rule.

[149] O'Neal, S., Fisheries Report for the Stibnite Gold Draft Environmental Impact Statement (2020) (Attached).
[150] *Id*.

As established above, Forest Plan amendments must be consistent with the substantive requirements of the Planning Rule. Here, proposed Amendment 1 is not.

First, the proposed amendment does not meet the requirement to maintain or restore ecological integrity. This ecosystem integrity component provides:

> The plan must include plan components, including standards or guidelines, to maintain or restore the ecological integrity of terrestrial and aquatic ecosystems and watersheds in the plan area, including plan components to maintain or restore structure, function, composition, and connectivity, taking into account: (i) Interdependence of terrestrial and aquatic ecosystems in the plan area. (ii) Contributions of the plan area to ecological conditions within the broader landscape influenced by the plan area. (iii) Conditions in the broader landscape that may influence the sustainability of resources and ecosystems within the plan area. (iv) System drivers, including dominant ecological processes, disturbance regimes, and stressors, such as natural succession, wildland fire, invasive species, and climate change; and the ability of terrestrial and aquatic ecosystems on the plan area to adapt to change.

36 C.F.R. § 219.8(a)(1). The DEIS claims that the amendment meets this requirement:

> Post-closure, surface water and groundwater quantity would return to similar baseline flow patterns (Section 4.8.5) and water quality (with treatment) would meet standards for surface waters and groundwater, except for areas under development rock storage facilities (DRSFs) where some metal concentrations are predicted to exceed baseline conditions (4.9.7). Habitat for listed fish species in upper Meadow Creek would be blocked due to the TSF/DRSF under Alternatives 1, 2, and 4, and in upper East Fork South Fork Salmon River (EFSFSR) due to the TSF/DRSF under Alternative 3, while other habitat would made available by the removal of fish-passage barriers (Section 4.12.2).

DEIS Appx. A at A-5. This simple statement does not demonstrate that the amendment is consistent with the ecosystem integrity component for several reasons.

The DEIS does not document maintenance and restoration of ecological integrity of the aquatic ecosystem, but instead documents exceedances in water quality and blocked fish habitat. Ecological integrity of the aquatic ecosystem in Alternatives 1, 3, and 4 would experience adverse impacts to surface water quality during operations and the post

closure/reclamation period, and exceedance of water quality standards would continue after operations into the post closure/reclamation period. DEIS at 4.9-133. Alternative 2 would result in some stream reaches exceeding the analysis criteria for mercury, and some seasonally exceeding the analysis criteria for antimony, arsenic, and mercury DEIS at 4.12-203. "Despite activities that would improve water quality for fish from the removal and reclamation of legacy mine wastes, exceedances of the [National Marine Fisheries Service] and [U.S. Fish & Wildlife Service] and other applicable criteria for antimony, arsenic, copper, and mercury are anticipated to extend indefinitely post-closure". DEIS at 4.12.2.3.3.1.

Habitat for listed fish species would be decreased overall by project actions: loss of 5.5-6.9 km for Chinook salmon (Critical Habitat), loss of 4.7-11.9 km for bull trout (Critical Habitat), and gain of 0.8-1.4 km for steelhead (useable IP habitat) for a total loss of 9.4- 17.4 km over all action alternatives for all listed fish species.

The analysis in the DEIS does not support that "[t]he mitigations and reclamation actions developed for each resource are created to maintain and restore ecosystem integrity" DEIS Appx. A at A-5 (Table). The terms "ecological integrity," "ecological sustainability," "ecosystem integrity," and "ecosystem diversity" do not even appear anywhere in the body of the DEIS in Chapter 4. Restoring ecosystem integrity during operations and after closure is not only not described, but impossible to assure.

Our experts review of the DEIS demonstrates the absolute inadequacy of the analyses of the potential impacts to fisheries and water quality, and the clear inconsistency with meeting the Planning Rules substantive requirements:

> O'Neal 2020: "While some important aspects of habitat complexity and connectivity were characterized in baseline assessments referenced in the document (e.g., off channel and riparian habitat, existing large woody debris, zones of groundwater and surface water exchange, etc.), they are ignored in the DEIS predictions of impacts. Degradation of those habitats from decreased flows, road crossings, increased sediment loads, spills, and other activities associated with mine development will inevitably impact salmonid populations".
>
> Maest (2020): "The food chain/dietary pathway for fish (contaminated stream sediment to macroinvertebrates to fish) was not considered in the DEIS conceptual models, in the examination of existing conditions, or in current or future modeling efforts. It was also not considered when evaluating potential environmental improvements from planned legacy cleanup or mitigation measures"; and "A reliable evaluation of the potential effects of the mine cannot be completed without site-specific

information on chemical speciation and the toxicity of antimony to fish populations."[151]

Maest (2020): "Limited information from a USGS publication shows that sediment concentrations at three of five site locations for arsenic and four of five locations for mercury exceed Canadian sediment quality guidelines for the protection of aquatic life. Sediment arsenic concentrations exceed the probable effects level (PEL) by up to 400 times, and sediment mercury concentrations exceed the PEL by up to 50 times. The food chain/dietary pathway for arsenic has been shown to adversely affect salmonids in laboratory experiments and at locations in Montana and Idaho, yet it was completely ignored in the DEIS."

Maest (2020):"The legacy Spent Ore Disposal Area (SODA) materials are proposed to be used to construct the tailings impoundment embankment (DEIS, Table 2.3-4) under the proposed action. The SODA samples were characterized to assess the "...suitability of spent ore for use in construction." The results found they have the highest release rates for arsenic and antimony and the highest initial concentration of mercury of any of the samples subjected to humidity cell testing. They should clearly not be used as construction materials."

Maest (2020): "Little information on the toxicity of antimony to aquatic biota; no site-specific information on antimony or arsenic toxicity to resident and protected fish, macroinvertebrate, and aquatic plant populations; and no information is provided on the relationship between fish life cycles and temporal variability of arsenic, antimony, mercury, or any other analytes in site surface waters. No information is provided on the exposure to fish from As, Sb, Hg, or other contaminants via the dietary pathway (sediment-macroinvertebrate-fish). This pathway has been shown to cause adverse effects to salmonids at mine sites in Idaho and Montana."

Second, the proposed amendment does not meet the requirement for ecosystem integrity for air, soil, and water. This component provides:

The plan must include plan components, including standards or guidelines, to maintain or restore: (i) Air quality. (ii) Soils and soil

[151] Maest. A., *Evaluation of the Draft Environmental Impact Statement (DEIS) for the Stibnite Gold Project, Idaho, and Related Water Quality Conditions, Predictions, and Effects* (2020) (Attached).

> productivity, including guidance to reduce soil erosion and sedimentation. (iii) Water quality. (iv) Water resources in the plan area, including lakes, streams, and wetlands; ground water; public water supplies; sole source aquifers; source water protection areas; and other sources of drinking water (including guidance to prevent or mitigate detrimental changes in quantity, quality, and availability).

36 C.F.R. § 219.8(a)(2). The DEIS claims that this amendment is consistent with the substantive requirement of the Planning Rule because "[t]he plan amendments adjust the time frame for the impacts but retain the plan components to maintain or restore these resources (Sections 4.3.2, 4.5.2, 4.8.2)." DEIS Appx. A at A-5.

The DEIS does not demonstrate that the plan amendment meets this requirement. First, as discussed above, there are long-term predicted impacts to water quality during operations and post-closure. In addition, "groundwater flows are poorly predicted, their role in salmonid survival and resulting impacts is unaddressed, and impacts to water quantity and quality are vastly underestimated in the DEIS," and "ground and surface water flows are poorly characterized and treatment is neither sufficiently described nor tested for effectiveness."[152] An amendment that would allow these predicted adverse impacts to water quality is not consistent with the requirement to "maintain or restore" water quality or water resources in the area.

Third, proposed Amendment 1 does not meet the ecosystem integrity component under the diversity of plant and animal communities requirement. This provision provides:

> As required by § 219.8(a), the plan must include plan components, including standards or guidelines, to maintain or restore the terrestrial and aquatic ecosystems and watersheds in the plan area, including plan components to maintain or restore their structure, function, composition, and connectivity.

36 C.F.R. § 219.9(a)(1).

The DEIS rationalizes that it meets this requirement because:

> Some of the impact to various resources would extend for the length of the activities (including reclamation) associated with the proposed Stibnite Gold Project (e.g. impacts to individual wildlife [Section 4.13.2]) while other impacts could extend further into the future (e.g. total soil resource commitment. Post-closure, surface water and

[152] O'Neal (2020).

> groundwater quantity would return to similar baseline flow patterns post-reclamation (Section 4.8.5), and water quality (with treatment) would meet standards for surface waters and groundwater, except for areas under DRSFs where some metal concentrations are predicted to exceed baseline conditions (4.9.7). Habitat for listed fish species in upper Meadow Creek would be blocked due to the TSF/DRSF under Alternatives 1, 2, and 4, and in EFSFSR due to the TSF/DRSF under Alternative 3, while other habitat would made available by the removal of fish-passage barriers (Section 4.12.2).

DEIS Appx. A at A-6. However, there is no reference provided in the table regarding maintenance or restoration of ecological integrity of ecosystems and watersheds. Instead, references provided there document impacts long term and into the future.

Physical habitat impacts from mining are underestimated in the DEIS. While some important aspects of habitat complexity and connectivity were characterized in baseline assessments referenced in the document (e.g., off channel and riparian habitat, existing large woody debris, zones of groundwater and surface water exchange, etc.), they are ignored in the DEIS predictions of impacts. Degradation of those habitats from decreased flows, road crossings, increased sediment loads, spills, and other activities associated with mine development will inevitably impact salmonid populations.[153]

The DEIS also assumes no interactions among impacts, which are a key component of ecological integrity. By considering fish species, stream reaches, and limited habitat impacts (e.g., stream dewatering, temperature increases, increases of metals concentrations, road impacts) all separately, the DEIS fails to acknowledge the broad ecological understanding that multiple stressors will amplify one another's effects on the ecosystem. This leads to a serious underestimate of impacts to fish and their habitat.[154] This amendment is therefore inconsistent with the Planning Rule.

Fourth, the proposed amendment fails to be in accordance with substantive provisions on ecosystem diversity:

> The plan must include plan components, including standards or guidelines, to maintain or restore the diversity of ecosystems and habitat types throughout the plan area. In doing so, the plan must include plan components to maintain or restore: (i) Key characteristics associated with terrestrial and aquatic ecosystem types; (ii) Rare aquatic and

[153] *See* O'Neal (2020).
[154] *See* O'Neal (2020).

> terrestrial plant and animal communities; and (iii) The diversity of native tree species similar to that existing in the plan area.

36 C.F.R. § 219.9(a)(2).

The DEIS states that:

> The proposed plan amendment maintains the intent of the original plan standard, while allowing for the implementation of the proposed [Stibnite Gold Project]. The plan amendments adjust the time frame for the impacts but retain the plan components requiring maintenance or restoration of key characteristics associated with terrestrial and aquatic resources; rare aquatic and terrestrial plant and animal communities; and the diversity of native tree species.

DEIS Appx. A at A-6. Plan components, while intended to maintain or restore key characteristics, are determined in the DEIS to degrade those key characteristics. For example, temperature is a key characteristic of the life history of salmon and trout, which are rare aquatic animal communities with three species listed under the ESA. According to the DEIS, "Meadow Creek downstream of the East Fork Meadow Creek would have potential water temperatures that are lethal to Chinook salmon during the summer in perpetuity", and "Even at EOY 112, the EFSFSR (Meadow Creek downstream to Sugar Creek) has the potential to reach lethal levels during the summer." DEIS at 4.12.2.3.3.

Diversity of ecosystems relies on terrestrial and aquatic food webs. "Mountain whitefish (*Prosopium williamsoni*), suckers (*Catostomus* sp.), anadromous Pacific lamprey (*Entosphenus tridentatus*) and other important fish, freshwater insects, algae, and other primary producers are all critical elements of the foodwebs supporting salmonids considered in the EIS." But here, by "[i]gnoring impacts to salmonid foodwebs" the DEIS "ignor[ed] impacts to salmonids at large."[155]

The DEIS, therefore, has not demonstrated that it meets the requirements for ecosystem diversity.

Fifth, there are additional species-specific plan components that are problematic with respect to proposed Amendment1. The Planning Rule provides:

> (1) The responsible official shall determine whether or not the plan components required by paragraph (a) of this section provide the

[155] O'Neal (2020).

> ecological conditions necessary to: contribute to the recovery of federally listed threatened and endangered species, conserve proposed and candidate species, and maintain a viable population of each species of conservation concern within the plan area. If the responsible official determines that the plan components required in paragraph (a) are insufficient to provide such ecological conditions, then additional, species-specific plan components, including standards or guidelines, must be included in the plan to provide such ecological conditions in the plan area. (2) If the responsible official determines that it is beyond the authority of the Forest Service or not within the inherent capability of the plan area to maintain or restore the ecological conditions to maintain a viable population of a species of conservation concern in the plan area, then the responsible official shall: (i) Document the basis for that determination (§ 219.14(a)); and (ii) Include plan components, including standards or guidelines, to maintain or restore ecological conditions within the plan area to contribute to maintaining a viable population of the species within its range. In providing such plan components, the responsible official shall coordinate to the extent practicable with other Federal, State, Tribal, and private land managers having management authority over lands relevant to that population.

36 C.F.R. § 219.9.

The DEIS does not demonstrate that the proposed amendment meets this requirement. The DEIS states:

> The proposed plan amendment maintains the intent of the original plan standard, while allowing for the implementation of the proposed Stibnite Gold Project. The mitigations and reclamation actions are developed to minimize impacts to fish and wildlife and maintain and/or restore terrestrial and aquatic habitat. There would be impacts to individual Endangered Species Act (ESA)-listed wildlife and fish species and habitat, but the implementation of the Stibnite Gold Project would not result in jeopardy (pending Section 7 consultation).

DEIS Appx. A at A-6. However, there is no documentation in the DEIS of a "responsible official's determination that the plan components required in paragraph (a) are sufficient to provide the ecological conditions necessary to: contribute to the recovery of federally listed threatened and endangered species, and conserve proposed and candidate species." In fact, the DEIS indicates that the Forest Service has preliminarily determined that project will adversely affect ESA-listed bull trout, DEIS at 4.12-87, Chinook salmon, DEIS at 4.12-69, steelhead,

DEIS at 4.12-75, and their critical habitats; and may indirectly impact Westslope cutthroat trout. DEIS at 4.12-93. In short, the Stibnite Gold Project management actions, as designed, are predicted to adversely affect listed fish species and their habitats.

According to the DEIS, the project will decrease critical habitat overall for Chinook salmon and bull trout, DEIS at 4.12-69, 83, and 87, increase some stream temperatures to lethal levels for Chinook salmon in perpetuity, DEIS Appx. J at J-2, and result in exceedances of National Marine Fisheries' and U.S. Fish & Wildlife Service's and other criteria for antimony, arsenic, copper, and mercury during operations and indefinitely post-closure. DEIS at 4.12-50. An amendment to this standard needs to include effects analysis and demonstration of compliance with substantive requirements of the planning regulations. If this analysis occurs in Biological Assessment, there is no forum for public disclosure. Effects need to be discussed in the supplemental DEIS.

Though the implementation of the Stibnite Gold Project may not result in jeopardy (pending Section 7 consultation), significant adverse effects to ecological conditions and species are documented throughout Chapter 4 and Appendix J in the DEIS, demonstrating that the project is inconsistent with NFMA.

Finally, the proposed amendment is not in accordance with the substantiver requirement for integrated resource management for multiple use. The Planning Rule provides:

> The plan must include plan components, including standards or guidelines, for integrated resource management to provide for ecosystem services and multiple uses in the plan area. When developing plan components for integrated resource management, to the extent relevant to the plan area and the public participation process and the requirements of §§ 219.7, 219.8, 219.9, and 219.11, the responsible official shall consider:
>
> (1) Aesthetic values, air quality, cultural and heritage resources, ecosystem services, fish and wildlife species, forage, geologic features, grazing and rangelands, habitat and habitat connectivity, recreation settings and opportunities, riparian areas, scenery, soil, surface and subsurface water quality, timber, trails, vegetation, viewsheds, wilderness, and other relevant resources and uses. (5) Habitat conditions, subject to the requirements of § 219.9, for wildlife, fish, and plants commonly enjoyed and used by the public; for hunting, fishing, trapping, gathering, observing, subsistence, and other activities (in collaboration with federally recognized Tribes, Alaska Native Corporations, other Federal

> agencies, and State and local governments). (7) Reasonably foreseeable risks to ecological, social, and economic sustainability. (8) System drivers, including dominant ecological processes, disturbance regimes, and stressors, such as natural succession, wildland fire, invasive species, and climate change; and the ability of the terrestrial and aquatic ecosystems on the plan area to adapt to change (§ 219.8); (9) Public water supplies and associated water quality.

36 C.F.R. § 219.10.

The DEIS states that the amendment meets this requirement because:

> (1) The effects of the proposed [Stibnite Gold Project], as well as mitigations and reclamation actions developed to reduce impacts of the proposed [Stibnite Gold Project], are analyzed in the EIS for the duration of the proposed Stibnite Gold Project (approximately 20 years). (5) The mitigations and reclamation actions are developed to minimize impacts to fish and wildlife and maintain and restore terrestrial and aquatic habitat. (7) The effects of the proposed [Stibnite Gold Project], as well as mitigations and reclamation actions developed to reduce impacts of the proposed [Stibnite Gold Project], are analyzed in the EIS for the duration of the proposed Stibnite Gold Project (approximately 20 years); (8) The effects of climate change in relation to the proposed [Stibnite Gold Project] and impacts to other resources (e.g. water quality, fish, wildlife) (Section 4.4.2) and the potential for the expansion of invasive species are analyzed in the EIS. (9) This requirement is not directly related to this project-specific amendment.

The lists of design features and mitigations in Appendix D are intended to reduce impacts to various resources. But they are merely lists, with no rationale, interpretation, or analysis. Chapter 4.11-4.12 clearly describes multiple aquatic and watershed degradations, yet omits any analysis of specific mitigations. The tables in Appendix A justify the compliance of the amendment with the 2012 Planning Rule requirement with general statements. The DEIS needs to include analysis of the specific mitigations that allegedly "correct" specific aquatic and watershed degradation.

According to O'Neal (2020):

> While the proposed alternatives describe some remediation of historic impacts, mine cleanup efforts (mitigation) simply cannot restore habitat

> to pre-mining conditions and cannot outweigh impacts from currently proposed mining. The DEIS assumes that mitigation and restoration efforts are possible and effective. The DEIS assumes that mitigation for historic mining efforts will offset impacts from proposed mining efforts. Experience has shown that habitat restoration and mitigation are difficult, and often ineffective" (O'Neal 2020).

Moreover, effects of climate change are not predicted to enable the terrestrial and aquatic ecosystems on the plan area to adapt to change. For Alternatives 1 and 2, the DEIS states "the structure and function of fish habitats would need to be fully reclaimed to minimize species vulnerability . . . sensitive species like the bull trout and other migratory species would be the most vulnerable to climate change impacts and loss of habitat connectivity. Under Alternative 1, construction and operation of the mine site, access roads, utilities, and off-site facilities would further exacerbate wildlife impacts from habitat loss and fragmentation," and "the post-closure reclamation activities were developed to help offset Alternative 1 wildlife impacts, and were not designed to offset wildlife impacts due to climate change impacts." DEIS at 4.4.2.

"Temperature increases ignore climate change, are otherwise underestimated and their impacts are unreasonably minimized. In addition to other shortcomings of the model used to predict project related temperature changes, it fails to incorporate temperature increases due to climate change. Climate change is already impacting bull trout and cutthroat trout habitat and those impacts will only be compounded by project related temperature increases. Moreover, even impacts of predicted temperature changes (up to about 4º) are minimized despite the pivotal role of temperature in determining spawn and emergence timing, incubation rates, and salmonid growth and subsequent survival"[156]

The Safe Drinking Water Act states that a water supply with 15 or more "connections" is deemed a "public water supply". The employee work and housing area for the Stibnite Gold Project would likely involve more than 15 connections, be a public water supply, and subject to the requirements of 36 CFR §§ 219.7, 219.8, 219.9, and 219.11. There is no documentation of this in the DEIS.

In conclusion, the DEIS has failed to demonstrate how proposed Amendment 1, which would allow degradation of aquatic, terrestrial, and watershed conditions resources for at least 20 years and possibly into perpetuity, is consistent with the Planning Rule's substantive requirements. This proposed amendment would thus violate NFMA. The fact that a full analysis of the proposed amendment's impacts are not disclosed in the DEIS render this DEIS in violation of NEPA.

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[156] O'Neal (2020).

iv. Amendments 2 and 3: Total Soil Resource Commitment and Visual Quality Objectives

The DEIS proposes to amend both the Payette and Boise Forest Plans in buy "suspending" several Forest Plan standards relating to total soil resource commitment and visual quality objectives. *See* DEIS Appx. A at A-11, A-20. Both of these proposed amendments claim to "suspend" Forest Plan standards, but it is clear from the project's impacts analysis that the degradation of soils and visual quality will be permanent features of the landscape, even after closure and reclamation.

Furthermore, as described above, the "lists" of mitigation measures are just that--lists without any substance, detail, or analysis of how the proposed amendments will be consistent with the identified Planning Rule requirements.

These proposed amendments meet neither the requirements of NFMA nor NEPA.

v. Amendment 4: Fish Passage Diversion

Proposed Amendment 4, which would "suspend" the requirement that new surface diversion provide upstream and downstream fish passage, fairs no better under a similar analysis of the consistency of the proposed amendment with the Planning Rule requirements.

a. The proposed amendment does not "suspend" the Forest Plan standard for fish passage.

Similar to proposed Amendments 2 and 3, the Forest Service proposes to "suspend" the fish passage requirements, implying that the requirement would be reinstated after a period of time. It's clear from the DEIS that the proposed surface diversions will neither during operations nor post-closure provide fish passage. It appears that the intent of this amendment is to remove the Forest Plan standard. The supplemental DEIS should clarify this issue when it provides the required analysis of the impacts of this proposed amendment.

b. Mitigation does not reduce impacts to fish

Point blank, the impacts to fish are significant. The DEIS analysis demonstrates that the diversions will not allow for fish passage within the footprint of the mine site. DEIS at 4.12.2.3, 4.12.2.4, 4.12.2.5, and 4.12.2.6.

As discussed above, the lists of design features and mitigations in Appendix D that are intended to reduce impacts to various resources are merely lists, with no rationale or

interpretation or analysis. They do not justify compliance with the Planning Rule's substantive requirements.

c. Proposed Amendment 4 is not consistent with the Planning Rule's substantive requirements.

As discussed above for the proposed Amendment 1, proposed Amendment 4 also does not meet the requirements for ecosystem integrity found in 36 C.F.R. § 219.8(a)(1), and § 219.9(a)(1).

> To justify this amendment to the Forest Plan, the DEIS states:
> Under Alternatives 1, 2, and 4, the Meadow Creek diversion that would not allow for fish passage would be in place for 10 to 17 years. After that time, habitat for listed fish species in upper Meadow would be permanently blocked due to the TSF/DRSF and in Fiddle Creek due to the DRSF, while other habitat would be made available by the removal of fish-passage barriers (Sections 4.12.2.3, 4.12.2.4, and 4.12.2.6). Under Alternative 4, the EFSFSR diversion tunnel would not allow for fish passage and would be in operation for approximately 13 years, after which, fish passage would be restored through the construction of a stream channel through the reclaimed Yellow Pine pit area (Section 4.12.2.6). Under Alternative 3, the diversions around the upper EFSFSR TSF/DRSF would block fish passage and then once the EFSFSR TSF/DRSF are complete, would permanently block natural fish passage upstream and downstream. The mitigations developed for fish habitat are developed to maintain and restore ecosystem integrity and the intent of compensatory mitigation would be to offset impacts that cannot be avoided or minimized (e.g. blocked fish access to upper Meadow Creek) (Appendix D of EIS).

DEIS Appx. A at A-5.

Ten to 17 years of blocked fish passage for the Meadow Creek diversion, permanent blockage of upper Meadow and Fiddle Creeks, 13 years of blockage of the EFSFSR, uncertain speculative fish passage beyond those 13 years in perpetuity, and permanent blockage of the upper EFSFSR, even considering removal of other fish passage barriers and mitigation, would result in an overall decrease in quantity and quality of bull trout and Chinook salmon habitat.

DEIS at 4.12-83, 87, 69. This decrease in habitat does not maintain or restore the structure, function, composition, and connectivity of aquatic ecosystems, as required in 219.8 and 219.9 above.

At the end of Mine Year -1, both the Yellow Pine pit barrier cascade and the remnant box culvert would have been removed to allow for natural upstream fish passage by both resident and anadromous species. (However, water temperatures are predicted to be slightly warmer than baseline conditions, even to the point of periodic lethality to salmon and trout). DEIS at 4.12-28. This "natural upstream fish passage" would depend largely on the success of the "Fish Tunnel." The DEIS, however, clearly states that the tunnel's ability to pass fish is in question. DEIS Appx. J3 at 6. "Even after close collaboration with [National Marine Fisheries Service], meeting passage criteria, and executing all adaptive management measures, there exists a reasonable probability that the project will not be able to volitionally pass fish safely, timely, or effectively." The three references cited for the rationale of this tunnel are weak and presented in abstract only. Should the tunnel and/or reconstructed EFSFSR fail to pass fish, trap and haul is proposed, which is dependent upon personnel, equipment, and funding. This certainly would be considered a degradation, not maintenance and restoration, of ecological integrity of terrestrial and aquatic ecosystems and watersheds .

There is a large cost of such uncertain endeavors, with unpredictable outcomes. For instance, approximately 100,000 fish (Chinook salmon, bull trout, steelhead, cutthroat) will be potentially affected by injury or death for 1.6 km of channel changes in the EFSFSR. DEIS at 4.12-17. This is a result of injury or mortality during removal by: getting caught in screens, traps, dipnets, seines, and electrofishing; during transport; at the relocation site by predation, lack of food, disorientation, and competition; and from increasing temperatures, decreased dissolved oxygen, and predation from being stranded in partially dewatered areas. DEIS at 4.12-15. This magnitude of injury or death would certainly be considered a degradation, not maintenance and restoration, of ecological integrity of aquatic ecosystems and watersheds.

Second, the DEIS claims that substantive requirement at 36 C.F.R. § 219.9(a)(1)(2) does not apply to this proposed amendment.

> The plan must include plan components, including standards or guidelines, to maintain or restore the diversity of ecosystems and habitat types throughout the plan area. In doing so, the plan must include plan components to maintain or restore: (i) Key characteristics associated with terrestrial and aquatic ecosystem types; (ii) Rare aquatic and terrestrial plant and animal communities; and (iii) The diversity of native tree species similar to that existing in the plan area.

This requirement is certainly directly related to this project-specific amendment. Plan components, while intended to maintain or restore key characteristics, are determined in the DEIS to degrade those key characteristics. For example, connectivity is a key characteristic of the life history of salmon and trout, which also comprise rare aquatic animal communities, with three species listed under the ESA in the project area. Blocking fish passage to upstream habitats will decrease the quantity and quality of bull trout and Chinook salmon habitat. DEIS at 4.12-83, 87, 69. This decrease in habitat does not maintain or restore key characteristics or rare aquatic animal communities, as required in 219.8 and 219.9 above.

Third, the proposed amendment does not comply with additional species-specific plan components found in 36 C.F.R. § 219.9(b). As described above, the requirement directs that the Forest Service make a determination "whether or not the plan components . . . provide ecological conditions necessary to contribute to the recovery of federally listed threatened and endangered species . . ."

There is no documentation in the DEIS of a responsible official's determination that the plan components required in paragraph (a) are sufficient to provide the ecological conditions necessary to: contribute to the recovery of federally listed threatened and endangered species, and conserve proposed and candidate species.

In fact, the DEIS indicates that the Forest Service has preliminarily determined that the entire Stibnite Gold Project project will adversely affect ESA-listed bull trout, DEIS at 4.12-87, Chinook salmon, DEIS at 4.12-69, steelhead, DEIS at 4.12-75, and their critical habitats; and may indirectly impact Westslope cutthroat trout, DEIS at 4.12-93. Loss of habitat adversely affects listed fish species.

> Alternatives 1, 3, and 4 are preliminarily determined to have adverse effect on ESA-listed fish species and associated critical habitat. The mitigations developed for fish habitat are developed to maintain and restore ecosystem integrity and the intent of compensatory mitigation would be to offset impacts that cannot be avoided or minimized (e.g. blocked fish access to Upper Meadow Creek) (Appendix D). Section 7 ESA consultation will be conducted for the preferred alternative, once identified.

DEIS Appx. A at A-6.

Though the implementation of this amendment would not result in jeopardy (pending Section 7 consultation), significant adverse effects to ecological conditions and species are documented throughout Chapter 4 and Appendix J in the DEIS. An amendment to this standard needs to include effects analysis and demonstration of compliance with substantive

requirements of the planning regulations. If this analysis occurs in Biological Assessment, there is no forum for public disclosure. Effects need to be discussed in the supplemental DEIS.

Finally, the DEIS claims that 36 C.F.R. § 219.10(a) does not apply to this project-specific amendment:

> The plan must include plan components, including standards or guidelines, for integrated resource management to provide for ecosystem services and multiple uses in the plan area. When developing plan components for integrated resource management, to the extent relevant to the plan area and the public participation process and the requirements of §§ 219.7, 219.8, 219.9, and 219.11, the responsible official shall consider: (7) Reasonably foreseeable risks to ecological, social, and economic sustainability. (8) System drivers, including dominant ecological processes, disturbance regimes, and stressors, such as natural succession, wildland fire, invasive species, and climate change; and the ability of the terrestrial and aquatic ecosystems on the plan area to adapt to change (§ 219.8).

36 C.F.R. § 219.10(a)(7), (8).

This requirement is directly related to this project-specific amendment. The aquatic ecosystem is already stressed due to the threatened status of Chinook salmon, bull trout, and steelhead. Climate change will put more stress on the ecosystem by increasing stream temperatures, thereby decreasing the ability of the ecosystem to adapt to change.

In conclusion, none of the proposed amendments are consistent with the Planning Rule. None of the proposed amendments were adequately analyzed as to their effects, violating both NFMA and NEPA.

XII. THE DEIS VIOLATES NEPA

A. The DEIS failed to address concerns raised in the scoping comments.

The Midas Gold Stibnite DEIS failed to address several issues brought to the attention of the Forest Service and the project proponent through the scoping process. The DEIS addresses the ecological importance of the area in a single reference, "many wetlands receive federal protection under the CWA due to their ecological importance and because of a historical trend of wetland loss as many of the nation's wetlands have been altered for agriculture and development." DEIS at 3.11-1. This represents the entirety of the document's discussion regarding the ecological importance of the area, failing to directly document the

ecological role of the Stibnite Gold Project analysis area. Further, the DEIS does not include an alternative that examines the environmental impacts of an underground mine facility, of a dry stack tailings facility or of a mining footprint limited to the existing footprint of previous disturbance. Midas Gold has stated that an underground operation and other alternatives does not represent a financially feasible alternative. However, the Forest Service is obligated to examine all potential alternatives regardless of financial burden to the project proponent. Similarly, our scoping comments recommended examining an alternative that did not include creating a waste rock facility, commonly referred to as "development rock storage facilities" in the DEIS, in Fiddle Creek. All four action alternatives include waste rock storage in Fiddle Creek, with the Forest Service/Midas Gold again ignoring a reasonable alternative recommendation.

We also recommended the Forest Service/Midas Gold establish a certain amount of restoration certainty by developing a series of alternatives for restoration during every phase of the mine life and that can continue to proceed during the cessation or suspension of mining activities. Regarding concurrent reclamation, the DEIS contains a singular reference, Appendix D, FS-73, stating that Midas Gold will conduct concurrent reclamation, but provides no additional information regarding either agency's or project proponent's definition of concurrent reclamation. Similarly, the DEIS also lacks any discussion or analysis regarding Restoration Duration, which entails exploring ways to permanently protect the Upper East Fork of the South Fork of the Salmon River watershed from additional disturbances at the end of the mine's life to protect restoration investments and mitigation agreements. Neither Appendix D (Mitigation Measures) nor other chapters of the DEIS broach this topic except for a generic template on conservation easements in Appendix D. The end result is that the Forest Service/Midas Gold again fails to adequately examine or address mechanisms for long-term mitigation assurances.

Regarding water quality, our comments recommended the DEIS examine the Total Maximum Daily Loads (TMDL) associated with project area streams and rivers and produce an assessment of previous sediment reduction projects, the success of these efforts, the current sediment load, and the projected sediment load following project implementation. Again, the DEIS inadequately addresses stream TMDL conditions and how those might change as a result of this mine undertaking. On a related issue, we recommended that the Forest Service/Midas Gold consider and analyze the impacts to river recreation users, emphasizing the value of the EFSFSR to river recreational users. The DEIS does not offer any analysis or discussion of the potential impacts to river recreationists. Interestingly, the DEIS does consider the potential impacts to terrestrial recreationists and includes a new proposed over-snow vehicle (OSV) and off-highway vehicle (OHV) trail to offset impacts to land-based motorized recreationists. The decision to cater to one recreation interest at the expense of others is arbitrary and capricious, resulting in the exclusion of a segment of the area's user population.

Regarding mitigation measures, we requested the Forest Service/Midas Gold disclose the failure rate of any proposed mitigation measures and how the agency/project proponent would address these shortcomings to create a more sustainable and environmentally responsible mining proposal. The Forest Service provided no such study. However, we located an easy to find, peer-reviewed study which found that restoration success varied depending on the different types of wetlands involved, with some wetland types having failure rates as high at 87 percent. The study concludes that mitigation ratios should be adjusted based on the type of wetland involved and the previous failure rates: "These results suggest that federal and state regulatory agencies would have to require minimum mitigation ratios of 3.5:1 for palustrine forested, 7.6:1 for wet meadow, 1.2:1 for shallow marsh, and 1:1 for open water to compensate for the risk of failure. Additional mitigation may be needed to offset the effects of temporal loss of wetland function."[157]

The DEIS not only fails to disclose failed mitigation measure rates, the mitigation plan in itself represents an anemic attempt to demonstrate the good intentions of Midas Gold rather than provide substantive and measurable mitigation.

We also recommended the Forest Service/Midas Gold include a discussion centered on the connected actions and the effects of drilling and fuel storage on private lands. NEPA requires a full environmental analysis of all project components, whether on private or federal lands, if the proposed undertaking includes the use of federal funds or public lands managed by federal agencies. The DEIS fails to incorporate an analysis of the potential impacts to lands and the environment on or surrounding private lands associated with the Stibnite Gold Project.

B. The purpose and need are unreasonably narrow.

An agency violates NEPA when it "define[s] its objectives in unreasonably narrow terms."[158] "A purpose and need statement will fail if it unreasonably narrows the agency's consideration of alternatives so that the outcome is preordained."[159]

> One obvious way for an agency to slip past the strictures of NEPA is to contrive a purpose so slender as to define competing "reasonable alternatives" out of consideration (and even out of existence). The federal courts cannot condone an agency's frustration of Congressional will. If the agency constricts the definition of the project's purpose and thereby

[157] Robb, J.T., *Assessing Wetland Compensatory Mitigation Sites to Aid in Establishing Mitigation Ratios*, Wetlands 22: 435 (2002).
[158] *Nat'l Parks & Conservation Ass'n v. BLM*, 606 F.3d 1058, 1072 (9th Cir. 2010).
[159] *Alaska Survival v. Surface Transp. Bd.*, 705 F.3d 1073, 1084 (9th Cir. 2013).

> excludes what truly are reasonable alternatives, the EIS cannot fulfill its role. Nor can the agency satisfy the Act.[160]

While the Forest Service is permitted to take the applicant's purposes into consideration, it cannot draft a narrow purpose statement that restricts the consideration of alternatives to one motivated by private interests.[161] "[A]n applicant cannot define a project in order to preclude the existence of any alternative sites and thus make what is practicable appear impracticable."[162] Federal courts have routinely found that NEPA prevents federal agencies from effectively reducing the discussion of environmentally sound alternatives to a binary choice between granting and denying an application.[163]

Here, the Forest Service defined its objectives in unreasonably narrow terms, and as a result, failed to consider other reasonable alternatives and proposes reaching a preordained conclusion in violation of NEPA.

The DEIS states:

> For this Draft EIS, the Stibnite Gold Project plan of operations serves as the basis for determining purpose and need. Accordingly, the other action alternatives analyzed in the Draft EIS were developed based upon the plan of operations.
>
> **ES 3.1 Forest Service Purpose and Need**
> The Forest Service's purpose is to consider approval of the Stibnite Gold Project plan of operations submitted by Midas Gold in September 2016, as supplemented, to mine and process gold, silver and antimony from deposits at the mine site in central Idaho for commercial sale.
> The need for this action is to:
>
> - Respond to Midas Gold's plan for development of the Stibnite Gold Project to mine gold, silver, and antimony deposits in central Idaho;

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[160] *Simmons v. U.S. Army Corps of Eng'rs*, 120 F.3d 664, 666 (7th Cir. 1997); *see Citizens Against Burlington v. Busey*, 938 F.2d 190, 196 (D.C. Cir. 1991) ("[A]n agency may not define the objectives of its action in terms so unreasonably narrow that only one alternative from among the environmentally benign ones in the agency's power would accomplish the goals of the agency's action.").
[161] *Nat'l Parks & Conservation Ass'n*, 606 F.3d at 1072.
[162] *Sylvester v. U.S. Army Corps of Eng'rs*, 882 F.2d 407, 409 (9th Cir. 1989).
[163] *See e.g., Save Our Cumberland Mountains v. Kempthorne*, 453 F.3d 334, 345 (6th Cir. 2006).

- Ensure that the selected alternative, where feasible, would minimize adverse environmental impacts on National Forest System (NFS) surface resources;
- Ensure that, prior to approval, measures are included that provide for mitigation of environmental impacts and reclamation of the NFS surface disturbance;
- Ensure that the selected alternative would comply with other applicable federal and state laws and regulations.

The Forest Service purpose and need for action are established by the agency's responsibilities under the Organic Administration Act of 1897 (16 United States Code 478, 482, and 551) and the locatable minerals regulations at 36 Code of Federal Regulations (CFR) 228, subpart A, which set forth rules and procedures through which use of the surface of NFS lands in connection with operations authorized by the United States Mining Laws (30 United States Code 21-54), which confer a statutory right to enter upon the public lands to search for minerals, shall be conducted so as to minimize adverse environmental impacts on NFS surface resources.

DEIS at ES 4-5.

As noted herein, this stated purpose and need not only violates the NEPA requirements, it fundamentally misunderstands the true nature of what is currently occurring at the site, the agencies' responsibilities under federal law, and the agencies' authorities to protect public resources. The agency states that:

The Forest Service's purpose is to consider approval of the plan of operations submitted by Midas Gold in September 2016 (Midas Gold 2016), as supplemented, to mine and process gold, silver, and antimony from deposits at the Stibnite Gold Project mine site in central Idaho for commercial sale. This purpose is consistent with Congress' declaration in the Mining and Mineral Policy Act of 1970 (Public Law 91-631 as amended through Public Law 106-193) that it is the continuing policy of the Federal Government, in the national interest, to foster and encourage private enterprise in:

- The development of economically sound and stable domestic mining, minerals, and metal and mineral reclamation industries; and

- The orderly and economic development of domestic mineral resources, reserves, and reclamation of metals and minerals to help ensure satisfaction of industrial, security, and environmental needs.

The Stibnite Gold Project also is consistent with applicable goals and objectives for minerals and geology resources, including mining, in both the Payette National Forest Land and Resource Management Plan, as amended (Payette Forest Plan) (Forest Service 2003) and the Boise National Forest Land and Resource Management Plan, as amended (Boise Forest Plan) (Forest Service 2010); specifically the goal to facilitate orderly and environmentally sound exploration, development, and production of mineral and energy resources (Mineral and Geology Resources Goal 01).

The Forest Service's need for action is established by the agency's responsibilities under the Organic Administration Act of 1897 (16 United States Code 478, 482, and 551) and the locatable minerals regulations at 36 CFR 228, subpart A, which set forth rules and procedures through which use of the surface of National Forest System (NFS) lands in connection with operations authorized by the United States Mining Laws (30 United States Code 21-54), which confer a statutory right to enter upon the public lands to search for minerals, shall be conducted so as to minimize adverse environmental impacts on NFS surface resources. These regulations require that all locatable mineral prospecting, exploration, development, mining, and processing operations, and associated means of access, whether occurring within or outside the boundaries of a mining claim located under the Mining Law, be conducted in a manner that minimizes adverse environmental effects on NFS surface resources. Under these and other authorities, the Forest Service may impose reasonable conditions to protect such surface resources.

DEIS at 1-6. The DEIS asserts that the Forest Service's goal is to "foster and encourage private enterprise in: The development of economically sound and stable domestic mining, minerals, and metal and mineral reclamation industries." *Id.* But this project would clearly be inconsistent with numerous and important aspects of the Payette and Boise Forest Plans, as discussed below, and environmental laws and standards, adversely affect public resources, restrict or eliminate uses and rights enshrined in treaties with the Nez Perce Tribe, and otherwise significantly degrade forest resources.

The Forest Service's focus on the general need to support mineral development under the 1970 Mining and Mineral Policy Act is misplaced. First, that Act, which merely notes general principles, creates no controlling statutory mandate on the agency. Instead, the Forest Service's primary mandate is to protect the forest from destruction and depredations under the 1897 Organic Act. The agency's guiding congressional mandate regarding the national forests is "to regulate their occupancy and use and to preserve the forests thereon from destruction." 16 U.S.C. § 551.

Instead, the Forest Service proposes to make multiple amendments to the Forest Plans without credible analysis as to whether the purpose and need of the project warrants such significant and permanent amendments to these Plans. To credibly evaluate the purpose and need for this project and associated features of it, the entire section needs to be rewritten following determination of the legal status of Midas Gold's claims and other asserted rights.

In addition, as noted herein, the agency's Purpose and Need and No-Action Alternative ignores the undisputed fact that the site currently violates water quality and other environmental standards due to the various pits, waste/tailings piles, adits/tunnels, and other pollution sources. The agencies must consider the cleanup/remediation of the site as their first obligation under the Clean Water Act, 1897 Organic Act, the NFMA, NEPA, and other applicable laws/regulations (as well as its Treaty obligations), which the DEIS fails to do.

For example, the agency cannot assert that the No-Action Alternative would result in the continuation of the current contaminated conditions, as the agency, and Midas Gold, are already under an outstanding obligation to clean-up/remediate the site. By ignoring this, the Forest Service essentially lets Midas Gold off-the-hook for the current conditions and responsibilities under federal and state law. At a minimum, the agency must fully review and consider a cleanup/remediation plan that does not involve additional and new mineral extraction. We note that the Forest Service and other state and federal agencies have already conducted significant restoration work at Stibnite and contemplated continued restoration work in the future.

C. The DEIS failed to consider a reasonable range of alternatives.

Under NEPA, federal agencies are instructed to "inform decisionmakers and the public of the reasonable alternatives which would avoid or minimize adverse impacts or enhance the quality of the human environment." 40 C.F.R. § 1502.1 (1978). NEPA requires an EIS to describe and analyze "every reasonable alternative within the range dedicated by the nature and scope of the proposal." *Alaska Survival v. Surface Transp. Bd.*, 705 F.3d 1073, 1087 (9th Cir. 2013). Consideration of alternatives "is the heart of the [EIS]," and agencies should "[r]igorously explore and objectively evaluate all reasonable alternatives" that relate to the

purposes of the project and briefly discuss the reasons for eliminating any alternatives from detailed study. *Id.*; 40 C.F.R. § 1502.14 (1978).

While an EIS "need not consider an infinite range of alternatives, only reasonable or feasible ones," the failure to examine a reasonable range of alternatives renders an EIS inadequate. *Id. See also Idaho Conservation League v. Lannom*, 200 F. Supp. 3d 1077, 1090–91. (Payette National Forest violated NEPA by failing to discuss in EIS any alternatives that reduced ground disturbing mining activities while still meeting purpose and need). In discussing alternatives, the Forest Service must state how the alternatives "will or will not achieve the requirements of . . . other environmental laws and policies." 40 C.F.R. § 1502.2(d). A failure to consider a reasonable range of alternatives or "present complete and accurate information to decision makers and to the public" regarding the alternatives will not meet the requirements of NEPA. *See Natural Resources Def. Council v. U.S. Forest Serv.*, 421 F.3d 797, 813-14 (9th Cir. 2005).

Here, the DEIS failed to consider a reasonable range of alternatives and improperly dismissed multiple feasible alternatives put forth by commenters that would satisfy the purpose and need of the project and lessen the adverse environmental impacts. And where the Forest Service dismissed alternatives, it often used the unsupported and incorrect excuse that the alternative was not feasible, without backing up this claim.

i. Development/Waste Rock Storage and Tailings Storage Facilities

Several organizations submitted scoping comments recommending the development of additional alternatives but the Forest Service failed to do so and did not adequately respond to these comments. Midas Gold rejected several alternatives and appears not to have allowed the Forest Service to develop additional alternatives, including options for reduced or modified mining and tailings storage that would have lower the impacts to surface resources. The Forest Service should develop all reasonable alternatives to address concerns the public raises including the type of mining, number of pits, pit design, access routes, tailings storage design, tailings storage locations, waste rock storage locations, mitigation for fish and wildlife, and project duration.

Given the significant negative issues of placing the Tailings Storage Facility in the Upper Meadow Creek stream, wetlands, and Riparian Conservation Area (RCA), the Forest Service should develop an alternative that essentially limits tailings production to the volume that can be safely stored without inundating riparian conservation areas, wetlands, streams, or critical habitat for listed fish species. Thus, the limiting factor for mining would be tailings storage. Once all the suitable, non-sensitive areas are used for tailings storage sites, further mining should cease. Tailings can also be backfilled as paste.

We also recommended developing an alternative in which the tailings and/or waste rock are relocated back into the main pits (or other geologically stable area). While rehandling this material would require additional expense, the Forest Service should compare this with the cost of dealing with a catastrophic dam failure, contamination, and effects of downstream public health and fisheries issues.

The Forest Service should develop alternatives regarding the design and engineering of the waste rock and tailings facilities to see if the quantity of water contacting mine waste and needing treatment can be further minimized.

ii. Long-term water treatment

In the environmental review of a proposed copper porphyry mine, the EPA highlights the uncertainties associated with long term water treatment systems for mines, saying, "Seepage and leachate monitoring and collection systems, as well as the WWTP, might need to be maintained for hundreds to thousands of years. It is impossible to evaluate the success of such long-term collection and treatment systems for mines. No examples exist, because these timeframes exceed both existing systems and most human institutions." (USEPA, 2014)

The Forest Service should evaluate the potential impacts from water treatment system failure, and provide alternatives that evaluate additional mitigation measures to ensure that contaminated water isn't released in the event of a water treatment plant failure, and that financial assurance is in place to cover the full cost of these back-up systems, as well as the regular replacement of water treatment systems during post-closure, etc.

The analysis for the Thompson Creek Mine noted that the water treatment facility is going to need to be fully functional for centuries in order to protect public resources, and, even, then, failures are likely:

> [T]he water management system consists of a series of collection points, pipelines, pump stations, and treatment plants. These facilities, during operations of 100s years or more, could be subject to equipment failures (e.g., pipeline rupture), human error (e.g., a valve improperly opened), or extended power outages (e.g., earthquake damages to the regional electricity grid). Such problems may be inevitable over the course of 100s of years or more, and could result in the release of untreated water to the environment.
>
> It is not possible to predict how such problems would occur or what the consequences would be, as such would depend on what water was released, where and how much water was released, and the duration and

> timing of the release. However, in the worst case, the release of untreated water could cause exceedances of acute WQSs in sections of the Salmon River, Thompson Creek, S. Creek, and Bruno Creek. ... The adaptive groundwater management plan (Lorax 2012b) offers three mitigation contingencies in the event that "specified Performance Metrics" are exceeded. These include a slurry wall, a permeable reactive barrier, and additional pumping wells within the vicinity of the existing pump-back system.[164]

iii. Underground mining alternatives

Every action alternative in the DEIS leads to a permanent reduction in fish and other wildlife habitat and a large net increase in surface disturbance both at the mine site and throughout the region from new infrastructure and cumulative impacts. Most of the reason for this increase in impacts is due to Midas' proposal for three open pit mining operations. The project also has a high strip ratio, producing immense amounts of potentially reactive waste rock in addition to tailings. This highly impactful proposal will result in vastly more disturbance than currently exists at the site, will require years of reclamation efforts, and carries permanent water treatment liabilities under all action alternatives. There is also little assurance that reclamation will actually result in an improvement over current conditions for most resources.

Multiple scoping commenters asked the Forest Service to consider underground mining alternatives, but the DEIS has dismissed these requests with no substantive explanation. A description of the alternative development process is given in AECOM 2020b (Section 1.4). This document falsely states that "The Forest Service, in coordination with the cooperating agencies, and informed by the NEPA scoping process, tribal consultation, and public comment, developed alternatives in response to the significant issues listed in Section 1.2". Clearly, the consideration of public comment was omitted since an underground mining alternative was suggested (Stibnite Gold Project EIS Scoping And Issues Summary Report, Section 2.6.18, AECOM, 2018), yet the option is not even listed in Table 1 of the AECOM report as having been considered. The report goes on to quote Forest Service Handbook (FSH) 1909.15, Chapter 10, Section 14.4:

> Alternatives not considered in detail may include, but are not limited to, those that fail to meet the purpose and need, are technologically infeasible or illegal, or would result in unreasonable environmental harm.

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[164] BLM, *Final Environmental Impact Statement and Proposed Resource Management Plan Amendment for the Thompson Creek Mine Expansion and Public Land Disposal, Custer and Bannock Counties, Idaho* at 2-57 to 2-58 (emphasis added) (Attached).

The report further states:

> Reasonable alternatives include those that are practical or feasible from the technical and economic standpoint and using common sense, rather than simply desirable from the standpoint of the applicant (46 FR 18026).

The following criteria were developed to evaluate whether a given alternative should be carried forward:

> 1. Does the alternative, including a combination of component options, meet the purpose and need of the project?
> 2. Would the alternative or component option potentially reduce environmental effects to at least one resource?
> 3. Is the alternative or component option technically feasible?
> 4. Is the alternative or component option economically feasible?

Since the Forest Service failed to properly evaluate these factors for an underground mining alternative, the following analysis will begin the process.

First, does the alternative, including a combination of component options, meet the purpose and need of the project? An underground mining alternative absolutely meets the purpose and need, which is to mine gold and other metals on public lands under existing mining laws and regulations. There would be no impact on Midas Gold's valid and existing mining claims or its patented lands.

Second, would the alternative or component option potentially reduce environmental effects to at least one resource? Underground mining, when paired with the backfilling of underground workings, wouldn't "potentially" reduce environmental effects to at least one resource, it would certainly reduce effects to almost all resources because of these factors:

> 1. Underground mining with paste backfill would reduce waste rock dump volume, leachate contamination from them, long term management of them, water treatment liabilities from them, visual impacts from them, and reduced wildlife habitat from them.
>
> 2. Underground mining would reduce the tailings volume by approximately 60%. A reduced tailings footprint carries the same benefits as #1, but also results in less water loss from tailings pond evaporation, thereby saving water.

3. Underground mining eliminates potential acid drainage from pit walls, and evaporative water loss from pit lake formation. Therefore, it reduces any possibility of groundwater contamination due to evapoconcentration in pit lake chemistry. Since no pits are created, wildlife habitat in the area obliterated by the proposed pits would not be permanently lost.

4. Energy consumption and carbon emissions would be significantly lower because less waste rock would need to be removed and transported to distant waste rock dumps.

5. Visual resources and impacts to recreation would be significantly reduced.

6. Surface and groundwater quality impacts would be minimized due to all the reasons above.

7. Fugitive dust emissions would be vastly reduced.

Third, is the alternative or component option technically feasible? Underground mines were operated globally long before large open pit mines began to develop, and indeed forms the basis of technically feasible mining from the beginning of the industry. There is no question as to the technical feasibility of underground mining.

Fourth, is the alternative or component option economically feasible? To determine this, the Forest Service has a mandate to study the question in detail, yet it did not attempt to do so in any way. It is clear that Midas Gold's intent is to mine in a way that maximizes profit, but as stated above, "reasonable alternatives include those that are practical or feasible from the technical and economic standpoint and using common sense, rather than simply desirable from the standpoint of the applicant (46 FR 18026)."

It is not sufficient to disregard underground mining because it is generally more expensive at other sites when other factors contribute to whether a deposit could be mined underground and still be profitable, but perhaps not as profitable as Midas Gold might desire. Underground mining with paste backfill has the potential to recover essentially as much ore as open pit mining. Therefore a preferred alternative for underground mining does not represent a taking of resources nor a limitation as to the ultimate amount of gold that Midas can recover.

A detailed study of the following points must be carried out to answer the question of whether or not underground mining would be economically feasible:

1. Midas Gold's economic analysis likely assumes that the price of fossil energy will remain stable for the life of the mine, yet this is inconsistent with long term history.

Increases in energy costs – which are a historical reality – mean that the Stibnite Project could be equally, or more, profitable when mined underground. An analysis should be performed to cover a range of energy costs and determine at what energy cost underground mining and subsequent reclamation would equalize with the current proposal.

2. What facilities would not be required to be built if an underground mine is pursued, and how much money would that save? For example, far fewer trucks are needed, and therefore a smaller and less expensive truck maintenance shop would be required.

3. How do human resource requirements and costs change in an underground mining environment, and could this save money?

4. What high grade areas of all three deposits could be mined selectively at low cost but high return, and using which techniques?

As an example of further investigation, discussion of an underground mining option at Hangar Flat as specifically suggested in the EIS Scoping Summary (AECOM, 2018) is warranted here. Underground mining at Stibnite is already proposed on site as is evidenced by the plan to drive a mile long decline at the Scout site for exploration [DEIS 2.3.6.2]. Incidentally, there is no analysis whatsoever of the environmental consequences of this action disclosed in the DEIS. An estimated 100,000 tons of waste rock having unknown geochemical reactivity would be disposed of at an undetermined location.

The Prefeasibility Study (PFS) (M3, 2019) notes that the Scout target is a potential high grade ore body that would be amenable to underground mining (PFS section 1.10). Thus it appears that underground mining at Stibnite is certainly considered to be a viable method. Also of note in the PFS (section 9.7.2) is the description of a high grade "deep target" at Hangar Flats. Exactly the type of deposit that would be most effectively mined by underground methods.

While underground mining may not be as cheap as open-pit mining, the cost difference and the environmental advantages vary between the three main deposits. As noted in the original comment and in the PFS as noted above, underground mining makes most sense at the Hangar Flats deposit and results in a host of environmental mitigations. This option would eliminate the permanent pit lake that would result from alternatives 1-4. The DEIS makes it abundantly clear that the pit lake creates a number of water quality problems. Not only would the pit lake be gone, much of the waste rock volume would not be generated. By including paste backfill disposal of tailings in such an alternative, TSF storage volume requirements would decrease as well. Note the statement by AECOM (2020c) that paste backfill is "best suited to underground or pit backfill, neither of which are envisioned for the Project".

Contrary to that statement, pit backfill is planned at the site, making paste backfill a viable option for both applications.

With a fresh look at the various components and their interrelations (as mentioned in DEIS 2.2.2), a significant gain in environmental protection is likely possible with a modest increase (if any) in costs, not to mention a gain in returns by accessing the deep target that would be forgone under an open pit scenario.

All such analysis of this sort is completely missing from the DEIS. The Forest Service has an obligation to pursue less destructive alternatives under NEPA, Forest Service regulations and handbook, and guidance from the White House Council on Environmental Quality. The Forest Service also has an obligation to provide evidence as to why key elements that would vastly reduce impacts are not considered. The agency acknowledges that it cannot proceed under the project proponents' desired outcome without studying reasonable alternatives. For these reasons, the Forest Service must issue a supplemental DEIS that adequately analyzes underground mining, as it was asked to do in scoping comments.

The Forest Service needs to develop meaningful alternatives regarding the most significant environmental risk. The public deserves an opportunity to review and compare alternatives for the probability and consequence of future water contamination. The selected alternative should do the best job of protecting public resources far into the future.

iv. Restoration-emphasis alternative

It seems odd that for a project submitted to the FS as a "Plan of Restoration and Operations" (as opposed to a standard Plan of Operations) that the development of alternatives did not include one which emphasized restoration. The selection of alternatives seems to have been driven primarily by operational considerations rather than restoration objectives. This apparent bias in alternative selection should be remedied by the Forest Service issuing (at a minimum) a Supplemental DEIS which includes a fully developed analysis of a Restoration Emphasis Alternative (REA). Rather than approaching the analysis solely from the perspective of what environmental sacrifices would have to be made to allow a profitable mining project, the perspective of what mining objectives and profits could be foregone to achieve a long-term improvement of environmental conditions at the site needs to be considered. Only by looking at the project from both perspectives can a true understanding of the range of possible outcomes be realized. Although economic feasibility is one consideration, the FS is under no obligation to give special consideration to the proponents desires (e.g. profit margin) as noted in AECOM (2020b)

> It should be noted that the emphasis for alternatives development is what is a reasonable alternative rather than whether the

> proponent or applicant likes or is itself capable of carrying out a particular alternative. Reasonable alternatives include those that are practical or feasible from the technical and economic standpoint and using common sense, rather than simply desirable from the standpoint of the applicant.

Why wasn't such a REA considered? Based on the alternatives already analysed in the DEIS, it's not hard to come up with several options that fit the screening criteria for reasonable alternatives. One such example that was brought up in the initial scoping comments (Stibnite Gold Project EIS
Scoping And Issues Summary Report, Section 2.6.18, AECOM, 2018) is to mine the deposit with underground methods. The FS was unresponsive to this suggestion. It was not even one of the components listed in section 2.8. It was neither considered nor explicitly ruled out.

Underground mining is already proposed on site as is evidenced by the plan to drive a mile long decline at the Scout site for exploration [DEIS 2.3.6.2]. Incidentally, there is absolutely zero analysis of the environmental consequences of this action disclosed in the DEIS. An estimated 100,000 tons of waste rock having unknown geochemical reactivity would be disposed of at an undetermined location. The Prefeasibility Study (PFS) (M3, 2019) notes that the Scout target is a potential high grade ore body that would be amenable to underground mining (PFS section 1.10). Thus it appears that underground mining is certainly considered to be a viable method. Also of note in the PFS (section 9.7.2) is the description of a high grade "deep target" at Hangar Flats. Exactly the type of deposit that would most effectively mined by underground methods.

While underground mining may not be as cheap as open-pit mining, the cost difference and the environmental advantages vary between the three main deposits. As noted in the original comment and in the PFS as noted above, underground mining makes most sense at the Hangar Flats deposit and results in a host of environmental mitigations. This option would eliminate the permanent pit lake that would result from alternatives 1-4. The DEIS makes it abundantly clear that the pit lake creates a number of water quality problems. Not only would the pit lake be gone, much of the waste rock volume would not be generated. By including paste backfill disposal of tailings in such an alternative, TSF storage volume requirements would decrease as well. Note the statement by AECOM (2020c) that paste backfill is "best suited to underground or pit backfill, neither of which are envisioned for the Project". Wait a minute, pit backfill <u>is</u> planned. Under the hypothetical framework of a REA which I have begun to outline here, underground mining would also occur. I'm not going to belabor my point here by developing a REA in full detail, other than to say that with a fresh look at the various components and their interrelations (as mentioned in section 2.2.2), a significant gain in environmental protection is likely possible with a modest increase (if any) in costs. Even the suitability of individual components outlined in section 2.8 should be reevaluated after the

data gaps that exist in those evaluations are filled. This problem is acknowledged in AECOM (2020c):

> An assessment of the feasibility of any of the tailing technologies/deposition methods is limited by available information and certain data gaps such as the physical and geochemical properties of the tailing.

So the economic feasibility of various methods of handling tailings is as speculative and uncertain as many of the other supporting references one finds behind this analysis.

Even the development of such a REA, would not provide a proper comparison of the full range of environmental effects expected by each alternative. In order to do so, the No Action alternative needs to be modified to include the reasonable assumption that if the project did not happen, CERCLA mandated remediation of the site would be the foreseeable result. This realistic scenario would result in environmental conditions that would constitute a reference baseline that would be far more useful for comparing environmental impacts of differing alternatives than the use of existing degraded conditions that are currently assumed under the No Action alternative.

For all the reasons stated above the Forest Service needs to include a Restoration Emphasis Alternative in this analysis and to reconsider the reasonably foreseeable effects of a No Action alternative. This can only be accomplished by issuing a Supplemental DEIS at a minimum.

D. The DEIS fails to adequately analyze and disclose the direct, indirect, and cumulative impacts of the project.

One of NEPA's fundamental goals is to "promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man." 42 U.S.C. § 4321. Accordingly, the scope of NEPA review is quite broad, and agencies are required to evaluate "any adverse environmental effects which cannot be avoided should the proposal be implemented." *Id.* at 4332(C)(ii). Agencies must disclose and consider direct, indirect, and cumulative effects on "ecological . . . aesthetic, historic, cultural, economic, social, or health" interests.[165] 40 C.F.R. § 1508.1(g)(1) (1978).

[165] Agencies must consider the reasonably foreseeable direct, indirect, and cumulative effects. Direct effects are those effects "which are caused by the action and occur at the same time and place." 40 C.F.R. § 1508.8(a). Indirect effects are those "caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable." 40 C.F.R. § 1508.8(b) (1978). "Indirect effects may include . . . related effects on air and water and other natural systems, including ecosystems." *Id.*; *see also S. Fork Band Council v. U.S. Dep't of Interior*, 588 F.3d 718, 725 (9th Cir.

NEPA requires that an agency use state of the art science to make sound scientific decisions.[166] The chosen methodology must be accurate and defensible.[167]

As discussed below, the analyses of the direct, indirect, and cumulative impacts contain a number of unreasonable deficiencies, omissions, and errors that our experts have identified as being critical for an adequate analysis and disclosure of potential environmental impacts for several resources. For a complex project in a sensitive environment, such a DEIS is completely unacceptable. The Forest Service must correct these errors, must take a hard look at all reasonably foreseeable direct, indirect, and cumulative effects, and must then issue a revised or supplemental DEIS for public comment.

XIII. IMPACTS TO RESOURCES

A. Groundwater and surface water hydrology[168]

i. Characterization of baseline existing conditions is inaccurate due to gaps in essential datasets, thus affecting the modeling results and potentially underestimating the environmental impact of mining operations on subsurface and surface water resources.

The Forest Service failed to establish appropriate existing baseline conditions for its analysis of the hydrological impact of the Stibnite Gold Project on both ground and surface water. "Establishing appropriate baseline conditions is critical to any NEPA analysis." "Without establishing the baseline conditions which exist ... before [a project] begins, there is simply no way to determine what effect the [project] will have on the environment and,

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2009) (air quality impacts associated with transport and off-site processing of ore are "prime examples of indirect effects that NEPA requires be considered"); *Mont. Envtl. Info. Ctr. v. Off. of Surface Mining*, 274 F. Supp. 3d 1074 (D. Mont. 2017) (NEPA analysis for coal mining failed to take hard look at reasonably foreseeable indirect and cumulative effects of coal train transportation beyond immediate area); *WildEarth Guardians v. Zinke*, CV 17-80-BLG-SPW-TJC, 2019 WL 2404860 (D. Mont. Feb. 11, 2019) (NEPA violation where agency failed to consider shipping destinations, rail routes, and coal plants receiving coal from mine).

[166] *WildEarth Guardians v. Zinke*, 368 F. Supp. 3d 41, 79 n.31 (D.D.C. 2019); 40 C.F.R. §§ 1500.1(b), 1502.22(b), 1502.24.

[167] *See Nat. Res. Def. Council v. U.S. Forest Serv.*, 421 F.3d 797, 813 (9th Cir. 2005) (holding that agency's "misleading" economic methodology violated NEPA's "procedural requirement to present complete and accurate information to decision makers and to the public to allow an informed comparison of the alternatives").

[168] We incorporate by reference the following expert reports that are attached to this comment: Prucha, R.H., *Review of the Hydrologic Impacts of the Proposed Stibnite Gold Project Draft Environmental Impact Statement (DEIS)* (2020) (Attached); Semmens, B., BAS Groundwater Consulting (2020) (Attached).

consequently, no way to comply with NEPA." The agency's assessment of baseline conditions "must be based on accurate information and defensible reasoning." Here, several basic datasets essential to defining the baseline conditions were either unavailable (but obtainable), unused, or highly-spatially biased, calling into question the adequacy of the disclosed impacts on groundwater and surface water quality and quantity.

First, subsurface geologic and hydraulic data (groundwater well and/or borehole data) are present in the immediate area of the proposed mining, such as in the Meadow Creek/EFSFSR mainstem drainages, but absent outside of this area where impacts of mining will still be present, making the data used to model the existing baseline conditions highly spatially-biased. Modeling the baseline existing conditions with data from only these localized valley areas precludes characterization and understanding of how the groundwater system flows in the surrounding areas that feed into the valley--i.e., the hillslope and hilltop area. Additionally, not all data from the dataset near the proposed mine site were used in the existing conditions model, with far fewer groundwater well locations used for model calibration than available in the existing datasets, as discussed below. This selective choice of data to establish the baseline existing conditions has implications for understanding, and likely underestimates, the full environmental impact of mining operations on dewatering, impacts to groundwater-dependent ecosystems, and stream flows, among other things.

Second, information regarding faults in the mine area is generally available but lacking in the DEIS or supporting documents. For example, the Brown & Caldwell Water Resources Summary Report (2017) provides a summary about the more prominent faults in the mine area and many geologic boreholes. Other reports show many other faults mapped within the analysis area. "Reference is made in the DEIS to the lack of characterization of the hydraulic nature of major faults (e.g. Meadow Creek Fault Zone) that extend through the Hangar Flats and Yellow Pine pit locations and the East Fork of Meadow Creek and Sugar Creek (DEIS Section 4.8.8.2.1.3)."[169] A close inspection of core hole drilling logs would have at least offered qualitative clues to the prevalence of open fracture zones within deeper bedrock. Lost circulation zones, water inflows, and increased drilling rates correlated with shattered core recovery are all indications of permeable fracture zones. Although the permeability distribution is likely very heterogeneous, discounting such evidence when developing a conceptual model may seriously miss the true nature of the groundwater system. Despite acknowledgment of faulting throughout the model domain, no hydraulic testing was conducted or presented in the DEIS or supporting documents to assess the hydraulic characteristics associated with faulting in the area. Fault zones which contain substantial open fracture networks can act as preferential flow paths for groundwater. Conversely, if such fractures are sealed off by secondary mineralization, they can act to restrict groundwater flow. Not understanding whether these faults impede or enhance water flows is a critical oversight in

[169] Semmens (2020) at 7.

the hydrologic characterization and may impact a host of factors, including the extent and amount of dewatering in the groundwater system and streamflow, the nature of pit dewatering, and understanding the amount of water that will have to be managed.

Third, the climate/precipitation data used as input in the hydrologic modeling inappropriately relies on regional, long-term monthly data (PRISM dataset) even though a local climate station at Stibnite is available for data post-2010. The modeling compensated for the lack of local meteorological data prior to 2011 by only using the PRISM model dataset, however, that dataset does not correlate well with the local post-2010 data. Moreover, a significant weakness of the PRISM dataset is that it only has a monthly timestep. The most significant hydrologic events in the Stibnite area occur over periods of days or even hours. For example, there are significant short-term events that occur almost annually in January and February, such as the rain-on-snow "pineapple express" floods of early 1997, which would not be accounted for using a monthly timestep. Additionally, there are other rain-on-snow events which trigger avalanche and debris torrents that occur in the EFSFSR drainage during the winter and spring. All these events are much shorter than a month; none can be accounted for with a monthly average. It is these types of events that have the most significant effects on stream channel morphology and function. A model run with local data, albeit of shorter record, might produce very different results, as would one with more frequent timesteps. The Forest Service should have used the local climate data at different elevations around the modeled watersheds to account for notable variations in average annual precipitation.

Fourth, the hydrologic characterization of the analysis area fails to consider the known and substantial underground workings and interconnected tunnels extending from higher elevation Hangar Flats to the Yellow Pine Pit and eventually into Sugar Creek via the Bailey Tunnel. None of the studies appear to account for likely continued mine groundwater drainage into the EFSFSR drainage via the Bailey Tunnel.

ii. The modeling approach and execution are flawed, and unreasonable assumptions were made about the existing hydrologic conditions.

The modeling efforts failed to include a number of relevant parameters and made unreasonable assumptions about the existing baseline conditions that may significantly influence the predicted impacts to hydrologic resources. One example is the lack of incorporating seeps and springs in the existing conditions model which means the impact of mining on these groundwater dependent ecosystems (GDEs) cannot be determined with the models. Errors and uncertainties in the existing conditions model "directly translate

into...every prediction made using the [modified existing conditions model] raising serious concerns about the reliability and accuracy of all subsequent predictions."[170]

First, the existing conditions model unreasonably assumes a highly permeable bedrock extending 500 feet under stream channels, while assuming an impermeable bedrock outside of those stream channels (mapped alluvium). There is no empirical data to support this assumption, and it is contrary to the conceptual model presented in DEIS Section 4.8.2 that the alluvial aquifer is the most groundwater-transmissive formation. If the bedrock outside of the mapped, high permeability alluvium is not as impermeable as assumed (and the evidence regarding faulting and fracturing noted above suggests this is a very real possibility), it "may transmit enough groundwater to influence the resulting conclusions about the impact of mining, especially where assumptions were made about seepage to groundwater beneath bedrock diversion channels and unlined facilities that will be placed on "impermeable" bedrock."[171][3] Assuming this bedrock is impermeable limits downward infiltration of seasonal recharge, thus maintaining artificially shallow groundwater flow paths that can impact model results on water depth, discharge of water into open pits, and results on restored stream flows that may have a significant influence on the anticipated impacts to fisheries resources.

Second, the approach to model calibration did not include calibrating to the available dataset of time-series, transient groundwater levels. The transient, existing conditions model should have been calibrated to transient groundwater levels, which would have strengthened the model calibration, is "critical for determining appropriate unconfined and confined storage terms,"[172] and is an appropriate approach for "a model that will be used to predict transient changes to the groundwater system."[173]

Third, the model simulates monthly time intervals over which streamflows, as well as all other inputs to the hydrogeologic/hydrologic system, are averaged. This approach misses critical shorter-term precipitation and runoff events that greatly influence the hydrologic system and interaction with groundwater. Perpetuating this monthly time step through the predictive models "misses a number of ways in which the proposed mining would affect streamflows."[174]

Fourth, the existing conditions model calibration results cannot be verified from the provided model files, nor from the information in the existing conditions modeling report. The reports in the DEIS are not only unclear and inconsistent on which well data were used to

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[170] Prucha (2020) at 5.
[171] Semmens (2020) at 2.
[172] Prucha (2020) a 35.
[173] Semmens (2020) at 8.
[174] Pruha (2020) at 55.

guide model calibration, but also lack an explanation of why data from a number of wells, many within the West End Pit, were not included in the analysis. For example, the Brown & Caldwell Water Resources Summary (2017) states that there are a total of 66 wells (48 alluvial, 15 bedrock, and 3 multi-level wells) in the study area. The Brown & Caldwell Existing Conditions Report (2018), however, reports a total of only 50 wells used for model calibration. Later in the report, it shows calibration statistics for 55 wells. And finally, the 2017 model workplan shows that there are a total of 91 wells, a number of which occur in the West End Pit, but were ignored in modeling the existing conditions in the Brown & Caldwell (2018) Existing Conditions Report. Importing these other datasets to the model calibration files yielded worsened calibration statistics, thereby bringing into question the validity of using this model for predictive purposes.

In sum, the lack of an adequately developed model of the baseline existing conditions for the analysis area directly translates into concerns about the reliability and accuracy of all the subsequent predictions of the environmental impacts, including how groundwater impacts affect surface flows, and vice versa. Unreliable results, particularly results that underestimate the impacts to the hydrologic flow system due to mining, have major implications for other resources, including sustainability and ecosystem integrity of fisheries resources. The Forest Service must correct these errors and omissions, remodel the hydrologic impacts using adequately defined existing conditions, and issue a revised or supplemental DEIS for public review.

iii. Alternate model conceptualization, and uncertainty and sensitivity analyses are missing

The development of alternate model conceptualizations, which is critical to supporting and developing groundwater flow models, is inadequate and incomplete. One calibrated model was presented, along with a narrowly conducted sensitivity analysis of individual parameters. Developing several conceptual flow models is not only standard practice, but particularly important in cases like these where there are a significant number of data gaps and significant uncertainty in the model of the baseline hydrologic conditions. "Given the high degree of complexity in the subsurface over the mine footprint, a realistic range of alternative conceptual models should have been considered in the modeling to account for substantial uncertainty in virtually all model input."[175]

In addition to a lack of alternative conceptualizations represented with the existing conditions model, the sensitivity and uncertainty analyses were inadequate, with much of the uncertainty analysis run from de-calibrated versions of the calibrated model. "The sensitivity analysis was not robust enough to cover the range in measured field values of hydraulic conductivity, the range of tested values for specific yield in bedrock was narrow, and many

[175] Pruha (2020) at 18.

parameters and model features were not tested at all."[176] Uncertainty analyses indicate how unique modeling outputs are when various models of hydrologic conditions are tested. "All of the models developed and referenced in this DEIS (and supporting documents) have numerous assumptions and inputs, each of which translate into prediction uncertainty, but none address the substantial uncertainty in predictions, let alone even identifying and tracking all sources of uncertainty."[177] Addressing uncertainty could potentially change model predictions, such as groundwater flow directions and interaction with surface water during and after mining; the amount of excess water returned to the groundwater system in the rapid infiltration basins, the estimated depth to groundwater and impacts of groundwater mounding beneath or within facilities and generated geochemistry, and the estimates of groundwater discharge to open pits, estimates of pit lake levels, excess water to rapid infiltration basins, and geochemistry of seepage during and after mining.

Both Prucha and Semmens provide alternate conceptualizations for the calibration of the existing conditions model. Prucha reconstructed the area using the integrated hydrologic/hydraulic model MIKE SHE to show that a comparable or better calibration can be achieved without high permeability bedrock beneath the streams and using a much finer time scale to better replicate surface water trends, which would be important for predictions of impacts to surface streams from mining.[178] Semmens found comparable or improved model calibrations from the provided MODFLOW models that reconceptualize the permeability of the bedrock, and demonstrated that the predicted impacts from mining are varied if these alternate conceptualizations are utilized.[179] These efforts do not constitute the "best" new model calibrations that can be achieved, nor the full range of alternate model conceptualizations that should be considered, but rather are examples that illustrate the need for much wider, appropriate testing of the model for use in the DEIS.

iv. Incomplete or unavailable information relevant to the impacts and the choice among alternatives is obtainable but omitted from the DEIS.

Table 4.1-1 in the DEIS, DEIS at 4.1-3 -- 4.1-4, lists several instances of incomplete or unavailable information that are relevant to reasonably foreseeable significant adverse impacts and essential to a reasoned choice among alternatives that the Forest Service must include in the DEIS, yet did not. NEPA regulations require that an agency obtain such information if the cost of doing so are not exorbitant, and the methods of doing so are not unknown. 40 C.F.R. § 1502.22(b)(2).

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[176] Semmens (2020) at 2.
[177] Prucha (2020) at 42.
[178] Prucha (2020) at 46.
[179] Semmens (2020) at 20.

There are instances in Table 4.1-1 where the Forest Service blatantly says the information is available but was not included. For example, with respect to the Project's water balance, Table 4.1-1 states that "[w]hile the Draft EIS provides a general description of the water balance, additional information will be included in the Final EIS." DEIS 4.1-3

"Rapid infiltration basin (RIB) testing results were not available for inclusion in the DEIS," information recognized as relevant and essential. *Id*. This information was identified as both relevant and essential, *id.*, and would have confirmed the range of infiltration capacity and response, which directly affects the water management plan. Despite its relevance and availability, the Forest Service determined that this information won't be included until the final EIS. DEIS 4.1-3.

Table 4.1-1 also states that "[u]ncertainties exist in the modeling results," but fails to specifically identify what those uncertainties are. *Id.* Additionally, Table 4.1-1 states that "sensitivity analyses to address some sources of model uncertainty" have been performed, *id*., but these analyses appear to not have been disclosed in the DEIS or supporting documents.

By failing to provide this information, the Forest Service has failed to fully disclose the impacts of mining operations to the public, has taken away the public's and agency's ability to make a reasoned choice among the alternatives, and has thus violated NEPA. These deficiencies must be corrected in a supplemental DEIS made available for the public to review.

v. Additional deficiencies in the hydrologic modeling must be corrected to make an informed decision about the choice of alternatives.

There are additional gaps in the datasets, unsupported assumptions, and inadequacies in the modeling that are further described in Prucha and Semmens, that may have significant implications for the potential impacts disclosed in the DEIS for each alternative. Before proceeding to a final EIS, the Forest Service must correct these inadequacies and disclose the full environmental impacts of mining operations in a supplemental DEIS that is made available for public review.

The full extent of our comments on these issues can be found in the attached reports: Prucha, R.H., *Review of the Hydrologic Impacts of the Proposed Stibnite Gold Project Draft Environmental Impact Statement (DEIS)* (2020) (Attached); Semmens, B., BAS Groundwater Consulting (2020); Rygh, J., *Analysis of the Potential Effects to Groundwater Resources from the Proposed Golden Meadows Exploration Project* (2015) (Attached); Nordstrom, D.K.., *Review of Midas Gold Reports on Site-Wide Water Chemistry (SWWC) Modeling* (2018) (Attached).

B. Groundwater and surface water quality

Geochemical characterization of existing conditions within the project area is a critical first step in developing predictions of changes to surface water and groundwater quality resulting from implementation of the various alternative actions. There are numerous issues with data used, assumptions made, model designs, and test results that the DEIS has failed to disclose, as described below. These lack of disclosure in the DEIS and deficiencies in the scientific analyses raise serious questions about the adequacy of the assessment of potential environmental impacts caused by the mine operations and post-closure plans. We incorporate by reference the following expert reports that are attached to this comment: Center for Science in Public Participation (Oct. 12, 2020) [Zamzow, K.]; Prucha (2020); Maest, A., *Evaluation of the Draft Environmental Impact Statement (DEIS) for the Stibnite Gold Project, Idaho, and Related Water Quality Conditions, Predictions, and Effects* (2020).

i. The characterization of existing conditions has not been adequately described.

An adequate assessment of the project's impacts is necessarily based on establishing appropriate baseline conditions. The DEIS and supporting documents provide data on rock materials that were sampled, but there appears to be gaps in data essential to adequately determining the existing baseline conditions.

a. Conceptual models are missing

The DEIS and supporting documents do not provide a conceptual model for existing conditions. A model would show the assumed contaminant inputs affecting current water quality, and could be useful in assessing why the predictive water quality model was only partially successful in recreating current conditions. Conceptual models would also explain the fate and transport of contaminants to groundwater and surface water, especially from seeps which contain high concentrations of contaminants of concern, including copper, cobalt, total cyanide, lead, manganese, nickel, selenium, and vanadium. A lack of organization and clarity pervades the DEIS. Information is scattered and difficult to find.

Conceptual models are needed for elements of the geochemical and site-side water chemistry (SWWC) models, and should be included in a supplemental DEIS.

b. Natural mineralization not adequately characterized[180]

The DEIS claims that existing water quality has been affected by natural mineralization, DEIS at 3.9-18, 3.9-49, but there is no information presented to quantify natural mineralization inputs in surface water, groundwater, or seeps. Existing water quality has been affected by extensive historical gold, silver, antimony, and tungsten mining and processing activities that ended about 25 years ago. DEIS at ES-2. Inputs from natural mineralization cannot reasonably be remediated. It is therefore important that natural background/baseline water quality absent historical mining impacts be carefully evaluated, assessed, and presented in a supplemental DEIS.

c. Lack of representative sampling[181]

Current potential sources that appear to not be included in the existing conditions assessment include fault zones, historic heap leach pads, historic tunnels, and roads. Surface samples of ore and waste-rock grade material that has been oxidizing on the surface for decades were collected. However, samples from the Stibnite stock, which makes up 10-14 percent of the West End DRSF were not. Samples were also not collected from the Bradley dump material. Have these lithologic and waste components been included in assessing current source contributions? If current conditions are not adequately characterized, models predicting existing and future water quality conditions will be flawed.

Additionally, two laboratory leach tests on legacy materials that represented the upper range of total arsenic concentrations in solid samples were discarded after the leach test results showed that arsenic and antimony releases from these samples were also high. Discarding these samples pushes the model input values to lower arsenic and antimony concentrations and underestimates the predicted higher end of the range of arsenic and antimony concentrations in groundwater and surface water. These samples should be included to estimate a realistic range of known contaminant concentrations in sources, pathways, and receptors.

d. Insufficient geochemical testing of legacy material

Humidity Cell tests (HCTs) are designed to simulate accelerated weathering and to determine the rate of acid generation, acid consumption, and sulfate and metal/metalloid release rates over time. The inappropriate application of HCT results will affect water quality predictions.

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180 Maest at 5, 8-9, 11.

181 Maest at 1.

Legacy historic material, with the exception of three spent ore disposal area (SODA) samples, did not go through HCT testing. Additionally, HCTs conducted on spent ore samples may have ended before stable chemistry was achieved. Waiting for steady-state conditions to be achieved will help estimate the amount of acid-generating and neutralizing potential remaining under these conditions.

Meteoric Water Mobilization Procedure (MWMP) tests evaluate the release of certain metals, metalloids, and other substances from mined materials exposed to meteoric events, such as snowmelt and rainstorms. MWMP tests were not conducted on Bradley waste rock. Of the 30 samples collected from legacy tailings, only four samples of 30 were submitted for MWMP tests. In particular, this type of test on material like Bradley waste dumps could inform how future waste rock dumps will affect water quality.

Moreover, the assessment of acid-producing and acid-neutralizing potential using acid-base accounting (ABA) tests on legacy waste rock and legacy tailings was limited; only four of the 30 tailings samples and 24 of the 78 waste rock samples were tested. This is in stark contrast to the 130 spent ore samples that were tested. Therefore, testing was heavily weighted to the spent ore disposal area derived from the West End deposit.

Results from ABA, HCT, and MWMP testing inform the ability, or inability, of the wastes to neutralize acid and the potential to mobilize metals, metalloids, and other contaminants from the wastes that could potentially reach water receptors.

In the end, with such limited testing of legacy waste rock and tailings, their influence on water quality has not been captured. Sampling and testing are needed to develop conceptual models, which are the essential precursors to computer numerical modeling. Lack of key information on the existing conditions renders predictions about future conditions and the analysis of the range of impacts from each alternative unreliable and incomplete.

ii. Site characterization of future conditions has not been adequately described.

a. Conceptual models are missing[182]

Although water quality predictions are provided for all Alternatives in the DEIS, the DEIS only provides a conceptual model for the TSF; and this is only provided for a TSF in Meadow Creek Valley (Alternative 2), not one in the EFSFSR (Alternative 3). In supporting

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Maest at 10-11.

documents, conceptual models and a table of model inputs are only provided for operations and the post-closure period for Alternative 1.

Conceptual models are presented for the DRSFs, but the only processes depicted are those that would reduce contaminant concentrations. The models ignore potential leaching of contaminants from waste rock and formation and dissolution of soluble salts. The same is true for pit lake modeling.

With respect to the assessment of future water quality, Alternatives 2, 3, and 4 are significantly distinguishable from Alternative 1 in that they require the agency to perform separate analyses for each. For example, in Alternative 2, the West End DRSF would be removed, the West End waste rock would be re-allocated as backfill to the Midnight Pit and Hangar Flat Pit, the remaining DRSFs at Hangar Flats and Fiddle would be covered, and Meadow Creek would be routed around, not through, the Hangar Flats pit lake. All of these changes will affect source contributions, and/or hydrology, and that affects contaminant mobilization – all of which should be included in site conceptual models for each alternative.

b. Conceptual model assumptions were unreasonable

Although only the outputs of the models, and the conceptual models for Alternative 1 are included in the DEIS and supporting documents, what is available is based on some unreasonable, unsupported, and unexplained assumptions:

- The analysis assumes that leachate leaking from through the TSF liner or flowing from below the Hangar Flats and West end DRSFs will enter groundwater and follow groundwater to the pit lakes. Groundwater could move in other directions along faults or toward seeps.
- The analysis DEIS assumes that all precipitation post-closure will run off DSRFs regardless of whether covers are placed on them. This is irrational, and does not consider the reality of a dynamic landscape or the inherent permeability of liners.
- The DEIS relies on several assumptions made with respect to the Waste Rock Management Plan (the plan does not yet exist), such as no blending of waste rock and the lithological composition of each DRSF and the Yellow Pine backfill. The final disposition of waste rock from the different pits is needed to inform the geochemical model.
- The assumption that reactive surfaces make up only 4 percent of the waste rock volume is likely low.
- The DRSF and the TSF conceptual models assumed a 10 meter mixing zone under the facilities in which leachate could interact with groundwater. However, the Fiddle DRSF is anticipated to be underlain by 45 percent alluvial material and 55 percent bedrock, the Hangar Flats DRSF by 95 percent alluvial material, and the West End

DRSF is almost entirely on bedrock. This information does not support a common groundwater-leachate mixing zone depth for all these areas.

Unreasonable assumptions call into question the adequacy of the analyses, and thus violate NEPA.

c. Mining activities are missing

There is no discussion whatsoever about the waste rock that would be generated by the proposed Scout decline, nor whether this decline presents either opportunities for storing waste (e.g., as cemented or uncemented waste rock backfill) or challenges as a future source of contamination (e.g., leaching from tunnel walls, blast zones, and tunnel backfill) if blasting causes water flow through fractures and faults. If underground mining is being considered, it needs to be shown in conceptual models, and it needs a much more thorough discussion of the volume and placement of waste. This is a major flaw.

There is also no discussion of the potential mobilization of contaminants when the SODA waste rock and legacy tailings are moved. Regardless of whether any of the material is processed, it will need to be moved in order to lay the liner for the new TSF facility proposed for the Meadow Creek Valley in Alternatives 1, 2, and 4. The analysis appears to assume that moving legacy waste rock and tailings will not release contaminants and adversely affect water quality. Disturbing material, particularly fine-grained material like tailings, could provoke a release of contaminants. These potential releases should be included in an operations conceptual model.

d. Insufficient post-closure scenarios

The DEIS claims that only one-post closure scenario is considered because conditions won't change. But this does not consider, for example, the planned transition from active to passive treatment for the TSF decades after closure.

Together these are grave deficiencies in the analysis as it neither allows the public to make a reasoned choice between alternatives, nor allows the decisionmaker to make an informed decision.

iii. The geochemical characterization of future conditions has not been adequately described.

a. Gaps in lithological characterization/application

Documents supporting the DEIS fail to adequately characterize some lithologies. For example, quartz monzonite (QM) samples were collected, but it is unclear which samples have sulfide veins and which had calcite veins, and whether the veins were located in specific areas of the old pit and proposed pits. This is particularly important for development of the block models. The material will have very different leachate characteristics, depending on the mineralization and degree and type of alteration, which has not been characterized. Without this information, the leaching characteristics of the samples cannot be known and cannot be segregated simply as "ore" or "waste".

b. Geoenvironmental units should have been identified

The DEIS assumed that the leaching characteristics across a given lithology are the same. Geochemical testing results, however, contradict this assumption. Before geochemical characterization began, geoenvironmental units (also called geochemical test units) with similar contaminant leaching and acid drainage potential should have been identified.

Instead, modeling used only broad distinctions based on lithology (rock types, such as granite or alaskite) to group samples. The geochemical testing results in the DEIS supporting materials clearly show a wide variety in acid generation and contaminant leaching potential within a single rock type, indicating that further distinctions should have been applied. Without identifying geoenvironmental units, the leaching potential from a given lithology could be underestimated and cause long-term environmental problems or the leaching potential within a given lithology could be overestimated and the material could potentially be used safely as construction materials. Existing mineralogic analysis could potentially be used to create geoenvironmental units at this stage, but the geochemical characterization results would then need to be broadly re-interpreted.

c. Geochemical tests on future waste material are missing

Tailings testing overall was insufficient. Not only did none of the five "tailings mixes" created from simulated tailings go through HCT testing, but oxide tailings were not tested either. Very few tailings went through ABA tests or short-term leaching testing (with synthetic or meteoric water). The only short-term leach testing used on tailings samples was the SPLP test, which uses a 20:1 solution:solid ratio and will underestimate potential leachate concentrations because of the high dilution factor.

Stibnite stock lithology, which could make up 10-14 percent of the West End DRSF, was not sufficiently tested for its long-term leaching potential using the HCT or any other method.

If underground mining is an option, then putting material underwater in laboratory tests would also be necessary to simulate flooded mine tunnels at closure. In addition, submerged column testing should be conducted on waste rock and pit backfill material to simulate the water quality effects from rising pit water levels and submerged conditions during post-closure. If the results turn out to be different from the HCT tests, then the water quality predictions in the DEIS need to be re-evaluated.

No material went through the kind of field-scale testing that looks at rates of acid generation or consumption and metal leaching under more realistic conditions expected during and after mining. This is necessary to get a "real world" sense of whether models and predictions based on laboratory tests like HCTs are anywhere near close to what is actually observed; in fact, laboratory tests may only come within an order of magnitude or more of getting predicting actual conditions during mining.

Lastly, although all the water quality predictions are based on PHREEQC models, the inputs for the models were not provided in full. One of the PHREEQC input files made available on October 19, 2020 was run (Hangar Flats DRSF cover). So many errors were found `by the program that it only ran three of 80 simulations in the input file before shutting down. The results of the PHREEQC runs were not clearly discussed in the DEIS or any other document. It is unclear how output from the PHREEQC runs could be used in the SWWC model if so many simulations could not be successfully run using the code. The fact that antimony was not able to be included in the runs, even though it is one of the primary COCs, is an important shortcoming that was not discussed in the DEIS or any other document. It is impossible to determine if the PHREEQC inputs were reasonable. The conceptual models, table descriptions of model input sources, and PHREEQC input files work together, and reviewers should have access to all of them.

d. Assumptions about acid-generation and contaminant leaching potential are not supported.

The neutralization potential (NP) of Stibnite waste and ore samples has been consistently overestimated. Overestimating the NP will make it appear as if fewer samples and waste types are potentially acid generating (PAG). The NP of all samples needs to be re-evaluated, as does the designation of whether samples are PAG. If PAG designations change, additional mitigation measures will be needed to prevent the formation of acid drainage from new mining activity.

Just one HCT sample was used to represent all PAG waste rock and pit wall rock in geochemical and water quality models. Using just one sample to represent all PAG rock across the three pits and the development rock storage facilities (DRSFs) will not represent the potential range of contaminant concentrations that can be released from mine wastes sources. Although the DEIS states repeatedly that acid drainage will not be a problem at the site, four surface samples from legacy mining had pH values below 4. Many had low paste pH values and net acid generating (NAG) pH values <4.5 with low sulfide sulfur percentages, indicating that secondary salts are responsible for the acid produced. Acidic surface samples from legacy wastes should have been used to represent PAG leaching from future mine wastes. As noted by Midas Gold, the legacy mine wastes were characterized "to provide an analogue of likely future geochemical behavior." However, results from these samples were not used in the site-wide water chemistry model.

iv. The geochemical modeling is flawed

Geochemical and water chemistry model inputs used average concentrations (based on assumed steady-state leachate conditions) for analytes in baseline existing water quality and in predicted wastewater leachate; an average annual temperature to which waste would be exposed; and historical averages for precipitation. Using averages for these parameters as model inputs fails to capture the real-world variability of these parameters and underestimates the range of potential surface water quality impacts from mining. The use of averages introduces serious flaws that cast significant doubt on the validity of the disclosed impacts to water quality.

a. Application of average HCT leachate rates[183]

First, the geochemical models rely on HCT average, or "steady-state," leachate rates to calculate (after scaling) as solution inputs to PHREEQC to assess future leachate quality for the DRSFs and pit walls. Using averages underestimates the potential range of leachate concentrations that might occur from mine sources throughout a given year or period of years. "First-flush" rates could be obtained from early HCT testing results that typically contain higher concentrations of acidity and leachates than steady-state rates. These rates and concentrations may be representative of conditions that could occur after secondary salts formed during dry periods are flushed by water from the first rain or snowmelt. First-flush rates and concentrations were excluded from modeling inputs, thus limiting the range of potential predicted water quality impacts.

183 Zamzow at 30 and 36; Maest at 16-17.

Moreover, in addition to using average steady-state leachate concentrations (after scaling) as model inputs, the models were run with a limited representation of lithological units. Although a second phase of testing appears to include new material (Hangar Flats breccia and gouge, and Yellow Pine quartz monzonite and granite), additional testing of major waste rock lithologies (Hangar Flats quartz monzonite, West End carbonate, and Yellow Pine alaskite), and an additional ore sample (Yellow Pine quartz monzonite alaskite), these test results--which showed leachate containing arsenic, antimony, aluminum, manganese, copper, cadmium, and zinc--do not appear to have been used as model inputs.

b. Application of average temperature and average precipitation

Second, modeling used a single temperature rather than applying a monthly or seasonally variable temperature. Leachate release can fluctuate seasonally with temperature fluctuations; limiting tests to a single temperature limits the range of potential impacts.

Finally, assumptions regarding precipitation also taint the adequacy of modeling water quality impacts. The DEIS assessed precipitation over a 122-year period and determined the rolling averages of 14 consecutive years for the driest and wettest set of years. Model inputs used the "average" years of 2004-2017, to represent precipitation during operations. This rolling average, however, did not capture actual high and low years and precipitation amounts, and provided insufficient results that showed little difference in water quality. There are rain-on-snow events which trigger avalanche and debris torrents that occur in the EFSFSR drainage during the winter and spring. Modeling using rolling average precipitation did not account for such events. Precipitation should instead be applied on a shorter time frame, ideally monthly, weekly, or daily.

Alternative models run by Prucha (2020) indicate notable hydrologic changes due to climate change. Climate change effects should have been incorporated into the models run for the DEIS.

As discussed above, limiting HCTs to average, steady-state leachate release rates, using average temperature, and using average precipitation, fails to capture the expected variability across these variables and thus grossly limits the potential range of impacts on water quality.

c. Shortcomings of water quality and geochemical models that will underestimate predicted impacts.

We direct the reader to a full list of weaknesses our experts found in the geochemical models of the DRSFs, the TSF, and the pit lakes. Additionally, those shortcomings affect the

reliability of the site-wide water chemistry (SWWC) model, calling into question the disclosed impacts on water quality.

The many shortcomings listed for the geochemical and water quality models strongly suggest that the results of the models are overly optimistic, i.e., they underestimate, in terms of predicting environmental impacts. Please refer to Maest, A., *Evaluation of the Draft Environmental Impact Statement (DEIS) for the Stibnite Gold Project, Idaho and Related Water Quality Conditions, Predictions, and Effects* (2020) (Attached).

v. SODA materials proposed to be used for the tailings impoundment embankment are highly contaminated

The legacy Spent Ore Disposal Area (SODA) materials are proposed to be used to construct the tailings impoundment embankment (DEIS, Table 2.3-4) under the proposed action. The SODA samples were characterized to assess the "...suitability of spent ore for use in construction." The results found they have the highest release rates for arsenic and antimony and the highest initial concentration of mercury of any of the samples subjected to humidity cell testing. They should clearly not be used as construction materials.

vi. Perpetual water treatment

The DEIS fails to adequately analyze perpetual water treatment liabilities. Post-closure water treatment liabilities at any mine with potentially acid generating and/or metals leaching material can have horizons of hundreds of years, as predicted using geochemical modeling and acid/base accounting. In the absence of active water treatment, water quality degradation would increase for a certain period of time, level off, then begin a long period towards natural attenuation. When water treatment in perpetuity is proposed, the associated costs often make up the majority of the financial assurance bond (Chambers, 2020). These costs incurred by the persistence of contaminants can ultimately exceed the revenues of the mine during its operating lifetime, and eventually – usually within less than one human's lifetime – fall upon taxpayers. Therefore, it is critically important that exhaustive analysis be performed regarding long term water quality predictions. With any mine predicted to require water treatment in perpetuity, it is not a question of if treatment liabilities will fall to the public sector to absorb, but when.

The need for perpetual water treatment is discussed in the DEIS (Sections 4.3, 4.4, 4.5, 4.7, and 4.9) and in Brown and Caldwell (2020). Figure 2-4 in Brown and Caldwell (2020) shows a water flow diagram for post-closure mine years 18 to 21. The two sources that will

require perpetual treatment, according to the diagram, are toe seepage from the reclaimed Fiddle DRSF and the Hangar Flats pit lake overflow. However, because of large uncertainties in the water balance and the lack of consideration of climate change, additional sources could also require perpetual treatment.

Alternative 2 in the DEIS contains some limited information regarding the sources requiring treatment, however little technical information is provided on either the active or the passive treatment methods. Brown and Caldwell (2020, p. 7-6) state that on-site pilot testing will be performed in Year –3 (three years before mining begins) for the active system. Depending on the proposed start date for mining, pilot testing should have already begun. A footnote in Figure 2-4 in Brown and Caldwell (2020) states "The passive treatment systems will require pilot testing for effectiveness to meet treatment objectives." A possible passive system is described briefly in Section 6.7 of Brown and Caldwell (2020). No diagrams, chemicals needed, information on removal effectiveness, or maintenance requirements are included. The uncertainty extends to the production of methylmercury in the passive system ("It is unclear whether BCRs remove methylmercury or create it, so methylmercury would need to be monitored."). No information is provided on methods to remove methylmercury if it is produced.

The TSF is proposed to be a zero-discharge facility during operations (Brown and Caldwell, 2020, p. 2-15), but a reliable water balance has not yet been put forth, so this premise is highly uncertain. Brown and Caldwell (2020, p. 3-2) admit that uncertainties in the predicted mine water balance and predictive chemistry modeling remain, including those related to climate change. Climate change is not considered in the water balance model. As a result, they suggest adaptive management be used to allow for updating the design basis. However, not even a preliminary adaptive management plan exists. If the TSF is not a zero-discharge facility, treatment of TSF contact water will also be required. The summary of water treatment for each alternative (DEIS, Table 2.2-1, p. 2-10) lists active treatment for tailings runoff and consolidation water during reclamation and closure, but Brown and Caldwell (2020, Figure 2-4) shows only passive treatment of TSF consolidation water for mine years 21 to 42. This discrepancy needs to be resolved.

SRK Consulting conducted a water treatment evaluation, which is a very rough modeling effort to predict water quality concentrations on an annual timestep (Brown and Caldwell, 2020, Appendix A). Their tepid conclusion is that most predicted concentrations are within the range of existing conditions and several show an overall improvement relative to

existing conditions (Brown and Caldwell, 2020, Appendix A, p. 11). Neither this effort nor the current water balance include an estimate of the volume and concentration of contact water that could escape capture. If contact water is not captured, it cannot be treated.

Perpetual water treatment is only proposed for Alternative 2. The omission of such treatment from Alternatives 1,3,& 4 appears to be based on an assumption that these alternatives would produce much larger volumes of water needing treatment and that scaling the water treatment plant (WTP) up to that level would be questionable in terms of cost and technical ability. The DEIS fails to elaborate further on this rationale for excluding water treatment from the other alternatives. Just because an action is difficult does not constitute grounds for excluding it from an alternative, particularly when any long-term improvement in water quality is wholly dependent upon such action. The Water Quality Management Plan (WQMP) even admits that "the conceptual framework developed for operational and post-closure water treatment can be modified to accommodate the greater volumetric water treatment requirements of Alternatives 1, 3, and 4." (Brown & Caldwell, 2020, p. 9-3).

The DEIS and WQMP must provide much greater detail regarding how this modification of water treatment described in Alternative 2 could be accomplished for the other action alternatives. The effects of water treatment are critical to understanding the long-term conditions of surface water to be expected at the mine site and downstream. Therefore, a supplemental DEIS must be issued that accurately characterizes the perpetual water treatment liabilities in equal detail for all alternatives.

Characterization of water quality and quantity of the sources requiring treatment needs to be improved. Zamzow (2020), Maest (2020), and Prucha (2020) provide much detail on the various shortcomings of the geochemical and hydrologic analyses contained in the DEIS. After the source flow and concentration calculations have been reviewed and revised, the effectiveness of the treatment measures can be used to better estimate the resulting contaminant concentrations in the outflow of the WTP.

For each alternative, a supplemental EIS should include a section detailing the post closure liabilities with the following information. The WQMP is a good starting point, yet alternatives 1, 3 and 4 also need to include:

- The overall scope of treatment: which mine features require treatment, and what is the engineering approach to each source? Maps or schematics should be provided to locate these sources easily within the mine footprint and plan.
- Required treatment time estimates for each mine feature, providing the geochemical calculations that were used to determine these time horizons
- The projected volumes of water needing treatment from each source. For a central water treatment plant, what are the expected water volumes?
- Materials inputs for treatment. Fortunately, this is included for Alternative 2.
- WTP waste disposal details.
- Approximate annual costs of operation in today's dollars.
- An approximation of the bonding amounts that would be called for each alternative, and the calculations that went into those estimates.
- An explanation of what would happen if water treatment would end at some point after final reclamation has concluded. What would be the environmental consequences of a failure to treat for various lengths of time, or even years or indefinitely?

The components needed to estimate an end date for water treatment should include:

- Creation of a prediction plan that will include the approaches used and evaluations needed to determine whether treatment will be needed, and if so for how long, and how uncertainty in the predictions will be estimated. The prediction plan should be reviewed by an independent contractor.
- If wastes or mined materials are potentially acid-generating, based on ABA results, calculate the time to onset of acid mine drainage (AMD) based on humidity cell test (HCT) results and the mineralogic NP (see Price, 2009, Chapter 14).
- Estimate source term concentrations and pH values for each facility using release rates from kinetic testing, adjusted for site conditions (scaling factors), and the amount of waste or mined material in the facility.
- Using estimated source concentrations and pH values (previous bullet), mine water balance volumes, and quantitative effect of mitigation measures on reducing volumes and concentrations, estimate whether mine water releases from sources will require treatment during operation, closure, and post-closure. Treatment will be needed if the predicted concentrations in groundwater, surface water, or excess mine water that will not be used in operations will exceed relevant water quality standards or permit limits.
- Estimate, using information in the previous bullet, whether treatment will only be needed seasonally.

- List facilities or locations that will continue to release mine-related contaminants after mine closure.
- If treatment will be needed, indicate the type of treatment needed (active vs. passive, and specific active or passive treatment method) and estimate inflow and effluent concentrations during operation, closure, and post-closure. Inflow concentrations will be determined from the combination of source concentrations requiring treatment, and effluent concentrations will be determined by the type of treatment used.
- List assumptions and conditions that could modify predictions of treatment end date.
- Conduct an uncertainty analysis for the predicted time to onset of AMD/metals leaching and the end date for water treatment.

The full extent of our comments can be found in the following reports that are attached to this comment letter: Center for Science in Public Participation (Oct. 12, 2020) [Zamzow, K.]; Prucha, R.H., *Review of Hydrologic Impacts of the Proposed Stibnite Gold Project Draft Environmental Impacts Statement (DEIS)* (2020); Maest, A., *Evaluation of the Draft Environmental Impact Statement (DEIS) for the Stibnite Gold Project, Idaho, and Related Water Quality Conditions, Predictions, and Effects* (2020).

G. Water Quality Implications for Aquatic Species

i. Data on stream sediment chemistry was excluded.

The food chain/dietary pathway for fish, starting with contaminated stream sediment, was not considered in the DEIS conceptual models for existing conditions or in current and future modeling efforts.

Limited sediment quality data from five stream locations taken in June 2016 are available in a USGS publication but were not cited in the DEIS. These samples showed that at three of five locations for arsenic, and four of five locations for mercury exceeded Canadian sediment quality guidelines for the protection of aquatic life. The food chain /dietary pathway for arsenic has been shown to adversely affect salmonids in laboratory experiments using stream sediment from mined areas in Montana and Idaho (Kiser, et. al., 2010). Yet, the DEIS completely ignored stream sediment data. Excluding stream sediment from the contaminant pathway analysis is a major, fundamental flaw with the conceptual model for this site.

The DEIS does not describe or depict conceptual models that include stream sediment. Stream sediment is an important source of contaminant loading to fish. A conceptual model showing the food chain/dietary pathway for impacts to fish from consuming macroinvertebrates residing in contaminated stream sediment is needed. More sediment sampling is needed, and the results should be included in the design of conceptual models, mitigation measures, and clean-up proposals.

ii. Temporal variability of stream metal concentrations was not represented in SWWC modeling[184]

One of the most distinctive features of site surface water quality is the temporal variability in concentrations associated with stream hydrographs. Consideration of temporal variability is especially important at sites affected by mine contaminants, such as streams in the Stibnite area. *See* DEIS at 3.9.3.1.1.2 (showing overall mean concentrations of Sb, As, and Hg in surface water). Although the Forest Service and Midas Gold collected and analyzed surface water samples, surface water monitoring was often not frequent enough or well-timed with snowmelt to identify temporal changes and maximum concentrations. Knowing maximum concentrations of contaminants is important for understanding the potential for acute short-term toxicity to aquatic biota and for assessing the effectiveness of clean-up and mitigation measures.

Therefore, weekly, daily, or ideally hourly sampling is needed during or shortly after spring freshet and summer thunderstorms to estimate potential maximum concentrations, which should be used in the calibration of water quality inputs for existing condition models. These results should be presented in a supplemental DEIS.

iii. The DEIS failed to analyze antimony speciation in water samples.

The toxicity of arsenic and antimony to humans via drinking water and to aquatic biota is highly dependent on their chemical form (chemical speciation) in surface water and groundwater. Many water samples were analyzed for arsenic speciation, but no samples were analyzed for aqueous antimony speciation.

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184 Maest at 5-7,

iv. Lack of information about antimony toxicity to aquatic biota/food chain/dietary pathways

Essentially no information is available in the literature on the potential food chain/dietary pathway for antimony, which is one of the most important contaminants from legacy and proposed mining activity. Further, little fundamental information is available on the aquatic toxicity of antimony, and arsenic cannot be used as a surrogate. Neither the State of Idaho nor the federal government have established antimony criteria for the protection of aquatic life. A reliable evaluation of the potential effects of the mine cannot be completed without site-specific information on the chemical speciation and toxicity of antimony to resident fish populations. Site-specific toxicity testing should be conducted using clean sediment and sediment with a range of elevated antimony concentrations. Such work is especially important for understanding the effectiveness of promised legacy cleanup measures.

C. Fisheries[185]

i. Data on stream sediment chemistry was excluded.

The food chain/dietary pathway for fish, starting with contaminated stream sediment, was not considered in the DEIS conceptual models for existing conditions or current and future modeling efforts.

There was limited sediment quality data from five stream locations taken in June 2016. These samples showed that at three of five locations for arsenic, and four of five locations for mercury exceeded Canadian sediment quality guidelines for the protection of aquatic life. The food chain /dietary pathway for arsenic has been shown to adversely affect salmonids in laboratory experiments and using stream sediment from mined areas in Montana and Idaho. Yet, theDEIS completely ignored stream sediment data. Excluding stream sediment from the contaminant pathway analysis is a major, fundamental flaw with the conceptual model for this site.

The DEIS does not describe or depict conceptual models that include stream sediment. Stream sediment is an important source of contaminant loading to fish. A conceptual model showing the food chain/dietary pathway for impacts to fish from consuming macroinvertebrates riding in contaminated stream sediment is needed. More sediment

[185] The following reports are incorporated by reference and attached to this comment: Maest (2020); O'Neal (2020), Faurot, M. (2020), Newberry, D. (2020).

sampling is needed, and the results should be included in the design of conceptual models, mitigation, and clean-up measures.

ii. Temporal variability of stream metal concentrations were not represented in SWWC modeling

One of the most distinctive features of site surface water quality is the temporal variability in concentrations associated with stream hydrographs. Consideration of temporal variability is especially important at sites affected by mine contaminants, such as streams in the Stibnite area. *See* DEIS at 3.9.3.1.1.2 (showing overall mean concentrations of Sb, As, and Hg in surface water). Although the Forest Service/Midas Gold analyzed surface water samples, surface water monitoring is often not frequent enough or well-timed with snowmelt to identify temporal changes and maximum concentrations. Knowing maximum concentrations of contaminants is important in understanding the potential for acute short-term toxicity to aquatic biota and for assessing the effectiveness of clean-up and mitigation measures.

Therefore, weekly, daily, or ideally hourly sampling is needed during or shortly after spring freshet and summer thunderstorms to estimate potential maximum concentrations and to use in the calibration of the inputs for water quality models. These should be presented in a supplemental DEIS.

iii. The DEIS failed to analyze antimony speciation in water samples.

The toxicity of arsenic and antimony to humans via drinking water and to aquatic biota is highly dependent on their chemical form (chemical speciation) in surface water and groundwater. The DEIS did not analyze any water samples for chemical speciation.

iv. Lack of information about food chain/dietary pathways

Essentially no information is available in the literature on the potential food chain/dietary pathway for antimony, which is one of the most important contaminants from legacy and proposed mining activity. Further, little fundamental information is available on the aquatic toxicity of antimony, and arsenic cannot be used as a surrogate. Neither the State of Idaho nor the federal government have established antimony criteria for the protection of aquatic life. A reliable evaluation of the potential effects of the mine cannot be completed without site-specific information on chemical speciation and the toxicity of antimony to resident fish populations. Site-specific toxicity testing should be conducted using clean sediment and sediment with a range of elevated antimony concentrations. Such work is especially important for understanding the effectiveness of promised legacy cleanup measures.

v. Comparing impacts to current habitat conditions drastically underestimates cumulative impacts of mining.

In the DEIS, mine impacts are compared to current baseline conditions. Habitat considered in the DEIS is already severely impacted by historic mining in the area and other development activities. Undoubtedly, historic mining impacts contributed to the current conservation status of all species evaluated. While the proposed alternatives describe some remediation of historic impacts, mine cleanup efforts simply cannot restore habitat to pre-mining conditions and cannot outweigh impacts from currently proposed mining. Previous domestic and global efforts have shown habitat restoration and mitigation is difficult, expensive, and often ineffective. Impacts should be predicted relative to estimated habitat conditions prior to mine development.

The historic Stibnite/Yellow Pine mining site was located in the same watershed as the newly proposed Stibnite Mine described by the DEIS. The historic site was mined from the early 1900's to the late 1990s largely for antimony (Sb) and gold (Au). Contaminants associated with those operations resulted in heavy metals and cyanide contamination in area soils, groundwater, seeps, sediments, and thus surface waters (EPA 2020). An initial assessment conducted by the US Environmental Protection Agency (EPA) in 1985 determined habitat impairments in the watershed significant enough to consider it amongst the US's most contaminated sites in (EPA 2020). Despite some cleanup efforts, the site remains contaminated, with designation as a Superfund site. Moreover, numerous streams in the East Fork drainage of the South Fork Salmon River (EFSFSR) as well as the South Fork Salmon River (SFSR) exceed Idaho standards for drinking water and aquatic habitat, and thereby are considered 'impaired.' Exceedances are documented for arsenic (As), Sb, mercury (Hg), temperature, and sediment in watersheds and subwatersheds that will be impacted by mining (IDEQ 2018). While the DEIS indicates that water quality will be improved by treatment associated with the proposed Stibnite mining project, ground and surface water flows are poorly characterized and treatment is neither sufficiently described nor tested for effectiveness (see Prucha 2020, Semmens 2020, Zamzow 2020).

vi. Current baseline conditions are insufficiently-and frequently inaccurately-characterized, rendering predictions of impact unreliable.

Hydrologic models lack appropriate spatial and temporal resolution, fail to robustly integrate groundwater and surface water interactions, and include additional flaws and inadequacies, ultimately resulting in *mischaracterization of existing hydrologic conditions* (see Prucha 2020, Semmens 2020, Zamzow 2020).

With the exception of descriptions of proposed mitigation methods, physical habitat *characteristics—past or present—are virtually ignored in the DEIS* despite their fundamental role in fish population productivity. Besides stream channel dimensions, gradient, stream flow and substrate, off-channel habitat, floodplain connectivity, and other habitat elements known to influence salmonid productivity receive virtually no consideration in the main body of the document or the main appendix regarding fish resources and habitat.

While current water quality may be accurately described, many area waters are considered impaired due to high temperatures and excessive sedimentation, As, Sb, and HG. As discussed above, *the current state of impaired water quality should not be measured as a baseline from which to predict allowable impact*.

Multiple models used to describe various aspects of habitat are flawed oversimplifications of salmonid ecosystems, and/or rely on model inputs generated by other flawed and inaccurate models. This renders their utility for predicting and measuring impact questionable at best. Flawed models include the Stream and Pit Lake Network Temperature (SPLNT), Intrinsic Potential (IP), Occupancy (OMs), and Physical Habitat Simulation (PHABSIM) models. See detailed comments below for specifics.

Salmonid distribution, abundance, and density estimates use flawed methodology and interpretation, and lack the spatial and temporal resolution to characterize baseline variability. Consequently, *adequate characterization of existing, listed salmon and trout populations are lacking*. The DEIS concludes that population level impacts to salmonids are unlikely to result from Stibnite Mine development. However, given underestimations of impacts and the lack of adequate baseline characterization of salmon populations, population level impacts from mine development (and other contributing factors) could simply not be readily detected from information provided in the DEIS.

Metals concentrations of tissue from fish and other aquatic species can be a useful indicator of baseline conditions and an early indicator of low-level, chronic and/or indirectly accumulating increases of metals concentrations that may go undetected by routine monitoring. The DEIS evaluation of baseline metals concentrations in tissues are limited to a very small number of highly mobile westslope cutthroat trout specimens, and two sculpin specimens. Because of their mobility, cutthroat trout are a poor indicator of local conditions. Sculpin tends to more closely reflect their environment, though sample size is vastly insufficient for any utility in characterizing baseline or measuring future impacts. Moreover, metals concentrations in tissues of biota inhabiting lower trophic levels are absent in the DEIS. More baseline metals concentration data from area biota should be required prior to any permitting decisions.

For example: because adequate characterization of existing, listed salmon and trout populations are lacking, population level impacts to salmonids from the Stibnite Gold Project cannot be evaluated from the information provided in the DEIS. (O'Neal 2020).

The DEIS states that the percentage of populations affected by impacts described in Chapter 4.12 is expected to be small and population-level impacts are not expected. DEIS at 4.12-24. This statement is flawed because of the lack of adequate baseline characterization of salmon populations (O'Neal 2020). About 100,000 fish are modelled to be potentially injured or killed from 1.6 km of channel alterations in the EFSF. DEIs at Table 4.12-2b. This large number of potentially affected fish only takes into account those injured or killed by the 1.6 km of channel alterations, and not those affected by blasting, lethal temperatures, exposures to metals contaminants, exposures to toxic spills, effects of sediment loading, food web disruptions, changes in access , and other adverse effects.

vii. Physical habitat impacts from mining are underestimated in the DEIS.

While some important aspects of habitat complexity and connectivity were characterized in baseline assessments referenced in the document (e.g., off channel and riparian habitat, existing large woody debris, zones of groundwater and surface water exchange, etc.), they are ignored in the DEIS predictions of impacts. Degradation of those habitats from decreased flows, road crossings, increased sediment loads, spills, and other activities associated with mine development will inevitably impact salmonid populations.

Physical habitat is described, but data sources are not provided, in the DEIS baseline. DEIS at 3.12-62. However, physical habitat is ignored in the DEIS prediction of impacts. DEIS at 4.12-1. The Stream Function Assessment uses an unrepeatable, unproven model based loosely on WCIs to track degradation and improvement of various physical characteristics (*see infra*, Stream Function Assessment).

The DEIS also makes justified conclusions about spill risk. The DEIS states: "It is expected the risk associated with a spill large enough to negatively affect fish or aquatic habitat would generally be low." DEIS at 4.12-23. This unjustified conclusion overlooks inevitable cumulative, chronic, and potentially additive effects of multiple spills over time (O'Neal 2020), underestimates effects on fish habitats because assessments are based on measuring the amount of stream that is a 91 m distance from the roadway centerline, which is less than half the published distance for a 200 meter impact zone around rural roadways (Lubetkin 2020), and estimates spill risk rates that are two orders of magnitude lower than rates cited in other large mine DEIS's (*see infra*, Lubetkin 2020).

According to the DEIS, "the magnitude of impacts could be high to fish exposed to harmful concentrations of hazardous materials, and the duration of the risk of impacts would extend throughout the Stibnite Gold Project. DEIS at 4.12.2.3.2.2. A large diesel spill could kill 100 percent of the Chinook salmon juveniles, adults, alevins, and eggs for a considerable distance (several miles) downstream of the accident (National Marine Fisheries Service [NMFS] 1995). In terms of toxicity to water-column organisms, diesel is one of the most acutely toxic oil types. Fish, invertebrates, and aquatic vegetation that come in direct contact with a diesel spill may be killed (U.S. Environmental Protection Agency [EPA] 2019). Thus, a large spill could potentially kill a substantial number of adult salmon depending on various factors (NMFS 1995). A spill in the fall could kill all the 1-year old juveniles and zero age eggs/alevins, thus eliminating 2 years of Chinook salmon progeny. Diesel from a spill could mix with spawning gravels and sand and be retained in the stream substrate for a year or more, and thereby negatively affect salmon eggs, alevins, and juveniles for several years (Korn and Rice 1981; Moles et al. 1981)."

The impacts that spills and accidents may have on the aquatic environment along the transportation corridor should be seriously and thoroughly considered further in a supplemental DEIS, using Lubetkin's (2020) data and analysis methods, and analyzing specific impacts to species and life stages.

viii. Impacts to water quantity and quality from Stibnite Mine development are vastly underestimated in the DEIS.

Flawed assumptions and conclusions from the baseline hydrologic model are compounded in predictions of hydrological impacts. Water temperature predictions rely on the same baseline hydrologic model outputs (indicating they are also flawed), predict substantial temperature increases, but fail to incorporate well documented impacts of climate change. Because water temperature is fundamental to salmonid growth and survival during multiple (and for some species all) aspects of their freshwater life history, seemingly small deviations from predictions could result in drastic underestimations of mining impacts. Water chemistry impact predictions consider unjustifiably limited parameters of concern. The DEIS qualitatively evaluates impacts to fish from potential increases in concentrations of few metals (mainly As—arsenic, Cu—copper, Hg—mercury, and Sb—antimony). Those described impacts are largely minimized in the document. Copper is considered amongst the most toxic elements to all aquatic life with increases of 2-20 parts per billion imparting deleterious indirect impacts on salmonid survival. Mercury biomagnifies with increasing trophic levels, ultimately leading to grave concerns for human health. Information regarding toxicological impacts of both As and Sb are insufficient in the literature at large, and virtually non-existent for the Stibnite Gold project area.

Moreover, multiple other contaminants of significant concern to salmonids and other aquatic life receive no consideration in the DEIS. Some overlooked impacts of metals considered, in addition to impacts of several other EXISTING contaminants at the site most likely related to historic mining activities (Al—aluminum, Cd—cadmium, Fe—iron, Mn—manganese, Se—selenium, and Zn—zinc; see Zamzow 2020). Other metals are likely to increase as a result of Stibnite Gold Project development, but given the certainty of increases in these metals, some potential impacts of lesser considered metals are described below. In particular, because they biomagnify, Hg and Se should both be considered in much more depth than they are in the DEIS. Moreover, information regarding toxicity (direct, indirect, lethal, and/or sublethal) of Sb (antimony) is widely lacking (Eisler 2010). Given the near certainty of increases in Sb concentrations resulting from Stibnite Mine development, laboratory toxicity testing (including laboratory tests using site specific waters) should be required prior to permitting.

Aluminum

Aluminum (Al) is geologically abundant but serves no known biological function and exposure to Al could potentially be deleterious to all forms of aquatic life (Gensemer and Playle 1999). Aluminum contamination is typically associated with acid rain or deliberate addition of Al for algae or other plant control purposes, however elevated Al levels occur in the Stibnite mining area (Zamzow 2020).

Acute and Chronic Toxicity

Mechanisms of Al toxicity to fish are either:

1. Ionoregulatory, meaning they disrupt salt and water balances across the gill and other cellular membranes, and/or
2. Respiratory, leading to clogging of gills by mucus at high Al concentrations and insufficient oxygen exchange (hyperventilation and eventually suffocation).

Like most metals, Al toxicity increases in the acidic environments associated with metal-sulfide mines. Calcium, or increased hardness, provides some protection against Al toxicity (Gensemer and Playle 1999). Larvae emerging from gravels may be the most sensitive salmonid life stage to Al (Delonay et al. 1993), which is concerning given that salmonid species including Chinook, steelhead, bull trout, and cutthroat trout incubate in the gravels around and downstream of the Sibnite Mine site. Salmonids have demonstrated an ability to acclimate to increased Al concentrations in laboratory environments (Orr et al. 1986), however a metabolic cost may be associated with acclimation (Wilson and Wood 1992).

Sublethal Toxicity of Aluminum

Below levels known to induce mortality, Al can have sublethal impacts on salmonid physiology and behavior. When Al accumulates on the gill surface, mucous production can increase by up to four times normal levels, inhibiting respiration (Wilson et al. 1994). Stress associated with impaired respiration can inhibit the ability of salmonids to deal with additional stressors, including natural stressors like smoltification for anadromous (i.e., Chinook and steelhead salmon) species (Dennis and Clair 2012). For example, juvenile Atlantic salmon exposed to Al exhibited a 20-30% reduction in survival and reduced seawater tolerance (Krogland and Finstad 2003, Monette et al. 2008). In addition, Al can reduce salmonid growth rates and swimming speeds. Aluminum can also impair salmonid olfaction which is critical to locating predators and prey, mates and kin, and homing to natal streams. Interference with any of these processes essential to survival and successful reproduction could ultimately lead to populations level impacts.

Indirect Effects of Aluminum

Although less toxic to invertebrates than fish, Al does have deleterious effects on zooplankton and insects known to be important diet items for salmonids (Wilson and Wood 1992, Wilson et al., 1994). Aluminum is also toxic to algal species which form the base of the aquatic food web and are a main diet item for many macroinvertebrate species. Consequently, deleterious effects of Al can reverberate throughout the food web with ultimately negative impacts on salmonid growth and survival, particularly for those species which spend time rearing in freshwater (i.e., Chinook, rainbow/steelhead, westslope cutthroat, and bull trout).

Cadmium

Like Al, Cadmium (Cd) is biologically non-essential. Although it occurs at low concentrations in aquatic systems, it commonly occurs in sulfide-ore bodies. Historic mine sites are frequently contaminated with cadmium exceeding background levels by as much four orders of magnitude—the Stibnite area exhibits occasional exceedances of Cd standards (Farag et al. 2003, Mebane et al. 2012, Johnson et al. 2016; Zamzow 2020). Cadmium is extremely toxic to aquatic life.

Acute and Chronic Toxicity

Exposure to cadmium (Cd) in fish occurs primarily through water in the gill and kidney (waterborne exposure) or in the intestine (dietary exposure; Franklin et al. 2002b). Cadmium mimics calcium (which *is* biologically essential), inhibiting its uptake which can lead to death (McGeer et al. 2011). Consequently, waters naturally high in Ca (naturally hard) waters ameliorate the toxic effects of Cd. Dissolved organic matter can also decrease the bioavailability or overall toxicity of Cd. Salmonids are more sensitive to acute levels of Cd toxicity than

aquatic macroinvertebrates or other fishes (Farag et al. 2003, Mebane et al. 2012). However invertebrates (particularly amphipods) are more sensitive to chronic exposures of Cd (Mebane 2010). Less is known about mechanisms of dietary exposure to cadmium, though dietary uptake has been proven more toxic than waterborne exposure for some invertebrate species (Mebane 2010). Cadmium also induces neurotoxic effects in fish including hyperactivity leading to decreased growth and increased detection by predators (Mebane 2010). Examinations of life-stage sensitivity suggest that emerging fry are most sensitive in Chinook salmon, while emerging fry and rearing parr are equally sensitive to Cd in rainbow/steelhead (Chapman 1978).

Sublethal Toxicity of Cadmium

Sublethal physiological impacts of Cd include reduced growth and condition factor (unit weight per unit growth—an index of fish health; Riddell et al. 2005, Lizardo-Daudt and Kennedy 2008). Reproduction is also impacted, with impaired egg development and premature hatching (Lizardo-Daudt and Kennedy 2008). Furthermore, immune response may be depressed after Cd exposure as evidenced by elevated stress chemicals in exposed salmonids (Ricard et al. 1998). Documented behavioral effects of Cd on salmonids include a diminished ability to avoid predators—possibly due to olfactory inhibition (Scott et al. 2003), diminished foraging success (Riddell et al. 2005), and altered social behavior including less aggressive competition (Sloman et al. 2003). At extremely elevated Cd levels, salmonids have been documented avoiding waters altogether (Mebane 2010). If contamination from groundwater, a tailings dam breach, storage water spill, or treatment plant failure occurred at Stibnite Mine, particularly during salmon spawning, spawners could fail to reproduce altogether, or stray to nearby streams, potentially eroding the diversity essential to maintaining overall sustainability.

Indirect Effects of Cadmium

Deleterious effects of Cd can reverberate throughout the food web with ultimately negative impacts on salmonid growth and survival, particularly for those species which spend time rearing in freshwater (i.e., Chinook, rainbow/steelhead, and bull trout). Although invertebrates are less sensitive to acutely toxic levels of Cd, some invertebrates exhibit increased sensitivity to Cd at chronic levels of toxicity. Because dietary exposure is a known pathway of Cd contamination to fishes, indirect effects of Cd through food is poorly understood but highly likely.

Copper

Copper (Cu) is a naturally occurring, essential element that frequently increases in

areas with active sulfide mining. It is one of the most pervasive and toxic elements to aquatic life and has been documented at levels one to three orders of magnitude greater than background in mining areas (Grosell 2011). Copper is utilized in growth and metabolism of all aerobic organisms.

Acute and Chronic Toxicity

Copper toxicity increases in acidic conditions, soft waters (low hardness), and in waters depauperate of dissolved organic matter. Exposure to Cu in fish occurs primarily through water in the gill, kidney, olfactory receptors, and lateral line cilia (waterborne exposure), or in the intestine (dietary exposure; Grosell 2011). Because it is essential to biological function, it is readily incorporated into fish tissues. Olfactory inhibition resulting from Cu exposure occurs within minutes and lasts for weeks or longer, with the potential to affect all aspects of salmonid biology (Grosell 2011). It is known to reduce growth, immune response, reproduction, and survival (Eisler 2000). Specific examples of toxic effects include disrupted migration; altered swimming; oxidative damage; impaired respiration; disrupted osmoregulation and pathology of kidneys, liver, gills, and other stem cells; impaired mechanoreception of lateral line canals; impaired function of olfactory organs and brain; and altered behavior, blood chemistry, enzyme activity, corticosteroid, metabolism, and gene transcription and expression (Hodson et al. 1979, Knittel 1981, Rougier et al. 1994, Eisler 2000, Craig et al. 2010, Tierney et al. 2010). The effects have been demonstrated for juvenile and adult life stages primarily of coho and Chinook salmon and rainbow trout.

Sublethal Toxicity of Copper

Many sublethal effects of Cu are identical to those causing mortality. Physiological effects of Cu exposure include decreased growth, swimming speed or activity, and feeding rates (Waiwood and Beamish 1978a, Waiwood and Beamish 1978b, Marr et al. 1996). Coho salmon exhibit diminished immune response after exposure to Cu (Stevens 1977, Schreck and Lorz 1978). Reproductive performance also decreases in adult salmonids (Jaensson and Olsen 2010). Very slight increases in 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, and 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 Copper

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 (Wootton 1990, Scannell 2009). 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 (ppb; Franklin et al. 2002). Zooplankton and other invertebrates that rely on algae for food suffer decreased growth and reproduction when primary production decreases (Urabe 1991). Zooplankton and lotic macroinvertebrates are also extremely sensitive to Cu increases (Farag 1998, Zipper et al. 2016).

Iron

Iron (Fe) is an essential element involved in oxygen transfer, DNA synthesis, and immune function in all life. Like other metals, it is frequently associated with mining activity and its effects tend to increase in the presence of acidic conditions and the absence of dissolved organic matter. Relatively little is known about mechanisms of Fe toxicity.

Acute and Chronic Toxicity

Primary mechanisms of Fe exposure are waterborne and dietary. On the gills, iron precipitate accumulates causing physical damage and clogging. Resulting respiratory impairment is likely the main toxic effect of Fe contamination to salmonids (Dalzell and MacFarlane 1999). Additionally, elevated Fe concentrations during fertilization caused hardening of eggs.

Sublethal toxicity of Iron

Little information is available regarding sublethal effects of Fe. Coho salmon actively avoided Fe-enriched water in one study, which has implications for degradation of genetic diversity and population structure and sustainability (Updegraff and Sykora 1976). In studies of other vertebrates, Fe had impacts on brain function and social behavior (Bury et al. 2011).

Indirect Effects of Iron

Similar to fish gills, red-colored Fe-precipitate commonly associated with mine waste also settles on aquatic insect gills, resulting in decreased insect abundance and diversity, ultimately decreasing food resources for rearing fishes (Gray and Delaney 2010).

Mercury

Mercury is a metal which is non-essential to physiologic functions of life. While mercury occurs naturally at low levels in the environment, anthropogenic actions including mining have increased background mercury levels by two to four times in the aquatic environment even in remote places due to atmospheric deposition (Jewett and Duffy 2007, Kidd and Batchelar 2011).

Acute and chronic toxicity

While mercury can be acutely toxic, its toxicity to wild fish is more commonly related to chronic exposure to methylmercury (a bioavailable form of mercury) via diet (Kidd and Batchelar 2011). Like selenium, methylmercury bioaccumulates up aquatic food webs, with highest concentrations generally occurring in largest, oldest, piscivorous fish (e.g., Northern pike—*Esox lucius*, Arctic grayling—*Thymallus arcticus*, Dolly Varden—*Salvelinus malma*; Jewett and Duffy 2007). In freshwater environments, methylmercury bioaccumulates in both lakes and streams (McIntyre and Beauchamp 2007, Kwon et al. 2012), though mercury concentrations in fish in rivers generally exceed those of fish in lakes in the western US and Canada (Eagles-Smith et al. 2016). Chronic methylmercury exposure has impacts at very low levels (muscle or whole-body concentrations of 0.5-1.2 μg/g; Kidd and Batchelar 2012), including: neurotoxicity causing brain lesions and organ damage that impairs abilities to locate and capture prey and avoid predation; inhibition of reproductive success and growth; damage to intestines, digestion, cellular metabolism, organs; and alteration of stress hormones (Kidd and Batchelar 2012).

Indirect effects of Mercury

Indirect effects of methylmercury exposure which alter behavior and ultimately survival include decreased competitive feeding abilities, swimming performance, and predator avoidance (Kidd and Batchelar 2012). Of additional concern is the bioaccumulation of methylmercury in important subsistence species (e.g., Northern pike and Arctic grayling) which can lead to increased risk of heart disease, higher miscarriage rates, lower female fertility, decreased coordination, brain damage *in utero*, and higher blood pressure in children of adult consumers (Loring et al. 2010).

Selenium

Selenium (Se) is an essential trace element important to protein synthesis, but is one of the most hazardous elements to fish. The margin between essentiality and toxicity of Se is very slim (Janz 2012), and successful methods of water treatment are not yet developed. Unlike other metals, decreased water temperatures increase Se toxicity. Some metals mining operations and ore smelting are commonly associated with Se contamination. There are no examples of modern, operating mines which have successfully treated selenium to biologically acceptable levels.

Acute and Chronic Toxicity

Acute Se toxicity rarely results from anthropogenic activity. Chronic Se exposure, however, is teratogenic (causing malformation) to early life stages of fish (i.e., embryos, alevins, and fry; Lemly 2004). Unlike other metals, toxic effects occur primarily through dietary as opposed to waterborne pathways. Adult life stages are relatively tolerant of dietary Se intake, but can pass its effects to their offspring (Janz 2012). Selenium is deposited into eggs during their formation resulting in deformations typically in the skeleton, skull, or fins (Janz 2012).

Sublethal Toxicity of Selenium

Few studies have investigated sublethal Se effects. Avoidance of Se contaminated waters has not been documented, nor have changes in reproductive behavior of fishes in increased Se concentrations (Janz 2012). In one study, swimming speed, frequency, and distance were reduced after Se exposure in non-salmonid fishes (Janz 2012).

Indirect Effects of Selenium

Unlike most trace elements, selenium bioaccumulates (accumulates faster than metabolic or excretory loss) and sometimes biomagnifies (increases in animal tissue at successively higher levels of the food chain). Bioaccumulation and biomagnification cannot be predicted from Se concentrations, making sufficiently protective water quality guidelines exceedingly difficult to estimate. Since diet is the primary source of Se to fish, its efficient uptake by algae and macroinvertebrates contributes to Se toxicity. Interestingly, algae and invertebrates themselves exhibit little sensitivity to Se exposure (Janz 2012). Consequently, relatively low Se concentrations can lead to fish toxicity via bioaccumulation. Population level effects of Se contamination have been documented in multiple freshwater ecosystems, though further investigation is needed. In multiple case studies, the majority of fish species have been extirpated as a result of Se exposure (Lemly 2004, Janz 2012).

Zinc

Zinc (Zn) is an essential element used by vertebrates in protein (including hemoglobin) synthesis. It is a common contaminant associated with mining activity. Like Cd, Zn mimics calcium, inhibiting its uptake which ultimately leads to death (McGeer et al. 2011). Consequently, waters naturally high in Ca (naturally hard) waters ameliorate the toxic effects of Zn.

Acute and Chronic Toxicity

Dietary uptake poses lower risk to fish than waterborne exposure primarily through gills. Waterborne exposure competitively inhibits Ca, binding to sites on fish gills and leading to impaired gas exchange, gill inflammation, and ultimately suffocation, or decreased survival, growth, reproduction, and hatching (Hogstrand 2011). Dissolved organic matter can also decrease the bioavailability or overall toxicity of Zn. Fish kills and/or the absence of fish (including salmonid) species are commonly associated with elevated Zn, Cu, and Cd concentrations downstream of mining activity (Farag et al. 2003, Hogstrand 2011).

Sublethal Toxicity of Zinc

Increased stress and decreased immune response has been attributed to Zn exposure in rainbow trout (Wagner and McKeown 1982, Sanchez-Darden et al. 1999). Juvenile rainbow trout and other salmonids have also been documented avoiding Zn-contaminated waters (Hogstrand 2011). Other effects of Zn on behavior include increased ventilation and cough rates, altered swimming patterns, and decreased growth (Hogstrand 2011).

Indirect Effects of Zinc

Like other metals, effects of Zn can reverberate throughout the foodweb with ultimately negative impacts on salmonid growth and survival, particularly for those species which spend time rearing in freshwater (i.e., Chinook, trout, and bull trout). Invertebrates are more sensitive to acutely toxic levels of Zn than fish, so decreased feeding opportunities are a likely pathway for indirect effects of Zn (Santore et al. 2002).

The DEIS states: **"**Despite activities that would improve water quality for fish from the removal and reclamation of legacy mine wastes, exceedances of the NMFS and USFWS and other applicable criteria for antimony, arsenic, copper, and mercury are anticipated to extend indefinitely post-closure." DEIS at 4.12.2.3.3.1. These exceedances need to be evaluated for their effects to fish affected by the Stibnite Gold Project so the entire array of impacts to fish from the Stibnite Gold Project can be understood.

Maest (2020) states: "The food chain/dietary pathway for fish (contaminated stream sediment to macroinvertebrates to fish) was not considered in the DEIS conceptual models, in

the examination of existing conditions, or in current or future modeling efforts. It was also not considered when evaluating potential environmental improvements from planned legacy cleanup or mitigation measures. No information is provided in the DEIS on stream sediment metal/metalloid concentrations"; and "A reliable evaluation of the potential effects of the mine cannot be completed without site-specific information on chemical speciation and the toxicity of antimony to fish populations". Further, Maest discloses that sediment arsenic concentrations exceed the probable effects level (PEL) by up to 400 times, and sediment mercury concentrations exceed the PEL by up to 50 times. The food chain/dietary pathway for arsenic has been shown to adversely affect salmonids in laboratory experiments and at locations in Montana and Idaho, yet it was completely ignored in the DEIS". Maest concludes that little information on the toxicity of antimony to aquatic biota; no site-specific information on antimony or arsenic toxicity to resident and protected fish, macroinvertebrate, and aquatic plant populations; and no information is provided on the relationship between fish life cycles and temporal variability of arsenic, antimony, mercury, or any other analytes in site surface waters. No information is provided on the exposure to fish from As, Sb, Hg, or other contaminants via the dietary pathway (sediment-macroinvertebrate-fish). This pathway has been shown to cause adverse effects to salmonids at mine sites in Idaho and Montana."

Effects analysis needs to include food chain pathways, toxicity for arsenic, antimony, mercury, and other contaminants, and other lacking information stated by Maest (2020) in order to understand the effects of the Stibnite Gold Project mining proposal.

ix. Impacts to salmonids from project-related groundwater changes are ignored in the DEIS.

Groundwater and hyporheic inputs increase salmonid incubation and emergence success, and often support higher densities of fish due to their temperature and oxygen profiles relative to surface waters. Not only are groundwater flows poorly predicted in the DEIS, their role in salmonid survival and resulting impacts to it from changing groundwater levels is unaddressed.

x. Temperature increases ignore climate change, are otherwise underestimated, and their impacts are unreasonably minimized.

In addition to other shortcomings of the model used to predict project related temperature changes, it fails to incorporate temperature increases due to climate change. Climate change is already impacting bull trout and cutthroat trout habitat and those impacts will only be compounded by project related temperature increases. Moreover, even impacts of predicted temperature changes (up to about 4º) are minimized despite the pivotal role of temperature in determining spawn and emergence timing, incubation rates, and salmonid growth and subsequent survival.

The increase in stream temperatures as a result of the Stibnite Gold Project would affect habitats in the mine site and downstream. Chinook salmon and bull trout would be the most adversely affected, because they spawn at the warmest time of year. An increase in modelled stream temperatures in Meadow Creek and the East Fork South Fork Salmon River is predicted to range from 0.5-9.0 degrees C (DEIS Table 4.12-66, without considering climate change.

Appendix J2 states: "During the life of the mine and irrespective of other environmental constraints in Meadow Creek, maximum water temperatures have the potential during the summer season to exceed temperatures that are known to be stressful and even lethal to all the special status salmonids. Meadow Creek downstream of the East Fork Meadow Creek would have potential water temperatures that are lethal to Chinook salmon during the summer in perpetuity.

Effects of these temperature increases need to be displayed with specific effects to life stages of fish, number of generations affected, and effects on populations in the EFSF.

xi. Impacts to all non-salmon/trout species-fish and other aquatic life that support them- are ignored in the DEIS.

Mountain whitefish (*Prosopium williamsoni*), suckers (*Catostomus* sp.), anadromous Pacific lamprey (*Entosphenus tridentatus*) and other important fish, freshwater insects, algae, and other primary producers are all critical elements of the foodwebs supporting salmonids considered in the EIS. Ignoring impacts to salmonid foodwebs is equivalent to ignoring impacts to salmonids at large.

Macroinvertebrates are food for fish, and therefore are critical elements of the aquatic environment which support salmon and trout life histories. The DEIS does not include any analysis or data presentation of the decades of macroinvertebrate sampling which occurred in Stibnite mine site streams from the mid 1990's through the mid 2000's (Payette National Forest files). A supplemental DEIS is needed that provides analysis of macroinvertebrate baseline conditions, and predicted effects of the mine to macroinvertebrates, so that impacts to salmon and trout can be adequately understood.

xii. The DEIS assumes no interactions among impacts.

By considering fish species, stream reaches, and limited habitat impacts (e.g., stream dewatering, temperature increases, increases of metals concentrations, migration barriers) all separately, the DEIS fails to acknowledge the broad ecological understanding that multiple stressors will amplify one another's effects on the ecosystem. This assumption ignores volumes

of peer reviewed and other literature contradicting it, particularly that related to the so-called "death of a thousand cuts" leading to salmon population declines (NRC 1996). It results in a serious underestimate of impacts to fish and their habitat.

The DEIS does not sufficiently discuss the inextricable connections between the myriad impacts to fish An impact from, for example, temperature increase, will inevitably cause synergistic and/or cumulative impacts to other impacts such as metals exceedances (ie mercury, arsenic).

xiii. Loss of headwater streams is falsely assumed to have no downstream impacts.

While loss of stream miles are estimated for the project area itself, those estimates exclude consideration of the function of upstream, contributing waterbodies, and downstream, receiving waterbodies. Headwater and/or upstream habitats are fundamental drivers of physical, chemical, and biological characteristics of their downstream receiving waters. Intact headwaters and wetlands comprise fundamental elements of thriving salmon habitat, and their fragmentation is considered a leading cause of global salmon declines (Colvin et al. 2019). Both long-term small scale and short-term large-scale development fragment and simplify the complex physical habitat mosaics upon which all fish and aquatic life depend, introduce contaminants into the environment, and ultimately degrade the biological interactions that support robust fish populations. Failure to incorporate those impacts in the DEIS result in a substantial underestimation of project development.

As an example of O'Neal's discussion the importance of these habitats, three barriers to fish passage (among one alternative or another) will be constructed below tailings and/or waste rock dumps at the very headwaters of Fiddle Creek, Meadow Creek, and the East Fork. DEIS at Figure 4.12-2. Impacts of loss of physical, chemical, and biological characteristics of these headwaters, fragmentation, habitat simplification, contaminants introduction, and impoundment failure risk and effects need to be analyzed in a supplemental DEIS.

xiv. The DEIS assumes that mitigation and restoration efforts are possible and effective.

The DEIS assumes that mitigation for historic mining efforts will offset impacts from proposed mining efforts. Experience has shown that habitat restoration and mitigation are difficult, expensive, and often ineffective. Restoration activities to restore salmon, trout, lamprey, and other fish restoration are ongoing and extremely expensive. The US General Accounting Office estimates approximately $1.5 billion were spent on Columbia River salmon and steelhead restoration activities from 1997-2001 (USGAO 2002). Multi-billion dollar expenditures continue, although no Pacific salmon population has been removed from the

ESA list of threatened and endangered species. Even modern fish passage design simply cannot account for spatial and temporal variability of historic baseline conditions, current conditions, and future conditions that will result from mining and associated development activity in addition to climate change. Moreover, other mitigation methods proposed (Appendix D, Table D-2) rely heavily on unspecified and/or unproven habitat "improvements," fish salvage, and trap and haul operations. While a slight improvement over constructed fishways, trap and haul operations are well documented inducing significant stress (e.g., increased cortisol levels, gill flaring, etc.), disorientation (particularly in salmon homing to natal rivers and streams), deleterious changes to migration timing, increased mortality, and direct injury (e.g., Lusardi and Moyle 2017). Experience throughout Pacific salmon habitat, and particularly in the Columbia River basin indicates beyond question that trap and haul operations and most other restoration techniques are simply palliative. Already threatened salmonid populations will not be restored by (and may not survive) mining activity and the mitigation methods loosely proposed in the DEIS.

a. Specific mitigation for specific degradation is missing.

The lists of design features and mitigations in Appendix D are intended to reduce impacts to various resources. They are merely lists, with no rationale or interpretation or analysis in the DEIS. Chapters 4.11 and 4.12 clearly describe multiple specific aquatic and watershed degradations, yet omit any analysis of specific mitigations. A supplemental DEIS is needed, which includes analysis of the specific mitigations that allegedly "correct" corresponding specific aquatic and watershed degradation.

b. Stream Function Analysis (SFA)

The SFA (DEIS Appendix D2, Conceptual Stream and Mitigation Plan, p. 6-3, Rio ASE 2019) was developed for the Stibnite Gold Project to track impacts on streams before, during and after mining following restoration, as a tool to quantify compensatory mitigation debits and credits for the US Army Corps of Engineers to determine compliance with the Clean Water Act, and for the DEIS analysis and associated ESA consultation.

The SFA is an unproven model, used in the DEIS to ensure mitigation for the Stibnite Gold Project's unavoidable impacts on jurisdictional aquatic resources. Other proven models exist and are used on the Payette and Boise National Forests and in the Pacific Northwest to characterize impacts to streams (p. 2-9). Using a new, unproven, made-for Midas Gold model does not comply with NEPA's Best Available Science requirement.

The SFA used some Watershed Condition Indicators (WCIs) to feed the model, and ignored others, replacing the WCI analysis with SFA analysis for Stibnite Gold Project NEPA and ESA consultation. Forest Plans and associated NEPA direct using the WCI analysis for all

NEPA and ESA consultation for projects affecting ESA-listed aquatic species. Usage of the SFA instead of the WCI needs to go through ESA consultation to be a valid replacement for WCI analysis.

Description and results of the SFA do not appear anywhere in the body of the DEIS. Yet they are pivotal to the DEIS conclusions that mitigation for historic and proposed mining efforts will offset impacts from proposed mining efforts.

Conceptual/compensatory mitigation does not appear anywhere in the body of the DEIS, it is buried in Appendix D. Even in Appendix D, there is no discussion of SFA results, and no attempt at interpretation of results, only presentation tables and graphs.
-Input data and results of the SFA modeling are not shared in the DEIS: "Midas Gold and its consultants maintain the one and only official version of the SFA Ledger". The DEIS reader/user is not able to use the model to come to the same conclusions as the project proponent.

xv. The DEIS assumes no downstream impacts.

The DEIS describes the fish analysis area as encompassing all areas in which fish resources and fish habitat may be affected directly or indirectly by the Stibnite Gold Project, and not merely the immediate area involved. DEIS at 3.12-1. The analysis area is located in the South Fork Salmon River hydrological subbasin and the North Fork Payette River hydrological subbasin as illustrated Figure 3.12-1), Yet, the DEIS does not analyze effects to subwatersheds downstream and outside of the Stibnite Gold Project mine site area within the fish analysis area illustrated in Figure 3.12-1. Effects to waters downstream of the Yellow Pine Pit Lake - which may be the most impacted waters-are not evaluated. Failure to incorporate those effects in the DEIS results in substantial underestimation of project effects. (ie: temperature increases, potential spill risk effects to fish, road effects, increases in metals concentrations, and synergistic effects on fish populations).

DEIS Figure 3.9-1 describes the surface water quality analysis area to include streams and lakes located in the 22 sub-watersheds that encompass the proposed mine site, access roads, transmission lines, and off-site facilities within the East Fork and South Fork Salmon River watersheds. DEIS at 3.9-1. Yet Chapter 4 only analyzes effects to water quality at the mine site area. The DEIS does not analyze consequences to the surface water quality analysis area downstream and outside of the Stibnite Gold Project area (increased temperatures, spill risk, metals concentrations).

ESA-listed salmon, steelhead, and bull trout migrate through many miles of waters downstream and outside of the mine site, and rely on habitat conditions therein to complete their life histories. A supplemental DEIS needs to describe and analyze effects of the mine

downstream of the mine site to water quality and fish, and if not, analyze and describe why there are no downstream effects.

xvi. Effects description of barrier removals inadequately characterize impacts and improvements.

The DEIS claims "the positive impacts of removing barriers outweigh the potential negative impacts." DEIS at 4.12-39.

Three barriers to fish passage exist at baseline that are proposed to be removed in one alternative or another: EFSFSR upstream of the Yellow Pine Pit Lake (YPP) (complete barrier, blocks 39.7 km, including that blocked by the other two barriers); 2) EFSFSR box culvert (partial barrier, blocks 31.6 km); and 3) Meadow Creek (partial barrier, blocks 9.6 km) (DEIS Figure 4.12-2, and DEIS Appendix J-3). Three additional barriers are proposed to be constructed and in place (in one alternative or another) by the end of the project, in perpetuity: Fiddle Creek, Meadow Creek, and Upper EFSFSR (Figure 4.12-2).

Fish habitat evaluated included the following analysis models: Critical habitat for Chinook salmon and bull trout, Intrinsic Potential (IP) for Chinook salmon and steelhead, and Occupancy Model (OM) for cutthroat trout and bull trout (Used as a surrogate for available fish habitat for the two species). O'Neal (2020) describes the oversimplifications, underestimations, and flaws in using these models. Even using these flawed models, there would be a significant net Critical habitat loss for ESA-listed Chinook (21-26%) and bull trout (28-70%), and a marginal increase in useable for steelhead (4-13%), than existed at baseline (DEIS Table 4.12-66).

Effects of these additional fish passage barriers do not comply with Forest Plan Standard 1301(Payette NF Forest Plan), and 2101, 1919, and 2005 (Boise NF Forest Plan) regarding degradation of aquatic resource conditions.

xvii. Effects of the East Fork Fish Tunnel inadequately characterize impacts and improvements.

The East Fork Fish Tunnel is described in Brown and Caldwell et al. 2019B: the Fishway Operations and Management Plan. Claims of the success of this tunnel are assumed in the body of the DEIS. However, "There is some question regarding the effectiveness and efficacy of the EFSFSR tunnel to pass fish (USFWS 2019). The U.S. Fish and Wildlife Service (USFWS) notes, in a letter to Midas Gold dated October 3, 2019, "[E]ven after close consultation and collaboration with NMFS, meeting applicable NMFS passage criteria and guidelines, and executing all potential adaptive management measures, there exists a reasonable probability that the project will not be able to volitionally pass fish safely, timely, or effectively"

(USFWS 2019). The results presented in this TM must be viewed in light of the USFWS's assessment of the effectiveness of the EFSFSR tunnel. Results are presented, with the assumption that the tunnel would allow volitional passage; however, other entities involved in the project have questioned the tunnel's ability to pass fish. (DEIS Apx. J3. pg 6).

There is little rationale to support the proven success of such a tunnel in the DEIS. Of the three references cited, only abstracts were available in the Supporting Documents. None of these studies analyzed Chinook salmon or steelhead, or sites with characteristics similar to Stibnite (i.e. from an accessible river to an inaccessible channel upstream). Gowans et al. 2003 tracked Atlantic salmon in Scotland on a river system from a reservoir through four fish passes including fish ladders, fish lifts, and a tunnel . Only 4 out of 54 tagged adults made it to spawning grounds. Wollenbaek et al. 2011 examined genetic connectivity of lake-dwelling Arctic char in Norway across a dam through a subterranean tunnel and spill gates. The char were represented by two genetically distinct lake populations, and connectivity was demonstrated, but it was questioned to what extent char utilized the tunnel for upstream migration. Rogers and Cane (1979) indicated "numbers of fish succeeding the tunnel and weir" for Atlantic salmon from a pumped storage reservoir to upstream spawning grounds in New Wales, but the complete study was unavailable.

The backup plan, should the tunnel not work, would be to trap and haul fish up and downstream of the Yellow Pine Pit until the reconstructed East Fork is completed (this relies on the assumption that **t**he constructed and enhanced stream reaches would perform as described in the Stream Design Report DEIS 4.12.2.2). According to the DEIS, about 100,000 fish are modelled to be "affected" (injured/killed) from 1.6 km of stream removals and diversions in the East Fork (Table 4.12-2b, and p. 4.12-17) due to dewatering, fish salvage, and relocation. (From DEIS Table 4.12-2b: 84,066 Chinook salmon + 1,009 steelhead + 620 bull trout + 10,647 cutthroat = 96,342 fish potentially affected).

xviii. Roads and sediment

Please see *infra*; Faurot (2020); Newberry (2020).

The full extent of our comments can be found in the following report that is attached to this comment: Maest (2020); O'Neal (2020); Faurot (2020); and Newberry (2020).

D. Perpetual water treatment[186]

[186] We incorporate by reference the following expert reports that are attached to this comment: Maest, A., *Evaluation of the Draft Environmental Impact Statement (DEIS) for the Stibnite Gold Project, Idaho, and Related Water Quality Conditions, Predictions, and Effects* (2020) (Attached); Chambers, D., *Review of Stibnite Gold Draft Environmental Impact Statement* (2020) (Attached).

Post-closure water treatment liabilities at any mine with potentially acid generating and/or metals leaching material can have horizons of hundreds of years, as predicted using geochemical modeling and acid/base accounting. In the absence of active water treatment, water quality degradation would increase for a certain period of time, level off, then begin a long period towards natural attenuation. When water treatment in perpetuity is proposed, the associated costs often make up the majority of the financial assurance bond.[187] These costs incurred by the persistence of contaminants can ultimately exceed the revenues of the mine during its operating lifetime, and eventually – usually within less than one human's lifetime – fall upon taxpayers. Therefore, it is critically important that exhaustive analysis be performed regarding long term water quality predictions. With any mine predicted to require water treatment in perpetuity, it is not a question of if treatment liabilities will fall to the public sector to absorb, but when.

The need for perpetual water treatment is discussed in the DEIS (Sections 4.3, 4.4, 4.5, 4.7, and 4.9) and in Brown and Caldwell (2020). Figure 2-4 in Brown and Caldwell (2020) shows a water flow diagram for post-closure mine years 18 to 21. The two sources that will require perpetual treatment, according to the diagram, are toe seepage from the reclaimed Fiddle DRSF and the Hangar Flats pit lake overflow. However, because of large uncertainties in the water balance and the lack of consideration of climate change, additional sources could also require perpetual treatment.

Alternative 2 in the DEIS contains some limited information regarding the sources requiring treatment, however little technical information is provided on either the active or the passive treatment methods. Brown and Caldwell state that on-site pilot testing will be performed in Year –3 (three years before mining begins) for the active system.[188] Depending on the proposed start date for mining, pilot testing should have already begun. A footnote in Figure 2-4 in Brown and Caldwell (2020) states "The passive treatment systems will require pilot testing for effectiveness to meet treatment objectives." A possible passive system is described briefly in Section 6.7 of Brown and Caldwell (2020). No diagrams, chemicals needed, information on removal effectiveness, or maintenance requirements are included. The uncertainty extends to the production of methylmercury in the passive system ("It is unclear whether BCRs remove methylmercury or create it, so methylmercury would need to be monitored."). No information is provided on methods to remove methylmercury if it is produced.

The TSF is proposed to be a zero-discharge facility during operations,[189] but a reliable

[187] Chambers (2020).
[188] Brown & Caldwell (2020) at 6-7.
[189] *Id*. at 2-15.

water balance has not yet been put forth, so this premise is highly uncertain. Brown and Caldwell (2020, p. 3-2) admit that uncertainties in the predicted mine water balance and predictive chemistry modeling remain, including those related to climate change. Climate change is not considered in the water balance model. As a result, they suggest adaptive management be used to allow for updating the design basis. However, not even a preliminary adaptive management plan exists. If the TSF is not a zero-discharge facility, treatment of TSF contact water will also be required. The summary of water treatment for each alternative, DEIS at 2-10 (Table 2.2-1), lists *active* treatment for tailings runoff and consolidation water during reclamation and closure, but Brown and Caldwell (2020, Figure 2-4) shows only passive treatment of TSF consolidation water for mine years 21 to 42. This discrepancy needs to be resolved.

SRK Consulting conducted a water treatment evaluation, which is a very rough modeling effort to predict water quality concentrations on an annual timestep.[190] Their tepid conclusion is that most predicted concentrations are within the range of existing conditions and several show an overall improvement relative to existing conditions.[191] Neither this effort nor the current water balance include an estimate of the volume and concentration of contact water that could escape capture. If contact water is not captured, it cannot be treated.

Perpetual water treatment is only proposed for Alternative 2. The omission of such treatment from Alternatives 1,3, and 4 appears to be based on an assumption that these alternatives would produce much larger volumes of water needing treatment and that scaling the water treatment plant (WTP) up to that level would be questionable in terms of cost and technical ability. The DEIS fails to elaborate further on this rationale for excluding water treatment from the other alternatives. Just because an action is difficult does not constitute grounds for excluding it from an alternative, particularly when any long-term improvement in water quality is wholly dependent upon such action. The Water Quality Management Plan (WQMP) even admits that "the conceptual framework developed for operational and post-closure water treatment can be modified to accommodate the greater volumetric water treatment requirements of Alternatives 1, 3, and 4."[192]

The DEIS and WQMP must provide much greater detail regarding how this modification of water treatment described in Alternative 2 could be accomplished for the other action alternatives. The effects of water treatment are critical to understanding the long-term conditions of surface water to be expected at the mine site and downstream. Therefore, a supplemental DEIS must be issued that accurately characterizes the perpetual water treatment liabilities in equal detail for all alternatives.

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[190] *Id.* Appendix A
[191] *Id*. Appendix A at 11.
[192] Brown & Caldwell (2020) at 9-3.

Characterization of water quality and quantity of the sources requiring treatment needs to be improved. Zamzow (2020), Maest (2020), and Prucha (2020) provide much detail on the various shortcomings of the geochemical and hydrologic analyses contained in the DEIS. After the source flow and concentration calculations have been reviewed and revised, the effectiveness of the treatment measures can be used to better estimate the resulting contaminant concentrations in the outflow of the WTP.

For each alternative, a supplemental EIS should include a section detailing the post closure liabilities with the following information. The WQMP is a good starting point, yet alternatives 1, 3 and 4 also need to include:

- The overall scope of treatment: which mine features require treatment, and what is the engineering approach to each source? Maps or schematics should be provided to locate these sources easily within the mine footprint and plan.
- Required treatment time estimates for each mine feature, providing the geochemical calculations that were used to determine these time horizons.
- The projected volumes of water needing treatment from each source. For a central water treatment plant, what are the expected water volumes?
- Materials inputs for treatment. Fortunately, this is included for Alternative 2.
- WTP waste disposal details.
- Approximate annual costs of operation in today's dollars.
- An approximation of the bonding amounts that would be called for for each alternative, and the calculations that went into those estimates.
- An explanation of what would happen if water treatment would end at some point after final reclamation has concluded. What would be the environmental consequences of a failure to treat for various lengths of time, or even years or indefinitely?

The components needed to estimate an end date for water treatment should include:

- Creation of a prediction plan that will include the approaches used and evaluations needed to determine whether treatment will be needed, and if so for how long, and how uncertainty in the predictions will be estimated. The prediction plan should be reviewed by an independent contractor.
- If wastes or mined materials are potentially acid-generating, based on ABA results, calculate the time to onset of acid mine drainage (AMD) based on humidity cell test (HCT) results and the mineralogic NP (see Price, 2009, Chapter 14).
- Estimate source term concentrations and pH values for each facility using release rates from kinetic testing, adjusted for site conditions (scaling factors), and the amount of waste or mined material in the facility.
- Using estimated source concentrations and pH values (previous bullet), mine water

balance volumes, and quantitative effect of mitigation measures on reducing volumes and concentrations, estimate whether mine water releases from sources will require treatment during operation, closure, and post-closure. Treatment will be needed if the predicted concentrations in groundwater, surface water, or excess mine water that will not be used in operations will exceed relevant water quality standards or permit limits.

- Estimate, using information in the previous bullet, whether treatment will only be needed seasonally.
- List facilities or locations that will continue to release mine-related contaminants after mine closure.
- If treatment will be needed, indicate the type of treatment needed (active vs. passive, and specific active or passive treatment method) and estimate inflow and effluent concentrations during operation, closure, and post-closure. Inflow concentrations will be determined from the combination of source concentrations requiring treatment, and effluent concentrations will be determined by the type of treatment used.
- List assumptions and conditions that could modify predictions of treatment end date.
- Conduct an uncertainty analysis for the predicted time to onset of AMD/metals leaching and the end date for water treatment.

E. Development (waste) rock and tailings storage facilities.[193]

i. The lack of technical information and supporting data on the design of the proposed construction approach of the tailings dam precludes review of its adequacy.

The tailings dam described in Alternative 1 is used to supply basic construction information on the dam for all of the alternatives with a Hangar Flats Tailings Storage Facility (TSF) location. There is no technical documentation provided on the dam construction. The cartoon dam depiction provided in Figure 2.3-5 TSF and Hangar Flats DRSF General Cross Section (attached), DEIS at 2.3.5.7, is not adequate to provide the basic information needed to review whether the dam construction proposed is adequate.

The most detailed information on the tailings dam construction appears in the Prefeasibility Study,[194] but it is insufficient to answer basic questions about the dam construction that need to be addressed. These questions include: (1) how will the dam be constructed in a downstream manner given the simultaneous development of the Hangar Flats DRSF, which will not be compacted to engineering standards; and, (2) will the proposed

[193] We incorporate by reference the following expert reports that are attached to this comment: Prucha, R.H. (2020); Semmens, B. (2020); and Chambers, D. (2020).
[194] *See* Drawing 18.4: TSF Dam Cross-Section, attached to Chambers (2020).

construction approach allow for expansion of the tailings facility in a downstream manner, or will dam expansion be limited to upstream-type development?

Technical documentation on the construction sequencing must be included in the DEIS, and dam safety specifications and construction quality assurance requirements must be supported with technical documents. This information is missing at present, but is critical to understanding potential impacts and risks to Forest resources.

ii. The assumption that groundwater under the TSF and all of the DRSFs will be protected from contamination by the underdrains is unreasonable.

The DEIS notes that springs will likely be identified under the proposed tailings facility, and that an underdrain system is planned for the TSF. (DEIS at 2.3.5.7). There are no technical drawings of this system, and only vaguely worded, and sometimes contradictory, descriptions. Unless a seepage collection system is provided, as suggested in Alternative 4 (DEIS at 2.6.5.1), both the spring water collected in the underdrain, and the groundwater under the TSF will almost certainly become contaminated with antimony, arsenic, and manganese.[195]

To the contrary, the groundwater quality modeling for the project has assumed that groundwater under the TSF and all of the DRSF's will be protected from contamination by the underdrains.[196] This is most probably a faulty assumption.[197] A liner with seepage collection capability, as discussed in Alternative 4, should be adopted in order to collect contaminated seepage from the TSF for treatment, and to avoid contaminating groundwater.

There are other post-closure issues regarding the TSF and DRSFs that are not addressed. Failure of the TSF underdrain, by clogging over time for example, would cause saturation to build up within the tailings due to increased pressures and leakage into the TSF material from continuous year-round lateral groundwater inflows from adjacent alluvium/fractured rock.[198]

In addition, the DEIS failed to model or evaluate details of the design features (e.g., geosynthetic covers on top or just above the underdrains) to assess their functioning as intended, or during likely failures, as described above.[199]

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[195] Chambers (2020) at 3.
[196] Brown & Caldwell (2019e).
[197] Semmens (2020) at 5-6.
[198] Prucha(2020) at 38.
[199] Prucha (2020) at 38.

iii. The Hangar Flats TSF (Alternative 4)[200]

In Alternative 4, the DEIS proposes to incorporate a seepage detection/collection layer for the Hangar Flats TSF. The DEIS states that this system would include; "... a leak detection and collection system designed to remove process water to prevent greater than 12 inches of hydraulic head pressure on the primary liner . . . ." DEIS at 2.6.5.1. Leak detection/seepage collection layers are generally not designed to prevent hydraulic head pressure on the primary liner.

The leak detection/seepage collection system is designed to detect and collect water that is seeping through the primary liner. The leak detection/seepage collection system is not capable of maintaining a desired head pressure on the primary liner. There should be a drain layer on top of the primary liner to minimize the hydraulic head on the liner. It is not clear if this is what is envisioned and there is no figure presented in the DEIS to clarify this issue. A full discussion of the liner configuration for Alternative 4, along with a figure depicting the liner, is required in the DEIS.

iv. The DEIS fails to provide information on how development waste rock will be handled[201]

The DEIS states that "[a] Development Rock Management Plan, which would provide active management for development rock produced and stored across the mine site during operations, would be prepared as part of the final mine plan." (DEIS at 2.3.5.4). This is a significant oversight in the DEIS.

Development, or waste, rock is the most prevalent waste produced by a mining operation, and its geochemical composition can vary widely from mine to mine. Waste rock can be a source of toxic, reactive materials. Waste rock management plans are typically required as part of the EIS process because how waste rock will be classified geochemically is an important factor in determining the risk it poses to water quality, both surface and groundwater. Waste rock was inadequately sampled and poorly characterized only on the basis of lithology when the inclusion of alteration mineralogy criteria would better characterize the full range of leaching response.[202] Waste management is also important in determining the mitigation techniques that will be utilized for each waste rock classification. These issues are not tied to a specific mine option, but are of universal concern and applicability to all options.

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[200] Chambers (2020) at 8.
[201] Chambers (2020) at 3.
[202] Maest (2020).

Because the DEIS does not contain a discussion of the different types of waste/development rock based on their geochemistry, it is not clear what waste disposal/storage strategies will be needed or utilized.

v. The Fiddle Creek waste rock dump is unnecessary; the DEIS failed to consider an alternative that eliminates this dump.[203]

The Fiddle Development Rock Storage Facility (DRSF, or waste rock dump) is designed to hold 68 million tons of waste rock. DEIS at ES 4-1 The Fiddle Creek Valley presently has some mining disturbance in the lower portion where it meets the East Fork South Fork Salmon River, but it is largely undisturbed. Part of Alternative 2, a modified version of Alternative 1 primarily developed by Midas Gold to provide additional avoidance and mitigation measures to address significant impact issues, involves eliminating the West End DRSF. (DEIS at 2.4.6.2). The area that would host the West End DRSF has largely been impacted by previous mining. The West End DRSF will hold 25 million tons of waste rock. The remainder could probably be backfilled into the Hangar Flats pit, which is presently projected to be only partially backfilled. This could avoid the destruction of the Fiddle Creek Valley, thus preserving undisturbed stream resources, which are larger than those existing in West End Creek.

vi. The DEIS fails to sufficiently describe post-closure flow from lined waste dumps.[204]

The DEIS does not adequately address post-closure flow from lined DRSFs. The DEIS states that "underdrains would convey spring and seep flows beneath the facilities to a collection sump at the DRSF toe where the flows would be monitored for water quality prior to release into the stream system or capture for use in the processing circuit, depending on water quality." (DEIS at 2.3.5.9). After the brief description in this section, DRSF underdrains are not mentioned again in the DEIS until section 4.8.2.1.2.1: Construction and Operations – Underdrain Flow, where the description of the drain construction and operation are given a similar brief discussion.

Underdrain flows are predicted to be 900 – 1300 gpm for the Hangar Flats TSF and DRSF, and 200 – 600 gpm for Fiddle DRSF. (DEIS at 4.8.2.1.2.1). At closure, a partial cover on only the top of the Hangar Flats DRSF, and a full cover for the Fiddle DRSF, including the side slopes, are proposed.[205] Brown & Caldwell has modeled the resulting water quality, but it is not clear from that report what the resulting underdrain flows will be.

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[203] Chambers (2020) at 7.
[204] Chambers (2020) at 4.
[205] Brown & Caldwell (2019e).

It is well documented elsewhere in the DEIS that seepage from the DRSFs will contain high levels of antimony and arsenic, and probably cadmium and manganese. As noted in DEIS section 2.3.5.9, the flow from the drains will be collected in a "sump at the DRSF toe." There is some discussion of post-closure water treatment requirements for Alternative 2 in DEIS section 2.4.6.6: Water Treatment, but this discussion is both brief and incomplete. Post-closure treatment volumes are cited, but there is no explanation how these volumes were developed. Both 760 gpm and 400 gpm are mentioned as treatment capacities, but it is not clear how these numbers were developed, or what the actual treatment volume is estimated to be.

The treatment of post-closure flow from the covered waste dumps needs a more thorough discussion in the DEIS, as well as documentation provided in the technical support records, and provision made in the financial assurance to treat this flow.

vii. The Forest Service's lack of disclosure of key documents results in inability to adequately review the geotechnical stability of proposed mine site structures.[206]

Because of the size of the Hangar Flats DRSF that buttresses the tailings dam, the factors of safety calculated for the dam are above the generally required minimums of 1.5 for static factor of safety, and 1.1 for pseudostatic (seismic) factor of safety. (DEIS at 4.2.2.1.2 (*see* Table 4.2-1 Calculated Factors of Safety for Hangar Flats DRSF and TSF Dam)). However, the pseudostatic analysis is based on a seismic risk report provided by URS (2013). For an unexplained reason, the Forest Service has made the URS report "Confidential" so it cannot be reviewed.

These reports are typically based on publicly available information, and this reviewer has never seen this type of report placed in a confidential status for an DEIS. By making this report inaccessible, it is not possible to check to see what sources URS used in determining its probabilistic and deterministic seismic events.[201]

The URS report is also somewhat dated (2013). Typically, this report would rely in part on seismic information from the U.S. Geological Service (USGS). The USGS has updated its seismic risk information twice, in 2014, and again in 2018, since the URS report was written. Without access to the URS report, the geotechnical stability calculations by the Tierra Group cannot be critiqued. This is not adequate for a DEIS. The March 2020 magnitude 6.5 earthquake north of Stanley, ID, is a timely reminder that the project is located within the Central Idaho Seismic Zone and that the nearby Trans-Challis fault zone is still plenty active.

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[206] Chambers (2020) at 9.

Static and dynamic (seismic) geotechnical stability analysis was performed by the Tierra Group (2017). Tierra Group prepared a memo in 2017, that summarized their modeling and calculations to that time, but a detailed report is not presented. Subsequently, the Tierra Groups performed additional geotechnical analysis in 2018, but it is not clear what this analysis addressed because it has been deemed "Confidential" by the Forest Service, again for reasons that are not explained in the DEIS.

A formal request was made that the US Forest Service release the URS (2013) report which would allow review of the relevancy and accuracy of the information as applied to the DEIS.[207] The Forest Service has acknowledged the request by Dave Chambers, but as of this writing, has not responded by releasing the requested documents. The Forest Service never acknowledged the FOIA request submitted by SSFS.

As it now stands, even if the Forest Service were to provide these documents, there is insufficient time left before the comment period deadline[208] to review the reports and provide comments. At a minimum, the URS (2013) and Tierra Group (2018) reports should be made available for review for the DEIS. It is possible that both the URS and Tierra Group reports may need to be updated to reflect current information.

viii.. The impacts of exploration activities are not adequately analysed.

No information is provided regarding the water quality impacts, waste rock chemistry, or closure plans associated with the proposed driving of the Scout decline for underground exploration. (DEIS at 2.3.6.2). Lacking this information, a separate NEPA analysis should be required for exploration activities.[209]

The full extent of our comments can be found in Prucha (2020), Semmens (2020), and Chambers (2020).

F. Mine closure, reclamation and financial assurance.

i. The DEIS lacks a plan for temporary closure of operations.[210]

[207] *See* Chambers (2020), Figure 1; *see also* Letter from SSFS to L. Jackson and K. Knesek (Sept. 25, 2020) (Attached).
[208] Final review of this letter was on October 27, and the deadline is October 28.
[209] Chambers (2020) at 5.
[210] Chambers (2020) at 5.

The mine does not plan any periods of temporary closure. Mines seldom, if ever, do. However, temporary mine closures are common, typically due to low metals prices.

The DEIS states that a "plan would need to be developed, reviewed and approved by the appropriate regulatory authorities, and implemented at the time of any longer-term temporary closure." DEIS at 2.3.5.20. Developing a plan when the mine is already in temporary closure would not be planning, it would be reacting.

Considering temporary closure is particularly important at Stibnite because water treatment during operations is not planned in all of the alternatives, but could be required if the mine is not operating, even with an alternative where there is no planned discharge during operation because the water is consumed in the processing. Too much water, rather than too little water, is often a problem at mines, so a worst-case water balance must be considered for a temporary closure. Mr. Murphy, and his law of unintended consequences, must be acknowledged, or the public and the environment may be at risk.

The DEIS also needs to address the period of time that would be allowed before "temporary" closure would be converted into "permanent" closure. In addition, the additional financial requirements for a temporary closure, in addition to the financial requirements for permanent closure, need to be defined. A plan for temporary closure should be developed now. The plan needs to be in place before a temporary closure is experienced. It can be amended, as required, later. This needs to be addressed in the DEIS.

ii. The DEIS lacks any discussion about financial assurance for the "restoration" project.[211]

Instead of calculating the amount of financial assurance that will be required, the DEIS states, "The amount of financial assurance would be determined by the Forest Service ..." DEIS at 2.3.7.16. When mines are developed on public lands, a financial assurance is required by federal land managers and many state regulatory agencies. The financial assurance is to cover the cost of reclaiming the disturbed surfaces of the mine, and to pay for all post-closure requirements. In this case, it would primarily be for the cost of water treatment in perpetuity. It is also important to note that the financial assurance does not cover the cost of a potential mine accident. *The financial assurance only covers planned closure.*

The financial assurance requirement is important for several reasons. First, there have been numerous instances in virtually every state of mining companies going bankrupt and not having the financial resources to complete their closure obligations. For example, in both the Illinois Creek mine in Alaska and the Zortman-Landusky mine in Montana, the government

[211] Chambers (2020) at 6-7.

regulatory agencies did not require enough financial assurance to cover the actual costs of mine closure. In British Columbia, it is estimated that the Province holds over $1 billion less than the full value for financial assurance required to reclaim BC mines.[212] If the mining company cannot cleanup and close the mine, then the public becomes either liable for the cost of cleanup, or they bear the environmental consequences of the damaged mine site.

There is significant political pressure to keep the costs of these financial assurances as low as possible in order to enhance the economic viability of the mine, and in the past this has led to significant underestimations of the amount of financial assurance required to close a mine after a bankruptcy. In the United States, Alaska, Montana, Nevada, South Dakota, and other states have been victims of this problem. In each instance taxpayer dollars were required to augment inadequate financial sureties.

Second, the amount of money required to close the mine and to perform post-closure water treatment can be enormous. The present financial assurance for closure of the Red Dog mine in Alaska is $563 million, most of which is related to water treatment in perpetuity. At closure, the Red Dog mine is projected to treat approximately 1.8 billion gallon/year, which drives the majority of the financial assurance requirement. This would add hundreds of millions of dollars to the closure cost, which must be covered by the financial assurance.

How the agency responsible for calculating the financial assurance to insure that the public will not be saddled with these costs is an important issue that is being avoided in the DEIS. Public disclosure and an opportunity to review the cost calculations is not only appropriate, but the potential financial and/or environmental impact on the public is also significant.

NEPA requires federal agencies to undertake a pre-action analysis in the form of an EIS of potential environmental impacts for "major Federal actions" that may "significantly affect" the quality of the human environment. 42 U.S.C. § 4332(2)(C). NEPA regulations defines "human environment" as:

> Human environment shall be interpreted comprehensively to include the natural and physical environment and the relationship of people with that environment. (See the definition of "effects" (§1508.8).) This means that economic or social effects are not intended by themselves to require preparation of an environmental impact statement. When an environmental impact statement is prepared and economic or social and natural or physical environmental effects are interrelated, then the

[212] *See* Chambers (2020), Attachment: BC Auditor General (2016).

> environmental impact statement will discuss all of these effects on the human environment.

40 C.F.R. §1508.14. If a financial guarantee is required to protect environmental values, like clean water and fish, then 40 CFR § 1508.14 clearly suggests that the significant financial assurance required by agency regulations should be evaluated in the DEIS.

When a federal agency intentionally decides to ignore analyzing the requirement for a financial assurance to protect the environment, the message it clearly sends is that protecting the public is not its primary goal. Since this is a Plan of *Restoration* and Operations, one might expect some analysis of cost and funding mechanism for said restoration. Deferring the analysis of the financial assurance requirement until later in the permitting process expedites the permitting process, but makes it more difficult, if not impossible, for the public to review and comment on the adequacy of the financial assurance requirement. The DEIS should therefore contain a financial assurance calculation for the alternative proposing water treatment in perpetuity.

The full extent of our comments can be found in Chambers (2020).

G. Water rights and consumptive use

Midas Gold Corp has acquired four existing water rights for the project, but will need more water rights no matter which alternative is chosen. Our research indicates that none of the additional water rights have yet been applied for. To the extent the new uses are consumptive, Idaho Department of Water Resources (IDWR) administrative rules indicate mitigation will be required. Additionally, three relevant minimum stream flow (MSF) water rights exist downstream of the project (on the EFSFSR, SFSR, and main Salmon River); while the EFSFSR and SFSR MSFs have subordination provisions up to certain levels, the relationship between the Stibnite Gold Project and the MSFs is not explained and no mitigation is provided for. Addressing the consumptive nature of forced evaporation and revisions to necessary volumes of potable water also must be addressed. The information and analyses in the DEIS fails in the following ways:

- Streamflow Characteristics. Alternatives 1, 3, 4, and 5 all may cause "up to a 100% reduction in flows" in Meadow Creek at times in the life of the project and its closure. Said another way: the Stibnite Gold Project may completely dry up Meadow Creek for years at a time. While modeled to be less at times, Alternative 2 may cause similar reductions during many years of the active mine, and surface water is only anticipated to rebound at year 15. It is unclear that the DEIS proposes any kind of mitigation for this complete dewatering or the consumptive loss of water in all the scenarios. Mitigation must be, but was not, provided.

- Change in water rights availability in the Stibnite Gold Project area. It is unclear what the DEIS means regarding "change in water rights availability." An educated guess is that Midas Gold Corp continues to try to acquire additional existing water rights either through purchase or other transfer; however, our IDWR database research does not show additional existing water rights to acquire. Even if Midas Gold somehow acquires existing water rights from current holders, any changes in point of diversion, place of use, or beneficial use must be advertised. No such advertisement has occurred to our knowledge. This issue needs to be explained and/or meaningful information needs to be provided.

- New water rights needed. It is similarly unclear what is meant by "new water rights needed." An educated guess is that new water rights will have to be acquired from the State. Should this happen, water rights must be applied for, Idaho Code § 42-202A, and a water availability analysis must occur. Idaho Administrative Procedure Act (IDAPA) §§ 37.03.08 *et seq.* Our research in the IDWR database does not indicate this has occurred, and it is not clear from the DEIS if any of this has occurred.

  Alternatives 1-4 would all need the new water rights, including at least one water right for 3.47 cfs of surface water. According to DEIS Tables 3.8-2 and 3.8-3, Meadow Creek consistently runs at levels lower than 3.47 cfs. It is unclear that the DEIS considers the discrepancy between availability and need; and even if it does consider the discrepancy and we have simply been unable to unearth that information, it is similarly not clear that Midas Gold has provided a meaningful mitigation plan to address this potential dewatering.

- Contact Water (Alternative 1). Dust abatement, ore processing and forced evaporation are all proposed ways to use contact water that is unable to be reused for other purposes. (DEIS at 2-46). The DEIS acknowledges water rights would be needed for dust abatement and ore processing, but not for forced evaporation. IDWR requires water rights for all water uses, including forced evaporation. IDAPA §§ 37.03.08 *et seq*. Moreover, it is likely that IDWR would also require a mitigation plan for all of these proposed uses due to their consumptive nature in threatened and endangered fish habitat, as well as their impact on downstream minimum stream flows (MSF) above the level to which those MSFs are subordinated. (MSFs are discussed in more detail below).

  Additionally, contact water is toxic to the point of not being able to be reused for many purposes. (DEIS at 2-53). We were unable to identify where the DEIS addresses the removal of the toxics or otherwise addresses the contamination that would be in contact water before it would be used for dust abatement.

- Water Use and Supply (DEIS at 2-51 (Table 2.3-5)). The potable water estimate is 50 gallons/person/day. This is an underestimate. According to the US Geological Survey, Idahoans use an average of 174 gallons/person/day.[213] Recognizing that Idaho number includes domestic irrigation (ie., watering lawns in summer), it's perhaps more relevant for the Stibnite Gold Project man camps that the average American uses nearly 100 gallons/day. Fifty gallons/person/day is considerably below the volume needed for people to drink, wash, flush toilets, and cook. Though the volume of potable water use may seem minor in comparison to the volume required for the overall project, it is arguably the most important water being put to use as human health depends on it. The potable water estimate should be revised upward for safety and health reasons, and the necessary water right volume must also be revised upward.

- Water Rights (DEIS Section 3.8.3.3). The water rights section acknowledges the minimum stream flow (MSF) water rights on multiple stretches of river potentially impacted by the project. Table 3.8.8 lists actual minimum flows allowed during certain times of year, but then confusingly lists a "total diversion" amount of 2,269 cfs for the EFSFSR MSF right (No. 77-14190). This either needs to be explained or corrected.

  That section goes on to explain that the potentially impacted MSFs have subordination provisions: 77-14190 on the EFSFSR is subordinated to 8.2 cfs for a variety of uses and 77-14174 on the South Fk Salmon River is subordinated to 20.6 cfs for the same variety of uses. However, this section does not provide flow data for either MSF water right, nor does it provide usage periods and affiliated diversion rates for the SFSR MSF water right. All of this information is necessary for a true analysis of whether the MSF water rights are likely to be negatively impacted and, if so, what the impact to their values will be. Essentially, this section of the DEIS provides (only partially complete) information and no analysis.

  Additionally, the DEIS water rights section fails to mention the potential impact the project may have on federally protected treaty fishing rights of the Nez Perce Tribe, rights that are to be protected in great part through established water rights and ongoing water right management.

Because of all of this lacking information, the DEIS is lacking in a true analysis of water rights. At a minimum, more MSF data is needed and a discussion and analysis of potential impacts to MSF water rights and Nez Perce tribal Treaty fishing rights must be included in a supplemental DEIS. Once true impact is understood, then a mitigation plan must be provided.

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[213] U.S. Geological Service, Circular 1441, Estimated Use of Water in the United States in 2015 (Attached).

H. Transportation and hazardous material spill risk[214]

The DEIS fails to take a hard look at the accident and hazardous material spill risk along the transportation corridor from mine-related traffic. "Calculating the probability of a hazardous material spill requires knowing the number of trips, the trip lengths to find the exposure a specific project or route entails, and the risk of a spill over a given road length based on previously collected data." The data in the DEIS used to model spill risk is riddled with inconsistencies with the descriptions of the types of hazardous materials that will be transported, the amounts, the number of vehicle trips, and the safety measures taken to reduce accident risk. Moreover, modeling of spill risk itself is entirely inadequate. It not only uses the wrong data to calculate spill risk, but severely limits the geographic scope of the transportation corridor analyzed, thus significantly underestimating the risk by at least two orders of magnitude.

Mine-related traffic includes a significant number of heavy vehicles carrying a range of types and quantities of hazardous materials. At a minimum, accidents involving mine-related heavy vehicle traffic--regardless of whether a hazardous material spill occurs--will cause severe disruptions to traffic, particularly on busy travel routes through mountainous terrain dominated by two-lane travel routes. Accidents resulting in hazardous materials spills could cause significant adverse impacts to aquatic ecosystems, sensitive terrestrial ecosystems, air quality, and human health, particularly if released along recreation corridors or in local communities and residential areas. Failure to reasonably quantify these risks results in an inability of the agency and the public to make an informed decision about the impacts of the Stibnite Gold Project on the human environment, and thus violated NEPA. The Forest Service needs to address these issues in a supplemental DEIS.

i. The DEIS contains many inconsistencies regarding the transport of hazardous materials.

Inconsistent or incomplete descriptions of the type of hazardous materials that will be transported, the amounts, and the number of trips make it impossible to understand the risk of hazardous materials spills from Stibnite Gold Project-related traffic. The following lists just a few examples of these inconsistencies and incomplete descriptions:

- The number of trips by heavy vehicles and total vehicle trips per year in Table 4.7-1 are underestimates of the actual traffic during mining operations because not all mine transportation needs are listed. DEIS at 4.7.2.4. The totals shown do not account for

[214] We incorporate by reference the following expert report that is attached to this comment: Lubetkin, Susan C., *Review of the Transportation Corridor Risks of Hazardous Material Spills in the Proposed Stibnite Gold Project Draft Environmental Impact Statement* (2020).

the range of 365-730 annual truck trips hauling antimony concentrate, waste oil, and an unspecified number of trips for wastes containing mercury from ore processing leaving the mine site.

- The values in Tables 2.3-7 and 2.4-3 in the DEIS cannot be reconciled based on the differences in the numbers of trips bringing lime and propane to the site. *See* DEIS at 2.3.5.20, 2.4.6.2. There are also general discrepancies in these tables of the estimated number of annual hazardous materials truck shipments.
- The reagents and their quantities listed in the DEIS are inconsistent between Chapters. Table 4.7-1, DEIS at 4.7-6, lists 27 hazardous materials; Table 2.3-6, DEIS at 2-60, only lists 25. Eight substances in Table 2.3-6 do not appear in Table 4.7-1.
- The reagents and their quantities listed for the water treatment plan are inconsistent. There are different lists of annual usage for chemicals and quantities during operations and post-closure in Chapter 2, DEIS at 2-111, 2-115 (Table 2.4-4), and Chapter 4. DEIS at 4.7-14.
- There is an unexplained discrepancy between the number of pilot vehicles accompanying fuel and miscellaneous supply trips and total trips of vehicles carrying hazardous materials.

Undercounting the number of heavy vehicle trips, as well as inaccurately listing the amounts and types of hazardous materials, has underestimated potential risks from mine-related traffic. These inconsistencies must be resolved in order to adequately predict potential impacts and allow an informed decision.

ii. The limited geographic scope of the transportation corridor unreasonably limited calculated trip lengths.

The analysis of accident and spill risk in the DEIS unreasonably limited the geographic scope of the transportation corridor to the 70 miles from the intersection of SH-55 and Warm Lake Road in Cascade to the mine site. Calculation of the probability of an accident and incident is highly dependent on the number of vehicle miles traveled. Hazardous materials accidents and spills can occur at the origin, destination, or anywhere en-route. Therefore, it is critical to analyze the entire transportation route from the point of origin, where vehicles will pick up supplies, to the mine site to get a true picture of risks involved. The DEIS failed to do that. By significantly limiting the geographic scope of the transportation corridor, the DEIS markedly underestimated the accident and incident (hazardous material spill) rate, and thus provided an inadequate picture of the potential impacts of the Stibnite Gold Project to the environment and human health.

The DEIS never calculates the number of truck miles for vehicles carrying hazardous materials. This number--miles traveled per year--is a key variable used to calculate the risk of a hazardous materials spill. Using an average distance of 70 miles from the turn off from SH-55

near Cascade to the proposed mine site for all Alternatives multiplied by the expected number of truck trips per year for each substance, there will be a total heavy truck miles traveled per year between 325,640 miles for Alternative 2, to 455,840 miles for Alternatives 1, 3, and 4. However, if the true length of the transportation corridor is considered--travel between the point of origin, as described above, to the mine site--there will be between approximately 1.7 million (Alternative 2) to 2.4 million (Alternatives 1, 3, and 4) miles traveled per year.

This difference in miles traveled when comparing the two transportation corridors is not only notable when calculated on a yearly basis, but is compounded when one considers the 15 year life of the mine. The DEIS analysis failed to recognize an important aspect of this problem. And as described below, the effect of limiting the geographic scope in the analysis, and thus the miles traveled, is that the resulting probability of a hazardous material spill occurring is significantly underestimated.

iii. The rate of hazardous material spills per truck mile was incorrectly determined.

The DEIS's rate of hazardous materials spills per truck mile is incorrect, and results in an unreasonably low number that results in a calculated probability of a hazardous materials spill two orders of magnitude lower. The DEIS cites national statistics for risk rates of 1 spill in 714 million truck miles in 2013, and 1 spill in 522 million truck miles in 2016. The DEIS "assumed that the hazardous materials crash rate could be computed by dividing the number of large truck crashes that released hazardous materials by the total large truck vehicle miles traveled in a given year. . . . The rates cited in [the DEIS] . . . are incorrect because not all large trucks carry hazardous materials." The rate of hazardous material spills should be instead calculated based on the number of vehicle miles for trucks transporting hazardous materials.[215]

Corrected calculations using the data cited in the DEIS resulted in a more realistic spill rate of $1.6x10^{-7}$ per vehicle mile. This spill rate is in line with the risk rate per mile of $1.9x10^{-7}$, which was reported by EPA and used in the Pebble Mine analysis, but approximately two orders of magnitude higher than rates cited in the DEIS ($1.4x10^{-9}$ and $1.9x10^{-9}$). The low spill rates used in the DEIS would therefore result in a much lower calculated probability of hazardous material spills due to the Stibnite Gold Project.

In sum, inaccurately reported truck trips, and underestimated miles traveled and spill risk rate resulted in a grossly underestimated the report probability of a hazardous material spill and other related accidents occurring during the lifetime of the mine.

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[215] Although those data are unavailable, reasonable assumptions can be made to arrive at a rate that is more reflective of the true risk. *See* Lubetkin (2020).

An adequate risk analysis is essential to the choice between alternatives, including the no-action alternative. Mine-related truck vehicles will be transporting large amounts of hazardous materials that will travel on precarious roads, encounter land and weather-related hazards, and pass over several river or stream crossings and through several communities, important recreational areas and hubs, and environmentally-sensitive areas (including areas with habitat for ESA-listed species). None of the communities in the local transportation corridor (e.g., Horseshoe Bend, Banks Smiths Ferry, Cascade, Donnelly, McCall, New Meadows) have emergency response capability to address hazardous material spills. Mountainous roads and hazardous travel conditions, particularly in winter, may delay emergency response teams from reaching hazardous material spills, resulting in more severe impacts to the environment and human health. An accurate prediction of the risks is essential to making informed decisions on route choices, minimizing accident and incident probability, and reducing potential injury, death, population exposure to hazardous chemicals, and environmental damage. The Forest Service must adequately consider these risks and disclose them in a supplement DEIS for the public to review.

iii. Verification needed that fuel haul on the South Fork Salmon River will not be allowed.

The Forest Service needs to verify that fuel haul will not be allowed along the South Fork Salmon River as a backup plan in the event the Johnson Creek route is inaccessible. It is our interpretation that the controlling document for fuel haul along the South Fork Salmon River is the July 1990 South Fork Salmon River Road EIS (File Reference: EM.11.0006) which placed strict limits on fuel transportation down this road:

> Hauling of toxic materials, as defined in the Payette National Forest Plan, page IV-238, will be stringently restricted. –Salmon River Road EIS, p. 5.

and

> Protection of the South Fork from toxic spills will be accomplished by prohibiting hauling of toxic materials, by both commercial and noncommercial users on the South Fork Salmon River Road. Exceptions can be made for supply of the Reed Ranch and Krassel Guard Station, or emergency situations, with proper safeguards. Criteria for permitting exceptions are presented in Appendix E to the Final EIS.
> -Salmon River Road EIS, p. 18.

While fuel haul is not totally banned, the restrictions are severe:

> No hazardous materials (refer to page IV-238 definition in the Payette National Forest Land and Resource Management Plan) except lime and petroleum products will be

transported over the South Fork Road. The basic intent is to eliminate all fuel and other hazardous material haul on the South Fork road unless absolutely necessary.

-Salmon River Road EIS, Appendix E, p. E-1.

The Forest Service goes on to define the requirements for fuel transportation, which include the following:

1. Provide for use on a case-by-case permitted basis (District Ranger authority).
2. Considerations in permit issuance are:
    a. For emergency use or to serve South Fork uses only
    b. Other routes available
    c. Weather
    d. Use levels by recreational traffic
3. Maximum fuel at one time is 500 gallons. Fuel must be carried in a DOT approved flammable fuel container.
4. A bond with a value commensurate to the risk involved will be required

-Salmon River Road EIS, p. E-2.

Highlighting the sensitivity regarding fuel haul, the Forest Plan was subsequently amended on August 2, 1995, and further fuel-related restrictions were implemented:

1. Amend Appendix E of the FEIS for South. Fork Salmon River Road Project to include no non-commercial haul of petroleum products in excess of 60 gallons without a permit.
2. Implement a new road closure order that prohibits "Using the road with a vehicle that has a cargo containing more that 60 gallons of petroleum products without a road use permit".

These prohibitions were implemented, as evident by the fact that Stibnite mining operations from approximately 1980-1997 were not permitted to haul fuel down the South Fork Salmon River Road.

The subsequent 2003 Forest Plan is silent on this issue. For other current projects, the 1990 South Fork Salmon River Road EIS is the guiding document and several projects required by the plan are ongoing actions, are currently being implemented or have recently been implemented. These include closure of the Hamilton Bar/Three Mile Road and the reconstruction of the Goat Creek culvert.

The Salmon River Road EIS also states the following: “Activities reasonably expected to occur within the next 10-15 years were identified and included in the cumulative effects

analysis. *Unforeseen activities will be analyzed for Forest Plan compliance and cumulative effects when proposed."* (emphasis added).

Fuel transportation for mineral exploration activities in the general area was expected and was specifically restricted along the South Fork Salmon River Road. Before fuel haul can be considered, a Forest Plan amendment will be required along with consultation with NOAA fisheries and US Fish and Wildlife Service, as required under Payette Forest Plan Standard TEST02.

The full extent of our comments can be found in the attached report: Lubetkin, S.C., *Review of the Transportation Corridor Risks of Hazardous Material Spills in the Proposed Stibnite Gold Project Draft Environmental Impact Statement* (2020).

I. Avalanche risk

i. Avalanche terrain along the Burntlog Road is inadequately identified.

The DEIS fails to adequately consider avalanche hazards along the proposed Burntlog Road. To begin, it is difficult to surmise the exact alignment of the proposed route. In Appendix E-1 pages of detailed maps illustrate an alignment configuration that crosses Trapper Creek (Plate 3C), heads generally east climbing to approximately 7,700 feet, before turning north at MP 23.5 (Plate 3D) and descending towards a crossing of Riordan Creek at MP 26.25 (Plate 3E). From here the road heads South, adjacent to Riordan Creek before making a switch back and heading north, climbing to approximately 8,000 feet in elevation (MP 27.5 to MP 28.5). This alignment is different than that depicted in the difficult to read and inadequately scaled map in the Executive Summary of the DEIS. DEIS at ES-15. There, the road appears to cross a ridge and head into the Black Lake cirque before rejoining the route depicted in Appendix E near MP 27.5. Both of these alignments are subject to avalanche hazards that have not been identified or analyzed. These comments primarily focus on the access route detailed in the maps in DEIS Appendix E.

Only two avalanche paths are identified on the map in Appendix E-2. Not surprisingly then, the DEIS has failed to identify avalanche paths that range in scale from small avalanche paths on existing cutbanks along the Johnson Creek Road between Warm Lake and Landmark, to much larger avalanche paths in the Riordan Creek drainage along the Burntlog Road. While it is not the prerogative of the DEIS to identify every single potential avalanche path, it is incumbent to include enough information for a decision maker to determine the actual risk

potential of the various proposed mine site access routes. Indeed, transportation routes subject to avalanche hazard have been studied extensively over the past 50 years.[216]

The DEIS describes "an area with 'two or three' avalanche paths south of the road crossing at East Fork Burntlog Creek." DEIS at 3.2-31. Even a mere desktop study can deduce these slopes average roughly 32 degrees, are south-facing, and are between 7,000 and 7,500 feet elevation. Moreover, the primary avalanche type for this regime is likely to be wet loose avalanches.[217] This fairly simple characterization can then be used to make a reasonable assumption as to the type of mitigation strategy appropriate to minimize the risk to vehicles traveling along the road during times of increased avalanche hazard. This information is not included in the DEIS and should, at the very least, disclose and discuss known topographic features of potential avalanche paths such as slope aspect, slope incline, and slope elevation in order to even begin to characterize the risks associated with the different access route alternatives.[218]

In fact, DEIS is completely silent on any kind of mitigation strategy to reduce risk associated with avalanche hazard. To make this point further, portions of the Burntlog Road, in particular between MP 26.5 and MP 27.25, are located within the runout zones of much larger avalanche paths than the ones described in the Weppner reference. (DEIS Appendix E-1 at Plate 3-F). At a minimum, a mere "desktop study" should have identified these paths. As such, the DEIS has failed to identify a majority of the major slide paths along the Burntlog Road and a more detailed analysis is required to provide the necessary information to evaluate hazards existing on any of the proposed mine site access routes.

ii. Avalanche path identification techniques conflict with the recommendations of the avalanche hazard assessment reference cited by the DEIS.

The DEIS purports to use "vegetation signatures supplemented with slope calculations" to identify "probable" avalanche paths. (DEIS Appendix E-2 at 1). It relies on the Mears and Wilbur Avalanche Hazard Assessment, a single page map with red amoebas drawn around potential avalanche paths at the mine site, to somehow infer avalanche paths along the Burntlog Road.[219] Of note is that the Mears and Wilbur map is seven years old and contains no information to ascertain what criteria, if any, was utilized to make the map. As discussed below,

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[216] *See, e.g.*, Ed LaChappelle, ABC of Avalanche Safety (1970) (Attached); Blattenberger & Fowles, Road Closure to Mitigate Avalanche Danger: A Case Study of Little Cottonwood Canyon (1995) (Attached); Kozel, Assessment for Avalanche Mitigation Planning for Developed Areas in the Rocky Mountains of Colorado (2015) (Attached).

[217] McClung & Schaerer, Avalanche Handbook (2005) at 72-74 (Attached).

[218] *Id.* at 101-103.

[219] Mears and Wilbur Engineering (2013).

the identification of avalanche paths along the Burntlog Road is inadequate and the methodology employed by the Forest Service to identify these paths is inconclusive at best.

The DEIS references Snow Avalanche Hazard for Land-Use Planning and Engineering which outlines the use of vegetation signatures to identify avalanche paths.[220] This publication details a list of limitations for using "aerial photography" (which the DEIS seems to assume is corollary to "satellite imagery") including: "potential avalanche areas may not have produced a major event for over a century, therefore path boundaries may not appear on photos; avalanche damage that extends below the lower boundary of forests usually will not appear on aerial photographs unless large tree trunk and other debris have been deposited by avalanches into the lower, non forested areas; some distinct forest boundaries may have been caused by fire . . . [or] other natural . . . changes."[221] It further states, "[m]any slopes with potential avalanche terrain lack a long history and **show no signs of previous avalanche activity through study of vegetative indicators or aerial photos**."[222] More recent publications also acknowledge that "fire, careless cutting . . . disease, or acid precipitation can produce avalanches where none had occurred before."[223]

However, the DEIS relies almost entirely on satellite imagery to identify potential avalanche paths. Even with "supplemented slope calculations (30-45 degrees) using measurement tools in Google Earth" the desktop study failed to identify the avalanche paths impacting MP 26 through MP 27.25.[224] Moreover, the road alignment is in the lower third of the avalanche paths, which poses greater risk to road traffic[225] than if the road was in the "starting zone, [which] may contain more frequent, but smaller-size avalanches as compared to Stibnite Road." (DEIS Appendix E-2 at 10). There is incongruence in the methodology used to identify avalanche paths in the DEIS with the known and acknowledged scientific limitations of that methodology. This oversight must be rectified in a Supplemental EIS.

iii. The DEIS and references assume that avalanche hazard cannot be mitigated and thus fails to analyze the impacts that an avalanche control program will have on forest resources.

In RFAI 83a, the project proponent claims that "[f]uture occurrences of avalanches (or other mass wasting events) and resultant site access restrictions would not meet the project [purpose and need] in that they would disrupt the 'orderly and economic development' of the

[220] *See* A.I Mears, Snow Avalanche Hazard for Land-Use Planning and Engineering (1992).
[221] *Id.* at 22.
[222] *Id.* at 23.
[223] McClung & Schaerer, Avalanche Handbook (2005) at 235-236 (Attached).
[224] DEIS Appendix E-1 at Plate 3-F.
[225] A.I. Mears, Snow Avalanche Hazard for Land-Use Planning and Engineering (1992) at 12 (Attached).

mineral resource at Stibnite by (1) restricting access to the site for delivery of personal and materials necessary for mining, (2) generating economic loss through mine in activity, (3) putting mine employees at risk by placing the only path of mine ingress and egress in a known avalanche corridor and (4) increasing the risk of catastrophic environmental impacts due to avalanches sweeping fuel and/or reagent loaded vehicles into the EFSFSR."[226]

On their face, these are baseless assumptions. Whether the Burntlog Road or Johnson Creek/Stibnite Road is chosen for mine site access an avalanche forecasting and control/mitigation program will need to be in place. These assumptions also contradict the reality of the proposed construction phase of the mine. Irrespective of the chosen route, the Johnson Creek/Stibnite Road will necessarily be used during the construction phase. The ambitious schedule proposed by the project proponent requires year round access. Assuring this access remains viable, safe, and open requires mitigating the avalanche hazard to the Johnson Creek/Stibnite Road route so as to avoid significant delays in the project schedule.[227]

This is by no means a novel issue and, in fact, is not all that unusual in the western United States. For example, Little Cottonwood Canyon near Salt Lake City is a dead end road consisting of two large ski resorts. Regularly, during times of increased avalanche instability (due to snow, wind, temperature, snowpack characteristics), in excess of 5,000 people live, work, and recreate in the Canyon. The road is subject to more than 20 major avalanche paths which, left uncontrolled, would regularly (and historically have) cross the road alignment. A world class avalanche control program consisting of artillery, remote devices (gasex, daisy bell), Avalaunchers (compressed nitrogen cannon), and hand charge routes mitigate these hazards such that operations at these ski resorts are minimally impacted.[228]

Similar programs are run at many ski areas throughout the western United States, and along highway corridors in Idaho (Teton Pass, Highway 21 between Loman and Banner Summit, and Galena Pass). It is unreasonable to rely on the project proponent's assumption that any mine access route to the Stibnite Gold Project would be so limited that an avalanche forecasting and control program would be unnecessary.

It is equally unreasonable for the Forest Service to exclude any analysis of the impacts that an active avalanche control program will have on forest resources. These types of programs have been analyzed in several recent Environmental Impact Statements ranging from ski area

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[226] Supplemental Response to RFAI 83 at 5.
[227] *Id.*
[228] Quinn Graves, A History of Avalanche Mitigation in the Cottonwood Canyons, Central Wasatch Commision, (Oct. 20, 2020 at 1:14 PM), https://cwc.utah.gov/a-history-of-avalanche-mitigation-in-the-cottonwood-canyons/ (Attached).

programs, railroad corridors, and highway protection programs.[229] Indeed, there is a growing body of scientific literature that examines the impacts that explosives used for avalanche hazard mitigation has on various ecosystems.[230] Even the USGS has recently studied explosives residue from avalanche control work that may pose risks to human health.[231]

The lack of professional judgment that resulted in the omission of this analysis evidences Midas Gold's limited understanding of mitigating avalanche hazard by the stated assumption that "the suddenness with which [avalanches] occur is difficult to predict and thus represents a concern to the health and safety of the mine workforce . . ."[232] Avalanche and snow science have contributed heartily to successful mitigation programs throughout North America and the world. Avalanche hazard is predictable, and can be safely and effectively mitigated by using well established methods, techniques, and procedures.[233] In fact, avalanche forecasting and control programs are well-established in the mining industry.[234]

A mine site that operates in avalanche terrain must have, at a minimum, an industry standard avalanche forecasting and control program to mitigate avalanche hazard. This program must be analyzed in the DEIS. Because explosives are highly effective tools for

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[229] Little Cottonwood Canyon Draft Alternatives Development and Screening Report for LCC Environmental Impacts Statement, Utah Dep't of Transp. (2020), https://littlecottonwoodeis.udot.utah.gov/wp-content/uploads/2020/06/LCC-EIS-Alternative-Screening-Report-2020-05-21_Full.pdf (Attached); Avalanche Hazard Reduction By Burlington Northern Santa Fe Railway in Glacier National Park and Flathead National Forest, Montana, Final Environmental Impact Statement (2008), https://parkplanning.nps.gov/document.cfm?parkID=61&projectID=12355&documentID=24072 (Attached); Silverton Guides Helicopter Ski Terrain Exchange (2017), https://eplanning.blm.gov/public_projects/nepa/67342/105809/129388/FinalEA_Silverton_Heli_Ski_Terrain_Environmental_Assessment_May2017.pdf (Attached); Juneau Access Improvement Projects Final Environmental Impact Statement (2017), http://dot.alaska.gov/sereg/projects/juneau_access/assets/2018_FSEIS_Appendices/Appendix_Z_Appendix_J_-_Avalanche_-_2017_Update-All.pdf (Attached).

[230] Hamre & Steiner, Environmental Implications for Explosives Based Risk Mitigation: A Case Study From the BNSF Railway Avalanche Safety Program Essex, Montana, USA (2004), https://arc.lib.montana.edu/snow-science/objects/issw-2006-747-756.pdf (Attached).

[231] David Naftz *et al.*, USGS Water Resources Investigations Report 03-4007, Explosive-Residue Compounds Resulting From Avalanche Control Work in the Wasatch Mountains of Utah (2016), https://pubs.usgs.gov/wri/wrir03-4007/ (Attached).

[232] Supplemental Response to RFAI 83 at 5.

[233] *See* Campbell *et al.*, Avalanche Threats and Mitigation Measures in Canada (2008) (Attached).

[234] Cerda *et al.*, Avalanche Management in a Large Chilean Copper Mine, Presented at the 2016 International Snow Science Workshop, Breckenridge, Colorado, available at https://arc.lib.montana.edu/snow-science/objects/ISSW16_P4.42.pdf (Attached).

artificially triggering avalanches,[235] their use outside the mine site will almost certainly be required. Other mitigation tools are available and are also highly effective.[236] However, the DEIS is silent here. As noted throughout Chapter 3, the climatic conditions of the region as well as local observation indicate a propensity to have a mountain snowpack between October and late May/early June. Managing avalanche hazard is not only important for worker safety, but also to minimize risk of accidental release of hazardous materials whether in transport, or at the mine site from a vehicle being struck by sliding snow. There are many unique considerations of an avalanche control program that the DEIS does not address, including:

- Impacts that an explosives based avalanche control programs will have on *incidental take of sensitive species such as whitebark pine* from either natural avalanches exasperated by the road cuts, or avalanche control work (explosives to control unstable snow conditions) to maintain safe passage during times of increased avalanche hazard.
- Analysis of the impacts to water quality, fish, and other aquatic habitat from the accumulation of explosives residue.
- Impacts to terrestrial species such as wolverine, goshawk, snowshoe hare, elk, mountain goats, and bighorn sheep from the noise and possible loss of habitat from repeated wintertime use to mitigate snow accumulation in avalanche starting zones.
- Avalanche starting zones that impact the proposed Burntlog Road between MP 26.5 and MP 28 are on the boundary of the Frank Church River of No Return Wilderness area. Impacts of the regular use of explosives in such close proximity to the Wilderness area must be analyzed.

iv. Conclusion

As noted by the Wilbur & Mears Avalanche Hazard Assessment map, there are over 30 avalanche paths within the mine site.[237] Although Midas Gold desires to locate infrastructure away from these hazards, this assessment, and the DEIS, fail to address avalanche hazards from artificial and man made structures, including pit walls and haul roads (flat deposition zones). These pose significant hazards to worker safety and the DEIS must address them. Acknowledgement that these hazards exist should assist Midas Gold in characterizing the duty of care it owes to its personnel who travel on mine site access and haul routes. It is particularly troubling that Midas Gold characterizes these knowable and manageable risks as "difficult to predict" when there is a plethora of evidence to suggest otherwise. It appears these assumptions have caused the omission of any analysis of the impacts an avalanche control program would have on forest resources. The Forest Service must include the appropriate assessment of

[235] McClung & Schaerer, Avalanche Handbook (2005) at 207-225 (Attached).
[236] *Id.* at 207, 225-237.
[237] Mears and Wilbur Engineering (2013).

avalanche hazard and the environmental consequences of mitigating that hazard as has been done in many other recent EISs for projects that occur in avalanche terrain.

J. Utilities and right-of-ways

The construction and long-term operation associated with transmission line upgrades causes serious impacts, including direct damage to wildlands, wildlife habitat and cultural resources, interference with scenic vistas, habitat fragmentation, the introduction of invasive and noxious weeds through ground disturbing activities, and others. Much of the landscape in Idaho, even near streams, has been visually impacted by human features such as roads, structures, transmission lines, and other infrastructure. The Stibnite Gold Project would require Idaho Power to build two new electrical substations (Scott Valley and Thunderbolt Tap) and remove the existing Scott Valley Substation. DEIS at ES-2 (Connected Actions). This section of the DEIS begins the discussion of utility impacts in an erroneous and misleading manner by failing to incorporate the proposed dismantling and rebuilding of the existing Johnson Creek substation and the construction of a mine site substation in the Executive Summary Connected Actions. However, numerous references to the "new Johnson Creek substation" are found throughout the Executive Summary and accompanying chapters. The resulting disconnection between these conflicting statements misleads reviewers and the American public regarding the full suite of infrastructure changes and potential impacts resulting from any proposed utilities upgrades or new construction within all the presented alternatives. We recommend the Forest Service/Midas Gold correct this and fully analyze and openly present the complete proposed utility changes and the associated potential impacts of utilities-associated proposed actions on the environment in a more thoughtful and organized manner.

Additional electrical changes include rerouting power to the village of Yellow Pine from the Warm Lake substation to the Johnson Creek substation, upgrading nearly 64 miles of existing transmission lines with higher towers, transformers and line, and constructing an additional 8.5 miles of new transmission line from the Johnson Creek substation to the mine site. Further, Midas Gold proposes to upgrade microwave relay towers and install radio repeaters and cell phone towers at existing communication sites on public and private lands. Transmission line right-of-way (ROW) widths would range from 50 to 100 feet, requiring significant additional vegetation removal initially and continually as part of long-term maintenance of these clearings, and continued vehicle access for maintenance and emergencies. Several of these utilities upgrades will pass through and either directly or indirectly impact Inventoried Roadless Areas (IRAs), diminishing the outstanding values and qualities associated with pristine wild lands including, but not limited to: visual resources; big game security; water quality; quiet/solitude; and intact habitat with limited fragmentation.

i. The DEIS fails to analyze the impacts of the ROW infrastructure to Inventoried Roadless Areas.

Large portions of the proposed transmission corridors associated with the Stibnite Gold Project are located in lands with very primitive or no roads. The Forest Service/Midas Gold must analyze the impacts of new road construction on wildlife habitat, habitat fragmentation, migration corridors, the spread of noxious weeds, and local fire regimes. Because primitive roads are not plowed in the winter, this analysis must also examine the impacts of opening or keeping access open in the event of problems on the line in the winter. Previous management activities have resulted in extensive road and right-of-way densities throughout our public lands. This density compromises the ability to support wildlife and fish by promoting further human disturbance, fragmenting habitat, accelerating sedimentation, spreading noxious weeds, and encouraging Off Road Vehicle (ORV) use. Furthermore, there is a positive correlation between roads, even temporary ones, and human-caused wildfire ignitions. We recommend that the Forest Service/Midas Gold evaluate the road and transmission network to avoid impacts to wildlife habitat where feasible, and close or decommission unneeded roads and corridors.

The analysis in the DEIS does not provide mapping or analysis showing how noise associated with transmission line upgrades and construction may affect wildlife or members of the public. Open and closed roads and trails, plus illegally created and used trails, as well as the transmission line corridors, must be mapped and sound contours plotted showing the distance and areal effects on wildlife security areas and "quiet" users who may be attempting to escape the noise and commotion of society and enjoy these IRAs. The noise estimates for transmission line upgrades and construction and substation construction consist of *estimated* maximum noise levels based on types and amounts of equipment used. DEIS at 4.6.2.1.1.3, 4.6.2.1.1.4. (Tables 4.6-4, 4.6-5). However, we believe these estimates are grossly underestimated, and do not adequately analyze the potential impacts of noise in IRAs or throughout the entire project area.

For example, Table 4.6-4 states that a single auger drill rig, backhoe, excavator, tension/puller truck, and bucket truck will satisfy construction and upgrade needs. We believe that if Midas Gold continues to advocate for rapid advancement and construction of the Stibnite Gold Project, Idaho Power will require more than the listed *estimated* equipment amounts, thus raising the noise levels. Further, the total average hourly noise levels fail to consider the operation of more than one of these equipment pieces at a time. The current total consists of an average of the total output from each listed equipment category rather than a compilation of multiple sources. The analysis should include studies of noise levels using multiple pieces of equipment. We recommend the Forest Service/Midas Gold consult with Idaho Power to obtain a realistic estimate of equipment needs, operational uses, and commonly associated multiple sources rather than the existing anemic model. The DEIS states,

"In the absence of a detailed schedule of equipment for utility construction, it was *assumed* that the equipment used would be similar to other transmission line projects." DEIS at 4.6-10 (emphasis added). Midas Gold and the Forest Service bear the responsibility to provide accurate information and impact analysis, not estimates based on assumed projections. The agency and project proponent must complete due diligence by seeking out authoritative, accurate information and present these findings to the public rather than relying on questionable assumptions based on lackluster data collection.

ii. Impacts to water quality from ROW infrastructure is not adequately addressed.

The DEIS fails to adequately address the direct and indirect potential adverse effects of utility upgrades, construction and maintenance impacts by limiting the analysis of potential stream and water quality impacts to direct impacts of transmission line upgrades and construction. We note that construction and utility vehicles may also impact water quality at stream crossings. For example, the DEIS states that under Alternative 1, transmission line upgrades (including structure work for the upgraded line and for transmission line access roads) will require crossing 34 different streams, with the proposed 8.5 miles of new transmission line intersecting three streams. DEIS at 4.9.2.1.2.3 (Table 4.9-15).

Of the 37 streams, 11 are listed by the Idaho Department of Environmental Quality as impaired, primarily for phosphorus contamination, sedimentation, and water temperature. While the towers themselves will not contribute to sedimentation and the transmission lines and associated activities will not likely affect phosphorus levels, the proposed activities will likely affect stream temperatures through vegetation removal and management at the crossing locations. Further, construction or line installation/upgrade equipment will likely cross streams at line access roads, between towers along the transmission line ROW, but the impacts remain unaddressed in the DEIS. We are particularly concerned about impacts to Burntlog Creek and Johnson Creek which are eligible Wild and Scenic Rivers. The DEIS provides no mitigation measures designed to limit these potential impacts. *See* DEIS Appx. D at p. D-21 (Table D-2). Potential measures that were not fully analyzed include hardened crossings, bridges that provide for Aquatic Organism Passage (AOP) on major, perennial streams that likely to see multiple crossings due to construction and maintenance access, establishment of construction seasons when risk of sedimentation if low, and turbidity monitors at and downstream of stream crossings. Appendix D contains limited references to transmission line upgrades and construction in Table 1-1 of the Conceptual Stream and Wetland Mitigation Plan which does provide some additional baseline data for wetland delineation and engineering with better quantified impacts. This format and level of detail should be followed elsewhere in the document.

One of the special attributes of streams in this area is the relative lack of such infrastructure in and around those streams currently. The Forest Service is mandated to consider multiple uses, including vegetation, fisheries, recreation and aesthetics. Portions of the project area contain habitat that is crucial to fish and wildlife species such as bull trout, chinook salmon, lynx, wolverine, white-bark pine, Sacajawea bitterroot, and others. Such habitat has been severely fragmented and reduced through a variety of land management practices, including road construction and development of rights of way corridors. The Forest Service should minimize negative impacts by avoiding areas of critical habitat for species of concern, establishing siting criteria to minimize soil disturbance and erosion on steep slopes, utilizing visual resource management guidelines, avoiding significant historic and cultural resource sites, and minimizing conflicts with other uses of the public lands.

iii. The DEIS failed to consider impacts from increased unauthorized motor vehicle use.

New roads for construction and maintenance of transmission lines will provide more access for motorized recreation in areas without a current road system and more opportunities for illegal off-road riding. The devastating impacts of off-road vehicles (ORV) on terrestrial ecosystems are well established.[238] Irresponsible ORV use degrades water quality, spreads noxious weeds, fragments habitat, disturbs wildlife, increases fires, and displaces non-motorized recreationists. The DEIS fails to analyze the impacts of ORV use within transmission corridors and neglects to describe the ability for the Forest Service to monitor and control ORV use as permitted by land management agencies. The creation of this ROW is also likely to lead to the establishment of an unofficial over-snow vehicle (OSV) route along this route with potential impacts to wildlife. Please see our related comments on OSVs. We recommend the Forest Service/Midas Gold incorporate an analysis of OHV potential impacts and the measures needed to effectively manage them in a Supplemental DEIS.

iv. Invasive grasses and noxious weeds

One of the most significant threats to any ecosystem remains the introduction of invasive grasses and noxious weeds associated with ground disturbing activities. We encourage the Forest Service/Midas Gold to use integrated weed treatment methods. To the extent practical, herbicides should only be used as a last resort and avoided in sensitive areas such as riparian areas or areas with rare plant populations. Lands treated for noxious weeds should be restored to native plant species when possible. Preserving and restoring intact soil layers represents the best way to avoid invasive plant and noxious weed introduction. Therefore, we

[238]Arp, C.D., and T. Simmons. 2012. Analyzing the Impacts of Off-Road Vehicle (ORV) Trails on Watershed Processes in Wrangell-St. Elias National Park and Preserve, Alaska. In *Environmental Management* (2012) 49:751-766. DOI 10.1007/s00267-012-9811-z (Attached).

recommend disturbing as little intact soil as possible.

We are concerned that soil disturbance can lead to the establishment of rush skeleton weed, spotted knapweed, dalmatian toadflax, and other noxious weeds. Newly constructed or modified roads associated with anthropogenic infrastructure also contribute to the spread of non-native plants.[239] The disturbance needed to upgrade existing transmission lines, construct new transmission line segments, to upgrade existing roads and to build new road segments like the proposed Burntlog Road provides an ideal vector for noxious weed expansion. The Forest Service/Midas Gold needs to take far greater care to ensure that weed spread is minimized.

Humans and our activities cause the majority of wildfires throughout the west, and a majority of those have primary ignition sources associated with roads and travel. The utility and transportation ROWs associated with the Stibnite Gold Project become a more significant hazard than the general landscape due to the increased potential for human activities along them.

We recommend that precautions be taken to ensure that noxious weeds are not introduced into identified project areas and that exotic and invasive species are not reintroduced following maintenance. The Forest Service/Midas Gold should employ Best Management Practices (BMPs) that include washing off all equipment before and after treatment and inspecting all equipment for weeds, non-natives, and their seeds prior to treatment. In addition, the Forest Service/Midas Gold needs to commit to monthly monitoring and maintenance programs once the updated and new transmission lines are complete and transportation routes are similarly upgraded or constructed.

a. Proactive work to reduce invasive weeds

While we appreciate the intent to manage ROW disturbances to minimize the establishment of non-native plants, the proposed actions will still likely result in the introduction and spread of invasive grasses and noxious weeds. To mitigate this, the Forest Service/Midas Gold should do additional proactive work to reduce noxious weeds within both transmission line ROWs and along all transportation routes affected by the proposed project. The Forest Service/Midas Gold should work proactively to restore native vegetation and to decrease the percentage of invasive species.

b. Transmission lines and wildfires

Numerous fires have started from transmission lines and the Forest Service needs to

[239] Gelbard, J.L., and J. Belnap. 2003. Roads as conduits for exotic plant invasions in a semiarid landscape. Conserv Biol 17: 420–32 (Attached).

disclose these potential risks and ways to avoid, minimize and mitigate these risks. Methods to minimize the risk of fires often involve establishing a wider ROW corridor, removing vegetation from a wider area, and conducting more frequent vegetation clearing. These fuel reduction measures will exacerbate the habitat fragmentation from ROW establishment and expansion. The Forest Service needs to evaluate the effects of both the transmission lines and maintenance activities and develop mitigation strategies.

Transmission lines can also be burned over in wildfires, leading to power failures. Because of the long distance of this transmission line, there will be numerous ways for power to be interrupted. In addition to wildfires, other mechanisms include vehicle crashes, avalanches, landslides, and wind storms. The Forest Service/Midas Gold should also anticipate and have contingency plans at the mine site and at the water treatment facility if power is interrupted for long periods of time.

c. Unauthorized OHV use

While the Forest Service/Midas Gold do not appear to be designing these ROWs as trails for public motorized use, recreational motorized vehicle use will likely dramatically increase compared to the current administrative access. We are concerned that additional, unregulated motorized use could further impact wildlife such as elk, increase sedimentation to streams, increase litter, loss of snags from firewood collectors, and spread additional noxious weeds. We point out that while Idaho Power has an enforceable requirement to clean vehicles of noxious weeds and seeds, the general public does not. Further, the increased unauthorized use of the ROW by the public following transmission line upgrades or new construction is directly related to the Midas Gold proposal. Therefore, Midas Gold needs to incorporate a more thorough analysis of potential incidental impacts to wildlife and plant habitats and habitat fragmentation that result from increased ROW use. In addition, we are concerned about the proliferation of illegal motorized trails in inappropriate areas as a result of this conversion.

Encouraging public motorized use along these routes may also reduce the opportunities for non-motorized recreation in the area. As such, we recommend that these routes remain closed to public motorized vehicle access, and that Midas Gold and the Forest Service provide a more thorough description of measures to prevent unauthorized use, with Midas Gold committing to compensate Idaho Power for additional gates and outreach, education and enforcement costs related to restricting access to these routes.

We are concerned that the upgraded and newly constructed transmission lines will dramatically increase the amount of unauthorized motorized vehicle use and associated negative impacts, including human-caused ignitions. Additional outreach and education regarding travel management plans will help keep OHVs on designated routes and slow weed

expansion. As part of this effort, we recommend partnering with user groups to help educate users on open routes. Signs and informational kiosks with maps should be placed at all trailheads and staging areas that communicate the Forest Service's policies and regulations regarding the use of motor vehicles on public lands. Printed materials in maps and at kiosks should include the following points: taking a map and knowing the trail system, keeping vehicles clean, using spark arrestors to avoid wildfires, staying on designated trails, and staying off muddy trails. Photos in outreach materials should display recreationists using proper trail etiquette. These resources should also be available online.

The agency should indicate it reserves the right to close an area to motorized travel if recreationists do not follow the policies and regulations, or if recreationists participate in destructive riding practices on public lands. Outreach materials should include phone numbers for the relevant Forest Service or utility offices so that members of the public can report violations in a timely manner, thus increasing the capacity of user groups to encourage responsible use of public lands.

We also recommend that all signs and trail markers should include an emblem of an American flag and the logo of local OHVs groups that support the designated trail system in order to discourage theft and vandalism to help ensure that information remains readable and available.

Another utility associated with the Stibnite Gold Project are radio and cell phone communications towers. A new 60' cell tower, with a 30' x 60' base, would be located near the Meadow Creek lookout or on one of two sites within the Operations Area Boundary: on a summit east of Blowout Creek drainage or near the proposed transmission line alignment upslope of the proposed Hangar Flats pit. The base would be 30' x 60'but the perimeter fencing, associated equipment and access routes would result in a greater area being disturbed. This tower should be located out of the line of sight from recreationists in the Frank Church River of No Return Wilderness. The DEIS states that the two locations within the Operations Area Boundary would not be visible from the Frank Church River of No Return Wilderness but does not confirm if the Meadows Creek location is within sight of the Frank Church, although it appears as though it would be. The Forest Service should conduct additional visual studies to confirm this. Towers and repeaters should be located consistently with existing Recreational Opportunity Spectrum (ROS) designations.

To minimize ground disturbance, we recommend placing this tower in an already disturbed location with existing access. If no ground access is available, we recommend utilizing helicopters to access the site instead of allowing any temporary road construction, as proposed in Alternative 4. However, the location of the off-site maintenance facilities and tower locations at Meadow Creek Lookout and Thunderbolt Mountain associated with Alternative 4 has not been surveyed for cultural resources. These oversights should be addressed in the

Supplemental Draft EIS. We agree with the Forest Service's assessment that there would be adverse effects to Meadow Creek Lookout if the 60' tall cellular towers were placed near this historic building. We also recommend placing the 60'tall VHF radio repeater at a different location if possible.

Meadow Creek Lookout already has an unresolved adverse effect due to the placement of a small utility building and supporting solar structure which obstructs the viewshed from the Lookout. As partial mitigation for the other structures, Midas Gold should work with the Forest Service and State Historic Preservation Office on relocating these structures to reduce effects to visual resources.

We suggest that the Forest Service work with Idaho Power to address the above concerns with additional design features. These design features could include additional noxious weed surveys along roads open to the public, ROW access roads, transmission line ROWs, as well as additional public outreach and education on travel management. The Forest Service should also consider some potential off-site mitigation options for affected resources. For example, the permanent clearing of approximately 500 acres associated with transmission line ROWs could be mitigated by restoring previously impacted areas. Actions could include obliterating, ripping and reseeding other non-vegetated areas such as unauthorized roads, trails and old log landings. This mitigation work should be conducted at approximately a 2:1 ratio, dependent on the environmental conditions.

The Caribou-Targhee National Forest and Bonneville Power Administration authorized the Hooper Springs Transmission line on National Forest System lands along the Blackfoot River and through portions of the Blackfoot WIldlife Management Area. The DEIS recognized that several new ROW access routes would be necessary for project construction and maintenance. The Idaho Conservation League and Greater Yellowstone Coalition filed an administrative objection and reached a resolution.[240] As a required mitigation measure for approval of the ROW, the utility agreed to decommission unauthorized routes at a 2:1 ratio to the mileage of the new access roads. See attached reference.

K. Wilderness and Idaho Roadless Areas

The 2.3 million-acre Frank Church - River of No Return Wilderness (FCRNRW) is the largest contiguous federally managed wilderness area in the lower 48. The Wilderness is a part of the Payette National Forest, Salmon-Challis National Forest, Boise National Forest, Bitterroot National Forest, and the Nez Perce National Forest. The Salmon River runs through part of the Wilderness, providing multiple opportunities for whitewater rafting. The

[240] Idaho Conservation League and Greater Yellowstone Coalition Objection Resolution to the Hooper Springs Transmission Project, Objection # 15-04-00-0034-OB219 (Attached).

Salmon River is a federally designated waterway through the Wild and Scenic Rivers Act, a law that U.S. Senator Frank Church helped to create.

The FCRNRW offers unparalleled opportunities for solitude, mixed with unique access through grandfathered airstrips and motorized river use. It is a special area because of its sheer size; these motorized activities don't intrude on the wild character of the wilderness due to the vast area of the Frank Church. Hikers have vast areas of wilderness, including trailless areas that offer unique access to solitude, away from other hikers.

Senator Frank Church of Idaho was a wilderness pioneer. He was a leading advocate for the original Wilderness Act of 1964, as well as the Wild and Scenic Rivers Act of 1968. In 1980, he capped his career by successfully designating the River of No Return as a federal Wilderness area in the Central Idaho Wilderness Act. After Senator Church developed cancer, Congress renamed the Wilderness to include his name, now known as the Frank Church – River of No Return Wilderness. Congress renamed the Wilderness just four weeks before the late Senator passed.

i. The DEIS fails to consider multiple impacts to the Wilderness characteristics of the Frank Church – River of No Return Wilderness.

The DEIS fails to adequately assess the impacts that the Stibnite Gold Project will have on the FCRNRW. Activities adjacent to Wilderness areas must be scrutinized to address whether they will have a significant effect on the Wilderness characteristics that originally spurred Congress to designate an area as Wilderness. Wilderness is not just a designation that prevents development; it is a place where people and nature can find solitude or experience primitive and unconfined recreation. 16 U.S.C. § 1131(c)(2).

The FCRNRW is just four miles from the mine site and directly adjacent to the ill-conceived Burntlog road access route. The Stibnite Gold Project will have indirect effects on the Wilderness character of the FCRNRW. These effects could be minimized through careful planning and consideration of underground operations instead of open pit mining. The DEIS should take a balanced approach to minimizing the intrusions to the Wilderness. This consideration would be required even if the legislation creating the Wilderness contained "no buffer zone" language, which, as discussed below, is not present in the Central Idaho Wilderness Act of 1980.

a. The Wilderness Act and the Central Idaho Wilderness Act require the Forest Service to consider impacts to the FCRNRW from activities outside the Wilderness area boundary.

The Forest Service has a legal duty to avoid activities outside the Wilderness area that degrade the area's Wilderness characteristics. Section 4(b) of the Wilderness Act of 1964 requires that "each agency administering an area designated as wilderness shall be responsible for preserving the wilderness character of an area and shall so administer such area for such other purposes for which it may have been established as also to preserve its wilderness character." 16 U.S.C. § 1133(b). Federal courts have interpreted this requirement to mean that an "agency's duty to preserve the wilderness ... is wholly independent of the source or location of that activity."[241] In *Izaak Walton League*, the court found that the use of snowmobiles bordering the Boundary Water Canoe Area Wilderness was not a *per se* ban; however, if an activity results in noise that is louder, more constant, more frequent or of a different quality, the activity would likely degrade the Wilderness character and violate section 4(b) of the 1964 Wilderness Act.[242] Furthermore, the solitude characteristics must be maintained in Wilderness areas even if they are not used, as it is the opportunity for solitude that must be maintained under the Wilderness Act.[243]

Unlike many Wilderness bills, the Central Idaho Wilderness Act **does not** prohibit buffers next to Wilderness areas. The no buffer language commonly found in Wilderness legislation since the 1980s is intended to prevent Wilderness from expanding administratively, as Congress delineated the boundaries to preserve the most valuable Wilderness areas and avoid major conflicting uses. Congress intended the Central Idaho Wilderness Act (CIWA) to settle management disputes by providing a clear boundary. Lands outside of the Wilderness are to be managed in accordance with the purpose set out in section 2(b)(2) of the CIWA to "end the controversy over which lands within the central Idaho region will be designated wilderness—thereby assuring that certain adjacent lands better suited for multiple uses other than wilderness will be managed by the Forest Service under existing laws and applicable land management plans." Pub. L. 96–312 § 2(b)(2), 94 Stat 948. The disputes cited in congressional testimony focused primarily on the timber communities, where determination of the edge of the Wilderness would allow timber harvests to proceed without concern for violating Wilderness protection due to changing borders. H.R. Rep. No. 96-1126 at 10-12. However, as discussed above, any non-wilderness uses outside of the Wilderness borders must still comply with the Wilderness Act's requirement to preserve the wilderness character of the FCRNRW.

Even where special mining zones were created in the FCRNRW, courts have carefully balanced the validity of the mining claims against Wilderness protection, as in the case of the

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[241] *Izaak Walton League of Am., Inc. v. Kimbell*, 516 F. Supp. 2d 982, 988 (D. Minn. 2007), *aff'd*, 558 F.3d 751 (8th Cir. 2009).

[242] *Id*.

[243] *Greater Yellowstone Coal. v. Timchak*, No. CV-06-04-E-BLW, 2006 WL 3386731 (D. Idaho Nov. 21, 2006) (where the court found that a ten-fold increase in heliskiing permits would diminish the wilderness characteristics under the Wyoming Wilderness Act even though the area was remote and inaccessible during the winter).

Golden Hand Mine.[244] Wilderness areas are special, and while the mining rights in the FCRNRW may be valid, the Forest Service must analyze the minimum intrusion necessary to effectuate these rights.[245]

Here, there is no evidence that Congress condoned impacts that would result from an open pit mine directly adjacent to a pristine, primitive, trailless wilderness, such as the FCRNRW. This Wilderness provides unparalleled solitude, solitude that would be shattered by the Stibnite Gold Project and road development providing easy, unfettered access that would destroy the trailless qualities of the Wilderness. Adjacent to the Wilderness is an inventoried roadless area that provides an important ecological buffer to be managed under the Forest Service mandate. While not a legally designated buffer zone itself, it still provides the benefit of a protective buffer zone that helps to preserve the Wilderness through mitigation of edge effects.

b The impacts to Wilderness characteristics are not adequately considered in the DEIS.

The Stibnite Gold Project, including the Burntlog Road, will impact the Wilderness characteristics of the FCRNRW. Mining, road construction, and mine access will produce noise, light, visual impacts, and water and dust pollution that is likely to affect the Wilderness nearby through direct impacts and edge effects that will degrade the area's unique ecological values and reduce the solitude sought out by hikers in a wild, trailless area.

Designated Wilderness is any area of land designated by Congress as part of the National Wilderness Preservation System that was established in the Wilderness Act of 1964. Wilderness is "an area where the earth and its community of life are untrammeled by man, where man himself is a visitor who does not remain." 16 U.S.C. § 1131(c). Wilderness is further defined in the Wilderness Act as an area that "has outstanding opportunities for **solitude** or primitive and unconfined type of recreation." 16 U.S.C. § 1131(c)(2) (emphasis added). The FCRNRW plan recognizes that "the FCRNRW is one of the **last intact wild places** in the lower 48 and it therefore managed to provide ... opportunity for **solitude** on its rivers and land."[246] Further, "[t]he FCRNRW is a place where visitors can **escape the modernized, mechanized,** populated society. It is a place that visitors can use as a **refuge from noise and pollution**, a place where visitors can experience the wild and free forces of nature at work."[247]

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[244] *See Idaho Conservation League v. Lannom,* 200 F. Supp. 3d 1077 (D. Idaho 2016).
[245] *Id*.
[246] *Frank Church – River of No Return Management Plan,* Chapter 2, Revised May 2009 at pg. 2-47, Goal 1 (emphasis added), available at: https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5300747.pdf (Attached).
[247] *Id.* at Goal 3 (emphasis added).

This area has further characteristics that warrant added consideration that is missing in the DEIS. The 2001 User guide lists the adjacent area as not only wilderness, but "trailless" as well.[248] The Forest Service values this particular type of wilderness highly, as it offers solitude above the traditional wilderness values.[249]

The ability for someone to seek solitude would be destroyed for the duration of the project through a combination of road noise, blasting, clearing snow through avalanche mitigation measures, winter access by snowmobiles/helicopters, nighttime light intrusion, and dust. Even if these noises may attenuate to levels below background noise levels, they will still be noticeable as a foreign, different quality indicating nearby commercial activity in an area prized for its escape from society.

The DEIS acknowledges that the Stibnite Gold Project will impact air quality and create noise impacts on the FCRNRW, but concludes that these impacts are attenuated because of the mountainous topography and distance from the point source. DEIS at 4.6.4. While the DEIS acknowledges the background noise levels, it does not address whether the individual mechanical noises would be heard in the Wilderness and possibly disturb the sense of solitude from human point sources that is present in the trailless area bordering Stibnite. These noises may be softened due to distance, but the DEIS should analyze if commercial point source noise is audible within the FCRNRW boundaries, not just if the background noise happens to be louder. Additionally, air quality impacts may meet Clean Air Act regulations, but these intrusions would again be a reminder of the commercial disturbance and would impact the quality of solitude sought out in the FCRNRW.

Visual impacts to the wilderness are cursorily addressed in the DEIS. *See* DEIS at 4.20. While Appendix O addresses the viewsheds, no alternative is presented that does not have viewsheds of the mine from within the FCRNRW trailless area. The mine is visible from within the Wilderness in all alternatives, but an underground mine would not be. This visual aesthetic is further harmed by the installation of transmission lines and Burntlog road cuts that are significantly more visible from the interior of the Wilderness.

The DEIS does not consider that many grandfathered small-craft airstrips in the area, and flight paths may run over the Stibnite Gold Mine. This would provide a direct view of the open pit mine, a scar on the landscape. For this and many other reasons, an alternative of an

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[248] *A User's Guide Frank Church – River of No Return Wilderness,* Revised December 2001, pg. 23-24 https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5300616.pdf (Attached) .
[249] *Middle Fork Ranger District Trails – USDA Forest Service* https://www.fs.usda.gov/detail/scnf/recreation/?cid=stelprdb5426120 ("The best opportunities for Solitude are in the trailless areas…") (Attached).

underground mine should be considered, as an underground mine would also reduce the visual impact to tourists accessing the Wilderness through planes.

The development of roads next to the FCRNRW will also increase motorized transport adjacent to the Wilderness. These noise impacts will persist through the duration of the project and ensuing reclamation. These roads, which will be present for a minimum of 15 years, may lead to the direct degradation of the trailless area by increasing foot traffic and developing new paths in the Wilderness through overuse. Preservation of trailless areas against overuse is a difficult balance, as wild areas become less wild with recreational use. However, the Forest Service has issued guidance that attempts to preserve areas as trailless by guiding people not to follow unmarked paths.[250] Increasing roadway access is likely to conflict with the mission of preserving trailless areas by increasing hiking traffic leading to user-created trails, further diminishing opportunities for solitude.

Furthermore, in the Salmon National Forest Plan (part of the FCRNRW adjacent to Stibnite), management techniques are to "manage trails in dispersed areas not to exceed the established person at one time per mile of trail guidelines."[251] In primitive areas such as the FCRNRW, on trails, persons present per mile ranges from 0.5 to 3 people per mile, and area-wide per acre ranges from 0.002 to 0.025. The Burntlog road is likely to increase trail access in direct conflict with the Salmon Forest Plan for the FCRNRW. Similarly, the forest plan states that the Forest Service is to "provide for a **quality wilderness experience** for the Salmon National Forest portion of the FCRNRW."[252]

The headwaters of the East Fork of the South Fork Salmon River flow through the Stibnite Gold Project. This river meets and is a tributary to the South Fork Salmon River which traverses the FCRNRW for a period in the northwest portion of the Wilderness. While stream effects would likely be attenuated, any pollutant that enters the water would enter the Wilderness and deserves extra care when planning. Water monitoring stations should be set up directly before the river enters the Wilderness and after it leaves the Wilderness to ensure that no human-caused pollution degrades the Wilderness quality of the river while it passes through the Wilderness.

The mining operations and road travel are likely to have impacts on wildlife within the Wilderness, due to the zone of disturbance caused by the commercial activity directly adjacent to the Wilderness. The preservation of the Wilderness characteristic should include the zone

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[250] *Low-Impact Recreational Practices for Wilderness and Backcountry*, USDA Forest Service General Technical Report INT-265, August 1989, pg. 37-39. https://www.fs.fed.us/rm/pubs_int/int_gtr265.pdf (Attached).

[251] https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5310596.pdf at pg. IV-15 (Attached).

[252] *Id.* at IV-1 (emphasis added).

of disturbance. This is a large-scale commercial mining operation that will have significant edge effects. The Wilderness boundaries are within four miles of the Stibnite Gold mining operations and directly adjacent to the proposed Burntlog road. These activities are likely to have significant edge effects and fragment the undisturbed forest. Mining activities are subject to be undertaken around the clock, and edge effects due to noise and light at night may be even more significant due to the inability for nocturnal animals to adapt to human disturbance.

The construction of the Burntlog Road would fragment the FCRNRW from the roadless area adjacent to the Wilderness. This new fragmentation will have edge effects not only on the wildlife, but on the flora in both the FCRNRW and the inventoried roadless area due to its proximity to the wilderness. These edge effects due to the Burntlog road will directly harm the Wilderness character of the FCRNRW and increase the ability for invasive plants to colonize the landscape due to a degraded ecosystem.

A recently published scientific article, *Conservation Value of National Forest Roadless Areas*, provides important and highly relevant insights into the importance of roadless areas that are adjacent to protected national parks and Wilderness areas.[253] Among other things, the study found that roadless areas adjacent to the FCRNRW increased the effective size of the protected core area by 38 percent.[254] The study concluded that "IRAs reduce the isolation of – and provide buffers for – national parks, wilderness areas, and other existing protected areas."[255] Furthermore, "[t]he role IRAs play in buffering protected areas from development may be even more critical in the future as developed areas continue to expand."[256] We strongly recommend that the Forest Service evaluate this new research on the importance of roadless areas adjacent to Wilderness in a supplement to the DEIS.

ii. Burntlog road violates the Idaho Roadless Rule

The Idaho Roadless Rule generally prohibits road construction in Idaho Roadless Areas (IRA), including the Meadow Creek (29,288 ac.), Black Lake (5,335 ac.), Burntlog (23,699 ac.), and Reeves Creek (10,542 ac.) roadless areas through which the proposed Burntlog Road would pass. The large majority of land in these four IRAs is classified by a "Backcountry/Restoration" management theme by the Idaho Roadless Rule. DEIS at 3.23-7. The Rule provides a limited exception for road construction to access hard rock mining projects when it is found to be needed: "Road construction is only permissible in Idaho Roadless Areas designated as Backcountry/Restoration when the Regional Forester determines

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[253] Talty, M.J., Mott Lacroix, K., Aplet, G.H., and Belote, R.T. 2020. Conservation value of national forest roadless areas. Conservation Science and Practice e288. https://doi.org/10.1111/csp2.288.
[254] *Id*. at 6.
[255] *Id*. at 9.
[256] *Id*. at 10.

... (iii) A road is *needed* pursuant to statute, treaty, reserved or outstanding rights, or other duty of the United States." 36 CFR § 294.22(b)(1) (emphasis added).

The inclusion of the word "needed" is significant in the consideration of the road construction associated with this project. It requires the Regional Forester to consider the necessity of the road construction in balancing the underlying intent and direction of the roadless rule (to protect roadless values and integrity) with any statutory and/or outstanding rights. In this instance there is no "outstanding right" because that right is currently satisfied by existing and proposed access which does not bisect roadless areas.

As displayed in the table below, all but one of the action alternatives considered in the DEIS would entail significant new road construction in IRAs. Road construction in Alternatives 1, 2, and 3 would total 17.0 miles, 13.2 miles, and 17.3 miles, respectively. Alternative 4, on the other hand, would involve no road construction in IRAs; instead, it would provide access to the mine site through reconstruction of existing roads. DEIS at 4.23.59. According to the DEIS, "Under Alternative 4, improvements and use of only the Yellow Pine Route for mine access would eliminate impacts within Black Lake and Burnt Log IRAs and within portions of Meadow Creek IRA associated with the Burntlog Route." DEIS at 4.23-60.

Miles of Road Construction in IRAs, by Alternative (DEIS at 4.23-46 -- 4.23-47)

IRA	Alt. 1	Alt. 2	Alt. 3	Alt. 4
Black Lake	6.4	7.2	6.4	0
Burnt Log	0.9	0.9	0.9	0
Meadow Creek	9.6	5.0	9.9	0
Reeves Creek	0.1	0.1	0.1	0
Total	17.0	13.2	17.3	0

The DEIS fails to explain how the alternatives comply with the Idaho Roadless Rule's prohibition on road construction. Specifically, it fails to explain why the proposed road construction is "needed" to access the mine area under alternatives 1, 2, or 3, when another alternative (4) would provide reasonable access on existing roads without having to build any new roads through the four roadless areas.

iii. OHV Trail open to all vehicles violates Roadless Rule

The construction of an Off-Highway Vehicle trail connecting Horse Heaven/Powerline to the Meadow Creek Lookout violates the letter, spirit and intent of the Idaho Roadless Rule. As the Idaho State Roadless Advisory Commission has previously discussed, construction of trails open to full-sized vehicles should be appropriately considered "road construction." Simply classifying or characterizing a road as a trail cannot be used to avoid the limitations of the Idaho Roadless Rule. Both Alternatives 1 and 2 propose new construction "including 3 miles of new road would be a trail open to all vehicles" (DEIS, 2.3.4.4, Page 2-21). As the commission has previously discussed, if it is engineered and planned for, designed to accommodate full-sized vehicles, it should appropriately be considered a road. As stated previously, a road is *needed* in this area pursuant to statute, treaty, reserved or outstanding rights, or other duty of the United States." 36 CFR 294.22(b)(1) (emphasis added). In this instance there is no "outstanding right" because that right is currently satisfied by existing and proposed access which does not bisect roadless areas.

iv. Public motorized use on Burntlog Road violates Roadless Rule

The Idaho Roadless Rule specifically incorporates definitions of Forest Roads and Temporary Roads from 36 CFR § 212.1. According to those definitions, a temporary road is "authorized by contract, permit, lease, or other written authorization that is not a forest road or trail and that is not included in a forest transportation atlas." The Idaho Roadless Rule goes on to clarify (36 CFR Part, Subpart C, § 294.21 Definitions) that "Temporary roads are available for administrative use until decommissioned." Setting aside the issue that the Burntlog Road is not consistent with the Idaho Roadless Rule and Payette Forest Plan, the Burntlog Road would not be available for public motorized use as a Forest Road. The proposed Burntlog Road is not included in the Forest Transportation Atlas, is not considered a Forest Road, and is therefore only available for administrative use and implementation of the Special Use Permit, and not public motorized travel.

v. Conclusion

The DEIS does not adequately address the potential impacts that the Stibnite Gold Project will have on the FCRNRW and the IRAs. Therefore, the Forest Service should prepare a supplemental DEIS to re-assess the potential impacts the Stibnite Gold Project will have on the Wilderness consistent with its legal responsibility to preserve the Wilderness character. Furthermore, the Forest Service should comply with the Idaho Roadless Rule by abandoning the unneeded Burntlog Road through roadless areas. Given noise, light, wildlife disturbance, water quality impacts, human-caused air quality intrusions, habitat fragmentation of Wilderness and adjacent roadless areas, and development of roads in currently roadless areas impacting the Wilderness character of the pristine, trailless section of the FCRNRW and the

abutting inventoried roadless areas, the DEIS clearly fails to comply with the Wilderness exception for road construction to access hard rock mining projects when it is found to be needed: "Road construction is only permissible in Idaho Roadless Areas designated as Backcountry/Restoration when the Regional Forester determines . . . (iii) A road is *needed* pursuant to statute, treaty, reserved or outstanding rights, or other duty of the United States." 36 CFR § 294.22(b)(1) (emphasis added).

L. New motorized vehicle routes

i. The Forest Service failed to adhere to the requirements of the Travel Management Rule when designating new motorized recreational routes for the Stibnite Gold Project.

The Forest Service's Over-Snow Vehicle (OSV) Rule[257] - Subpart C of the Travel Management Rule - provides a framework for winter travel planning efforts on all National Forest lands. The OSV Rule requires National Forests with adequate snowfall to designate and display on an "over-snow vehicle use map" a system of routes and areas where OSV use is permitted based on resource protection needs and other recreational uses. OSV use outside the designated system is prohibited. While the Stibnite Gold Project is not specific to winter travel management, it is still necessary for the Forest to abide by the requirements of the OSV Rule in making any decisions concerning the designation – and grooming - of new OSV routes. Likewise, the Forest must follow the requirements of Subpart B of the Travel Management Rule whenever it designates new routes for OHV use.

An important element of all Forest Service travel management planning is compliance with the "minimization criteria." These criteria were outlined in Executive Orders 11644 and 11989, issued by Presidents Nixon and Carter in 1972, and 1977, respectively. The criteria require federal land management agencies, when designating routes (and areas) open to motorized travel, to: (1) minimize damage to soil, watershed, vegetation, or other resources of the public lands; (2) minimize harassment of wildlife or significant disruption of wildlife habitats; (3) minimize conflicts between off-road vehicle use and other existing or proposed recreational uses of the same or neighboring public lands; and (4) minimize conflicts among different classes of motor vehicle uses of National Forest System lands or neighboring Federal lands.[258] The Forest Service codified these "minimization criteria" in subparts B and C (the OSV Rule) of its travel management regulations.[259] When modifying the snowmobile trail system, designating new OHV routes, or making other determinations that affect motorized use of routes or areas the Forest is required to abide by the minimization criteria.

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[257] 80 Fed. Reg. 4500 (Jan. 28, 2015); 36 C.F.R. part 212, subpart C.
[258] E.O. 11644, § 3(a), 37 FR 2877 (Feb. 2, 1972).
[259] 36 C.F.R. §§ 212.55, 212.81(d).

REST04 in the Payette Forest Plan states, "On all lands outside of designated travel ways, motorized use shall be prohibited unless otherwise authorized." Neither of the two proposed new OSV routes in the DEIS alternatives are currently designated OSV routes on the Payette National Forest, nor is the proposed new OHV trail currently a designated route. In order to designate these routes – even as temporary routes – the Forest Service must follow the requirements of the Travel Management Rule Rule and comply with the minimization criteria. The fact that the area through which the proposed OSV routes would travel is not closed to OSV use does not affect the need to adhere to Travel Management regulations when designating these routes as groomed OSV routes. Elsewhere in the Forest Service system the agency has acknowledged that grooming increases OSV use by over 50 percent.[260] Thus, designating new groomed routes is likely to have significant impacts on wildlife, natural resources, and other uses.

In response to litigation from Winter Wildlands Alliance, The Wilderness Society, and WildEarth Guardians, the Payette National Forest clarified that it administers over-snow motor vehicle use in accordance with prior decisions and that the Forest Service needs to conduct winter travel planning.[261] Section 3.16.2.3 is the only part of the DEIS that addresses the Travel Management Rule. Although this section briefly describes the Rule, and states in that "[t]he Forest Service issued orders including maps showing the areas where OSV use is allowed, prohibited, or restricted," this statement should be amended to clarify that these orders - and the Forest – are not compliant with Subpart C of the Travel Management Rule. This section of the DEIS should also state that any new ORV – including OSV - designations necessitate application of the Travel Management Rule. Specifically, if the Payette wishes to designate new ORV routes (and parking areas) to offset routes lost to the Stibnite Gold Mine, it must ensure that the new routes are located in a manner that minimizes damage to natural resources, minimizes harassment of wildlife or significant disruption of wildlife habitat, minimizes conflict between uses, and minimizes conflict between different classes of motor vehicles. Of particular concern for our organizations, given the location of these proposed routes, is the impact that each route will have on wildlife populations and on roadless characteristics.

The Draft EIS does not even mention that there are requirements the Forest Service must abide by when designating ORV routes, including groomed snowmobile trails, much less apply these requirements to the proposed new routes. The DEIS must explain how taking actions that could dramatically increase OSV use on the Cabin Creek Road and along Johnson Creek will satisfy the requirement to minimize harassment of wildlife or significant disruption

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[260] *See, e.g.*, Lassen National Forest OSV Use Designation FEIS, available at https://www.fs.usda.gov/project/?project=45832 (Attached).

[261] *See* March 12, 2018 letter from the Payette National Forest to Lauren Rule, Senior Staff Attorney at Advocates for the West. File code 1570.

of their habitat. Likewise, the DEIS must explain how designating an OHV trail from Horse Heaven/Powerline to Meadow Creek Lookout Road will impact the character of the Meadow Creek IRA and the value of this area as wildlife habitat. If these routes cannot be located in a manner that complies with the minimization criteria, they cannot be designated. The Forest Service's assertion that these trails can be authorized under 36 CFR 228A as part of a plan of operations is incorrect. DEIS at 4.16-4. Access and infrastructure for recreation is not imperative to conducting mine operations. Designating routes for recreational use and access falls squarely under the Travel Management Rule. While the Forest Service can certainly designate routes for this purpose as part of the Stibnite Gold Mine NEPA analysis, it must apply the requirements of the Travel Management Rule when doing so.

ii. OHV Connector Route

The proposed new OHV trail from Horse Heaven/Powerline to Meadow Creek Lookout Road will increase the miles of motorized trails and fragment habitat in the Meadow Creek IRA. This will impact wildlife in a number of ways. For one, this new route will degrade habitat quality, impacting a number of species. For example, as stated in the DEIS, this new route could impact the Northern Idaho ground squirrel by acting as a barrier to squirrel movement and dispersal and increasing habitat fragmentation between colonies, and the resulting decrease in population connectivity could result in negative genetic and demographic consequences. DEIS at 4.13.2.1.2.1. The OHV connector route will also impact wildlife by increasing human activity within the IRA. The resulting increase in noise and other disturbances will amplify physical habitat fragmentation of the route itself. Noise disturbances are of particular concern for species that rely on auditory communication, such as birds. Unless the Forest Service can *minimize* – not mitigate – impacts to wildlife, this trail should not be designated.

Designating a new motorized route within the Meadow Creek Roadless Area will degrade the character of the IRA by increasing motorized activity and decreasing opportunities for solitude, disturbing the natural environment, degrading scenery, and increasing ecological damage. While the impacts of this one OHV trail may seem small compared to the impacts that the larger project will have on this and other IRAs in the project area, the Forest Service cannot use this rationale as an excuse to designate the route. Further compounding a problem is a far cry from minimizing impacts.

iii. OSV Routes

The proposals to establish and groom an OSV trail on the west side of Johnson Creek from Trout Creek to Landmark and grooming the Cabin Creek road for OSV use also raise issues that the Forest Service must address in regards to the minimization criteria. For instance, the Cabin Creek route includes seven stream crossings. OSV use has the potential for releasing

burned and unburned fuel and lubricants into the environment, which can result in adverse impacts to water quality and alter snowmelt patterns.[262] Research has shown that snowpack concentrations of ammonium, sulfate, toluene, xylene, and benzene are positively correlated with snowmobile traffic.[263] When the snow melts, these pollutants, which are stored in the snowpack throughout the winter, are released in a concentrated pulse. The Forest Service can minimize OSV impacts at these stream crossings by installing bridges or culverts, to reduce direct contact between OSVs and surface water (including when streams are frozen).

These routes will also impact wildlife. The DEIS raises the possibility that both routes will impact wolverines, with the Cabin Creek route bringing additional use and impact above the existing condition. DEIS at 4.13-17. Chapter 4.13 of the DEIS also states that this route may disrupt a number of bird species, fishers, bighorn sheep, and other wildlife due to increased noise. However, the DEIS does not delve into these impacts in any detail, nor does it explain how the Forest Service intends to minimize these impacts, or if it is even possible to do so. The DEIS does not address other impacts this route may bring to wildlife – such as increasing human activity during the time of year when many species are most vulnerable to disturbance. It is important that the Forest Service fully analyze potential impacts associated with the new Cabin Creek Road OSV route, as this route would increase use into an area that currently does not see much, if any, recreation use in winter due to lack of access. While the DEIS mentions that this route will provide new access for recreationists, it does not delve into the impacts of this new access in a substantive way, nor does it discuss how these impacts could be minimized. This discussion is necessary, because the Forest Service must comply with the minimization criteria when designating this route. Furthermore, the DEIS states that the Cabin Creek route will be in an area that the Forest Plan has designated as Semi-Primitive Motorized in the winter. Contrary to the statement on page 4.19-27 of the DEIS,[264] FSM 2300, Chapter 2310 - Sustainable Recreation Planning states that semi-primitive motorized settings have *ungroomed*, but marked, OSV routes. Thus, contrary to the DEIS, the addition of this groomed route will alter the estimated Recreation Opportunity Spectrum physical setting of the area in winter.

The DEIS fails to discuss in any way what impact the proposed OSV route along Johnson Creek will have. Because the Payette National Forest has not conducted winter travel management planning in accordance with Subpart C of the Travel Management Rule, it cannot assume that its existing system of OSV routes and areas comply with this Rule. The

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[262] Lassen National Forest OSV Use Designation Project Revised Final EIS, Volume II, page 575. Available at https://www.fs.usda.gov/project/?project=45832 .

[263] Ingersoll, G. 1998. Effects of snowmobile use on snowpack chemistry in Yellowstone National Park (Attached).

[264] DEIS at 4.19-27 ("This groomed OSV route would be in an area currently designated as Semi-Primitive Motorized in the winter, which is typically what the area around a groomed OSV trailS is designated.").

forest *must* apply the OSV Rule when designating new OSV routes in association with this project, *even* if the new routes are temporary or are adjacent to an existing route. Therefore, even though the Johnson Creek route will parallel an existing OSV route (the Johnson Creek road), the Forest Service cannot assume that (a) the impacts of this route are the same as the existing route, or (b) that the existing route complies with the Travel Management Rule.

M. Cultural Resources

According to the DEIS, 53 archaeological investigations, consisting primarily of Class III pedestrian surveys, have been completed within the 29,500-acre analysis area. DEIS at 3.17-17. Approximately 5,400 acres were subjected to intensive survey, while approximately 2,400 acres received reconnaissance-level surveys due to steep slopes, unsafe terrain, or extensive previous disturbance attributable to wildfire and past mining activities. DEIS at 3.17-17. Additional archaeological investigations were conducted by AECOM Technical Services, Inc., and include a re-evaluation of the Stibnite Historic District, an intensive 38.2 mile survey of the proposed Burntlog Road, and another intensive 5.3 mile survey of the Riordan Creek Alternative alignment. AECOM also conducted limited testing of a precontact archaeological site to determine presence or absence of artifacts and define an accurate site boundary (AECOM 2020).

The DEIS further states that the previous investigations resulted in the documentation of 39 archaeological sites, or historic properties. Five of these properties have been destroyed by wildfire, private land development, or dam failure related to Blowout Creek. Of the remaining 34, 6 are considered eligible for inclusion to the National Register of Historic Places (NRHP), while the remaining 28 are determined not eligible for inclusion by Forest Service staff, with supporting concurrence from the Idaho State Historic Preservation Office (SHPO). However, these descriptive numbers do not tally with the list of known historic properties in the analysis area. DEIS at 3.17-18.

Six properties are identified as being eligible for inclusion to the NRHP, including the Stibnite Historic District. However, the Forest Service has identified the Thunderbolt Mountain Lookout as potentially eligible, further noting that the structure has not been formally documented. These numbers would suggest that the DEIS incorrectly identifies known cultural properties in the analysis area by either failing to include the Thunderbolt Mountain Lookout as eligible for inclusion to the NRHP or misrepresenting the Lookout's status as potentially eligible by including the property as one of 28 ineligible properties. The Forest Service/Midas Gold needs to rectify these statistics and provide a corrected number of known eligible, potentially eligible, and ineligible properties within the Stibnite Gold Project analysis area.

The Stibnite project area saw two primary periods of heavy mining production: (1) a period from World War I to post-World War II, ending in the 1950s and (2) a modern period beginning in 1974 and culminating in the 1990s. DEIS at 3.17-15. Although there are earlier and documented historic buildings, artifacts, and associated infrastructure that remain in the Stibnite project area, much of the open pit and seasonal heap leaching processes were conducted in recent memory are less than 50 years old, and do not qualify for inclusion to the NRHP. Therefore, none of the previous tailings or other legacy mine remains (including open pits, shafts or adits) need to be preserved as representative of historic mining practices, and should be reclaimed as either the responsibility of Midas Gold as the property/mining claim owner, or during closing activities related to the reclamation of the proposed Midas Gold Stibnite Mine. This includes tailings that would not be re-mined by Midas under Alternative 3.

Further, much of the architecture associated with the Stibnite Historic District has deteriorated and no longer holds value under NRHP criteria A (association with significant events), B (association with significant persons), or C (embodying distinctive characteristics of style, period, type, artistic value, or distinguishable entity). The Idaho SHPO concurs with this evaluation. The Forest Service has asked that the Idaho SHPO re-evaluate the potential for the historic district to remain eligible under criteria D, the ability to yield information important to history or prehistory, and recommends removing the district from the national register. The Idaho SHPO is currently evaluating this proposal, and until the department reaches a determination, all remaining cultural remains should remain in situ and intact. Finally, should the Idaho SHPO determine that the historic district retains criteria D eligibility, the historic district should be fully documented until the SHPO determines the investigations have exhausted the potential to yield information important to history or prehistory.

Although nearly 8,000 acres of the analysis area have previously been either intensively or reconnaissance-level surveyed, much of the potentially affected areas remain to be studied and characterized. "Areas that have not been surveyed are those under Alternatives 2, 3, and 4 that are outside the footprint of Alternative 1, primarily the EFSFSR area at the southeast end of the mine site where the TSF and DRSF would be located under Alternative 3, the groomed OSV route on the west side of Johnson Creek Road proposed under Alternative 4, portions of the Yellow Pine Route, and the Landmark Maintenance Facility under Alternative 4 south of Warm Lake." DEIS at 4.17-22. The Forest Service/Midas Gold are obligated to complete surveys of *all* the potentially affected areas, and include those results in the resulting EIS. Since this has not been completed, we recommend that the Forest Service/Midas Gold conduct Class III pedestrian surveys in the above-mentioned areas and document the results of those investigations in a supplemental Draft EIS. Further, all reasonably accessed areas in the 29,500-acre analysis area should be subjected to intensive Class III surveys to identify any potentially eligible historic properties that could be affected through either direct or indirect adverse effects and impacts.

The forthcoming Programmatic Agreement should focus on newly discovered historic properties inadvertently uncovered or identified as a result of ground disturbing activities, vegetation clearing or infrastructure build-out, and on the process for protecting traditional cultural resources. The DEIS states that "a Stibnite Gold Project-specific Programmatic Agreement (PA) is being developed, and that legally-binding NHPA Section 106 document would include language that specifies how the United States Forest Service (Forest Service) will complete identification of the cultural resources Area of Potential Effects (APE), what the level of effort for identification of historic properties will be, how effects to historic properties will be assessed, and how specific effects will be resolved in consultation with SHPO, the Advisory Council on Historic Preservation, tribes and other consulting parties. Additionally, it will identify mitigation measures and how the Forest Service will ensure that they are carried out." DEIS at 4.17-2, 4.17-3. This text implies that the Forest Service/Midas Gold have not yet completed a full analysis of the APE, nor has the agency determined an acceptable level of documentation for these resources.

These glaring incomplete analyses result in an inadequate and substandard DEIS as the full potential impacts and adverse effects to cultural resources remain unknown. We recommend the Forest Service/Midas Gold finalize the proposed PA between the Forest Service, Midas Gold, Nez Perce, Shoshone-Paiute, and Shoshone-Bannock Tribes and the Idaho SHPO, and report the results of the subsequent pedestrian surveys in a supplemental Draft EIS. Further, should the SHPO determine additional investigations, such as archaeological testing, data recovery, or architectural documentation are necessary, these activities should be conducted prior to any mine or infrastructure construction or upgrades.

Many of the cultural resources found in the Stibnite APE pertain to traditional use and cultural values associated with the Nez Perce, Shoshone-Paiute, and Shoshone-Bannock Tribes. While the locations of Traditional Cultural Properties (TCPs) and Cultural Landscapes (CL) rightly remain undisclosed to protect their value and integrity, the Forest Service remains obligated to consult with interested First Nations to identify and protect these resources. The DEIS indicates that the Nez Perce and Shoshone-Paiute have completed ethnographies that document traditional practices, TCPs, sacred sites, and traditional resource collection areas in the Stibnite Gold Project. DEIS at 3.22-8.

However, "[t]he Shoshone Bannock Tribes Cultural Department is still in the process of preparing their ethnographic work for the Stibnite Gold Project, and there is currently no information available from their studies. Therefore, effects to potential TCPs and CLs are not able to be analyzed at this time." DEIS at 4.17-2. The DEIS cannot be considered complete and accurate without the inclusion of these important data and information. While the Forest Service/Midas Gold do proclaim that the information will be included prior to the record of decision, this does not allow for the affected tribes nor the general public to adequately

understand the potential impacts to these finite, yet long-protected and highly valued cultural resources. We recommend that the Forest Service withhold a determination until the full value of, and potential impacts to the Stibnite Gold Project cultural resources is known and documented in a supplemental Draft EIS.

The DEIS identifies four measures to mitigate adverse impacts to cultural resources in the Stibnite Gold Project analysis area. DEIS Appx. D at D-2 (Table D-1; FS-2,3,3 and 5). Of the four measures, only FS-1 offers any true mitigation value, providing for work stoppage if any previously undiscovered cultural resources are identified during project operations. None of the identified measures detail how known resources will be avoided, how the Forest Service/Midas Gold will reduce or avoid indirect impacts such as increased visitation and exposure to nearby or newly accessible cultural resources, or how impacts to culturally significant plants will be mitigated. The presented measures simply offer plans that, "will be completed," or "will be developed." The purpose of presenting mitigation measures is to demonstrate a readiness to avoid and minimize potential impacts, which is lacking in this DEIS. We recommend that the Forest Service/Midas Gold work closely with the Idaho SHPO and affected Tribes to develop tangible actions to mitigate the adverse effects of the Stibnite Gold Project on cultural resources in the analysis area.

These comments clearly demonstrate that the DEIS inadequately documents the potential impacts and adverse effects to cultural resources in the Stibnite Gold Project analysis area. Most significantly, neither the Forest Service nor Midas Gold have completed intensive Class III pedestrian surveys for cultural resources in *all* the areas potentially adversely affected by project actions and undertakings, as described for *each* of the presented alternatives. The Forest Service/Midas Gold needs to complete intensive pedestrian surveys of the acknowledged unsurveyed areas in all alternatives within the Stibnite Gold Project footprint (as outlined in the DEIS at 4.17-22 and cited earlier in these comments), report the findings to the Forest Service and Idaho SHPO, and determine NRHP eligibility for any identified cultural properties. Further, the Stibnite Gold Project analysis area consists of 29,500 acres; less than 8,000 acres have been subjected to intensive or reconnaissance review. The Forest Service should identify blocks of land within the analysis area that is suitable for intensive or reconnaissance surveys and conduct appropriately-leveled investigations in those areas. Similarly, the agency should identify terrain that should be excluded from pedestrian surveys due to slope gradient, previous significant impacts or hazards stemming from wildfire or development, and areas that pose significant risks to human safety and health, such as existing tailings piles, waste rock facilities, or other potentially dangerous mining-related features. Only then can the potential impacts to cultural resources in the Stibnite Gold Project analysis area be fully reviewed and determined.

Additionally, information regarding the presence, location, and importance of traditional cultural resources remains incomplete, leaving the potential impacts to those

resources unknown. The DEIS also fails to acknowledge the role of the Native American Graves Protection and Repatriation Act (NAGPRA) of 1990 in the protection and dispensation of human remains and funerary items that may either be identified by tribal officials, tribal members, or identified through incidental discovery during mine and/or infrastructure construction. The DEIS should include a discussioni of NAGPRA, how the law affects potential resources in the project area, and how the Forest Service/Midas Gold plans to mitigate the potential impacts to traditional cultural resources and historic properties. Therefore, we recommend that the Forest Service either adopt Alternative 5, and require Midas Gold to complete a Supplemental DEIS that contains complete data sets and analysis, or submit the missing data and impact determinations in a Supplemental DEIS that supports one of the action alternatives.

N. Botanical Resources

The DEIS provides an accurate description of the botanical resources in the area. Bent-flowered milkvetch, Sacajawea's bitterroot and Whitebark pine are all high elevation open rocky area associates and sensitive plant species. However, the DEIS falls short in describing both the direct and indirect impacts to these botanical resources. The DEIS quantifies how many acres will be disturbed, but it does not cover what the impact of these disturbances will be for each sensitive species' or its ecology. *See* DEIS (Tables 4.10-4 –4.10.26).

For most sensitive plants, any disturbance is a negative impact. For example, the bent-flowered milkvetch that has been found in historically disturbed sites. A recent report on the species notes:

> Although present in disturbed locations, the long-term persistence of bent-flowered milkvetch near Cinnabar Peak may depend on plants located in areas of intact, minimally disturbed-undisturbed habitat that can serve as seed source reserves. Depending on the location and scale of future ground disturbances associated with the Stibnite Gold Project in the area, seeds from these reserves may be critical for post-disturbance re-establishment of bent-flower milkvetch into formerly occupied areas. (Field Survey for Bent-Flowered Milkvetch in the Stibnite Gold Project Area, Valley County, ID Michael Mancuso 2016).

There are a large number of habitat disturbing, degrading and destroying activities proposed as part of this project, including road construction, drainage construction, ROW expansion, and extensive earth moving within the mine footprint. Roads and other habitat clearing activities can cause a direct loss of individual plants. Roads and ditches can alter groundwater and surface water flows and affect surrounding vegetation communities accordingly.

Roads and traffic can serve as vectors for the introduction of non-native plant species that may outcompete native species. The DEIS makes a nod toward this with the following statement:

> However, even with strict adherence to noxious weed and non-native plant species control measures, some colonization, and spread of noxious weeds and non-native species in and adjacent to the Stibnite Gold Project area is possible.

This above statement is a major understatement. It is beyond "possible." It is extremely likely that exotic plants will dominate the disturbed sites. Exotic plants are part of the reclamation plan for disturbed soils on USFS lands. Exotic plants and noxious weeds are spread by vehicles and flourish in disturbed areas and are fertilized by dust. Exotic plants such as flammable cheatgrass will dominate these disturbed areas and temporary roads. Exotic grasses are planted in the reclamation process after disturbance and these plants slowly out compete native plants and do not support pollinators that are needed by most of these sensitive plants (Tallamy 2007). The USFS seeded exotic domestic grasses into Hells Canyon. Along with that exotic seed was an impurity of a noxious weed called yellowstar thistle. Yellowstar thistle is now a dominant plant in some sections of Hells Canyon. Introduced species may also lead to hybridization alter the genetic integrity of sensitive species. The Forest Service needs to conduct a detailed analysis in the Supplemental DEIS of specific exotic species that may become established in the project area and describe the potential direct and indirect effects to native species. Based on the habitat types and history of disturbance in a similar roadbed area, the Forest Service could predict the species of exotic plant that might dominate and how that might impact the overall ecology of these ecosystems.

Roads also lead to increased wind speed and drying effects from vegetation removal and are also associated with an increased risk of human-caused wildfires. Roads can also increase dust which may reduce photosynthesis rates for remaining vegetation. Roadside spills of hazardous chemicals can affect soils and vegetation. In addition, there may be increased contaminants of concern in dust from mine traffic which may in turn affect soils, plants, animals and human health. Increased salt levels in the soil from Magnesium Chloride application that can negatively affect vegetation.

While the DEIS does mention that the disturbances may impact seed banking, the Forest Service does not describe how the disturbances will impact the seed bank. While the DEIS suggests that the disturbance will not make a significant impact on the overall population, the Forest Service failed to take a hard look at direct and indirect effects.

Bent flowered milkvetch and Sacajawea's bitterroot require pollinators for reproduction and seed set. Their pollinators are likely dependent on adjacent habitats for shelter and food. The biology and ecology of their pollinators is unknown. Any habitat changes may have adverse impacts that have not been addressed by this document. Pollinators and seed dispersing organisms could also be directly or indirectly affected by mining operations, including releases of hazardous chemicals, pesticide applications, habitat loss, changes in behavior due to light pollution and changes in the compositions of insect communities from extensive habitat modification. These are significant shortcomings that should be addressed in a Supplemental DEIS.

In addition to impacts related directly to the Stibnite Gold Project, additional exploration activities in the project area will also have impacts. From the DEIS:

> construction of several temporary roads (approximately 0.32 mile of temporary roads) to access drill sites (total of 28 drill sites), drill pad construction (total of 182 drill pads), and drilling on both NFS and private lands at and in the vicinity of the mine site. These exploration and subsequent reclamation activities would have only a small direct effect on vegetation resources as the disturbance footprint associated with . . . include reclamation of the drill pads and temporary roads by backfilling, re-contouring, and seeding using standard reclamation practices, and monitoring to ensure that sediment and stormwater best management practices are in place and effective.

These temporary roads do not appear to be accounted for in the acres of disturbance. These exploration roads are part of the cumulative effect to this project and should be included in the Supplemental EIS. Backfilling sites with disturbed soils and recontouring are likely to result in these areas turning into weed patches. The Forest Service should create plans and funding sources to replant disturbed areas with native plants and have contingency plans and funds until native vegetation has recovered. The Forest Service should also establish a long term monitoring program over the next twenty years following mine closure along with funding to replant areas as needed.

A species-specific impact analysis does not seem to exist. The Forest Service merely provides a table comparing the number of acres disturbed. Table 4.10-26 "Acres of Modeled Potential Habitat for Special Status Plants Directly Impacted under All Action Alternatives" provides a good comparison to the extent of disturbance between alternatives but there is no analysis of what those impacts are to the vegetation types or to the individual sensitive plant species.

Agency regulations are to conserve and enhance sensitive species. Sensitive plant species are designated and receive special management by the land management agencies so that no plants or habitat are destroyed. The Forest Service has an obligation to describe the project's environmental impacts to each species habitat, not just the presence or absence of the plants. Again, they do not address these specific sensitive plants' biology or critical habitats. These shortcomings need to be addressed in a Supplemental DEIS.

The DEIS contains some design features to help avoid and minimize impacts but falls short in mitigating impacts. None of the alternatives contain any compensatory mitigation measures to be implemented in advance of, during operations or following mining operations. Mitigation measures could include efforts to gather seeds or plants, conduct seed germination studies, propagate them during mining operations, and then replant them concurrently with restoration activities and at an appropriate mitigation ratio for the species and habitat type. The Forest Service should also disclose that efforts to restore habitat along these routes may not be effective and may lead to permanent shifts in plant species composition.

Non-compensatory mitigation could include additional inventories, permanent protections of other populations of botanical resources that are at risk, pollinator studies, permanent protections of associated pollinators within these plant species. Depending on habitat and germination requirements, propagation efforts may be most successful on or near the site. These are significant shortcomings that should be addressed in a Supplemental DEIS.

Expanding the monitoring program to include the new bent-flowered milkvetch subpopulations found in 2016 may be worthy of consideration - especially if mining operations for the Stibnite Gold Project will disturb these subpopulations. Expanding the monitoring program to also include the limber pine population and stands of whitebark pine located in the Cinnabar Peak area may also be a prudent conservation action.

The Forest Service should investigate seed banking of bent-flowered milkvetch. Seed banking of Sacajawea's bitterroot may be an important mitigation component, but this is much more difficult. The Forest Service should also emphasize noxious weed and exotic plant control along the access corridors leading to the mine site and conduct weekly monitoring and treatment efforts. To prevent existing populations of noxious weeds that may already be in these areas from being dispersed further from construction activities, the Forest Service should conduct noxious weed surveys and treatments and demonstrate successful control before conducting any construction activities. Dust surveys along the access routes leading to the mine site should be conducted several times a week so that dust control measures can be implemented as needed. The Forest Service should establish a conservative trigger for dust suppression activities so that dust issues are managed before the impacts are severe.

Additional Citations: Douglas W. Tallamy, D.W., *Bringing Nature Home: How you can sustain wildlife with native plants. Timber Press, Portland, OR* (2007).

O. Canada lynx

i. Recent fires may have impacted suitable habitat and should be analyzed.

The Canada lynx is a mid-sized forest carnivore that occurs across much of northern North America and is similar to bobcats in size and appearance, having exceptionally large paws and long black ear tufts. The lynx is highly adapted to hunting its primary prey, the snowshoe hare in deep, powdery snow. Canada lynx were listed as threatened under the Endangered Species Act (ESA) for the contiguous U.S. in March of 2000. The USFWS designated critical habitat for Canada lynx in 2006, revising the designation in 2009, and finalizing critical habitat designations and what constitutes the range in which lynx are protected by the ESA in 2014. None of the designated critical habitat is located in the Stibnite Gold Project analysis area (DEIS).

The Forest Service modeled lynx habitat across 656,493 acres of the Boise and Payette National Forests, subdividing the area into seven Lynx Analysis Units (LAUs). No critical habitat has been designated in the PNF or BNF, with project area lands described as secondary habitat. The DEIS states that, "Although there is suitable habitat for the Canada lynx...there have been no verified sightings since 1978." DEIS at 3.13-18. The DEIS further states that, "wildfires account for the majority of unsuitable habitat in these LAUs (Forest Service 2018)" DEIS at 3.13-22. However, the sole reference and documentation for determining the suitability of LAU habitat relies on a personal communication (Forest Service 2018) between Brian Davis (Payette National Forest wildlife biologist), Maria Shepherd, AECOM, and Ryan Lisson. DEIS at 8-47.

While we do not question the veracity of information exchanged in the referenced communication, we do not believe that a single reference to a personal communication represents adequate documentation for determining that the habitat in the Stibnite Gold Project LAUs is unsuitable, particularly for an ESA-listed species. In addition, the 19,000-acre Buck Fire represents a changed circumstance in the LAU that the Forest Service will have to evaluate in a Supplemental DEIS. We recommend the Forest Service provide a map of fire activity in the Stibnite Gold Project covering the past 30 years that includes an overlay of suitable lynx habitat and an assessment of these determinations. This is necessary for the Forest Service to disclose the most likely areas for transient lynx movements to help avoid unintentional and indirect impacts to this threatened species.

The Buck Fire recently burned sections along the Burntlog Road but we have not seen an analysis of the severity or intensity of the fire or its potential effects on the suitability of the area to lynx or other wildlife. We note that as some habitats are made temporarily unsuitable for lynx, the importance of remaining habitat increases. While a broad swath of marginal habitat for lynx may see lynx utilizing any portion of it as transitional habitat, if this habitat is reduced, lynx may restrict their travels to the remaining corridor of functional habitat. If the Buck Fire recently reduced the potential habitat for lynx in the area, the ridge between the Johnson Creek drainage and Middle Fork Salmon River drainage may become even more important as a corridor for lynx and other wildlife. This is the same ridgeline that would be impacted by the Burntlog Road construction and operations.

We also note that as forest succession proceeds, some areas will become suitable foraging habitat for snowshoe hare and subsequently suitable denning habitat for lynx. Because of the long duration of mining activities, the Forest Service needs to describe how habitat within the LAUs is expected to change over time.

ii. Access roads threaten remaining suitable habitat in the Stibnite Gold Project analysis area.

The Mine site and associated infrastructure may displace transient Canada lynx as they move from between occupied habitats, impacting from 283 acres (Alternative 1) to 214 acres (Alternative 2) of potential lynx habitat. Accepting the Forest Service's assessment that wildfire accounts for the majority of unsuitable habitat in the LAUs, any remaining intact habitat becomes even more important to lynx for successful and safe movement across the landscape. Access roads stand out as the primary threat to Canada lynx and the remaining intact suitable habitat in the Stibnite Gold Project analysis area.

The Burntlog Road is an admitted potential source of mortality for transient lynx, with the Burntlog Road fragmenting habitat and acting as a barrier to movement. DEIS at 4.13-7. Further, increased traffic on Warm Lake Road, Johnson Creek Road, and the Stibnite portion of the McCall-Stibnite Road would also discourage lynx from crossing or using these areas. The Forest Service/Midas Gold needs to examine the cumulative impacts to Canada lynx by providing map overlays of habitat in the Stibnite and Burntlog LAUs with fire impact overlays to determine the full impacts mine development and infrastructure will have on fragmenting transient and migration corridors. Adverse effects to these areas would reduce the chances of Canada Lynx reestablishment or migration/movement from population base to population base.

Because Canada lynx depend on snowshoe hares as their primary prey, additional impacts to transient habitat will stem from winter snow plowing, particularly along the 38-mile Burntlog Road. Moreover, the proposed construction of a new 10.4-mile groomed

OSV route near Cabin Creek Road will further fragment the remaining intact habitat. We recommend the Forest Service/Midas Gold consult with USFWS to determine the full potential impacts and cumulative effects to Canada lynx if remaining habitat continues to become isolated, preventing effective movement and the reestablishment of resident populations.

Winter recreation is known to impact the effectiveness and success rate of Canada lynx hunting strategies, which is based on their ability to travel in deep snows with large paws. The proposed new OSV trail to offset recreation impacts will introduce additional sources of snow compaction, reducing hunting success rates and potentially allowing for other apex predators to take advantage of the fragmented and compacted snow conditions. The Forest Service needs to examine the full impacts of winter recreation to Canada lynx, comparing the existing conditions to those anticipated and potential conditions and how winter recreation and access potentially affects any transitory and migrating lynx. The new construction and regular plowing of the Burntlog Road and the creation of a new 10.4-mile groomed OSV route near Cabin Creek Road may not only cause impacts to Canada lynx, but will also encourage the type of additional dispersed backcountry recreational activities that have been demonstrated to be harmful to the threatened species. Unless off-route snowmobile and backcountry ski use is regulated and enforced in these areas that are newly opening up with winter routes, there will likely be adverse effects to lynx that are not fully disclosed and mitigated in the DEIS.

Further, the DEIS fails to account for cumulative impacts to lynx habitat resulting from climate change. We recommend the Forest Service/Midas Gold include an analysis of potential climate-related impacts in a supplemental Draft EIS.

iii. There are mitigation measures proposed to reduce impacts to suitable habitat.

The DEIS fails to provide any mitigation measures that would reduce the impacts to suitable Canada lynx habitat, particularly the potential adverse effects associated with increased winter recreation and access and increased fragmentation associated with access roads and recreation opportunities. The Forest Service should work closely with USFWS lynx experts to develop a comprehensive suite of mitigation measures as well as substantive modifications to the project alternatives. We also recommend the Forest Service adopt FS-136 of the Mitigation Measures (Appendix D) for Canada lynx, as the proposed monitoring documenting the relationship between winter recreation and wolverines applies to Canada lynx as well.

If this groomed snowmobile route is developed, we recommend that the Forest Service accompany this with a travel plan amendment closing areas in mapped lynx habitat adjacent to the groomed route to dispersed winter recreation activities, including both motorized and non-motorized.

Lynx monitoring and tracking should occur on a systematic basis across the analysis area, particularly around the mine site itself and along access roads. Without a concerted monitoring effort, there is no way for the Forest Service and Midas Gold to determine the extent to which the Stibnite Gold Project is adversely impacting the species. We note that Special Use Permits for the Payette Powder Guides yurt system includes a provision to report wolverine sightings and tracks. A similar monitoring program should be developed for the Stibnite Gold Project and incorporate winter tracking and bait station camera traps around the Stibnite Gold Project project area and in adjacent areas to see how mining activities affect the habitat use, denning success and numbers of lynx in the area.

P. Wolverines

The distribution of wolverine in the lower 48 includes the northern Rocky Mountains of Idaho, Montana and Wyoming. Wolverines are increasingly threatened by climate change, habitat fragmentation, backcountry winter recreation, and other factors. Due to these threats and the specialized habitat needs of wolverines (persistent snow cover, cool temperatures, and very large space requirements), there are estimated to be less than 300 individual wolverines currently alive in the western United States As noted in the DEIS, the Stibnite Gold Project area is frequently used by resident wolverine populations in the McCall region, including at least 10 individuals and five confirmed den sites. DEIS at 3.13-27. The Stibnite Gold Project area is also located within two Tier 1 Wolverine Priority Conservation Areas - landscapes characterized by high potential wolverine use, cumulative threats, and amount of unprotected habitat. The South Fork Salmon watershed as a whole contains over 230,000 acres of high-quality wolverine habitat.

It is clear from the DEIS and published scientific literature that the Stibnite Gold Project area is important to wolverines, both in terms of population numbers and high-quality habitat. However, the DEIS does not adequately address the impacts (direct, indirect, and cumulative) that the Stibnite Gold Project would have on this vulnerable species, nor does it include sufficient mitigation measures to minimize these impacts. Rather, the DEIS tends to downplay the potential impacts that the large-scale and long-term disturbance would have. It is a near certainty that if any of the action alternatives for this project were to go forward, the construction and operation of this large mine and its associated infrastructure would essentially exclude wolverines from the mine site itself and some larger area around it. That much seems indisputably based on the ground disturbance, noise and light pollution, and human presence anticipated at the site and detailed in the DEIS. However, the ancillary components of the project - particularly access roads - will also have a significant impact on wolverines and their habitat. While wolverines may not be entirely extirpated from the larger area due from the expanded road network, it is likely that their utilization of this landscape and access to other areas will be diminished.

i. Impacts on wolverines from access roads are inadequately analyzed.

The proposed Burntlog Road is of particular concern for wolverines because it is adjacent to, and occasionally directly crosses, some of the highest-quality habitat in the analysis area based on the number of years with persistent snow cover. DEIS at Figure 4.13-7. The DEIS attempts to downplay the impact the Burntlog Road would have on wolverines by citing its narrow ROW and moderate traffic levels. DEIS at 4.13-17. However, the Forest Service improperly concludes that the Burntlog Road would not be a significant issue for wolverines by cherry picking from literature references without providing the proper context for interpreting those findings. For example, the Forest Service cites Luensmann (2008) to conclude that since wolverines have an aversion to crossing roads with ROWs over 328 feet and the Burntlog Road would only have a 26-foot ROW, then the road would not impede wolverine movement. However, here is the entire relevant section from the Luensmann (2008) reference:

> Roads divide habitats and may impede wolverine movements, isolating populations. Wolverines along the British Columbia-Alberta border avoided areas <330 feet (100 m) off the Trans Canada Highway and showed a preference for areas >3,600 feet (1,100 m) off the highway. They also avoided sections of a ski trail that were within 660 feet (200 m) of the highway and preferred trails >3,600 feet (1,100 m) from the highway. Wolverines crossed the Trans Canada Highway 50% of the time when approached but only where the rights-of-way were shortest. . . . Wolverines may be more vulnerable to traffic when road rights-of-way are wide. An ideal road design would be straight roads with rights-of-way <160 feet (50 m).

The DEIS implies that any road with a ROW <328 feet is a non-issue for wolverines. However, the reference states that wolverines avoid areas within 330 feet of the highway and actively prefer being at least 3,600 feet away from a road. It is improper for the DEIS to cite this study and subsequently the narrow ROW of the Burntlog Road as justification for dismissing its potential impacts.

In the same section of the DEIS, the Forest Service makes a similar error when citing a study of traffic levels and wolverine movement in northern Alberta to imply that the traffic levels on the Burntlog Road would not cause significant impacts to the species. The DEIS states:

> Scrafford and Boyce (2014) found that wolverines in northern Alberta tended to avoid areas within 300 meters (i.e., approximately 1,000 feet) of roadways, but regularly crossed paved roads with more than 100 vpd. Traffic levels on the Burntlog Road would be highest during operations at about 68 vpd.

DEIS at 4.13-17. The 2014 Scrafford and Boyce reference cited here is actually a progress report for a research project at the University of Alberta, not a peer-reviewed study. The same researchers did actually publish their findings in a peer-reviewed journal - *Behavioral Ecology* - in 2018 (Scrafford *et al.* (2018), which is in the Stibnite Gold Project DEIS references). In the discussion section of that study, the authors conclude the following:

> Traffic volume was an important predictor of wolverine speed but not avoidance. Wolverines increased speed most when near roads with greater relative traffic volume. This result suggests that wolverines are more likely to be flushed by vehicles from habitats along roads with higher-traffic volume. Unlike speed, *wolverine avoidance of roads was constant regardless of traffic volume*.[265]

The authors of that study go on to further address the issue of traffic volume later in the discussion section:

> Although we found that wolverines were displaced by higher traffic roads, our models also indicated that *roads scarcely used by vehicles were deleterious to wolverine habitat suitability*. This finding aligns with the prediction that wildlife species with low density and fecundity, such as wolverines, would be sensitive to roads even with low traffic volumes (Jacobson *et al.* 2016).[266]

Taking into consideration the most recent and peer-review research on wolverines and traffic volume, it is improper for the Forest Service to conclude that the Burntlog Road will not have significant impacts to wolverine movement and habitat on the basis that the traffic volume is "only" expected to be 68 vpd.

As we have highlighted, the Forest Service has improperly downplayed the potential impacts of the Burntlog Road by cherry picking data that support their argument, drawing conclusions from small portions of referenced work that are taken out of context, and citing older unpublished research rather than more recently published and peer-reviewed research

[265] Scrafford *et al.* (2018) at 540 (emphasis added).
[266] *Id.* (emphasis added).

by the same authors. The best-available science indicates that all roads, regardless of their width or traffic levels, can and do significantly disrupt wolverine movement and behavior. The Forest Service must correct these errors in a Supplemental DEIS, accurately disclose the impacts to wolverine posed by access roads and other infrastructure and develop additional design features to avoid, minimize and mitigate impacts to wolverine.

ii. Winter recreation impacts were not fully disclosed.

The impact of winter recreation on wolverines has been intensively studied in the past decade, particularly in studies by Kim Heinemeyer and colleagues (several of which are cited in the DEIS). These studies have concluded that wolverines respond negatively to the increasing intensity of winter recreation, particularly for off-road and dispersed recreation. The new construction and regular plowing of the Burntlog Road and the creation of a new 10.4-mile groomed OSV route near Cabin Creek Road will not only cause direct impacts to wolverines, but will also encourage the type of additional dispersed backcountry recreational activities that have been demonstrated to be the most harmful to wolverines. Groomed snowmobile routes can lead to increased access to cross-country use and the establishment of play areas. Unless off-route snowmobile and backcountry ski and snowboard use is regulated and enforced in these areas that are newly opening up with winter routes, there will likely be adverse effects to wolverines that are not fully disclosed and mitigated in the DEIS.

iii. Cumulative impacts were not considered.

The DEIS fails to consider the cumulative impacts of the Stibnite Gold Project project, increasing winter recreation, and climate change to wolverines. The Stibnite Gold Project project is not happening in a vacuum; any adverse impacts that this project will have on wolverines and wolverine habitat will be amplified and exacerbated by the pressures the species is already facing with declining spring snow cover and expanding winter recreational use. Taken together, these threats could reasonably jeopardize the viability of wolverine populations in this region and need to be addressed as such in the Supplemental DEIS.

iv. Proposed mitigation measures are insufficient

Currently, the only mitigation measure included in the DEIS pertaining directly to wolverines is FS-136 (Appendix D):

> Winter recreation use in high-elevation habitats characteristic of wolverine denning habitat will be monitored periodically. Relationships between winter recreation activities and wolverine use of the landscape will be evaluated periodically. Where practicable, monitoring will be done in cooperation with State fish and game agencies.

Wolverine monitoring and tracking should occur on a systematic basis across the analysis area, particularly around the mine site itself and along access roads. Without a concerted monitoring effort, there is no way for the Forest Service and Midas Gold to determine the extent to which the Stibnite Gold Project is adversely impacting these species. We note that Special Use Permits for the Payette Powder Guides yurt system includes a provision to report wolverine sightings and tracks. A similar monitoring program should be developed for the Stibnite Gold Project and incorporate winter tracking and bait station camera traps around the Stibnite Gold Project project area and in adjacent areas to see how mining activities affect the habitat use, denning success and numbers of wolverine in the area. Based on the information provided in the DEIS and the comments presented here, the Forest Service should work with the Idaho Department of Fish and Game, U.S. Fish and Wildlife Service and other wolverine experts to develop a comprehensive suite of mitigation measures and as well as substantive modifications to the project alternatives.

Midas Gold and the Forest Service must also acknowledge that the mine and use of the Burntlog Road will displace wolverines from the mine site, the Burntlog Road corridor, and the area surrounding the mine for the life of the operation. As such, the Forest Service should identify highly suitable wolverine habitat elsewhere on the PNF, and close that area to winter recreation as mitigation for the mine.

v. Determination for wolverine is improper.

In Chapter 4 of the DEIS, the Forest Service determines that "the mine site, access roads, utilities, and off-site facilities would result in adverse effects to wolverine but would not jeopardize the continued existence of this species. DEIS at 13-21. We strongly disagree with this determination on the basis of the issues raised in this section of our comments. To summarize:

1. There are less than 300 wolverines in the western U.S., and they are currently petitioned to be listed as a threatened species under the ESA.
2. Irrespective of the Stibnite Gold Project, wolverines are already facing significant pressures from climate change, declining snow cover, winter recreation, and existing road networks.
3. Wolverines have been well-documented in the Stibnite Gold Project area, which overlaps with two Tier 1 Wolverine Priority Conservation Areas.
4. A large mine site will unquestionably have direct, adverse impacts to wolverines.
5. The best-available science on wolverines shows that all roads, regardless of their width or traffic levels, can and do significantly disrupt wolverine movement and behavior.

This project has a very real chance of jeopardizing the viability of this species in this region - one of the most important core habitat areas found anywhere in the western U.S. The determination for wolverine in the EIS must be amended accordingly, and supplemental analysis should be conducted to better evaluate potential impacts to the species.

Q. Whitebark pine

Whitebark pine (WBP) is a keystone species in Rocky Mountain alpine and subalpine environs that currently faces imminent threats from disease, insects, and forest management focused on fire suppression.[267] Whitebark Pine is also a candidate species for listing under the Endangered Species Act (ESA). This critical alpine and subalpine species is primarily found in the proposed mine area, along the proposed transmission line between Johnson Creek road and the mine site, and along the proposed Burntlog Road. Whitebark pine is also found along additional roads in the general project area, including the Riordan Lake and Meadow Creek Lookout roads, the old Thunder Mountain road, and Warm Lake Road. *See* DEIS Appx. H.

According to the Forest Service/Midas Gold, approximately 2,310 acres of occupied WBP habitat has been identified in the analysis area. DEIS at 2-150 (Table 2.9-1). Alternatives 1-4 will potentially impact 257.8, 243.2, 237.2, and 123.6 acres respectively. Alternative 1 will result in the removal of approximately 1,027 individual trees, including 50 cone-bearers; Alternative 2 will result in the removal of approximately 997 individual trees, including 15 cone-bearers; Alternative 3 will result in the removal of approximately 892 individual trees, including 48 cone bearers; Alternative 4 will result in the removal of approximately 613 individual trees, including 48 cone-bearers. Alternatives 1,3, and 4 would remove roughly the same number of cone-bearing trees, predominately a result of the construction of the West End DRSF, or waste rock storage area. Alternative 4 would impact significantly fewer WBP by using the Yellow Pine route as the primary mine access and avoiding 15 miles of new road construction associated with the proposed Burntlog Road. Further, cell tower construction would be completed using helicopters under Alternative 4.

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[267] Izlar, D.K., *Assessment of Whitebark Pine Seedling Survival for Rocky Mountain Plantings*. Graduate Student Theses, Dissertations, and Professional Papers 79, https://scholarworks.umt.edu/etd/79, University of Montana, Missoula (2007) (Attached); Keane, R.E., D.F. Tomback, C.A. Aubry, A.D., Bower, E.M. Campbell, C.L. Cripps, M.B. Jenkins, M.F. Mahalovich, M. Manning, S.T. McKinney, M.P. Murray, D.L. Perkins, D.P. Reinhart, C. Ryan, A.W. Schoettle, and C.M. Smith, *A Range-Wide Restoration Strategy for Whitebark Pine (Pinus albicaulis*). Rocky Mountain Research Station, General Technical Report RMRS-GTR-279. USDA Forest Service (2012) (Attached); Pigott, D., R. Moody, and A. Clason, *Promoting Whitebark Pine Recovery in British Columbia. Ministry of Forests, Lands and Natural Resource Operations, British Columbia* (2015) (Attached).

The Stibnite Gold Project would impact up to 11.2 percent of the occupied WBP habitat in the analysis area solely based on the projected number of trees slated for removal. However, the DEIS fails to consider additional impacts to WBP from air quality/pollution and mercury or other heavy metal contamination stemming from ore processing. The DEIS also fails to consider secondary impacts to WBP associated with transportation related dust accumulation on foliage. The DEIS also fails to consider potential impacts to WBP from the use of magnesium-chloride, a liquid chemical treatment used for dust-abatement and de-icing. Finally, the Forest Service/Midas Gold fails to incorporate the cumulative impacts to WBP when the direct adverse effects of mine/infrastructure construction combines with climate change.

i. The DEIS failed to analyze the impacts of dust suppressants on Whitebark pine.

Magnesium-chloride is a now commonly used liquid chemical mix applied to unpaved roads as a dust suppressant and to both paved and unpaved roads as a deicing agent.[268] Numerous studies demonstrate that the use of magnesium-chloride on road surfaces results in adverse conditions affecting the health of roadside vegetation, including aspen, Engelmann spruce, and lodgepole and ponderosa pine.[269] Each of these studies found that exposure to commercial deicers and dust suppressing agents using magnesium-chloride as a base adversely affects these four tree's life cycles, reducing or inhibiting foliage growth, depressing leaf photosynthesis rates, and increasing sapling mortality.

The adverse impacts associated with the use of magnesium-chloride are not restricted to vegetation immediately adjacent to the roadside. Researchers have documented foliage loss and mortality and high sodium concentrations up to 93 m downslope of the application area.[270] While none of the cited studies document WBP impacts, it is worth noting that few, if any,

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[268] Jacobi, W.R., B.A. Goodrich, and R.D. Koski, *Environmental Effects of Magnesium Chloride-based Dust Suppression Products on Roadside Soils, Vegetation and Stream Water Chemistry*. Colorado State University Agricultural Experiment Station, Technical Report TR09-04. Fort Collins, Colorado (2009) (Attached); Trahan, N.A., and C.M. Peterson, Impacts of Magnesium Chloride-Based Deicers on Roadside Vegetation. In *Surface Transportation Weather and Snow Removal and Ice Control Technology*. Fourth National Conference on Surface Transportation Weather. Transportation Research Board, Washington, D.C. (2008) (Attached).

[269] Goodrich, B.A., R.D. Koski, and W.R. Jacobi, Roadside Vegetation Health Condition and Magnesium Chloride (MgCl2) Dust Suppressant Use in Two Colorado, U.S. Counties. *Arboriculture and Urban Forestry*, 34(4)252-259 (2008) (Attached); Jacobi, *et al.* (2009); Tranhan, N.A., and C.M. Peterson, Factors Impacting the Health of Roadside Vegetation. Colorado Department of Transportation Research Branch, Report No. CDOT-DTD-R (2007) (Attached); Trahan and Peterson (2008).

[270] Goodrich, *et al.* (2008).

studies on the effects of magnesium-chloride incorporate alpine or subalpine environs. Considering the adverse effects magnesium-chloride has on Engelmann spruce, as well as lodgepole and ponderosa pine, it is not unreasonable to project potential impacts to WBP if magnesium-chloride solutions are used for dust suppression or as a de-icing agent. The Forest Service/Midas Gold needs to determine if magnesium-chloride will play a role in dust abatement and winter road maintenance, and if so, fully analyze and disclose the potential impacts to WBP in the analysis area. We recommend that the Forest Service/Midas Gold provide the results of this analysis in a supplemental DEIS.

ii. The DEIS fails to consider long-term impacts of climate change.

Known effects of climate change include rising temperatures, decreased snowpack, and increased rain-associated precipitation. These factors could affect the resilience of WBP over the next two decades, and the DEIS fails to consider the potential impacts to the long-term success of WBP should the analysis area population suffer an 11.2 percent loss. This becomes more critical considering WBP is currently a candidate species for ESA consideration, and is considered critical to the survival of numerous wildlife species, including Clark's Nutcrackers, a variety of woodpecker species, and bear, to name a few.[271] We recommend the Forest Service/Midas Gold present the findings of climate change cumulative impacts in a supplemental EIS.

iii. Mitigation measures are inadequate.

As previously noted, the Stibnite Gold Project could potentially impact up to 11.2 percent of the WBP suitable habitat found within the project's analysis area. Despite the significant adverse effects to WBP associated with mine and transportation route construction and the proposed upgrades to transmission lines, Midas Gold proposes few reclamation options and puts forth no mitigation efforts or proposals. The sole mention of WBP mitigation/reclamation is found in Chapter 2 of the DEIS (Section 2.8.10, p. 146), which calls for collecting whitebark pine cones along transmission line upgrades and extensions, and planting two-year-old seedlings during mine and infrastructure reclamation. The paucity of reclamation proposals and the complete absence of a mitigation strategy for WBP is wholly unacceptable considering the anticipated mine life and the shifting habitat requirements that may be affected by climate change. We recommend the Forest Service/Midas Gold reexamine reclamation opportunities, and potentially reduce the long-term impacts to WBP by

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[271] Ray C, R.M. Rochefort, J.I. Ransom, J.C.B. Nesmith, S.A. Haultain, T.D. Schaming, J.R. Boetsch, M.L. Holmgren, R.L. Wilkerson, and R.B. Siegel, Assessing trends and vulnerabilities in the mutualism between whitebark pine *(Pinus albicaulis)* and Clark's nutcracker *(Nucifraga columbiana)* in national parks of the Sierra-Cascade region (2020). PLoS ONE 15(10): e0227161. https://doi.org/10.1371/journal.pone.0227161 (Attached).

implementing a proactive mitigation strategy during the life of the project. This could include, but should not be limited to pine cone collection and seedling plantings at the end of the mine's life. Several recent publications highlight the best opportunities for promoting WBP recovery,[272] and we recommend the Forest Service/Midas Gold use the findings of this research to reexamine the project proposal and identify proactive, concurrent mitigation strategies.

The analysis of potential impacts to WBP is, therefore, incomplete and inconclusive regarding the potential adverse effects to the candidate species. We recommend the Forest Service adopt Alternative 5, No Action, based on these conclusions. Should the Forest Service move forward with one of the action alternatives, we recommend the agency "meld" components of Alternative 2 and Alternative 4 to significantly decrease these potential adverse effects and direct impacts related to WBP removal. Specifically, we recommend the Forest Service/Midas Gold restrict mine plans to avoid the creation of the West End DRSF, as outlined in Alternative 2, and use the Yellow Pine route as the primary mine access road rather than constructing 15 miles of the proposed Burntlog Road, as proposed in Alternative 4.

R. Noise and light

i. The DEIS fails to adequately analyze the impacts of light pollution from the Stibnite Gold Project.

Central Idaho is renowned for its exceptionally dark night skies, and is one of the few large remaining areas in the country that remains relatively unaffected by light pollution. The Stibnite Gold Project is only 45 miles from the Central Idaho Dark Sky Reserve--the first dark sky reserve designated in North America by the International Dark Sky Association and one of only 12 worldwide and emblematic of the superb dark sky values in Central Idaho. This Reserve encompasses four designated Wilderness areas: the Hemingway-Boulders Wilderness, the Sawtooth Wilderness, the Cecil D Andrus-White Clouds Wilderness, and the Jim McClure-Jerry Peak Wilderness. More notably, the Project is located directly adjacent to the Frank Church-River of No Return Wilderness (FCRNR Wilderness), the largest contiguous federally managed Wilderness in the United States outside of Alaska.

The inappropriate or excessive use of artificial light can have serious consequences for human health, wildlife and our energy grid. For example, artificial light radically alters the nighttime environment and can have drastic effects on the sleep patterns and reproductive cycles of a variety of creatures ranging from large mammals to small insects. It can also have a significant impact on those animals that hunt at night, such as bats, or navigate by moon- or starlight. Existing nighttime lighting in the analysis area is minimal so a large-scale mine development will naturally lead to a significant increase in light pollution unless substantial

[272] Izlar (2007); Keane, *et al.* (2010); Pigott, *et al.* (2015).

steps are taken to minimize the amount and type of artificial lighting. The Stibnite DEIS clearly states as such, with the conclusion that "nighttime lighting would increase substantially in the mine site" for all of the action alternatives. DEIS at ES-35. However, although the DEIS identifies that the project will significantly increase nighttime lighting, it fails to properly quantify how much. Moreover, the DEIS itself does not impose sufficient mitigation measures to appropriately reduce the impacts of light pollution from this project.

a. Baseline dark sky data should be used to describe existing conditions.

For the DEIS to properly analyze the light pollution impacts of the project alternatives, that light pollution needs to be quantified in some measurable way. However, the DEIS does not do so. For example, the Forest Service makes statements in the DEIS such as "the extent of change to natural dark skies from lights during mine operation and vehicle headlights on Burntlog Route is unknown." DEIS at 4.23-4. If the extent of change is unknown, then how can the Forest Service properly evaluate the environmental effects of that change?

To adequately evaluate the impact of the proposed project alternatives on nighttime lighting, the Forest Service/Midas Gold should collect baseline dark sky readings for a well-distributed suite of sites in the analysis area - similar to what was done for baseline ambient sound levels. The International Dark Sky Association has guidelines on how to obtain scientifically rigorous dark sky measurements through use of a Sky Quality Meter.[273] The process of obtaining dark sky measurements is relatively simple, quick, and inexpensive.

Once the Forest Service/Midas Gold has collected that baseline dark sky data for a range of locations within the analysis area, modeling should be conducted (similar in concept to what is done for air quality) to determine how each of the proposed alternatives would affect the dark sky baseline. Specifically quantifying the expected changes is crucial to understanding the resultant environmental effects of the mine construction and operation. This information would then lend itself to the development of more site-specific and nuanced mitigation measures.

b. Mitigation measures are insufficient.

Appendix 4 of the Stibnite DEIS includes mitigation measures proposed by both the Forest Service and Midas Gold related to light pollution. We believe that the proposed mitigation in the DEIS for dark sky impacts does not go nearly far enough for a project of this magnitude. In particular, the EIS and mitigation plan should clearly address the three big keys

[273] Measuring Light Pollution, https://www.darksky.org/light-pollution/measuring-light-pollution/ (Attached).

to reducing light pollution - comprehensive light shielding, selecting lights with the proper temperature and color, and the use of timers and/or motion sensors for all external lights.

In 2018, Midas Gold released a "Dark Skies Report" focused on how to create responsible night lighting at the Stibnite Gold Project and reduce light pollution. This report identified seven key ways for Midas Gold to mitigate light pollution: (1) develop a comprehensive lighting plan, (2) select lights of proper temperature/color, (3) ensure lights are shielded, (4) customize lights to the worksite, (5) install lights properly, 6) conduct active lighting management, and (7) maintain a long-term monitoring plan. We recognize that Midas Gold has publicly committed to follow the guidelines established in the Dark Skies Report and says they will incorporate those findings into design plans for operations at the site. Nonetheless, Midas Gold should specifically commit to these recommendations in the EIS; having those mitigation measures in writing in the permitting documents is necessary to ensure that Midas Gold and the Forest Service can be held accountable for dark skies protection.

In addition to those preventative measures, we also recommend that Midas Gold and the Forest Service create a monetary mitigation fund to further address light and noise pollution impacts to wildlife. The Forest Service has the authority to establish this type of mitigation fund in a project Record of Decision, assuming that the project proponent (in this case, Midas Gold) is on board with it. Relevant examples of this authority include the 2012 Peak 6 Project ROD at Breckenridge Ski Resort on the White River National Forest[274]and the 2019 Village at Wolf Creek Access Project ROD at Wolf Creek Ski Resort on the Rio Grande National Forest.[275] This fund could be made possible by a monetary contribution by Midas Gold with funds administered by an organization such as the National Forest Foundation. We suggest that this fund be used for specific projects beyond the scope of the EIS mitigation measures that result in habitat improvements for wildlife that might be affected and/or displaced by light and noise pollution from the mine site.

ii. Mitigation for noise pollution should be strengthened.

Increased noise pollution is another expected impact of the proposed mine plan at Stibnite. According to baseline ambient sound monitoring completed by the Forest Service, background noise levels in the analysis area are typically on the quieter end of the spectrum, ranging from 34 to 64 dBA depending on location. DEIS at 3.6-9. According to the DEIS, all four action alternatives would create long-term periodic impacts during operations and temporary impacts during closure and construction.

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[274] Final ROD: Peak 6 Project FEIS. 2012, https://www.fs.usda.gov/nfs/11558/www/nepa/44729_FSPLT2_264392.pdf (Attached).
[275] Final ROD: Village at Wolf Creek Access Project FEIS. 2019. https://law.indiana.edu/publicland/files/village-at-wolf-creek_final-rod-2019_5B2.pdf (Attached).

The Forest Service and Midas Gold proposed mitigation measures for noise pollution include mufflers on construction equipment and drill rigs, scheduling noisy activities concurrently, and turning off noisy equipment when not in use. We also suggest that the DEIS includes a stipulation that drilling should be limited to daylight hours to the fullest extent possible to reduce impacts to wildlife.

The Forest Service should assist in noise reduction effectiveness monitoring to assess if the relevant equipment is being used properly and will monitor the effectiveness of the equipment in reducing light and noise levels. The true degree of sound reduction should first be measured with and without the sound baffles before the start of operations.

We suggest that the potential mitigation fund described in the light pollution comments could also fund noise reduction projects.

S. Socioeconomics

The DEIS's economic impacts study touts many potential positive impacts and benefits of the proposed project, but significantly downplays the Stibnite Gold Project's potential negative socioeconomic impacts on the local area. These include potential negative effects on workforce availability, affordable housing, the recreation and tourism industry, and the impacts of mine closure.

i. Significance of recreation and natural assets

One lens through which to view socioeconomic issues is the area's economic development strategy. The West Central Mountains Regional Economic Development Strategy (Strategy) is a document created by several local community members in 2015 and intended to represent "a shared vision for social and economic prosperity for the cities of McCall, Donnelly, Cascade, and Meadows Valley, as well as unincorporated areas of Valley County."

This branding document describes the West Central Mountains as "Idaho's Adventure Corridor" and provides a vivid description of how the community views natural resource amenities:

> Stewardship of the land is fundamental to the identity of the West Central Mountains region. Nestled in the Payette, Salmon-Challis, and Boise National Forests, the vast region encompasses three valleys, contains over 300 lakes, and is interconnected by the Payette River National Scenic Byway. It also includes 75 miles of the Centennial Trail, and portions of

> the Frank Church River of No Return Wilderness, the largest contiguous wilderness area in the Continental United States. The Boise, West, and Salmon River Mountains are the principal mountain chains, and numerous lakes, rivers, springs, cliffs, and meandering creeks enhance the region's natural resources, wildlife habitat, and scenic quality. Over 88% of land is national forest, and the region's rolling wooded plateaus and rugged terrain make the area ideally suited for nearly every outdoor activity.
>
> Natural resources are the lifeblood of the region's culture and economy. It is an environment that is highly sought-out by visitors and residents due to its pristine and various landscape features. When residents were asked to describe the perfect date night in a questionnaire during this Strategy's public outreach effort, 88% of the 189 respondents incorporated the region's scenic quality, a landscape feature (lake, mountain), or an outdoor activity into their response.
>
> The rich landscape and the recreational opportunities it affords are part of the region's economic health. According to the Idaho Department of Labor, the region ranks second in the state for highest concentration of tourism employment. Some of the activities residents and visitors enjoy include rafting, kayaking, stand-up paddleboarding, golfing, water skiing, sailing, fishing, rock climbing, hiking, snowmobiling, hunting, snowshoeing, Nordic and downhill skiing, snowboarding, and backcountry heli and CAT tours. (Strategy p. 32).

Protection and preservation of recreational and natural assets to enhance the quality of life of the region is a key strategy (Strategy, p. VII). While the Strategy also supports development of mineral resources and reference's Midas Gold's exploration plans, it also puts some caveats on mining development: "Support *environmentally sound* and economically feasible extraction of precious metals through claiming previous mining activity locations and reclamation projects. (emphasis added, Strategy, p. 44)." Based on our review of the DEIS as articulated throughout this comment letter, the Stibnite Gold Project is not environmentally sound.

ii. Affordable housing

The analysis of the impacts to affordable housing is inadequate in several ways. First, it appears that the analysis only considers whether affordable housing would be available for project employees, whose salaries are nearly twice that of local Valley and Adams County residents. The DEIS provides a comparison of numbers of expected local available housing

units--as either rentals, houses for sale, or "other vacant housing"--but does not consider whether this "available" housing is actually affordable to those not working for the mine.

Second, it fails to consider how the approximately 190 direct jobs, mostly construction, that it expects to fill with the local population will impact the construction workforce. Construction workers are already in high demand in Valley County. If many of these local construction workers seek permanent full-time jobs at the mine that pay twice as much as the local wage, it is likely that construction companies will have to pay workers higher wages, which will increase the cost of construction and have a significant adverse impact on the ability of communities to build new affordable housing. There will likely be other labor market effects, both positive and negative, and the analysis should do a more thorough analysis of direct and indirect effects.

Related, the DEIS predicts that more people will come into the area as a result of the SGP than the present housing stock can handle and offers no discussion of the effect nor mitigation measures for negative impacts. The DEIS predicts a population increase of approximately 438 new residents. There is already a current housing crisis in the McCall area. DEIS at 4.21-7. Fifty-nine percent of Valley County households pay more than 30% of their income on housing. With population increase local housing demand will increase. There will be a greater scarcity of affordable housing and higher prices for real estate. Not only does the DEIS not analyze the project's impact on affordable housing, it offers no mitigation for the exacerbation of this local crisis.

iii. Economic impact to recreation and tourism industry

The DEIS states that the local communities heavily rely on tourism to support their economies. DEIS at 4.21-19. However, the DEIS fails to provide any analysis on how the Stibnite Gold mine will affect tourism and recreation, businesses that are dependent on tourism, and the related economic benefits that the tourism and recreation economies provide to the region. Instead, it simply concludes that adverse impacts to those industries would be very limited.

Idaho's recreation and tourism sectors generate $7.8 billion in consumer spending and support 78,000 jobs (OIA, 2018). Moreover, 79% of Idaho's residents participate in some form of outdoor recreation and the abundance of high-quality recreation opportunities in the region is a powerful recruitment tool that local businesses and organizations used to attract and retain workers (IBO, 2020). Yet, the DEIS fails to consider how the massive environmental impacts that extend beyond the mine site, including adverse impacts to water quality and fisheries, will impact recreation and tourism.

Nor does the DEIS contemplate the adverse effects to natural resources and related rural economics if there is either a catastrophic or chronic contamination release (or both) at the mine site, along the transportation corridor and/or downstream or downwind of the mine site. The importance to the local economy of having world-class natural landscapes with pristine water quality that people can recreate on, fish on, and farm/ranch with cannot be overstated for the McCall area. Even small negative impacts to the tourism and recreation economies would likely dwarf any potential benefits to the McCall area economy from the Stibnite Gold Project.

A supplemental analysis of the impacts of the proposed Stibnite Gold Project to the local tourism and recreation economies should be included in the DEIS. This economic analysis should include methods, sources, and data relevant to the most recent 2-3 years.

iv. Need to buffer anticipated and unanticipated busts

The "Closure and Reclamation" section of the DEIS paints a stark picture of decreasing economic activity after mine closure:

> These potential "boom and bust" effects after mine operations cease could result from both Stibnite Gold Project's projected 110-person reduction in the direct employment of local residents and the net 230 job decrease in local induced and indirect employment previously supported by the mining operations phase levels. Given the local analysis area's largely rural and small economy, in the absence of adequate economic transition mitigation, the mine-closure related decrease in local employment and income could have an adverse impact on the local area's residents, businesses, and overall economy.

DEIS at 4.21.2.1.3.

While the mine construction plan schedule gives the workforce and community a sense of when construction jobs will end, the mine plan cannot foresee other events that can lead to temporary suspension of mining activities and personnel furloughs or layoffs. Such events include construction issues, problems securing financing, rapid changes in gold prices, production problems at facilities producing reagents and equipment, spills and accidents along the transportation corridor, and natural events like avalanches, floods, wildfires. We note that active mining at the relatively nearby Thompson Creek Mine has been suspended for several years because of depressed metals prices, even though the Record of Decision for Phase 8 of mine expansion was issued in 2016. The Record of Decision for the Idaho Cobalt Project was signed in 2009 but construction has been suspended since 2013 and the project was placed into care and operations due to financing issues. The Black Pine mine in southeast Idaho was

shut down in 1999 before the reserves were exhausted because Pegasus Mining filed for Chapter 11 bankruptcy due to international financing issues. In that instance, the Forest Service had to utilize the bond to conduct reclamation activities, even though the company's local finances appeared sound.

Similar issues could well arise at the SGP. When these furloughs occur, workers may choose to stay in the area while waiting for operations to resume, thus increasing local unemployment rates. In the event that workers and their families leave the area, local efforts and services built up to support the mine's workforce, such as health and social services, schools, and roads may end up being overbuilt and then underfunded.

There are several ways to provide a buffer to the boom and bust cycle, such as having companies design mines from the start to be protective of public health and the environment, avoid environmental degradation, anticipate operational issues such as 100-year floods and climate change, make a concerted effort to train and hire locals as operations start, design and run mine operations at a steady pace buffered from immediate market fluctuations, and then retrain interested personnel for other jobs in the local community before mining operations wind down. A Supplemental DEIS should further investigate the efficacy of such measures.

The DEIS does suggest a better post-closure outcome if tax revenues or mining fees are used wisely:

> Post-closure economic expansion and investment may happen if tax revenue or fees from mining can be effectively re-invested in community services and infrastructure, creating an environment conducive for long-term economic growth.

However, the DEIS Government Revenues section makes it clear that tax revenues from the project would almost entirely accrue to the State and Federal government, not the local municipalities. The DEIS projects $300,000 in annual local tax revenues over the twelve year mining phase of the project, for a total of $4.5 million. It is hard to see how an additional $300,000 could pay for ongoing project-induced school and housing needs as identified. Ultimately, the DEIS offers no mitigation to the substantial costs that will be incurred by Valley County taxpayers.

Furthermore, the DEIS makes no attempt to project foregone Valley County property taxes caused by changes in property values caused by the SGP. Given the potential direct and indirect effects to socioeconomics of the SGP, the shallow level of analysis in the DEIS is a serious flaw and will need to be reconciled in a Supplemental DEIS.

T. Human Health Assessments

i. Previous assessments and types

Previous human health risk assessments at Stibnite include the *Stibnite Area Risk Evaluation Report* by URS in 2000; the 2003 *Public Health Assessment, Stibnite/Yellow Pine Mining Area, Facility ID: IDD980665459* by the Idaho Department of Health and Welfare's Bureau of Environmental Health and Safety; the *Hazardous Materials Baseline Study*, June 2015 (HDR, Inc.) and *Public Health and Safety Baseline Study* in April 2015 by HDR, Inc.

However, the DEIS does not comprehensively build on this work to update and expand current and future risks to health. Instead a qualitative framework, prescribed by the mining industry, is used with no consideration of uncertainty and without providing recent environmental contamination data.

There are many types of assessments used to evaluate impacts on human health. The two most relevant here are Health Impact Assessments (HIA) and Human Health Risk Assessments (HHRA). HIA is a systematic process used to evaluate the public health consequences of a proposed policy, plan, program, or project on the health of a population and whether the health effects are distributed evenly within the population. HIAs provide practical recommendations to minimize negative health effects and maximize beneficial health effects. HIAs examine both potential positive and negative human health impacts, as well as socioeconomic and environmental impacts. A HHRA is a quantitative, analytic process to estimate the nature and risk of adverse human health effects associated with exposure to specific chemical contaminants or other hazards in the environment, now or in the future.

ii. Need for quantitative health assessments

Generally, there are significant uncertainties in the risk assessment process. Understanding those uncertainties is important to properly evaluate risk and to develop risk management or mitigation measures. The Stibnite Gold Project approach is closer to an HIA in that it is qualitative in nature and summarizes both positive and negative health impacts. The Stibnite Gold Project follows guidance by the International Council on Mining and Metals (ICMM), a notable detour from a more typical USEPA approach. As stated in Section 4.18, DEIS at 4.18-3, ". . . when analyzing the overall public health impact, the magnitude of the consequence is combined with the possibility that the consequence will occur. There is no universally agreed upon formula for assessing overall public health impact (ICMM 2010). Characterization of public health effects relies on qualitative and quantitative evidence (National Resource Council of the National Academies, 2011) **and the assessments of the magnitude** of the impact or possibility of occurrence are often based on a subjective judgement (ICMM 2010)." DEIS at 4.18-3.

The use of ICMM guidelines to evaluate health risks at Stibnite is surprising and inappropriate. The ICMM are a set of guidelines agreed to by ". . . 27 mining and metals company members and over 35 national, regional and commodity association members . . ." typically to employ in poor and middle income countries that lack the sophisticated governmental environmental protection and public health capacity to ensure that mining and mineral refining is conducted with appropriate safeguards. These guidelines are largely irrelevant to the US, that has the assessment capacity and enforceable regulatory structure to compel responsible operations.

The Stibnite Gold Project follows guidance by the International Council on Mining and Metals (ICMM), a notable detour from a more typical USEPA approach. As stated in Section 4.18, DEIS at 4.18-3, ". . . when analyzing the overall public health impact, the magnitude of the consequence is combined with the possibility that the consequence will occur. There is no universally agreed upon formula for assessing overall public health impact (ICMM 2010). Characterization of public health effects relies on qualitative and quantitative evidence (National Resource Council of the National Academies [NRC] 2011) and the assessments of the magnitude of the impact or possibility of occurrence are often based on a subjective judgement (ICMM 2010)." DEIS at 4.18-3.

Rather than broad references to policy, this DEIS should follow those US federal and State protocols rather than offer an analysis more appropriate to a middle-income country. Simply stated, the health assessment should be a state-of-the-art evaluation, conducted according to federal and State methods and requirements, building on previous more rigorous historic studies. The DEIS health analyses fall far short of these requirements and should be rejected.

As indicated in DEIS Section 3.18, Public Health and Safety, possible public health impacts associated with the following environmental resources were noted: air, soil, groundwater, and surface water quality. In Table 4.18-5, the impacts of all 5 alternatives are summarized, primarily in comparison to Alternative 1; indicating there is no alternative offered in this DEIS with respect to public health. The single alternative analysis is qualitative without substantiating data or explanation; and critically without an uncertainty discussion.
This is an example of general assertions throughout the DEIS that lack quantitative support, despite the large accumulation of site-specific data. This document lacks clarity, transparency and is not coherent. There is no demonstrated internal consistency regarding toxic metal contaminant levels among the various component analyses. Only shallow analyses and generalizations are presented in the main text with references to support documents that are challenging to review. Any data supporting internal coherence in contaminant evaluations is largely confined to references exceedingly difficult to coherently organize. There is no overall material balance with respect to toxic metals, making it impossible to assess contaminant sources, transport and transformation, exposure pathways and receptor relationships.

Supplemental analyses should require a material balance format for toxics similar to the Conceptual Site Model (CSM) methodology required under CERCLA, with appropriate uncertainty analyses.

iii. Risk assessment scenarios

Risk assessment scenarios can be constructed over a wide range of possibilities. For example, in assessing the risk of exposure to inhaling dust from a tailings pond, the scenario could be of a healthy young male riding a bicycle very quickly past the pond. The exposure, despite heavy respiration, would only be for a few seconds, resulting in an immeasurably small risk. On the other extreme, an exposure scenario of a pregnant woman, camping for a summer next to the pond, could result in a high risk to both her and the fetus. Both of these exposure scenarios have occurred along contaminated areas in the Coeur d' Alene river floodplain, the latter resulting in lead poisoning of children.

The Stibnite exercise in Appendix M uses a reasonable *average* exposure, if nothing goes wrong, with no consideration of uncertainty. It appears to be a "cherry-picked" scenario with no assumptions of a reasonable maximum or a worst case exposure. Such an exercise would be expected to yield results favorable to the proposed operation. However, the resulting recreational risk-based screening levels (RBSLs) for arsenic, mercury and antimony are, in fact, much higher levels than any reasonable person would consider tolerable for 16 days of recreation .DEIS Appx. M at Table M-4.

The Forest Service should provide a comprehensive presentation of current environmental contaminants at the site: Where are the contaminants now? How will they be mobilized during construction, operation and reclamation of the Stibnite Gold Project? Such a hazard identification can then be used to complete the exposure pathway/toxicity assessment to provide a risk characterization under various scenarios at the site.

The Forest Service should prepare a Supplemental DEIS that addresses these issues. The full extent of comments on this issue and additional recommendations to address shortcomings can be found in the attached report: von Braun, M. (2020).

U. Recreation

i. Overview of recreation in the project vicinity and impacts of the DEIS action alternatives.

The public lands and waterways in, near, and along the access route for the Stibnite Gold Project area are of immense value to Idahoans and recreational tourists. In a brief summary, this region, within Payette and Boise National Forests, represents a diverse array of

recreational assets providing a broad range of opportunities for the public. Hunting, fishing, whitewater paddling, cycling, dispersed camping, hiking, bird watching, wildlife viewing, mushroom picking, OHV vehicle, and horseback riding are a few examples of activities that are enjoyed in the area.

Scoping comments submitted on the Stibnite Gold Project included many requests to address impacts to specific recreation resources in the DEIS. General comments requested that the Forest Service address the following in analyzing recreational use; "The Salmon River draws thousands of rafters and kayakers from all over the country and internationally each season. Whitewater enthusiasts are concerned about the impacts to the river and river basin for paddling; The South Fork of the Salmon River is one of the key locations in Idaho to which anglers travel to fish for salmon and steelhead. Most of the fishing activity is on the South Fork of the Salmon River, but the mine threatens to impact that activity from traffic and by threatening the health of fish; Concern for how the project could impact hunting and trapping, both access and wildlife habitat".[276] In addition, the State of Idaho requested the following, "An assessment of potential effects of new roads and road closures on hunting, fishing, and trapping including effects of new roads on stream channel and wildlife habitats."[277]

In general, the analysis of impacts to recreation resources is lacking in the DEIS, and the Forest Service failed to consider and analyze the impacts to whitewater paddling and fishing recreational resources specifically. The DEIS does not provide a sufficient characterization of recreational use in the area affected by action alternatives in the DEIS, and thus impacts to recreation are underestimated and lacking analysis of alternative comparison.

ii. The DEIS lacks adequate characterization of river related recreational use, and relies on too narrow of a scope of analysis.

The DEIS fails to recognize the significant amount of whitewater paddling and angling recreational use on rivers that would be impacted by all action alternatives in the DEIS. In scoping comments submitted on July 17th, 2017, Idaho Rivers United included that "IRU would like the Forest Service to specifically consider the impact this proposed mine will have to the boating (and other recreation) community of the South Fork of the Salmon River basin, and all those downstream of this operation."[278] The Forest Service did not fulfill IRU's request in the DEIS. There is essentially no qualitative or quantitative assessment of river related recreational use or impacts in the document. The DEIS at 3.19-3 describes existing conditions for recreation in the analysis area, but does not include whitewater paddling anywhere in this section.

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[276] USFS, 2018. Stibnite Gold Project EIS Scoping Issues and Summary Report, p. 49
[277] USFS, 2018. Stibnite Gold Project EIS Scoping Issues and Summary Report, p. 53
[278] See Idaho Rivers United "Stibnite Gold EIS Scoping Comments" 2017, p. 9

The narrow scope of analysis also excludes river segments with recreation opportunities that would be impacted by all action alternatives. Figure 3.19-1 in the DEIS illustrates the Recreational Analysis Area, and this boundary excludes a vast portion of the East Fork South Fork Salmon River, and the South Fork Salmon River, a river segment managed as a Suitable Wild and Scenic River with recreation as an Outstandingly Remarkable Value. This ORV is described by the Forest Service, "The SFSR has outstanding white-water boating and nationally recognized fishing opportunities during premier steelhead and chinook salmon seasons. The river corridor also provides recreation opportunities that include hunting, hiking, camping, and snowmobiling. The many hot springs along the river corridor are beautiful and provide the visitor with a remote soaking experience."[279] Downstream, the South Fork Salmon River feeds into the congressionally designated Wild and Scenic Main Salmon River. The DEIS acknowledges at 3.23.2.2.1.2 that, because all action alternatives will impact tributaries to this designated river, a Section 7 analysis is required under the Wild and Scenic Rivers Act to analyze impacts to scenic, recreational, and fish and wildlife values. Therefore, the designated segment of the Main Salmon must be included in the analysis of recreation impacts, including impacts to the 33 permitted commercial outfitters that operate on the Wild and Scenic Main Salmon River[280]. Direct, indirect, and cumulative impacts to these river segments are described in sections to follow.

At 4.1.9.1, the DEIS states that "Because there are no specific recreational use and demand estimates for the analysis area, the discussion of changes to recreational use is qualitative, and describes potential changes in recreational use due to displacement, increased access, reduced acreage for recreation, and changes in the recreation setting." However, the qualitative discussion in the DEIS is limited to certain recreational activities, and completely neglects whitewater paddling within the analysis area.

A simple review of literature, internet trip reports, and member-based recreation advocacy group websites such as American Whitewater, reveals that whitewater paddling within the area of concern is world renowned and cherished by this recreational user group. These resources are readily available to both the public and the USFS officials responsible for conducting the recreation analysis in the DEIS, to provide a more robust characterization of this recreational resource and adequate analysis of impacts to users.

Grant Amaral's book *Idaho: The Whitewater State*[281] has long been the primary resource for information on whitewater recreation within the state. River stretches listed in this book that would be directly impacted by action alternatives in the DEIS include the following:

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[279] Payette and Boise National Forests. Wild and Scenic Suitability Report, Appendix J
[280] Salmon-Challis National Forest, Outfitter and Guide List 2020
[281] Grant Amaral, Idaho - The Whitewater State (USA: BookCrafters, 1990), p. 72-88.

- South Fork Salmon River - Goat Creek Run
- South Fork Salmon River - Canyon
- Johnson Creek
- East Fork South Fork Salmon River - Upper
- East Fork South Fork Salmon River - Lower

These same river segments that are prized for whitewater paddling are listed in online databases such as American Whitewater[282], Whitewater Guidebook[283], Oregon Kayaking[284], California Creeks[285], Blue River Expeditions[286], and Camping by Kayak[287]. This is not an exhaustive list, as there are many more trip reports describing the quality and uniqueness of the recreational resources available on the South Fork Salmon River and tributaries (East Fork South Fork Salmon, Johnson Creek). Outside Magazine published an online article and film in 2018 titled "The Best Big Whitewater in Idaho", referring to the South Fork Salmon River.[288] American Whitewater's web page highlighting the South Fork Salmon River states that "Following the pioneering descent in 1971, Cal Giddings reported in the American Whitewater journal that "we feel we have uncovered a superb wilderness kayaking river." The South Fork has stood the test of time as a great 2-3 day self-support trip in central Idaho. The put in is at the confluence where the Secesh River joins the South Fork Salmon River and the road ends. The trip can be combined with runs on the South Fork Salmon River, East Fork South Fork Salmon River, or Secesh River that all have access points along the forest road network in the basin."[289]

Whitewater floaters come from all across the region to paddle Johnson Creek, the East Fork South Fork Salmon River and the South Fork Salmon River. Some of the remarkable values of this area include the relatively pristine water quality conditions, world-class whitewater interspersed with deep emerald green pools, and proximity to Inventoried Roadless Areas. The most often used guidebook for the area states the following regarding the East Fork South Fork; "This is an outstanding whitewater run...There are good campsites at both the put-in and take-out. Food and drink as well as gas and groceries can be found a mile up from the start in the little mining town of Yellow Pine."[290] Kayakers may choose to put in on the East Fork South Fork Salmon River about one mile upstream of Yellow Pine and can float the entire stretch down to the Main Salmon River and beyond.

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[282] https://www.americanwhitewater.org/content/River/state-summary/state/ID/
[283] https://www.whitewaterguidebook.com/idaho/
[284] https://www.oregonkayaking.net/rivers/sf_salmon_wilderness/sf_salmon_wilderness.html
[285] https://cacreeks.com/mfsfsalm.htm
[286] https://brexpeditions.com/idaho/south-fork-salmon-river/
[287] http://www.campingbykayak.com/south-fork-salmon-river-id/
[288] https://www.outsideonline.com/2339221/best-big-whitewater-idaho
[289] https://www.americanwhitewater.org/content/River/view?#/river-detail/621/main
[290] Grant Amaral, Idaho - The Whitewater State (USA: BookCrafters, 1990), p. 84.

From a fishing perspective, large westslope cutthroat trout and the occasional huge bull trout draw anglers to Johnson Creek, the East Fork South Fork Salmon River and South Fork Salmon River. From McCall, this watershed represents some of the closest waters to catch these species. As detailed in the fisheries section, these species still persist here because of cold, clear, clean and complex watershed conditions. The segment of the East Fork South Fork Salmon River along Stibnite Road, in between Johnson Creek and Stibnite, is a cherished catch and release bull trout fishery. Downstream, the South Fork Salmon is world renowned for its chinook salmon and steelhead runs, and when returns allow, recreational fishing season. According to Payette National Forest, "The South Fork Salmon River contains the most important remaining habitat for summer chinook salmon in the Columbia River basin. The fish were once the largest, most valuable segment of the world's largest runs of chinook salmon."[291] The DEIS vastly underestimates the recreational value of the fisheries in the analysis area and downstream. As a result, the impacts to fishing as a recreational resource are underestimated in the DEIS.

iii. The DEIS fails to consider direct, indirect, and cumulative impacts upon river recreation resources.

a. Mining related traffic and access roads will negatively impact river recreation resources and users.

While kayakers value river stretches away from roads, one of the benefits of floating the East Fork South Fork Salmon is the ability to put in and take out at different places that suit a paddler's ability given the whitewater conditions at that time. Log jams may require portaging. As such, it is helpful to be able to pull over and park at different places along the river road. Mine-related traffic will be directed to the Johnson Creek corridor. Many members of the public headed towards Yellow Pine utilize the Johnson Creek road when it is open. Due to concerns about or actual experiences with mine-related congestion, delays and accidents, members of the public who would otherwise use the Johnson Creek Road are likely to increase use along the South Fork Salmon River and East Fork South Fork Salmon River Road. If the mine route utilizes the length of the Johnson Creek Road, road construction activities will likely close access to this route for long periods of time. Mine traffic or construction along Johnson Creek Road will likely displace public traffic from Johnson Creek Road. As such, general traffic along the East Fork South Fork Salmon River is likely to increase. Road construction, increases in mine-related traffic and increased public traffic may result in fewer access points, decreased water quality and a degraded whitewater experience.

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[291] Payette National Forest, South Fork Salmon River Information. Accessed at https://www.fs.usda.gov/detail/payette/home?cid=STELPRDB5160141

b. River access will be negatively impacted by all action alternatives in the DEIS.

Like most outdoor recreation activities, river related recreation depends upon access for enjoyment of these activities. The DEIS fails to acknowledge the numerous negative impacts to river access from project activities during construction, operations, and closure/reclamation. With whitewater paddling in particular, the "put-in" and "take-out" access points[292] are essential to enable recreational users the opportunity for down river paddling experiences (the value of which is emphasized in preceding comments).

The DEIS acknowledges that construction of the upgraded transmission line, Burnt Log Road construction and operation, and use of the Yellow Pine Route for mine access, will impact public access at various points in time, with varying duration of road closures. However, these descriptions project related road closures are overly simplified, and fail to draw a connection to the resulting negative impacts upon recreation access. The DEIS states at 4.19-12 that "transmission line upgrades along Warm Lake Road (CR 10-579), Johnson Creek Road (CR 10-413), and Cabin Creek Road (FR 467) could result in temporary road detours or delays as a result of construction activities and traffic along these roads. There could be temporary delays in accessing other roads, trails, and facilities along these roadways, including the Big Creek Summit, Cabin Creek/Thunderbolt, and Trout Creek/Thunderbolt Trailheads; Burnt Log Trail (FT 075); South Fork Salmon River, Trout Creek, Ice Hole, Golden Gate, and Yellow Pine Campgrounds; Twin Bridges dispersed camping area; and Johnson Creek Cabin. Such delays could adversely affect the recreation experience for some recreationists." Multiple whitewater paddling river access points will be adversely impacted by construction related delays. This vague description of effects of road delay on these essential recreation corridors in the DEIS highlight the need for a more detailed analysis of impacts. The DEIS should state the estimated duration of delays, and include a mitigation measure to notify the public of such issues.

In addition, river access along Johnson Creek Road and Stibnite Road may be adversely affected during site construction. The DEIS states at 4.19-7 that "use of Johnson Creek Road (CR 10-413) and the Stibnite Road portion of the McCall-Stibnite Road (CR 50-412) as the primary route to the mine site during the construction of the Burntlog Route could result in temporary impacts (1 to 2 years) to motorized recreation access due to potential delays, traffic, and safety-related issues from mine-related traffic". Why would only motorized recreation be affected by these issues? Johnson Creek Road and Stibnite Road are used for many different recreational opportunities, most notably camping, fishing, and whitewater paddling. Any temporary closure could inhibit the recreationalist to access the Vibika Creek Put-in and

[292] See Grant Amaral, Idaho - The Whitewater State (USA: BookCrafters, 1990), p. 72-88 for river put-in and take-out descriptions on affected rivers.

Johnson Creek take-out on the EFSF Salmon, and the Ice Hole Campground Put-in and Yellow Pine Take-out on Johnson Creek, depending on where the closure is taking place. Anglers utilize Johnson Creek Road and Stibnite Road upstream to the Yellow Pine Pit Lake to fish for westslope cutthroat trout, mountain whitefish, and bull trout. Temporary closures would directly impact this recreational resource.

The DEIS should include an analysis of impacts to river recreation access, and provide a sufficient comparison of alternatives.

c. Impacts to water quality and fisheries will impact recreation resources.

River recreation, especially whitewater paddling, involves primary contact with river water through splashing, swimming, flipping/rolling, and occasionally accidental drinking of untreated water. Any impacts to water quality from proposed mining activities could directly and indirectly affect recreational opportunities. The DEIS vastly underestimates impacts to water quality from Stibnite Gold Project Activities[293], and provides little support for the lack of hazardous material spill analysis and the likely impacts to water quality.[294] For recreational fishing, healthy fisheries are essential. The DEIS vastly underestimates the impacts to fisheries in the watershed[295].
For detailed comments on impacts to water quality, fisheries, and analysis of transportation spill risk, see the included reports by Lubetkin (2020), O'Neal (2020), Zamzow (2020), and Maest (2020).

iv. Impacts to other recreation resources are underestimated and lacking robust analysis.

One of the draws to the area are the opportunities for camping at both developed campsites and dispersed campsites next to or short distance away from the road. The quality of these camping experiences will be degraded by traffic, noise, dust light, exhaust from mine related traffic and increased traffic along the East Fork South Fork Salmon River that was displaced by mine traffic. Paving segments of road around camping areas will help with dust and sedimentation, but may also lead to increased traffic speeds.

Recreation impacts by alternative are difficult to analyze in the DEIS. In example, impacts associated with the Burnt Log Route vary by Alternative, but the direct impacts to recreational access are difficult to ascertain. The DEIS states at 4.19-42 that Alternative 2 "

[293] See Maest (2020) and Zamzow (2020) attached reports
[294] See Lubetkin (2020) attached report
[295] See O'Neal (2020) attached report

Impacts would be similar to Alternative 1; however, motorized public use (not including special use permit holders) of the Burntlog Route would only be allowed when the public access route through the mine site was closed, which would occur during some mining activities that would be considered public safety hazards (e.g., high wall scaling, blasting)." This seems to mean that recreation opportunities, including access to campsites, trailheads, dispersed recreation, and the Burnt Log Creek eligible Wild and Scenic River, off of Burnt Log Road would not be accessible during operations under Alternative 2 (unless Stibnite Road to Thunder Mountain Road is closed). The DEIS fails to clearly disclose and analyze how this would impact these specific recreational resources. Will the public be able to access Pistol Lake Trailhead, Mudlake Campground, Burnt Log Campground, or Thunder Mountain/Riordan Trailhead during operations under Alternative 2? How will this impact the public's ability to access and enjoy these recreational resources? This lack of detailed analysis and alternative comparison extends to other access related issues on Johnson Creek Road (Yellow Pine Route) and Warm Lake Road.

V. Burntlog Road

i. Monitoring methods differ significantly between existing substrate methods used by FS and required by NMFS, and those described in the DEIS.

Stibnite Gold Project has designated two aquatic monitoring methods- Nephelometry and total suspended solids- as their monitoring tools. The Payette and Boise National Forests have for the past 35-50 years used and are now required under ESA to use stream substrate monitoring methods- modified McNeil core samples, cobble embeddedness and free matrix. There are no known correlations between Nephelometry, total suspended solids and the three stream substrate measurements.

ii. No current road sediment production data was gathered, and no project monitoring methods were described for road sediment generated during use by the mine.

Sediment generated from existing roads, from construction and reconstruction of roads and use of roads has been a major problem for fish and fish habitat in granitic streams over 50 years. Several methods to model this sediment exist and have been a mainstay in FS project documents. The DEIS does not show the use of any modeled sediment for the reconstruction or use of Johnson Creek and Stibnite roads, or the use, reconstruction of 20 miles of the Burnt Log road, and the new construction of 15-20 miles of the Burntlog road. This should be used as a comparison between alternatives. No data collection over time was shown in the DEIS. Sediment changes in the substrate were not modeled or shown in the DEIS as a monitoring

tool to show changes in the fish habitat especially of the Burntlog Creek, Trapper Creek, Riordan Creek, Johnson Creek and the EF South Fork Salmon River.

iii. No geologic hazard assessment completed on existing Johnson Creek or Stibnite roads (they are used no less than 2 years)

Several major slides and debris falls have occurred recently on the Stibnite road, and several high hazard locations are known on the Johnson Creek (and at least one on the upper Warm Lake road near the summit). These roads will be used no less than 2 years during construction and potentially in Alt. 4 for the life of the project. Yet reconstruction will occur on these roads.

iv. Use of an "upper slope" road is better than a "lower slope" road

The gist of the argument in the DEIS is that the Johnson Creek/Stibnite road access ("lower road") will be worse that then Burntlog road ("upper "or "mid-slope "road) access primarily from the number of landslides/rockslides, the extra three years of construction required if the Stibnite road is to be the primary haul route during construction, and the longer lengths of roads parallel to a stream. Literature shows that the lower roads "receive" the slides/rockfalls, but the upper/mid-slope roads generally "create" them. Many sediment creating and delivering functions exist in the literature on upper/mid-slope roads that have not been put into context to allow choices to be made between alternatives.

v. Competency (hardness) of granitic road surfacing sources

The DEIS states that local granitic sources (2 currently known) will be used for the crushed aggregate surfacing of the roads (especially the Burntlog road). The Idaho Batholith (granitic parent material) is known for decomposed granite (DG) which is not competent. If the sources are not hard compared to basalt (which is the local hard surfacing material) then additional sediment will be created by the heavy truck traffic and delivered to the streams via road ditchlines, culverts and streams.

vi. Use of a 91-meter (300 ft) RHCA as a sediment filter and as a mitigation for spills

Riparian Habitat Conservation Areas (RHCAs) were developed to mitigate sediment migration to streams, stream temperatures, and to control the amount of harvest/management adjacent to streams. They can reduce harvest generated or road produced sediment depending on the amount of materials on the slope surface to trap sediment, the steepness of the slope, etc. 91-meters (300 ft) is a common distance for perennial streams. For roads sediment, IF the roads were out-sloped (the road design for the DEIS is IN-sloped to a ditchline) the 300 ft

distance generally would slow and possibly trap the sediment. What is not accounted for are the culverts, and ditchlines focusing the sediment to specific locations which can add sediment directly to streams, or create a stream channel (from water concentration) and start to erode the slope to the nearest stream and deliver sediment. There is no known use or promulgation of an RHCA as a "filter" or "buffer" for spills, especially for Diesel and gasoline products.

vii. No monitoring of fish habitat or other water quality parameters specified on the non-mine site parts of the project area.

Examples: Burntlog Creek, Trapper Creek, Riordan Creek, Johnson Creek. PROBLEM: DEIS Section 3.9.3.1.2 ACCESS ROADS, UTILITIES, AND OFF-SITE FACILITIES states*," The Surface Water Quality Baseline Study (HDR 2017) did not include sample locations outside of the proposed mine site." DEIS* Section 3.9.1.1 Analysis Area states, "*The surface water quality analysis area includes streams and lakes located in the 22 sub-watersheds that encompass the proposed mine site, access roads, transmission lines, and off-site facilities (Figure 3.9-1)*". Several sites in Burntlog, Trapper and Riordan creeks were sampled for both fish and fish /macroinvertebrate habitats. None of these sites were selected for WQ, or habitat monitoring, especially if the Burnt Log road should be completed and used for mine haul. There is also a vague statement about monitoring these sites, but nothing specific is stated for time or duration.

viii. No description of sediment reduction methods for the power lines construction and reconstruction.

DEIS Section 4.7.2.4 Alternative 1 states, *"New and upgraded utilities would be constructed including: transmission lines (42 miles of existing 69-kilovolt line and 21.5 miles of existing 12.5-kilovolt line upgraded to 138-kilovolt line, and 8.5 miles of new 138-kilovolt line from Johnson Creek Substation to the mine site), three new electrical substations, and upgrades to two existing substations (Lake Fork and Warm Lake substations). The* existing 50 ft ROW corridor is widened to 100 ft in reconstruction. *DEIS* Section 4.5.2.1.1.2 Boise National Forest states, "*...The construction laydown areas, tensioning areas, and some of the new roads would be reclaimed immediately following construction. Final reclamation of the new transmission line corridor would occur during the post-closure period beginning after Stibnite Gold Project year 18*. NO description of sediment reduction or mitigation during the construction/reconstruction or reclamation phase of this amount of construction is found. Streams and wetlands are crossed.

ix. Burntlog road specific sediment mitigation methods or monitoring methods are not shown for: a) Culvert/bridge replacement mitigation specific to sediment and b) Road prism construction, re-construction and use sediment mitigation

measures specifically for the fill slopes, cut slopes, road surface and road ditchlines.

Mitigation for road reconstruction and construction are couched in the following terms: *"...Expected permit stipulations from the Idaho Department of Water Resources (IDWR) and IDEQ would ensure that streambank vegetation would be protected except where its removal is absolutely necessary; ... and that all activities would be conducted in accordance with Idaho environmental anti-degradation policies, including IDEQ water quality regulations and applicable federal regulations*". I break the roads into component parts: Cutslope (inside slopes above roads on top), ditchlines; running surface; and fill slope (outside). I ask questions about what will/won't be accomplished and I offer constructive comments from published research showing pros and cons of methods of cut and fill slope mitigation, ditchline management, and what happens if the wrong gravels are used.

The full extent of our comments are attached to this report: Newberry (2020).

W. Wild and Scenic Rivers

X. Mitigation and monitoring measures

An EIS must discuss "appropriate mitigation measures." 40 C.F.R. § 1502.14(f) (1978). The definition of "mitigation" includes minimizing environmental impacts, rectifying impacts by repairing, restoring, or rehabilitating the affected environment, reducing or eliminating the impact over time through preservation or maintenance, and compensating for the impact by providing substitute resources. *Id.* § 1508.20 (1978).

An EIS is not complete unless it contains "a reasonably complete discussion of possible mitigation measures."[296] Mitigation measures must be discussed with "sufficient detail to ensure that environmental consequences have been fairly evaluated."[297] "That requirement is implicit in NEPA's demand that an EIS must discuss 'any adverse environmental effects which cannot be avoided should the proposal be implemented.'"[298]

An agency must take a hard look at the possible mitigation measures, and a "perfunctory description is not adequate to satisfy NEPA's requirements."[299] "A mere listing of mitigating measures, without supporting analytical data, also is inadequate."[300] "An essential

[296] *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 352 (1989).
[297] *Id.*
[298] *Okanogan Highlands Alliance v. Williams*, 236 F.3d 468, 473 (9th Cir. 2000) (quoting 42 U.S.C. § 4332(C)(ii)).
[299] *Id.*
[300] *Id.*

component of a reasonably complete mitigation discussion is an assessment of whether the proposed mitigation measures can be effective."[301] "Putting off an analysis of possible mitigation measures until after a project has been approved, and after adverse environmental impacts have started to occur, runs counter to NEPA's goal of ensuring informed agency decision making."[302]

The DEIS fails to provide a reasonably complete, credible, and up-to-date discussion of the potential mitigation measures for a number of critical resources that the Forest Service admits will be destroyed, harmed, or degraded by Midas Gold, as noted in multiple sections in these comments, in violation of NEPA.

In Appendix D of the DEIS, Table D-1 merely lists 155 "Preliminary Mitigation Measures Required by the Forest Service" without any supporting analytical data and without any discussion about whether the measures can be effective. The DEIS states that these mitigation measures would be followed during and after completion of project activities "to avoid or minimize adverse impacts on the human and natural environment." DEIS, App. D, p. D-1. Without analytical data and discussion of the effectiveness of the Forest Service's proposed mitigation measures, this violates NEPA, as well as the Forest Service's duties under other laws and regulations, like the Organic Act and NFMA, including requirements to minimize adverse impacts and protect water, fish, and wildlife. The Forest Service must gather data and disclose the effectiveness of these mitigation measures, and must consider more effective mitigation measures, in a revised or supplemental DEIS released for public comment.

As one specific example, the Forest Service's failure to fully review, and subject to the public for comment, the post closure water quality treatment issues for the Stibnite Gold Project violates NEPA. Specifically, the mitigation for post closure water quality has not been provided nor has its effectiveness been analyzed, outside of a vague reference to "passive treatment" that is still being reviewed. *See* DEIS at 2-75 ("Evaluation of post closure water treatment is ongoing.").

The DEIS failed to provide the required mitigation analysis during the NEPA public review process (including the required effectiveness analysis) for a number of critical resources. For example, the mitigation for water quality has not been provided or its effectiveness analyzed, outside of a vague reference to "passive treatment" that is still being reviewed. DEIS at 2-75.

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[301] *S. Fork Band Council v. U.S. Dep't of the Interior*, 588 F.3d 718, 727 (9th Cir. 2009) (requiring agency to discuss effectiveness even in face of uncertainty).
[302] *Great Basin Mine Watch v. BLM*, 844 F.3d 1095, 1107 (9th Cir. 2016).

In addition to the NEPA concerns regarding the failure to fully analyze water treatment mitigation in the DEIS, the vaguely proposed "passive" treatment has serious shortcomings. The DEIS does not adequately analyze the water treatment issues, whether "active" or "passive." Active treatment could be needed for decades. As noted herein, any potential passive treatment is not adequately analyzed, let alone the full scope and costs of active or passive treatment.

Further, reliance on passive treatment is highly suspect, especially without a full analysis/understanding of the proposed system. As one leading report determined, for any passive treatment to work, a number of issues need to be resolved up front, something which the DEIS does not do. *See* Skousen et al (2017) (attached to these comments):

- "A critical activity in passive treatment is the selection of the proper system type for a given situation. Factors to be considered in selection include the quality and quantity of waters to be treated, water treatment goals, access, and the land resources available for use in system construction."
- "At their present stage of development, passive systems work well on low volume AMD discharges (<400 l/min) containing moderate to high acidity and metals."
- "With careful design and construction, systems can be effective over a wide range of metal and acidity concentrations. They are subject to failure if poorly designed and constructed, particularly if not correctly scaled to the target discharge flow and acid and specific metal concentrations.
- "Relative to chemical treatment, passive systems require longer retention times and larger land areas." "Generally, larger land areas (relative to anticipated acid loads) enable more effective treatment, and essential design features for all systems include surface area and/or volume."
  - "However, specialized systems that require significant initial cost and regular maintenance (e.g. VFWs, bioreactors) are available for use where land areas are insufficient for traditional passive systems such as AnWs."
- "However, active treatment is often favored in settings where discharge quality is a regulatory requirement. Passive treatment is more suited for watershed-based AMD control schemes where high standards or specific effluent limits are not required at each discharge."
- "Essentially all passive treatment systems require some degree of maintenance. "...periodic monitoring and maintenance is

essential, the need is much less than in active systems. At a minimum, the systems should be inspected every few months for impediments to flow, leakage, and inadequate treatment. In addition, more extensive maintenance, such as replenishment of the alkaline reagent or organic matter substrate, and removal of accumulated metal precipitates, is occasionally required."

- "Experience suggests that rehabilitation is typically required every 5–10 years, though that time will be influenced by system size and design."

At a minimum, the revised DEIS must fully analyze the issues raised by this report and subject the analysis to public comment. For example, the revised DEIS must analyze the quality and quantity of waters to be treated, water treatment requirements, access, and the land resources needed and available for these systems; provide a detailed design of active and passive treatment systems that are being considered; as well as full accounting of yearly and long-term costs (including for operation, maintenance, and rehabilitation).

In addition, as discharges from the Stibnite Gold Project would involve the release of metals, those metals never go away. They may be precipitated by one form or another, but they remain in the treatment system, unless actively collected and removed. Passive systems will not do this, and the metals can remobilize in the future. Additionally, the treatment system for the discharge water needs to be able to handle a wide variety of discharge conditions. In many/most mine discharges, such as those predicted for Stibnite, the highest volume and concentration of contaminants occurs during major rain/snow events such as spring runoff, and passive systems are most often not equipped to handle those elevated concentrations and flows.

If a sulfate-reducing bioreactor is involved, it is bacterially based and requires a carbon source. Many "passive" system advocates suggest that a carbon source such as manure or waste plant material (e.g. corn stalks/straw) will work, but these are consumed in a non-linear fashion, and while they may possibly work initially, the carbon source becomes increasingly spent and the utilization decreases in manner that will not guarantee treatment.

In addition to post closure water quality treatment, the DEIS fails to adequately account for other mitigation monitoring measures. These include lack of specificity, maintenance plan, maintenance cost, and bonding estimates to maintain the mitigation measures in the decades and centuries ahead.

i. Avian mortality reporting system

Midas Gold states it will implement an avian mortality reporting system for the TSF and contact water ponds. More information on this is necessary. The Berkeley Pit in Montana is a pit lake filled with toxic water that has been responsible for the deaths of hundreds of waterfowl. It appears that the ponded water on top of the TSF, the two pit lakes, and any exposed processing ponds may pose a threat to wildlife and to birds in particular. More details are needed on this reporting system and more work is needed to prevent mortalities instead of simply reporting them. The Forest Service should establish a series of triggers that initiate more aggressive bird control measures for increasing mortality rates.

ii. Implementation dashboard and transparency

Should the Stibnite Gold Project be implemented, the Forest Service should develop a Stibnite Gold Project dashboard or implementation tab on the project page on the Forest Service's website. This is a site where the Forest Service can provide updates on completed, ongoing, and anticipated work at the site, including construction-related traffic updates and convoy information. This tab should also be used to post inspection reports (including violations and remedies), environmental monitoring reports, project implementation updates, and other relevant information. We note that the Forest Service and Midas Gold will already be collecting this information. By posting this material on the project webpage, the Forest Service will avoid the need to fulfill numerous FOIA requests and the public can be made aware in real time if the project is being implemented as intended and if the effects are as analyzed.

An important component of transparency is the ability for members of the public to be able to continue to tour the site. While we are not supportive of Midas Gold's proposal, the company has been proactive to date about offering tours and allowing public access. Obviously, during construction and mining activities, public and mine worker safety has to be a priority and access should be carefully managed. But access to view the project from safe locations, such as the Meadow Creek lookout and other vantage points, should be retained. In addition, if the Thunder Mountain public access route goes through the mine site, Midas Gold should provide overlooks and viewing areas to the extent practicable. The Forest Service and Midas Gold should continue to allow regular public tours with sufficient advanced notification. These could be on a daily, weekly or monthly basis, depending on public interest.

iii. Mitigation measures and categories

Mitigation measures, as defined by the CEQ regulations (40 CFR 1508.20), include the following:

- Avoiding the impact altogether by not taking a certain action or parts of an action;
- Minimizing impacts by limiting the extent or magnitude of the action and its implementation;

• Reducing or eliminating an impact over time, through preservation and maintenance operations during the life of the action; and
• Compensating for an impact by replacing or providing substitute resources or environments.

More specifically, the 2003 Southwest Idaho Ecogroup/Payette Forest Plan defines mitigation measures as "Modifications of actions that (1) avoid impacts by not taking a certain action or parts of an action in a given area of concern; (2) minimize impacts by limiting the degree or magnitude of the actions and its implementation, (3) rectify impacts by repairing, rehabilitating, or restoring the affected environment; (4) reduce or eliminate impacts over time by preservation and maintenance operations during the life of the action; or (5) compensate for impacts by replacing or providing substitute resources or environments. Southwest Idaho Ecogroup, Payette Forest Plan 2003, GL-24.

iv. Mitigation requirements

Mitigation is a very pertinent component of this project and the Forest Service has an important role in determining the adequacy of mitigation measures: "As the responsible official acting on behalf of the Forest Service, the Payette Forest Supervisor will determine whether to approve the plan of operations for the Stibnite Gold Project as submitted and supplemented, or whether to approve a modified plan based on all or portions of the other action alternatives considered in detail in the Final EIS, including mitigation." Stibnite Gold DEIS, ES-6.

In fact, the need for federal action is in part to, "Ensure that, prior to approval, measures are included that provide for mitigation of environmental impacts and reclamation of the NFS surface disturbance;" Stibnite Gold DEIS, ES-7. Also, "The number of forest plan standards or guidelines to be amended could be fewer depending on the selected alternative and mitigations required." Stibnite Gold DEIS, ES 1-8.

The DEIS outlines several significant issues which have been used to develop alternatives to the proposed action and mitigation measures.

• Surface Water and Groundwater
• Sensitive Plant Species
• Wetlands and Riparian Areas
• Federally Listed Fish Species
• Traffic
• Public and Tribal Access E
• Visual Quality
• Idaho Inventoried Roadless Areas

The Payette Forest Plan states that standards and guidelines are used to inform mitigation measures: "Forest-wide management direction and prescriptions include standards and guidelines specifically designed to protect, improve, and/or mitigate impacts to watersheds, riparian and aquatic habitats, and threatened, endangered, and sensitive species habitats. Southwest Idaho Ecogroup/Payette Forest Plan, ROD - 30."

Relevant standards and guidelines here include General standard 1301 regarding resource degradation, Vegetation Standard 1302, General Standard 1306, and General Standard 1311.

The Payette Forest Plan also calls for the use of Watershed Condition Indicators in designing mitigation measures: "WCIs assist in determining the current condition of a watershed and should be used to help design appropriate management actions or alter or mitigate proposed actions and or ongoing actions to move watersheds toward desired conditions." Foret Plan B-27.

The Payette Forest Plan also prescribes mitigation measures as needed to meet management requirements for indicator species habitat:

> "The forest plan must identify habitat components required by management indicators; determine goals and objectives for management indicators; specify standards, guidelines, and prescriptions needed to meet management requirements, goals and objectives for management indicators; prescript mitigation measures as appropriate, to ensure that requirements, goals, and objectives for each management indicator are will be sufficiently met during plan implementation at the project level." (FSM 2621.4). Payette Forest Plan H-10.

v. Mitigation hierarchy and categories

The Supplemental Draft EIS provides an overview of mitigation measures in section D-1. The Forest Service should add an introduction to this section which describes mitigation in terms of the following hierarchy:

- Avoiding the impact altogether by not taking a certain action or parts of an action;
- Minimizing impacts by limiting the extent or magnitude of the action and its implementation;
- Reducing or eliminating an impact over time, through preservation and maintenance operations during the life of the action; and
- Compensating for an impact by replacing or providing substitute resources or environments.

The various proposals and design features in Appendix D should be organized or labeled accordingly each of these 4 categories. Otherwise, it is confusing to the public whether the stated mitigation measures are intended to simply reduce risks, balance them out or actually offset them by way of a compensatory mitigation program so there is a net conservation gain.

For example, all of the items list of Forest Service Mitigation Measures (Table D-1) and many of Mitigation Measures Proposed by Midas Gold as Project Design Features are actually design features intended to reduce or prevent undesirable impacts from the proposed management activities, as defined by mitigation category #2 in the Forest Plan. They are designed to lessen the degree of environmental degradation but do not provide any amount of ecological uplift over the status quo as in #4 and #5. For example, the fish tunnel and capture and haul backup plans are presented in the DEIS as a mitigation program, but again the Forest Service should clarify which mitigation category these belong in. Since there are likely to be mortalities associated with these actions compared to the No Action Alternative, and uncertainties with the functionality of the tunnel system, it appears that the fish transportation program will not provide for any net uplift and should be disclosed as such.

According to the DEIS, the basis of the Stibnite Gold Mitigation Plan is impact avoidance and minimization (ES 2-82) however, over half of the area of disturbance is in previously undisturbed areas. As such, it is inaccurate to say that Midas Gold's mitigation program is based on impact avoidance.

We recommend that the Forest Service classify these particular sections on mitigation as category #2 as defined by the Forest Plan: "minimize impacts by limiting the degree or magnitude of the actions and its implementation" and clarify that mitigation in this instance is not intended to imply a compensatory mitigation program that offsets impacts.

We note that other mitigation components described in the DEIS do refer to compensatory mitigation under category #3: "rectify impacts by repairing, rehabilitating, or restoring the affected environment." These measures include options to mitigate for the loss of wetlands through a compensatory mitigation program managed through the USACE's 404 permit. We recognize that wetlands mitigation under the 404 permit is under the authority of the Army Corps of Engineers and not the Forest Service, but the Forest Service still has an obligation to mitigate the impacts to surface resources it manages. The Supplemental DEIS should be more clear about which entity is responsible for which mitigation components and which category of mitigation shall be used.

Compensatory mitigation needs to include the following components: reasonable relationship to benefiting the public land resources where the impacts are occurring, durability

or effectiveness for the duration of the impacts, measurable outcomes and performance standards, and implementation and effectiveness monitoring and adaptive management.

Alternatives 1 and 2 in the DEIS include a proposal by Midas Gold to mitigate the temporary loss of motorized recreation opportunities from mine development through the creation of several miles of new OHV trails:

> An OHV trail from Horse Heaven/Powerline Road to Meadow Creek Lookout Road (FR 51290) would be constructed. The approximately 4.5 miles long, 15-foot-wide OHV Connector Trail, including 3 miles of new road would be a trail open to all vehicles, as defined in FSH 2309.18 – Trails Management Handbook, Chapter 20, Section 23.23. The OHV trail would be a Class 3 trail open to all motor vehicles, including both highway-legal and non-highway-legal vehicles. The OHV trail would provide motorized vehicle access to Meadow Creek Lookout Road (Figure 2.3-1). The OHV trail would be removed at the end of mine operations after a public access road connecting to Thunder Mountain Road (FR 50375) is established through the mine site (Section 2.3.7.5, Yellow Pine Pit/DRSF).

This proposal differs from standard compensatory mitigation in that it mitigates for the loss of motorized recreational experiences but does not actually "rectify impacts by repairing, rehabilitating, or restoring the affected environment; reduce or eliminate impacts over time by preservation and maintenance operations during the live of the action; or compensate for impacts by replacing or providing substitute resources or environments." In fact, the effects of this trail are likely to have additive negative impacts on the environment in addition to mine disturbance in terms of additional soil disturbance, habitat fragmentation, noxious weed spread, and displacement of wildlife and non-motorized recreationists. It is already proving impossible to avoid, minimize and mitigate for the negative impacts of the mine project on multiple surface resources and an additional trail would compound this damage. As such, the best option is not to construct it at all and avoid additional negative impacts.

vi. Stream Functional Assessment and Mitigation

Midas Gold proposes no net loss of function of wetlands and streams resulting from construction, operation, and reclamation of the Project after providing compensatory mitigation for unavoidable impacts to jurisdictional streams and wetlands due to the Stibnite Gold Project.

https://www.restorethesite.com/wp-content/uploads/2020/08/Mitigation-Measures-Proposed-by-Midas-Gold-as-Project-Design-Features-to-USFS_FINAL-08-13-2020.pdf

The Fisheries and Aquatic Resources Mitigation Plan included in Appendix D2 of the DEIS (Brown and Caldwell, Rio Applies Science and Engineering, Midas Gold 2019) describes mitigation measures for fisheries and aquatic resources. The Stream Functional Assessment (SFA) described in Appendix D is a key component of the project's mitigation and restoration program. While the SFA is presented in relation to the ACOE 404 permit on wetlands mitigation, the surface resources affected are still under that authority of the Forest Service and need to be thoroughly addressed in the DEIS which highlights the role that the Forest Service has regarding reviewing and requiring mitigation measures. The SFA model and restoration program was designed by Midas Gold and its contractors and seemingly approved by the Forest Service and USACE. The USFS had recommended that Midas Gold utilize the Watershed Condition Indicators Matrix in the Payette Forest Plan (USFS 2003.2010). While Midas Gold and its contractors based the SFA in part on the Watershed Condition Indicators, they did not strictly adhere to them, in a departure from consultation agreements with USFWS and NOAA Fisheries. The SFA involves a different methodology and was used by Midas Gold to represent baseline stream conditions in the project area and model stream functionality following restoration efforts.

The SFA describes eight different pathways that describe ways in which management actions can affect fish species and their habitats. The pathways include water quality, habitat access, habitat elements, channel conditions and dynamics, flow and hydrology, watershed conditions and fish use. Each pathway has one or more Stream Functional Indicators that affect the functionality of that pathway. There are a total of 21 Stream Functional Assessment indicators, 20 elements and 35 scoring criteria. Individual elements include temperature, pieces per mile of large woody debris, downstream physical barriers, number of features of off-channel habitat with cover, and floodplain connectivity, among others. Each indicator is rated on a scale of 1-3 (Functioning at Unacceptable Risk=1, Functioning at Risk=2, and Functioning Appropriately=3). The SFA is calculated per the following formula:

> The SFA Ledger functions by creating a weighted average of the available element scores per reach (Functional Index) multiplied by reach length (linear feet) and size (stream order) to develop a Functional Unit score. A number of filters or weighting factors can then be applied to the Functional Unit score. The functional unit is the mitigation currency proposed for the Stibnite Gold Project such that subtracting the functional units calculated for the baseline phase from the functional units calculated for any of the three proposed phases yields either a debit (negative difference) or credit (positive difference) for that phase of the project.
>
> FU = (Weighting or Filters) x (FI) x (Stream Length) x (Stream Order + 1)

Where: FU = Functional Unit, FI = Functional Index

Stream Functional Assessment Report, Stibnite Gold Project, Feb. 2019, Prepared by Rio ASE

Models such as the SFA can be extremely useful tools but they also have assumptions, biases and shortcomings, and the Forest Service has not adequately disclosed these with regard to the SFA model and mitigation program. We are particularly concerned that the SFA presents a more optimistic restoration vision of the project, downplays the absence of viable fish populations, and downplays the value of native migratory fish in its modeling.

The Forest Service presents this information in the DEIS but the Forest Service does not attempt to describe the thoroughness or adequacy of the SFA in representing current stream functionality or future stream functionality in the alternatives. The Forest Service also does not adequately describe the long or short-term effectiveness of these measures at restoring stream functionality or mitigating impacts. By including this section in the DEIS without additional analysis or context, the Forest Service is communicating to the public that the Forest Service is endorsing this program as being adequate and effective as presented. A properly constructed and implemented SFA can play an important role in crafting a responsible mitigation strategy and we encourage the Forest Service and Midas Gold to address the deficiencies in the current proposal.

While each watershed condition indicator is rated on a scale of 1-3 (Functioning at Unacceptable Risk=1, Functioning at Risk=2, and Functioning Appropriately=3), not all indicators are equal. Some watershed condition indicators, such as temperature and fish passage barriers, have a far greater ecological role than discrete structural components such as width-depth ratios, the number of pools or pieces of large woody debris per mile. This is because fish may be able to withstand or quickly move past areas that have poor ratings for some indicators but not others. Regardless of how highly stream structural factors such as width-depth ratios or pieces of large woody debris per mile are ranked, lethal temperatures or fish barriers can entirely preclude the possibility of native fish species inhabiting that area.

The Forest Service does not adequately describe how the indicators affect each other, how various filters were used to affect the SFA ledger, what assumptions were made, and how increasing some indicator units may decrease the other indicators. For example, there is an option to select fish presence/absence inputs and the ability to use occupancy models (which do not factor in the TSF as a fish passage barrier), which the Forest Service needs to account for in more detail.

From a restoration perspective, it is important to note that the cost associated with achieving an improvement is not the same for each indicator. By endorsing an assessment that

looks at watershed condition indicators individually and independently, the Forest Service has created an incentive to create a restoration plan that prioritizes indicators that are at a low cost to create and that deprioritizes indicators that are at a higher cost to create but which may be more ecologically important.

For example, the longer a length of stream is, the more opportunities there are to add individual restoration components such as pieces of coarse woody debris per mile, pools, and the number of features of off-channel habitat with cover, all of which increase the final SFA rating. As such, there is an incentive to increase the sinuosity or the number of meanders of any length of stream. The current undisturbed section of Meadow Creek within the upper part of the proposed TSF footprint does not exhibit a high number of meanders or off channel habitat that would be typical of lower streams. Because of the geomorphology of the area and the location of the stream in transitional terrain, this stream segment is relatively channelized, higher gradient and does not exhibit the off channel habitat that would be typical of lower gradient streams and is considered to be functioning acceptably.

However, the post-operations constructed sections of Meadow Creek on top of and immediately below the TSF are designed to have artificially large degrees of sinuosity. This added stream length allows for additional opportunities for large woody debris, pools and floodplain connectivity. The proposed stream design incorporates multiple opportunities for the restoration of discrete indicators. For example, the proposed stream design will incorporate off-channel habitat, increasing the ranking for that indicator from the current status of "none" to "many" post-closure. The result is a high SFA ranking.

However, it is possible to over emphasize one or more indicators at the expense of another. While streams with higher levels of stream sinuosity are generally regarded as having more ecological benefits than more linear segments, streams with extremely sinuous sections expose both the river substrate and the moving column of water are exposed to more direct sunlight. This temperature increase is particularly apparent in areas where riparian vegetation is absent or undeveloped and is particularly deleterious to fish that spawn in the summer or fall. Elevated water temperatures as a result of mining activities are a major issue both within the project area and downstream. These adverse effects are anticipated to persist in perpetuity and the TSF stream restoration plan may be playing a role. From the way the SFA was structured, making adjustments to decrease the water temperature or provide for fish passage could result in a lower SFA calculation, despite the greater ecological benefits from doing so.

Because mine tailings are a fine slurry, it makes sense from an engineering perspective to have the impoundment a relatively flat design. If a valley is filled with mine tailings, the topography for any mountain stream will change from high gradient to low gradient and will likely have more meanders if allowed to.

However, even in a tailings environment, it is important to create sufficient gradient to avoid pooling or ponding which could lead to the compression of unconsolidated tailings underneath. The presence of earth-moving equipment on site would allow the proponent to make adjustments in the gradient of the tailings surface so it more closely resembles the current stream conditions and potentially resolve some temperature issues.

The SFA and mitigation measures should be designed to replace lost functional elements while continuing to provide habitat for fish species. Indicators such as large woody debris and access to off site habitat appear to be favored over managing stream temperatures, regardless of the fact that such indicators will be of little use to native fish if fish cannot survive elevated water temperatures.

vii. Modeling anadromous fish presence in the TSF

Another issue is that most of the watershed condition indicators and pathways are calculated independently of the ability for fish to access the constructed stream. The SFA gives an area high marks for habitat, even though there may be no possible way for fish to access this habitat. For example, a technical memorandum calculates that there will be an increase in usable habitat for steelhead, increasing from 17,898 meters to 19,303.6 meters. One notable reason for the increase in habitat is the restoration of the Meadow Creek on top of the TSF/DRSF. However, steelhead will have no way of accessing this habitat, as it would be blocked by a 430' waste rock dam:

> Notable increases in usable steelhead IP habitat would occur in Year 12 (EFSFSR restoration on YPP) and Year 17 (restoration of Meadow Creek on TSF/DRSF) (Figure 9). However, the restored sections on top of the TSF/DRSF would not have volitional access. Stibnite Gold Project Proposed Action Intrinsic Potential Model – Technical Memorandum, P. 15.

Technical memoranda continue to state that the habitat above the TSF is available for westslope cutthroat trout, bull trout and steelhead, even though the constructed stream would be offset by 446" of elevation and the drop between would not allow for fish passage. The technical memorandum on fish passage barriers describes the results:

> The Meadow Creek TSF/DRSF blocks Chinook salmon and bull trout critical habitat starting in Year 18 (Tables 2 and 3) (Figure 4). Under Alternatives 1 and 2, the Meadow Creek TSF/DRSF blocks 5,509 meters of Chinook salmon critical habitat and 4,667 meters of bull trout habitat (Tables 2 and 3) (Figure 4). These areas are blocked in perpetuity. Stibnite Gold Project Fish Passage Barriers, Critical Habitat, Intrinsic

> Potential, And Occupancy Models Impacts – Technical Memorandum, P. 22.

Even if these issues were corrected, we are concerned that the way the factors were ranked and integrated together do not actually reflect the actual ecological values of this area or the ecological functioning of the project area following operations. Migratory fish provide innumerable ecological benefits in terms of transferring nutrients and energy, in addition to how human society values their presence and abundance.

The high-ranking score of the post-closure SFA is the equivalent to an AirBNB review that has five stars for the kitchen, living room, bedroom and bathroom but neglects to disclose that there are no stairs.

The current SFA rubric regards fish as but one of several factors and the persistence of migratory native fish are just one unit to consider. The continued persistence of native fish species should be a baseline requirement for all SFA goals, and not just one integer to be toggled with producing a calculation that shows a net gain on paper. The ecological winners and losers from the mitigation plan are not adequately disclosed to the public. The way the Forest Service portrays the SFA shows a net ecological benefit accruing on Year 16, but does not break this down into effects per individual Watershed Condition Indicators or the larger cumulative and long term effects on native fish populations, which is one of the defining issues for the Stibnite Gold Project. For example, the fact that a perfectly implemented mitigation plan will permanently preclude migratory fish and contributes to adverse water temperatures for fish is not accurately or sufficiently disclosed to the public.

viii. Transparency about prioritizing indicators

Midas Gold has a clear goal of demonstrating a positive number in the SFA ledger at the end of mining operations and doing so in a way that reduces costs. The Forest Service does not do a sufficient job disclosing how the project proponent went through the process of emphasizing one indicator over another, which indicators remain Functioning at Unacceptable Risk or Functioning at Risk, and whether these rankings are justified.

We note that several agencies also appear to have expressed concerns about the SFA scoring concerns. A technical memorandum from Rio Ase and Brown and Caldwell to Midas Gold recounted these concerns (Stream Functional Assessment Scoring Concerns Addressed: Stibnite Gold Project, May 20, 2019 from Rio Applied Science and Engineering; Brown and Caldwell, Inc. to Dan Kine, Midas Gold, Inc.).

> Following submittal of the February 28, 2019 version of the SFA Ledger, multiple meetings were held with the agencies to discuss the SFA Ledger

development and initial results. During these meetings, several questions and concerns were raised by the agencies regarding the development of the SFA element scoring criteria. Many of these questions and concerns were addressed as part of the April 15, 2019 SFA Ledger Workshop, but several concerns remained. The purpose of this technical memorandum is to provide additional justification/rationale and/or to propose changes to the scoring criteria used within the SFA Ledger to address the remaining agency concerns regarding SFA scoring methodology.

During the April 15, 2019 SFA Workshop, the agencies expressed concerns regarding the following SFA scoring methodologies (including summary of agency concern):

- Standardized scoring metrics (not all elements are appropriate for all reaches)
- Scoring for diversions and lined channels (insufficient impact and/or excessive benefit in SFA)

Additionally, the agencies accepted the proposed SFA element scoring criteria for 10 of the 17 SFA elements except the following (including summary of agency concern):

- Fish Passage Barriers (reach ratings for activities not occurring within reach)
- Large Woody Debris (LWD; scoring for LWD recruitment)
- Pool Frequency (scoring threshold determination/justification)
- Pool Quality (scoring threshold determination/justification)
- Off-Channel Habitat (scoring for reaches that don't typically have off-channel habitat)
- Riparian Conservation Area (RCA) and Disturbance History (clarify definition, measurement, and scoring)

For each of these elements, the technical memorandum summarizes each of the agency concerns, proposes a solution, and provides a justification. Although some changes are made to the scoring metrics for some elements, in 5 cases the solution was to provide additional justification/support. It is unclear if the agency concerns were ever fully addressed.

ix. Temporal deficit

Even if the SFA calculations accurately related to stream functionality and ecological health (which we do not believe they do), negative effects will outweigh compensatory

mitigation measures until at least Year 16 of operations. This temporal gap means that the ecosystem benefits of functional Waters of the United States and resulting ecological integrity of the area will be degraded for that duration of time. Normal mitigation programs make up for temporal disconnects by implementing a compensatory mitigation program in advance that is sufficient to maintain at least a neutral ecological rating.

Mitigation measures proposed by Midas Gold that are compensatory and not just designed to reduce the impacts include the following:

> Midas Gold will improve fish passage conditions in the steep and woody debris-clogged portion of the EFSFSR stream channel just upstream from the confluence with Meadow Creek/The steep and woody debris-clogged portion of the EFSFSR stream channel just upstream from the confluence with Meadow Creek (Rio ASE 2019b). It is believed that this segment of stream may inhibit upstream movement of adult Chinook salmon, and improvement of passage conditions may improve access by adults to potentially important spawning areas identified upstream, especially in the lower-gradient meadow section just upstream
>
> Midas Gold will improve fish passage along the Burntlog Route within the Stibnite Gold Project area by identifying and replacing existing collapsed, undersized, or otherwise degraded or poorly designed culverts at road crossings and committing appropriate resources to fix and improve these structures.
>
> Midas Gold will stabilize and restore Blowout Creek. Blowout Creek wetland restoration will consist of restoring and enhancing palustrine aquatic bed (PAB), palustrine emergent (PEM), Palustrine scrub-scrub (PSS) wetlands that were impacted when a historical dam failed on Blowout Creek. Headcutting and shallow aquifer dewatering have impaired and reduced functions of the wetland vegetation classes. A grade control and groundwater cutoff structure is proposed to raise the water level in Blowout Creek as well as recharge the shallow groundwater system and reduce stream headcutting. Midas Gold will stabilize the steep, confined, erosive middle reach to address the significant fine sediment load currently produced from this reach and restore the downstream, relatively low-gradient reach.
>
> Repair and rehabilitate habitats adversely affected by historical mining impacts in the Stibnite Gold Project area

> In addition to elimination of roads, proposed stream reclamation and enhancement projects throughout the site will reclaim riparian vegetation, improving composition, structure, and function over existing conditions
>
> The diffuse groundwater discharge on the DRSF face and extending out from the toe will be used to establish wetlands.

It is unclear if these measures alone will be able to make up for that temporal deficit. On the last point, we have concerns about the water quality discharging from the DRSF face.

x. Effects of expanded mining on mitigation temporal gap

Another shortfall of both the DEIS and SFA is how the compensatory mitigation program will be affected by continued or expanded mining operations. Continued mineral exploration as part of the Golden Meadows Plan of Operations is expected to occur and the Stibnite Gold Project includes an underground exploration plan. It is too soon to say if these exploration efforts will yield economically recoverable amounts of gold, however, if they do, the Forest Service should disclose how the Plan of Operations and accompanying mitigation measures may be affected. The functional credits associated with the stream construction on the TSF do not appear until later in mine operations. If mine exploration results in the need to continue to utilize the tailings storage facility or other key infrastructure components, the ecological uplift will be delayed and the negative effects of the degraded area will continue and potentially increase.

Any problems with the fish passage tunnel or trap and haul proposals will continue and could result in lower and lower ecological returns. While anadromous fish may be able to withstand short-term negative effects because of their life cycle, they may not be able to deal with prolonged negative impacts.

Midas Gold has made the fish passage tunnel one of the centerpieces of its mitigation program, even if the tunnel is an interim phase:

> The tunnel represents an important part of the overall Stibnite Gold Project environmental mitigation measures by enabling re-establishment of a volitional migratory pathway for anadromous fish to spawning grounds upstream of the pit. Target fish species that will benefit from fish passage would include Chinook salmon (Oncorhynchus tshawytscha), steelhead (O. mykiss), and bull trout (Salvelinus confluentus).

https://www.restorethesite.com/wp-content/uploads/2020/08/Mitigation-Measures-Proposed-by-Midas-Gold-as-Project-Design-Features-to-USFS_FINAL-08-13-2020.pdf

However, the U.S. Fish and Wildlife Service (USFWS) notes, in a letter to Midas Gold dated October 3, 2019, "[E]ven after close consultation and collaboration with NMFS, meeting applicable NMFS passage criteria and guidelines, and executing all potential adaptive management measures, there exists a reasonable probability that the project will not be able to volitionally pass fish safely, timely, or effectively (USFWS 2019)" Stibnite Gold Project Fish Passage Barriers, Critical Habitat, Intrinsic Potential, And Occupancy Models Impacts – Technical Memorandum, p. 6. The Forest Service needs to account for this discrepancy in the Supplemental DEIS.

In addition, section 2-76 states that mitigation measures and monitoring actions would not be known fully until required permits have been issued, as mentioned on 2-76. The Forest Service needs to account for these misgivings, disclose them to the public, and develop one or more contingency plans in the Supplemental DEIS.

xi. Mitigation ratios

The DEIS has not conducted a thorough review of the ratios needed to fully offset impacts. A study led by Robb, 2002, found that restoration success varied depending on the different types of wetlands involved, with some wetland types having failure rates as high at 87%. The study concludes that mitigation ratios should be adjusted based on the type of wetland involved and the previous failure rates: "These results suggest that federal and state regulatory agencies would have to require minimum mitigation ratios of 3.5:1 for palustrine forested, 7.6:1 for wet meadow, 1.2:1 for shallow marsh, and 1:1 for open water to compensate for the risk of failure. Additional mitigation may be needed to offset the effects of temporal loss of wetland function." Robb, J.T. Wetlands (2002) 22: 435. The study also highlighted the importance of compliance and enforcement. The Supplemental DEIS needs to describe the failure rate for the different wetland types being restored and adjust the mitigation ratios and long term monitoring and enforcement plans accordingly.

xii. Durability and maintenance of mitigation measures

The DEIS and SFA need to articulate how mitigation measures wil be maintained over time. For example, large woody debris is defined as woody material greater than 12" in diameter and greater than 35' in length and is a component of healthy fish habitat. The SFA has two indicators for large woody debris: number of pieces per mile and potential for future recruitment. The post-restoration SFA rankings relied on the ability to place a large number of large woody debris in constructed stream segments. However, the SFA rankings also reflected the fact that there was no recruitment potential for new large woody debris. At some point in

the next 20-100 years, the deliberately placed large woody debris will decompose to the point that it is no longer serving that ecological function and there will be no opportunity to naturally recruit new large woody debris. As a result, the SFA ranking will decrease over time. The revegetation and maintenance plan allows for the natural establishment of conifers along the reconstructed stream. The TSF liner is designed and to be placed at such a depth so that conifer growth will not compromise the functionality of the liner. However, it remains unclear if conifer establishment will be successful or sufficient to meet large woody debris requirements. This means that in order to be consistent with the mitigation requirements set by the Forest Service and Army Corps of Engineers, Midas Gold will have to plan and set aside funding to monitor and then physically replace large woody debris in these reaches if needed.

xiii. Mitigation or best management practices?

The DEIS presents mitigation as a variety of practices ranging from avoiding impacts to offsetting them but it is unclear in the DEIS how they determined which mitigation measures should be automatically incorporated as best management practices and which ones should be discretionary or considered as potential mitigation measures. In considering the Plan of Operations, the Forest Service has an obligation to make sure that minerals operations shall be conducted so as to minimize adverse environmental impacts on NFS surface resources (ES-5). The DEIS lists a number of mitigation measures that will provide potential environmental advantages. However, many of these were not carried forward as an integral part of action alternatives because the Forest Service and Midas Gold had deemed that "these measures align more closely with mitigation measures and were considered as potential mitigation measures in the Draft EIS" (EIS section 2-145):

> 2.8.7 Pit Water Management Alternatives Two potential component options for management of pit water were evaluated including:
>
> • An engineered structure including a head gate and pipe would be placed in the bottom of the West End pit to convey water from the pit bottom into West End Creek.
>
> • An engineered structure including a head gate and pipe would be placed in the bottom of the Hangar Flats pit to convey water from the pit bottom into Meadow Creek.
>
> These potential component options each met the purpose and need and were considered technically and economically feasible. These two component options did offer some potential environmental advantages over Alternative 1 related to temperatures of water discharged downstream. However, neither was carried forward as the measures align

> more closely with mitigation measures and were considered as potential mitigation measures in the Draft EIS. (EIS section 2-145)
>
> The remaining component options (reducing the size of the Hangar Flats DRSF and placing the development rock into the Yellow Pine pit and Hangar Flats pit and relocating the Fiddle DRSF GMS) were considered as potential mitigation measures. (EIS section 2-144)

The Surface Water Management Alternatives also identified mitigation design features and them reclassified as discretionary:

> Four potential surface water management component options were evaluated for inclusion as a component alternative including:
>
> The post-closure Meadow Creek channel would be constructed with a series of step pools on the outslope of the Hangar Flats DRSF to promote fish passage.
>
> Each of these potential component options met the purpose and need. The post-closure Meadow Creek channel constructed with step pools on the outslope of the Hangar Flats pit was not carried forward as a component option but could be considered as a mitigation measure, if appropriate. (2-144 and 145).

We note that a required design feature could involve constructing the post-closure Meadow Creek channel with step pools on the outslope of the Hangar Flats pit to promote fish passage (2-144 and 145). However, this component was not carried forward as a component option but instead may be considered as an optional mitigation measure:

> The post-closure Meadow Creek channel constructed with step pools on the outslope of the Hangar Flats pit was not carried forward as a component option but could be considered as a mitigation measure, if appropriate. (2-144 and 145).

Elevated water temperature remains a critical issue. In the development of alternatives, the Forest Service considered two potential component options for management of pit water. These included piping water from West End pit to West End Creek or Meadow Creek (2-144):

> Two potential component options for management of pit water were evaluated including:

> • An engineered structure including a head gate and pipe would be placed in the bottom of the West End pit to convey water from the pit bottom into West End Creek.
>
> • An engineered structure including a head gate and pipe would be placed in the bottom of the Hangar Flats pit to convey water from the pit bottom into Meadow Creek.
>
> These potential component options each met the purpose and need and were considered technically and economically feasible. These two component options did offer some potential environmental advantages over Alternative 1 related to temperatures of water discharged downstream. However, neither was carried forward as the measures align more closely with mitigation measures and were considered as potential mitigation measures in the Draft EIS. (2-144).

The DEIS is presenting these as discretionary measures instead of including them as part of baseline operations as required by 36 CFR 228, subpart A: "All operations shall be conducted so as, where feasible, to minimize adverse environmental impacts on National Forest surface resources."

The Forest Service needs to articulate the decision making process by which some mitigation measures are automatically incorporated into alternative development, which ones are considered separately as potential mitigation measures, and which ones have been dropped from further consideration.

The Forest Service states that all listed mitigation measures will be required unless otherwise noted in the Record of Decision. It is still unclear how potential mitigation measures are to be considered.

Also, it appears that the public will not know which mitigation measures will be required until the ROD is released, which is after the DEIS comment period:

> Unless noted otherwise in the Record of Decision, the Stibnite Gold Project design features, resource protection measures, and mitigation measures are required. If it is determined in the analysis in Chapter 4, Environmental Consequences, that the Stibnite Gold Project design features are not sufficient to avoid and/or Environmental Impact Statement 2-82 reasonably minimize the potential impact, then additional mitigation measures could be identified to further reduce the potential adverse effects. (2-81)

Given the numerous adverse effects listed in Chapter 4, it does not appear that the listed mitigation measures will be sufficient. The Forest Service needs to reconsider all mitigation measures that have been advanced as optional, reconsider mitigation measures that were dropped from further consideration, rank them in terms of effectiveness and advance them for further discussions in the SDEIS.

ix. Durability of site protection instruments

Midas Gold is exploring a number of site protection instruments to protect and abide by its mitigation commitments.

> Site Protection Instruments (from Conceptual Stream and Wetland Mitigation Plan Stibnite Gold Project Valley County, Idaho U.S. Army Corps of Engineers File Number: NWW-2013-0321, March 29, 2019, page 5-1 in Appendix D).
>
> > The Mitigation Rule, 33 CFR 332.4 (c)(4), requires that a compensatory mitigation plan include a description of the legal arrangements and instruments, including site ownership, that would be used to ensure the long-term protection of the Mitigation Area. Per 33 CFR 332.7 (a), long-term site protection must also, to the extent appropriate and practicable, prohibit incompatible uses that might otherwise jeopardize the objectives of the compensatory mitigation. Long-term protection may be provided through real estate instruments such as conservation easements; deed restrictions (restrictive covenants); transfer of title to federal, tribal, state, or local resource agencies, non-profit conservation organizations, or private land managers; or multi-party agreements (USACE 2016). Federal agencies, including the USFS, are typically precluded by law from recording easements or restrictive covenants on their lands. On USFS-managed lands, long-term protection may be provided through Conservation Land Use Agreements, Forest Management Plans, or Memoranda of Understanding (USACE 2016).
> >
> > As stated in 33 CFR 332.2 (a)(3), "credits for compensatory mitigation projects on public land must be based solely on aquatic resource functions provided by the

> compensatory mitigation project, over and above those provided by public programs already planned or in place". There are no other mitigation or enhancement projects currently planned for public lands within the Mitigation Area. Midas Gold anticipates that the private lands upon which compensatory mitigation would be conducted (i.e., the Mitigation Area) will be protected in perpetuity through either a conservation easement or deed restrictions (i.e., adding a restrictive covenant to the deed that prohibits or limits certain uses of the Mitigation Area) or a similar instrument, or transferring the title to a natural resource management or other governmental agency, land trust, land management entity, or another non-profit entity deemed acceptable to the USACE. These protective covenants and/or restrictions would be enacted upon completion of any authorized exploration, mining, reclamation, and restoration activities.
>
> Public lands within the Mitigation Area would be protected through either a Conservation Land Use Agreement, which is an agreement that would allow compatible uses but would restrict other uses that are incompatible with compensatory mitigation; or through inclusion of the Mitigation Area in the PNF LRMP (USFS 2003/2010). The LRMP would identify the extent of the Mitigation Area on USFSmanaged land and would identify suitable and incompatible management activities within the Mitigation Area. Midas Gold proposes that it or its designated contractor(s) would perform long-term maintenance of the Mitigation Area as necessary (Section 12) in perpetuity once the final performance standards are met, or until such responsibility is relinquished to an appropriate third party (e.g., USFS). The final Compensatory Mitigation Plan for Streams and Wetlands will detail the specifics for site protection for streams and wetlands on both public and private lands.

For areas that are covered by the USACE mitigation program, we recommend that the Forest Service and DOI conduct a mineral withdrawal and amend the Forest Plan to reflect these areas are highlighted for restoration. See example below.

> A Forest Plan amendment is needed/BLM action is needed for a permanent mineral withdrawal from mitigated wetlands. This has occurred recently on the Salmon-Challis National Forest in restored wetlands along Dump Creek near Salmon, ID. The three primary objectives for the Dump Creek withdrawal are to
>
> 1. Continue to protect the integrity of the reclamation and watershed stabilization work that was completed for the Dump Creek Project in 1978
> 2. Preserve the existing groundwater regime with respect to the constructed diversion channel.
> 3. Protect the diversion channels and improvements made to the site including the diversion structure, gabion drop structures, fence, and riparian bank stabilization.
> 4. The proposed parcel would be withdrawn from mineral entry under the 1872 Mining law. The Bureau of Land Management (BLM) in the Department of Interior is responsible for withdrawing public lands from mineral entry. Where these lands are administered by the Forest Service, the BLM processes withdrawals at the request of the Chief of the Forest Service, after review, to verify that segregation is reasonable and necessary.

https://www.fs.usda.gov/nfs/11558/www/nepa/101162_FSPLT3_2434589.pdf

Finally, as discussed in other sections in these comments, the Forest Service failed to adequately address mitigation and monitoring measures for multiple other impacts. The Forest Service should correct these deficiencies and then release a supplemental or revised DEIS allowing for meaningful public comment.

Missing and incomplete information

Table 4.1-1 of the DEIS includes a list of incomplete and unavailable information that is relevant to reasonably foreseeable significant adverse impacts and that is essential to a reasoned choice among alternatives. This table supports our request for a Supplemental DEIS. Our own review of the DEIS revealed many other topics are also missing important information and analyses. This missing and incomplete information is often listed in our comments under each subject heading. In addition to the examples referenced in each subject heading, below is a list of other items that should be provided and/or addressed in a Supplemental DEIS:

i. Mine Plan of Operations

Although Alternative 2 is, in practical effect, the proposed project for which Midas Gold is seeking approval, it does not appear that Midas Gold has submitted a revised plan of operations premised upon this alternative.

The IDWR safety plan for the Tailings Storage Facility has not been made available for public review and comment.

The link to IDL's best management practices for Mining in Idaho, 1992, in the footnote at the bottom of page D-1 is not active. This information describes the Best Management Practices for mining.

Details regarding road construction design, infrastructure such as bridge engineering, and the location and scale of gravel pits are not included in the DEIS. Specific avalanche control measures are not provided and effects of nitrates from ammonium nitrate on the environment are not disclosed for avalanche control, road construction or blasting.

ii. Geology and geochemistry

The DEIS is missing an appendix of geochemistry, lab data for acid base accounting, and a table of schedule and volume and lithologies to be mined from each pit each year along with supporting materials in mine schedule.

STRATA Inc., Geologic Hazard Assessment. Proposed Burntlog Access Road Alignment Valley County, Idaho (2016). This route will go through critical habitat for bull trout and geologic instabilities may adversely impact this threatened species.

iii. Fisheries

Impacts to all non-salmon/trout species. Mountain whitefish (Prosopium williamsoni). We note that suckers (Catostomus sp.), anadromous Pacific lamprey (Entosphenus tridentatus) and other important fish, freshwater insects, algae, and other primary producers are all critical elements of the food webs supporting salmonids. Ignoring impacts to salmonid food webs is equivalent to ignoring impacts to salmonids at large.

The DEIS does not include a steelhead productivity analysis. Snake River steelhead are a Forest Service sensitive species and ESA-listed as a threatened fish species. Including this information is critical for the Forest Service to comply with its NEPA, NFMA and ESA requirements. Productivity analyses were included for other threatened fish species.

A bullet on bull trout is missing from Stream Temperature Impacts to Fish - Technical Memorandum, section 4.3.1, p. 21. This section includes effects on Chinook salmon, steelhead and cutthroat trout. Bull trout are a listed fish species and need to be evaluated similarly.

There is a discrepancy in two summaries in the Stibnite Gold Project, Fish Passage Barriers, Critical Habitat, Intrinsic Potential, and Occupancy Models Impacts, - Technical Memorandum. Section 2.1 states that "Postclosure, only the human-created (artificial) Meadow Creek TSF/DRSF blockage would limit access to Chinook salmon and bull trout (Table 3)," page 6. However, the summary on p. 14 of the Technical Memorandum reads that "No Chinook salmon habitat would be blocked by the TSF/DRSF, because flows are insufficient to meet the wetted width minimum threshold for IP habitat (Table 6)."

Table 4.11-66 displays a variety of pertinent information regarding impacts to fisheries. However, there is additional information contained in the DEIS that should also be included in this table so the public can understand the potential effects. Bull trout are particularly sensitive to water temperature. Temperature impacts to bull trout from Alternative 2 are listed in section 4.12-128 in Table 4.12-39 : Lengths of Stream Reaches within Temperature Threshold Categories. This shows that there is a 12.87 km or 8 mile loss in total available habitat for bull trout under Alternative 2. The lengths of stream reaches within temperature threshold categories needs to be described for other alternatives and should be presented along with the other factors on Table 4.12-66.

iv. Other

Furthermore, there are several key issues that will not be resolved by the October 28 comment deadline. The Idaho legislature has not yet approved Rules Governing Mined Land Reclamation, IDAPA 20.03.02 Docket 20-0000-2000F. These rules encompass the following issues, many of which are directly relevant to the Stibnite Gold DEIS:

- determining surface impacts of underground mines;
- setting fees for reclamation plans;
- incorporating water treatment and post-closure activities in reclamation plans, as needed;
- requiring that all reclamation tasks in a plan be completed and covered by financial assurance;
- estimating actual cost of reclamation and post-closure activities;
- allowing additional types of financial assurance, such as corporate guarantees and trusts; and

- reviewing every plan at least once every five years.

This rulemaking will also address cyanide closure plans, prompted by amendments to IDAPA 58.01.13, Rules for Ore Processing by Cyanidation by the Idaho Department of Environmental Quality.[303]

In addition, the Idaho Department of Environmental Quality is still in the negotiated rulemaking process for Ore Processing by Cyanidation, Docket No. 58-0113-1901. This rulemaking will determine several key issues, including which type of liner system will be utilized for the Stibnite Gold Project.

Both these rulemakings will determine key project design features. In order to submit informed comments on the Stibnite Gold Project and its environmental effects, we will need to wait until after the comment periods on these negotiated rulemakings close.

WSR comments on Stibnite Gold Project

Impacts to eligible, suitable, and congressionally designated Wild & Scenic Rivers warrant additional analysis

I. Intent of the Wild and Scenic Rivers Act

The Wild and Scenic Rivers Act (WSRA) seeks to protect and enhance a river's natural and cultural values and provide for public use consistent with its free flowing character, water quality, and preservation of its "outstandingly remarkable values" (ORVs). The WSRA is perhaps our most important tool to ensure that future generations experience the free-flowing and ecologically intact Idaho rivers that we cherish. Wild and Scenic River designations provide important benefits to aquatic habitat and species[304] and provide protection for the incredible recreational benefits of outstanding rivers. Wild and Scenic Rivers positively impact local communities and provide psychological, social, ecological, and economic benefits[305].

US Forest Service management responsibilities related to the Wild and Scenic Rivers Act

In accordance with Section 5(d)(1) of the Wild and Scenic Rivers Act (PL 90-542, 1968) and the USFS 2012 Planning Rule (36 CFR Part 219), the Forest Service is required to assess rivers under its management jurisdiction and determine whether these rivers are eligible for inclusion in the National Wild and Scenic Rivers System (NWSRS) by applying standardized criteria through a documented study and evaluation process.

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[303] https://www.idl.idaho.gov/news/rulemaking/minerals-rulemaking-for-idapa-20-03-02/

[304] Rothlisberger, S. T. (2017). *The Role of Wild and Scenic Rivers in the Conservation of Aquatic Biodiversity.* International Journal of Wilderness.

[305] Smith and Moorre. (2011). *Perceptions of Community Benefits from Two Wild and Scenic Rivers.* Environmental Management (2011) 47:814-827

Rivers deemed “eligible” for inclusion must be “free-flowing” and possess at least one outstandingly remarkable value, which can be scenic, recreational, geological, fish, wildlife, historic, cultural, hydrological, paleontological, scientific, and other ORVs.

Rivers and streams on federal lands which are found to be eligible for inclusion in the National Wild and Scenic Rivers Act System must be preserved in their free-flowing state as well as have their water quality and ORV(s) protected until such a time as a “suitability” evaluation and subsequent decision is made.

From 1997-2003, the Forest Service inventoried all of the named streams on the Boise, Payette and Sawtooth National Forests and determined that three streams within the proposed SGP area are free-flowing, possess one or more outstandingly remarkable values (ORVs) -- making them eligible for inclusion in the NWSRS and granting them protections to safeguard these characteristics. These three streams deemed to be eligible in this study process are Burntlog Creek (Boise National Forest), Johnson Creek (Boise National Forest), and the South Fork Salmon River (Boise and Payette National Forests). Subsequent to the aforementioned eligibility study process, the South Fork Salmon River was deemed to be suitable for inclusion in the NWSRS. The North Fork and Main Payette Rivers are also eligible for inclusions in the NWSRS, though these rivers were not considered within the scope of analysis in the DEIS

Furthermore, Burntlog Creek, Johnson Creek, and the South Fork of the Salmon River are headwaters for the congressionally designated Wild and Scenic Main Salmon River. Unfortunately, the DEIS fails to acknowledge or adequately consider how impacts resulting from the SGP may significantly impact and impair congressionally designated Wild and Scenic Rivers outside of the immediate project area, including impacts to these rivers that may result from degradation of other rivers and streams in the immediate vicinity of the project are that are not deemed suitable or eligible for inclusion in the NWSRS. While the Forest Service has direct legal responsibilities to protect eligible and suitable rivers within the immediate vicinity of the project area, the agency must also adequately consider impacts to rivers and streams that are not suitable or eligible for inclusion in the NWSRS if the degradation of those waters may result in impairment to congressionally designated WSR outside of the project area.

Below, we outline areas of potential impairments to the aforementioned rivers and streams which are afforded legal protections derived from the WSRA.

II. Overview of impacts and insufficient analysis related to WSRA protected rivers and streams

All action alternatives in the DEIS will negatively impact rivers and streams deemed to be eligible or suitable for inclusion in the NWSRS in the immediate vicinity of the project area including Burtlog Creek, Johnson Creek, and the South Fork Salmon River. Action alternatives in the DEIS may also result in negative impacts to eligible rivers outside of the immediate vicinity of the mine project area, including the North Fork Payette and the Main Payette River. Furthermore, the SGP may also harm congressionally designated Wild and Scenic Rivers including the Main Salmon and Middle Fork Salmon rivers which are also outside of the immediate project area.

Unfortunately, the DEIS fails to adequately consider impacts and mitigation measures for eligible and suitable streams directly within the vicinity of the SGP area and in many instances fails entirely to address impacts to other eligible streams and congressionally designated WSR outside of the immediate project area. This failure to take a "hard look" at the potential impacts to these resources warrants additional analysis.

III. Affected rivers

The DEIS fails to adequately characterize the designated, eligible, and suitable Wild and Scenic Rivers that would be affected by the Stibnite Gold Project.

A. The South Fork of the Salmon River

The South Fork of the Salmon River is one of our nation's premier multi-day whitewater rivers.[306] Paddlers typically spend 2-5 days descending the river's remote gorge. At low flows characteristic of early spring, late summer, and fall, the river provides a scenic and technical Class III(IV) paddling experience. Medium flows provide a delightful Class IV run. At high flows the South Fork offers some of the best big-water paddling on the continent, attracting paddler from across the United States and beyond. No matter the flow, paddlers are treated to solitude, superb scenery, excellent fishing, backcountry camping, and an excellent whitewater paddling experience. The lack of a lottery-based permit system allows paddlers to opportunistically enjoy the South Fork with ease and predictability, while many other multi-day runs are off limits paddlers unsuccessful in lottery applications.

The Payette National Forest has rightly found 63 miles of the South Fork suitable for Wild and Scenic designation. The Forest has found "The 63 miles of the South Fork Salmon River within the administrative boundary of the Payette NF are worthy of recognition within the National Wild and Scenic River System. This river segment represents a premier example of a river with outstandingly remarkable values (FEIS, Appendix J). As a major tributary to the already designated Salmon River, the South Fork supports whitewater recreation opportunities, supports populations of anadromous fish, contains some of the most remarkable cultural and

[306] See: https://www.americanwhitewater.org/content/River/view/?#/river-detail/621/main

historic properties in Idaho, and has outstanding geological and botanical features through the river corridor."[307]

The Forest's Wild and Scenic Eligibility findings further bolster the river's unique values protected under the Forest Plan. "The SFSR has outstanding white-water boating and nationally recognized fishing opportunities during premier steelhead and chinook salmon seasons. The river corridor also provides recreation opportunities that include hunting, hiking, camping, and snowmobiling. The many hot springs along the river corridor are beautiful and provide the visitor with a remote soaking experience."[308]

Goal WSGO01 in the Payette National Forest Plan requires the Forest to "Manage river segments that are eligible or suitable for potential addition to the National Wild and Scenic Rivers System to meet the requirement of the Wild and Scenic River Act," and Objective WSOB01 requires the Forest to "Emphasize the following in managing eligible and suitable Wild and Scenic Rivers: a) Maintaining or enhancing the outstandingly remarkable values; b) Maintaining the free-flowing character; c) Maintaining or enhancing values compatible with the assigned classification; and d) Accommodating public use and enjoyment consistent with retaining the river's natural values."[309] These plan components stem from Sections 5, 7, and 10 of the Wild and Scenic Rivers Act.

All action alternatives in the DEIS would impact and risk the Wild and Scenic values of the South Fork Salmon River that the Forest Service is required to protect based in large part on the Forest Plan. The proposed mine threatens to severely impact the recreational[310] and fisheries[311] outstanding remarkable values of the river, in direct contravention of WSOB01.

B. Middle Fork Salmon River

The Middle Fork Salmon River is world renowned for its wilderness character, scenery, wildlife, fisheries, whitewater, and more. Congressionally designated in 1968 under the Wild and Scenic Rivers Act as a Wild River, it runs 103 miles from the confluence of Marsh Creek and Bear Valley Creek to the Main Salmon River, almost entirely within the Frank Church River of No Return Wilderness. ORV's include Scenery, Recreation, Geology, Fish, Water Quality, Wildlife, Vegetation/botany, Prehistory, History, and Traditional Use/Cultural.

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[307] 2003 Payette National Forest Land and Resource Management Plan, Record of Decision. ROD-12.
[308] See Wild and Scenic Suitability Report, J-34.
https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5196592.pdf
[309] 2003 Payette National Forest Land and Resource Management Plan, Record of Decision. Chapter 3: Management Area Description and Direction, Pg. III-75
[310] See Summer Recreation comments in this document
[311] See O'Neal fisheries report

The immense scale of the Stibnite Gold Project, including access roads, will likely cause far-reaching impacts to Wild and Scenic values beyond the area of analysis provided in the DEIS. Alternatives 1, 2, and 3 will rely on the newly developed Burntlog Road for access to the mine site, with significant portions of the road on the high divide that separates the South Fork Salmon and Middle Fork Salmon River watersheds. The Middle Fork of the Salmon River, one of the original eight designated Wild and Scenic Rivers, will potentially be affected by activities conducted by the Stibnite Gold Project. Light, visual, water, and dust pollution are direct effects that could harm ORV's on the Middle Fork Salmon. Portions of the Burntlog Route lie within the watershed of the Middle Fork Salmon River, so any potential spill of hazardous materials could potentially enter a tributary stream[312]. This potential project related impact to a tributary of the Middle Fork Salmon River calls for a Section 7 Study under the Wild and Scenic Rivers Act. In addition, wildlife is an ORV that could be affected by the mine project's activities along Burntlog Route, as many of the animals that characterize this ORV are migratory and populations are likely to travel near or across Burntlog Road. Even considering that the project activities will occur outside of the quarter mile protected buffer along the Middle Fork Salmon, the DEIS must acknowledge and analyze the potential impacts to ORV's and describe mitigation plans.

C. Main Salmon River

In July of 1980, the Main Salmon River was designated by congress as a component of the Wild and Scenic Rivers System. The 46 mile segment from North Fork to Corn Creek is designated as recreational, while the 79 mile stretch from Corn Creek to Long Tom Bar is designated as a wild river. The Main Salmon River has numerous outstandingly remarkable values including Scenery, Recreation, Geology, Fish, Water Quality, Wildlife, Vegetation/botany, Prehistory, History, and Traditional Use/Cultural. Recreation opportunities on the Wild segment of the river are so highly sought after that the summer rafting season has a permit lottery system. They are 33 commercially permitted outfitters that take thousands of guests down this stretch of river each year[313]. The Main Salmon River is a major economic driver for the region, and visitors to the main Salmon alone spend $13.5 million annually in the local area, supporting 95 jobs and $2.4 million in annual labor income. [314]

The South Fork of the Salmon, a major tributary, joins the Wild and Scenic Main Salmon River near Mackay Bar, and contributes to the hydrologic regime for the remaining 20 miles the boundary of the designated segment of wild river. There are several migratory fish species that utilize both the Main Salmon and South Fork Salmon Rivers are migration corridors and habitat, including Pacific Lamprey, White Sturgeon, Chinook Salmon, Steelhead, and Bull Trout. These rivers are ecologically connected. To protect and enhance the Fish ORV on the Main Salmon River, considering the migratory nature of these species, headwaters streams such as the South Fork Salmon River watershed must be considered.

[312] See Lubetkin (2020) report on transportation spill risks
[313] 2020 Salmon River Outfitter and Guide List.
[314] Salmon Challis National Forest Assessment Report 2018, p. 26

The Stibnite Gold Project will directly affect multiple tributaries to the South Fork Salmon River, which feeds into the WSR Main Salmon. The DEIS is correct at 3.23-14 that a WSRA Section 7 study is required to analyze impacts to the designated WSR Salmon River. Still, the DEIS fails to recognize the Wild and Scenic Main Salmon as a potentially affected resource by the Stibnite Gold Project. The proposed mine, and Yellow Pine Route access route (temporary in Alternatives 1,2,3, and primary access in Alternative 4), occur on the East Fork South Fork Salmon River, which feeds into the South Fork Salmon and into the Main Salmon River at the confluence at Mackay Bar. Any spill of contaminants and other impacts to water quality have the potential to adversely affect Wild and Scenic values of the Main Salmon River. In addition, the Main Salmon has an ORV for fish because of the four ESA listed species that rely on the Main for habitat and migration. The DEIS recognizes in Chapter 4 that ESA listed chinook salmon, steelhead, and bull trout will be adversely affected by the project. These are migratory fish species that utilize the Main Salmon river corridor as a migration route, and contribute to this identified ORV. Any negative impacts to water quality, habitat, and fish passage has the potential to negatively impact the fish ORV for the WSR Salmon River. Therefore, a Supplemental DEIS must analyze the impacts that the Stibnite Gold Project's alternatives will have upon Wild and Scenic values on the Main Salmon River, specifically from the confluence with the South Fork Salmon and downstream to Long Tom Bar.

"In comparison to other rivers in the region, the water quality of the Salmon River is exceptional. The river provides exceptionally high water quality for a variety of beneficial uses including resident and anadromous fish habitat and exceptional recreation opportunities for thousands of people who come to float the Salmon River every year to enjoy its clean, clear water. Water quality is an outstandingly remarkable value."[315]

D. Burntlog Creek

Burntlog Creek was deemed to be eligible for inclusion in the NWSRS for having an Outstandingly Remarkable Value for fish: "This is a Pacfish/Infish priority watershed that supports spawning and rearing habitat for wild native chinook salmon and steelhead, cutthroat, redband, and bull trout." (Appendix D, WSR Eligibility Report). The river segment from headwaters to junction with FR447 (Sec 27 T 16N R8E) is an eligible Recreational segment. The river segment from the junction with FR447 (Sec 27 T 16N R8E to the confluence with Johnson Creek is an eligible Wild segment.

As readily acknowledged in the DEIS, road construction and project developments associated with the SGP may negatively impact water quality and consequently harm Burntlog Creek's ORV for fish. Burntlog Creek would be crossed by all project related traffic that travels the Burntlog Route in Alternatives 1,2, and 3. The DEIS states that Alternatives 1,2, and 3 may impact water quality, adversely impact ORVs, and adversely impact Wild classification of Burntlog Creek (4.23-44 DEIS). Yet the DEIS does not adequately quantify impacts or explain how these impacts will be mitigated so that Burtlog Creek's eligibility for inclusion in the NWSRS is not impaired.

[315] USFS. (2000). Middle Fork of the Salmon River Resource Assessment.

Additionally, the DEIS notes that "detailed baseline information on existing water quality in Burtlog Creek has not been compiled for the SGP" (3.23-21). Absent water quality baselines being established, it will not be possible for the Forest Service to know whether potential impacts from project development may violate the Forest Service's responsibility to protect Burtlog Creek's eligibility status.

E. Johnson Creek

Johnson Creek was determined to have an ORV of heritage and is deemed as an eligible Recreational segment from Bear Creek to Hansen Creek is an eligible Recreational segment: "There are twelve to fourteen historic sites and ten prehistoric sites on Johnson Creek that are eligible for listing on the National Register. They consist primarily of homestead and sites associated with the Thunder Mountain gold rush, circa 1900-1904. Two of these sites are Forest Service administered compounds: Johnson Creek Guard Station, built in the 1920s and Landmark Ranger Station, built in the 1930s by the Civilian Conservation Corps. One of the Forest's most spectacular sites, a biface cache 4,000 to 6,000 years old, is located in this area." (Appendix D, WSR Eligibility Report).

The DEIS also states, "The existing Idaho Power Company Line 328 (transmission line) was built to service the Stibnite Mine during World War II and is recognized as a contributing Heritage resource under which Johnson Creek is eligible (Forest Service 2013). This transmission line is proposed for replacement with a higher-capacity line as part of the SGP" (3.23-22).

Figure ES2-1 (ES-11 DEIS), ES2-2 (ES-15 DEIS), and ES2-3 (ES-19 DEIS), do not illustrate tributaries to Johnson Creek as streams or rivers. The legend for this map includes a blue line that symbolizes "Stream/River". Burntlog Creek is an eligible Wild and Scenic River that would be crossed by all project related traffic that travels the Burntlog Route in Alternatives 1,2, and 3. The DEIS states that Alternatives 1,2, and 3 may impact water quality, adversely impact ORVs, and adversely impact Wild classification of Burntlog Creek (4.23-44 DEIS). Considering these impacts, and Burntlog Creek's WSR eligible status, Burntlog Creek must be recognized and illustrated as a "Stream/River" in the aforementioned figures in the DEIS.

The DEIS does not include a sufficient scope of analysis for access routes in connection with operations, and the relationship to WSR values along access routes.

F. North Fork Payette River and Main Payette River

The North Fork Payette River and Main Payette River were found eligible for Wild and Scenic designation. These roadside river segments essentially parallel Highway 55, the Payette National

Wild and Scenic Byway[316], providing easy access and high quality on river recreation experiences close to both Valley County and the Treasure Valley. Both river segments have a preliminary classification as Recreational rivers, and are managed to protect recreation ORV's. The Boise National Forest Plan describes the North Fork Payette's ORV classification

The Boise Forest Plan calls for maintaining or enhancing river-related recreational experiences when possible. This direction is particularly relevant in this eligible Wild and Scenic River corridor:

> Manage the North Fork Payette River and Payette eligible corridors to their assigned Recreational classification standards, and preserve their ORVs and free-flowing status until the rivers undergo a suitability study and the study finds them suitable for designation by Congress, or releases them from further consideration as Wild and Scenic Rivers. General Standard 0901.

The North Fork Payette, along the segment managed as an eligible Wild and Scenic River, has annually hosted the North Fork Championship[317] since 2012, an elite level whitewater kayaking competition that attracts professional athletes from throughout the world.

The eligible segments of the North Fork of the Payette and Main Payette Rivers flow adjacent to a planned travel corridor for the Stibnite Gold Project, and thus must be included in the scope of analysis in the DEIS. According to the DEIS at 4-16.8, two-thirds of mine related traffic will travel to Warm Lake Road via Highway 55 from south to north on Highway 55, adjacent to the Main and North Fork Payette River, both eligible Wild and Scenic Rivers. Therefore, impacts to WSR values to these rivers must be included and analyzed in the DEIS. Highway 55 (a National Scenic Byway) lies within the management area to protect the NF Payette's Wild and Scenic values. The North Fork Payette River is in Boise National Forest. The North Fork of the Payette is listed both in the Nationwide Rivers Inventory and the Boise National Forest Plan as an eligible Wild and Scenic River. Boise National Forest manages the Main and North Fork Payette Rivers to protect water quality, Wild and Scenic recreational river classification, and ORV's. Additional analysis must be completed to assess the impacts of mining related traffic adjacent to the North Fork Payette River. In example, how will this additional heavy vehicle traffic affect the recreational experience? How might the risk of hazardous material spill on transportation routes along this river segment impact ORV's?

Payette National Forest Management Direction

- General Standard 0901 Manage the North Fork Payette River and Payette eligible corridors to their assigned Recreational classification standards, and preserve their ORVs (outstandingly remarkable values) and free-flowing status until the rivers undergo a suitability study and the study finds them suitable for designation by Congress, or releases them from further consideration as Wild and Scenic Rivers.
- Emphasize the following in managing eligible and suitable Wild and Scenic Rivers:
  a) Maintaining or enhancing the outstandingly remarkable values;
  b) Maintaining the free-flowing character;

[316] http://payetteriverscenicbyway.org/
[317] https://northforkchampionship.com/

c)Maintaining or enhancing values compatible with the assigned classification; and d)Accommodating public use and enjoyment consistent with retaining the river's natural values. Objective WSOB01.
https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5394129.pdf

The DEIS lacks adequate spill and transportation risk analysis and the potential impacts to water quality and ORV's of potential and designated Wild and Scenic Rivers.

Hazardous spills along mine access routes have serious potential to impact Main Payette, NF Payette, South Fork Salmon, Johnson Creek, and Burntlog Creek; all rivers managed to protect water quality and ORV's. The DEIS fails to address this risk and its relationship to Wild and Scenic river values. The attached report on transportation corridor risks hazardous materials spills finds the following relevant conclusions[318].

- The DEIS defined area for assessing hazardous material impact risks does not extend beyond the access roads even though "national highways would be used to transport materials to the SGP area as far as Cascade, Idaho" (USFS 2020, p. 4.7-4).
- "In addition to increased traffic from mine vehicles, the amount of fish habitat and number of streams potentially impacted by their proximity to roadways used for mine-related transportation (Table 12), the SGP DEIS acknowledges the transportation corridor can potentially affect water quality by spills of fuels and other hazardous materials, and fugitive dust from vehicles driving on the haul roads and SGP access roads (USFS 202, p. 4.9-1)."[319]
- "Cascade, Idaho is not currently a hub for the manufacturing, storage, or distribution of many industrial reagents used in mining. Therefore, although the analysis area for hazardous materials only includes the mine site and haul roads on it, the SGLF, access roads from Cascade to the mine site, and associated streams that might be impacted, the USFS (2020, p. 4.7-4) notes that "national highways would be used to transport materials to the SGP area as far as Cascade, Idaho." There was no attempt in the DEIS to characterize points of origin for the reagents that will be needed or destinations for the mine products, either those for sale or waste materials."[320]
- "Instead of only considering the transportation corridor from SH-55 at Cascade to the mine site, the true measure of the communities and environment at risk will extend to the distribution points of the reagents brought to the mine and the destinations of the ore concentrate and wastes taken from it."[321]

[318] See Lubetkin 2020.
[319] See Lubetkin 2020 p. 32
[320] See Lubetkin p. 63
[321] See Lubetkin p. 73

- "Section 9 of this report shows that there is a 46-58% chance of at least one hazardous material spill during the 12-year operating life of the Project within the analysis area as defined in the SGP DEIS, a probability that grows to 96-99% when the larger extent of the true transportation corridor is considered. This report has not included any information on spill size distribution, so I cannot speculate on how many spills would qualify as serious as defined by PHMSA or meet a biologically significant threshold."[322]
- **The full extent of our comments on this issue can be found at the attached report[323].**

Impacts to public access of potential Wild and Scenic Rivers within the study area are not evaluated or analyzed in the DEIS[324].

The DEIS must include Wild and Scenic Suitability Studies of Johnson Creek and Burntlog Creek as Reasonably Foreseeable Future Actions in the discussion of cumulative impacts in Chapter 4.

All action alternatives would impact WSR values of Johnson Creek, and Alternatives 1, 2, and 3 would impact WSR values of Burntlog Creek. These action alternatives cannot be approved without causing harm to WSR values. As already described in these comments, the DEIS states that this would trigger a suitability study of these rivers, and Appendix D includes a suitability study of Johnson Creek as a planned mitigation measure. Therefore, a discussion of the proposed Suitability Study of both rivers must be included in the DEIS Executive Summary and Chapter 4, 4.1.5.2 Reasonably Foreseeable Future Actions, so that the public is well informed of these planned actions.

- 40 CFR § 1508.7 Cumulative impact.
  - *"Cumulative impact* is the 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."
- 36 CFR § 220.4 - General requirements.
  - "The final analysis documents an agency assessment of the cumulative effects of the actions considered (including past, present, and reasonable foreseeable future actions) on the affected environment."

The DEIS should include an action alternative that minimizes impacts eligible, suitable, and designated WSR values.

[322] See Lubetkin p. 108
[323] See Lubetkin 2020.
[324] See "Summer Recreation" comments within this document

- All action alternatives in the DEIS may harm WSR values. A supplemental DEIS should include an alternative that would minimize harm to WSR values.

The DEIS lacks mitigation measures to address potential impacts to water quality, ORV's, and classification of eligible, suitable, and designated Wild and Scenic Rivers.

- The only mitigation measure found in Appendix D is to "conduct a suitability study for the Johnson Creek eligible river corridor to its assigned Recreational classification standards prior to project implementation." This is not a mitigation measure under the definition provided by CEQ. As discussed in these comments, a suitability study of affected potential Wild and Scenic Rivers must occur prior to the DEIS for the proposed project, or included within the analysis document.

IV. WSR Suitability Studies

A. Suitability studies of affected potential Wild and Scenic Rivers must be conducted and included in a supplemental DEIS or another NEPA analysis. The study must be conducted prior to the completion of the Final EIS and Record of Decision for the Stibnite Gold Project to allow for public scoping and comments, following NEPA requirements and Forest Service directives for a suitability report.

Due to the adverse impacts of SGP upon WSR ORV's, the DEIS proposes that the Forest Service will conduct a WSR suitability study for affected streams and make suitability determinations prior to SGP implementation. This is simply not feasible, and it contradicts interagency guidelines for Wild and Scenic study processes. Furthermore, suitability studies must be conducted through a NEPA process prior to analyzing a proposed project that would affect WSR values, not the other way around. WSR Suitability Studies require a separate NEPA process, and the SGP project is expected to have a ROD by third quarter of 2021. If any action alternative in the DEIS is approved, this would violate the Wild and Scenic Rivers Act, Forest Service Directives, and established interagency guidelines.

Chapter 4 of the DEIS at 4.23.2.7 states that ORV's of WSR eligible rivers may be adversely impacted by all action alternatives for Johnson Creek, and by Alternative 1,2, and 3 for Burntlog Creek. There, it also states that "Under the WSR Act, impacts to ORVs of eligible waterways would trigger WSR suitability studies for those waterways". The DEIS also states in Appendix D that a proposed mitigation measure is to "Conduct a suitability study for the Johnson Creek eligible river corridor to its assigned Recreational classification standards prior to project implementation".

In the 1999 technical report "The Wild and Scenic River Study Process" by the Interagency Wild and Scenic Coordinating Council, it concludes that the suitability study must be conducted as part of the NEPA process for the proposed project, or in a separate study prior to the NEPA analysis for the proposed project.

- "For agencies where WSR evaluation was not completed in the land use plan, or through separate analysis, individual river(s) must be evaluated in site-specific (project-level) planning if the project might jeopardize the river's eligibility for WSR designation. The river is assessed as a part of the NEPA analysis for the site-specific project, or through a separate study conducted as a precursor to analysis of the proposed activity."[325].

This same report also states that "the time frame for completion of a river study conducted in a site-specific plan is also typically two to three years."[326]. Both the Interagency Wild and Scenic Coordinating Council, and Forest Service directives, describe that a suitability study, conducted under Section 5(d) of the WRSA, requires a separate NEPA analysis. This analysis will require a scoping period, regardless of the analysis document[327]. The Interagency Wild and Scenic Coordinating Council also notes that this suitability study "is typically accompanied by an environmental document, normally an environmental impact statement (EIS), which describes the ORVs and identifies significant issues, public concerns, tentative boundaries and classifications, alternatives and impacts, and appropriate protective management prescriptions and mitigation measures."[328]

In order to address these issues, the Forest Service must complete a separate NEPA analysis to fully consider the the suitability of Burntlog Creek and Johnson Creek, both Forest Service identified eligible Wild and Scenic Rivers, or include such an analysis in a Supplemental DEIS for the Stibnite Gold Project. This must occur prior to the FEIS and ROD to allow for public scoping and a comment opportunity, and sufficient analysis under NEPA.

V. References

Interagency Wild and Scenic Rivers Coordinating Council. (1999). The Wild and Scenic River Study Process; A technical report of the Interagency Wild and Scenic Rivers Coordinating Council.

Interagency Wild and Scenic Rivers Coordinating Council. (2018). A Compendium of Questions and Answers Relating to Wild and Scenic Rivers.

USFS. (2000). Middle Fork of the Salmon River Resource Assessment.

Rothlisberger, S. T. (2017). The Role of Wild and Scenic Rivers in the Conservation of Aquatic Biodiversity. International Journal of Wilderness.

[325] Interagency Wild and Scenic Rivers Coordinating Council. (1999). The Wild and Scenic River Study Process; A technical report of the Interagency Wild and Scenic Rivers Coordinating Council.
[326] Ibid
[327] 36 CFR 220.4(e)(1)
[328] Interagency Wild and Scenic Rivers Coordinating Council. (2018). A Compendium of Questions and Answers Relating to Wild and Scenic Rivers.

Smith and Moorre. (2011). Perceptions of Community Benefits from Two Wild and Scenic Rivers. Environmental Management (2011) 47:814-827

Bureau of Business and Economic Research, The University of Montana. (2018). USDA Forest Service Region 1 2018 social survey: Methods summary - revised. Missoula, MT: U.S. Department of Agriculture, Forest Service, Region 1

CONCLUSION

In conclusion, none of the organizations submitting these comments have ever commented on a proposal with such potential far-reaching or long-lasting negative effects. The social, economic and ecological issues that this project will impact - public health, quality of life, sustainable rural economic development, water quality, threatened fish species, habitat critical to salmon and bull trout recovery, to name a few - are core values to our communities. As noted in our comments, the DEIS does an woefully incomplete job describing these values and analyzing the direct and indirect effects to them.

The massive volume of contaminants that will be mobilized by the Stibnite Gold Project is unprecedented in terms of recent mining projects in Idaho. There are no examples of mining projects of this scale and complexity in this type of geography that have not experienced toxic releases to the environment. Toxic releases from mining activities such as this can be chronic, catastrophic or both, and can persist for centuries. The stated goal of properly containing and managing these toxic materials in perpetuity are not at all supported by the analysis provided in the DEIS, nor is the stated goal of restoring the site to reflect a net environmental benefit. As recounted in our comments, the amount of missing and incomplete information in the DEIS is discomfiting and any decisions based on this DEIS are likely unlawful. We have identified a plethora of shortcomings in the environmental analysis and included recommendations for addressing them.

In addition to significant and unacceptable impacts within the project area, the project's unique geography places several large tracts of Idaho's landscape at risk. Contaminants associated with mining activities have the potential to be transported great distances. The transportation corridor from Boise through Cascade or from Lewiston through McCall to the mine site places the communities and recreational activities along this swath at risk. The mine's location at the headwaters of the East Fork South Fork Salmon means that surface and groundwater contaminants have the potential to affect water quality and aquatic ecosystems far downstream. The mine's location on the border of the Frank Church River of No Return Wilderness means that airborne contaminants are likely to be carried into the Wilderness and the Wild and Scenic Middle Fork Salmon River.

Many members of the public who have conducted intensive reviews of the project found significant flaws with the mine plan and analysis. These close reviews have led to significant public opposition to the project on the local, regional, statewide and national levels, as well as numerous calls to extend the comment period. While we appreciate the 15-day extension, a project of this complexity warrants a full 120-day review and comment period.

We urge the Forest Service to withdraw the DEIS for the proposed Stibnite Gold Project, reissue a revised Supplemental DEIS to address the issues raised in these and other comments, recommence the process of public notice, and host a 120-day public review and comment period, and comment.

Thank you for your consideration of these comments.