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October 7, 2023

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Submitted via: <https://stibnitmine.azurewebsites.net/>

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Re: Public comment on the Application for Permit (NWW-2013-00321) Stibnite Gold Project, Valley County

Thank you for the opportunity to comment on the permit application, submitted by Perpetua Resources pursuant to Section 404 of the Clean Water Act, for the proposed Stibnite Gold Project (SGP), a massive cyanide leach gold mine proposed in the headwaters of the South Fork of the Salmon River watershed. The comments below are submitted on behalf of the undersigned organizations, including Save the South Fork Salmon, Idaho Conservation League, Idaho Rivers United, and Earthworks.

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. Earthworks mission is to protect communities and the environment against the adverse impacts of mineral and energy development, while seeking sustainable solutions.

According to the Public Notice, the proposed Stibnite Gold Project will impact approximately 111,000 linear feet of perennial, intermittent and ephemeral streams, 145 acres of wetlands, and 5 acres of other waters (Yellow Pine Pit Lake). These resources would be adversely impacted by overall mining operations that include pit excavation, development rock storage facilities, a tailings storage facility, ore processing and support facilities, road construction, and transmission line construction.

Further, the Supplemental Draft Environmental Impact Statement (SDEIS) predicts adverse impacts to tribal rights and interests from the SGP under either alternative, including preventing access to traditional lands, harming traditional fishing and hunting rights, impacting endangered salmon and concerns that it would harm the tribe's salmon restoration efforts.

As described in detail below, our review finds that the Public Notice (PN), Draft Environmental Impact Statement (DEIS), SDEIS and supporting documents do not contain sufficient information to support a reasonable judgment that the proposed discharges will comply with the 404(b) guidelines. Further, the SDEIS demonstrates that the proposed Stibnite Gold Project fails to meet core elements of the guidelines, such as:

- 1) causing or contributing to violations of water quality standards,
- 2) causing or contributing to significant degradation of waters of the United States,
- 3) failing to consider a reasonable range of alternatives,
- 4) failing to demonstrate that it won't jeopardize the continued existence of species listed as threatened under the Endangered Species Act or result in the likelihood of the destruction or adverse modification of critical habitat,
- 5) failing to demonstrate that the proposed project is in the public interest and honors tribal treaty rights, and
- 6) failing to demonstrate compensatory mitigation.

At the outset, it appears that the U.S. Army Corps of Engineers has a conflict of interest in its review and issuance of this permit due to the enormous amount of federal funding - \$40 million - provided by the Department of Defense (DOD) to Perpetua Resources to advance permitting of the proposed mine. As an agency under the jurisdiction of the DOD, the Corps cannot serve in an unbiased capacity with respect to this permit. **For that reason, we ask that the U.S. Environmental Protection Agency step in to assert its independent jurisdiction over this permit via its oversight authority under Section 404 of the Clean Water Act.** Thus, these comments are addressed to both the Corps and EPA.

At a minimum, having the Department of Defense provide funds to Perpetua before the Corps' NEPA, CWA, and Tribal consultation processes are completed presents a troubling case of inappropriate pre-ordained decision-making. *Metcalf v. Daley*, 214 F.3d 1135, 1144 (9th Cir. 2000)(where an agency enters into an agreement prior to preparing the NEPA document, the document and agency review "might be subject to at least a subtle bias" and thus must be discarded). The NEPA process must be "done under

circumstances that ensure an objective evaluation free of the previous taint.” *Id.* at 1146 (setting aside decision due to NEPA violations, and ordering agency to re-start the NEPA process and prepare a new environmental assessment before issuing a new decision). A pre-existing agreement "eliminate[s] the opportunity to choose among alternatives." *Id.* at 1143. See also *American Wildlands v. U.S. Forest Service*, CV-97-160-M-DWM (D. Mt 1999) (holding that normal deference to agency decision making is inapplicable "if the objectivity of the agency decision making is questionable" and that "[o]therwise, there would be no check on the ability of an agency to circumvent environmental laws by simply going through the motions and conducting environmental assessments on the basis of predetermined or presupposed findings"). Here, this situation presents “a classic Wonderland case of first-the-verdict, then-the-trial.” *Metcalf* at 1146.

Sincerely,



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## **I. Project Description**

The revised Plan submitted by Perpetua in October 2021, is considered to be the Proposed Action, also known as the 2021 Modified Mine Plan (MMP), and would consist of cyanide leach mine operations, including an open pit hard rock mine and associated processing facilities, located within Valley County in central Idaho on federal, state, and private lands. The SGP would have a projected life (construction, operation, closure, and reclamation), not including post-reclamation monitoring, of approximately 20 years, with active mining and ore processing occurring over approximately 15 years. The following mine components would be common to the revised plan and the two action alternatives:

- Mine pit locations, areal extents, and mining and backfilling methods
- Transportation on existing and proposed roads
- Pit dewatering, surface water management, and water treatment
- Ore processing
- Lime generation
- Tailings storage facility (TSF) construction and operation methods
- TSF buttress construction methods
- Water supply needs and uses
- Management of mine impacted water and stormwater runoff
- Stibnite Gold Logistics Facility (SGLF)
- A road maintenance facility
- Surface and underground exploration
- Worker housing facility

The SDEIS analyzes just one action alternative for the mine plan and two alternatives regarding access from Landmark, Idaho to the mine site. The 2021 MMP alternative would utilize the Burntlog Route as the primary access during the last year of construction, mining and ore processing operations, and closure and reclamation. The Burntlog Route Alternative would be 38 miles long, would require improving 23 miles of existing roads and constructing 15 miles of new roads, and would be the second highest road in Idaho that is maintained year-round. The Johnson Creek Route Alternative would use the existing Johnson Creek Road from Landmark to Yellow Pine and the existing Stibnite Road from Yellow Pine to the mine site at Stibnite. This alternative would require upgrading sections of these roads, would add two years of construction time and would not require any new road construction.

## **II. The Project Purpose is Too Narrow and Restricts a Reasonable Range of Alternatives.**

According to the SDEIS (p. ES-2), the Corps has determined that “The overall project purpose is to mine gold, silver, and antimony from ore deposits associated with the SGP.” It states that the overall purpose will be used for evaluating practicable alternatives under the 404(b)(1) Guidelines. (ES-2).

The purpose and need is too narrowly defined to allow for a reasonable range of alternatives to be considered. By defining the purpose specifically to mine gold, silver, and antimony from ore deposits associated with the SGP, the alternatives screening dismisses an alternative for mining minerals in another location, or from a different mine pit or underground mine layout. Further, it dismisses alternatives that focus on a smaller range of minerals.

The narrowly defined purpose precludes consideration of less damaging practicable alternatives as is required under the statute. For projects that are not water dependent, like Stibnite, the Corps is required to presume alternatives that do not destroy wetlands are available under CWA regulations “unless clearly demonstrated otherwise.” However, the narrow project purpose excludes such potential alternatives, including deposits elsewhere in Idaho or the U.S., including those with different secondary minerals.

The SDEIS (p. 2-2) considered only one action alternative for the mine plan: the 2021 MMP (Perpetua’s proposal); and one alternative regarding access from landmark, Idaho to the mine site. While the Johnson Creek Route Alternative considers a different access route to the site, there is no other difference. As the SDEIS states: “The mining portion of this alternative would be the same as the 2021 MMP.” *Id.* While alternative access routes are an important consideration, it is “the mining portion” of Perpetua’s proposal which will have the greatest number of, the most severe, and the longest lasting environmental impacts. Yet, the SDEIS fails to consider any alternatives related to any aspects of “the mining portion” of Perpetua’s proposal. To consider a reasonable range of alternatives, the Corps must consider one or more alternatives to “the mining portion” of Perpetua’s proposal, such as alternatives to: mine pit locations and extents; mining and backfilling methods; pit dewatering, surface water management, water treatment, ore processing, and tailings storage facility (TSF) construction and operation. These are major, controversial issues with huge and lasting environmental implications; yet, the SDEIS did not consider any alternatives with any difference when it comes to these issues.

As set forth below, the SDEIS failed to consider a reasonable range of alternatives, and it improperly dismissed viable alternatives from consideration. For example, the SDEIS did not provide adequate justification for eliminating underground mining as an alternative. Unlike the Feasibility Study, which aggressively promoted the possibility for underground mining to potential investors, the SDEIS avoided serious discussion of underground mining as a possibility. Underground mining is declared to be uneconomic, but there is no quantitative information provided in the SDEIS to defend that supposition. Underground mining should be viewed first as a potentially environmentally preferable alternative. Underground mining would mean less waste disposal on the surface, and less disruption of existing surface water flows, while still allowing removal of the existing source of contamination proposed for the open pit mining alternative. In the haste to eliminate underground mining as a consideration, a potential environmentally preferable option was not being properly analyzed.

Further, the SDEIS did not include an alternative that examines a dry stack tailings facility or a mining footprint limited to the existing footprint of previous disturbance. Given the significant negative issues of placing the Tailings Storage Facility in the upper Meadow Creek streambed, wetlands, and RCAs, the Corps should analyze an alternative that essentially limits tailings production to the volume that can be safely stored without inundating wetlands, RCAs or streams. Thus, the limiting factor for mining would be tailings storage. Once all the suitable, non-sensitive areas are used for tailings storage sites, mining would cease.

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 SDEIS should compare this with the cost of dealing with a catastrophic dam failure, leakage, contamination, and effects of downstream public health and fisheries issues.

Related to reducing the footprint of mine operations, the SDEIS failed to assess how utilizing 85 ton mine trucks instead of 200 ton mine trucks would reduce the size of the roads that would be needed to support mine operations.

Given Perpetua's recent statements that antimony production is one of the primary goals and the grant from the Department of Defense, the analysis should include an alternative emphasizing antimony recovery. In the SDEIS, it is noted that only 15 to 20% of the total mill feed would contain sufficient antimony mineral grades to warrant production of antimony concentrate. We suggest developing an alternative focused on only developing the ore that contains high antimony mineral grades. This mineralized area would still contain some gold and silver but could dramatically reduce the footprint, wetlands impacts, and water treatment costs. Perpetua has already received a subsidy to mine this material so there is no longer a need to fully fund this project through gold extraction.

As an alternative to the proposed transmission line route from Johnson Creek substation to the mine site along an old and revegetated transmission line route from the 1940's, the alternatives analysis should include an alternative that constructs this transmission line along the Johnson Creek/Stibnite Road. This route would avoid the need to clear a 100-foot swath of vegetation for 9.1 miles and reconstruct a new access road and also make transmission line maintenance and decommissioning easier. Another ROW alternative that should be considered is the old Thunder Mountain Road. The road prism is in place but water management features such as water bars are needed.

The SDEIS failed to include an alternative that considers early closure or long-term cessation of mining activities due to the sequence of ore production anticipated for the SGP and/or inherent volatility of gold prices. Perpetua's 2021 Feasibility Study indicates that Mill Feed and Gold Head Grade peaks at production year 4 before sharply declining for the remaining 11 years of the life of the mine. Notably, while the average gold grade (g/t) declines over time, the amount of development rock that must be removed to reach the lower grade ores increases. In short, the SGP becomes a less profitable mining operation over time. Given uncertainty in gold, silver, and antimony prices, early closure is a reasonably foreseeable possibility for the SGP. Even if an early closure alternative is not developed, the SDEIS must address how long the mine will remain idle (i.e., in "care and maintenance") before the operator is required to enter a permanent closure phase. This is critically important because the anticipated "backfilling" of both the Hangar Flats Pit and the Yellow Pine Pit as well as other reclamation activities (backfilling the Midnight Pit) rely on development rock mined from the SGP's lowest grade deposit within the West End Pit. If mine sequencing fails to follow that which is proposed in the 2021 MMP, the whole plan falls apart and the Payette National Forest is back to square one with even deeper and more giant holes in the ground than currently exist. Failure to plan is planning to fail. The SDEIS and Corps must consider and evaluate plans for early closure at critical mining phases that if not achieved would significantly impact the mine operator's ability to perform proposed restoration and reclamation actions—actions this SDEIS assumes are events that *will* occur.

The Corps and the SDEIS should also consider the development of an alternative that emphasizes 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 developing and including a fully developed analysis of a Restoration Emphasis Alternative (REA).

As recounted in these comments, there are a number of other significant resource issues that will be adversely affected by the proposal that should have been the basis for the development of additional alternatives. These resource issues include the destruction of whitebark pine trees, degradation of the Frank Church River of No Return Wilderness (FCRNRW), wetlands, and water quality, the mobilization of arsenic in the environment, and the lengthy and unknown rate of restoration and ecological recovery after the mine's closure.

Further detailed comments on alternatives analysis are included in the 2023 SDEIS comments, and technical comments from Dr. David Chambers, 2023 (CSP2). These are also discussed below in Section VIII with respect to the Corps' analysis and choice of the Least Environmentally Damaging Practicable Alternative (LEDPA).

### **III. Aquatic Resources of the EFSF Salmon River Watershed**

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 River. Most of the South Fork Salmon and many sections of its tributaries have been deemed eligible and suitable for designation under the Wild and Scenic Rivers Act by the U.S. Forest Service.

It continues to boast critically important spawning habitat for migratory fish, including ESA-listed species. Populations of Chinook salmon, steelhead, and bull trout in the EFSFSR are threatened; Snake River spring/summer Chinook were listed as threatened under the Endangered Species Act ("ESA") in 1992, Snake River basin steelhead were listed as threatened under the ESA in 1997, and Columbia River bull trout were listed as threatened under the ESA in 1998.

Recognizing the importance of these aquatic resources, federal agencies, tribes, and other organizations have expended significant efforts to improve the ecological health of the watershed. The South Fork Salmon watershed is a cornerstone in ongoing efforts to restore threatened Chinook salmon and steelhead to Idaho and contains some of the best remaining spawning habitat last in the entire Snake River Basin.

### **IV. Aquatic Resources Impacts Documented in the SEIS**

Our organizations have reviewed the Corps Public Notice NWW-2013-00321, dated August 8th, 2023 (PN), and associated application materials which identify discharges of dredged or fill material associated with the proposed Stibnite Gold Project. In addition to the information that is presented in the PN, our organizations have also reviewed, evaluated, and provided comments on the August 2020 Draft Environmental Impact Statement (DEIS) and the most recent October 2022 Supplemental Draft Environmental Impact Statement (SDEIS) that provide additional detail on impacts associated with the proposed SGP and the impacts outlined within the PN.

Between these documents, there are some rather substantial discrepancies in the data presented which make it difficult to accurately assess and evaluate the impacts the proposed project will have on the aquatic resources associated with the SGP.

For instance, there are four different figures in regard to the impact on streams in linear feet, two of which occur within the PN itself. In Table 2-2, Summary of LEDPA Analysis, it is stated that ModPRO2 will



result in **111,468** linear feet of streams impacted. Later in this document, on page 4-1, the two figures of impacts to streams within the South Fork Salmon River drainage and the North Fork Payette River drainage total **111,737** linear feet.<sup>1</sup>

In the Compensatory Stream and Wetland Mitigation Plan (CMP), there is yet another figure for the total linear feet of streams impacted. Tables 8-1a and 8-1b present impacts on streams over the life of the project. Here, the sum of both tables is **111,869** linear feet between both primary drainages impacted by the proposed project under ModPRO2.

Within Chapter 4.11 of the SDEIS evaluating the environmental consequences of the SGP on wetlands and riparian resources, there is again another discrete figure in regard to the total linear feet of impacted streams. Tables 4.11-1 and 4.11-2 list the impacts on wetlands and streams on and off-site respectively. The sum of the stream impacts from these two tables totals **107,404.2** linear feet, the fourth different figure that is available for analysis.

This same issue occurs when comparing the figures presented for wetlands in terms of impacted acres. Within the Corps PN, Table 2-2, Summary of LEDPA Analysis, it is stated that **150.4** acres of wetlands will be impacted by actions within ModPRO2. Within the SDEIS and the accompanying Wetland Specialist Report, the total acres impacted by ModPRO2 would be **196.1** acres.<sup>2</sup> This same discrepancy is found within the CMP<sup>3</sup> document as well.

Discrepancies aside, the proposed actions within ModPRO2 will have significant impacts on the riparian and aquatic resources associated with the SGP including:

- The permanent loss of up to 196.1 acres of wetlands,
  - 120 acres of which would be lost represent 28% of the 429 acres of total wetlands within the EFSFSR headwaters,
- Loss of 1054.4 wetland functional units,
  - Approximately 357.9 of which are listed as high-value wetlands,
- Loss of over 900 acres of Riparian Conservation Areas with new roads bisecting 39 total individual wetlands resulting in additional impacts,
- Impact up to 111,869 linear feet of streams, some of which provide critical habitat for ESA listed Chinook Salmon and bull trout,
  - 43% of streams within the Assessment Area in the SFSR drainage will be impacted,
  - 41% of streams within the Assessment Area in the North Fork Payette River drainage will be impacted,
- Additional indirect impacts that have not been quantified from:
  - Impacts from fugitive dust,
  - Mercury deposition,
  - Additional loss of wetlands through loss of groundwater for pit dewatering.<sup>4</sup>

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<sup>1</sup> PN NWW-2013-00321

<sup>2</sup> SDEIS Table 4.11-1 and 4.11-2

<sup>3</sup> CMP Table 6-6a and 6-6b

<sup>4</sup> SDEIS 4-308. It is stated that losses to wetland resources may be underestimated as a result of changes to hydrology stemming from pit dewatering and other associated activities.

- Additional permanent impacts on water quality due to contributions of mine waste material into the EFSFSR drainage

According to the PN and the SDEIS, the proposed project's impacts will be most substantial within the mine site focus area, resulting in a loss of approximately 28% of the existing wetlands within the contributing basin for the East Fork SFSR watershed above the Sugar Creek/East Fork SFSR confluence.<sup>5</sup> The SDEIS estimated a total of 1,054.4 wetland functional units would be lost, approximately 375.9 of which would be due to impacts to high-value wetlands.

Within the mine site focus area, four federally listed or Forest Service sensitive fish species are known to be present; Chinook salmon, steelhead trout, bull trout, and westslope cutthroat trout. Chinook salmon, steelhead, and bull trout are all federally listed as threatened under the Endangered Species Act. Westslope cutthroat trout is a Forest service Sensitive species.

Activities associated with the SGP that may negatively impact these species include, but are not limited to, new road construction, transportation, hazardous material spill risks, stream diversions, channel diversions, and construction and operation activities at the mine site.

#### **V. The Corps Must Consider the Direct, Indirect and Cumulative Effects of the Proposed Stibnite Gold Project Made Possible by the Issuance of the 404 Permit.**

The Corps' regulations state that "[a]ll activities which the applicant plans to undertake which are reasonably related to the same project and for which a [Department of the Army] permit would be required should be included in the same permit application."<sup>6</sup> The Corps must consider impacts from the development of mineral operations (including exploration and/or development) at the proposed Stibnite Mine because the purpose of the roads and other activities requiring a 404 permit is to develop the Stibnite Mine.

The Corps must consider future actions related to the proposed Mine. Further, The Corps must consider the probable impacts, including cumulative impacts, of the proposed activity and its intended use on the public interest.<sup>7</sup> At a minimum, the Corps must consider impacts to all of the potentially affected resources at and around the proposed Stibnite Mine in its public interest determination as they are considered reasonably foreseeable.

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 cumulative effects." *Id.* The Corps' public interest requirement also ensures "the conservation of wildlife resources by prevention of their direct and indirect loss and damage due to the activity proposed in a permit application." § 320.4(c).

In addition, EPA has promulgated binding regulations, known as the "404(b)(1) Guidelines," for 404 permits. 33 U.S.C. § 1344(b)(1). "The purpose of these Guidelines is to restore and maintain the

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<sup>5</sup> Wetlands Specialist Report – pg. 77

<sup>6</sup> 33 C.F.R. § 325.1(d)(2).

<sup>7</sup> 33 CFR § 320.4(a)(1); *see also id.* pt. 325 App. B. § (7)(b)(3).

chemical, physical, and biological integrity of waters of the United States through the control of discharges of dredged or fill material.” 40 C.F.R. § 230.1. “For activities involving 404 discharges, a permit will be denied if the discharge that would be authorized by such permit would not comply with the Environmental Protection Agency’s 404(b)(1) guidelines.” 33 C.F.R. § 320.4(a)(1).

Under EPA requirements contained in the 404(b)(1) Guidelines, the Corps is prohibited from issuing a 404 permit if the proposed discharge “will cause or contribute to significant degradation of the waters of the United States.” 40 C.F.R. § 230.10(c). In addition, “[n]o discharge of dredge or fill material shall be permitted if it: (1) [c]auses or contributes . . . to violations of any applicable State water quality standard.” 40 C.F.R. § 230.10(b)(1).

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).

Thus, the secondary effects that the Corps is required to consider are not limited in time or space to just the initial discharge and acreages. Rather, they encompass 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." 45 Fed.Reg. 85336, 85340-41 (Dec. 24, 1980). 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." 45 Fed.Reg. 85343.

In another rulemaking implementing the CWA, the Corps and EPA highlighted the need to consider secondary/cumulative impacts beyond the 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. 58 Fed. Reg. 45008, 45012 (Aug. 25, 1993).<sup>8</sup>

In that rulemaking, the agencies highlighted the Tenth Circuit's decision in Riverside Irrigation District v. Andrews, 758 F.2d 508 (10th Cir. 1985).

In that 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.<sup>9</sup>

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." 758 F.2d at 513.

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, 359 F.3d 1257, 1272, n. 15 (10th Cir.2004), 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

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<sup>8</sup> 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." 58 Fed. Reg. 45012.

<sup>9</sup> 58 Fed. Reg. 45012

Canyon Club development as a whole on bald eagle nesting and foraging habitat.” 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.” *Id.*, quoting 40 C.F.R. § 230.3(c).

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).” *Id.* (emphasis supplied by court). For the Stibnite Mine and related activities, there is no question that issuance of the 404 Permit would “facilitate[] incompatible activities” of mineral exploration/development, which will adversely affect wildlife and habitat, water and air quality, cultural and subsistence resources/uses, among other significantly impacted resources.

In Sierra Club v. Van Antwerp, 709 F.Supp.2d 1254 (S.D.Fla.2009), 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).” Sierra Club, 709 F.Supp.2d at 1270.

In Sierra Club v. U.S. Army Corps of Engineers, 2012WL13040281 (S.D.Tex.2012), 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. *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.”).

The same was true in Fox Bay Partners v. U.S. Corps of Engineers, F. Supp. 605 (N.D.Ill.1993), 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.” *Id.* at 609. 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. *Id.*

The court’s analysis in Sayler Park Vill. Council v. U.S. Army Corps of Engineers, 2003WL22423202 (S.D. Ohio 2003) 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.” *Id.*

Ninth Circuit decisions reviewing these issues under NEPA have also required this analysis. In Save Our Sonoran v. Flowers, 408 F.3d 1113 (9th Cir.2003) (“SOS”), 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 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.” *Id.* at 1124. *See also* White Tanks Concerned Citizens v. Strock, 563 F.3d 1033 (9th Cir. 2009):

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.” *Id.* at 1042 (quoting Save Our Sonoran).

Regarding the Corps’ public interest requirements, 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.*

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 “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).” 402 F.3d at 871 (emphasis added).

In Clatsop Residents Against Walmart v. U.S. Army Corps of Engineers, 735 Fed.Appx. 909 (9th Cir.2018), 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.” *Id.* at 912; see also Corps’ brief in Clatsop, 2017WL1757558, \*\*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).

The same was true in Greater Yellowstone Coalition, 359 F.3d at 1272 n. 15, 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.” Corps/Appellee’s brief to Tenth Circuit, 2003WL23723859, \*34.

The SDEIS failed to analyze potential direct, indirect and cumulative impacts, including these issues below, but as also described in the Conservation Coalition (2023) comments and technical expert appendices, which must be considered in the Corp’s analysis.

The Guidelines require the prediction of cumulative effects to the extent reasonable and practical. In addition, the Corps must make a determination under § 230.11(e) of the nature and degree that the proposed discharge will have individually and cumulative impacts on the aquatic ecosystem. Potential cumulative effects are mentioned in general terms, with little or no evaluation of these impacts. This is particularly true for the proposed mile-long Scout Exploration Decline, which is being authorized as part of the SDEIS. This project has the potential to adversely affect aquatic resources, yet there is no analysis in the SDEIS of its direct, indirect or cumulative effects on aquatic and other resources.

In addition, there have been developments since the release of the DEIS that must be taken into account. The EPA has reviewed the Idaho Department of Environmental Quality’s air quality Permit to Construct, to Perpetua Resources Idaho, Inc. The EPA reviewed the final permit, and continues to be concerned that construction and operation of the Stibnite Gold Project under the terms set out in the Department’s Permit would not comply with the Clean Air Act.<sup>10</sup> EPA’s primary concern is that 1) the Permit’s emission limits are not adequate to limit the Stibnite Gold Project’s potential to emit below the Prevention of Significant Deterioration permit, 2) the Permit’s emissions limits are not adequate to protect the particulate matter National Ambient Air Quality Standard, and 3) the Department’s delineation between the Stibnite Gold Project’s boundary and ambient air - where the National Ambient Air Quality Standards apply is not adequately supposed. As a result, the permit does not adequately limit the release of particulate matter (dust) and arsenic.

The EPA issued similar comments in its review of the Supplemental Draft Environmental Impact Statement.<sup>11</sup> The inadequate analysis and control of fugitive dust, at the mine and along the haul roads, and inadequate analysis and control of arsenic, has the potential to result in significant degradation of air, land and water and fish and wildlife habitat that must be properly analyzed, including public health risks and potential impacts to subsistence users.

## **VI. Clean Water Act Section 404(b)(1) Guideline Analysis**

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

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<sup>10</sup> U.S. EPA, Letter from EPA Administrator, Region 10, Casey Sixkiller to Idaho Department of Environmental Quality Director, Jess Byrne, August 10, 2023.

<sup>11</sup> U.S. EPA, Letter to Linda Jackson, USFS, January 10, 2023.

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.

#### **A. Four Primary Restrictions on Discharges in the Guidelines**

The proposed project fails to comply with the four primary restrictions outlined in the Guidelines.

- 1. Section 230.10(a): “no discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences.”**

An alternatives analysis under NEPA is separate and distinct from what is required under the 404(b)(1) Guidelines. The standards are not identical: for example, NEPA is non-regulatory and requires disclosure and evaluation of a reasonable range of alternatives; Section 404 is regulatory and the Guidelines allow only the Least Environmentally Damaging Practicable Alternative (“the LEDPA”) to be authorized under the CWA. While this might lead to some differences in the NEPA and 404 analyses, the Corps and federal and state resource agencies typically work to integrate the information requirements under both processes to the extent appropriate and feasible.

Key to evaluating alternatives under CWA Section 404 is determining the Basic Project Purpose and the Overall Project Purpose of the proposed mine. In this case, the Army Corps determined that the Basic Project Purpose is to extract gold, silver, and antimony from ore. The Corps determined that the Overall



Project Purpose is to mine, gold, silver, and antimony from ore deposits associated with SGP.”<sup>12</sup> Fastening the analysis of alternatives to the SGP in a specific location automatically constrains that analysis to that location and renders the alternatives analysis meaningless.

An overall project purpose will normally describe the proposed activity in order to characterize the applicant’s fundamental objectives. Practicable alternatives (see discussion below) are examined in light of overall project purposes. An overall project purpose defined too generally could theoretically require examination of countless potential alternatives; conversely an overall project purpose framed too specifically could automatically eliminate everything but the applicant’s proposed alternative from consideration; this appears to be the case here. In most cases, the project purpose is framed so that it is neither so broad (e.g., “to operate a profitable business”) as to involve consideration of an unwieldy number of alternatives nor so narrow as to constrain the analysis unreasonably, as was done by the Corps for this proposed mine project. While determining the overall project purpose is necessarily somewhat case-specific, the intent is to capture the fundamental objective(s) of a project (i.e., mining for the ore bodies described). Doing so enables an evaluation of potentially practicable and less environmentally damaging alternatives during the permit review process while also bounding the analysis to avoid spending time on alternatives that simply could not meet the project purpose. Potentially practicable and less environmentally damaging alternatives include existing or previously closed mining operations, or alternative ore deposits that are or were available to the applicant when it entered the market. By improperly defining the overall project purpose too narrowly, the Corps’ analysis fails to assess the possibility that less environmentally damaging practicable alternatives may, in fact, exist.

Applicants, particularly those well along in project planning or who already invested time and resources in a particular proposal (as is the case here), may naturally desire an overall project purpose statement that contains a number of specifics aimed at increasing the likelihood that the alternatives analysis will lead to the project they already have in mind. However, the regulations require a credible alternatives analysis be performed, one that aims to identify the LEDPA rather than a proposed project “justification” analysis that steers toward a predetermined outcome.

Finally, the 404(b)(1) regulations place the burden of proof squarely on the applicant to prove that its proposal is the least damaging alternative if the applicant’s project would discharge dredged or fill material in “special aquatic sites”<sup>13</sup> for purposes that are not water-dependent.<sup>14</sup> The level of documentation should reflect the significance and complexity of the discharge activity.<sup>15</sup> Therefore, the applicant is required under the regulations to “clearly demonstrate” that less environmentally damaging alternatives do not exist. In the absence of such a clear showing, the Corps is required to deny the application for a permit.<sup>16</sup>

**2. Section 230.10(b): “[no discharge of dredged or fill material shall be permitted if it:**

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<sup>12</sup> SDEIS, p. 1-8.

<sup>13</sup> Wetlands are one type of special aquatic site. See 40 CFR §230.3(q-1)

<sup>14</sup> See 40 CFR §230.10(a).

<sup>15</sup> See 40 CFR §230.6(b)

<sup>16</sup> See 40 CFR §230.12(a)(3)(iv).

**(a) Causes or contributes, after consideration of disposal site dilution and dispersion, to violations of any applicable State water quality standard;**

The SDEIS identifies a number of ways in which the proposed project is predicted to contribute or cause violations of applicable state water quality standards.

The West End pit lake water quality concentrations are predicted to exceed potentially applicable water quality standards for antimony, arsenic, and mercury throughout the operating and closure period (SDEIS, Figure 4.9-14 and Table 4.9-12). The SDEIS (p. 4-348) also predicts that water quality standards for these contaminants will be exceeded permanently post-closure, and that the lake would not be reclaimed or restored and would therefore have impacts on fish in perpetuity. The EPA recommended that the FEIS “add a sentence to this statement in the Executive Summary that identifies that under the proposed action West End Creek is predicted to exceed Idaho’s CWA mercury aquatic life criterion for approximately 10 years during operation.”<sup>17</sup>

The SDEIS states “[f]or mercury, while the predicted concentrations do not exceed the aquatic life criterion based on water column, it is uncertain whether incremental change in water column concentrations beyond baseline would cause fish tissue concentrations to exceed the tissue-based criterion.”<sup>18</sup> According to the EPA comment letter (p. 17), “This uncertainty directly relates to whether the SGP would result in exceedances of Idaho’s EPA- approved fish tissue-based human health criterion for mercury. The 2014 NMFS Biological Opinion for Idaho’s water quality standards for toxics concluded that the aquatic life criterion is not protective of aquatic life and that it is unlikely to be protective of the human health fish tissue criterion.”<sup>19</sup>

The SDEIS (p. 4-192) predicts that subsurface infiltration from the TSF embankment and buttress will mix with the alluvial groundwater under the facility footprint, resulting in a groundwater chemistry with antimony and arsenic concentrations above the strictest potentially applied water quality standards. Infiltration from the unlined TSF buttress is predicted to have a more notable effect on groundwater analyte concentrations. Specifically, mixing of infiltrated leachate with previously unimpacted alluvial groundwater is predicted to increase antimony and arsenic groundwater concentrations above existing conditions and groundwater standards. (SDEIS, p. 4-243)

The SDEIS (P. 4-243) also finds that “Where the local groundwater has not be previously impacted, the groundwater interactions with inundated backfill pore water and the West End pit lake would have the potential to increase groundwater concentrations for antimony and arsenic to levels above groundwater standards.”

As noted above, the EPA has reviewed the final IDEQ air quality Permit to Construct, and continues to be concerned that construction and operation of the Stibnite Gold Project under the terms set out in the

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<sup>17</sup> US EPA, Comments on Stibnite Gold Project, SDEIS, January 5, 2023.

<sup>18</sup> US Forest Service, Stibnite Gold Project, Draft SEIS, October 2022, p. 4-438.

<sup>19</sup> U.S. Environmental Protection Agency, Comments on the Supplemental Draft Environmental Impact Statement, January 10, 2023.

Department's Permit would not comply with the Clean Air Act.<sup>20</sup> The inadequate analysis and control of fugitive dust, at the mine and along the haul roads, and inadequate analysis and control of arsenic, has the potential to result in significant degradation of water quality that must be properly analyzed.

**(b) Violates any applicable toxic effluent standard or prohibition under section 307 of the [CWAAct];**

The SDEIS lacks analyses of the potential for fish toxicity from the introduction, relocation, or increase in contaminants in the aquatic environment. The Corps should analyze: 1) potential impacts of increased metal loading to fish and 2) how increases in loading would affect fish downstream of the discharge points. The Corps should evaluate both the level of chemical alteration and potential consequences to fish and fish habitat.

The Corps should analyze the potential for discharges to match the existing water quality of the receiving waters. Discharges that meet standards may still impact fish and fish habitat. For example, small changes, such as increases in dissolved copper concentrations, can be lethal or sublethal. In order to improve this analysis, the Corps should predict changes to concentrations in streams due to project impacts (such as treated water discharges, fugitive dust, and uncaptured groundwater) and evaluate the impacts that these changes could have on fish and fish habitat.

**(c) Jeopardizes the continued existence of species listed as endangered or threatened under the Endangered Species Act...or results in likelihood of the destruction or adverse modification of.. critical habitat...;**

The Endangered Species Act (ESA) represents “the most comprehensive legislation for the preservation of endangered species ever enacted by any nation.” *Tennessee Valley Authority v. Hill*, 437 U.S. 153, 180 (1978). “The plain intent of Congress in enacting this statute was to halt and reverse the trend towards species extinction, whatever the cost.” *Tennessee Valley Authority*, 437 U.S. at 184. In enacting the ESA, Congress spoke “in the plainest of words, making it abundantly clear that the balance has been struck in affording endangered species the highest of priorities, thereby adopting a policy which it described as ‘institutionalized caution.’” *Id.* at 194

One would be hard pressed to find a statutory provision whose terms were any plainer than those in [Section] 7 of the Endangered Species Act.” *Tennessee Valley Authority*, 437 U.S. at 173. “It’s very words affirmatively command all federal agencies ‘to insure that actions *authorized, funded, or carried out* by them do not *jeopardize* the continued existence’ of an endangered species or ‘*result in the destructions or modification of habitat of such species.*’” *Id.*, (quoting 16 U.S.C. 1536) (emphasis in original). “This language admits of no exception. *Id.*

Pursuant to Section 7 of the ESA, each federal agency must consult with the United States Fish and Wildlife Service (FWS) and/or NOAA Fisheries to ensure that any proposed action is not likely to jeopardize the continued existence of any threatened or endangered species, or result in the destruction or adverse modification of the species’ critical habitat. 16 U.S.C. § 1536(a)(2). As recognized in the SDEIS,

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<sup>20</sup> U.S. EPA, Letter from EPA Administrator, Region 10, Casey Sixkiller to Idaho Department of Environmental Quality Director, Jess Byrne, August 10, 2023.

FWS “generally manages ESA-listed terrestrial and freshwater plant and animal species, while NOAA Fisheries is responsible for marine fisheries, including anadromous fish.” SDEIS, p. 3-263.

During Section 7 consultation, the action agency, FWS, and NOAA Fisheries must use the best scientific data available. 16 U.S.C. § 1536(a)(2). If the proposed action “may affect” any listed species or critical habitat, the action agency must engage in “formal consultation” with FWS and/or NOAA Fisheries. 50 C.F.R. § 402.14(a). To complete formal consultation, FWS and/or NOAA Fisheries must provide the action agency with a “biological opinion” explaining how the proposed action will affect listed species and critical habitat. 16 U.S.C. § 1536(b)(3); 50 C.F.R. § 402.14(g)(3)-(4), (l)(1). The biological opinion must include the current status of the listed species, a detailed discussion of the “effects of the action” on listed species and critical habitat, and the expert agency’s conclusion as to whether the action is likely to jeopardize a listed species or adversely modify critical habitat. 16 U.S.C. § 1536(b)(3)(A); 50 C.F.R. § 402.14(h); *Wild Fish Conservancy v. Salazar*, 628 F.3d 513, 518 (9th Cir. 2010).

If FWS and/or NOAA Fisheries conclude that the action is likely to jeopardize the continued existence of a listed species, or result in the destruction or adverse modification of critical habitat, FWS and/or NOAA Fisheries must outline “reasonable and prudent alternatives” to the proposed action. 16 U.S.C. § 1536(b)(3)(A). If FWS and/or NOAA Fisheries conclude in the biological opinion that the action is not likely to jeopardize listed species, or destroy or adversely modify critical habitat, the expert agency must provide an “incidental take statement” with the biological opinion, specifying the extent of incidental takings of listed species, the “reasonable and prudent measures” considered necessary or appropriate to minimize such impact, and the “terms and conditions” that must be complied with to implement those measures. *Id.* § 1536(b)(4); 50 C.F.R. § 402.14(i). If at any time the anticipated amount of incidental taking is exceeded, the agencies must immediately reinstate consultation. 50 C.F.R. § 401.14(i)(4); *id.* § 402.16(a).

The ESA mandates that “federal agencies take no action that will result in the ‘destruction or adverse modification’ of designated critical habitat.” *National Wildlife Federation v. National Marine Fisheries Service*, 524 F.3d 917, 933 (9th Cir. 2007) (*quoting* 16 U.S.C. 1536(a)(2)). “Destruction or adverse modification” of critical habitat is defined as a direct or indirect alteration that appreciably diminishes the value of the critical habitat for the conservation of a listed species. 50 C.F.R. § 402.02. During the Section 7 consultation, the agencies must consider impacts that appreciably diminish the value of critical habitat for either the survival or recovery of the species. *National Wildlife Federation v. National Marine Fisheries Service*, 524 F.3d at 934; *Gifford Pinchot Task Force v. U.S. Fish and Wildlife Service*, 378 F.3d 1059, 1069-71 (9th Cir. 2004).

Thus, the agencies’ assessment of the impacts of a proposed action on a listed species’ critical habitat during ESA consultation must include the project’s impact on the species’ habitat in terms of the species’ recovery as well as its survival, and how the action may impact the physical or biological features that were the basis for the species’ critical habitat determination. 50 C.F.R. § 402.02; *National Wildlife Federation*, 524 F.3d at 935; *Gifford Pinchot*, 378 F.3d at 1069. In addition, the agencies are not allowed to characterize as “insignificant” the potential impacts on a species’ critical habitat by considering only the broad scale or long-term impacts. *National Wildlife Federation*, 524 F.3d at 935; *Gifford Pinchot*, 378 F.3d at 1069.

For the proposed Stibnite Gold Project, the Forest Service states that the following species have been included in informal consultation discussions based on suitable habitat and known occurrences in and around the Project:

- Canada Lynx (Federally Threatened)
- Northern Idaho Ground Squirrel (Federally Threatened)
- Wolverine (Proposed Threatened)
- Killer whale (Federally Endangered)
- Snake River Spring/Summer Chinook salmon (Federally Threatened with Designated Critical Habitat)
- Snake River Basin Steelhead (Federally Threatened with Designated Critical Habitat)
- Columbia River bull trout (Federally Threatened with Designated Critical Habitat)
- Monarch Butterfly (Federal Candidate)
- Whitebark Pine (Federally Threatened)

SDEIS, p. 6-4.

In order to comply with Section 7 of the ESA, it is clear from the SDEIS and the proposed action that the Army Corps must engage in formal consultation with both FWS and NOAA Fisheries concerning the potential impacts to listed species, especially concerning the impacts to the federally threatened Chinook salmon, steelhead, bull trout, and their formally designated critical habitats.

The Forest Service recognizes in the SDEIS that the federally threatened Chinook salmon, steelhead trout, and bull trout are known to be present in the analysis area. SDEIS, p. 3-266. NOAA Fisheries listed the Snake River spring/summer-run Chinook salmon Evolutionary Significant Unit as threatened under the ESA in 1992. *Id.* The Forest Service acknowledges that this threatened species is found throughout the analysis area, including the South Fork Salmon River subbasin. *Id.* Additionally, designated critical habitat for Chinook salmon “includes all presently and historically accessible rivers and streams within the analysis area, except for the Payette River drainage.” *Id.*, p. 3-270. The Forest Service further acknowledges that Chinook salmon and its designated critical habitat would be adversely affected by the proposed action. *Id.*, pp. 4-357 - 4-366.

NOAA Fisheries listed the Snake River Basin Steelhead Distinct Population Segment as threatened in 1997. SDEIS, p. 3-280. The threatened steelhead is found in the East Fork, South Fork Salmon River drainage and its tributaries downstream of the Yellow Pine pit lake. *Id.* NOAA Fisheries has also designated critical habitat for Snake River Basin steelhead throughout much of the analysis area, including the East Fork, South Fork Salmon River drainage to approximately 0.4 km upstream of the confluence with Sugar Creek. *Id.* The Forest Service recognizes that the proposed action would adversely affect steelhead, including its critical habitat. *Id.*, pp. 4-366 – 4-373.

FWS listed the Columbia River Distinct Population Segment of bull trout in 1998. SDEIS, p. 3-286. Bull trout are currently known to use spawning and rearing habitat in at least 28 streams within the South Fork Salmon River subbasin. *Id.* FWS also designated critical habitat for bull trout throughout the South Fork Salmon watershed, including the East Fork, South Fork Salmon River. *Id.* The Forest Service

acknowledges that the proposed action would adversely affect bull trout, including its critical habitat. *Id.*, pp. 4-373 – 4-379.

Based on the Forest Service’s analysis and acknowledgments within the SDEIS, the Forest Service, FWS, and NOAA Fisheries must formally consult on the adverse impacts of the proposed action on threatened fish and their designated critical habitat in the analysis area in order to comply with Section 7 of the ESA. 16 U.S.C. § 1536(a)(2). This formal consultation must result in either reasonable and prudent alternatives, if jeopardy or adverse modification is found to be likely, or an incidental take statement that fully satisfies the requirements of the ESA. Moreover, during the consultation process and within the Biological Opinion, or Biological Opinions, the Forest Service, FWS, and NOAA Fisheries must use the best scientific data available. 16 U.S.C. § 1536(a)(2). The agencies must also consider all phases and the entire scope of the agency action. *See Conner v. Burford*, 836 F. 2d 1521 (9th Cir. 1988); *Greenpeace v. NMFS*, 80 F. Supp. 2d 1137 (W.D. Wash. 2000). The agencies also cannot arbitrarily limit the time frame of the proposed action. *See Wild Fish Conservancy v. Salazar*, 628 F.3d 513 (9th Cir. 2010); *American Rivers v. U.S. Army Corps of Engineers*, 271 F. Supp. 2d 230 (D.D.C. 2003).

Additionally, in order to determine whether the proposed project’s adverse impacts may jeopardize one or more of the listed species under the ESA, FWS and NOAA Fisheries must identify each of the species’ tipping points for survival and recovery, and then determine whether the project’s impacts would reach that threshold. *Ctr. for Biological Diversity v. Salazar*, 804 F. Supp. 2d 987, 999-1000 (D. Ariz. 2011). The agencies must know at what point survival and recovery will be placed at risk for each species before they can conclude whether or not jeopardy may result from further impairments to habitat that is already degraded. *Nat’l Wildlife Fed’n v. Nat’l Marine Fisheries Serv.*, 524 F.3d 917, 936 (9th Cir. 2008).

During the Section 7 consultation, FWS and NOAA Fisheries may rely on mitigation measures “only where they involve ‘specific and binding plans’ and ‘a clear, definite commitment of resources for future improvements’ to implement those measures.” *Ctr. for Biological Diversity*, 804 F. Supp. 2d at 100, quoting *Nat’l Wildlife Fed’n*, 524 F.3d at 935- 36. Furthermore, “mitigation measures supporting a [biological opinion’s] no jeopardy or no adverse modification conclusion must be ‘reasonably specific, certain to occur, and capable of implementation; they must be subject to deadlines or otherwise-enforceable obligations; and most important, they must address the threats to the species in a way that satisfies the jeopardy and adverse modification standards.’” *Id.*, quoting *Ctr. for Biological Diversity v. Rumsfeld*, 198 F. Supp. 2d 1139, 1152 (D. Ariz. 2002).

Overall, despite the anticipated, significant adverse impacts to listed species and critical habitat, the SDEIS fails to demonstrate that the proposed Project can meet the strict standards under the ESA to protect the listed species and to ensure that there will be no destruction or adverse modification of their designated critical habitats.

The proposed road re-construction/ new construction of the Burntlog road and the reconstruction of the Johnson Creek/Stibnite roads (alternative depending) will have sediment “discharge” into the headwaters of Burntlog Ck., Trapper Ck., Riordan Ck, all tributaries to Johnson Creek. Also into Johnson Creek and the East Fork South Fork Salmon River (EFSFSR) directly depending on the alternative chosen. Burntlog Ck., Trapper Ck., and Riordan Ck. have known headwater bull trout resident populations. Lower Johnson Creek has Chinook/steelhead spawning/rearing habitat along with bull trout and westslope cutthroat trout.

This sediment has the potential to degrade existing bull trout spawning and rearing habitat. As indicated in the replies to the DEIS and the SDEIS, no sediment modeling estimates from roads or sediment monitoring for roads and powerline Right -of Way during construction, post-construction or under use have been described. The same applies to those areas of the reconstructed powerline right-of-way where they cross RHCA and streams. This construction/reconstruction will affect bull trout headwaters spawning and rearing habitat and/or potentially Chinook/steelhead spawning habitat in lower Johnson Creek. Additional areas in which the SDEIS failed to take a hard look at the potential direct, indirect and cumulative effects of ESA-listed species are included in the conservation coalition 2023 comments.

On December 15, 2022, toward the end of the SDEIS comment period, the U.S. Fish and Wildlife Service listed white bark pine (*Pinus albicaulis*) as threatened under the Endangered Species Act (ESA).

This rule is to become effective starting January 17, 2023. Threatened species are likely to become endangered within the foreseeable future throughout all or a significant portion of its range. Due to the listing, there are now additional restrictions regarding the removal of whitebark pine: “The protections for whitebark pine also make it illegal to remove, possess, or damage the tree on federal lands.”<sup>21</sup> Federal actions that may impact whitebark pine must now go through section 7 consultation with the U.S. Fish and Wildlife Service to make sure that project activities will not jeopardize this species.

3. **Section 230.10(c): “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. 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, after consideration of subparts C through F, with special emphasis on the persistence and permanence of the effects outlined in those subparts.”; and**

Adverse impacts to wetlands and other waters are described in Section 4.1.1 of the DSEIS. Under both NEPA and CWA Section 230.10(c) of the Guidelines, all direct, indirect (secondary), and cumulative adverse impacts must be described and accounted for. For instance, Table 7-2, Wetland and Riparian Area Function/Value and Qualitative Corresponding Potential Impacts and Consequences, explains that for habitat for general wildlife species, there would be loss, alteration, or degradation (e.g., invasive species encroachment, loss of standing surface water, temperature, fragmentation) of wetland and riparian areas that could result in a loss of habitat suitability for wildlife. Though helpful to understand the broad types of impacts that would occur, the narrative descriptions are only moderately useful in understanding the extent and range of those impacts. Tables 7-3 to 7-5 provide acreage and linear feet impacts to wetlands and streams, respectively, however, the acreage amounts appear too precise for how those amounts were derived. Nevertheless, the acreage and length numbers in the three tables still give one a “ballpark” idea of the scope and range of impacts.

According to these Tables, direct loss of wetlands and riparian resources in the mine site focus area would be approximately 120 acres<sup>22</sup> and more than 70,000 linear feet of perennial and nonperennial streams. For

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<https://www.fws.gov/press-release/2022-12/whitebark-pine-receives-esa-protection-threatened-species>

<sup>22</sup> Section 7.2.3.1 of the Wetland and Riparian Area Function/Value and Qualitative Corresponding Potential Impacts and Consequences report acknowledges that *most indirect effects have not been quantified* and it is

the off-site focus area, wetland and riparian loss would exceed 75 acres, while more than 38,000 linear feet of perennial and non-perennial streams would be disturbed and degraded.<sup>23</sup>

Indirect (NEPA) and secondary (Guidelines) adverse impacts can be challenging to account for and quantify (as mentioned in Section 7.2.1.1 of the Stibnite Gold Project, Wetlands and Riparian Resources Specialist Report (“the Report”). Because of these challenges, indirect impacts are often underestimated. For instance, indirect effects of roads (big and small) are discussed in Road Ecology. Several types of indirect effects (e.g., noise and lights, rainfall/snow meltwater runoff, air pollution deposition, habitat fragmentation) of roads can be felt as much as several hundred feet from the edge of some roads.<sup>24</sup> This extent depends, among other things, upon,

- the volume of traffic;
- time of day when road is commonly used;
- type(s) of vehicles using the road; and,
- terrain and adjacent habitat.

Constructing a road in an expansive and mostly roadless area can be likened to the impact of a small stone on the windshield of an automobile. The first road is like the small dimple or dent caused by the small stone. A small crack first appears, growing out from the dent. Over time, the one small crack begins to extend and branch out. With more time, the branch cracks extend and branch out too. Weeks or months later, much of the windshield has suffered this fate to the point where, when viewed from several feet back, the original dent and the myriad branching cracks resemble a large spider web. The entire windshield has become compromised and at risk of shattering. The roadless expanse would likely undergo a similar progression of insults to a point where its ecological integrity and value are considerably degraded.

Groundwater drawdown is another indirect adverse impact that must be accounted for and described. According to the DSEIS, an additional approximately 47 acres of wetlands could be altered and degraded from the maximum drawdown area under the 2021 MMP. See Section 7.2.3.4 and Table 7-7 of the Report. Again, this figure may be underestimating the extent of the impact. Most indirect effects have not been quantified and it is acknowledged that indirect effects due to changes in hydrology and water quality may lead to wetland and riparian losses beyond estimates in Tables 7-4 and 7-5 if these indirect impacts do occur.

Another key concern in assessing indirect impacts upon wildlife is habitat fragmentation from the roads and the mine features, which can be especially harmful for wetland dependent wildlife. Habitat fragmentation can create movement 20 barriers for less mobile wildlife, e.g., amphibians, some reptiles,

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acknowledged that indirect effects due to changes in hydrology and water quality may lead to wetland and riparian losses well beyond estimates in Tables 7-4 and 7-5.

<sup>23</sup> Section 7.2.3.1 of the Wetland and Riparian Area Function/Value and Qualitative Corresponding Potential Impacts and Consequences report acknowledges that *most indirect effects have not been quantified* and it is acknowledged that indirect effects due to changes in hydrology and water quality may lead to wetland and riparian losses well beyond estimates in Tables 7-4 and 7-5 (italics added).

<sup>24</sup> Foreman, Richard T.T. 2003. Road Ecology, Science and Solutions. Island Press, Washington, D.C. 481 pp.



and many mammals. It also can isolate populations of less mobile wildlife and harm long-term survivability.

Section 5.0 of the SDEIS and Section 7.0 of the Wetland and Riparian Resources Specialist Report, August 2022, address cumulative adverse impacts in very general fashion. There is little actual detail regarding anticipated cumulative adverse impacts. Table 7-2 of the Specialist Report provides a brief summary of cumulative impacts, however, there is no real discussion of those anticipated impacts other than general types (e.g., “loss, alteration, or degradation”). Overall, most of the sections dealing with adverse impacts to wetlands are focused upon acreage numbers. As with other sections dealing with impacts, here is a lack of narrative discussion that describes indirect and cumulative impacts in a meaningful way.

**4. Section 230.10(d): “no discharge of dredged or fill material shall be permitted unless appropriate and practicable steps have been taken which will minimize potential adverse impacts of the discharge on the aquatic ecosystem.”**

The SDEIS 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. While the SDEIS lists MIST08 in a table (SDEIS p. 2-99), it never fully states the standard and fails to explain whether, or how, the Stibnite Gold Project will satisfy the standard.

MIST 08: Locate new structures, support facilities, and roads outside RCAs. Where no alternative to siting facilities in RCAs exists, locate and construct the facilities in ways that avoid or minimize degrading effects to RCAs and streams, and adverse effects to TEPC species. Where no alternative to road construction in RCAs exists, keep roads to the minimum necessary for the approved mineral activity. Close, obliterate, and revegetate such roads if no longer required for mineral or other management activities.

The same is true for MIST09. (SDEIS, p. 2-95).

MIST 09: Prohibit solid and sanitary waste facilities in RCAs. If no alternative to locating mine waste (waste rock, spent ore, tailings) facilities in RCAs exists, then: a) Analyze waste material using the best conventional methods and analytic techniques to determine its chemical and physical stability characteristics. b) Locate and design waste facilities using the best conventional geochemical and geotechnical predictive tools to ensure mass stability and prevent the release of acid or toxic materials. If the best conventional technology is not sufficient to prevent such releases and ensure stability over the long term, and such releases or instability would result in exceedance of established water quality standards or would degrade surface resources, prohibit such facilities in RCAs. c) Monitor waste and waste facilities to confirm predictions of chemical and physical stability, and make adjustments to operations as needed to avoid degrading effects to beneficial uses and native and desired non-native fish and their habitats. d) Reclaim and monitor waste facilities to ensure chemical and physical stability and revegetation to avoid degrading effects to beneficial uses and native and desired non-native fish and their habitats. e)

Require reclamation bonds adequate to ensure long-term chemical and physical stability and successful revegetation of mine waste facilities.

Yet Perpetua's proposal would locate many roads, structures, and facilities in RCAs. The SDEIS 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 SDEIS mitigation methods proposed rely heavily on unspecified and/or unproven habitat "improvements," fish salvage, and trap and haul operations. Nephelometry and total suspended solids are monitoring proposed in the DEIS and SDEIS. They are not designed to measure stream bed load sediment movements which affect the salmonid rearing and spawning habitats, as well as macroinvertebrate habitat.

These two methods do not correlate with the monitoring methodologies that are required for the Boise and Payette National Forests by the National Marine Fisheries Service (NMFS) biological opinion Term and Condition 3.B.1 which states "... required the Payette National Forest (PNF) and Boise National Forest (BNF) revise the default sediment watershed condition indicator (WCI) values to something more appropriate for the South Fork Salmon River (SFSR)."<sup>25</sup> The current methods in use by the forests are: modified McNeil core samples; Cobble Embeddedness; and free matrix particles. Appendix J-1, Tables J1-4 and 6 shows these methods. *Reference: DEIS Section 3.12.4.1, Figure 3.12-4 and 5. (See Newberry 2022)*

The SDEIS has also failed to quantify the sediment contribution to streams, wetlands and other aquatic resources from mine related activities. As a result, the SDEIS also fails to analyze mitigation measures to reduce sediment.

## **B. Level of Information Evaluation and Documentation for Guideline's Determinations**

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.<sup>[1]</sup>

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<sup>25</sup> Letter from: Mabe, D., UNITED STATES DEPARTMENT OF COMMERCE National Oceanic and Atmospheric Administration NATIONAL MARINE FISHERIES SERVICE 10095 West Emerald Street Boise, Idaho 83704 July 28, 2005.

The SDEIS lacks important information necessary to conduct an adequate NEPA analysis and to make a reasonable judgment as to whether the mine will comply with the 404(b)(1) Guidelines, including:

- basic engineering specifications and analysis of the tailings storage facility,
- sediment modeling,
- details and analysis of proposed underground exploration (Scout Prospect Tunnel),
- detailed reclamation plans,
- a description of financial assurance calculations,
- designs of the transmission line upgrades and construction,
- a fugitive dust control plan, and
- a cyanidation facility permanent closure plan.

The SDEIS also lacks adequate information and analysis as described in the Conservation Coalition (2023) comments and technical expert appendices.

Further, the Draft Compensatory Stream and Wetland Mitigation Plan (Draft CMP), submitted as Appendix D1 in the permit application, states that “Approximately 181 acres of the permanent SGP disturbance boundary of the Proposed Action are outside of the stream and wetland study area. These data gaps are a result of micrositing along the transmission line and Burnt Log Road or lack of right of entry on private lands and thus field delineations are still required.”<sup>26</sup>

The Draft CMP (p. 6-14) also identifies gaps in the data, which need to be resolved, to provide adequate information on potential impacts to water resources:

As described in Sections 1.2 and 6.1, there are several small or isolated areas within the Project disturbance boundary where investigations of streams and wetlands are still pending. As such, minor additional impacts are possible in both the South Fork Salmon River and North Fork Payette River subbasins. Most of the data gaps are within the North Fork Payette subbasin along the transmission line corridor and associated access roads (see Section 6.1). Once the data gaps are resolved, a final reconciliation of all impacts in tables and figures associated with this document will be completed.

This data is necessary to understand the potential direct, indirect and cumulative effects of the proposed project, in addition to determining potential mitigation measures.

### **C. Factual Determinations in the Guidelines**

To make the requisite finding of compliance or non-compliance with the four primary restrictions on discharge contained in 40 C.F.R. § 230.10 pursuant to 40 C.F.R. § 230.12, the Corps “shall include the factual determinations required by [40 C.F.R.] § 230.1 Pursuant to 40 C.F.R. § 230.11, the Corps “shall determine in writing 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.” 40 C.F.R. § 230.11 contains a list of factual determinations that the Corps “shall include.”

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<sup>26</sup> TetraTech, Draft Compensatory Stream and Wetland Mitigation Plan, April 2023, P. 1-5.

The following factual determinations are particularly relevant in this case and are referenced in our comments and recommendations below.

**Section 230.11(b) Water circulation, fluctuation, and salinity determinations.**

Determine the nature and degree of effect that the proposed discharge will have individually and cumulatively on water, current patterns, circulation including downstream flows, and normal water fluctuation. Consideration shall be given to water chemistry, salinity, clarity, color, odor, taste, dissolved gas levels, temperature, nutrients, and eutrophication plus other appropriate characteristics. Consideration shall also be given to the potential diversion or obstruction of flow, alterations of bottom contours, or other significant changes in the hydrologic regime. Additional consideration of the possible loss of environmental values (230.23 through 230.25) and actions to minimize impacts (subpart K), shall be used in making these determinations. Potential significant effects on the current patterns, water circulation, normal water fluctuation and salinity shall be evaluated on the basis of the proposed method, volume, location, and rate of discharge.

- Section 230.11(d) Contaminant determinations. Determine the degree to which the material proposed for discharge will introduce, relocate, or increase contaminants. This determination shall consider the material to be discharged, the aquatic environment at the proposed disposal site, and the availability of contaminants.
  
- Section 230.11(e) Aquatic ecosystem and organism determinations. Determine the nature and degree of effect that the proposed discharge will have, both individually and cumulatively, on the structure and function of the aquatic ecosystem and organisms. Consideration shall be given to the effect at the proposed disposal site of potential changes in substrate characteristics and elevation, water or substrate chemistry, nutrients, currents, circulation, fluctuation, and salinity, on the recolonization and existence of indigenous aquatic organisms or communities. Possible loss of environmental values (230.31), and actions to minimize impacts (subpart H) shall be examined. Tests as described in § 230.6 l (Evaluation and Testing), may be required to provide information on the effect of the discharge material on communities or populations of organisms expected to be exposed to it.
  
- Section 230.11(g) Determination of cumulative effects on the aquatic ecosystem. (I) Cumulative impacts are the changes in an aquatic ecosystem that are attributable to the collective effect of a number of individual discharges of dredged or fill material. Although the impact of a particular discharge may constitute a minor change in itself, the cumulative effect of numerous such piecemeal changes can result in a major impairment of the water resources and interfere with the productivity and water quality of existing aquatic ecosystems. (2) Cumulative effects attributable to the discharge of dredged or fill material in waters of the United States should be predicted to the extent reasonable and practical. The permitting authority shall collect information and solicit information from other sources about the cumulative impacts on the aquatic ecosystem. This information shall be documented and considered during the decision-making process concerning the evaluation of individual permit applications, the issuance of a General permit, and monitoring and enforcement of existing permits.
  
- Section 230.11(h) Determination of secondary effects on the aquatic ecosystem. (I) Secondary effects are 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) Some examples of secondary effects on an aquatic ecosystem are fluctuating water levels in an impoundment and downstream associated with the operation of a dam, septic tank leaching and surface runoff from residential or commercial developments on fill, and leachate and runoff from a sanitary landfill located in waters of the U.S. 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.

## **VII. Evaluating the Potential Effects of the Discharges of Dredged or Fill Material**

As discussed above, the nature and extent of the proposed discharges for the Stibnite Gold Project acknowledged in the SDEIS reflect highly significant and complex discharge activities with the potential for serious adverse impact, and thus require an extensive information and evaluation and a greater level of documentation to demonstrate compliance with the Guidelines.<sup>27</sup> As discussed in our SDEIS comment letter and within, the current record underestimates the extent, magnitude, and permanence of the adverse effects of the Stibnite's discharges of dredged or fill material to streams, wetlands, lakes, ponds, and the fisheries resources they support.

### **A. Defining Geographic Extent of Potentially Affected Aquatic Resources**

The factual determinations relevant to defining the geographic extent of potentially affected aquatic resources are the water circulation, fluctuation, and salinity determinations (40 C.F.R. § 230.11(b)); contaminant determinations (40 C.F.R. § 230.11(d)); aquatic ecosystem and organism determinations (40 C.F.R. § 230.11(e)); determination of cumulative effects on the aquatic ecosystem (40 C.F.R. §230.11(g)); and the determination of secondary effects on the aquatic ecosystem (40 C.F.R. § 230.11(h)).

The Forest Service arbitrarily constrained the temporal and/or geographic scope of its effects analysis in the SDEIS to omit disclosure and evaluation of potential significant effects caused by the Stibnite Gold Project.

Section 230.11(h) requires an evaluation of the secondary effects of the discharges of dredged or fill material on the aquatic ecosystem, which include effects of the proposed discharge on the downstream ecosystem. However, the analysis area in the SDEIS excludes areas downstream of the mine site where secondary/indirect impacts would occur.

For example, as described in Lubetkin (2022), the transport of hazardous materials to the mine site will involve a much larger geographic area than the transportation route identified in the SDEIS. 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. Spills of hazardous

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<sup>27</sup> 40 CFR § 230.6(b)

materials may have significant impacts to public health and the environment that must be fully analyzed in the SDEIS.

Similarly, as described below, Chapter 4 of the SDEIS 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 water temperatures, increased risk of hazardous spills, increased detrimental impacts from roads, and increased metals concentrations. The geographic scale of the impacts does not match, and well exceeds, that of the management areas identified and affected by the proposed Forest Plan amendment at SDEIS, Appendix A-3. 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.

### **B. Assessment impacts to Functions Provided by Potentially Affected Aquatic Resources**

The Stream Function Assessment (SFA) (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 U.S. Army Corps of Engineers to determine compliance with the Clean Water Act, and for the SDEIS analysis and associated ESA consultation. The SFA is an unproven, unrepeatable model, based loosely on Watershed Condition Indicators (WCIs), used in the SDEIS to assure mitigation for the Stibnite Gold Project's unavoidable impacts on jurisdictional aquatic resources. Other proven models exist and are used in the Payette and Boise National Forests and in the Pacific Northwest to characterize impacts to streams.

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 within the SDEIS. 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 SFA used some 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, ESA Biological Opinions, 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 SDEIS. Yet they are pivotal to the SDEIS conclusions that mitigation for historic and proposed mining efforts will offset impacts from proposed mining efforts.

We recommend the Corps provide justification for using the SFA rather than other proven and repeatable tools—some of which are directed to be used by Forest Plans, ESA Biological Opinions, and associated NEPA analysis—to assess impacts to and potential benefits from proposed mitigation.

### **C. Fish Values**

According to the Guidelines, the Corps “shall determine in writing 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” by making the factual determinations listed in 40 C.F.R. § 230.11. The factual determinations relevant to fish values are the water circulation, fluctuation, and salinity determinations (40 C.F.R. § 230.11(b)); contaminant determinations (40 C.F.R. § 230.11(d)); aquatic ecosystem and organism determinations (40 C.F.R. § 230.11(e)); determination of cumulative effects on the aquatic ecosystem (40 C.F.R. § 230.11(f)); and the determination of secondary effects on the aquatic ecosystem (40 C.F.R. § 230.11(h)).

The proposed mine will directly fill at least 196 acres of diverse wetlands and streams. Additionally, at least 300 acres of riparian habitat would be directly filled. This acreage figure does not account for the full range and extent of indirect (secondary) impacts downstream of the Mine facilities, e.g., riparian wetlands along the East Fork of the South Fork of the Salmon River (EFSFSR), as well as several smaller streams that would be affected by the proposed SGP.

- There are significant information gaps for the SGP regarding alternatives, adverse impacts, and compensatory mitigation.
- The alternatives analysis under both NEPA and CWA Section 404 is inadequate. Besides the SGP, no other alternatives have been proposed and described.
- The likely direct, indirect (secondary), and cumulative adverse impacts must be more fully described and analyzed.

### **1. Fish Habitat**

The abundance and distribution of different fish species are dictated by availability of the diverse, ecologically important habitats—wetlands, streams, lakes, ponds, off-channel areas, and other habitat types—that each species requires. The sufficiency, spatial arrangement, and proximity of the habitats each species requires throughout its life cycle (e.g., for spawning, rearing, overwintering, feeding) are key factors determining productivity and sustainability of fish populations. For this reason, the Corps should analyze how the project will affect both the amount and the accessibility of the full complement of habitats that each fish species requires to complete their life histories. If spawning and rearing habitats no longer exist at sufficient levels (in terms of quantity or quality), or no longer exist in proximity to each other, the abundance, productivity, and sustainability of fish populations will be compromised. These habitats need to remain both sufficiently represented and connected, throughout the project area, to sustain the resilience and persistence of fish populations.

The SDEIS reports alarming increases in stream temperature in occupied salmonid habitat:

- “Meadow Creek temperatures are predicted to increase by up to 10 degrees C as the stream channel is “restored” atop the TSF” (SDEIS 4-275).
- “On the Meadow Creek segment atop the reclaimed TSF, temperature....would remain warmer than existing conditions **after 100 years**” (SDEIS 4-274).
- Predicted temperatures are based on effective implementation of stream restoration and riparian shading. Increased temperatures attributable to climate change are not incorporated (SDEIS Table 4.12-2, pg. 4-339).

- “Insufficiently effective closure activities and/or adverse changes in broader climate conditions could result in higher than predicted stream temperatures. Stream temperatures downstream of the Yellow Pine Pit could be greater than existing conditions” (SDEIS 4-281).

Temperature increases in the SDEIS analysis area were outlined as follows. Meadow Creek upstream from the East Fork of Meadow Creek is expected to have temperature increases for up to 52 years, with predicted temperature increases up to 6.8° C above baseline.<sup>28</sup> Additionally, “...stream temperatures are increased in restored stream channels until revegetation establishes to provide riparian shading for the streams”<sup>29</sup> and “Following closure and reclamation, the overall net effect from the SGP would be a net increase in available habitat; however, flows and temperatures make the additional habitat less optimal.”<sup>30</sup> These increases were predicted without incorporating climate change estimates which are “...predicted to increase average August stream temperatures by “an average of 0.72°C (1.3°F) by 2040 and 1.4°C (2.6°F) by 2080 (Isaak et al. 2017).”<sup>31</sup> An increased access to habitat becomes irrelevant when the habitat is not suitable for the native fish populations. The streams and rivers are cold-water sanctuaries for many of the fish species, especially when they are coming from waterways that are experiencing rising temperatures due to climate change and other anthropogenic activities.

The above temperature estimates also likely underestimate the timeline, and probability, of eventual stream temperature reductions back towards current temperatures. All of the predicted eventual reductions in temperatures are predicated on the ability of revegetation to provide shading along restored stream channels. It is well documented that there is a substantial deficit of required growth media for replanting and revegetation efforts that have yet to be remedied.<sup>32</sup> Additionally, there are serious concerns regarding the quality of media available along with the high background concentrations of metals in soils that will impact the suitability of its use as reclamation cover material.

Even under the best case scenario that is outlined within the SDEIS, the 100 year timeline presented for predicted temperatures to return to existing conditions is unacceptable and will lead to long term impacts on the aquatic resources within the SGP analysis area.

Based on the factors outlined above, the SDEIS outlines changes in suitable habitat based on optimal thermal requirements for Chinook salmon, bull trout, and steelhead within the analysis area.

For Chinook salmon, there will be a loss of .53 km of suitable habitat below the Yellow Pine Pit with an increase above the pit. However, it is unclear if some of this habitat will be accessible beyond the new barrier that will be created by the TSF dam.<sup>33</sup>

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<sup>28</sup> SDEIS Table 4.12-2

<sup>29</sup> SDEIS ES-18

<sup>30</sup> SDEIS ES-19

<sup>31</sup> SDEIS 3-68

<sup>32</sup> SDEIS ES-11

<sup>33</sup> SDEIS 2-149



For Steelhead trout, the same question remains as well as a similar reduction of .35 km of suitable habitat below the pit.<sup>34</sup>

When evaluating the impacts and suitable habitat based on optimal thermal requirements for bull trout, there are losses across the board, both upstream and downstream of the Yellow Pine Pit, as well as post closure under the best case scenario in terms of mitigation measures. During operations, it is estimated that there will be a loss of .53 km of suitable habitat below the Yellow Pine Pit and a loss of 7.86 km above.<sup>35</sup> Post closure, the losses below the pit are estimated to be minimized slightly with a total loss of .35 km. However, above the pit, losses will continue to grow, totalling 8.05 km.<sup>36</sup>

Westslope cutthroat trout face similar reductions as bull trout, both above and below the Yellow Pine Pit during operations and into closure.<sup>37</sup>

SDEIS models used to predict fish habitat conditions are fraught with uncertainty, including flow (SDEIS 3-282), temperature/SPLNT (SDEIS 3-318, 4-268, 4-280), reclamation success (SDEIS 4-78), soil productivity (SDEIS 4-86), groundwater flow (SDEIS 4-153 and 162), hydrological model (SDEIS 4-175), water treatment rates (SDEIS 4- 212), stream restoration (SDEIS 4-274), and mercury bioaccumulation (SDEIS 4-353). The models used output from other models for input into these models, constituting an estimate of an estimate. And, as in the case of the PHABSIM model, 30-year-old data from another area was used to predict habitat changes in the mining area. 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.

## **2. Fish**

The SDEIS displays major shortcomings of virtually every factor used to evaluate impacts to fish (particularly intrinsic potential, streamflow productivity, barrier, and stream temperature models), and concludes negative impacts to Chinook salmon, bull trout, steelhead, and westslope cutthroat trout and their habitat.

The application and the SDEIS only analyze the impacts to Chinook salmon, bull trout, steelhead, and westslope cutthroat trout, not other aquatic species. Mountain sucker, mottled sculpin, longnose dace, speckled dace, redbelt shiner, mountain whitefish, Pacific lamprey and other important fish, freshwater insects, algae, and other primary producers are all critical elements of the food webs supporting the salmonids that are not considered. These species are a part of the salmonid food webs and impacts to these populations will lead to impacts to the salmonid populations.

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<sup>34</sup> Id.

<sup>35</sup> SDEIS 2-150

<sup>36</sup> Id.

<sup>37</sup> SDEIS 2-151

Multiple contaminants of significant concern to salmonids and other aquatic life received little consideration. 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 to aquatic life of the Stibnite Gold Project mining proposal.

The SDEIS and application do not adequately consider synergistic effects on fish populations or their habitats. 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 SDEIS 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. It results in a serious underestimate of impacts to fish and their habitat.

The SDEIS 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 (i.e., mercury, arsenic).

In general, mining typically causes stream habitat simplification, decreased water quality and quantity, increased water temperature, migration barriers, and introduction of non-native species. The SDEIS discusses these impacts but fails to define the interrelationship of these and other stressors, and does not adequately consider their synergistic effects.

#### **a. Fish Tunnel Design**

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 SDEIS. 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 SDEIS. 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 the 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 modeled 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).

Additional discussion and analysis must be documented to account for additional impacts to fish species as a result of the potential to require trap and haul practices for the 12-year duration of the project that the fish tunnel is forecast to be utilized.

### **3. Water Quality Relevant to Fish**

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 to aquatic life of the Stibnite Gold Project mining proposal.

#### **a. Habitat impairments are significant enough to consider Stibnite among the U.S.’s most contaminated sites**

Historic mining at Stibnite resulted in heavy metals and cyanide contamination in area soils, groundwater, seeps, sediments, and thus surface waters (USEPA 2020). An initial assessment conducted by the U.S. Environmental Protection Agency (USEPA) in 1985 determined habitat impairments in the watershed were significant enough to consider it among the U.S.’s most contaminated sites in (USEPA 2020). Despite significant restoration and some cleanup efforts, the site remains contaminated and an eligible Superfund site. Moreover, numerous streams in the East Fork drainage of the South Fork Salmon River (EFSFR) 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, antimony, mercury, temperature, and sediment in watersheds and subwatersheds that will be impacted by mining (IDEQ 2018). While the SDEIS indicates that some 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.<sup>38</sup>

The application even states the significant impairments to the water bodies in the area. Based on data from the Idaho Department of Environmental Quality (IDEQ) 2016 Integrated Report (IDEQ 2018), all of the waterbodies that were inventoried in the mine site were classified as Category 5 impaired waters, meaning that these waters are not meeting applicable water quality standards for one or more beneficial

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<sup>38</sup> See Prucha 2020, Schlinger 2022, Semmens 2020 & 2022, Zamzow 2020.

uses due to one or more pollutants. The only exception is for West End Creek, which is classified as a Category 2 impaired waters and still supports its beneficial uses.

### **b. Stream sediment chemistry**

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.” These same comments apply to the SDEIS as well (Maest 2022).

Stream sediment chemistry is an important source of analyzing contaminant loading to fish. The food chain/dietary pathway for fish, starting with contaminated stream sediment, was not considered in the SDEIS conceptual models for existing conditions or current and future modeling efforts. Excluding stream sediment from the contaminant pathway analysis is a major, fundamental flaw with the conceptual model for this site, ignoring best available science, biological opinions, and U.S. FWS and NMFS Recovery Plans for ESA-listed salmonids.

The SDEIS does show 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, levels exceeded Canadian guidelines for the protection of aquatic life. Although the U.S. does not have established sediment guidelines, Canadian guidelines provide a useful reference for sediment concentration guidelines to protect aquatic life.

A conceptual model showing the food chain/dietary pathway for contaminant 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, and clean-up measures.<sup>39</sup>

### **c. Temporal variability of metal contaminants**

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. Although the Forest Service and plan proponent analyzed surface water samples, surface water monitoring was 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

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<sup>39</sup> See Maest 2020 and 2022

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 SDEIS.

#### **d. Antimony speciation and food chain pathway**

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 SDEIS did not analyze any water samples for chemical speciation. 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.

#### **e. Metals concentrations in fish**

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 tend 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 SDEIS. The SDEIS indicated that “In 2015, fish tissue was collected to check for metal concentrations ...” but no metal concentrations in fish tissue data was reported or referenced. More baseline metals concentration data from area biota should be required prior to any permitting decisions.

#### **f. Water chemistry impact predictions consider unjustifiably limited parameters of concern**

The SDEIS qualitatively evaluates impacts to fish from potential increases in concentrations of a few metals (mainly arsenic, copper, mercury, and 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 arsenic and antimony are insufficient in the literature at large, and virtually non-existent for the Stibnite Gold project area.

### **g. Multiple other contaminants of significant concern to salmonids and other aquatic life receive no consideration in the SDEIS**

In addition to impacts of several other existing contaminants at the site most likely related to historic mining activities were overlooked or not considered at all (aluminum, cadmium, iron, manganese, selenium, and 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, mercury and selenium should both be considered in much more depth than they are in the SDEIS. Moreover, information regarding toxicity (direct, indirect, lethal, and/or sublethal) of antimony is widely lacking.<sup>40</sup> Given the near certainty of increases in antimony concentrations resulting from Stibnite Mine development, laboratory toxicity testing (including laboratory tests using site-specific waters) should be required prior to permitting.

Maest (2020) 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 arsenic, antimony, mercury, 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.”

### **h. Degradation of adjacent wetlands impact the water and habitat quality for critical fish species**

The SGP would destroy or degrade extensive riparian-wetland areas, which are some of the most productive aquatic resources. Riparian-wetland habitats (riparian ecosystems) are generally defined as a body of water with its adjacent soil and vegetation. Riparian ecosystems have two<sup>41</sup> important features: 1) woody vegetation for shade, cover, habitat, and streambank protection; and 2) streambanks themselves, sometimes referred to as the “greenline,” with their protective shrub and herbaceous plant community. Riparian-wetland vegetation also helps control erosion, stabilizes streambanks, provides shading, filters sediment, aids floodplain development, dissipates energy, delays flood water, and can increase groundwater recharge.<sup>42</sup>

## **4. Recreational and Subsistence Fish**

Subsistence fish resources are sacred to the Nez Perce Tribe. Chinook salmon (Nacòx) are incorporated into the Nez Perce Tribe's culture, religion, and are a critical fishery for subsistence harvest. The Project has the potential to negatively affect and degrade the Chinook salmon populations that the Nez Perce

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<sup>40</sup> Eisler 2004 - Cyanide Hazards to Plants and Animals from Gold Mining and Related Water Issues

<sup>41</sup> Hall, F.C. and L. Bryant. 1995. Herbaceous stubble height as a warning of impending cattle grazing damage to 4 riparian areas. GTR PNW-GTR-362. Portland, OR. USDA, Forest Service, Pacific Northwest Research Station. 9 p.

<sup>42</sup> Bureau of Land Management (BLM) Salmon Field Office (SFO), Salmon River Corridor Watershed Assessment 5 Report, Salmon Field Office, September, 2011.

Tribe rely on. Historic mining activities at the Stibnite site extirpated Chinook salmon from the headwaters of the EFSFSR in the 1940s due to sediment and pollutants.<sup>43</sup>

The Project is located entirely within the homeland of the Nez Perce people, the Nimíipuu, and within the Tribe's area of exclusive use and occupancy, as adjudicated between the Nez Perce Tribe and the United States by the Indian Claims Commission. The SDEIS shows that the proposed mine is predicted to harm the traditional lands of indigenous peoples, such as the Nez Perce Tribe, including harm to treaty rights, such as preventing access to traditional lands, harming traditional fishing and hunting rights, impacting endangered salmon and concerns that it would harm the tribe's salmon restoration efforts. Treaty rights must be respected.

According to the Nez Perce Tribe's comments on the Project's SDEIS, the Tribe has been actively recovering Chinook salmon in the EFSFSR watershed since the mid-1990s and utilizing this watershed since time immemorial. Impacts to Chinook salmon from the Project are a direct impact to Treaty Resources that fall under the 'trust responsibility' of the Forest Service to protect. The South Fork Salmon River Major Population Group, which includes the EFSFSR and Johnson Creek spring/summer Chinook spawning aggregates (collectively referred to as the East Fork South Fork Salmon River population) are at a high-risk rating for abundance and productivity and a low risk for spatial structure and diversity.<sup>44</sup>

Habitat concerns in the EFSFSR exist and would be exacerbated by Project activities. Sediment remains a concern for the fish populations due to landslides and wildfires, which have been documented to have delivered excessive sediment to streams in these populations in the last 5 years.<sup>45</sup> High stream temperatures are a limiting factor in these populations.<sup>46</sup> Recommended future actions by National Marine Fisheries for reducing limiting factors that impede the recovery of Chinook salmon include reducing and preventing sediment delivery, improving riparian function and improving water quality<sup>47</sup> - which this Project jeopardizes both in the short term and questionable long-term plans.

The waterways that interact with the mine site are also known for their outstanding recreational fishing opportunities. The Payette and Boise National Forests offer a diverse array of recreational assets providing a broad range of opportunities for the public, with many coming to this area to fish. The Forest Service's Wild and Scenic Eligibility findings further bolster the river's unique values protected under the

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<sup>43</sup> National Marine Fisheries Service, ESA Recovery Plan for Snake River Idaho Spring/Summer Chinook Salmon and Snake River Basin Steelhead: Appendix C, Idaho Management Unit, NMFS West Coast Region, Portland, Oregon, November 2017.

<sup>44</sup> NOAA, 2022 5-Year Review: Summary & Evaluation of Spring and Summer Chinook Salmon, National Marine Fisheries Service West Coast Region.

<sup>45</sup> Nez Perce Tribe, Nez Perce Tribe NOAA 5-Year Review Answers, Nez Perce Tribe, McCall Watershed Program, April 2, 2020.

<sup>46</sup> National Marine Fisheries Service, ESA Recovery Plan for Snake River Idaho Spring/Summer Chinook Salmon and Snake River Basin Steelhead: Appendix C, Idaho Management Unit, NMFS West Coast Region, Portland, Oregon, November 2017.

<sup>47</sup> NOAA. 2022 5-Year Review: Summary & Evaluation of Spring and Summer Chinook Salmon. National Marine Fisheries Service West Coast Region.

Forest Plan. “The SFSR has outstanding white-water boating and nationally recognized fishing opportunities during premier steelhead and Chinook salmon Seasons.”<sup>48</sup>

Scoping comments submitted on the Stibnite Gold Project included many requests to address impacts to specific recreation resources. General comments requested that the Forest Service address the following in analyzing recreational use; “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.”<sup>49</sup> 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 channels and wildlife habitats.”<sup>50</sup>

Additionally, 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 for anglers to target these species. 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.”<sup>51</sup> The SDEIS 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 SDEIS.

#### **D. Groundwater and Surface Water Hydrology**

According to the Guidelines, the Corps “shall determine in writing 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” by making the factual determinations listed in 40 C.F.R. § 230.11. The factual determinations relevant to groundwater and surface water hydrology are the water circulation, fluctuation, and salinity determinations (40 C.F.R. §230.11(b)); aquatic ecosystem and organism determinations (40 C.F.R. § 230.11(e)); the determination of cumulative effects on the aquatic ecosystem (40 C.F.R. § 230.11(g)); and the determination of secondary effects on the aquatic ecosystem (40 C.F.R. § 230.11(h)).

The SDEIS relies on watershed, groundwater, and water balance models to predict how mine site activities will change groundwater conditions and impact surface water and aquatic

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<sup>48</sup> Payette and Boise NF Wild and Scenic Suitability Report, J-34.

<sup>49</sup> USFS, 2018. Stibnite Gold Project EIS Scoping Issues and Summary Report, p. 49

<sup>50</sup> Id. at 53.

<sup>51</sup> Payette National Forest, South Fork Salmon River Information. Accessed at <https://www.fs.usda.gov/detail/payette/home?cid=STELPRDB5160141>



resources. Yet, the MODPRO2 model needs additional clarification, testing and potential improvement before predictions of groundwater and streamflow impacts can be made and conclusions can be formed. More detailed comments are provided in Semmens (2022). The water quantity related modeling is substantively flawed and must be addressed to provide an accurate analysis of potential impacts, as described in Schlinger (2023).

### **E. Water Quality**

According to the Guidelines, the Corps “shall determine in writing 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” by making the factual determinations listed in 40 C.F.R. § 230.11. The factual determinations relevant to water quality are the contaminant determinations (40 C.F.R. § 230.11(d)); aquatic ecosystem and organism determinations (40 C.F.R. § 230.11(e)); the determination of cumulative effects on the aquatic ecosystem (40 C.F.R. § 230.11(g)); and the determination of secondary effects on the aquatic ecosystem (40 C.F.R. § 230.11(h)).

The SDEIS substantially underestimates potential significant impacts to water quality, as described in the Conservation Coalition (2023) comments, including, but not limited to the following:

- The geochemical testing results and modeling efforts are flawed and inadequate, and will likely underestimate impacts.
- Management plans for waste are poorly developed or completely undeveloped.
- The site-wide water chemistry model is inadequate and underestimates impacts.
- Water quality impacts may be underestimated due to the location of assessment nodes.
- The SDEIS fails to provide baseline data to characterize organic carbon or quantify the increase in organic carbon from the sewage treatment plant and its potential impacts.
- The SDEIS fails to provide current baseline data to characterize water quality in streams adjacent to proposed access roads, utility corridors and off-site facilities that have the potential to be impacted by SGP activities.

The Stibnite Gold Project proposes to treat discharges to meet various water quality standards. The Corps should analyze the potential for discharges to match the existing water quality of the receiving waters. Discharges that meet standards may still impact fish and fish habitat. For example, small changes, such as increases in dissolved copper concentrations, can be lethal or sublethal. In order to improve this analysis, the Corps should predict changes to concentrations in streams due to project impacts (such as treated water discharges, fugitive dust, and uncaptured groundwater) and evaluate the impacts that these changes could have on fish and fish habitat.

As described in the comment letter from the Nez Perce Tribe (2023), the SDEIS failed to consider appropriate water quality standards and criteria, including the following.<sup>52</sup>

The SDEIS used the IDAPA 58.01.02 - CMC (acute) criterion for the analysis of silver. This calculated criterion is dependent upon hardness and is appropriate to use so long as the criterion is less than EPA's National Recommended Water Quality Criteria for Aquatic Life - CMC (acute) of 3.2 µg/L. If the

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<sup>52</sup> Nez Perce Tribe, Comments on the Supplemental Draft Environmental Impact Statement, January 5, 2023.

calculated criterion for a data point exceeds 3.2 µg/L, then EPA's National Recommended Water Quality Criteria for Aquatic Life - CMC (acute) for silver becomes the most stringent criterion and should be used for analysis.

The SDEIS uses the IDAPA 58.01.02 - CCC (chronic) criterion for the analysis of zinc. This calculated criterion is dependent upon hardness and is appropriate to use so long as the criterion is less than EPA's National Recommended Water Quality Criteria for Aquatic Life of 120 µg/L. If the calculated criterion for a data point exceeds 120 µg/L, then EPA's National Recommended Water Quality Criteria for Aquatic Life for zinc becomes the most stringent criterion and should be used for analysis.

Mercury. While water column methylmercury concentration predictions are important to elucidate the long-term impacts of the proposed mining at the site, the applicable water quality standard applies only to fish tissue on the basis of human consumption. Many tribal members continue to exercise their treaty reserved rights to fish for salmon and steelhead in the EFSFSR downstream of the proposed mine site. In order to ensure the proposed action will not negatively affect tribal health or impact tribal treaty rights in the EFSFSR, fish tissue samples need to be analyzed throughout the site and the potential tribal health impacts need to be addressed in the SDEIS.

The SDEIS fails to address potential nitrogen contamination resulting from the proposed actions. Potential sources of nitrogen components in the proposed actions include leftover residues from explosives, precipitate from cyanide ore processing, domestic wastewater effluent, and increased sediment pollution.

Ammonia is highly toxic to aquatic organisms, particularly to salmonids and mussels. In high enough concentrations, ammonia can build up in the internal tissues and blood of aquatic organisms, often leading to death. Ammonia can also adsorb to several metal ions and be deposited into sediments which can be toxic to benthic or surface aquatic biota. Potential sources of ammonia in the proposed action include residue from Ammonium Nitrate Fuel Oil, residual cyanide from the cyanide neutralization facility where oxidized cyanide forms carbonate and ammonia, and waste effluent from the housing facility. Water quality criteria have been established by EPA and are dependent upon pH and water temperature. Individual criteria should be calculated for each data point collected at each monitoring location. Due to its close association with mining operations and its high toxicity, especially to salmonids, current conditions must be characterized and the potential impacts should be included in the SDEIS. Ammonia criteria should also be addressed in the Sanitary Wastewater IPDES permit that has yet to be shared for review. The ammonia water quality standard value of 2.1 mg/L is not explained in the SDEIS nor is it the strictest potentially applied water quality standard.

Nitrate is relatively harmless in drinking water at low concentrations, but can contribute to eutrophication in streams and rivers. However, nitrate can go through partial denitrification by bacteria to form the less stable and more toxic nitrite ion. In addition, no surface water quality criterion was assigned for nitrate+nitrite but the SDEIS uses the groundwater quality standard value of 10 mg/L for the surface water assessment and the Target Post-Water Treatment Plant Effluent Analyte Treatment Objective standard. EPA established ambient water quality criteria recommendations for nitrate+nitrite in the western forested mountains guidance (Ecoregion II, Level III ecoregion 15). The guidance recommends a nitrate+nitrite water quality criterion of 0.02 mg/L. However, detection limits reported for nitrate+nitrite

in the Surface Water Quality Baseline Study were 0.05 mg/L, which is higher than the recommended water quality criterion so additional data should be collected at the site and analyzed with a lower detection limit in order to accurately characterize current site conditions.

Total Kjeldahl nitrogen is the sum of organic nitrogen and ammonia nitrogen and is often monitored in wastewater effluent and its receiving body. Kjeldahl nitrogen was monitored in the current conditions analysis but was not included in the site-wide water chemistry modeling report. In addition, no water quality criterion was assigned for Kjeldahl nitrogen in the Surface Water Quality Baseline Study; EPA established ambient water quality criteria recommendations for Kjeldahl nitrogen in the western forested mountains guidance (Ecoregion II, Level III ecoregion 15). The guidance recommends a Kjeldahl nitrogen water quality criterion of 0.08 mg/L. Since potential sources of Kjeldahl nitrogen are included in the proposed action, Kjeldahl nitrogen should be reanalyzed against this criterion and included in the SDEIS and IPDES permits, or supporting documents.

Total nitrogen is the sum of Kjeldahl nitrogen and nitrate+nitrite and is often monitored in wastewater effluent and its receiving body, and is often also correlated with sediment erosion. Total nitrogen was monitored in the current conditions analysis but was not included in the site-wide water chemistry modeling report. Why was it omitted? Also, no water quality criterion was assigned for total nitrogen in the Surface Water Quality Baseline Study; EPA established ambient water quality criteria recommendations for total nitrogen in the western forested mountains guidance (Ecoregion II, Level III ecoregion 15). The guidance recommends a total nitrogen water quality criterion of 0.20 mg/L. Since potential sources of total nitrogen are included in the proposed action, it should be reanalyzed against this criterion and included in the SDEIS and IPDES permits, or supporting documents.

Phosphorus is relatively harmless in drinking water at low concentrations, but can contribute to eutrophication in streams and rivers. Sources of phosphorus include human or animal waste, detergents, food waste, and sediment erosion. While both total and dissolved phosphorus concentrations were included in the current conditions monitoring, only dissolved phosphorus was included in the current conditions and predictive modeling. Why was total phosphorus omitted? Total phosphorus is highly correlated with sediment and should have been included in the site-wide water chemistry analysis. In addition, no water quality criterion was assigned for total phosphorus in the Surface Water Quality Baseline Study; EPA established ambient water quality criteria recommendations for total phosphorus in the western forested mountains guidance (Ecoregion II, Level III ecoregion 15). The guidance recommends a total phosphorus water quality criterion of 7.75 µg/L. Since potential sources of phosphorus are included in the proposed action, it should be reanalyzed against this criterion and included in the SDEIS and IPDES permits or supporting documents.

Since the publication of many of the proposed project's technical reports, several federal and state water quality standards have been changed. See Nez Perce Tribe (2023) for a table summary of constituents that need to be reanalyzed to reflect the most current and strictest potentially applicable standards.<sup>53</sup>

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<sup>53</sup> Nez Perce Tribe, Comments on the Stibnite Gold Project Supplemental Draft Environmental Impact Statement, January 5, 2023, p. 46-47.

As described in comments from the U.S. EPA, the SDEIS also failed to adequately consider impacts to water quality from soil contamination, fugitive dust and underestimations and inadequate analysis of total mercury deposition.<sup>54</sup>

Further details on the inadequacy of the SDEIS to accurately analyze impacts to water quality are included in the Conservation Coalition (2023) comments and technical comments by Maest (2022)

### **VIII. Determination of Least Environmentally Damaging Practicable Alternative**

<https://www.nww.usace.army.mil/Business-With-Us/Regulatory-Division/Public-Notices/Article/3464497/public-notice-application-for-permit-nww-2013-00321-stibnite-gold-project-valle/>

When a project is not “water dependent,” as is the case for the proposed Stibnite Gold Project, 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.<sup>55</sup> 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.”<sup>56</sup> 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.<sup>57</sup> While the applicant has the burden to demonstrate that no feasible alternative exists, the Corps must also engage in a reasoned analysis of the issue,<sup>58</sup> and cannot blindly and uncritically accept an applicant’s study of alternatives nor its assertions that no practicable alternative exists.<sup>59</sup>

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. However, the financial circumstances of a particular applicant are not considered relevant if an alternative could be practicably achieved 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.”<sup>60</sup> Accordingly, a LEDPA need

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<sup>54</sup> U.S. Environmental Protection Agency, Comments on the Supplemental Draft Environmental Impact Statement, January 10, 2023.

<sup>55</sup> 40 C.F.R. § 230.10(a)(3); *see Sierra Club v. Flowers*, 423 F. Supp. 2d 1273, 1352 (S.D. Fla. 2006).

<sup>56</sup> 40 C.F.R. § 230.10(a)(2)

<sup>57</sup> 40 C.F.R. § 230.10(a)(1)

<sup>58</sup> *Id.* at 1356-57.

<sup>59</sup> *Friends of the Earth v. Hintz*, 800 F.2d 822, 835-36 (9th Cir. 1986).

<sup>60</sup> 45 Fed. Reg. 85339 (Dec. 24, 1980).

not be the least costly, nor the most profitable for the particular applicant, even if that is the “stated objectives of the permit applicant[.]”<sup>61</sup>

#### **A. The Corps duty to conduct an independent analysis when determining the LEDPA.**

The Guideline’s presumption that less environmentally damaging alternatives are available and practicable unless the applicant clearly demonstrates otherwise is a cornerstone of the Corp’s authority “to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.”<sup>62</sup> Although the Guideline’s recognize that an alternatives analysis developed under NEPA may provide the information needed to evaluate alternatives under the Guidelines, they acknowledge that there may be instances where “NEPA documents . . . may not have considered the alternatives in sufficient detail to respond to the requirements of these Guidelines,” and thus make it “*necessary* to supplement these NEPA documents with this additional information.”<sup>63</sup>

As is relevant here, Perpetua Resources has stated that its primary objective is to “*economically* develop and operate” a gold, silver, and antimony mine to “*obtain financial return and benefits* from its property rights and investment.”<sup>64</sup> This statement must provide the reference frame from which the Corps evaluates Perpetua’s proposed LEDPA (and analysis leading to it). Contrary to what is “necessarily material to the objectives of the Guidelines,” the LEDPA advanced by Perpetua, while capable of achieving the mining of “gold, silver, and antimony from ore deposits associated with the SGP,” is limited by considerations such as acting in the best interest of the corporation’s shareholders.<sup>65</sup> Moreover, criteria used by the USFS to develop and evaluate the range of reasonable alternatives under NEPA considered whether an alternative was “economically feasible” with respect to Perpetua Resources (then Midas Gold), and not to the industry as a whole.<sup>66</sup> As such, the Stibnite Gold Project alternative selection process was guided by a specific criteria that the project “should yield a minimum after tax internal rate of return of approximately 20%” so that financing to develop the project could be procured.<sup>67</sup>

However, this focus on profit-maximizing alternatives in the NEPA process limited consideration of alternatives that, although potentially more costly and less profitable to the applicant, would achieve the same basic purpose of the proposed activity and at the same time reduce the overall environmental impact. Because the SDEIS considers only two action alternatives, the 2021 MMP (Perpetua’s preferred proposal) and the Johnson Creek Route Alternative, the commenting organizations here have repeatedly alerted the Forest Service to the inadequate consideration of alternatives to the Stibnite Gold Project mining plan throughout the NEPA process.<sup>68</sup> Moreover, the commenting organizations and EPA have

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<sup>61</sup> *La. Wildlife Fed’n v. York*, 761 F.2d 1044, 1047-48 (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”).

<sup>62</sup> 33 U.S.C. § 1251(a).

<sup>63</sup> 40 C.F.R. § 230.10(a)(4).

<sup>64</sup> Applicant 404(b)(1) Analysis, at 1-16.

<sup>65</sup> *See, e.g.*, Idaho Code § 30-29-830.

<sup>66</sup> Applicant 404(b)(1) Analysis, at 2-1 (noting information from the original Midas Gold PRO was considered narrowing the range of alternatives; SDEIS, at 2-2; see also Midas Gold Plan of Restorations and Operations (2017), Appendix G.

<sup>67</sup> Midas Gold Plan of Restorations and Operations (2017), at G-16.

<sup>68</sup> See DEIS Comments 2020; SDEIS Comments (Jan. 9, 2023); Letter to Forest Service Chief Randy Moore, RE: Stibnite Mine SEIS Range of Alternatives (Oct. 12, 2021).

noted that the SDEIS does not sharply define nor provide clear distinctions of the direct, indirect, and cumulative effects between the Burntlog Route and Johnson Creek Road mine site access alternatives.<sup>69</sup> Indeed, according to the SDEIS, “the mining portion of [the Johnson Creek Route Alternative] would be the same as the 2021 MMP.” Thus, the primary differences between these alternatives are impacts from construction, maintenance, and use of these roads. Unlike the Forest Service’s erroneous limitation on alternatives analyzed in the SGP NEPA process, the Corps cannot so limit its own analysis when determining the LEDPA, and should also consider the following comments in making its determination.

### **1. Alternative tailings disposal methods.**

The proposed Tailings Storage Facility in the headwaters of Meadow Creek is responsible for almost two-thirds of the project’s impacts to wetland acres, and nearly half the impacts to riparian conservation areas and perennial streams.<sup>70</sup> Yet, the project applicant and USFS eliminated dry-stack and paste methods of tailings disposal—even though both are technologically feasible—because neither was as cost-effective as the chosen “thickened tailings” method.<sup>71</sup> In fact, the SDEIS claims “the paste method was evaluated and determined to be technically feasible but not economically feasible and did not offer environmental advantages over other action alternatives.”<sup>72</sup> However, at the time that statement was initially made in the DEIS, fully back-filling mine pits other than the Yellow Pit was not envisioned at the mine site.<sup>73</sup> Moreover, the SDEIS claims that “use of the dry stack method of tailings disposal was evaluated and determined to be technically and economically infeasible” because of anticipated ore processing rates.<sup>74</sup> The now superseded 2020 DEIS says exactly the same thing.<sup>75</sup>

Given the progression of the SGP, these assertions regarding paste and dry stack methods of tailings disposal are likely inaccurate. First, in the 2020 DEIS, the USFS asserted that backfilling the Hangar Flats and West End pits at reclamation was not economically feasible and did not offer an environmental advantage.<sup>76</sup> Now, in the 2021 MMP Alternative evaluated in the SDEIS, what was once deemed economically infeasible with no environmental advantages in the DEIS, is currently lauded by the applicant as the LEDPA before the Corp, which specifically requires backfilling both the Hangar Flats and Yellow Pine pits and portions of the West End pit after operations have ceased. Second, the technically infeasible justification (claiming that it cannot be one when ore processing rates are above 25,000 tons per day) for eliminating dry stack tailings from consideration is questionable.<sup>77</sup> After the Idaho Department of Environmental Quality issued the SGP a permit to construct under its Clean Air Act authority, it has become increasingly apparent that the conditions assumed by IDEQ to ensure compliance with federal and state air quality regulations are inadequate. Thus, limiting daily production capacity to below 25,000 tons per day may be a necessary condition placed on the SGP to ensure compliance with air quality standards. Therefore, if the ore processing rate is less than 25,000 tons per day, dry stack tailings become technically feasible according to Perpetua’s (then Midas Gold) analysis (which is now over seven

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<sup>69</sup> EPA Comments on 2022 draft SDEIS, at 2–3 (Jan. 10, 2023).

<sup>70</sup> SDEIS, at 4-310 to 4-311.

<sup>71</sup> See Midas Gold PRO, at G-41 to G-44; SDEIS, at 2-129 to 2-130.

<sup>72</sup> SDEIS, at 2-130

<sup>73</sup> DEIS, at 2-144; see also Midas Gold PRO, at G-45.

<sup>74</sup> SDEIS, at 2-130.

<sup>75</sup> 2020 DEIS, at 2-143.

<sup>76</sup> 2020 DEIS, at 2-143.

<sup>77</sup> See AECOM 2020(c).

years old).<sup>78</sup> We request the Corps make an independent assessment of the tailings disposal method and provide justification for why one method is superior to another with respect to environmental harm. Because tailings storage is one of the key limiting factors for the Stibnite Gold Project, and an alternative (dry stack, paste, pit backfill) that reduces the need for such storage, will greatly reduce the areal extent of impacts to wetlands, RCA's and streams (especially in Meadow Creek), this information is highly relevant to a LEDPA determination. We reiterate that the burden of proof to demonstrate compliance with the Guidelines rests with the applicant; where insufficient information is provided to determine compliance, the Guidelines require that no permit be issued.<sup>79</sup>

## 2. Underground Mining.

The SDEIS does not provide adequate justification for eliminating underground mining as an alternative to be considered in the SDEIS.<sup>80</sup> In explaining why underground mining was eliminated as a consideration in the SDEIS, the only rationale presented asserts:

“In aggregate, grades for these three deposits above a 0.48 grams per ton (g/t) gold cut-off grade averaged 1.43 g/t gold, 1.91 g/t silver, and 0.064 percent antimony (M3 2021). Typical economic cutoff grades for underground mine operations are approximately 5 g/t gold.”<sup>81</sup>

Of course, potential economic viability of a mine must begin by considering how much gold exists in the deposit that is greater than the identified cutoff grade, and whether this amount would justify underground mining. But this analysis is not addressed in the SDEIS.

In addition, if underground mining did take place, the cutoff grade would likely be less than the 5 g/t assumed in the SDEIS. The reference cited in the SDEIS, the Stibnite Gold Project Feasibility Study (M3 2021), has an entire section devoted to the discussion of “Potential high-grade underground exploration prospects.”<sup>82</sup> In that section, M3 used “gold cutoff” values of 2.4 g/t and 3 g/t, both of which are well below the 5 g/t cited in the SDEIS. The SDEIS gives no citation for its assumed 5 g/t as the “typical economic cutoff grades for underground mining.”<sup>83</sup> The 5 g/t cutoff grade is mentioned nowhere in the M3 Feasibility Study. The choice of a typical cutoff grade for underground mining when chosen to eliminate an alternative from consideration should at least be consistent with the information being presented to the company's potential investors in its technical reports.

Unlike the Feasibility Study, which aggressively addressed the possibility for underground mining to potential investors, the SDEIS appears to avoid serious discussion of underground mining as a possibility by broadly concluding that underground mining is economically unfeasible, and failing to even defend that conclusion with any quantitative analyses.

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<sup>78</sup> See, e.g., Midas Gold Plan of Restoration and Operations, Appendix G,

<sup>79</sup> See 40 C.F.R. 230.12(a)(3).

<sup>80</sup> CSP2 (2022).

<sup>81</sup> SDEIS, at 2-128.

<sup>82</sup> Midas Gold Feasibility Study (2021), at Section 9.8.

<sup>83</sup> SDEIS, at 2-128.

Underground mining should be analyzed as a potential LEDPA. Underground mining means less waste disposal on the surface, less disruption of existing surface water flows, and less impacts to wetlands, RCA's, and streams, while still allowing removal of much of the existing waste sources of contamination proposed for the open pit mining alternative—particularly when combined with paste backfill for tailings disposal, underground mining certainly becomes an alternative worthy of consideration. Indeed, underground mining is highly relevant to the antimony deposit at Stibnite. Given Perpetua's recent statements that antimony production is one of the primary goals and its recent grants from the Department of Defense, an alternative emphasizing antimony recovery could greatly reduce environmental impacts while at the same time allow for the same basic purpose of the proposed activity. In the SDEIS, it is noted that only 15 to 20% of the total mill feed would contain sufficient antimony mineral grades to warrant production of antimony concentrate. Thus, an alternative focused on only developing the ore deposits that contain high antimony mineral grades could facilitate underground-only mining.

Under this scenario, the mineralized area mined for high grade antimony would still contain gold and silver, but it would dramatically reduce the footprint, wetlands impacts, and water treatment costs. Since Perpetua has already received subsidies to mine high -grade antimony, there is no longer the need to fully fund this project through gold extraction—which opens the potential to develop a project that not only meets the United States' national defense needs and the basic purpose of the proposed activity, but does so in far less environmentally damaging way than the SGP as currently proposed.

Further, when evaluating the LEDPA, the Corps should also consider an underground mining alternative in terms of reduced impacts to soils. In the SDEIS, the USFS notes that the Total Soil Resource Commitment (TSRC) guidelines in the PNF Forest Plan that limit TSRC to 5% of activity area would be violated with the project leading to a TSRC of 17%.<sup>84</sup>

However, reclamation activities would not reduce this amount because “[a]s a general rule, the processes responsible for restoration of soil productivity occur over a very long timeframe (centuries to millennia) and do not directly correlate to successful reclamation, which is mainly oriented to short-term objectives.”<sup>85</sup> And, “the recovery of greater than 40 percent soil productivity within a 50-year timeframe is unlikely.”<sup>86</sup> As a consequence, the Forest Service has proposed a Forest Plan Amendment to waive its TSRC guidelines in the SDEIS.<sup>87</sup>

Additionally, the SDEIS states “the soils in this SMU [soil map unit typic halosparists (cTH)] also have elevated antimony, arsenic, and mercury concentrations (Tetra Tech 2021a).”<sup>88</sup> In its SDEIS comments, EPA pointed out that the USFS failed to consider “how soils with elevated concentrations of antimony, arsenic, and mercury will impact predicted water quality concentrations of these contaminants” and failed to determine a methodology for evaluating concentrations limits for these constituents for assessing soil suitability for reclamation purposes.<sup>89</sup> This is particularly important for the overall evaluation of the LEDPA because any cover material used in reclamation and Perpetua's compensatory mitigation plan—

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<sup>84</sup> SDEIS, at 4-79.

<sup>85</sup> SDEIS, at 4-78.

<sup>86</sup> SDEIS, at 4-79.

<sup>87</sup> See SDEIS, at Appendix A.

<sup>88</sup> SDEIS, at 3-81

<sup>89</sup> EPA Comment Letter SDEIS (Jan. 10, 2023), at 7.



such as for stream and wetland reconstruction over the Tailings Storage Facility or the Yellow Pine pit and associated “Stibnite Lake” (this is a non-exclusive list)—will affect “analysis of potential reclamation and closure/post-closure impacts to wetlands, waters, wildlife, aquatic resources, and public health.”<sup>90</sup>

Thus, the Corps should consider whether an underground alternative would reduce impacts to soils and the deficit in available reclamation materials—which are necessary to achieving success with Pereptua’s proposed mitigation for onsite wetlands and streams. Unlike the USFS’s haste to eliminate underground mining as an alternative, the Corp should not blindly and uncritically reject it as a potential LEDPA.

### 3. Tailings Storage Locations

Unlike the 2020 DEIS, the SDEIS evaluates a single location for the Tailings Storage Facility (TSF), which, as noted herein, involves significant discharge to wetlands or other special aquatic sites, e.g., Meadow Creek. Since a TSF is not water dependent, the practicable alternatives that do not involve a discharge to wetlands and other special aquatic sites “are presumed to be available, unless clearly demonstrated otherwise.” In the USFS’s 2020 DEIS, two locations were analyzed for the TSF.<sup>91</sup> In addition, as noted above, the SDEIS and DEIS offer conflicting versions of which method of tailings disposal indeed has “environmental advantages” over another. However, in the SDEIS, the USFS (and Corps) only considered a single location for a TSF, and with using only a single method of disposal. No other alternatives were evaluated whatsoever. In the 2017 Midas Gold Plan of Restorations and Operations (PRO), it states that “although the Fiddle Valley and Blowout Valley sites have sufficient volume to contain +/-100 million tons of tailings, these sites require excessive pump lift from the process plant, are located in areas that have generally not been disturbed by mining activities and, in the case of the Fiddle Valley, require risky and inefficient embankment construction.”<sup>92</sup> Thus, for the Blowout Valley, the difference between other TSF locations was “excessive pump lift,” which is merely an economic consideration specific to the particular applicant.

While the PRO indicates that “Midas Gold is committed to restoring the upper Blowout Valley wetlands early in the project as a feature of Project development,” these efforts pale in comparison to the impact to undisturbed wetlands and streambeds in upper Meadow Creek that will be permanently segregated as connected fish habitat with the East Fork South Fork Salmon River because of the +/- 450 tall TSF buttress—not to mention the associated dredge and fill of 75.1 acres of wetlands, 232.2 acres of RCA, and 23,668.8 feet of perennial stream. To be sure, while restoring wetlands in the hanging valley at the head of Blowout Creek is a laudable goal, there must be analysis to compare the destruction and permanent elimination of fish habitat in upper Meadow Creek and benefits of leaving upper meadow Creek in tact while placing tailings in the Blowout Valley. This is especially important because in the proposed reclamation over the Meadow Creek TSF, reconstructed wetlands and streams will not be connected with groundwater due to the need to line them from the contaminated mine waste below. These reconstructed aquatic habitats will never function naturally again, while in Blowout Valley, which already has been significantly impacted by past mining activity, the severity of impacts to already high functioning aquatic habitats would likely be far less severe. Furthermore, neither the DEIS or SDEIS fully explain why alternative locations for the TSF are not practicable. Therefore, consistent with the requirement of 40

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<sup>90</sup> *Id.*

<sup>91</sup> DEIS, p. 2-6

<sup>92</sup> Midas Gold PRO (2017), at G-51.

C.F.R. § 230.10(a), the Corps should include the Fiddle Valley, Blowout Valley, and EFSF Valley options for tailings storage and explain why each of these locations are not practicable. In the alternative, the Corps could further explain why any existing description of the Meadow Creek Valley TSF option is sufficient to satisfy the requirements of 40 C.F.R. § 230.10(a).

This information is particularly important given the significance and complexity of the discharge activities associated with the Stibnite Gold Project.

#### **4. Restoration 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 Corps and the Forest Service by including a fully developed analysis of a Restoration Emphasis Alternative (REA).

##### **B. Perpetua Resources' proposed methodology for determining the LEDPA.**

The Corps cannot use Perpetua’s proposed methodology for determining the LEDPA without adequate justification that the methodology accurately quantifies the LEDPA. Perpetua’s 404(b)(1) Analysis Report states that “in consultation with the USACE,” Perpetua evaluated the LEDPA by using three tiers of environmental factors:

- Tier 1 Environmental Factors for Primary Impacts to WOTUS
- Tier 2 Environmental Factors for Indirect Impact to WOTUS
- Tier 3 Environmental Factors for Sensitive or Protected Species

While we agree that a quantitative methodology can be a useful tool to analyze environmental impacts from a high level of generality, we are concerned that Perpetua’s proposed methodology mischaracterizes direct and indirect impacts to WOTUS as well as impacts and effects to sensitive and protected species. In other words, the proposed methodology undercounts actual impacts and effects to WOTUS by elevating not only the presumed impacts and effects of qualitative factors—which are not supported by the SDEIS—but also the impacts and effects of future mitigation plans that are either located in distant watersheds (such as the Lemhi River, which is a tributary of the Main Salmon River over 200-miles upstream of the confluence of the South Fork of the Salmon) or temporally removed from the disturbance caused by construction and operation of the proposed SGP. Moreover, Perpetua’s proposed methodology assumes that only those wetlands which are permanently disturbed or eliminated are subject to accounting to determine the LEDPA, and therefore discounts impacts to other wetlands that may fall outside the Corps jurisdiction. Even though such wetlands may not be jurisdictional, they are habitat to forest sensitive species and thus impacts to them should be considered when determining the LEDPA.

Furthermore, Perpetua’s methodology includes alternatives that are not being considered in the SDEIS, such as the alternative tailings facility location in the upper EFSFSR. While we support analysis of different alternatives, including this alternative TSF location in the LEDPA, quantification methodology skews comparisons between the alternatives advanced in the SDEIS because—especially with respect to

the Tier 1 factors—it causes far more disturbance in terms of acres than any of the other alternatives. Since the proposed methodology distorts the LEDPA analysis in a way that unduly favors Perpetua’s preferred mining plan, the Corps must carefully review and provide adequate justification for its efficacy prior to its use to determine the LEDPA.

## **1. Tier 1 Environmental Factors—efficacy of the SFA.**

### ***a. Stream Functional Assessment Methodology***

The 404(b)(1) Analysis Report states that the Stream Functional Assessment (SFA) was “developed as an adaptation of the USFS’s Watershed Condition Indicator Matrix that reflects important stream functions and values related to fish species of interest in the PNF, specifically Chinook salmon, steelhead, bull trout, and westslope cutthroat trout.” The SFA is a “debits” and “credits” ledger based on a rating system of Watershed Condition Indicators (“WCI”) and other aquatic resource elements at multiple spatial and temporal scales. However, the SFA is an unproven, unrepeatable model—which uses some Watershed Condition Indicators but completely ignores others—designed by Perpetua specifically for the SGP. Notably, while the SDEIS mentions it a handful of times, it provides zero analysis as to its efficacy or basis for accepting it as a tool to analyze impacts to stream function. Indeed, the SDEIS indicates that there is no “USACE-approved stream functional analysis”<sup>93</sup> and unlike the Montana Wetland Assessment Method, the 404(b) Analysis Reports is silent as to whether the Corps has agreed to use this tool to assess impacts to “WOTUS stream aquatic habitat quality and quantity over the life of the proposed Project using structural and functional values combined to yield functional units of measure, for debits associated with stream impacts and credits associated with proposed stream mitigation.”<sup>94</sup>

We recommend the Corps provide justification for using the SFA rather than other proven and repeatable tools—some of which are directed to be used by Forest Plans, ESA Biological Opinions, and associated NEPA analysis—not only to assess impacts to and potential benefits from proposed mitigation but also in determining the LEDPA.

### ***b. Disturbance and loss to wetlands.***

Table 2-2 in the 404(b)(1) Analysis Report (and the Ledger, which is a summary of LEDPA alternatives), states that under the 2021 MMP there would be 150.4 acres of wetland impacts, and under the Johnson Creek Road Alternative there would be 171.3 acres of wetland impacts.<sup>95</sup> However, the SDEIS states that under the 2021 MMP there would be a loss of 196.1 acres of wetlands, and under the Johnson Creek Road Alternative there would be a loss of 190.2 acres of wetlands.<sup>96</sup> Moreover, the SDEIS states that 1054.4 functional units of wetlands (including 375.6 high-value functional units) would be lost under the 2021 MMP, but only 1028.3 functional units of wetlands (including 370.6 high-value functional units) would be lost under the Johnson Creek Alternative. Some of this difference seems to be attributed to an assumption that some losses accounted for in the SDEIS are from “temporary impacts,” such as shading

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<sup>93</sup> SDEIS, at 2-121.

<sup>94</sup> 404(b)(1) Analysis Report, at 2-11.

<sup>95</sup> Applicant’s 404(b)(1) Analysis Report, at 2-14; *see also* Applicant’s Draft Compensatory Mitigation Plan, at 6-21 to 6-25 (Apr. 2023) (excluding any discussion whatsoever of wetlands along the Johnson Creek Route).

<sup>96</sup> SDEIS, at 2-145; 4-315; 4-321; *see also* Applicant’s 404(b)(1) Analysis Report, at 5-20.

loss due to construction of the new transmission line corridor.<sup>97</sup> Or it may be attributed to a pending approved jurisdictional determination request submitted to the Corps in 2021, which has yet to be issued by the Corps. These differences must be clarified by the Corps.

Even so, the SDEIS is careful to note that “indirect effects, [to wetlands] including changes in hydrology, water quality, and increased dust and/or mercury deposition have *not* been quantified.”<sup>98</sup> And, even assuming the acres of impacted wetlands for any alternatives in the Alternatives Comparison Spreadsheet are the actual acres of unavoidably impacted jurisdictional wetlands for Perpetua’s preferred mining plan (the 2021 MMP with Burntlog Route), no materials presented in the Public Notice explain why—unlike the SDEIS analysis—there is a 20.9-acre difference of wetlands subject to the Corp’s jurisdiction between the Burntlog Route Alternative and the Johnson Creek Road Alternative, or why impacts to those 20.9-acres of wetlands are jurisdictional or unavoidable. This is significant because Perpetua has assumed that “the ModPRO2/2021 MMP, based on the 404(b)(1) indicating it would likely be the LEDPA,” and provided little analysis of any other alternatives.<sup>99</sup>

In fact, “[t]he Johnson Creek Road Alternative was developed to avoid or reduce certain impacts to . . . wetlands,”<sup>100</sup> and “the severity of climate change impacts may be reduced for surface water (quality and quantity), wetlands, and riparian resources . . . fish resources, fish habitat, wildlife, and wildlife habitat, and special designations.”<sup>101</sup> Under the Johnson Creek Alternative only six (6) wetlands would be crossed by new roads, but under the 2021 MMP thirty-nine (39) wetlands (most of which have never been disturbed) would be crossed by new roads. The SDEIS found that, as compared to the Johnson Creek Road, “[i]mpacts on wetlands due to construction, maintenance, and use of the Burntlog Route would contribute the greatest proportion of direct impacts to wetlands due to access road construction as the width of this route would be approximately four times wider than standard roads in this area”<sup>102</sup> And although the extent of indirect effects may be greater along the Johnson Creek Road than compared to “standard roads” (because of frequency of travel, size of equipment, and use across seasons), the “potential impacts” to wetlands along the Burntlog Route would be greater because of impacts to undisturbed wetlands such as the Mud Lake poor fen.<sup>103</sup> Unfortunately, the materials provided by Perpetua fail to delineate whether these impacts are to jurisdictional wetlands or otherwise, and fail to explain why there is only a 4.9-acre difference between the Burntlog Route and Johnson Creek Road Alternative, which the SDEIS found was “predominantly due to the absence of the Burntlog Route disturbance under the Johnson Creek Route Alternative.”<sup>104</sup> This is so, even though the SDEIS employed the Corps’ materials to identify and delineate wetlands.<sup>105</sup>

### ***c. Inclusion of “maximum [project] disturbance” as Tier 1 Environmental Factor***

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<sup>97</sup> SDEIS, at 4-318.

<sup>98</sup> SDEIS, at 4-315; 4-318.

<sup>99</sup> Draft Compensatory Mitigation Plan, at 1-5 (Apr. 2023).

<sup>100</sup> SDEIS, at 2-121; *see also* Applicant’s 404(b)(1) Analysis Report, at 2-8.

<sup>101</sup> SDEIS, at 2-137.

<sup>102</sup> SDEIS, at 4-308.

<sup>103</sup> SDEIS, at 4-318.

<sup>104</sup> SDEIS, at ES-17.

<sup>105</sup> SDEIS, at 3-248; *see also* Applicant’s 404(b)(1) Analysis Report, at 3-9.

Given that the total acres of wetlands impacted by the proposed SGP (assuming SDEIS numbers under the Burntlog Route Alternative) are 6% of the total acres that would be impacted by the proposed SGP and stream impacts are 1.5% of total acres that would be impacted by the proposed SGP, including the “Maximum Disturbance” of the project as a Tier 1 factor is overinclusive and amplifies a factor without justification for why it should be considered a Tier 1 factor alongside stream and wetland impacts. Further, the numbers used by Perpetua in its “Maximum Disturbance” column are inconsistent with both the DEIS and SDEIS. For example, the DEIS states that the EFTSF alternative would impact 3,610 acres; the PRO would impact 3,533 acres, and the MODPRO would impact 3,423 acres.<sup>106</sup> Similarly, the SDEIS notes total project disturbance for the 2021 MMP with Burntlog Route would be 3,266 acres, but the Johnson Creek Road alternative would impact only 3,095 acres.<sup>107</sup> Even if considering use of “Maximum Disturbance” as a Tier 1 factor, the Corps should verify the acreage supplied by Perpetua because contrary to the table in Appendix A, the SDEIS clearly finds the Johnson Creek Road alternative causes less total disturbance. And when compared to the EFTSF, Johnson Creek Road alternative has a normalized total of 85.7%—not 92% as claimed by Perpetua. Indeed, if the “object” of the CWA is to “restore and maintain the . . . biological integrity of the Nation’s waters,” why would an arbitrary number such as “Maximum Disturbance” be deemed to carry four times the weight (10 versus 2.5 under Perpetua’s proposed methodology) as actual impacts and effects on critical habitat for three ESA-listed species: Bull Trout, Steelhead, and Snake River Chinook Salmon? Why not reverse these multiplier values? What justification has been provided to limit the weight of impacts to ESA-listed fish? Indeed, Perpetua failed to include any discussion regarding why the “Maximum Disturbance” factor was being used and weighted so heavily and did not explain how its use was relevant in light of other factors, such as the Tier 2 factors. If Corps chooses to use Perpetua’s proposed quantitative methodology, we recommend that it justify including total project disturbance as a Tier 1 factor.

## 2. Tier 2 Environmental Factors

As stated in the 404(b)(1) analysis report, “where the quantitative determination of an alternative is similar to another, qualitative consideration of potential environmental risks can be considered to determine the LEDPA.” However, there must be sufficient explanation by the applicant for why and how such qualitative consideration of environmental risks are chosen and why and how they are being used.<sup>108</sup> This is especially true with respect to Perpetua's proposed methodology because of their effect on determining which alternative is the LEDPA. Aside from the Tier 1 wetland impacts, the Tier 2 factors have the largest effect on distinguishing between the Burntlog Route and Johnson Creek Road mine site access alternatives.

For the Tier 2 factors, Perpetua “estimated the length of road (in feet and miles) and the amount of direct disturbance (in acres) within RCAs that occur adjacent to CWA Section 303(d) listed impaired streams” and compared them as “indirect impacts to WOTUS” among the various alternatives. To do this Perpetua had to assume that impacts between the alternatives were specific to each alternative. In other words, Perpetua’s methodology and comparison fails to account for the fact that under the 2021 MMP, the

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<sup>106</sup> 2020 DEIS, at ES-13; ES-14; ES-17; ES-18.

<sup>107</sup> SDEIS, at 2-154.

<sup>108</sup> Guidelines for Preparation of Analysis of Section 404 Permit Applications Pursuant to the Section 404(b)(1) Guidelines of the Clean Water Act (40 CFR, Section 230), at 8, <https://www.lrc.usace.army.mil/Portals/36/docs/regulatory/pdf/404B1.pdf>.

Johnson Creek Road would be used, including with certain upgrades to accommodate mining traffic, during the 3-4 year construction phase of the proposed SGP. In addition, as we noted in our comments on the SDEIS, the Johnson Creek Road will probably need to be maintained year-round even if the Burntlog Route is chosen for primary mine site access. Perpetua has failed to alert the Corp that the Burntlog Route would not only be the second highest year round road in the State of Idaho (30-miles above 7,000 feet and 10 miles above 8,000 in an area that receives twice the annual snow water equivalent than the state's highest year-round road) but also (contrary to the claims in the SDEIS and 404(b)(1) Analysis Report) is at a higher risk of avalanche hazard than the Johnson Creek Road and therefore would require more extensive avalanche control than assumed in the SDEIS.

In fact, controlling avalanches on the avalanche paths impacting the Johnson Creek Road would not only be necessary during the construction phase, but may also provide a benefit to riparian habitat by reducing the frequency of large destructive avalanches impacting the EFSFSR and permitting vegetative regrowth in avalanche starting zones throughout the life of the SGP—which would in turn reduce the size and destructive potential of avalanches impacting riparian habitat along the EFSFSR after the SGP was complete. Given that the Burntlog would likely require closures of days to a week during winter and spring storm cycles, it is highly likely that the Johnson Creek Road as well as the Stibnite Road between Yellow Pine and the SGP would need to be maintained year round because it is at far lower elevation and provides the only other ingress/egress to the mine site (that Perpetua can haul fuel and hazardous materials on) during times when the Burntlog Route is closed because of snow and avalanche conditions. In addition, mine site access via the Burntlog Route would push recreational traffic into areas that currently remain undeveloped, including new groomed over snow vehicle roads along Cabin Creek and Johnson Creek Road, which directly and indirectly wetlands and RCAs that are barely discussed in the SDEIS.<sup>109</sup> Thus, the Corps cannot simply assume that each route is distinct in impacts because if the Burntlog Route Alternative is selected, Johnson Creek Road will still need to be maintained and used during construction, operations, and closure phases of the proposed SGP.

The 404(b)(1) Analysis Report also does not explain why for the Burntlog Alternative the additional 21 stream crossings (as compared to Johnson Creek Alternatives 43), the fact that its construction would fragment 39 undisturbed wetlands (as compared to 6 for the Johnson Creek Alternative). It also does not explain why the greater extent of total losses to wetlands and RCAs along the Burntlog Route (as compared to the Johnson Creek Alternative) should not also be evaluated alongside the “direct disturbance (in acres) within RCAs that occur adjacent to CWA Section 303(d) listed impaired streams” in determining the LEDPA. Indeed, the Burntlog Route Alternative will impact undisturbed areas in the headwaters of Johnson Creek, and there is no explanation for why or how perpendicular crossings of “several drainages” along the Burntlog Route are any more or less impactful to wetlands and riparian areas than crossings at confluences of “several drainages that feed the EFSFSR” under the Johnson Creek alternative.<sup>110</sup> Further, as noted in Lubetkin 2022 and in our SDEIS comments, spill risk analysis between the two alternative access routes was never accurately quantified. While Perpetua asserts that adjacency to water bodies is the only factor in assessing which route poses a greater environmental risk because of

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<sup>109</sup> SDEIS, at 2-14; 2-17; 2-21 (“Portions of Cabin Creek Road would require stream crossing improvements, localized road widening, and surface grading to support the OSV route grooming equipment.”); 4-263 (7 stream crossings, 6 of which are 303(d) listed for water temperature).

<sup>110</sup> See Applicant’s 404(b)(1) Analysis Report, at 5-20; SDEIS, at 4-317.

spills, this ignores other risks associated with the Burntlog Route, including its steep grades, location in rugged and steep terrain above 8,000 feet, proximity to Johnson Creek headwaters streams less than 200ft (not necessarily 100ft), and increased exposure to adverse road and driving conditions between September and May.

Finally, as noted above, the SDEIS generally fails to provide clear and sharp distinctions between the environmental impacts of these two alternative mine site access routes. Using only adjacency to 303(d) listed streams as a Tier 2 factor with a multiplier of 5 magnifies the difference between the access routes without considering other risk factors that may provide a more balanced assessment between them.

Thus, we recommend the Corps include these considerations as other factors in determining the LEDPA and if these considerations are not included provide justification as to why that should be the case.

### **3. Tier 3 Environmental Factors**

The 404(b)(1) Analysis Report does not explain why these factors should be given less weight than any others or considered tertiary factors in any methodology to determine the LEDPA. While Perpetua asserts that “the weights applied to each tier ensure that direct impacts to WOTUS are the primary driver of the LEDPA determination while allowing for a comprehensive evaluation of other important environmental factors beyond dredge and fill,” it does not explain why this is the case or why the ratio between these factors for their respective tiers accurately reflect the effects of such “other important environmental factors” with respect to determining the LEDPA. To be sure, “[n]o discharge of dredged or fill material shall be permitted if it . . . results in likelihood of the destruction or adverse modification of a habitat which is determined by the Secretary of Interior or Commerce, as appropriate, to be a critical habitat under the Endangered Species Act of 1973, as amended.”<sup>111</sup>

At least with respect to length of habitat disturbance for the three ESA-listed fish species, our SDEIS comments noted that many of the assumptions in the SDEIS regarding impacts to these fish species are based on success of unspecified and unproven habitat improvements, fish salvage, and fish trap and haul. In addition, any change in available habitat relies primarily on the success of an unproven fish passageway tunnel. Perpetua is also seeking to appropriate a 9.6cfs water right from the EFSFSR, which is currently being protested before the Idaho Department of Water Resources by Save the South Fork Salmon, Idaho Conservation League, and the Nez Perce Tribe. The effects of this withdrawal on both Meadow Creek and the EFSFSR above and below its confluence with Sugar Creek appear to be significant and may allow for complete dewatering of stream reaches that the SDEIS assumes will always have sufficient water to support habitat for these three fish species during their various life stages. This information is not presented in the 404(b)(1) Analysis Report and may significantly affect weight of the Tier 3 factors chosen by Perpetua. We recommend the Corp consider the effects on this water withdrawal that is integral to Perpetua’s proposed mining operations when evaluating the LEDPA under any of the alternatives. Finally, as stated above, the Corps should be mindful that impacts to Critical Habitat for Steelhead would occur under both the access route alternatives because the Johnson Creek Road will be used during the construction phase regardless of which route is chosen as the primary mine access route, and may need to otherwise be maintained to ensure uninhibited ingress/egress to the mine site during

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<sup>111</sup> 40 C.F.R. § 230.10(b)(3).

times when the high-elevation Burntlog Route is not passable due to adverse weather, avalanche, and/or road conditions.

### **IX. Water Quality (40 CFR 230.10(b))**

The Guidelines prohibit discharges that will cause or contribute to violations of any applicable state water quality standard. The following comments highlight information relevant to water quality that the Corps should consider.

Consistent with the requirements of 40 C.F.R. § 230.10(b), the Corps should provide a water quality analysis that accurately identifies potential significant adverse impacts to water quality and monitoring and adaptive management plans sufficient to detect and prevent unanticipated impacts to water quality. The conservation group 2023 comments, technical supporting documents and EPA’s SDEIS comment letter provides additional specific comments regarding issues in the SDEIS’ evaluation of potential water quality impacts. This information is particularly important in light of the significance and complexity of the discharge activities associated with this project.

### **X. Significant Degradation (40 CFR 230.10(c))**

The Corps cannot authorize any discharge of dredged or fill material that will cause or contribute to significant degradation of the waters of the United States.<sup>112</sup> 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.”<sup>113</sup>

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.

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<sup>112</sup> 40 C.F.R. § 230.10(c)

<sup>113</sup> 40 C.F.R. § 230.1(d)



As shown throughout these comments and in our comments on the SDEIS, the proposed mine will violate these requirements and thus a 404 permit cannot be issued. We also note that not all factors implicating the SGP's potential for significant degradation are discussed by the Applicant in its 404(b)(1) Analysis Report nor are made available in the Public Notice documents. The following are three circumstances that the Corps should especially take into account in determining whether the proposed SGP will cause or contribute to significant degradation of WOTUS.

**A. Appropriation of a 9.6 cfs water right from the EFSFSR, West End Creek, and Meadow Creek drainages.**

Perpetua is seeking a 9.6 cfs water right (Application No. 77-14378) from the Idaho Department of Water Resources (IDWR) that would divert water from the Meadow Creek, West End Creek, and EFSFSR drainages using upwards of 50 wells and one surface diversion from the EFSFSR located approximately one mile upstream of its confluence with Sugar Creek. This water right application is currently being protested by Save the South Fork Salmon, Inc., Idaho Conservation League, and the Nez Perce Tribe on the basis that the withdrawals will cause significant and harmful reductions in available habitat for ESA-listed fish species at various life stages, including downstream of the proposed mine site in the SFSFSR below its confluence with Sugar Creek. Indeed, full use of the water right would allow Perpetua to completely dewater sections of Meadow Creek and reduce flows in the EFSFSR within the mine site to below those necessary to prevent harm to ESA-listed fish. Withdrawals during low flow period will further impact spawning and rearing habitat in the EFSFSR below Sugar Creek. Perpetua has presented a voluntary condition that would limit total water withdrawals from the various diversion points (wells and surface water) to no more than 20% of the combined flow of the EFSFSR and Sugar Creek just below their confluence when that combined flow is 25 cfs or less. This condition allows Perpetua to, at all times, divert at least 4.64 cfs (3.1 cfs (based on 10-year low flow) plus the diversions from additional 1.54 cfs of water rights it holds upstream for a total of 3.04 cfs) from the EFSFSR above the point of diversion, even if streamflows are near or fall below historical low flows during dry water years.

Based on historical streamflow data, flow in the EFSFSR above Sugar Creek is approximately 58% of the total combined flow of Sugar Creek and the EFSFSR below Sugar Creek. This means that when the combined flow is, for example, 17 cfs (a typical low flow during August and September), the flow in the EFSFSR above Sugar Creek but below the point of diversion is just under 9.86 cfs. Applying the proposed condition would permit a reduction in flow of 3.4 cfs, which would render flows in the EFSFSR above Sugar Creek and below the point of diversion to 6.46 cfs (minus additional withdrawals from Perpetua's existing water rights and other new water rights applications, which total 1.54 cfs). Even by Perpetua's own analysis, in a recent Technical Memorandum to the Idaho Office of Species Conservation dated July 11, 2023, withdrawals leaving less than 6.6 cfs in the EFSFSR above Sugar Creek may impede or block upstream ESA-listed fish passage during their spawning life stage.<sup>114</sup> Moreover, there is no analysis on reduction in available habitat for ESA-listed fish on the EFSFSR below Sugar Creek where, under the proposed condition, 17 cfs is quickly reduced to 14.6 cfs (minus additional withdrawals, totaling 1.54 cfs). This means that during low months (August-March), flows in the EFSFSR below Sugar

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<sup>114</sup> See Perpetua Resources, Water Rights Technical Assistance Review Follow Up – Perpetua Resources Idaho, Inc., (July, 11, 2023), at 5-7.

Creek will regularly be below the 10-year minimum flow.<sup>115</sup> Indeed, a hard stop (curtailment) condition on this water right may be required to ensure that fish are not just stranded but also have sufficient habitat to maintain presence in the reaches of the EFSFSR above Sugar Creek.

Perpetua has attempted to argue that its proposed condition would be effective, but has yet to provide sufficient evidence that this is actually the case—even in the materials provided in the Public Notice.<sup>116</sup> It is also uncertain whether IDWR will impose any type of enforceable condition on Perpetua’s water right, let alone administer the water right to be protective of ESA-listed fish and their habitat. Thus, the Corps must analyze the impacts of these water withdrawals at their maximum extent unless there is assurance of a legally enforceable condition that places a hard stop on water withdrawals from the EFSFSR, Meadow Creek, and West End Creek drainage when further reduction in flows in the EFSFSR both above and below Sugar Creek would reduce or eliminate ESA-listed fish habitat at critical life stages as well as impeded or block their ability to pass upstream and downstream.<sup>117</sup> We also note that this is neither discussed substantively nor analyzed in the SDEIS. However, we have included three studies that have conducted analysis of this issue.<sup>118</sup> The Corps must consider these proposed ground and surface water withdrawals in its analysis because they are expected to be substantial in proportion to average flows in the EFSFSR between August and March each year, which will not only impact available aquatic habitat in the EFSFSR but also critical habitat for ESA-listed fish species.

#### **B. Insufficient stream temperature mitigation resulting from proposed mining activities.**

As noted in our SDEIS comments and elsewhere in these comments, analysis regarding available ESA-listed fish habitat during and post-mining are based on assumptions that stream temperature mitigation

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<sup>115</sup> Based on Perpetua’s calculated 8 cfs 95% exceedance flow in the EFSFSR above Sugar Creek, flow in the EFSFSR below Sugar Creek would be approximately 14 cfs. This is because the EFSFSR above Sugar Creek is generally 58% of the total flow (after the confluence with Sugar Creek) in the EFSFSR below Sugar Creek: <https://waterdata.usgs.gov/monitoring-location/13311250/#parameterCode=00065&period=P7D&showMedian=true> <https://waterdata.usgs.gov/monitoring-location/13311450/#parameterCode=00065&period=P7D&showMedian=true>

<sup>116</sup> For example, in a Technical Memorandum sent to the Idaho Office of Species Conservation, Perpetua stated “The present design [of the fish tunnel] accommodates adult upstream passage for flows down to 8 cfs, and *likely* lower, *though 8 cfs was the lowest flow range modeled.*” Thus, during fish migration for Bull Trout and Chinook Salmon in August and September, even the proposed voluntary water right has no scientific basis for an assertion that it will allow withdrawals of water and ESA-listed fish to pass through the tunnel at the same time. Moreover, the Stibnite Hydrological Site Model only modeled future August streamflow for the No Action alternative minus total water diversions from proposed mining activities, but did not model these diversions in the presence of the proposed SGP. As a result, a comparison between the proposed voluntary condition and effects of total diversions in the presence of the SGP cannot be made. In any event, Perpetua concedes that in low stream flow periods during mining construction and operations, depletions in stream flow up to the 20% proposed voluntary condition will be required.

<sup>117</sup> “Maximum extent” means the full 9.6 cfs application (77-14378) plus Perpetua’s existing water rights totaling 1.28 cfs (77-7122; 77-7141; 77-7285; and 77-7293) plus two other new water right applications totaling .26 cfs (77-14377 and 77-14379).

<sup>118</sup> Kaiser, Kendra, Expert Witness Report, Prepared for the Nez Perce Tribe, “Hydrology Expert Report, Effect of Perpetua Resources’ Water Right Applications on Surface Water Quantity and Groundwater Levels in the East Four South Fork Salmon River Watershed,” September 11, 2023; Kinzer, Ryan N. and Ackerman, Michael W., Prepared for Nez Perce Tribe, “Fisheries Expert Report, East Fork South Fork Salmon River Fish Habitat Loss Concerns Due to Perpetua Resources’ Proposed Water Withdrawals,” September 11, 2023; Cochnauer, Timothy G., Prepared for Save the South Fork Salmon, Expert Witness Report, September 11, 2023.

measures will be 100% effective. However, for all its praise of temperature mitigation the SDEIS fails to adequately address the efficacy of these measures. For example, Figure 4.9-27 in the SDEIS illustrates that the most significant temperature mitigation feature in the EFSFSR river watershed is located between the TSF buttress and the East Fork Meadow Creek (Blowout Creek). Specifically, modeled stream temperatures post mine closure (i.e., end of year 27) decrease up to 7° C within this short reach, which results in lower temperature to continue downstream in the EFSFSR.<sup>119</sup> *The SDEIS later reports that without this upstream temperature reduction “stream temperatures downstream of the Yellow Pine pit area could also be greater than existing conditions.”*<sup>120</sup> The SDEIS lists several possible reasons for this “significant” stream cooling reach: 1) resumption of “baseline” cool groundwater discharge; 2) increased stream shade; and 3) underdrain flow from the TSF.<sup>121</sup> However, it is unlikely that the first two factors outlined on page 4-271 are meaningful factors in the creation of the “significant” stream cooling zone between the TSF buttress and the East Fork of Mead Creek.. The dashed line in Figure 4.9-27 indicates that stream temperatures currently increase within this reach, indicating that “baseline” groundwater influences within this reach are likely a relatively minor factor towards the creation of the “significant” temperature reduction zone. Additionally, it is unlikely that increased shade within this reach will result in the “significant” stream cooling zone because stream shade does not “cool” a river/stream. Stream shade reduces the amount of solar heat load (i.e., sun light) from reaching the stream water, and this lower heat load can result in a gradual loss of heat energy (i.e., temperature reduction) through the relatively slow evaporation/convection processes.

While it is possible that cool underdrain flow from the TSF added into this stream reach could physically dilute the warm stream water advecting from upstream, the amount of cooling would be dependent on the volume and temperature of these underdrain inputs—which is neither analyzed nor characterized in the SDEIS.

Although the SDEIS acknowledges uncertainty of predicted ground water discharge volumes and “restored” shade conditions on page 4-281, these two factors are unlikely a significant source of the cool water within the reach of Meadow Creek between the TSF buttress and the East Fork of Meadow Creek. The potential uncertainty associated with the predictions of the magnitude and duration of the cool underdrain flows are not provided in the SDEIS. Material presented on Page 2-56 indicates that these underdrain flows may be unavailable for stream cooling within this reach due to 1) the potential need for it to be treated prior to discharge into the stream; and/or 2) the potential need for it to be used as makeup water for the mill process (including withdrawals associated with applied for water right 77-14378). Thus, the SDEIS fails to describe the potential uncertainty associated with the magnitude and duration of the predicted underdrain flows, and makes erroneous assumptions regarding post mining shade conditions’ effects on stream temperature.

Additionally, the SDEIS does not discuss potential mitigation measures associated with a lower production and/or elevated temperatures of the expected underdrain flows discharging into the “significant” stream cooling zone between the TSF buttress and the East Fork of Meadow Creek. This may necessitate mitigation/corrective actions to address any loss or reduced effectiveness from the

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<sup>119</sup> SDEIS, at 4-272.

<sup>120</sup> SDEIS, at 4-281.

<sup>121</sup> SDEIS, at 4-271.

underdrain flows expected within this reach because of potential for lethal temperatures for ESA-listed fish and therefore significantly reduced available habitat during and post mining activities. The Corps must independently evaluate or at least explain why any mitigation measures will be effective and thus not cause significant degradation that affects life stages of aquatic life and diversity in the aquatic ecosystem.

**C. Potential for excessive deposition of harmful constituents into the aquatic environment due to inadequate Permit to Construct issued by IDEQ.**

The Idaho Department of Environmental Quality issued a final Permit to Construct to Perpetua Resources on June 17, 2022. This permit is currently subject to an ongoing contested case proceeding before the Idaho Office of Administrative Proceedings (IDEQ Case Docket No. 0101-22-02) brought by Idaho Conservation League, the Nez Perce Tribe, and Save the South Fork Salmon to address deficiencies in the permit, including issues that we raised in the SDEIS, including, among other things, that 1) the PTC failed to include ambient air monitoring as a condition to ensure compliance with Idaho’s arsenic Acceptable Ambient Concentrations for Carcinogens limits and federal PM/PM10 National Ambient Air Quality Standards (NAAQS); 2) the SDEIS did not provide sufficient evidence that Perpetua Resources could achieve a 93.3% dust control efficiency on haul roads; and 4) the SDEIS failed to assess adequate measures to exclude the public from hazardous air conditions inside the ambient air boundary at the mine site.

EPA raised similar concerns in its January 10, 2023 letter commenting on the SDEIS. Specifically, EPA stated that it was reviewing IDEQ’s final PTC (issued on June 17, 2022) for compliance with the NAAQS, and had communicated to IDEQ that the draft PTC “did not appear to sufficiently limit annual emission to allow the SGP to avoid being subject to the Title V prevention of Significant Deterioration programs and assure compliance with the [NAAQS].”

Recently, on August 10, 2023, EPA sent a letter to IDEQ outlining three primary concerns with the final PTC:

- (1) the Permit’s emission limits are not adequate to limit the Stibnite Gold Project’s potential to emit below the Prevention of Significant Deterioration permitting threshold; thus, construction of the Stibnite Gold Project would constitute construction of a major stationary source without a Prevention of Significant Deterioration permit, (2) the Permit’s emission limits are not adequate to protect the particulate matter National Ambient Air Quality Standard, and (3) the Department’s delineation between the Stibnite Gold Project boundary and the ambient air—where the National Ambient Air Quality Standards apply—is not adequately supported. Details of the Agency’s evaluation of the final permit are enclosed for your review.

In the supporting enclosure, EPA provides more detailed, specific information and analysis regarding its concerns with the PTC. While again noting concerns about inadequate ambient air monitoring and measures to exclude the public from within the ambient air boundary, EPA states that IDEQ used unsupported emission factors for estimating emissions from the SGP ore processing and lime plant units. Had IDEQ

used appropriate standards, it would have concluded that the SGP has the potential to emit vastly more PM pollution than IDEQ assumed. For example, calculating potential PM emissions from the ore crusher units with AP-42 Section 11.24 emissions factors shows that those units in the aggregate would emit more than three times the PSD threshold, making the SGP a major source of PM pollution under the Clean Air Act.

These are significant issues that involve PTC's ability to adequately limit emissions and therefore deposition of contaminated particles within and surrounding the proposed SGP mine site. Of concern is the amount of arsenic (and mercury) associated with PM emissions because if, as EPA states, emissions are undercounted, the volume of deposition will be as well. Although the SIDES acknowledges arsenic (and mercury) deposition, it may actually seriously underestimate their impact on the environment. Notably, the PTC and SDEIS assume that Perpetua can achieve 93.3% efficiency in dust suppression on its haul and access roads at the mine site. There are serious concerns regarding the efficacy and enforceability of this number (which is one of the issues in the contested case).

Moreover, the SDEIS states in its analysis on mercury deposition that "[t]his analysis indicates a maximum estimated increase in Hg deposition rate of 0.4 percent or less of the existing background rate. However, it should be recognized that this rate underestimates the total Hg deposition, as the mechanism of Hg<sup>0</sup> flux is not included in the screening model."<sup>122</sup> Further, the reason listed for underestimation is only part of the reason for the underestimation because the background Hg deposition values used in the SDEIS are based on data from more than 10 years ago. This in turn causes estimates in the SDEIS to be biased high due to subsequent emission controls over the past decade. As such, the 0.4% increase underestimates Hg deposition because it does not include Hg<sup>0</sup> deposition, and because background deposition rates are overestimated for current conditions.

We urge the Corps to undertake analysis to ensure these considerations including excessive water withdrawals, inadequate stream temperature mitigation, and underestimated emissions from the SGP do individually or collectively cause or contribute significant degradation.

## **XI. Minimization/Compensatory Mitigation (40 CFR 230.10(d))**

### **A. Watershed Approach**

The 404(b)(1) Guidelines establish the concept of a watershed approach to compensatory mitigation (40 CFR § 230.93(c)). Per the 404(b)(1) Guidelines:

*The district engineer must use a watershed approach to establish compensatory mitigation requirements in DA permits to the extent appropriate and practicable. Where a watershed plan is available, the district engineer will determine whether the plan is appropriate for use in the watershed approach for compensatory mitigation. In cases where the district engineer determines that an appropriate watershed plan is available, the watershed approach should be based on that plan. Where no such plan is available, the watershed approach should be based on information provided by the project sponsor or available from other sources. The ultimate goal of a watershed approach is to maintain and improve*

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<sup>122</sup> SDEIS, at 4-50.

*the quality and quantity of aquatic resources within watersheds through strategic selection of compensatory mitigation sites.*<sup>123</sup>

Furthermore,

*A watershed approach to compensatory mitigation considers the importance of landscape position and resource type of compensatory mitigation projects for the sustainability of aquatic resource functions within the watershed. Such an approach considers how the types and locations of compensatory mitigation projects will provide the desired aquatic resource functions, and will continue to function over time in a changing landscape. It also considers the habitat requirements of important species, habitat loss or conversion trends, sources of watershed impairment, and current development trends, as well as the requirements of other regulatory and non-regulatory programs that affect the watershed, such as storm water management or habitat conservation programs. It includes the protection and maintenance of terrestrial resources, such as non-wetland riparian areas and uplands, when those resources contribute to or improve the overall ecological functioning of aquatic resources in the watershed. Compensatory mitigation requirements determined through the watershed approach should not focus exclusively on specific functions (e.g., water quality or habitat for certain species), but should provide, where practicable, the suite of functions typically provided by the affected aquatic resource.*<sup>124</sup>

The application for permit, specifically the CMP, states, “As described in the Compensatory Mitigation Section (Section 2.2), mitigation bank and in-lieu credits are not currently available for impacts in the South Fork Salmon River subbasin, so PRM **under a watershed approach** at the Project site was selected as the preferred method in that subbasin (emphasis added).”<sup>125</sup> However, despite this statement, the CMP does not adequately meet the 404(b)(1) Guidelines for a watershed approach.

Section 6 of the CMP outlines the permittee’s watershed approach for assessing the functional value of both streams and wetlands. For a streams analysis, a stream functional assessment (SFA) was developed to “to characterize existing (baseline) ecological function of pre-mining conditions at the Project site” and to “meet USACE regulatory requirements, to be used to facilitate EIS impact analyses, and to be consistent with the intent of the 2008 Mitigation Rule.”<sup>126</sup> Furthermore, the SFA is specifically described as a “**reach-scale assessment** tool used to rate stream function by evaluating up to 20 discrete elements (emphasis added).”<sup>127</sup> Table 6-2 of the CMP displays these discrete elements. By its own admission, the SFA is not a watershed scale analysis. Instead, the SFA uses 20 elements that are unweighted and unspecific to the EFSFSR (or even the SF Salmon River) and that neglect fish use elements<sup>128</sup> to calculate stream functional units that are the centerpiece of stream impacts debiting and crediting and 404 Permit compliance. The SFA contains little to no information on how watershed specific elements are affected by

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<sup>123</sup> 40 CFR § 230.93(c)(1)

<sup>124</sup> 40 CFR § 230.93(c)(2)(i)

<sup>125</sup> CMP page 4-1

<sup>126</sup> CMP page 6-3

<sup>127</sup> CMP page 6-3

<sup>128</sup> See CMP Table 6-3a footnote a

the proposed stream impacts and restoration. Considering a laundry list of watershed specific elements apply to the EFSRSR: the historical water quality and wetland impacts to the watershed, its historic existence as critical salmon habitat, the scope and time for which the SGP will impact the watershed, Tribal Reserved Treaty Rights within the watershed, and the unprecedented threat of climate change to all watershed functions, to name just a few elements, it is particularly concerning the SFA does not incorporate a watershed approach as outlined by the 404(b)(1) Guidelines.

Considering wetland functions, “In consultation with the USACE, Perpetua Resources assessed wetland function using the Montana Wetland Assessment Method (MWAM) (Berglund and McEldowney 2008).”<sup>129</sup> Per the CMP, the MWAM was identified as be “regionally appropriate for Idaho” and included and ranked 11 functions/values ranging from “Habitat for federally listed or proposed threatened or endangered plants or animals” to “Recreation/education potential”.<sup>130</sup> Furthermore, it is important to also note that, “Through a series of pre-application meetings, Perpetua Resources and the USACE determined that it would be appropriate to revise the approach taken to identify the AAs in the functional assessment by consolidating those AAs to be more reflective of the watersheds in which they occur.”<sup>131</sup> Ultimately, similar to the SFA process, the MWAM process was used to calculate wetland functional units for impacts debiting and crediting.

While the MWAM process appears to have implemented elements of a watershed approach with the identification and ranking of specific function/values, it is unclear how these values were identified and ranked in a way that are compatible with known or previously identified watershed elements.

In general, the 404(b)(1) Guidelines imply that a previously developed “watershed plan”<sup>132</sup> should serve as the basis for implementing a watershed approach. The CMP does not mention the existence of any document that would qualify as a watershed plan. However, per the SDEIS Wetlands and Riparian Resources Specialist Report, “The Payette Forest Plan and the Boise Forest Plan include management direction for wetlands and riparian areas (within the SGP).”<sup>133</sup> The SDEIS Wetlands and Riparian Resources Specialist Report provides additional “desired characteristics of the Payette and Boise National Forest, that can generally be described as broad and consistent with well-established principles of wetland and riparian quality. Per the 404(b)(1) Guidelines, in the absence of a watershed plan:

*...the district engineer will use a watershed approach based on analysis of information regarding watershed conditions and needs, including potential sites for aquatic resource restoration activities and priorities for aquatic resource restoration and preservation. Such information includes: Current trends in habitat loss or conversion; cumulative*

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<sup>129</sup> CMP page 6-10

<sup>130</sup> CMP page 6-10

<sup>131</sup> CMP page 6-11

<sup>132</sup> Defined within the 404(b)(1) Guidelines as “a plan developed by federal, tribal, state, and/or local government agencies or appropriate non-governmental organizations, in consultation with relevant stakeholders, for the specific goal of aquatic resource restoration, establishment, enhancement, and preservation. A watershed plan addresses aquatic resource conditions in the watershed, multiple stakeholder interests, and land uses. Watershed plans may also identify priority sites for aquatic resource restoration and protection. Examples of watershed plans include special area management plans, advance identification programs, and wetland management plans”

<sup>133</sup> See SDEIS Wetlands and Riparian Resources Specialist Report, page 14.

*impacts of past development activities, current development trends, the presence and needs of sensitive species; site conditions that favor or hinder the success of compensatory mitigation projects; and chronic environmental problems such as flooding or poor water quality.*<sup>134</sup>

As mentioned above, it is unclear how the selection and ranking of MWAM functions/values is compatible with watershed current trends, cumulative/historic impacts, sensitive species, relative site conditions, or chronic conditions.

We request the Corp and/or Perpetua to revise the CMP to include a watershed approach (as outlined with the 404(b)(1) Guidelines) to re-evaluate stream and wetlands impacts credit and debiting and the selection of compensatory mitigation effort/projects.

### **B. Scale, Type and Location of Compensatory Mitigation.**

In consideration of the comments above and to the selection of proposed compensatory mitigation projects in general, it is not readily apparent how a watershed scale was evaluated. Per the 404(b)(1) Guidelines:

*The size of watershed addressed using a watershed approach should not be larger than is appropriate to ensure that the aquatic resources provided through compensation activities will effectively compensate for adverse environmental impacts resulting from activities authorized by DA permits. The district engineer should consider relevant environmental factors and appropriate locally-developed standards and criteria when determining the appropriate watershed scale in guiding compensation activities.*<sup>135</sup>

Although much of the proposed compensatory mitigation will occur within the project site and the EFSRSR watershed, several off-site components will occur within the North Fork of the Payette watershed and the Upper Salmon River subbasin within the Lemhi River. The CMP generally concludes that suitable on-site compensatory mitigation projects were limited therefore the need to include off-site projects was the only course of action. While the 404(b)(1) Guidelines do not prohibit off-site compensatory mitigation, off-site permittee managed restoration is the least preferred mitigation strategy.<sup>136</sup> Given that any riparian mitigation project benefits from these off-site location will have little to no impact on the South Fork Salmon or EFSRSR watersheds themselves, it is unclear how these projects fit within the 404(b)(1) Guidelines requirement to approach compensatory mitigation from a watershed approach of an appropriate scale.

We request that the Corp and/or Perpetua provide a detailed analysis on how the selection of off-site mitigation projects is consistent with the 404(b)(1) Guidelines on watershed scale

### **C. Amount of Compensatory Mitigation.**

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<sup>134</sup> 40 CFR § 230.93(c)(3)(i)

<sup>135</sup> 40 CFR § 230.93(c)(4)

<sup>136</sup> 40 CFR § 230.93(b)(6)



Per the 404(b)(1) Guidelines:

*The district engineer must require a mitigation ratio greater than one-to-one where necessary to account for the method of compensatory mitigation (e.g., preservation), the likelihood of success, differences between the functions lost at the impact site and the functions expected to be produced by the compensatory mitigation project, temporal losses of aquatic resource functions, the difficulty of restoring or establishing the desired aquatic resource type and functions, and/or the distance between the affected aquatic resource and the compensation site. **The rationale for the required replacement ratio must be documented in the administrative record for the permit action.** (emphasis added).<sup>137</sup>*

While the CMP states that a mitigation ratio greater than one-to-one is being proposed<sup>138</sup>, an ultimate mitigation ratio is never given. Furthermore, the rationale for why a proposed mitigation ratio is appropriate is also not given in any permit application materials or within the Public Notice for the permit application. While Sections 7 and 8 of the CMP include many useful tables from which an ultimate mitigation ratio could be calculated, the existence of mitigation projects credits and debt over 29 years across three watershed basins complicated this process. However, that does not absolve the Permittee or the Corps from determining a final mitigation ratio(s) and documenting the rationale behind such a ratio.

We request the Corp and/or Perpetua to provide an analysis on the ultimate mitigation ratio being proposed and present the rational/analysis for such ratio.

#### **D. Temporal Wetland Losses**

Per the 404(b)(1) Guidelines, “Implementation of the compensatory mitigation project shall be, to the maximum extent practicable, in advance of or concurrent with the activity causing the authorized impacts. The district engineer shall require, to the extent appropriate and practicable, additional compensatory mitigation to offset temporal losses of aquatic functions that will result from the permitted activity.”<sup>139</sup> However, in addressing the wetland restoration for temporal impacts, the CMP states, “The amount of time associated with the temporal impacts related to wetlands is approximately 20 years, during which time as many as 576 functional units are outstanding. Perpetua Resources and its consultants have developed a mitigation design that produced a surplus of functional units used for the accounting for wetland mitigation. The current mitigation design accounts for approximately 1,030 functional units of surplus. This surplus is being proposed to compensate for wetland temporal loss.”<sup>140</sup>

The CMP and the Corp’s Public Notice information fails to address why wetland mitigation is unable to occur in advance or concurrently with temporal wetland losses. Nor does it provide a justification for why 1,030 functional units of surplus is ultimately an appropriate amount to offset 20 years of temporal losses (see comments regarding Amount of Compensatory Mitigation above). We request the Corp and/or

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<sup>137</sup> 40 CFR § 230.93(f)(2)

<sup>138</sup> CMP page 7-1

<sup>139</sup> 40 CFR § 230.93(m)

<sup>140</sup> CMP page 9-19

Perpetua to provide an analysis on the effects of maintaining a 20-year long wetland functional unit deficit and how a 1,030 functional unit surplus justifies such a long and significant deficit.

#### **E. Mitigation over Incompatible Features.**

Per Table 9-1 and 9-5 of the CMP, Perpetua is proposing to restore streams and wetlands over tailings impoundments and waste rock piles features. Ultimately, these stream channels and wetlands will be underlain with liners intended to prevent contaminants of concern from being mobilized. Isolating contaminants is critical, but given the well documented connection between streams, wetland, and groundwater, it is also critical to recognize that streams and wetlands that are disconnected from groundwater likely cannot provide the same necessary functions of those that are. Considering the guidance provided on calculating the appropriate amount of compensatory mitigation by the 404(b)(1) Guidelines, it is unclear from the CMP how the functionality of isolated streams and wetlands is being considered and evaluated. We request the Corp and/or Perpetua provide additional analysis on how isolated streams and wetlands may or may not contribute to riparian functional features and justify any specific crediting associated with isolated streams and wetlands.

#### **F. Growth Media Concerns**

Per the SDEIS, there is a 797,702 cubic yard deficit of growth media at the mine site according to calculations within the Reclamation Closure Plan.<sup>141</sup> Within the SDEIS there is only brief discussion that some of this deficit may be obtained from either the Burntlog Route or through composting but no details are provided that provide any certainty of this assumption. There is additional uncertainty in this area when considering the background concentrations of arsenic, mercury, and antimony in potential growth media soils. Though Perpetua has proposed a 3,000-ppm arsenic limit for root zone material, there has been no limit provided by the Forest Service regarding arsenic or other contaminant concentrations.

Given the lack of surface growth media available at the site and the potential presence of metals contamination, the ultimate success of restored streams and wetlands is jeopardized. We request the Corp and/or Perpetua provide additional analysis on how the lack of, or contamination of, growth media may affect the ultimate success of restoration activities on-site and how these challenges will be overcome with a high degree of certainty.

### **XII. The Corps Cannot Approve the Permit and Mitigation Plans Without the Required Financial Assurance**

The EPA Guidelines 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). Projects must mitigate the impacts of the fill activities by “avoiding, minimizing, rectifying, reducing, or compensating for resource losses.” 33 C.F.R. §320.4(r)(1).

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<sup>141</sup> SDEIS ES-11

As part of the mitigation requirements, Corps regulations require that the discharger 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)).” §332.4(c)(13); *see also* §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 determine the amount of the financial assurance, and must include this analysis in the administrative records for their permits.” Guidance on the Use of Financial Assurances, and Suggested Language for Special Conditions for Department of the Army Permits Requiring Performance Bonds, Regulatory Guidance Letter No. 05-1 (February 14, 2005) at 2.<sup>142</sup>

The SDEIS should disclose the costs associated with implementing the closure and reclamation plan, as well as the contingency measures to address the reasonably foreseeable but not specifically predictable project outcomes. The financial assurances should be in a form that protects the public interest in the event that Perpetua, or any future companies involved in the operations at the mine, is unable to implement contingency measures or perform long-term operation and maintenance. Details regarding the financial assurances must be provided for public review and comment.

In the CMP, it is discussed that costs will be calculated using the Standardized Reclamation Cost Estimator for on-site mitigation measures. We recommend that the Corps require Perpetua to complete this evaluation and publish estimated costs for public review. The EPA has repeatedly recommended that the SDEIS disclose the estimated financial assurance amount. For example, the EPA recommended public disclosure of the estimated financial assurance costs in its comments on the proposed Pebble Mine, stating that “this information is necessary to assess the effectiveness of reclamation and closure activities, which is critical to the assessment of environmental consequences of the project at and beyond closure.”<sup>143</sup>

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[https://www.sac.usace.army.mil/Portals/43/docs/regulatory/Financial\\_Assurances\\_and\\_Performance\\_Bonds\\_RGL\\_0501.pdf](https://www.sac.usace.army.mil/Portals/43/docs/regulatory/Financial_Assurances_and_Performance_Bonds_RGL_0501.pdf)

<sup>143</sup> U.S. Army Corps of Engineers, Pebble Project Comment Response Matrix, EPA Comments – Pebble Project Preliminary Draft EIS, Chapter 2, Alternatives, EPA Comment #41, at 25.

To date, the record does not contain the discussion and analysis of the financial assurance, including the amount of the financial assurance, as required by the CWA and its implementing regulations and policies.

Furthermore, given the language of 40 C.F.R. §230.93(a)(1), we urge the Corp's to particularly consider the outsized timeline and variables associated with mitigation success and compliance with the 404(b)(1) Guidelines. While Perpetua has undertaken a sophisticated crediting and debiting analysis to justify the proposed project activities, significant uncertainty exists due to the large timeline of proposed impacting and restoring activities to streams and wetlands that will occur for decades at both on-site and off-site areas. The uncertainty of impacts and restoration will only be compounded across these decades by a symphony of variables including the need for long-term management and monitoring, the complexity of securing future legal protections for restored areas, economical change/uncertainty, and the impacts of climate change to name a few.

Of additional concern, is the poor track record of mining companies at preventing environmental damage at abandoned or improperly restored sites. Per a 2020 U.S. Government Accountability Office study on the cost and factors associated with hard rock mine site cleanup, "Forest Service, BLM, National Park Service, EPA, and Interior's Office of Surface Mining Reclamation and Enforcement (OSMRE) spent, on average, about \$287 million annually to address physical safety and environmental hazards at abandoned hardrock mines from fiscal years 2008 through 2017, for a total of about \$2.9 billion. Of this total, the agencies spent about 88 percent (\$2.5 billion) addressing environmental hazards, and about \$1 billion was reimbursed by private parties, such as former mine owners. Federal officials also estimated that it would cost billions more to address these mines in the future."<sup>144</sup> Given the 404(b)(1) Guidelines allow for the Corp to consider "the past performance of the project sponsor, and any other factors the district engineer deems appropriate" in determining the amount of financial assurance,<sup>145</sup> the poor track record of mine site restoration by mining companies must be considered by the Corp.

Given the level of uncertainty and past performance of mine operators, a standard engineering principle to mitigate the associated risk is to provide for an elevated factor of safety. In partnership with a mandate to "require sufficient financial assurances to ensure a **high level of confidence** that the compensatory mitigation project will be successfully completed (emphasis added)," the Corp should conservatively and carefully consider the appropriate amount of secured financial assurance.

In addition, 33 CFR 325.4 on "Bonds" says: "If the district engineer has reason to consider that the permittee might be prevented from completing work which is necessary to protect the public interest, he may require the permittee to post a bond of sufficient amount to indemnify the government against any loss as a result of the corrective action it might take." Given the poor track record of mining companies completing cleanup work,<sup>146</sup> the Corps should require a bond to cover the full cost of clean-up, including long-term water treatment costs.

### **XIII. The Corps Should Not Authorize this Project Because It Is Not In The Public Interest.**

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<sup>144</sup> <https://www.gao.gov/products/gao-20-238>

<sup>145</sup> 40 CFR § 230.93(m)

<sup>146</sup> GAO report, "Environmental Liabilities, Hardrock Mining Cleanup Obligations, June 14, 2006; Report, "Abandoned Mines, Information on the Number of Hardrock Mines, Cost of Cleanup and Values of Financial Assurance, July 14, 2011; <https://www.gao.gov/assets/gao-19-436r.pdf>

Issuance of a CWA Section 404 permit for the proposed project would be contrary to the public interest. 33 C.F.R. § 320.4(a)(1) (“The benefits which reasonably may be expected to accrue from the proposal must be balanced against its reasonably foreseeable detriments. The decision whether to authorize a proposal, and if so, the conditions under which it will be allowed to occur are therefore determined by the outcome of this general balancing process.”). In the preamble to a 1982 Interim Final Rule and a Request for Comments concerning a wide range of issues concerning the Corps permitting programs, the Corps described the public interest review process as “the heart of our evaluation process. It involves weighing and balancing all factors affecting the public interest.” 47 Fed. Reg. 31794 (July 22, 1982).

Corps regulations governing the issuance of Section 404 permits declare that “[s]ome wetlands are vital areas that constitute a productive and valuable public resource, the unnecessary alteration or destruction of which should be discouraged as contrary to the public interest.” *Id.* § 320.4(b)(1); *see also id.* § 320.4(b)(2) (identifying eight types of wetland functions important to the public interest). In furtherance of this protective policy for wetlands, the Corps is required to undertake a “public interest review” of a proposed discharge before issuing a wetlands permit. *Id.* § 320.4(b)(1); *see also id.* § 320.4(b)(2) (identifying eight types of wetland functions important to the public interest). This includes a “careful weighing of all those factors which become relevant in each particular case.” 33 C.F.R. § 320.4(a)(1). The “benefits which reasonably may be expected to accrue from the proposal must be balanced against its reasonably foreseeable detriments.” *Id.* The Corps must consider the probable impacts, including cumulative impacts, of the proposed activity and its intended use on the public interest. *Id.* § 320.4(a)(1); *see also id.* pt. 325 App. B. § (7)(b)(3). In its review, the Corps must consider the following general criteria:

- (i) The relative extent of the public and private need for the proposed structure or work;
- (ii) Where there are unresolved conflicts as to resource use, the practicability of using reasonable alternative locations and methods to accomplish the objective of the proposed structure or work; and
- (iii) The extent and permanence of the beneficial and/or detrimental effects which the proposed structure or work is likely to have on the public and private uses to which the area is suited.

*Id.* § 320.4(a)(2).

Specific factors the Corps must take into consideration, along with potential cumulative effects, include the following:

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.

33 C.F.R. § 320.4(a)(1).

As shown herein, the Stibnite Mine and its associated discharges are not in the public interest. The Corps should deny the permit application because this project and discharges are contrary to the public interest.

#### **XIV. The Proposed Plan of Operation Conflicts with Tribal Treaty Rights**

The SDEIS (P. ES-32) predicts “Adverse impacts to tribal rights and interests under either alternative, including preventing access to traditional lands, harming traditional fishing and hunting rights, impacting endangered salmon and concerns that it would harm the tribe’s salmon restoration efforts.”

On December 1, 2022, the Biden administration announced new best practices for Tribal Treaty and Reserved Rights to integrate Tribal treaty and reserved rights into agency decision-making processes, including decisions by DOI, DOD, DOA, and other agencies.<sup>147</sup> As recognized by the Biden-Harris administration, indigenous people have been disproportionately harmed by mining.<sup>148</sup>

Treaty rights must be respected. We support and incorporate by reference the comments from the Nez Perce Tribe on these issues.

#### **XV. Jurisdictional Determination**

The CMP states that Perpetua has submitted the current plan under the assumption that all delineated features are jurisdictional to expedite the Corps review of the project and that a final CMP would be adjusted to reflect any reductions or changes in light of Sackett et ux v. E.P.A., No. 21-454 (S.Ct. May 25, 2023).

Considering the potential magnitude of impacts that may be altered by new determinations under the Sackett lens, Perpetua must resubmit their application with an accurate assessment and accounting for all jurisdictional impacts if changes are to be made. Without doing so, the public will be denied the opportunity to accurately assess any potential impacts as a result of this proposed project.

Additionally, it is stated within the CMP that there are approximately 181 acres within the project disturbance area that have not been investigated for jurisdictional impacts. This gap in analysis must be remedied before an accurate assessment and review can be conducted by the public and before the Corps can issue any permit.

Furthermore, for any unavoidable loss of jurisdictional wetlands resulting from the proposed SGP, compensatory mitigation to replace such loss must ensure that any functional units (or acreages) of

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<sup>147</sup> Biden-Harris Administration, “Fact Sheet: Biden-Harris Administration Announces New Actions to Support Indian Country and Native Communities ahead of the Administration’s Second Tribal Nationals Summit, November 30, 2022.

<sup>148</sup> U.S. Department of Interior, “Departments of the Interior, Agriculture Advance Mining Reforms Aimed at Protecting and Empowering Tribal Communities, December 1, 2022. Available at: <https://www.doi.gov/pressreleases/departments-interior-agriculture-advance-mining-reforms-aimed-protecting- and>

wetlands restored, established, enhanced, and/or preserved are those of jurisdictional wetlands and consistent with the Corps' authority to regulate wetlands under the CWA.<sup>149</sup>

If changes are made based on new jurisdictional determinations, a new comment period must be issued by the Corps to allow for public review that is accurate and not based on outdated information. We also request that the Corps review baseline information that is provided considering that the information that the analysis is based on dates back to 2011 in many cases.

#### **XVI. The Corps must require a complete application with sufficient information for public comment.**

The Corps cannot proceed now with the application and must require a complete application from SGP with sufficient info for public comment. 33 CFR 325(d)(1) requires the applicant to submit a "complete description of the proposed activity" including specific listed things "sufficient for public notice"; and 33 CFR 325.3 says the public notice "must... includes sufficient information to give a clear understanding of the nature and magnitude of the activity to generate meaningful comment" and must include specific listed items.

As noted above and herein, there is inaccurate and insufficient information to give a clear understanding of the nature and magnitude of the activity for meaningful public comment, including but not limited to the following:

- Major discrepancies in the reported scope and scale of impacts to wetlands and aquatic resources (See Section IV above) amongst PN and SDEIS.
- Wetland delineations on the approximately 181 acres of the permanent SGP disturbance boundary of the Proposed Action that are outside of the stream and wetland study area are missing.
- Discrepancies between the PN's statement that "145-acres of wetlands" will be impacted by the proposed SGP, the applicant's assertion that "150.4-acres of wetlands" will be impacted by the proposed SGP, and the SDEIS' analysis that 196.1 (Burntlog Route) and 190.2 (Johnson Creek Road) will be impacted by the Project.
- Failure to complete and provide the results of sediment modeling.
- Failure to provide the number, location, and analysis of new stream crossings (See EPA comments)
- Failure to provide information on the potential impacts to aquatic resources from the proposed underground exploration (Scout Prospect Tunnel).
- Failure to provide accurate estimates of air emissions and deposits, including mercury and arsenic (See EPA SDEIS comments).

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<sup>149</sup> In other words, the "performance standards and criteria for the use . . . of on-site, off-site, and in-lieu fee mitigation and mitigation banking as compensation for lost wetlands functions in permits issued by the Secretary of the Army" must be "consistent with section 404 of the Federal Water Pollution Control Act (also known as the Clean Water Act) . . ." Pub. L. No. 108-136, § 314(b), 117 Stat. 1392, 1431 (2003); *see also Sackett v. EPA*, 598 U.S. 651, 678-84 (2023).

- Failure to discuss or analyze assumptions regarding and potential efficacy of stream temperature mitigation measures, including impacts to aquatic habitat if those assumed measures are not 100% effective.
- Failure to provide information regarding water right application 77-14378, including analysis of diverting 9.6 cfs from the West End Creek, Meadow Creek, and EFSFSR watersheds and the impacts to and reductions in ESA-listed fish habitat and effects on upstream fish passage, especially for spawning Chinook Salmon.
- Failure to sharply define the differences between the proposed Burntlog Route and Johnson Creek Road mine site access alternatives, including but not limited to the failure to discuss likelihood of closures due to adverse weather, avalanche, and road conditions on the Burntlog Route, and the corresponding need to maintain Johnson Creek Road not only during construction but also during operations and closure under the 2021 MMP to maintain mine site access when the Burntlog Route is impassable.
- Failure to adequately describe the nature and extent of additional groundwater contamination contributed by SGP, the application should include a summary that describes the magnitude of groundwater concentrations above current baseline conditions and the geographic extent (in feet) over which baseline concentrations are exceeded. Figures which depict the extent and magnitude of groundwater concentration changes in relation to mine facilities would be particularly helpful to disclose groundwater impacts.
- Failure to include a reclamation plan that identifies the acceptable metal/contaminant concentration limits that would be required for soils and reclamation cover materials, since these are directly relevant to the evaluation of environmental impacts for the project, including the analysis of the availability of and suitability of cover materials (metals) and the analysis of potential reclamation and closure/post-closure impacts to wetlands, waters, wildlife, aquatic resources and public health. The application must discuss how soils with elevated concentrations of antimony, arsenic and mercury will impact predicted water quality concentrations of these contaminants. Further, the reclamation plan should disclose the volume of available reclamation/cover materials that would meet these limits and be suitable for reclamation.
- Failure to analyze a reasonable range of alternatives, including but not limited to alternative tailings storage facility sites, underground mining, and alternative tailings disposal methods requiring less area for storage.
- Failure to disclose that areas within the proposed mine site have been and currently are subject to consent decrees with EPA, including the January 15, 2021 Administrative Settlement Agreement and Order on Consent for Removal Actions (CERCLA Docket No. 10-2021-0034), of which phase 1 is ongoing.

## **XVII. Conflict of Interest**

In December 2022, the Department of Defense awarded \$24.8 million in funding to Perpetua Resources through its Defense Production Act Investments Program to “secure an American source of minerals for missiles and munitions.”<sup>150</sup> The press release further stated that, “The DPA Investments Program will provide \$24.8 million to Perpetua to complete environmental and engineering studies necessary to obtain

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<sup>150</sup> <https://www.defense.gov/News/Releases/Release/Article/3249350/dod-issues-248m-critical-minerals-award-to-perpetua-resources/>



a Final Environmental Impact Statement, a Final Record of Decision, and other *ancillary permits*.<sup>151</sup> (emphasis added)

Perpetua CEO, Laurel Sayer, similarly describes the use of the funds to advance the project for future development in a 2022 press release, “As Perpetua continues advancing our project through the permitting process, we are honored to enter this agreement to help advance our construction readiness for future development.”<sup>152</sup>

In August 2023, the Department of Defense awarded another \$15.5 million in DOD funding to Perpetua Resources “to demonstrate a fully domestic antimony trisulfide supply chain using ore from the Stibnite Gold Project (“Project”) site for use in munitions. To meet this objective, the Company plans to obtain additional core samples from the Project site, conduct a pilot plant study to produce mil-spec antimony trisulfide from the samples, design a full-scale process circuit, and deliver a modular pilot plant for the DoD to use in further investigations.”<sup>153</sup>

As an agency under the jurisdiction of the DOD, the Corps cannot serve in an unbiased capacity with respect to this permit. For that reason, we ask that the U.S. Environmental Protection Agency step in to assert its independent jurisdiction over this permit via its oversight authority under Section 404 of the Clean Water Act.

At a minimum, having the Department of Defense provide funds to Perpetua before the Corps’ NEPA, CWA, and Tribal consultation processes are completed presents a troubling case of inappropriate pre-ordained decision-making. *Metcalf v. Daley*, 214 F.3d 1135, 1144 (9th Cir. 2000)(where an agency enters into an agreement prior to preparing the NEPA document, the document and agency review “might be subject to at least a subtle bias” and thus must be discarded). The NEPA process must be “done under circumstances that ensure an objective evaluation free of the previous taint.” *Id.* at 1146 (setting aside decision due to NEPA violations, and ordering agency to re-start the NEPA process and prepare a new environmental assessment before issuing a new decision). A pre-existing agreement “eliminate[s] the opportunity to choose among alternatives.” *Id.* at 1143. See also *American Wildlands v. U.S. Forest Service*, CV-97-160-M-DWM (D. Mt 1999) (holding that normal deference to agency decision making is inapplicable “if the objectivity of the agency decision making is questionable” and that “[o]therwise, there would be no check on the ability of an agency to circumvent environmental laws by simply going through the motions and conducting environmental assessments on the basis of predetermined or presupposed findings”). Here, this situation presents “a classic Wonderland case of first-the-verdict, then-the-trial.” *Metcalf* at 1146.

## **XVIII. Conclusion**

The Guidelines are the substantive environmental criteria for the evaluation of proposed discharges of dredged or fill material, which cannot be permitted unless compliance with the

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<sup>151</sup> *Id.*

<sup>152</sup> <https://www.prnewswire.com/news-releases/perpetua-resources-receives-critical-minerals-award-of-up-to-24-8-million-under-the-defense-production-act-301705803.html>

<sup>153</sup> <https://www.prnewswire.com/news-releases/perpetua-resources-awarded-up-to-15-5-million-in-department-of-defense-funding-to-demonstrate-a-fully-domestic-antimony-trisulfide-supply-chain-301905505.html>.

Guidelines have been demonstrated. The Guidelines recognize that the level of required analysis and documentation are scaled to reflect the significance and complexity of the proposed discharge activity.

The proposed project is predicted to be one of the largest U.S. gold mines, if permitted.<sup>154</sup> According to the Public Notice, the proposed project will impact approximately 21 miles (111,000 feet) of perennial, intermittent and ephemeral streams, 145 acres of wetlands, and 5 acres of other waters, including the direct loss of over 9.5 miles of perennial streams within the 2021 MMP mine footprint. This is a significant impact and likely an unprecedented loss. For comparison, the U.S. EPA determined that the loss of 4.7 miles of anadromous fish streams from the proposed Pebble Mine in Alaska would be an unprecedented loss of documented anadromous fish streams in the CWA Section 404 regulatory program in Alaska.<sup>155</sup>

The SDEIS describes project actions which severely degrade aquatic and terrestrial conditions indefinitely and in perpetuity. Examples for ESA-listed Chinook salmon include less optimal habitat, mortality, injury, and temporary and permanent displacement. Major examples for ESA-listed steelhead include mortality, injury, temporary or permanent displacement, temporal loss of habitat, and decrease in net productivity for decades. Major examples for ESA-listed bull trout include injury or mortality to individuals, permanent displacement from the analysis area, net decrease in quantity and quality of habitat, net loss of thermally suitable habitat, and a net loss of critical habitat. Exceedances of water quality standards are anticipated to extend indefinitely post-closure (SDEIS Table 2.8-1).

In addition, the values of the potentially affected aquatic resources in this case are among the highest evaluated under CWA Section 404 and support important subsistence fisheries for salmon. Because the nature and extent of the proposed discharges reflect some of the most highly significant and complex discharge activities with the potential for serious adverse impact contemplated by the Guidelines, the level of information, evaluation, and documentation necessary for this project to demonstrate compliance with the Guidelines is significant.

Our review finds that the PN, DEIS, SDEIS and supporting documents do not contain sufficient information to support a reasonable judgment that the proposed discharges will comply with the Guidelines. Further, the DSEIS demonstrates that the proposed Stibnite Gold Project fails to meet core elements of the 404(b) guidelines, such as: 1) causing or contributing to violations of water quality standards, 2) causing or contributing to significant degradation of waters of the United States, 3) failing to consider a reasonable range of alternatives, 4) failing to demonstrate that it won't jeopardize the continued existence of species listed as threatened under the Endangered Species Act or result in the likelihood of the destruction or adverse modification of critical habitat, 5) failing to demonstrate that the proposed project is in the public interest, and 6) failing to demonstrate compensatory mitigation.

This comment letter incorporates by reference all of our previous comments, including those on scoping, the DEIS, SDEIS, and other SGP related permits.

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<sup>154</sup> [https://perpetuaresources.com/wp-content/uploads/Perpetua-Resources\\_Investor-Presentation\\_August-2023.pdf](https://perpetuaresources.com/wp-content/uploads/Perpetua-Resources_Investor-Presentation_August-2023.pdf)

<sup>155</sup> U.S. Environmental Protection Agency, Proposed Determination of the U.S. Environmental Protection Agency Region 10 Pursuant to Section 404(c) of the Clean Water Act, Pebble Deposit Area, Southwest Alaska. July 2014, p. 4-6.