

January 10, 2023 Public Comment to the Forest Service's Supplemental Draft Environmental Impact Statement (SDEIS).

Submitted by Mary Faurot Petterson

**To: Linda Jackson, Payette Forest Supervisor
Stibnite Gold Project**

500 N. Mission Street, Building 2, McCall, Idaho 83638

Thank you for the opportunity to comment on the SDEIS for the Stibnite Gold Project.

I am a retired fish biologist (BS, MS) and US Forest Service district ranger who has lived in McCall, Boise, Idaho City, WhiteBird, and Salmon, Idaho since 1993. I have worked with fisheries, tribal issues, and public land management in Montana, Alaska, Oregon, Washington, and most recently the Salmon River and its South Fork. I am a board member of Save the South Fork Salmon and the Idaho Conservation League.

The watershed of the Salmon River is integral to my family. We hike, fish, hunt, gather firewood, camp, bike, bird, swim, raft, ski, pick berries and mushrooms, and access wilderness there. My daughter studied fish and habitat interactions in Salmon River tributaries for her Masters Degree. My son is a guide on the Middle Fork Salmon River. My husband and I live on the banks of the Salmon River.

The South Fork Salmon River watershed still supports a rare wild assemblage of Chinook salmon, steelhead, bull trout, and westslope cutthroat trout, despite fish passage impacts from downstream dams, habitat degradation from more than a century of extractive industry, and ocean overfishing. The salmon and steelhead are the longest migrating runs at this elevation in the world, and a testament to the resiliency of the river and its tributaries, which deserve our best stewardship.

The SDEIS process did not accomplish a "hard look" based upon the "best available science" to support either of the action alternatives. As disclosed in the SDEIS, the proposed Stibnite mine (SGP) will result in unavoidable adverse environmental impact to the East Fork South Fork of the Salmon River and downstream, and for that reason, **I strongly recommend the No Action Alternative, with clean up of legacy pollution via ongoing CERCLA actions.** Significant adverse environmental and socioeconomic impacts cannot be avoided if the SGP is approved through either of the other two action alternatives.

I respectfully provide five General and five Aquatic comments to the SDEIS, each with questions that are not answered in the SDEIS, and for which I request answers. My comments incorporate (by reference) the 1/9/2023 group comment letter from Save the South Fork Salmon/Idaho Rivers United/Idaho Conservation League/Earthworks/Center for Biological Diversity/American Whitewater/ American Rivers/Winter Wildlands Alliance; the Power Consulting Report, 2022: An Evaluation of the Potential Socio-Economic Impacts of the Proposed Stibnite Mine on Valley

County, Idaho, submitted to the Forest Service by the Idaho Headwaters Economic Study Group, and the Nez Perce Tribe's comments submitted 1/5/2023.

1. The No Action Alternative was not recognized or analyzed. The SDEIS fails to recognize that the No Action Alternative, including CERCLA designation and cleanup, *without additional mining*, would result in a significant improvement to environmental conditions as compared to baseline conditions described in the SDEIS. Water treatment, removal of toxic tailings and structures, road obliteration, fish habitat restoration, stream channel reconstruction, salmon supplementation, and other restoration has been completed since the 1990s by the Forest Service, state, responsible parties, and most recently, Nez Perce Tribe, *without additional mining*.

The SDEIS shows that mining and storing 450 million tons of waste rock and tailings at the site cannot realistically, much less practically, be done without creating more environmental damage. The SDEIS should clearly have stated and evaluated that the No Action Alternative with required remediation is the least damaging practicable alternative, and therefore the only alternative that the Corps can permit under Section 404 of the Clean Water Act.

Why did the Forest Service not work with Perpetua, the state, and politicians to fully remediate the site (through CERCLA) without further mining being done? Why was the No Action Alternative not analyzed in the DEIS?

2. The SDEIS incorrectly assumes that mitigation and restoration efforts are possible and effective. 33 C.F.R. § 320.4(r)(2): Mitigation is required for “significant resource losses which are specifically identifiable, reasonably likely to occur, and of importance to the human or aquatic environment.” 40 C.F.R. § 230.93(a): These adverse effects to aquatic resource functions, whether direct or indirect, must be mitigated.

A multitude of well-intentioned fisheries mitigation measures are included in the SDEIS Action Alternatives. These measures were designed to avoid and minimize potential impacts to aquatic organisms, federally listed fish species, and USFS designated sensitive species during SGP operations and closure. Despite inclusion of these mitigation measures into the proposed actions, the SDEIS clearly confirms that irreversible and irretrievable impacts will occur. These include but are not limited to: direct mortality, incidental injury, temporal (more than 100 years in certain stream reaches) and permanent (upper Meadow Creek) loss of critical habitat, decreased suitable and Critical habitat, blockage of fish passage, decrease in thermally suitable habitat, permanent displacement of individuals, and net decrease in productivity.

Many of these detrimental impacts cannot be mitigated and represent substantial, and long-term to permanent degradation and fish population declines in project area streams and downstream. These impacts are unacceptable.

Perpetua and the U.S. Forest Service provided mitigation measures that are thorough, expensive, engineered, and optimistic, perhaps pushing the limits of what is feasible given their mining goals. The SDEIS and fisheries experts have stated that those measures will not be effective in

mitigating serious impacts to already- imperiled Chinook salmon, steelhead, bull trout, and westslope cutthroat trout. The impacts to ESA-listed salmon, steelhead, bull trout and other native fishes, even with well-intended, although inadequate mitigation, are unacceptable.

The following additional mitigations should have been incorporated into the SDEIS:

Fund, partner, engage, and/or implement removal of the four Lower Snake River Dams. Experts—ranging from Northwest biologists, to Tribal scientists, and the Corps of Engineers—agree that the science is clear: the best way to ensure salmon restoration is removal of the four lower Snake River dams. It is the foundation of salmon recovery measures in the Columbia Basin (NOAA 2022, Rebuilding Interior Columbia Basin Salmon and Steelhead).

Obliterate and hydrologically restore all unneeded roads in the South Fork Salmon River watershed.

Gravel road surfaces and develop maintenance agreements for all roads in the South Fork Salmon River watershed

Implement Aquatic Organism Passage at all stream crossings in the South Fork Salmon River watershed that are not AOP.

Prohibit haul of hazardous substances (ie diesel, acids, etc.) along the South Fork Salmon River and East Fork South Fork Salmon River roads.

I respectfully request that the adverse effects to all resource functions, whether direct or indirect, are fully mitigated and analyzed, using the above suggestions.

3. Monitoring proposed in the SDEIS is insufficient. Post-closure, monitoring should include water quantity, water quality, fish, wildlife, aquatic biota, revegetation, erosion, dam stability, and more, to ensure that reclamation and closure measures are performing as intended and within acceptable standards. These will need to be performed potentially in perpetuity, and should be described in the SDEIS in detail. “Reclamation” is impossible to forecast as proposed in the SDEIS, and ongoing commitment to monitoring is critical to evaluating the effectiveness of the proposed reclamation measures, and also in evaluating the potential for long-term impacts if ongoing effectiveness are not maintained.

Please explain how reclamation can be considered as completed in a mere 20 years of mine life - before soils have attained function, before plants and trees have grown to be able to shade streams, before streams have cooled to below-lethal temperatures to salmonids, before “restored” fish passage has been assured, and before hyporheic zones have become established, The SDEIS should clearly and concisely note that there is no such thing as “walk-away” reclamation for the Project.

4. The proposed Forest Plan amendments that waive time requirements for degradation, and waive the requirement for fish passage at surface water diversions, are not compliant

with the 2012 Planning Rule and Forest plans, specifically regarding the Aquatic Conservation Strategy, USFWS and NOAA Biological Opinions, Terms and Conditions, and Reasonable and Prudent Alternatives.

The timeline for mine operation is approximately 12 years with reclamation and closure of approximately 5 years. Monitoring of reclamation and mitigation should occur longer term, potentially in perpetuity. The SGP will adversely change the conditions of the landscape for at least 100 years, and potentially in perpetuity. This operation and impact time length is in excess of the Forest Plan direction, which indicates that “Management actions, including salvage harvest, may only degrade aquatic, terrestrial, and watershed resource conditions in the temporary time period (up to 3 years).”

Blocking fish passage results in harm to fish. SDEIS design features and mitigations will not maintain or restore connectivity or cold water refugia, important components of aquatic ecosystem integrity. The SDEIS admits that “bull trout may be extirpated from the reaches upstream from the TSF when the reaches within the footprint would be dewatered and flow would be diverted into the diversions that route water around the facilities. With the gradient barrier that would be created along the TSF, there would be no mechanism by which bull trout would be able to volitionally (i.e., naturally) recolonize the reaches upstream from or on top of the TSF.”

The Forest Plan amendments that waive these requirements do not maintain the intent of the original plan standards. SDEIS mitigations and reclamation actions will not restore or maintain aquatic resource conditions, according to multiple adverse effects described in Chapter 4.

How can the Forest Plan amendments, which clearly state multiple longterm, severe and significant adverse effects to fish, which clearly do not maintain the intent of the planning standards of the 2012 Planning Rule, be rationalized as “maintaining or restoring” planning rule requirements such as ecological sustainability, ecosystem integrity, ecosystem diversity? Why was a sustainability analysis not performed by the Forest Service?

5. The Idaho Headwaters Economic Study Group released: An Evaluation of the Potential Socio-Economic Impacts of the Proposed Stibnite Mine on Valley County, Idaho (12/2022).

It is clear from this independent economic report that the “No Action Alternative” is the best option for the long-term economic vitality of Valley County. The study states: 1. Any employment economic “benefit” from the mine could be almost completely wiped out by even a 2% decline in the visitor-recreation and non-labor income sectors, due to degradation of those natural amenities; 2. Perpetua's property tax revenues of \$300,000 per year are expected to amount to only 1.3% of Valley County's annual budget; 3. Local workers' pay will likely be no more than 2-3% of Perpetua's overall mine spending; 4. Mine operations will create additional burdens on city and county services, such as schools, roads, police, fire department, hospitals and telecommunications facilities that will not be offset by the \$300,000 paid by Perpetua in property taxes, and 5. Valley County's housing market will become increasingly less affordable for the locals if the mine is built.

I respectfully request that a Hard Look be taken at the comprehensive (not benefits only, as presented in the SDEIS) socioeconomic effects presented in the independently contracted, comprehensive study.

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.

6. Increases in stream temperature are modeled to reach lethal levels for salmon and trout during mining operations and post closure, without considering effects of climate change, for up to 100 years.

Permitting a project that is predicted to increase stream temperature and decrease flow, in the face of imminent climate change, which will also increase stream temperature and decrease flow, will negatively impact Chinook salmon, steelhead, bull trout, and cutthroat trout in the analysis area and downstream.

Is there any analysis to show that listed fish species will be able to persist until Mine Year 112 when the reductions in stream temperatures are predicted in the SDEIS? Please incorporate climate change into stream temperature models and evaluate if fish can persist in stream reaches with elevated temperatures until shading effects are realized. Please include direct and indirect effects of elevated stream temperatures on fish species downstream from the Project area.

7. The validity of the model results should be viewed with skepticism.

SDEIS models used to predict fish habitat conditions state clearly that they 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 estimate of estimates.

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, why were these not used? Using a new, unproven, made-for-Stibnite model does not comply with NEPA's best available science requirement.

The East Fork fish tunnel models volitional fish passage upstream at quite an ecological cost, if it actually works. The loss of stream biota, fisheries habitat, impaired riparian and stream function for 20 plus years in exchange for a fishway with artificial lighting, flow control, fish salvage and connectivity to questionable upstream water quality and habitat seems suspect. The modeled effectiveness of a post-mining, reestablished EFSFSR channel across the Yellow Pine pit is questionable due to a lack of groundwater interactions from the lined channel, riparian cover which will take decades to establish and provide shade, and an unknown timeframe for when mining will cease.

8. Why are there no project-specific spill risk calculations for numbers of spills, and spill probability, in the SDEIS?

More than 3,000 loads of hazardous materials would be transported to or from the mine every year during operations (Table ES-1). The loads would include more than 8,300,000 gallons of flammable materials (diesel, propane, gasoline) as part of more than 9,400,000 gallons of hazardous bulk liquids to be brought to the mine site annually. In addition, more than 46,000 tons of hazardous bulk solids would be transported to or from the mine site (Table ES-1). This includes the annual use of 4,000 tons of sodium cyanide, which would be delivered in 167 trips carrying 24 tons each, or roughly one trip every other day. Hazardous materials include fuels, explosives, acids, cyanide, ammonium nitrate, lime, antimony concentrate and other toxic materials. All of these are highly toxic to fish, and humans should spills of these materials happen along Highway 55 and in McCall, into the NF Payette River, along mine access roads into the SFSR, Johnson Creek, and EFSF and its tributaries. One spill, at the right time and place, could kill 100% of the eggs, fry, juveniles, and spawning adults of up to four species. A Hard Look was not addressed, and must be taken, at these effects to the four special status salmonid species.

9. The Best Available Science for some basic ecological principles are ignored in the SDEIS. I respectfully request use of the Best Available Science for:

“Upstream affects downstream”: The SDEIS analysis area stops below the Yellow Pine Pit, not even including Sugar Creek, which receives West End Creek, on which mining operations are planned. The analysis area should be extended downstream throughout the EF South Fork, and include network-wide effects on water quality and populations of endangered fishes.

“Synergy happens”: By considering fish species, stream reaches, and limited habitat impacts (e.g., stream dewatering, temperature increases, increases of metals concentrations, migration barriers) all separately, and not synergistically, 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.

“Foodwebs connect”: Mountain sucker, mottled sculpin, longnose dace, speckled dace, redbreasted 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 in the SDEIS. Ignoring impacts to salmonid food webs is equivalent to ignoring impacts to salmonids at large.

“Groundwater affects surface water; groundwater affects hyporheic (intergravel) biota”. The SDEIS ignores the critical importance of groundwater to surface water in cooling temperatures and to the evolution and creation of a functional hyporheic zone in “restored” engineered channels.

10. Water quality: 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 supported by Best Available Science stated by Maest (2022, in 1/9/2023 group comment letter from Save the South Fork Salmon/ Idaho Rivers United/Idaho Conservation League/Earthworks/Center for Biological Diversity/ American Whitewater/ American Rivers/Winter Wildlands Alliance) to understand the effects to aquatic life of the Stibnite Gold Project mining proposal.