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Organization:

Title:

Comments: Dear Ms. Jackson,

Thank you for the opportunity to comment on the Draft Environmental Impact Statement (DEIS) for the Stibnite Gold Project. I have attached my comment letter.

I am an Idaho resident, and a long-time user of public lands and rivers for recreation, quality of life, and peace of mind. My husband and I have rafted the South Fork of the Salmon on an annual basis for the last several years. It is a wild, beautiful, and remote river that provides excellent opportunities for boating, fishing, and non-motorized recreation, and preserves a large swath of habitat that compliments the adjoining Frank Church River of No Return Wilderness Area. Our family of four, including our two young sons, spend much of our available free time on the Salmon River, including the [ldquo]Main Salmon[rdquo] which the South Fork empties into. This beautiful wild area is one of the last places in the West where you can run a clean, un-polluted river, allowing your children to play and swim in the water without any concern for water quality. We have spent much time swimming in the river, sometimes with snorkel gear on to observe what is left of what was once a thriving fishery. The dangers posed to water quality, fish and wildlife habitat, and the wild nature of this entire region by the proposed Stibnite Mine cannot be adequately mitigated.

In addition, my business, Recreation Law Center, LLC., provides clients with the legal advice and documents they need to run a professional outdoor company. My clientele includes rafting and angling companies whose businesses depend on maintenance of the quantity and quality of water, the health of fisheries, and the wild and scenic nature of the Salmon River and its tributaries. This project may have substantial negative impacts on these values, and thus the profits and of rafting and angling companies, who use the services that my business provides. I am very concerned about the potential impacts of the proposed Sibnite Gold Project on my business.

My specific comments on the DEIS are detailed below.

1. The comment period should be extended to allow for meaningful public participation

I appreciate the extension of the comment period on the DEIS from the legally required 45 days to 60 days. However, the 60-day comment period does not provide adequate time for meaningful public participation under the National Environmental Policy Act for the reasons outlined below. I request that the public comment period

for the Stibnite Gold Project DEIS be extended an additional 60 days for a total comment period of 120 days.

The Stibnite Gold Project will have extensive impacts on the environment of the Salmon River and its tributaries, and the economics of the surrounding communities in Valley County Idaho and beyond. It will harm the health of the Salmon River system and the fisheries (including endangered fish species), and those who value the river system for world-class rafting, sport fishing, and scenery. The project is likely to have long-term, irreversible environmental and socio-economic impacts. As a consequence of this fact, there is considerable public interest in the project.

In addition, the analysis of the impacts of the Stibnite Gold Project provided in the DEIS and supporting documents, is complex and highly technical. The DEIS and supporting documents are over 5,400 pages. It takes substantial time for a lay person to review and understand these documents, and provide substantive input on DEIS. Further, the DEIS does not take a hard look at many of the environmental and socio-economic impacts of the alternatives. Thus, individuals concerned about the impacts of the project, must do substantial additional research to understand and provide input on the impacts of the project.

Further, the DEIS indicates that the Forest Service will have to make substantial amendments to standards in the Payette and Boise National Forest Land and Resource Management Plans in order to implement any of the four alternatives considered in the DEIS. These Forest Plans were developed with substantial public input, over long time periods. Amendments to the Forest plan standards should not be taken lightly, and the comment period for a project that requires such substantial changes to the Forest Plan should be extended to provide for meaningful input on the proposed amendments to the Forest Plan.

Finally, many families, including mine, are facing challenges due to the COVID-19 pandemic's impacts on schools, child care options and businesses. These challenges make it more difficult for me and other interested members of the public to carve out time to review the substantial documentation associated with this project, and to provide substantive comments on the DEIS.

For these reasons, the 60-day comment period did not provide enough time for me or other interested members of the public to review and provide substantive input on the DEIS. A 60-day extension of the comment period is needed in order for the public to have an adequate opportunity to provide meaningful input to inform the Forest Service's consideration of alternatives.

1. The purpose and need is unreasonably narrow

The purpose and need for the project is defined very narrowly, in a manner that precludes consideration of reasonable alternatives to the proposed action. The Forest Service used the Stibnite Gold Project plan of

operations as the basis for determining the purpose and need, and developed the action alternatives in the plan based on the plan of operations. This approach precluded the Forest Service from analyzing a reasonable range of alternatives to the proposed action (see Section III) that would allow access to public lands to search for minerals consistent with US mining laws, while minimizing adverse environmental impacts to a much greater extent than any of the alternatives in the DEIS. The purpose and need should be defined more broadly to include restoring and maintaining the health of the Salmon River and its tributaries, and the fisheries that the river supports.

1. The range of alternatives considered is inappropriately narrow

The Forest Service failed to analyze an adequate range of alternatives. The agency is required to rigorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated. The benchmark for examination of the range of possible alternatives is that the Forest Service must take a hard look at possible alternatives. This is especially true for any alternative that appears to be legal, is consistent with policy objectives, has broad public support and is reasonably feasible.

The Forest Service failed to consider alternatives that would result in less substantial environmental harm. All of the action alternatives will result in unreasonable environmental harm to water quality and quantity, fisheries, special status fish species, and other resources. The Forest Service should prepare a new or supplemental EIS to consider additional alternatives, that would result in less substantial environmental harm, while still meeting the Forest Service's obligation to consider the SGP plan of operations and allow access to the public lands to search for minerals, including the alternatives described below.

* All four of the action alternatives will have negative impacts across an affected area ranging between 3,219 acres and 3,533 acres. The Forest Service should analyze alternatives that limit the footprint of development to a smaller total acreage, including an alternative that limits the mine footprint to previously disturbed areas

* The FS should analyze an alternative that is similar to the no action alternative, but that includes removal of the Soda and Brady tailings to restore fish habitat.

* The Forest Service should consider an action alternative that is consistent with the Payette and Boise Land and Resource Management Plans, and that does not require that the plans be amended.

* The Forest Service should analyze an alternative that includes more effective measures to avoid, minimize and mitigate adverse impacts water quantity and quality and fish populations, particularly endangered fish species. This should include an alternative that results in a net improvement in water quantity, water quality, and the health of fish populations and riparian ecosystems in the Salmon River and its tributaries.

* The Forest Service should analyze an alternative that proposes mineral withdrawal for the Salmon River watershed (while this would ultimately require congressional action, it is appropriate for the Forest Service to analyze an alternative that protects the world class resources in the watershed (including the health of the Salmon River and its tributaries, wetlands and riparian areas, roadless areas, wildlife, scenic values, etc.) from mining.

* The Forest Service should analyze an alternative that avoids building roads, allowing surface disturbance, and putting mining waste in undisturbed habitat for fish species, particularly endangered fish species. In addition, the FS should analyze an alternative that prohibits activities likely to result in contamination of streams with arsenic,

methyated mercury, and other minerals and compounds likely to cause significant long-term adverse impacts on fish species, particularly endangered fish species.

* The Forest Service should analyze an alternative that reconnects fish habitat, isolates historic mine waste from streams, and restores degraded riparian areas

I urge the FS to prepare a new or supplemental DEIS which includes consideration of a broader range of alternatives.

I also ask that you to select the no action alternative (in the absence of other reasonable alternatives). All of the action alternatives will result in unreasonable environmental impacts, particularly with respect to water quantity and quality in the Salmon River and its tributaries, fisheries, endangered fish species. This is clear from the analysis of impacts provided in the DEIS.

1. The DEIS fails to provide an adequate analysis of the impacts on surface water and groundwater quantity and quality.

All of the alternatives except for the no action alternative are likely to have significant negative impacts on the quantity of surface water and ground water in all drainages within the analysis area.

In addition, all of the alternatives except for the no action alternative are likely to have significant negative impacts on water quality. Water quality will be negatively impacted by acid rock drainage and/or metals leaching from mineralized rock in the mine pits, development rock storage facilities (DRSFs) and the tailings storage facility (TSF). In addition, the project will negatively impact water quality through causing increased mercury methylation in adjacent waterbodies through emissions and other activities. Arsenic, antimony, mercury and other metals will contaminate surface and ground water for many years.

I am very concerned about the impacts of the project on surface water and groundwater quantity and quality. Negative impacts on water quantity and quality can have far reaching ramifications for the health of the Salmon River ecosystem as a whole, and many other things that I value that depend on a healthy river ecosystem, including fish populations, wildlife, recreation opportunities, human health, and businesses and local economies. For these reasons, it is critical for the DEIS to provide an adequate analysis of the impacts of the alternatives on water quantity and quality.

There are substantial uncertainties in the model used to predict water quantity and quality impacts in the DEIS. As a result, the model likely underestimates negative impacts that will result from the four action alternatives.

The DEIS acknowledges that there are several sources of predictive uncertainty for the hydrological model, including the following:

- * A limited number of hydraulically tested wells and boreholes;
- * Typical limitations of data derived from hydraulic tests;
- * Uncertainty as to if any of the fault zones near the proposed pits were hydraulically tested
- * Not evaluating model predictive sensitivity to various possible degrees of hydraulic transmissivity of the fault zones, which have not been represented in the model;
- * Lack of a long-term bedrock aquifer test. Future documents will be updated with the results of the 2019 test when available.

The fact that the model does not evaluate model predictive sensitivity to various possible degrees of hydraulic transmissivity of the fault zones, is of particular concern. The DEIS acknowledges that the analysis area is cut by several major fault zones, and that the bedrock within the analysis area is faulted and fractured. The DEIS also acknowledges that faults can serve as conduits for groundwater flow. If the faults do serve as conduits to groundwater flow, they could increase hydraulic connectivity, and result in significantly different predictions with respect to the impacts of the project on surface and ground water quantity and quality.

The DEIS indicates that there will be major impacts on the quantity and quality of surface and ground water resources. In turn these changes to water quantity and quality will have significant, long-term negative impacts on streams and rivers that support endangered fish, as well as other fish populations that are highly valued by the public for the angling and other recreational opportunities they provide. Given the sensitive location of the project and the long-term nature of the potential impacts, it is imperative to carefully examine [s]reasonably foreseeable[r] future outcomes of mine development, as required by NEPA. This includes ensuring that major uncertainties in the model, do not result in a failure to carefully examine all reasonably foreseeable impacts on water quantity and quality.

The DEIS makes an unsupported argument that, because the modeling approach and data used by Brown and Caldwell are within the typical scope of modeling data for similar projects, the model is adequate. However, it is not clear that these [s]typical[r] projects have the same potential for massive adverse environmental impacts that this proposed project does, due to its location at the headwaters of the ESFSR, and the resources at stake downstream.

The DEIS goes on to make an unsupported statement that development of alternative conceptual and numerical models to explore the influence of faults and fractures in the analysis area would not be realistic. However, the DEIS provides no information to support this statement. The DEIS provides no estimate of how much it would cost to develop alternative conceptual and numerical models, what type of expertise or data would be required, or how much time it would take. In addition, hydrologic models that explicitly model flow through faults and fracture zones or evaluate model predictive sensitivity to various possible degrees of hydraulic transmissivity of the fault zones, are considered to be important to development of accurate hydrologic models of the impacts of

mineral extraction. In addition, hydrologic models that use these or other approaches to exploring the influence of faults, are common. For example, see the following:

- * <https://www.environment.gov.au/system/files/resources/877d5b40-4269-4708-a55f-b5e25df21b4b/files/simulating-the-groundwater-flow-dynamics-of-fault-zones.pdf>
- * <https://agupubs.onlinelibrary.wiley.com/doi/abs/10.1029/95WR01178>
- * <https://www.pebbleprojecteis.com/files/2c8a62a6-dedc-4981-88aa-377276c09c34>
- * <https://agupubs.onlinelibrary.wiley.com/doi/abs/10.1029/95WR01178>
- * https://www.usbr.gov/uc/envdocs/eis/Paradox/20191200-PVU_DEIS_Vol3_Apps_E-J_508.pdf
- * <https://www.mdpi.com/2075-163X/10/8/727/htm>

The DEIS also states that such a model would be unlikely to produce significantly different predictive results. However, the DEIS also provides limited information to support this statement. As acknowledged in the DEIS, faults can act as conduits to groundwater flow. In addition to influencing impacts on surface and ground water, faults can provide conduits for the escape of mine influenced water from the mine site. At other mine sites, flow along faults has been demonstrated to be a key factor in preventing the containment of mine-influenced waters (<https://www.mdpi.com/2075-163X/10/8/727/htm>). The DEIS fails to disclose the potentially significant impacts that could occur if faults provide conduits for ground water flow or if flow along faults prevents containment of mine influenced waters.

The FS acknowledges that existing data from long-term pumping bedrock aquifer testing would improve characterization of hydraulic properties of the bedrock formations. This would help to ensure that major uncertainties in the model, do not result in a failure to carefully examine all reasonably foreseeable impacts on water quantity and quality. The model should be updated based on this data, and the FS should prepare a new or supplemental EIS that discloses how inclusion of this data changes model predictions with respect to impacts on water quality and quantity.

Another major flaw of both the hydrologic model and the analysis of the impacts of the action alternatives on surface water quality, is the failure to consider the potential for floods to cause increased erosion and overflow and breach of tailings ponds. The DEIS does not disclose that the streams in the analysis area experience regular peak floods and larger floods at predictable time intervals, including 100 year peak floods. In addition, the hydrologic model and analysis of impacts fail to provide any predictions regarding how such floods moving through the analysis area, could affect water quality in the analysis area and downstream. The U.S. Geological survey provides high quality data on mean annual floods likely in the analysis area, as well as peak floods at a range of time intervals, including 100-year peak floods, that are available to inform analysis of how floods might impact water quality (<https://streamstats.usgs.gov/ss/>, <https://streamstatsags.cr.usgs.gov/gagepages/html/13311000.htm>). A 100-year peak flood is reasonably likely to occur within the time period when such a flood could move through areas disturbed by mining, tailings ponds and other areas impacted by mining, and cause increased movement of contaminants from the project area into streams and watersheds downstream.

Further, given that the FS relies almost entirely on the model predictions in analyzing the impacts of the alternatives on water quality and quantity, it is critical to audit the model. Mistakes made in inputting model inputs, running verification simulations etc. could result in substantial changes in the outcome of model predictions. The Forest Service should audit the model, and include the results of the audit in a new or supplemental DEIS.

Climate change and wildfire may exacerbate negative impacts of the action alternatives on surface and groundwater quantity and quality, especially over the long-term. Climate change may reduce precipitation and snowpack and increase wildfire frequency and intensity. All of these factors could result in cumulative impacts on water quantity and quality not adequately analyzed in the hydrologic model or the DEIS. The hydrologic model does not model the potential additive impacts of climate change and wildfire on surface and ground water quantity and quality.

The DEIS does not provide an analysis of to determine if additional groundwater withdrawals associated with new water rights that will be required to implement the action alternatives, would infringe on the instream flow rights and wild and scenic nature of the EFSFSR, the South Fork Salmon River and the Salmon River. The DEIS states this analysis will be performed by Idaho Department of Water Resources after a water rights application has been filed. However, the FS has a separate and independent obligation to analyze the potential cumulative impacts of the project, along with reasonably foreseeable actions authorized by the Forest Service and the impacts of climate change, on instream flow rights and wild and scenic values of the EFSFR, South Fork Salmon River and Salmon river. The FS should prepare a new or supplemental EIS that includes this analysis.

The FS must improve the analysis of impacts on water quality and water quantity. It is not appropriate to defer this critical analysis to the Final EIS. The potential impacts of the project must be disclosed in the Draft EIS, at a point in the process where the public has the opportunity to comment. The FS must complete this analysis in a new EIS or a supplement to the EIS, and provide opportunity for public comment on this supplemental analysis.

1. The DEIS fails to take a hard look at impacts on fisheries and special status fish species

The DEIS indicates that the project will result in significant adverse effects on fish species protected under the Endangered Species Act.

The short comment period and the complexity of the DEIS precluded me from having the time needed to thoroughly review the analysis of impacts on fish species and fish habitat, and to prepare substantive comments outlining my substantial concerns about the impacts of the proposed project on fish species and fish habitat. However, based on the review that I have had time to complete, I am extremely concerned about the potential impacts of the action alternatives on fish species, particularly endangered species.

Implementation of any of the action alternatives is inconsistent with the Forest Service's obligation to ensure viable and resilient fish habitat in the East Fork of the South Fork river and downstream. The FS should make protecting undisturbed fish habitat, particularly for endangered fish species, a top priority, and avoid authorizing actions, such as the actions described in all of the action alternatives in the DEIS, that are inconsistent with protecting the best remaining fish habitat in the ESFSF and restoring the rest.

The action alternatives will have significant impacts on four special status native salmonids that are protected under the endangered species act, or are species of management concern. All of these species require cold, clear, clean running water and unobstructed migration pathways to complete their life cycles. The DEIS determines that the project will adversely affect bull trout, Chinook salmon, steelhead and their critical habitats, and may indirectly impact Westslope cutthroat trout.

The DEIS indicates that the action alternatives will have major negative impacts on special status fish species. Meadow and Fiddle Creek support populations of native fish species listed as threatened under the Endangered Species Act. These streams also contribute to the health of downstream river ecosystems. It's difficult to overstate the potential negative impacts of destroying these streams by filling the valleys they flow through with waste rock and toxic tailings. The action alternatives will decrease total habitat availability for bull trout, due to decrease in streamflow, increase in stream temperatures and blockage of access to critical habitat in Upper Meadow Creek in perpetuity. Critical habitat for bull trout will decrease by 28-70%. The overall net effect of the project will be a loss of both quantity and quality of habitat for Chinook salmon, following closure and reclamation. A decrease in Chinook salmon productivity will result from a decrease in water flow and an increase in stream temperatures. Critical habitat for Chinook Salmon will be reduced by up to 26%. Westslope cutthroat trout would suffer from loss of suitable habitat due to stream channel changes and direct effects to individuals. Steelhead will suffer from loss of 1.91 km of habitat in Upper Meadow Creek that will be blocked in perpetuity, and may also suffer injury or mortality to individuals.

While it is clear from the DEIS that the action alternatives will result in substantial harm to these special status fish species, the analysis in the DEIS is flawed, and underestimates the potential negative impacts of the project on these species.

The DEIS describes the "Fish Analysis Area" to include waters downstream of the mine. However, the analysis of impacts on fish species does not include analysis of potential impacts in waters downstream of the mine. This is problematic because there is high potential for the impacts of reduced water quantity, reduced water quality, increased sediment, and chemicals that may be introduced into the river system (and persist in sediment and in the food chain for long periods of time) to extend long distances downstream from the mine site.

In addition, while the DEIS discloses that the action alternatives will result in direct loss of substantial amounts of habitat (including critical habitat), for fish species that are listed as threatened under the Endangered Species

Act, there are no specific mitigation measures proposed to minimize the adverse impacts of such substantial loss of habitat for these species. Vague and general mitigation measures do not meet the requirements to minimize adverse impacts. Mitigation measures must be specific, described in detail, and likely to be effective at minimizing impacts.

The proposed project will result in changes in water quantity and water temperature that will have significant impacts on fish species, including endangered fish species. The DEIS does not provide an adequate analysis of how climate change, increased frequency and intensity of wildfires, drought, increased intensity and frequency of pine and spruce beetle outbreaks and other factors will act in concert with the reductions in water quantity and shade resulting from the proposed project to cause significant cumulative impacts on water temperature and fish populations.

As discussed previously, the DEIS may be substantially underestimating the reductions in water quantity and quality that are likely to result from the action alternatives. If reductions in water quantity are larger than predicted, which is likely given the issues discussed above (e.g. the interactive impacts of the action alternatives and climate change), then both impacts on water quality and increases in water temperature, and resulting impacts on fish populations are likely to be much more substantial than indicated by the analysis provided in the DEIS. In addition, the SPLNT temperature models used in the DEIS stream temperature analysis do not account for changes to stream temperatures caused by changing climate conditions, and do not account for increased temperatures in the East Fork South Fork downstream of the mine site, even though the [Idquo]Fisheries Analysis Area[rdquo] encompasses downstream habitats and downstream temperature increases are likely. The NorWeST model, produced by the U.S. Forest Service Rocky Mountain Research Station, represents future stream temperatures, adding 1.1-2.0 degrees C in the years 2030-2059, and 1.0-3.0 2070-2099 to SPLNT modelled values. In addition, the DEIS does not provide adequate analysis of how reductions in water quantity or floods, could result in higher than anticipated concentrations of minerals and other toxic chemicals that may negatively impact fish species. Further, if stream flows are reduced to levels lower than predicted by the flawed hydrologic model, particularly during the time of year of natural low flows, fish may suffer from impacts associated with lack of dissolved oxygen and predation that aren[rsquo]t adequately disclosed in the DEIS.

The action alternatives will create new, permanent barriers to natural fish movement. In addition, measures to maintain fish passage over the life of the project are unproven, and there is no data to suggest that these measures are likely to be effective. The analysis of impacts should describe the possible impacts of a worst case scenario, wherein these measures are ineffective. In addition, the Payette and Boise NF Forest Plans have Standards that indicate that the FS should [Idquo]not authorize new surface diversions unless they provide upstream and downstream fish passage[rdquo] (DEIS Appendix A). The Stibnite Gold Project has proposed a Forest Plan amendment to this standard, to [Idquo]Suspend the requirement of new surface diversions to provide upstream and downstream fish passage within the footprint of mining operations.[rdquo] The standards in the Land and Resource Management Plan were designed, with substantial public input, to provide for multiple use while protecting valuable resources, including special status fish species. The FS should not amend its plans to please a single project proponent at the expense of all of the members of the public who participated in developing the Land and Resource Management Plans.

The DEIS does not provide an adequate analysis of what percentage of the total population of each special

status fish species present in the Salmon River and its tributaries, will be impacted by the project, or how this will affect long-term species viability.

The Forest Service should complete a new or supplemental EIS to address these issues.

The Forest Service should also have consulted with the U.S. Fish and Wildlife Service, and provided the public with a copy of the resulting Biological Opinion.

Conclusion

I am very concerned about the potential impacts of the proposed Stibnite Gold Mine water quantity and quality, fish habitat and the wild nature of the Salmon river and its tributaries. I am also concerned about the potential impacts on my business, and on a variety of other resources including wildlife habitat, scenery, roadless areas, and recreation opportunities.

I feel strongly that the public should be provided with more time to review the DEIS and comment on these issues. In addition, the DEIS does not provide an adequate analysis of the impacts of the proposed project. I urge the Forest Service to complete a new or supplemental analysis to address the issues raised above. Finally, I ask that you select the no action alternative.