



United States Department of the Interior  
OFFICE OF THE SECRETARY  
Office of Environmental Policy and Compliance  
1011 E. Tudor Road  
Anchorage, Alaska 99503

May 23, 2023

IN REPLY REFER TO:  
ER 23/0115

Francis Sherman  
Forest Supervisor  
Tongass National Forest  
648 Mission Street, Suite 110  
Ketchikan, Alaska 99901

Subject: Draft Supplemental Environmental Impact Statement for the Greens Creek Mine North Extension Project (Consultation Number 2023-0062768)

Dear Francis Sherman:

The U.S. Department of the Interior (DOI) has reviewed the U.S. Forest Service's (USFS) request for comments related to the Draft Supplemental Environmental Impact Statement (SEIS) for the Greens Creek Mine North Extension Project on the Juneau Ranger District and Admiralty Island National Monument, Tongass National Forest. Our comments and recommendations are provided in accordance with the National Environmental Policy Act, Endangered Species Act, Marine Mammal Protection Act, Migratory Bird Treaty Act, Bald and Golden Eagle Protection Act, and Fish and Wildlife Coordination Act.

The Proposed Alternative includes the following modifications to extend the life of the mine for 12 to 18 years:

- Expanding the Greens Creek Mine tailings disposal facility (TDF) to accommodate, at minimum, approximately 4 to 5 million cubic yards (CY) of additional tailings and waste rock.
- Relocating the existing B-Road, including construction of a new crossing for Cannery Creek.
- Raising the embankment of Pond 7/10 to meet water storage and management requirements.
- Installing a sump system to capture runoff from the northern end of the TDF.
- Relocation of the existing freshwater collection system at Cannery Creek.
- Placement of approximately 89,000 CY of peat and underlying excavated soil from the tailings stack extension area.
- Required mitigation and monitoring.

We appreciate the USFS's coordination with the U.S. Fish and Wildlife Service (USFWS), a bureau within DOI. The DOI has reviewed the USFS's Draft SEIS and identified a number of issues and questions for which further discussion and consideration would be appreciated. Our

TRANSMITTED ELECTRONICALLY – NO HARDCOPY TO FOLLOW

specific recommendations are provided in the enclosure, *U.S. Fish and Wildlife Service Comments on the Greens Creek Mine Draft SEIS*.

Thank you for the opportunity to comment. For questions regarding these recommendations, please contact Ms. Sarah Markegard at the USFWS, Southern Alaska Fish and Wildlife Field Office, Anchorage Fish and Wildlife Conservation Office at 907-231-5850 or [sarah\\_markegard@fws.gov](mailto:sarah_markegard@fws.gov) and refer to USFWS Consultation Number 2023-0062768.

Sincerely,

Lisa Fox  
Regional Environmental Officer - Alaska

Electronic distribution: [sm.fs.greenscreek@usda.gov](mailto:sm.fs.greenscreek@usda.gov)

Enclosure

## **U.S. Fish and Wildlife Service Comments on the Greens Creek Mine Draft SEIS**

The following is a summary of issues of concern to the U.S. Fish and Wildlife Service (USFWS) that we recommend the U.S. Forest Service (USFS) address in the Final Supplemental Environmental Impact Statement (SEIS). This is not an exhaustive list that identifies every issue for inclusion; rather, it is a list of issues that the USFWS requests specific attention to, either because of our responsibilities under Federal law or their importance to fish, wildlife, and their habitat. Our comments begin with general recommendations, followed by issues related to specific components of the project (e.g., contaminants, climate change).

### **General Recommendations**

- We recommend the USFS contact the USFWS for technical assistance in evaluating the need for a permit pursuant to the Bald and Golden Eagle Protection Act. Eagle take permits may be necessary for activities that result in removal of nests, loss of habitat, and disturbance of birds during construction, operation, and maintenance of the project. Additional information is provided in the Specific Comments section, below.
- We recommend avoiding the use of pelletized styrofoam insulation for instream work, including culvert installation; these pellets can create an ingestion hazard for fish, mammals, and birds.
- To reduce bird collisions with realigned power lines, we recommend using bird flight diverters (flappers) or related deterrent devices that are durable and visible to reduce collision risk. Studies suggest that most bird collisions occur with the shield wire, the smallest diameter and highest wire on a transmission line. The observed reduction in collision rates resulting from the use of bird flight diverters, can range from about 10 percent to as much as 80 percent (Barrientos et al. 2011).
- To minimize project effects on migratory birds, we recommend incorporation of vegetation clearing timing windows (<https://www.fws.gov/alaska-bird-nesting-season>). To the maximum extent possible, we recommend avoiding construction activities that may displace birds after they have laid their eggs and before the young have fledged.
- Construction and operational lighting should be planned and implemented to ensure it does not unnecessarily overlap with native bird breeding seasons. Specific recommendations include use of down-shielding, directional lighting, and/or low intensity lighting to avoid light trespass into bird habitat. Avoiding installation of lights within 0.5 mile of the coast will also help reduce impacts to migratory birds.
- We recommend use of appropriate screened intakes for water withdrawals. The Alaska Department of Fish and Game (ADF&G) Habitat Division Technical Report No. 97-8 contains additional information on screening criteria for various species and life stages of fish as well as methods for design and fabrication of cylindrical water intakes (ADF&G 1998). Appropriate screening prevents suction entrapment and entrainment injury to small and juvenile fish present in the area of the withdrawal.

- Four amphibian species are expected in the project area. Contaminants associated with water management ponds are harmful to amphibians. To reduce the potential of attracting species to contaminated water bodies for breeding or foraging, we recommend installing fencing to effectively exclude amphibians from these areas. For additional guidance, please refer to the Government of Ontario's proven design and installation techniques for amphibian exclusion fencing (Government of Ontario 2021).

## **Specific Comments**

### **Contaminants: Fugitive Dust**

**Page 3-23:** The Draft SEIS lists existing best management practices (BMPs) and mitigation practices to prevent fugitive dust. The Final SEIS should discuss the efficacy of current measures for preventing fugitive dust and how they can be improved, particularly in regard to achieving the “near-zero fugitive dust” detection (section 3.2.2.7 Additional Mitigation and Monitoring - Mitigation Measure AQ-1).

**Page 3-38:** The Draft SEIS states that the Applicant must develop a “Forest Service-approved fugitive dust mitigation and monitoring plan in consultation with ADEC and EPA” and that the goal is to “achieve near-zero fugitive dust detection at monitoring sites” (Mitigation Measure AQ-1). The Final SEIS should provide more information on how this might be achievable. Specifically, what type of monitoring will occur (e.g., biomonitoring, Atmospheric Depositional Container methods) and what quantitative data will be collected to help inform future mitigation. The Final SEIS should also discuss next steps if near-zero fugitive dust detection is not achieved at monitoring sites during a typical dusting season. Ideally, the fugitive dust mitigation plan and monitoring results would be included in full in the Final SEIS.

**Page 3-59:** The Draft SEIS states that in 2020 Tributary Creek “attained sufficient duration of water quality sampling that a 29-percent exceedance frequency of the chronic aquatic life criteria for lead became statistically significant.” As a result, the Applicant is required to demonstrate either “that water quality objectives have been met or implement BMPs to meet the AWQS for lead within 10 years (February 2030).” These requirements should be met prior to expansion of the tailings dam facility (TDF) and resulting increases in fugitive dust.

**Page 3-61:** The Draft SEIS discusses increased lead levels in Tributary Creek and states “Water quality monitoring will continue to be reported to ADEC to ascertain the effectiveness of fugitive dust mitigation measures. Further mitigation measures may be required, as stipulated in the category 4b listing, should a trend in dissolved lead concentrations not decrease as expected...” Again, we recommend the Applicant provide evidence that fugitive dust impacts can be mitigated before moving forward with a TDF expansion (especially under Alternatives C and D).

**Page 3-86:** Under “Additional Mitigation and Monitoring” for elevated levels of lead in Tributary Creek, the Draft SEIS lists two “mitigation measures” (Mitigation Measure SW-1), which appear to only include monitoring efforts and will not contribute to the criteria for success (comply with water quality standards and achieve near-zero fugitive dust emissions). As recommended above, the Final SEIS should include the fugitive dust mitigation plan. This also

applies for Mitigation Measure GW-1 (3.6.3.6 Groundwater Resources - Additional Mitigation and Monitoring).

**Page 3-209:** The Final SEIS should consider and discuss potential indirect effects of fugitive dust up the food chain (e.g., impacts to species that consume lichen, such as deer and rodents, impacts to species that consume fish, such as eagles and bears, and impacts to plants that uptake contaminants from the soil).

### **Other Effects and Mitigation**

**Page 3-27:** The Draft SEIS states Alternative B would include removal of peat, which would release CO<sub>2</sub>. However, it does not address another potential adverse effect of peat removal, which is the decreased potential of the forest to sequester carbon from the atmosphere. It is also unclear if Alternatives C and D would include peat removal. This should be explicitly stated in the Final SEIS.

**Page 3-50:** Every five years until closure, older tailings are sampled to determine the neutralizing potential and acid potential values. The Final SEIS should address adaptive management and mitigation measures that will be implemented if it is determined that runoff/seepage from the TDF has a non-neutral pH or is otherwise contaminated.

**Page 3-75:** It should be explicitly acknowledged in this section (3.5.2 Surface Water – Environmental Consequences) that implementation of any of the action alternatives will result in more spills within the action area simply due to expanding the life of the mine.

**Page 3-108:** The Draft SEIS discusses data used to determine if “adverse effects on aquatic communities have occurred from existing mining operations.” The examination determined that the potential for adverse effects was low for all metals assessed at most freshwater locations. However, it acknowledges that locations with a higher potential for adverse effects are frequently closer to the TDF, such as Tributary Creek. Recent scientific review has highlighted that mining impacts are often underestimated, especially when effects analyses are overly narrow in scope (Sergeant et al. 2022). The Final SEIS should acknowledge this shortcoming and clarify the location of areas determined by Hecla Greens Creek Mining Company to have low potential for adverse effects.

**Page: 3-161:** It is unclear whether the potential compensatory mitigation options listed here are for the existing wetland impacts or for the additional impacts resulting from the action alternatives. Given the predicted wetland disturbance impacts outlined in Table 3.8-5 for each of the action alternatives, we recommend clarification in the Final SEIS about potential compensatory mitigation options for each of the action alternatives listed, should mitigation be required.

**Page 3-189:** In section 3.2.1.7 - Biomonitoring of Lichens, the Draft SEIS states that air pollution is tied to forest health and that “deposition of pollutants can produce effects including altering soil pH, which may in turn damage roots and harm productivity of vegetation... airborne deposition of metals or other contaminants can also produce ecosystem changes over time.” However, there is no discussion of these effects in section 3.10 - Vegetation. We recommend

consideration and discussion of potential cascading effects of fugitive dust on vegetation in the Final SEIS. It should also consider monitoring soil pH as an indication of ecosystem health and indirect, cascading impacts of fugitive dust.

### **Climate Change**

**Page 3-320:** The Draft SEIS states that “Climate change could affect geotechnical characteristics of the study area, including the stability of slopes and the risk of landslides, rock fall, and avalanches from changes in precipitation and temperature. If warranted, the Applicant would continue to conduct geotechnical monitoring to predict potential hazardous conditions.” The Final SEIS should address the precautions and measures that can be implemented now to mitigate future risk of TDF slope instability, landslides, rock fall, and avalanches due to extreme rains and flooding (section 3.3.2 ‘Geotechnical Stability – Environmental Consequences’).

**Page 3-331:** Climate change projections indicate that extreme precipitation events will increase in the future (Hayhoe et al. 2018; Lader et al. 2022). Exposure of soil from vegetation removal could make disturbed areas more susceptible to erosion. This should be addressed in the Final SEIS.

### **Wildlife**

Greens Creek Mine is located within the known range of at least three bat species: little brown myotis (*Myotis lucifugus*), western long-eared myotis (*Myotis evotis*), and silver-haired bat (*Lasionycteris noctivagans*). Bats use a variety of habitat types but are typically associated with forests and woodlands. Roosting sites, particularly maternity roosts and hibernacula, are especially important and may include buildings, trees, rock piles, and caves and crevices. The USFWS recommends the following conservation measures for bats within the action area:

- Avoid disturbing or destroying known or suspected bat roosts, especially when likelihood of use is high (e.g., maternity, day, and night roosts in the active season and hibernacula during the winter).
- Bat distribution, seasonal activity patterns, and the timing of reproduction are all poorly documented throughout much of Alaska. Collecting and reporting bat observations will help improve our understanding of bats in the state. Specifically, we encourage documentation of the following information:
  - Groups of three or more bats (either flying or roosting). This may indicate high quality foraging habitat, a nearby maternity roost (May to mid-July), or a nearby migration stopover or overwintering area (August to September).
  - Observations of bats from late fall (October to November) to early spring (March to April). This will help us determine if bats are migrating or overwintering locally.

As mentioned in our *General Recommendations* above, eagle take permits may be needed. The proposed project could impact eagles through visual and noise disturbance caused by construction. Bald eagles (*Haliaeetus leucocephalus*) and golden eagles (*Aquila chrysaetos*) have been observed in or adjacent to the project area. We recommend the following:

- Conduct eagle nest surveys in advance of any identified project, using a biologist experienced with raptor surveys. Eagle nest surveys typically take place in early spring (April 15 to May 15), before leaf-out, when both nest location and nest status (i.e., in-use versus inactive, alternate nest) can be determined.
- Complete work outside of the eagle nesting season (March 1 to August 31), if possible. If it is not possible to complete work outside of the nesting season and if eagle nests are located within a half mile of the project site, the project proponent may need an eagle nest disturbance permit, in which case we recommend coordinating with the USFWS.

Removal of nesting and hunting habitat for Queen Charlotte goshawks, marbled murrelets, and other sensitive forest-dependent bird species is expected under all action alternatives from road construction and tailings stack expansion (pages 3-211 to 3-213). The USFWS appreciates the discussion of mitigation measures for these species in the Draft SEIS. However, the mitigation measures presented only address disturbance to existing or historical nests, although it is acknowledged that suitable habitat exists throughout the action area. The Draft SEIS also acknowledges the amount of western hemlock and Sitka spruce that would be lost (Table 3.8-5) as well as the total disturbance under each alternative (page 3-334). However, there is no discussion of the effects of cumulative habitat loss on forest-dependent species such as the goshawk and murrelet. We recommend a more thorough consideration of the compounding impact from both historical and expected future habitat loss under each alternative in the Cumulative Effects section.

## References

- [ADF&G] Alaska Department of Fish & Game. 1998. ADF&G Habitat Division Technical Report No. 97-8. [https://dot.alaska.gov/stwddes/research/assets/pdf/tr\\_97\\_08.pdf](https://dot.alaska.gov/stwddes/research/assets/pdf/tr_97_08.pdf).
- Barrientos, R., J. C. Alonso, C. Ponce, and C. Palacín. 2011. Meta-analysis of the effectiveness of marked wire in reducing avian collisions with power lines. *Conservation Biology* 25:893–903.
- Government of Ontario, Ministry of the Environment, Conservation and Parks. 2021. Reptile and amphibian exclusion fencing. <http://www.ontario.ca/page/reptile-and-amphibian-exclusion-fencing>. Accessed 22 May 2023.
- Hayhoe, K., D.J. Wuebbles, D.R. Easterling, D.W. Fahey, S. Doherty, J. Kossin, W. Sweet, R. Vose, and M. Wehner. 2018. Our changing climate. In: Impacts, risks, and adaptation in the United States: fourth national climate assessment, Volume II [Reidmiller, D.R., C.W. Avery, D.R. Easterling, K.E. Kunkel, K.L.M. Lewis, T.K. Maycock, and B.C. Stewart (eds.)]. U.S. Global Change Research Program, Washington, DC, USA, pp. 72–144. doi:10.7930/NCA4.2018.CH2.
- Lader, R., U. S. Bhatt, J. E. Walsh, and P. A. Bieniek. 2022. Projections of hydroclimatic extremes in Southeast Alaska under the RCP8.5 scenario. *Earth Interactions* 26:180–194.
- Sergeant, C.J., E.K. Sexton, J.W. Moore, A.R. Westwood, S.A. Nagorski, J.L. Ebersole, D.M. Chambers, S.L. O’Neal, R.L. Malison, F.R. Hauer, and D.C. Whited. 2022. Risks of mining to salmonid-bearing watersheds. *Science Advances*, 8:p.eabn0929.