

John Sisk  
4435 North Douglas Highway  
Juneau, AK 99801  
[juansisk@gmail.com](mailto:juansisk@gmail.com)

Tongass National Forest  
Greens Creek Mine NEP SEIS  
8510 Mendenhall Loop Road  
Juneau, AK 99801  
Sent electronically to:  
<https://www.fs.usda.gov/project/?project=57306>  
and  
<http://sm.fs.greenscreek@usda.gov>

November 23, 2020

Dear Tongass Forest Supervisor Earl Stewart and the Greens Creek Mine NEP SEIS Planning Team:

Please accept these comments on the proposed expansion of the Hecla Greens Creek Mine on Admiralty Island in the Tongass National Forest, in the record of public comments on the scope of the environmental analysis (scoping).

I have lived in Juneau, Alaska for nearly 40 years. Over the decades I have fished, hunted, hiked, camped and paddled throughout Admiralty Island National Monument and Kootznoowoo Wilderness Area. For a number of years I was co-owner of a wilderness travel company and guided visitors on canoe and kayak camping trips on the island. I have visited Hawk Inlet and the Greens Creek mine, as well as the community of Angoon and friends' cabins at Funter Bay and elsewhere on the Mansfield Peninsula north of the Greens Creek Mine.

### **What's At Stake**

The Hecla Greens Creek Mine is planning a major expansion of its underground mining and above ground processing operations. The life of the mine would be extended until the year 2054 or beyond. On the one hand this is good news. The mine is expected to continue to employ over 400 people, many of whom live in Juneau and other Alaska communities, with annual payroll and benefits of over \$70 million. The City Borough of Juneau receives substantial revenues from Hecla Greens Creek property taxes as well as sales taxes associated with their local employees and vendors.

On the other hand, the expansion raises important questions, issues and concerns that need to be addressed in order to ensure that the economic benefits of mining do not impose undue risks and costs to people or the land and the waters that flow through and adjacent to the

mine. The waste rock will increase by an estimated 4-5 million cubic yards of acid-generating tailings. The existing tailings stack, which already rises about 200 feet above the surrounding terrain, could rise above that level by 100 feet or more. A whole new plant for the treatment of water polluted by the mining process will be constructed. The discharge of process water and tailings water into the marine waters of Hawk Inlet would continue for many more decades. Lead, Zinc, Mercury and other heavy metals will continue to find their way into the marine, freshwater and forest ecosystems where they enter the food webs that include plants and animals that people harvest for food: seaweed and kelp, clams, crab, fish such as flounder and halibut, berries, and Sitka black tail deer. We know that heavy metals are present in the food webs today as a result of past mining. We know that the longer the mine operates and the more material is processed the more chemicals will enter the ecosystems, even with the best of intentions.

#### Permitting the mine expansion is a major federal action.

Balancing the economic, human and environmental effects of the Greens Creek Mine is a major undertaking and the expansion constitutes a “major federal action.” Therefore, the Forest Service should conduct a full Environmental Impact Statement that takes a hard look at the specific and cumulative effects of the mine extension in place and over time. In other words, the analysis should be comprehensive rather than more narrowly focused on an addition to the tailings disposal stack.

The current mine expansion is much more than an extension or amendment to the existing plan of operations. If the additional mining and tailings disposal were examined on its own, it would be a large mining operation.

#### Coordination and cooperation with Tribal Governments is required.

The federal government of which the Forest Service is part has a government-to-government legal obligation to coordinate and cooperate with indigenous Native Tribal Governments that have a stake in and are affected by federal actions. Tribal interests, priorities and needs should be foundational components of the environmental analysis and permitting process. Specifically, the people of Angoon, the only community on Admiralty Island, have lived on their island, Kootznoowoo, since time immemorial. The Angoon Tlingit people have been stewards of what is now called Admiralty Island for millennia. In the 1970s they advocated for conservation of the Island in order to sustain subsistence harvests of traditional wild foods, protect, support their cultural heritage, and much more.

In 1978 President Jimmy Carter issued Proclamation Number 4611, which established Admiralty Island National Monument. He wrote: “Admiralty Island has been continuously inhabited by Tlingit Indians for approximately 10,000 years. Archeological sites and objects are plentiful in the areas of Angoon, Chaik Bay, Whitewater Bay and other bays and inlets on the island...The cultural history of the Tlingit Indians is rich in ceremony and creative arts and complex in its social, legal and political systems.”

Since Congressional establishment of Admiralty Island National Monument and the Kootznoowoo Wilderness Area in 1980, Angoon people have continued a leadership role in decisions that affect their home. No one has greater connection or more standing. Their recommendations and questions should be taken to heart by the Forest Service. As the lead federal agency in the mine expansion review, the Forest Service should establish strong collaboration at the beginning and support it throughout.

Partnership with other federal, state and municipal entities is essential.

At the federal level this must include the National Oceanic and Atmospheric Administration, National Marine Fisheries Service in particular, as well as the Environmental Protection Agency. The Alaska Department of Fish & Game manages the fish and wildlife resources and has expertise in habitat conservation. The Alaska Department of Natural Resources has responsibility for the marine tidelands and the Department of Environmental Conservation regulates water pollution discharge. The University of Alaska has a strong research and education presence through its campuses in Juneau and should be included in both the environmental review process as well as future research, monitoring and education opportunities related to the Greens Creek mine and the nearby land and waters. The City of Angoon and the City Borough of Juneau are municipal entities that should also be included as integral members of the analysis.

The Forest Service is the “lead agency” with overall responsibility for the entire environmental analysis and public process.

As the lead agency the Forest Service has the responsibility to ensure that all aspects of mine regulation are sound, implemented and effective. For example, it is not sufficient for the Forest Service to delegate all of the responsibility for water quality, marine fisheries or marine mammals to other government agencies. The Forest Service must lead a multiple agency effort using the “inter-disciplinary team” (IDT) approach that worked well on the original Noranda Greens Creek proposal, the proposed US Borax mine in Misty Fjords National Monument, and other mining projects in southeast Alaska. The Forest Service must take a hard look at all of the relevant jurisdictional and regulatory responsibilities to ensure that they are integrated and effective. Without evaluating the effectiveness of the whole, existing monitoring program, for example, the Forest Service cannot know whether or not pollution discharges into Hawk Inlet have caused significant impacts to the abundance and diversity of marine life in Hawk Inlet.

Take an integrated ecosystem approach.

The Greens Creek Mine processes and releases geologic materials into the environment along with water that must be treated to remove heavy metals and other contaminants that bio-accumulate in the food chain. These materials move through the ecosystems in various ways, for example:

- Fugitive dust blows from powdered rock, from exposed silver, lead and zinc ore and from the tailings disposal stack. It can settle on the surface of the water during the filling or ore ships, whereupon it enters the marine ecosystem and food webs. It can also blow into the forest and accumulate on plant surfaces, which may be eaten by animals or people. Fugitive dust was a significant issue at the Red Dog Mine near Kotzebue, leading to litigation and eventually to additional containment measures to keep the dust from contaminating nearby subsistence foods.
- Water is discharged from the mineral ore processing process, the tailings stack, and other sources associated with mine operations and human presence. Discharge water contains varying amounts of heavy metals and other contaminants and it ends up in Hawk Inlet where heavy particulates and dissolved contaminants enter the marine ecosystem. Independent research by Oceanus and Friends of Admiralty Island documented elevated levels of some metals in the tissues of marine organisms. Mercury concentrations in tissues of an adult seal were among the highest ever recorded.
- Material spills such as that which occurred in the past during ore to ship loading, put metal concentrates (lead in that instance) directly into the environment.

Once contaminants are in the ecosystem they move through biological pathways not limited to the mine site itself. While tides can move sediments and chemicals in and out of Hawk Inlet and into Chatham Strait, biological pathways can also move them throughout the geography and into marine and upland areas distant from the mine tailings and discharge sites. For example, contaminated seafood may be consumed by bears and eagles whose territories include Admiralty Island National Monument. Contaminated forage plants may be consumed by deer who move throughout northern Admiralty Island.

For all of these reasons, the mine expansion EIS should model the mine discharges and chemical transport pathways in the ecosystem(s) in order to assess the degree of contamination as well as risk.

### Irreparable Harm

Assessment of risk leads to the standard, in the Alaska National Interest Lands Conservation Act (ANILCA), that conditions the operation of the mine: irreparable harm. The law states that Tongass National Forest land in the Greens Creek area can be leased for mining only if “the use of the site to be leased will not cause irreparable harm to the...Admiralty Island National Monument.” Assessing irreparable harm is a big responsibility. “Minimum compliance with the law” is inadequate. The Forest Service needs to address, for example, the accumulation and mobility of contaminants over the life of the mine, including the post-mining phase when active monitoring and management of acid bearing tailings will be required. A mine of this size will leave a huge footprint that will be chemically active for centuries. Therefore it is important that the Forest Service *take a two hundred year view*.

The Forest Service also needs to take a close and careful look at the effects on wild foods right now and in the next decades, over time and throughout the area. It is very important to assess the possible degree(s) of contamination and their implications for the health of those who harvest those plants and animals now and over the coming generations. Failure to ensure wild food safety means that people who use the area, in order to assure their health, will need to forego harvest. Both high levels of contamination and failure to assure people their food is not contaminated have a shared result: the foods in the Greens Creek—Hawk Inlet area would be off the table. This itself would be irreparable harm to the national monument and to the people who live there. Further, the The Forest Service lacks the discretion to defer to other agencies, state or federal, when satisfying its responsibility for ensuring that the mine is not causing irreparable harm.

Additional research and monitoring is needed.

Wild foods are an important measure of current and long-term ecosystem health. In addition, contaminants may accumulate in marine sediments, tissues of animals throughout the food chain, and in terrestrial systems. Therefore the Forest Service should ensure that additional scientific studies are undertaken to inform the mine expansion review and the public.

*It is imperative that the Forest Service coordinate with partner agencies and entities to replicate the 1981 baseline study of the Hawk Inlet ecosystem.* The excuse offered by some that it is not feasible simply does not hold water. Research by Oceanus demonstrated the feasibility of replicating the baseline. The translation of metes and bounds surveys, compass coordinates and so on into GPS coordinates is now standard. Sampling techniques can be replicated and augmented with new technologies. Replicating the one comprehensive, ecosystem-based baseline data set from before the mine began operating is the single best way to assess how much contamination has occurred during the mine's operation thus far. This in turn is the best way to assess the efficacy of the current pollution controls in place under existing permits. Knowing this, we can project into the future. Then we can tell whether and, if so, how to improve the mining operation.

This is not to say that the mining company is not complying with current state permitting requirements. They may be doing so. The question is whether the existing water discharge permits and environmental sampling measures sufficient to tell us what we need to know to evaluate mining operations for perhaps another 30-50 years or more? It seems clear they are not. We don't know if we are sampling the right parameters or whether the sampling is comprehensive enough to allow reasoned conclusions. This is where scientific research and monitoring, inter-disciplinary collaboration and open public engagement are essential.

Engage government agencies and independent scientists to provide needed science capacity.

In conducting the necessary scientific research and environmental monitoring, the Forest Service should engage the resources of all of the partnering agencies: DEC, DNR, ADF&G, NOAA Fisheries, etc. Also, the Forest Service should invite and encourage independent scientists such

as university scholars and researchers to participate in the process. It may be necessary for the Forest Service, other agencies, or Hecla to contract for specific expertise and field studies that may be warranted.

#### Alternatives:

The goal is a mine that continues to produce and provide economic and social benefits while also keeping the forest, freshwater and marine ecosystems abundant and diverse with all of the wild foods are healthy and safe to eat. No irreparable harm should accrue to the monument or to people who depend on traditional wild harvest from the monument lands and waters. Alternatives should look at the scientific information that exists and the information that still needs to be conducted. Alternatives should be developed based on consultation with scientists and everyone who has a stake, an interest, in the mine and in Admiralty Island.

The Forest Service should take a hard look at using flow augmentation technology to dilute mine effluent prior to discharge during the upcoming NEPA process. Neither the 2013 Draft EIS or the 2013 Final EIS evaluated the “flow augmentation” alternative or the potential for this treatment approach to mitigate adverse environmental consequences from continued discharge and loading of hazardous pollutants into Hawk Inlet.

#### Engineering and structure of the tailings pile.

In 2013 Hecla proposed to expand the tailings stack west and south into the national monument; that expansion would have filled in a salmon spawning stream. The Forest Service allowed a short-term expansion but declined to allow the full expansion. Now, Hecla proposes to keep the footprint of the tailings where it is with limited lateral expansion. Instead, they propose to pile the mine tailings higher. The Forest Service should seek engineering assessment(s) of the feasibility and, especially, the stability of going higher than was originally intended. Is the risk of structural failure (slumping, collapse) increased by going “up rather than out?” Will the taller stack be more at risk, structurally, in the event of earthquakes and/or extreme precipitation events? If there is a structural compromise, what is the contingency plan for containment and pollution control?

#### Life-of-the-mine planning.

How will the long-term plan for the mine be updated to address the significantly greater amount of tailings material, much of it acid-generating, that will be stored on site? What are the plans for eventual mine closure, rehabilitation, monitoring and impact mitigation? What legal and financial commitments are in place to ensure that the post-mining stage is environmentally sound?

Thank you very much for your consideration. Sincerely,

John Sisk